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 University of Helsinki
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Stations:

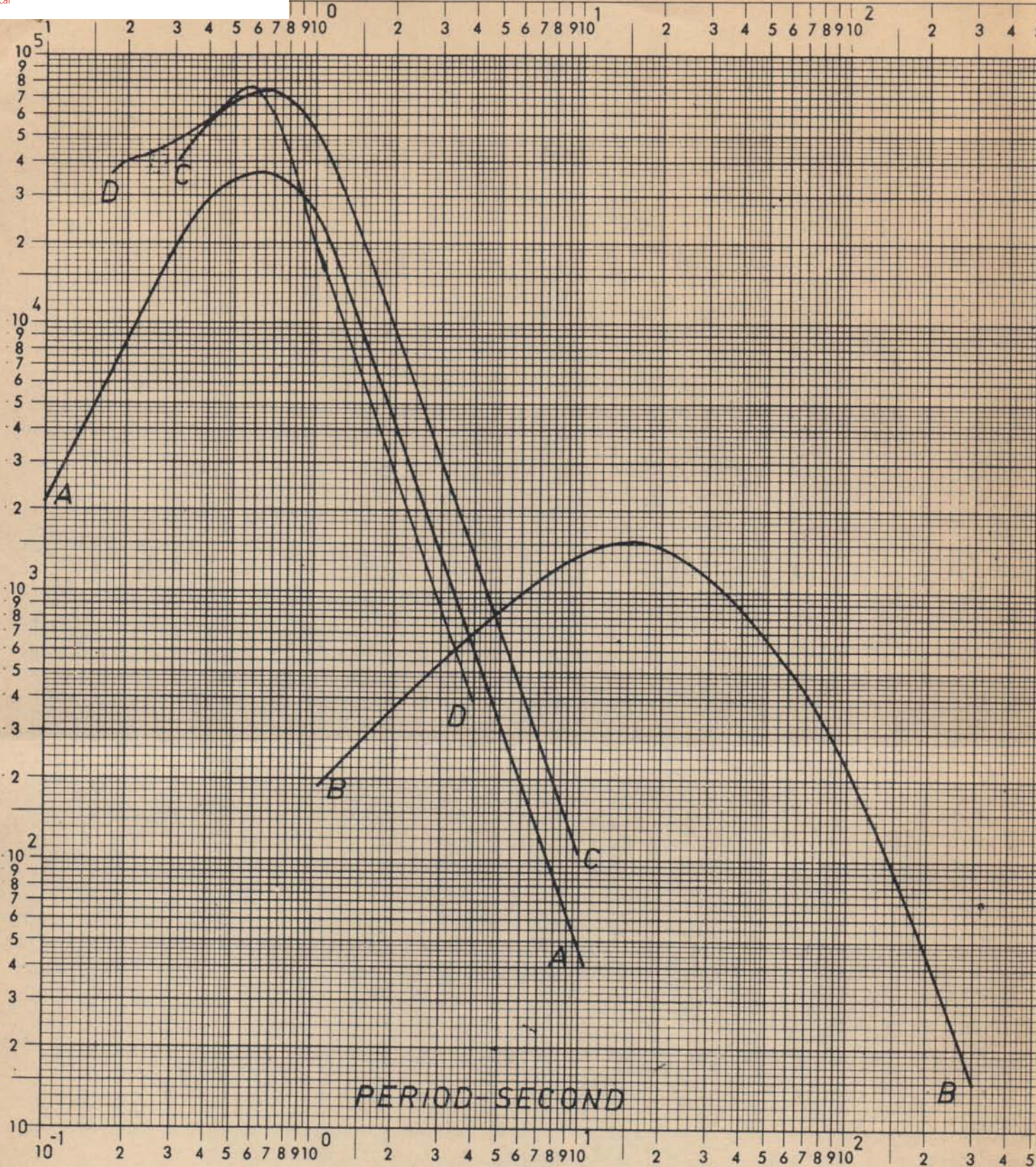
Nurmijärvi	(NUR)	60°30'32"N	24°39'05"E
Kajaani	(KJN)	64.1° N	27.7° E
Oulu	(OUL)	65°05'07"N	25°53'47"E
Sodankylä	(SOD)	67°22'16"N	26°37'45"E
Kevo	(KEV)	69°45'19"N	27°00'24"E

Unless otherwise stated, the epicentral data are according to the USCGS preliminary determinations.

Direction of earth's movement: U = up, D = down

The maximal center-to-peak ground amplitudes (A) in millimicrons and the corresponding periods (T) in seconds are reported for the P phases. They are read from the short-period vertical seismograms at Nurmijärvi, Kajaani and Kevo

Seismometer	Period Seism.	Instrumental constants		Damp. ratio
		sec. Galv.	Max. Magn.	
NUR				
Sprengnether Z	15	100	1 500	Critical
Sprengnether N	15	100	1 500	Critical
Sprengnether E	15	100	1 500	Critical
Benioff Z	1.0	0.75	37 000	17:1
Benioff N	1.0	0.75	37 000	17:1
Benioff E	1.0	0.75	37 000	17:1
KJN				
Benioff Portable Z	1.0	0.75	74 000	17:1
Benioff Portable N	1.0	0.75		17:1
Benioff Portable E	1.0	0.75		17:1
OUL				
Willmore Z	0.75	0.2	ca. 470 000	4:1
SOD				
Benioff Z	0.9	0.2	77 000	5:1
KEV				
Sprengnether Z	15	100	1 500	Critical
Sprengnether N	15	100	1 500	Critical
Sprengnether E	15	100	1 500	Critical
Benioff Z	1.0	0.75	37 000	17:1
Benioff N	1.0	0.75	37 000	17:1
Benioff E	1.0	0.75	37 000	17:1



RESPONSE CURVES 1968

- Instruments of the standard stations:
- A-A Short-period seismographs NUR and KEV
 - B-B Long-period seismographs NUR and KEV
- Other instruments:
- C-C Benioff Z, N and E KJN
 - D-D Benioff Z SOD

January				T	A	January				T	A
1	OUL	eP	09 15 09			2	NUR	iP	11 56 43.5	0.6	9.2
1	NUR	iP	11 00 11.6	0.7	10.8		KJN	iP	11 56 21.3 D	0.7	19.9
1	NUR	eP	15 48 41				OUL	iP	11 56 20.3		
1	NUR	iP	18 32 06.0	1.0	14.7			i	21.2		
2	NUR	iPKP	00 39 42.2	1.0	33.6		SOD	iP	11 56 10.2 U		
		i	44.2				H:	11 45 55.9			
		ePP	40 20					40.5 N, 140.8 E, 50 km (R)			
		ePS	50 10					Honshu, Japan			
		eSS	55 52			2	NUR	iP	12 06 34.9 U	0.7	18.9
		eSSS	01 00 32					i	07 08.0		
	KJN	iP	00 35 33.3	1.1	24.3		KJN	iP	12 06 49.9 U	0.9	31.3
		iPKP	39 36.7					i	53.7		
		i	53.3				OUL	iP	12 07 00.7		
	OUL	eP	00 35 34					i	04.4		
		iPKP	39 38.2				SOD	iP	12 07 14.8		
	SOD	eP	00 35 27				KEV	eP	12 07 31	1.2	28.5
		ePKP	39 32				H:	11 59 32.0			
		ePP	40 03					29.4 N, 52.6 E, 26 km			
	KEV	ePP	00 39 48					Southern Iran			
		eSKS	46 16			2	NUR	eP	13 31 05		
		ePS	49 16			2	NUR	eP	19 41 09		
		eSS	54 56					iS	43 47.2		
		eSSS	59 28					e	45 24		
	H:	00 21 10.8						e	48		
		5.1 S, 153.4 E, 55 km					KJN	eP	19 41 53		
		New Ireland						iS	45 09.0		
2	NUR	iPKP	02 27 01.0				OUL	eP	19 42 09		
	KJN	iPKP	02 26 53.2	0.6	6.9		SOD	eP	19 42 33		
	H:	02 08 43.2					eS	46 20			
		19.3 S, 177.6 W, 570 km (R)				3	NUR	eP	02 31 35		
		Fiji Islands						i	44.3		
2	NUR	iP	03 01 51.7				KJN	iP	02 31 35.0 U	0.6	7.5
	KJN	eP	03 01 02					iP	02 31 25.0		
	OUL	eP	03 00 43					i	34.4		
	SOD	eP	03 00 32				KEV	eP	02 31 26		
	KEV	eP	03 00 16					i	48.0		
2	NUR	iP	07 40 46.2			3	NUR	iP	02 35 44.0	1.2	29.2
	KJN	iP	07 40 19.6					e	36 12		
	OUL	eP	07 40 20				KJN	iP	02 35 21.4		
	SOD	eP	07 40 08					i	57.4		
	H:	07 30 11.7					OUL	eP	02 35 15		
		45.7 N, 150.9 E, 87 km					SOD	eP	02 34 58		
		Kurile Islands					KEV	iP	02 34 43.0	1.1	16.7
2	OUL	eP	11 16 34				H:	02 24 54.1			
		i	45.1					51.8 N, 173.3 W, 39 km			
		i	51.2					Andreanof Islands			
						3	NUR	iP	04 12 40.8		
								cont.			

January

January

					T	A
	KJN	eP	04 12 09		0.8	14.6
		i	10.8			
	OUL	eP	04 11 52			
	SOD	eP	04 11 30			
	KEV	eP	04 11 17			
		i	27.0			
3	NUR	iP	04 13 00.8 U		1.2	189.8
		eS	15 31			
		e	20 46			
	KJN	iP	04 12 29.4 U			
		i	13 13.6			
		eS	14 38			
		e	15 24			
	OUL	iP	04 12 11.9			
		eT	18 50			
	SOD	iP	04 11 49.3			
		i	53.1			
		e	13 48			
		e	16 57			
	KEV	iP	04 11 35.4 U		1.1	78.5
		i	40.0			
		i	12 01.4			
	H: 04 09 34.9					
	72.3 N, 6.5 E, 33 km (R)					
	Norwegian Sea					
3	NUR	iP	07 41 21.0 U		1.3	272.2
		i	34.0			
	KJN	eP	07 40 50		1.5	306.4
		i	52.5			
		i	41 04.6			
		e	42 35			
		eS	43 00			
	OUL	iP	07 40 33.8			
		i	35.6			
		iS	42 34.5			
	SOD	iP	07 40 15.4			
		i	27.2			
		e	41 48			
		eS	42 03			
	KEV	iP	07 39 58.0 U		0.9	28.6
		i	40 19.7			
		eS	41 34			
	H: 07 37 55.2					
	72.2 N, 1.2 E, 33 km (R)					
	Norwegian Sea					
3	NUR	eP	10 28 07			
		i	29.0			
	KJN	eP	10 27 42		0.8	11.5
		i	28 13.4			
			cont.			

					T	A
	OUL	eP	10 27 34			
		e	28 01			
	SOD	eP	10 27 18			
		i	25.3			
	KEV	eP	10 27 01		0.9	13.4
		e	34 16			
	H: 10 18 00.7					
	59.7 N, 146.8 W, 19 km					
	Gulf of Alaska					
3	NUR	iSKP	19 53 48.2			
	KJN	ePKP	19 50 52			
		eSKP	53 35			
	H: 19 32 37					
	24.5 S, 179.3 E, 612 km					
	Fiji Islands					
4	NUR	iP	01 08 34.4 U		0.7	37.4
		i	42.1			
		iPcP	09 06.3			
		ePPP	12 48			
		eS	17 22			
		eScS	18 24			
		e	19 18			
		eSS	22 02			
		eSSS	24 56			
		iP'P'	37 03.0			
		eLR	01 28.0			
	KJN	iP	01 08 07.4		0.6	33.6
		i	09.5			
		iPcP	45.3			
		i	09 11.5			
		ePP	10 40			
		eScP	12 45			
		iP'P'	37 07.8			
	OUL	eP	01 08 03			
		e	04			
		eP'P'	37 08			
	SOD	iP	01 07 49.2 U			
		i	54.8			
		iScP	12 31.4			
		eP'P'	36 54			
		i	37 22.5			
	KEV	iP	01 07 31.8 U		0.8	24.5
		i	39.6			
		i	59.6			
		ePP	09 48			
		ePPP	11 08			
		eS	15 24			
		eScS	17 12			
		eSS	19 20			
	H: 00 57 44.4					
	52.2 N, 171.3 W, 36 km					
	Fox Islands					

January				T	A	January				T	A
4	NUR	eP	06 42 54			5	KJN	eP	04 36 02		
	KJN	iP	06 42 26.1	0.8	10.8		OUL	eP	04 35 57		
		i	29.4				SOD	eP	04 36 02		
	OUL	eP	06 42 09				KEV	eP	04 36 04		
	SOD	eP	06 41 51				H: 04 26 06				
	KEV	eP	06 41 40				26.5 N, 44.5 W, 33 km (R)				
							North Atlantic Ridge				
4	NUR	iP	09 56 26.3			5	NUR	iP	05 05 45.1 D	0.7	7.4
	KJN	eP	09 56 07				SOD	eP	05 05 05		
	OUL	eP	09 56 08								
	SOD	iP	09 55 59.0			5	NUR	iP	06 51 16.1	1.1	22.7
	H: 09 45 32.8						i	32.6			
	31.6 N, 138.3 E, 372 km						KJN	iP	06 51 14.3 D	1.4	56.7
	South of Honshu, Japan						i	20.6			
4	NUR	e	10 34 48				OUL	eP	06 51 23		
		e	38 20				SOD	eP	06 51 27		
	KJN	eP	10 32 10				i	33.9			
	OUL	eP	10 32 12				KEV	eP	06 51 33	0.7	10.3
	SOD	eP	10 32 15				H: 06 42 44.7				
							30.4 N, 79.1 E, 7 km				
							Tibet-India border				
4	NUR	ePKP	10 46 21			5	NUR	iP	09 28 42.1 U	0.7	14.8
		ePS	56 52				KJN	eP	09 28 17		
		eSS	11 03 18				i	34.3			
		e	04 16				OUL	iP	09 28 11.0		
	KEV	ePS	10 56 04				SOD	iP	09 27 54.8		
		eSS	11 02 16				KEV	eP	09 27 37		
		eSSS	06 12				H: 09 18 09.9				
	H: 10 27 37.7						55.9 N, 154.6 W, 33 km (R)				
	9.9 S, 148.9 E, 19 km						South of Alaska				
	East New Guinea					6	NUR	eP	08 26 44		
4	NUR	iP	10 48 08.1	0.7	9.8						
	KJN	iP	10 48 04.8 U	0.9	11.6						
	OUL	eP	10 48 10								
4	NUR	ePKP	12 53 30			6	NUR	iP	10 27 09.1 U	1.0	57.3
		i	35.6	0.8	27.6		i	14.2			
		i	47.3				i	28 40.7			
	KJN	ePKP	12 53 23				eS	29 42			
	OUL	ePKP	12 53 25				i	57.2			
		e	30				i	30 34.5			
	H: 12 33 52						KJN	iP	10 27 53.1 D	0.6	71.9
	30.4 S, 177.6 W, 23 km						i	29 19.3			
	Kermadec Islands						eS	31 05			
							i	10.8			
							i	14.6			
4	NUR	eP	19 46 15				OUL	iP	10 28 03.2		
	SOD	eP	19 47 18				i	06.1			
							epP	29			
4	KJN	eP	22 27 27				SOD	iP	10 28 28.2 D		
	OUL	eP	22 27 28				i	33.3			
	H: 22 16 25						i	29 14.2			
	29.7 N, 130.5 E, 33 km (R)						eS	32 25			
	Ryukyu Islands						cont.				

January

January

					T	A
	KEV	iP	10 28	51.0 D	0.9	85.7
		i		52.8		
		i	29	04.6		
		i		38.8		
		e	33	27		
	H: 10 23 49.1					
	45.8 N, 26.6 E, 163 km					
	Rumania					
6	NUR	eP	12 27	01		
	KJN	iP	12 26	24.3	1.1	10.8
6	NUR	eP	15 14	55		
6	NUR	iP	15 24	06.0 D	1.0	19.1
	KJN	iP	15 24	02.2 U	0.9	12.5
		ipP		10.7		
	OUL	eP	15 24	09		
		ipP		18.2		
	SOD	iP	15 24	11.4		
		ipP		19.5		
	KEV	iP	15 24	15.8 U		
		ipP		24.1		
	H: 15 13 28.7					
	16.4 N, 92.1 E, 33 km (R)					
	Bay of Bengal					
6	NUR	eP	20 15	31		
		i		40.5		
	KJN	iP	20 14	53.2 U	1.0	15.3
		i		15 06.5		
	OUL	iP	20 14	58.0		
	SOD	eP	20 14	13		
		i		19.0		
		i		28.1		
	KEV	eP	20 13	50		
		i		54.4		
	H: 20 10 45.0					
	79.9 N, 4.1 W, 33 km (R)					
	Greenland Sea					
6	NUR	eP	23 17	21		
	KJN	iP	23 17	15.8		
	OUL	iP	23 17	12.8		
		e		14		
6	NUR	eP	23 42	16		
		iPKP	46	06.7 U	1.0	19.1
		ePP	47	10		
		ePPP	49	32		
		eSKS	52	52		
	cont.					

					T	A
	eSKKS		54	02		
	eS			56		
	ePS		56	56		
	ePPS		58	12		
	eSS	24	03	08		
	KJN	iPKP	23	46	03.9 U	
		i			09.6	
		iPP	47	26.8		
		i		34.8		
		i	48	18.9		
		iPPP	49	50.0		
	OUL	ePKP	23	46	03	
		e		08		
		ePP	47	21		
	SOD	ePKP	23	46	04	
		i		09.0		
		e		58		
		e	47	50		
	KEV	eP	23	42	28	
		iPKP	46	10.8 U		
		ePP	47	24		
		e	49	04		
		ePPP	50	00		
		eSKS	53	00		
		e	54	32		
		eS	55	08		
		ePS	57	00		
		ePPS	58	28		
		e		48		
		eSS	24	03	54	
		e		06	30	
	H: 23 27 21.2					
	27.8 S, 71.1 W, 33 km (R)					
	Northern Chile					
6	NUR	eP	23 53	30		
	KJN	iP	23 53	52.2	1.2	24.1
	OUL	eP	23 54	05		
7	NUR	iP	03 53	21.8 U	0.7	8.6
		i		57.0		
		i		54	10.6	
	KJN	iP	03 53	08.5 U	0.6	13.0
		i		44.5		
		i		54	15.0	
	OUL	iP	03 53	16.2		
	SOD	iP	03 53	16.2 D		
		e		54		
		e		54	05	
	KEV	iP	03 53	19.0	0.6	13.8
		i		55.0		
	cont.					

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			T	A		
	ePP	54 17				
	H: 03 46 57.7					
	49.8 N, 78.0 E, 0 km (R)					
	Eastern Kazakh SSR					
7	NUR eP	04 15 31	0.9	9.7		
	KJN iP	04 15 13.6	0.7	6.2		
	i	16.5				
	OUL eP	04 15 16				
	SOD eP	04 15 11				
	H: 04 05 38					
	37.6 N, 114.9 E, 33 km (R)					
	Northeastern China					
7	NUR iP	07 51 42.1	0.6	14.3		
	KJN iP	07 51 20.0	0.8	21.5		
	OUL iP	07 51 20.4				
	SOD iP	07 51 09.7				
	H: 07 42 04					
	43.7 N, 134.0 E, 378 km					
	Eastern Russia					
7	NUR ePKP	10 15 03				
	iPP	58.2				
	i	16 10.0				
	ipPP	25.0				
	ePS	25 04				
	e	27 24				
	eSS	31 32				
	eSSS	35 32				
	KJN ePKP	10 14 56				
	i	15 39.2				
	OUL ePKP	10 14 58				
	SOD ePKP	10 14 58				
	e	16 28				
	KEV eP	10 10 44				
	iPP	15 16.1				
	e	40				
	eSKS	21 08				
	ePS	24 12				
	ePPS	25 32				
	H: 09 56 40.3					
	5.1 S, 153.9 E, 118 km					
	New Ireland					
7	NUR eP	11 24 01				
	eS	33 28				
	e	34 08				
	eSS	38 08				
	KJN iP	11 23 41.4				
	i	24 18.5				
	OUL eP	11 23 43				

cont.

	SOD eP	11 23 32				
	KEV e	11 23 46				
	ePPP	27 36				
	eS	32 10				
	eSS	36 28				
	eSSS	39 52				
	H: 11 12 33.9					
	33.5 N, 141.6 E, 48 km					
	Honshu, Japan					
7	OUL eP	11 52 56				
	SOD eP	11 52 41				
7	OUL eP	16 12 25				
7	NUR eP	17 58 28	0.8	7.1		
	KJN iP	17 59 33.2				
7	NUR eP	21 49 23				
	KJN eP	21 48 58				
	OUL eP	21 48 56				
	SOD eP	21 48 44				
	H: 21 38 45.2					
	46.1 N, 150.8 E, 33 km (R)					
	Kurile Islands					
8	NUR ePKP	03 35 08	0.9	58.8		
	i	10.1				
	epPKP	37 31				
	iPKS	38 30.0				
	KJN iP	03 35 00.8 U	0.8	58.4		
	i	12.0				
	OUL iP	03 35 00.1				
	SOD ePKP	03 34 56				
	i	58.1				
	KEV ePKP	03 34 53	0.8	33.1		
	i	55.1				
	ePP	36 35				
	H: 03 17 12.6					
	13.7 S, 171.5 E, 630 km					
	New Hebrides Islands					
8	NUR iP	12 27 45.7	0.9	13.4		
8	NUR iP	14 00 37.2	1.0	18.0		
	i	01 11.1				
	KJN iP	14 00 12.5	0.8	8.5		
	iPcP	56.7				
	OUL eP	14 00 10				
	e	13				
	SOD iP	13 59 57.2 D				
	iPcP	14 00 50.2				

cont.

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			T	A	
	KEV	iP	13 59 44.1		U
	H:		13 50 42.0		
			49.1 N, 151.3 E, 284 km		
			Northwest of Kurile Islands		
8	NUR	iP	17 04 50.9		
8	NUR	iP	18 51 10.2	1.4	32.8
	KJN	eP	18 51 37		
		e	52 19		
8	NUR	eSKS	19 08 56		
		e	09 54		
		eSP	12 08		
		eSPP	13 04		
		eSS	18 16		
	KEV	eSKS	19 09 04		
		eS	10 44		
		esS	11 32		
		eSP	12 28		
		eSPP	13 24		
		eSS	18 20		
		eSSS	22 12		
	H:		18 44 24.5		
			18.6 S, 69.9 W, 116 km		
			Northern Chile		
8	NUR	iP	20 33 24.4	1.2	28.5
		i	31.0		
		ePP	35 48		
		eS	42 30		
		eSS	46 52		
	KJN	iP	20 33 40.4	1.1	58.1
		i	46.3		
		e	34 32		
		ePP	36 30		
	OUL	eP	20 33 37		
		e	44		
		e	52		
	SOD	eP	20 33 41		
		i	44.6		
		i	52.0		
		i	58.8		
	KEV	eP	20 33 48	1.0	64.0
		i	50.0		
		i	58.0		
		eS	43 20		
		e	52		
	H:		20 22 15.6		
			8.2 N, 38.2 W, 33 km (R)		
			Central Mid-Atlantic Ridge		

				T	A
8	NUR	e	20 44 56		
	KJN	ePn	20 43 31		
		ePb	51		
		e	45 50		
	OUL	ePb	20 43 37		
		e	45 23		
	SOD	eSn	20 44 39		
		eSb	45 19		
8	KJN	eP	21 32 48		
8	NUR	ePKP	22 13 37	1.0	16.0
		e	16 30		
		ePKS	17 04		
		e	20 20		
		eS	24 08		
		eSS	33 36		
		e	35 32		
		eSSS	38 30		
	KJN	iPKP	22 13 29.1	1.0	16.4
		ePKS	16 54		
		e	17 10		
	OUL	ePKP	22 13 28		
	KEV	eP	22 09 57		
		ePP	14 56		
		e	23 02		
		eSS	31 48		
		eSSS	36 08		
		e	39 52		
		e	45 16		
	H:		21 54 20.8		
			14.8 S, 174.8 W, 16 km		
			Samoa Islands		
9	NUR	eP	01 49 43	0.9	11.8
	KJN	eP	01 49 34		
9	KJN	eP	15 48 56		
	H:		15 38 15.1		
			37.0 N, 139.7 E, 130 km		
			Honshu, Japan		
9	NUR	eP	23 21 03		
		i	22 08.1		
	KJN	iP	23 21 37.8		
	OUL	eP	23 21 44		
	SOD	eP	23 22 05		
		i	14.3		
	KEV	eP	23 22 26		
		i	33.8		
	H:		23 15 42.2		
			35.5 N, 22.5 E, 44 km		
			Mediterranean Sea		

January				T	A	January				T	A	
10	NUR	eP	02 39 08			SOD	iP	15 19 46.1				
	KJN	iP	02 38 43.6 D	0.8	7.7		epP	20 30				
			H: 02 28 20.5				e	21 31				
			52.3 N, 171.2 W, 53 km				KEV	eP 15 19 41				
			Fox Islands					H: 15 07 58.3				
								13.8 N, 120.6 E, 149 km				
								Mindoro, P.I.				
10	NUR	eP	03 25 44			11	NUR	eP 04 53 16				
10	SOD	eP	03 52 43				KJN	iP 04 53 09.0 U	0.8	10.8		
10	NUR	iP	07 15 12.0				OUL	eP 04 53 12				
		i	25.0				SOD	eP 04 53 08				
								H: 04 40 11				
10	NUR	iPKP	09 51 10.6 U	0.8	122.4			4.9 N, 125.9 E, 33 km (R)				
		i	13.0					Talau Islands				
		i	22.0									
		e	53 12									
	KJN	iPKP	09 51 00.7			11	NUR	iP 16 24 08.3				
		i	06.7	0.7	20.6		i	11.0				
	OUL	iPKP	09 50 58.1				KJN	iP 16 23 47.8 D	0.8	18.5		
		i	51 06.2				i	50.6				
	SOD	ePKP	09 50 54				OUL	eP 16 23 48				
	KEV	ePKP	09 50 50				ipP	24 04.2				
		i	57.6				SOD	eP 16 23 37				
							i	41.1				
			H: 09 31 40.3				KEV	i 16 23 49.8				
			29.2 S, 177.6 W, 64 km					H: 16 12 46.9				
			Kermadec Islands					34.3 N, 141.2 E, 53 km				
								Honshu, Japan				
10	KJN	iP	10 15 35.6			11	NUR	iP 17 08 14.3	0.9	11.8		
		epP	16 52				ipP	29.0				
	OUL	iP	10 15 40.1				KJN	iP 17 08 04.0 U	0.7	54.8		
			H: 10 02 46.4				i	11.2				
			6.9 S, 110.6 E, 220 km (R)				OUL	iP 17 08 06.6				
			Java				ipP	22.9				
							SOD	iP 17 08 03.1 U				
10	NUR	iP	10 51 13.0				i	07.3				
	KJN	iP	10 51 26.0 D	0.9	12.5			H: 16 55 20.7				
	OUL	eP	10 51 37					6.9 N, 126.1 E, 58 km				
	SOD	eP	10 51 49					Mindanao, P.I.				
	KEV	eP	10 52 04									
			H: 10 43 48			11	NUR	iP 18 19 16.5 U	0.8	11.5		
			27.4 N, 56.2 E, 55 km				KJN	eP 18 18 54				
			Southern Iran				OUL	eP 18 18 51				
							SOD	eP 18 18 37				
10	NUR	iP	14 51 33.0 U	0.9	11.8			H: 18 08 38.1				
								46.4 N, 153.3 E, 50 km (R)				
								Kurile Islands				
10	NUR	eP	15 19 57	0.8	10.1							
	KJN	eP	15 19 45									
		ipP	20 30.8									
	OUL	eP	15 19 50									
			cont.			12	NUR	eP 02 22 25				

January						January					
				T	A					T	A
12	NUR	iP	03 09	39.2	0.8	14.4	OUL	iP	07 14	58.1	
		i		52.0			SOD	iP	07 14	53.0 U	
	KJN	iP	03 09	18.2	0.8	16.1		i	15	06.0	
		i		32.9				i		23.1	
	OUL	eP	03 09	18.9			KEV	iP	07 14	49.9 U	1.1 83.3
		i		20.9				i	15	11.1	
	SOD	eP	03 09	12				ePP	17	24	
		i	09	35.1				ePPP	19	06	
	H: 02 58 30.8							eS	24	00	
	33.6 N, 132.2 E, 19 km							ePS		28	
	Shikoku, Japan							eSS	28	36	
								e	31	40	
12	NUR	iPKP	03 24	39.7 U			H: 07 03 39.2				
	KJN	ePKP	03 24	29			24.1 N, 122.2 E, 8 km				
		i		37.9			Taiwan				
	OUL	iPKP	03 24	28.7							
		i		36.0			13	NUR	eP	09 21	23
	H: 03 05 18.5										
	27.2 S, 177.2 W, 90 km										
	Kermadec Islands						13	NUR	iP	10 34	20.5 0.9 11.5
12	NUR	iP	04 28	39.8 D	1.0	34.0	13	NUR	iPKP	16 25	16.8 U 0.9 13.1
	KJN	iP	04 28	36.0 D	1.2	75.7		epPP	26	54	
		e		29 19				eSKS	31	40	
	OUL	iP	04 28	42.7				epSKS	32	40	
		i		48.1				eS	33	24	
	SOD	iP	04 28	44.8 U				eSP	35	16	
		i		50.2				ePKKP	36	12	
	KEV	iP	04 28	48.6 U	1.0	36.0		i		21.3	
		i		56.5				eSPP		22	
	H: 04 17 43.1							eSS	41	22	
	13.4 N, 93.1 E, 33 km (R)							e	43	24	
	Andaman Islands						KJN	ePKP	16 25	20	
								i		25.0	
13	OUL	eP	02 27	09				iPKKP	36	08.6	
	SOD	iP	02 27	07.2				i		12.1	
	H: 02 14 23						OUL	ePKP	16 25	19	
	2.7 N, 128.3 E, 210 km							ePKKP	36	09	
	Halmahera						SOD	ePKP	16 25	21	
								ePP	26	16	
13	NUR	iP	07 15	10.0 U	1.2	120.0		ePKKP	36	05	
		i		25.5				i		12.0	
		ePP		17 50			KEV	epPP	16 26	54	
		ePPP		19 36				ePPP	29	12	
		eS		24 34				eSKS	31	52	
		eScS		25 16				e	33	00	
		eSS		29 12				eS		44	
		e		50				eSP	35	30	
		eSSS		32 44				iPKKP	36	14.1	
	KJN	iP	07 14	54.5 U	1.5	542.8		esPS	37	12	
		i		15 25.4				e		52	
		iPP		17 28.6				eSS	41	48	
		i		18 49.6				e		56	
		iPPP		19 15.4			H: 16 07 04.2				
	cont.						24.2 S, 66.9 W, 192 km (R)				
							Salta, Argentina				

January

January

					T	A
13	KJN	iP	17 10	13.8		
13	NUR	iP	20 57	51.2 D	0.5	7.6
	KJN	iP	20 57	28.5	0.6	4.8
	OUL	eP	20 57	28		
	SOD	eP	20 57	17		
	KEV	eP	20 57	07		
	H: 20 47 14					
	42.4 N, 141.3 E, 59 km					
	Hokkaido, Japan					
14	NUR	ePKP	08 19	36		
		i		46.7		
		iSKP	22	24.8		
	KJN	iPKP	08 19	33.5		
		i		39.0		
		iSKP	22	13.5		
		iPKS	23	09.4		
	OUL	e(PKP)	08 19	26		
		iPKP		37.7		
		iSKP	22	13.5		
	SOD	ePKP	08 19	31		
		iSKP	22	05.7		
	KEV	iPKP	08 19	30.8	0.7	12.9
		eSS	38	25		
		esSS	42	12		
	H: 08 01 27.8					
	22.5 S, 179.6 W, 610 km (R)					
	South of Fiji Islands					
14	NUR	eP	10 49	05		
		i		13.8		
	KJN	iP	10 49	21.6		
		i		30.1		
	OUL	eP	10 49	25		
		e	49	35		
	H: 10 36 37					
	23.6 S, 33.0 E, 33 km (R)					
	Mozambique					
14	NUR	iP	12 33	36.0 U	1.5	74.7
		e		38 20		
	KJN	eP	12 34	14		
		i		38.6		
	OUL	eP	12 34	19		
	SOD	eP	12 34	39		
	H: 12 28 24					
	37.8 N, 13.1 E, 33 km (R)					
	Sicily					

					T	A
14	NUR	eP	12 38	57		
		i		39 00.0		
		ipP		27.3		
		ePP	43	12		
		esPP		50		
		eSKS	49	24		
		e	50	05		
		ePS	52	16		
		e	54	05		
		ePKKP	55	16		
		esSS	58	16		
	KJN	iP	12 38	46.6 D	1.3	102.0
		i		47.3		
		i	41	50.3		
		iPP	43	01.0		
		ipPP		24.5		
		eSKS	49	16		
		eS	50	18		
		iPKKP	54	59.5		
		i	55	03.0		
		e		23		
	OUL	iP	12 38	49.4		
		iPKKP	54	56.0		
	SOD	iP	12 38	47.4		
		i		49.6		
		e	41	56		
		iPP	43	06.3		
		iPKKP	54	59.1		
	KEV	eP	12 38	46		
		i		50.1		
		e	39	44		
		ePP	42	58		
		epPP	43	20		
		e	46	52		
		eSKS	49	10		
		e		56		
		ePS	52	00		
		eSPP		38		
		eSS	57	48		
	H: 12 25 09.7					
	7.5 S, 127.9 E, 115 km (R)					
	Banda Sea					
14	NUR	eP	12 51	34		
		i		38.9		
	KJN	iP	12 51	10.7 U	1.3	56.7
	OUL	eP	12 51	04		
	SOD	eP	12 50	47		
		i		52.8		
	cont.					

January				T	A	January				T	A
16	NUR	iP	16 47 56.9 U	1.6	396.4	17	KJN	iP	19 53 19.1 U	0.7	8.9
		i	58.8				OUL	eP	19 53 21		
		iPPP	48 43.1				SOD	eP	19 53 15		
		eS	52 12								
		e	40			18	NUR	eP	00 31 52		
	KJN	iP	16 48 32.0	1.5	106.6	18	NUR	ePKP	02 15 54		
		i	34.3					i	16 05.8		
		i	49 08.5				KJN	iPKP	02 15 57.7		
		i	50 51.0				OUL	ePKP	02 15 56		
		eS	53 13					i	57.2		
	OUL	eP	16 48 37					H:	01 57 32		
	SOD	iP	16 49 00.1 U						22.3 S, 179.1 W, 472 km		
		i	50.8						South of Fiji Islands		
	KEV	eP	16 49 20	1.0	22.0	18	NUR	eP	03 35 18		
		i	40.0				KJN	eP	03 35 03		
		H:	16 42 44.3			18	KJN	eP	10 51 12		
			37.9 N, 13.1 E, 14 km				SOD	eP	10 51 21		
			Sicily					Moscow:			
								H:	10 39 20		
16	KJN	e	17 36 44					3.4 N, 94.9 E			
		i	48.4					Sumatra			
	SOD	e	17 36 13			18	NUR	ePKS	12 26 12		
17	NUR	eP	03 09 16				KJN	ePKP	12 22 19		
	KJN	iP	03 09 02.6 U	0.8	11.5			e	24		
		i	18.6					e	41		
	OUL	iP	03 09 07.8				OUL	e	12 22 38		
	SOD	iP	03 09 04.0 U				SOD	e	12 22 40		
		H:	03 00 10					H:	12 03 37.4		
			38.7 N, 103.3 E, 33 km (R)						14.6 S, 178.4 W, 33 km (R)		
			Kansu, China						Fiji Islands		
17	NUR	iPKP ²	10 09 41.3	1.0	20.0	18	NUR	eP	12 34 45		
	KJN	iPKP ²	10 09 42.7	1.0	12.0			e	42 36		
	OUL	iPKP ²	10 09 42.4					e	47 24		
	SOD	ePKP ²	10 09 42				SOD	eP	12 35 32		
	KEV	iPKP ²	10 09 42.8 D	0.9	25.2		KEV	eP	12 35 55		
		H:	09 49 50.7					e	40 32		
			56.4 S, 147.0 E, 33 km					e	45 04		
			West of Macquarie Island			18	KJN	eP	15 26 37		
17	NUR	eP	13 57 24					H:	15 15 47.4		
	KJN	iP	13 57 15.4	1.0	10.9				35.6 N, 140.2 E, 82 km		
17	NUR	iP	14 08 33.9 D	0.6	6.3				Honshu, Japan		
	KJN	iP	14 08 22.5 D	1.4	45.9						
		i	42.8								
	SOD	eP	14 08 41			18	NUR	eP	15 38 55	1.1	16.7
17	NUR	eP	18 07 28			18	NUR	eP	20 07 01		
	KJN	eP	18 07 08				KJN	eP	20 06 55	0.5	4.4
		H:	17 56 18.7								
			35.9 N, 140.1 E, 65 km								
			Honshu, Japan								

cont.

January

January

January							January							
			T	A					T	A				
	SOD	iP	20	07	03.2	U								
	H: 19 57 13													
	24.3 N, 93.2 E, 100 km													
	Burma-India border													
18	NUR	eP	20	43	31									
18	KJN	eP	22	02	41									
		e		05	13									
	SOD	eP	22	02	15									
	KEV	iP	22	01	53.4	U								
		i		02	05.0									
	H: 21 57 00													
	82.3 N, 117.8 E, 33 km (R)													
	North of Severnaya Zemlya													
18	NUR	iP	23	47	10.0	U	0.7	14.2						
	KJN	iP	23	46	47.7	U	0.9	16.1						
	OUL	eP	23	46	47									
	SOD	eP	23	46	36									
	KEV	eP	23	46	26									
	H: 23 36 22.3													
	41.1 N, 142.6 E, 47 km													
	Hokkaido, Japan													
19	OUL	eP	03	33	42									
		i			50.3									
	SOD	eP	03	33	35									
	H: 03 23 43.1													
	56.1 N, 149.0 W, 33 km (R)													
	Gulf of Alaska													
19	NUR	eP	06	19	46									
		e		20	16									
		ePKP		23	24									
		i			34.2									
		ePP		24	40									
		ePPP		26	28									
		eSKS		30	16									
		eS		32	28									
		ePKKP		33	48									
		ePS		34	24									
		e		35	12									
		eSS		41	06									
		e			56									
		eSSS		45	20									
	KJN	e	06	20	24									
		ePKP		23	17									
		i			27.1									
		iPP		24	10.5									
		i			19.5									
		i			28.7									
		e		25	08									
		iPKKP		33	57.5									
	cont.													
	OUL	ePKP	06	23	16									
		ePP		24	20									
	SOD	ePP	06	24	13									
		ePKKP		33	55									
		i		34	12.0									
	KEV	eP	06	19	12									
		ePP		23	49									
		eSKS		29	56									
		eS		31	24									
		ePS		33	16									
		e			44									
		ePPS		34	26									
		ePKKP			15									
		eSS		39	28									
	H: 06 04 38.2													
	9.4 S, 158.4 E, 33 km (R)													
	Solomon Islands													
19	KJN	iP	07	05	31.6		1.0	14.2						
	OUL	eP	07	05	28									
	SOD	eP	07	05	03									
	KEV	e	07	05	01									
	H: 06 59 50													
	82.2 N, 118.8 E, 33 km (R)													
	North of Severnaya Zemlya													
19	NUR	eP	08	37	56									
	SOD	iP	08	37	54.8									
19	NUR	eP	10	47	41									
		e		48	34									
		e		49	44									
	KJN	e	10	49	28									
19	NUR	iP	11	59	47.0									
19	KJN	iP	14	24	57.8	U	0.8	7.7						
	OUL	eP	14	25	02									
	H: 14 12 02.1													
	7.2 S, 108.6 E, 142 km													
	Java													
19	NUR	ePKP	14	58	47		1.5	46.7						
	KJN	ePKP	14	58	51									
	OUL	ePKP	14	58	42									
		e			47									
	SOD	iPKP	14	58	51.0									
	KEV	ePKP	14	58	30									
		e		15	02 22									
		ePPS		13	04									
		e		17	24									
		eSS		19	08									
	H: 14 39 37.8													
	42.6 S, 75.2 W, 22 km													
	Southern Chile													

January				T		A		January				T		A	
19	NUR	eP	16 15 46						eSS	20 40					
	KJN	eP	16 15 03						eSSS	25 12					
	OUL	eP	16 14 48						e	29 56					
19	NUR	iP	18 26 49.9 U	1.4	1148.0				KJN	iPKP	17 00 33.4 U	1.0	10.9		
		i	57.0						i	45.2					
		i	29 22.8						KEV	ePPS	17 13 32				
		iPP	41.3						eSS	19 00					
		e	30 22						eSSS	23 40					
		i	55.7						H:	16 41 27.1					
		e	32 47							16.2 S, 178.1 E, 21 km					
	KJN	iP	18 26 35.6 U							Fiji Islands					
		i	27 19.7						20	NUR	iPKP	17 52 15.2	1.1	21.4	
		i	29.0							KJN	iPKP	17 52 07.6	0.8	13.8	
		iPP	29 18.9							OUL	ePKP	17 52 07			
		i	31 54.0							SOD	ePKP	17 52 08			
	OUL	eP	18 26 27							H:	17 34 05.4				
		e	49								18.9 S, 178.0 W, 626 km				
	SOD	iP	18 26 16.7 U								Fiji Islands				
		i	34.0							20	NUR	eP	20 19 34		
		i	27 10.0								KJN	iP	20 19 18.5 U	0.8	17.7
		i	31.9								OUL	eP	20 19 19		
		iPP	28 48.0								SOD	iP	20 19 11.2		
		e	30 12								i	30.1			
	KEV	iP	18 26 03.8 U	1.5	747.2						KEV	eP	20 19 04		
		i	26.4								i	23.0			
		iPP	28 35.0								H:	20 06 48.0			
		e	30 02									18.4 N, 146.5 E, 77 km			
												Mariana Islands			
19	NUR	iP	20 41 26.8	1.0	18.0				20	NUR	iPKP	21 40 27.7 D			
	KJN	iP	20 41 12.5								i	48.5			
	OUL	eP	20 41 17								ipPKP	41 58.4			
	SOD	iP	20 41 05.1								isPKP	42 45.0			
	KEV	iP	20 40 41.0	1.0	24.0						iSKP	43 28.5			
19	NUR	eP	22 48 42								iPP	49.5			
20	NUR	eP	04 16 44								i	58.0			
20	KEV	e	06 25 16								ipKS	44 07.0			
		e	31 56								iSKKP	51 31.3			
20	NUR	iP	10 12 46.1	1.1	16.7						ePS	54 35			
20	NUR	eP	10 26 39							KJN	iPKP	21 40 16.6 D			
		i	27 17.3								i	41 06.2			
	KEV	e	10 28 16								isPKP	42 20.7			
		e	36 28								iSKP	43 20.5			
20	NUR	iP	17 00 41.0								ipKS	58.5			
		ePKS	04 09								i	51 07.1			
		ePPS	14 52								ipKKP	32.5			
			cont.							OUL	ePKP	21 40 14			
											eSKP	43 24			
										SOD	iPKP	21 40 07.9			
											i	09.8			
											i	41 47.1			
											i	42 29.4			
												cont.			

January

January

January				T	A	January				T	A	
22	NUR	eP	04 07 36			KEV	eP	20 41 24	0.7	12.9		
								H: 20 34 10.0				
22	NUR	eP	07 25 31					33.8 N, 46.9 E, 33 km (R)				
	KJN	iP	07 26 00.3					Iran-Iraq border				
	OUL	eP	07 26 02									
	SOD	iP	07 26 16.2 D			22	NUR	iP	21 26 52.9 U	0.8	16.2	
			H: 07 19 03.9					i	58.0			
			34.9 N, 5.2 W, 22 km					i	27 33.4			
			Morocco				KJN	iP	21 27 10.5 U	1.0	22.9	
								i	48.6			
22	NUR	iP	08 32 33.6					iPP	28 20.7			
	SOD	eP	08 31 45				OUL	iP	21 27 21.9			
			H: 08 22 15					i	25.0			
			57.1 N, 153.2 W, 69 km				SOD	iP	21 27 38.1			
			Kodiak Island					e	28 48			
22	NUR	iP	10 42 51.3 U	0.6	24.9		KEV	eP	21 27 55			
		epP	43 14					H: 21 20 38.5				
	KJN	iP	10 42 47.8 U	0.7	34.9			33.7 N, 46.8 E, 10 km				
		i	43 18.8					Iran-Iraq border				
	OUL	iP	10 42 56.8			22	NUR	eP	22 40 40	0.7	10.6	
		i	43 23.2									
		iPcP	45 03.8			22	NUR	iP	23 53 19.8			
	SOD	iP	10 43 00.8 D					i	54 05.3			
	KEV	iP	10 43 07.4 D	0.7	31.0		KJN	iP	23 52 53.1	0.5	6.6	
			H: 10 35 36.6					i	53 06.0			
			38.2 N, 75.6 E, 108 km					i	48.5			
			Southern Sinkiang, China				OUL	eP	23 52 46			
22	NUR	eP	13 09 38					i	54.1			
	OUL	eP	13 09 38				SOD	eP	23 52 26			
			H: 12 58 10.2					i	35.2			
			17.6 N, 61.0 W, 33 km (R)				KEV	eP	23 52 06			
			Leeward Islands					i	36.9			
								e	58 12			
22	KJN	eSg	16 21 04					H: 23 44 29.7				
	OUL	eSg	16 20 27					70.3 N, 144.4 W, 9 km				
	SOD	e	16 20 09					Alaska				
		eSg	30			23	NUR	eP	03 25 47			
22	NUR	eP	18 46 40	1.0	20.5		KEV	eP	03 25 15			
			H: 18 35 49.7									
			31.4 N, 138.1 E, 411 km									
			South of Honshu, Japan			23	NUR	iP	03 32 33.1 U	0.7	10.6	
22	NUR	iP	20 40 21.0 U	0.8	19.1			epP	56			
	KJN	iP	20 40 39.4 U	0.8	20.0		KJN	iP	03 32 25.3			
		iPP	41 55.0					i	33 13.7			
		e	44 12				OUL	eP	03 32 31			
	OUL	iP	20 40 50.4				SOD	iP	03 32 31.2 U			
	SOD	iP	20 41 07.1					e	56			
		e	42 15				KEV	eP	03 32 33			
			cont.					H: 03 22 46.2				
								26.0 N, 95.5 E, 103 km (R)				
								Burma-India border				

January							January						
					T	A					T	A	
23	NUR	eP	05 10 21				23	KJN	iP	19 27 48.3			
	KJN	eP	05 10 09					OUL	iP	19 27 55.3			
	SOD	eP	05 10 24					SOD	eP	19 28 04			
23	NUR	eP	05 21 55					KEV	iP	19 28 27.0			
23	NUR	iP	11 56 22.5 U	0.7	13.2			H:	19 18 13.0				
	KJN	iP	11 56 02.7 U	0.8	16.1			8.7 N, 37.7 E, 33 km (R)					
	OUL	iP	11 56 02.5					Ethiopia					
	SOD	iP	11 55 52.2 U				23	NUR	eP	19 55 11			
	KEV	iP	11 55 43.0 U	0.8	10.1			KJN	eP	19 54 45			
	H:	11 45 15.0						OUL	iP	19 54 40.4			
	35.7 N, 140.0 E, 72 km							KEV	eP	19 54 18			
	Honshu, Japan						23	NUR	eP	21 51 26			
23	NUR	eP	16 16 47					KJN	iP	21 51 16.7 D	0.7	10.3	
23	NUR	iP	16 17 37.9 U	0.8	45.6			e		31			
	i		49.0					OUL	eP	21 51 18			
	ePPP		21 55					SOD	eP	21 51 15			
	eS		26 28					KEV	eP	21 51 13			
	e		27 08					H:	21 38 22.3				
	eSS		31 24					3.8 N, 126.6 E, 78 km					
	eP'P'		46 07					Talau Islands					
KJN	iP	16 17 12.8 D	0.8	48.4			23	KJN	eP	22 54 02			
	eP'P'	46 26						SOD	eP	22 54 23			
OUL	iP	16 17 06.8					24	NUR	eP	00 07 57			
	i	19.8						Moscow:					
	ePcP	42						H:	00 00 45				
SOD	iP	16 16 51.8						36.6 N, 71.4 E, 144 km					
	i	58.1						Hindu Kush					
	ePcP	17 35					24	NUR	iP	01 10 30.6			
KEV	iP	16 16 35.2	0.8	31.7				KJN	iP	01 10 46.3 D	1.0	22.9	
	ePP	18 40						i		55.1			
	eS	24 32						OUL	eP	01 10 43			
	e	25 20						SOD	iP	01 10 49.8 U			
	eSS	28 28						i		58.7			
	H:	16 06 50.1						KEV	iP	01 10 55.4 U	0.7	14.2	
	52.1 N, 171.3 W, 53 km							i		11 04.8			
	Fox Islands							H:	00 59 21.9				
23	NUR	iP	19 27 21.0 D	0.7	22.4			8.1 N, 38.1 W, 33 km (R)					
	i		25.3					Central Mid-Atlantic Ridge					
	ePP		29 52										
KJN	iP	19 26 58.8 U	0.9	46.4			24	OUL	eP	01 25 56			
	i	27 06.8						SOD	eP	01 26 13			
OUL	iP	19 26 57.7					24	NUR	eP	02 32 36			
SOD	iP	19 26 46.4 U						SOD	eP	02 32 12			
KEV	iP	19 26 36.0 D	0.6	10.0			24	OUL	eP	03 36 04			
	i	43.8											
	H:	19 16 29.0											
	40.8 N, 142.8 E, 35 km												
	Honshu, Japan												

cont.

January						January			
				T	A				
	SOD	eP	03 35 48						
	KEV	eP	03 35 29						
	H: 03 27 03.5								
	62.9 N, 150.6 W, 103 km								
	Central Alaska								
24	SOD	eP	03 49 35						
		e	45						
24	KJN	eP	08 00 06	1.0	10.9				
	OUL	eP	08 00 15						
	SOD	eP	08 00 26						
		i	33.3						
	KEV	eP	08 00 27						
24	KJN	eP	10 12 08	0.9	12.5				
	OUL	eP	10 12 19						
	SOD	eP	10 12 35						
24	KJN	eP	13 49 57						
	OUL	iP	13 49 56.2						
	SOD	eP	13 49 45						
24	NUR	eP	14 37 57						
		e	38 06						
	OUL	eP	14 37 25						
	H: 14 27 42.9								
	54.7 N, 167.9 E, 33 km (R)								
	Komandorsky Islands								
24	KJN	eP	16 32 10						
	SOD	eP	16 32 04						
	KEV	eP	16 31 54						
24	NUR	eP	16 46 56						
25	NUR	eP	04 16 46						
25	NUR	iP	09 34 43.2 D	0.8	13.0				
		i	56.6						
	SOD	eP	09 34 53						
25	NUR	iP	10 01 59.7	1.5	121.4				
		e	02 23						
		iPP	34.7						
		eS	06 16						
		e	40						
		iScP	09 33.7						
	KJN	iP	10 02 38.5 U	1.0	37.1				
		i	49.5						
		iPP	03 23.8						
		i	05 21.3						
			cont.						
	OUL	eP	10 02 42						
		ePP	03 25						
		ePPP	38						
	SOD	eP	10 03 02						
		i	09.2						
		ePP	04 02						
	KEV	eSS	10 10 28						
	H: 09 56 48.7								
	37.8 N, 13.2 E, 33 km (R)								
	Sicily								
25	NUR	iP	11 33 20.8 U	0.9	26.9				
	KJN	iP	11 32 56.2 D	0.7	6.9				
		i	33 11.5						
	OUL	iP	11 32 50.5						
		i	53.9						
		e	33 05						
	SOD	iP	11 32 37.9						
		i	47.6						
	KEV	eP	11 32 18						
	H: 11 22 22.0								
	51.5 N, 169.6 W, 15 km								
	Fox Islands								
25	NUR	eP	14 40 43						
		e	45 04						
		e	24						
	H: 14 35 33								
	37.8 N, 12.9 E, 33 km (R)								
	Sicily								
26	NUR	iP	04 59 28.0						
		i	33.4						
		i	55.0						
		ePP	05 03 36						
		e	53						
		ePPP	05 55						
		eSKS	10 00						
		eS	52						
		e	12 50						
		ePPS	13 16						
		ePKKP	15 45						
		e	16 52						
		eSS	18 30						
		eSSS	22 06						
	KJN	iP	04 59 20.5						
		i	24.0						
		i	05 00 14.6						
		iPP	03 29.5						
		i	41.5						
		ePPP	05 35						
	OUL	eP	04 59 24						
		e	28						
			cont.						

January

T A

January

T A

SOD iP 04 59 22.2
i 29.9
e 05 02 45
e 03 07
ePKKP 15 49
KEV eP 04 59 22
e 05 02 09
ePP 03 32
e 08 20
eSKS 10 04
ePS 12 28
e 15 38
eSS 17 36
e 18 00
eSSS 21 20
e 23 00
eLQ 05 27.0
H: 04 45 41.4
8.8 S, 120.4 E, 29 km (R)
Flores Island

26 NUR iP 08 06 29.1
e 18 36
KJN iP 08 06 06.7
i 09.0
iPP 08 39.5
OUL eP 08 06 07
SOD eP 08 05 57
KEV eP 08 05 52
H: 07 55 21.6
36.4 N, 138.2 E, 12 km
Honshu, Japan

26 NUR iP 08 07 34.0 D
H: 08 02 18
37.7 N, 12.8 E, 31 km
Sicily

26 NUR iP 12 43 35.0 D 1.2 31.4
i 45.4
KJN iP 12 43 26.3 U 1.2 44.7
i 33.2
OUL eP 12 43 19
SOD iP 12 43 12.1 U
KEV eP 12 43 02
H: 12 30 46.3
24.3 N, 111.5 W, 33 km (R)
Baja California

26 NUR iPKP 13 14 23.0 0.8 18.7
KJN iPKP 13 14 15.6 0.8 10.8
OUL ePKP 13 14 15
H: 12 55 48.2
12.6 S, 167.0 E, 215 km
Santa Cruz Islands

26 NUR iPKP 15 32 44.7
KJN ePKP 15 32 37
OUL ePKP 15 32 37
H: 15 14 13.7
12.2 S, 167.0 E, 249 km
Santa Cruz Islands

26 NUR iPKP 16 38 56.6 1.0 40.0
i 39 11.9
KJN iPKP 16 38 48.3 U 0.8 18.5
i 39 11.0
OUL ePKP 16 38 47
SOD iPKP 16 38 41.8
e 39 04
H: 16 19 04.5
36.6 S, 179.9 W, 17 km
East of North Island, N.Z.

26 NUR eP 18 58 16

26 SOD eP 20 44 37

26 NUR eP 21 38 40
SOD eP 21 38 38

26 NUR eP 22 28 26

27 NUR eP 00 57 53
e 58 06
ePcP 59 06
eS 01 05 28
KJN iP 00 58 05.6 D 1.1 31.1
i 11.3
OUL eP 00 58 00
SOD eP 00 58 05
H: 00 48 35.6
29.9 N, 42.8 W, 34 km
North Atlantic Ridge

27 SOD eP 02 29 05
Moscow:
H: 02 21 57
40.6 N, 72.3 E
Tien-Shan

27 NUR eP 03 29 10
e 30 46
e 31 54
SOD eP 03 29 16

27 NUR iP 14 07 51.2 U 1.4 82.0
ipP 08 01.9
e 40
e 09 22
cont.

January						January					
				T	A					T	A
29	NUR	eP	12 15 52	0.8	11.5	29	NUR	eP	16 26 19		
							SOD	eP	16 25 30		
29	NUR	iP	12 17 55.5	1.0	36.0	29	NUR	iP	16 53 35.0	1.0	234.0
	KJN	iP	12 17 31.6 U	0.9	17.9		i		54 03.9		
	OUL	eP	12 17 30				ePPP		57 45		
	SOD	iP	12 17 18.1				eS	17	02 06		
	KEV	eP	12 17 11				eScS		03 40		
	H:		12 07 08.0				eSS		06 28		
			43.2 N, 147.3 E, 33 km (R)				KJN	iP	16 53 11.8 D	0.9	134.0
			Kurile Islands				i		30.5		
29	NUR	iP	14 21 18.4	0.6	5.0	OUL	eP	16 53 10			
	KJN	iP	14 20 55.2	0.6	7.5	SOD	iP	16 52 57.7			
	OUL	eP	14 20 53				i		59.0		
	SOD	iP	14 20 42.0 D				i		54 03.3		
	KEV	eP	14 20 29			KEV	iP	16 52 47.8 U	0.9	60.5	
	H:		14 10 33				i		53 07.3		
			43.5 N, 146.7 E, 33 km (R)				e		54		
			Kurile Islands				ePP		55 04		
29	NUR	iP	14 54 38.5 D	1.1	35.7		ePPP		56 28		
		i	50.2				eS	17	00 44		
	KJN	iP	14 54 15.5 D	0.9	24.1		e		02 54		
	OUL	eP	14 54 13				eSS		04 54		
	SOD	iP	14 54 02.2				H:		16 42 50.4		
	H:		14 43 50.5						43.5 N, 147.2 E, 36 km (R)		
			43.1 N, 146.9 E, 33 km (R)						Kurile Islands		
			Kurile Islands			29	NUR	eP	17 24 53	1.0	30.0
29	NUR	ePKP	16 03 00				KJN	iP	17 24 29.5		
		i	03.2	0.8	79.2		OUL	eP	17 24 28		
		i	17.8	0.9	115.9		e		36		
	KJN	iPKP	16 02 51.5	0.9	55.4		SOD	eP	17 24 16		
		i	52.7				H:		17 14 06		
		i	03 03.3						43.4 N, 147.3 E, 33 km (R)		
	OUL	ePKP	16 02 51						Kurile Islands		
	SOD	ePKP	16 02 49			29	NUR	eP	19 50 04	1.1	19.0
		i	03 07.8				KJN	eP	19 49 41		
	KEV	ePKP	16 02 48				OUL	eP	19 49 41		
		i	03 03.1				SOD	eP	10 49 27		
	H:		15 43 19				e		32		
			33.8 S, 179.3 W, 33 km (R)				H:		19 39 18		
			South of Kermadec Islands						43.3 N, 147.3 E, 33 km (R)		
									Kurile Islands		
29	NUR	iP	16 12 38.1	0.9	58.8	29	NUR	iP	20 54 52.8	0.8	14.4
	KJN	iP	16 12 26.2 D	1.2	60.2		KJN	iP	20 54 29.5	0.8	11.5
	OUL	eP	16 12 28				OUL	eP	20 54 28		
	SOD	iP	16 12 24.6 U				SOD	iP	20 54 16.0		
		i	32.7				KEV	eP	20 54 04		
	H:		16 00 07.3				H:		20 44 06		
			12.3 N, 125.5 E, 51 km						43.4 N, 147.3 E, 33 km (R)		
			Samar, P.I.						Kurile Islands		

January						January					
				T	A					T	A
30	NUR	iP	02 49 00.8	0.9	50.4	30	NUR	eP	03 37 29		
	KJN	iP	02 48 37.0 D	0.9	29.5		KJN	iP	03 37 06.5 U		
	OUL	eP	02 48 35				SOD	eP	03 36 53		
	SOD	iP	02 48 23.4 U								
		i	34.0			30	NUR	eP	03 37 56		
	KEV	iP	02 48 10.8 D	0.9	26.9		KJN	iP	03 37 33.5		
		i	49 00.1				OUL	eP	03 37 30		
	H:		02 38 12.6				SOD	eP	03 37 18		
			43.3 N, 147.7 E, 33 km (R)				KEV	iP	03 37 05.8		
			Kurile Islands								
30	NUR	iP	02 53 14.6	0.8	20.2	30	NUR	iP	03 40 38.0	0.7	14.2
	KJN	iP	02 52 51.4 U				KJN	eP	03 40 14		
	OUL	eP	02 52 51				OUL	eP	03 40 13		
	SOD	iP	02 52 38.1				SOD	eP	03 40 02		
	H:		02 42 28								
			43.6 N, 147.6 E, 33 km (R)			30	NUR	eP	03 52 17	1.0	24.0
			Kurile Islands			30	NUR	iP	03 56 43.5 D	1.0	260.0
30	NUR	iP	03 04 34.9	0.8	15.8			ipP	58 52.8		
	KJN	iP	03 04 11.7 D	0.5	15.4			ePP	04 00 48		
	OUL	iP	03 04 09.7					ipPP	02 28.5		
	SOD	iP	03 03 57.2					i	05 50.2		
	KEV	eP	03 03 45					iSKS	06 20.8		
	H:		02 53 47					e	44		
			43.4 N, 147.6 E, 33 km (R)					eS	07 01		
			Kurile Islands					e	10		
30	NUR	iP	03 12 32.5 U	1.0	180.0			iPKKP	13 38.1		
		eS	21 24			KJN	iP	03 56 37.5 D	0.9	158.1	
	KJN	iP	03 12 10.0 D				i	58 19.7			
		iPcP	49.5				ipP	46.8			
		i	13 39.7				i	59 12.5			
	OUL	iP	03 12 07.7				isP	44.0			
	SOD	iP	03 11 55.8				iPP	04 00 30.0			
		e	12 16				iSKS	06 13.6			
	KEV	iP	03 11 43.9 U	1.0	102.0		i	35.3			
		i	12 04.1				eS	50			
		i	11.2				iSP	08 10.4			
		eSS	24 08				ePKKP	13 24			
	H:		03 01 44.0			OUL	eP	03 56 41			
			43.1 N, 147.2 E, 28 km (R)				epP	58 48			
			Kurile Islands				ePKKP	04 13 35			
30	NUR	iP	03 34 29.0	1.0	40.0	SOD	iP	03 56 41.1			
	KJN	eP	03 34 05				i	57 18.8			
		i	06.8				e	58 39			
	OUL	iP	03 34 04.1				i	59 24.7			
	SOD	iP	03 33 51.8				iPP	04 00 34.1			
		i	34 05.0				iPKKP	13 37.0			
	KEV	eP	03 33 41			KEV	iP	03 56 42.0 D	1.0	104.0	
	H:		03 23 41.9				ipP	58 51.3	1.2	82.3	
			43.3 N, 147.4 E, 33 km (R)				i	59 16.4			
			Kurile Islands				ePP	04 00 20			
							eSKS	06 17			
							e	41			

cont.

January							January						
			T	A					T	A			
	eS			57				KEV	iP	08 24 55.6 D	0.8	47.5	
	eSP	08 32						H:	08 17 32.3				
	esPS	12 06							36.4 N, 70.7 E, 205 km (R)				
	ePKKP	13 38							Hindu Kush				
	esSS	17 12											
	H:	03 44 24.4						30	NUR	iP	09 17 18.0 U	1.0	24.0
		6.1 S, 113.3 E, 594 km (R)							KJN	eP	09 16 57		
		Java							SOD	eP	09 16 39		
30	NUR	eP	04 01 23		0.8	25.9			H:	09 06 29			
										43.0 N, 146.9 E, 33 km (R)			
										Kurile Islands			
30	NUR	iP	04 06 05.6		1.0	36.0		30	NUR	iP	11 45 26.6		
	KJN	eP	04 05 42		0.6	10.3			KJN	eP	11 45 05		
	OUL	eP	04 05 39						i		08.8		
	SOD	iP	04 05 28.2						OUL	eP	11 45 02		
30	NUR	iP	04 12 52.6		1.0	30.0			SOD	eP	11 44 50		
	KJN	iP	04 12 29.5 D		0.9	17.9			H:	11 34 40			
	SOD	eP	04 12 14							43.4 N, 147.0 E, 33 km (R)			
	i		27.2							Kurile Islands			
30	NUR	iP	04 21 25.9		1.1	59.5		30	NUR	eP	14 10 26		
	i		37.0						KJN	eP	14 10 26		
	KJN	iP	04 21 02.6 U		1.1	32.4							
	OUL	eP	04 21 00					30	NUR	eP	14 20 05		
	e		11						KJN	iP	14 19 52.7		
	SOD	iP	04 20 49.1						SOD	eP	14 19 39		
	KEV	iP	04 20 37.5		0.8	18.7		30	NUR	iP	17 08 37.0		
	H:	04 10 36.1											
		43.1 N, 147.1 E, 24 km											
		Kurile Islands											
30	NUR	eP	05 58 46					30	NUR	iP	18 45 51.2 U	0.6	27.5
	KJN	iP	05 58 36.8						i		46 02.0		
	OUL	eP	05 58 35						KJN	iP	18 45 28.0 U	1.0	30.5
	SOD	eP	05 58 31						i		38.5		
30	NUR	iP	06 19 21.0 U		0.8	28.8			OUL	iP	18 45 25.9		
	KJN	iP	06 18 58.1 D		0.8	19.2			SOD	iP	18 45 14.1 U		
	OUL	iP	06 18 55.8						i		25.7		
	SOD	iP	06 18 44.5						KEV	iP	18 45 02.2 U	0.9	21.8
	KEV	eP	06 18 33						H:	18 35 00.9			
	H:	06 08 35.2								43.0 N, 147.2 E, 25 km			
		43.5 N, 147.1 E, 33 km (R)								Kurile Islands			
		Kurile Islands											
30	NUR	iP	08 24 30.3 U		0.8	105.1		30	NUR	eP	20 42 12		
	ipP		25 15.0						KJN	iP	20 42 03.8	1.1	21.6
	KJN	iP	08 24 30.0 U		0.8	76.1			OUL	eP	20 42 06		
	ipP		25 12.6						SOD	eP	20 42 04		
	OUL	iP	08 24 39.2					30	NUR	iP	22 38 07.0		
	SOD	iP	08 24 46.2 U						i		33.7		
			cont.						e		41 16		
									KJN	iP	22 38 26.5 U	0.6	5.5
									iS		42 26.8		
											cont.		

January

T A

OUL eP 22 38 40
SOD eP 22 38 58
iPP 39 33.0
e 41 16
e 43 38

Moscow:
H: 22 33 35
44.1 N, 43.2 E
Caucasus

30 NUR eP 23 00 46
e 56
KJN eP 23 00 32
SOD eP 23 00 18

31 NUR eP 00 05 03
KJN iP 00 04 40.2
OUL iP 00 04 38.1
SOD eP 00 04 26

31 NUR eP 00 42 37
KJN eP 00 42 12
OUL eP 00 42 13
SOD eP 00 42 01

31 KJN eP 01 29 25
H: 01 17 45
24.2 N, 141.1 E, 173 km
Volcano Islands

31 NUR iP 01 36 33.3 1.0 26.0
OUL eP 01 36 15
SOD eP 01 36 08
H: 01 23 45.2
24.7 N, 111.5 W, 33 km (R)
Baja California

31 NUR ePKP 01 38 53
KJN iPKP 01 38 45.1 0.7 8.9
i 46.1
eSKP 41 16
OUL ePKP 01 38 42
H: 01 20 44
17.9 S, 178.1 W, 632 km
Fiji Islands

31 NUR iP 02 08 07.7 U

31 NUR iPKP 02 21 00.6 U
KJN iPKP 02 21 05.3 D 0.8 15.4
OUL ePKP 02 21 04
cont.

January

T A

SOD ePKP 02 21 03
H: 02 03 29.4
27.7 S, 63.2 W, 580 km (R)
Santiago del Estero, Argentina

31 SOD eSg 03 20 16

31 NUR eP 04 47 55
KJN iP 04 47 39.5
OUL eP 04 47 40
SOD eP 04 47 33
KEV eP 04 47 25

31 NUR iP 05 06 30.9 0.7 19.4
KJN iP 05 06 07.3 U 0.6 9.6
OUL iP 05 06 06.7
SOD iP 05 05 53.3
KEV eP 05 05 42
H: 04 55 44
43.5 N, 147.6 E, 33 km (R)
Kurile Islands

31 NUR iP 06 32 31.6
KJN iP 06 32 08.2 0.5 5.9
OUL iP 06 32 07.0
SOD iP 06 31 54.7
H: 06 21 46
43.5 N, 146.6 E, 33 km (R)
Kurile Islands

31 SOD eP 07 46 36

31 NUR eP 09 41 53

31 NUR iP 11 54 38.0 0.8 11.5
i 44.2 0.9 55.4
KJN iP 11 54 30.1 1.2 37.8
i 34.4 1.2 75.7
ePcP 55 37
ePP 56 35
OUL iP 11 54 37.2
SOD iP 11 54 37.7 U
i 43.3
KEV iP 11 54 40.1 0.9 13.4
H: 11 45 16.9
29.9 N, 92.1 E, 18 km (R)
Tibet

January						January			
				T	A				
						T			A
31	NUR	eP	13 21 15						
	OUL	eP	13 21 19						
	SOD	iP	13 21 21.8 D						
31	NUR	eP	14 31 46						
		i	32 03.3						
		i	37.2						
31	NUR	iP	16 30 15.8	0.7	12.9	31	NUR	iP	23 15 29.5
	KJN	iP	16 29 52.6 U	0.6	8.2		KJN	iP	23 15 05.0
	OUL	iP	16 29 51.3				OUL	eP	23 15 05
	SOD	iP	16 29 39.1				SOD	iP	23 14 52.7
	KEV	eP	16 29 27						
			H: 16 19 28						
			43.1 N, 146.7 E, 33 km (R)						
			Kurile Islands						
31	NUR	iP	20 15 18.3 D						
	KJN	eP	20 14 52						
	OUL	eP	20 14 54						
	SOD	eP	20 14 41						
31	NUR	iP	22 09 14.7 D	0.9	28.6				
		i	28.0						
		ePP	11 46						
	KJN	eP	22 08 51	1.0	43.6				
		i	09 02.0						
	OUL	iP	22 08 50.2						
			cont.						

November 18, 1968

Urmas Luosto
Seppo Pirhonen

22 JAN 1969

Helsinki, Finland
Prel. Bull. 1968

February

				T	A
1	NUR	eP	08 09 02	1.2	28.5
		ePP	11 32		
		eS	18 08		
		eSS	22 52		
	KJN	iP	08 08 42.0 U	1.0	16.4
		i	49.0		
	OUL	iP	08 08 35.9		
	SOD	iP	08 08 21.2		
	KEV	iP	08 08 07.0	1.0	20.0
		eS	16 16		
	H: 07 58 03.5				
	50.0 N, 129.8 W, 14 km				
	Vancouver Island				
1	NUR	iP	12 58 10.1 U	1.1	166.6
		i	20.2		
		i	33.7		
		i	52.0		
		eSS	13 11 40		
	KJN	iP	12 57 46.5 U	0.9	75.9
		i	59.2		
		iPcP	58 24.8		
	OUL	iP	12 57 44.7		
		i	52.3		
		i	59.2		
		iPcP	58 21.2		
	SOD	iP	12 57 33.2 D		
	KEV	iP	12 57 21.1	0.8	36.0
		i	29.3		
		eS	13 05 32		
		eScS	07 20		
		eSS	09 36		
	H: 12 47 23.4				
	43.2 N, 146.9 E, 35 km				
	Kurile Islands				
1	NUR	ePKP	16 04 32		
	H: 15 45 30				
	28.3 S, 178.5 W, 284 km				
	Kermadec Islands				
1	NUR	eP	16 36 12		
1	KJN	eP	18 57 23		
		e	59 40		
1	NUR	iP	19 12 58.1	0.8	17.3
	KJN	iP	19 12 34.9 U	0.7	13.7
		i	45.8		
	OUL	iP	19 12 33.2 D		
		i	43.8		
	SOD	iP	19 12 21.6		
		i	30.9		
	cont.				

February

				T	A
	KEV	iP	19 12 09.1	0.7	14.2
	H: 19 02 09.4				
	42.9 N, 147.0 E, 33 km (R)				
	Hokkaido, Japan				
1	NUR	iP	19 42 46.0		
	KJN	iP	19 42 22.6	0.7	12.3
	OUL	iP	19 42 21.4 U		
	SOD	iP	19 42 09.0		
	KEV	eP	19 41 54		
		i	57.5	0.7	7.7
	H: 19 31 57				
	43.0 N, 146.9 E, 33 km (R)				
	Kurile Islands				
1	NUR	eP	22 10 10		
	KJN	iP	22 09 59.5		
	OUL	eP	22 10 02		
	SOD	eP	22 09 58		
	Moscow:				
	H: 21 57 06				
	5.6 N, 127.4 E				
	Indonesia				
1	KJN	iP	22 19 36.7	0.6	6.9
1	NUR	eP	23 12 43		
	KJN	eP	23 13 16		
1	NUR	ePKP	23 32 32	0.8	10.1
	KJN	iPKP	23 32 25.4 D	0.6	8.2
	OUL	iPKP	23 32 24.7 D		
	SOD	iPKP	23 32 21.1		
	KEV	iPKP	23 32 17.7	0.7	7.7
	H: 23 13 47.2				
	18.5 S, 169.0 E, 228 km				
	New Hebrides Islands				
2	NUR	ePKP	01 02 37		
	KJN	ePKP	01 02 29		
	OUL	ePKP	01 02 28		
	H: 00 44 02.1				
	19.9 S, 178.2 W, 366 km				
	Fiji Islands				
2	NUR	iP	07 41 54.3 D	0.6	13.8
		i	42 00.4		
	KJN	eP	07 41 58		
2	NUR	eP	15 20 09		
	KJN	iP	15 20 46.0		
	OUL	eP	15 20 54		
	cont.				

February

February

				T	A	
	SOD	eP	15 21 13			
	H:		15 15 42			
			41.4 N, 20.1 E, 33 km (R)			
			Albania			
2	NUR	iP	15 47 45.0			
	KJN	eP	15 47 18			
	OUL	eP	15 47 20			
	SOD	iP	15 47 07.5			
	H:		15 36 58.6			
			43.2 N, 146.6 E, 50 km (R)			
			Kurile Islands			
2	NUR	eSg	17 49 46			
	KJN	iSg	17 49 01.9			
	SOD	eSn	17 48 04			
		iSg	27.0			
2	KJN	iP	19 41 36.4			
	H:		19 28 45.2			
			0.0 S, 123.7 E, 165 km			
			Northern Celebes			
2	NUR	iP	20 26 14.3 U	0.9	37.8	
		i	25.3			
	KJN	iP	20 25 51.1 U	0.8	21.5	
		i	26 02.7			
		e	26			
	OUL	iP	20 25 49.4 D			
		i	54.6			
		i	59.9			
	SOD	iP	20 25 37.6 D			
		i	48.8			
	KEV	iP	20 25 25.7 D	0.7	15.5	
	H:		20 15 25.7			
			43.2 N, 147.0 E, 25 km			
			Kurile Islands			
2	KJN	iP	21 15 47.1 U	0.8	8.5	
	OUL	eP	21 15 46			
	SOD	eP	21 15 35			
	H:		21 05 08			
			39.0 N, 143.4 E, 57 km			
			Honshu, Japan			
2	KJN	eP	21 28 01			
	SOD	eP	21 28 07			
	H:		21 15 01			
			0.0 N, 124.5 E, 84 km			
			Northern Celebes			
2	NUR	ePKP	23 35 35			
	KJN	iPKP	23 35 27.1			
		e	40			
			cont.			

				T	A	
	OUL	iPKP	23 35 27.0			
	H:		23 16 31.3			
			16.0 S, 167.5 E, 32 km			
			New Hebrides Islands			
3	NUR	iP	03 36 53.6	0.9	61.9	
		ePcP	37 26			
		i	38 00.3			
	KJN	iP	03 36 29.0 U	0.8	23.1	
		iPcP	37 11.3			
		e	38 26			
	OUL	iP	03 36 27.0			
		iPcP	37 09.8			
	SOD	iP	03 36 13.7 U			
		i	16.2			
		ePcP	37 02			
	KEV	eP	03 36 01			
		i	02.1			
	H:		03 26 16.6			
			46.6 N, 152.6 E, 45 km (R)			
			Kurile Islands			
3	NUR	ePKP	05 35 31			
	KJN	ePKP	05 35 22			
	OUL	ePKP	05 35 23			
	H:		05 16 18.6			
			17.5 S, 176.3 E, 33 km (R)			
			Fiji Islands			
3	NUR	iP	05 49 19.7			
		i	58.5			
		ePP	52 56			
		eSKS	59 52			
		eS	06 00 16			
		ePS	01 16			
		eSS	06 20			
	KJN	iP	05 49 20.2	1.1	20.3	
		i	41.7			
		e	52 17			
	OUL	iP	05 49 08.1			
		i	30.2			
		i	44.9			
		ePP	52 31			
	SOD	eP	05 49 02			
		i	27.8			
		ePP	52 27			
	KEV	eP	05 48 56			
		i	49 11.4			
		i	21.8			
		ePP	52 20			
		eS	59 22			
		eSS	06 05 00			
	H:		05 36 14.6			
			16.7 N, 99.4 W, 9 km			
			Guerrero, Mexico			

February

				T	A
3	NUR	iP	11 02 22.0	0.8	14.7
	KJN	iP	11 01 55.4	0.7	8.2
	OUL	iP	11 01 51.6		
	SOD	eP	11 01 36		
	H: 10 52 15				
	54.5 N, 161.8 E, 33 km (R)				
	Kamchatka				
3	NUR	iP	11 41 31.0 U	1.2	96.4
		i	40.8		
		iPcP	42 00.7		
		eS	50 12		
	KJN	iP	11 41 07.5 U	1.1	51.3
		i	17.5		
	OUL	iP	11 41 06.2		
		i	16.4		
	SOD	iP	11 40 53.9 U		
	KEV	iP	11 40 42.9 U	0.7	11.6
		eS	48 44		
		eSS	53 12		
	H: 11 30 44.4				
	43.2 N, 146.8 E, 33 km (R)				
	Kurile Islands				
3	NUR	iP	15 53 23.1 U	0.8	58.8
		ipP	54.3		
		isP	54 07.0		
		ePP	57 20		
		eSKS	16 03 40		
		eS	04 00		
		esSKS	36		
	KJN	iP	15 53 19.4 U	0.7	63.0
		ipP	50.3		
	OUL	iP	15 53 13.1		
		i	17.5		
		ipP	44.1		
	SOD	iP	15 53 08.4 U		
	KEV	iP	15 53 02.8 U	1.2	173.9
		i	17.0		
		epP	35		
		eS	16 03 16		
		e	04 02		
	H: 15 40 44.5				
	16.6 N, 93.5 W, 142 km				
	Chiapas, Mexico				
3	NUR	eP	16 08 14	0.8	16.2
	KJN	iP	16 08 04.7		
	OUL	eP	16 08 04		
3	OUL	eP	19 04 10		
3	NUR	iP	20 10 18.5		
		i	47.0		
	KJN	eP	20 09 30		

February

				T	A
4	NUR	eP	04 32 00		
4	NUR	eP	05 18 49		
	KJN	eP	05 18 25		
	SOD	eP	05 18 12		
	Moscow:				
	H: 05 08 02				
	43.6 N, 147.9 E				
	Kurile Islands				
4	NUR	eP	07 15 54		
	OUL	eP	07 15 22		
	SOD	eP	07 15 15		
	H: 07 05 17				
	43.8 N, 145.8 E, 142 km				
	Hokkaido, Japan				
4	NUR	iP	09 21 13.3 U	1.1	117.1
		i	24.6		
		eS	30 06		
		eSS	34 40		
	KJN	iP	09 20 50.1 U	1.1	77.0
		i	21 01.2		
		iPcP	33.1		
	OUL	iP	09 20 47.9 U		
		i	21 00.1		
	SOD	iP	09 20 35.5		
	KEV	iP	09 20 24.3	1.0	60.0
		i	36.1		
	H: 09 10 25.3				
	43.2 N, 147.2 E, 33 km (R)				
	Kurile Islands				
4	NUR	iP	11 11 38.0		
		i	40.0		
		i	42.8		
		ePP	14 04		
		e	24		
		eScP	16 10		
		eS	20 25		
		ePS	21 06		
		e	22 22		
		eSS	24 48		
		e	28 12		
	KJN	iP	11 11 14.3		
		i	15.8		
	OUL	iP	11 11 12.5		
		i	13.9		
		i	18.5		
		i	14 15.5		
	SOD	iP	11 11 01.6		
		i	25.0		
		i	12 05.2		
	cont.				

February

February

				T	A	
	SOD	iP	00 34 03.4	U		
		ipP	35 07.0			
		i	22.1			
	KEV	iP	00 33 56.2	U	0.8	108.0
		i	34 13.1			
	H: 00 22 28.6					
	21.6 N, 142.9 E, 309 km					
	Mariana Islands					
7	NUR	eP	08 47 03			
		eS	56 36			
	OUL	eP	08 46 39			
	SOD	eP	08 46 23			
	KEV	eS	08 54 56			
	H: 08 35 29.6					
	43.6 N, 127.3 W, 33 km (R)					
	Off coast of Oregon					
7	NUR	iP	12 26 05.0		0.9	13.8
	OUL	iP	12 25 40.7			
	SOD	eP	12 25 28			
	KEV	eP	12 25 17			
	H: 12 15 17.3					
	43.0 N, 146.8 E, 42 km (R)					
	Kurile Islands					
7	NUR	iP	12 30 06.7		0.5	16.2
	OUL	iP	12 30 26.9	D		
		isP	31 03.6			
	SOD	iP	12 30 23.2			
	KEV	iP	12 30 32.0		0.7	18.1
	H: 12 23 03.2					
	36.2 N, 70.7 E, 155 km					
	Hindu Kush					
7	NUR	ePKP	13 29 21			
		iSKP	32 16.8			
	OUL	iSKP	13 32 05.5			
	SOD	eSKP	13 31 59			
	H: 13 10 52.3					
	25.3 S, 179.7 E, 491 km					
	South of Fiji Islands					
7	NUR	iP	22 27 21.0	U	1.0	291.1
		i	31.2			
		ePP	50			
		eS	31 24			
		esS	32 16			
		iScP	34 21.8			
		eScS	38 07			
	KJN	iP	22 27 51.2			
		e	29 23			
		iScP	34 31.4			
	cont.					

				T	A	
	OUL	iP	22 28 00.8	U		
		i	05.6			
		ipP	29.2			
		ePcP	31 05			
		iScP	34 35.0			
	SOD	iP	22 28 20.8			
		e	30 53			
		iS	33 20.2			
		iScP	34 42.0			
	KEV	eP	22 28 44			
		i	29 45.7			
		iScP	34 51.3			
	H: 22 22 20.2					
	36.7 N, 26.8 E, 161 km					
	Dodecanese Islands					
8	SOD	eP	03 51 15			
8	NUR	eP	06 49 24			
8	NUR	eP	07 06 10			
	OUL	iP	07 06 00.0			
	H: 06 53 28					
	16.8 N, 93.5 W, 100 km (R)					
	Chiapas, Mexico					
8	KJN	iP	09 40 42.0			
	SOD	eP	09 40 41			
	H: 09 29 29					
	23.0 N, 120.4 E, 55 km					
	Taiwan					
8	NUR	iP	11 07 19.3		1.2	49.6
		eS	14 34			
	KJN	iP	11 07 33.8	U	1.0	45.8
		i	38.5			
	OUL	iP	11 07 43.4	U		
	SOD	eP	11 07 55			
	KEV	iP	11 08 09.9		0.9	45.4
	H: 10 58 22.1					
	14.6 N, 53.9 E, 33 km (R)					
	Arabian Sea					
8	NUR	iP	12 14 59.7	U	0.4	22.8
		i	15 10.0			
	KJN	iP	12 14 36.5	U	0.9	26.8
	OUL	iP	12 14 35.1			
		i	46.0			
	SOD	iP	12 14 21.9			
		i	34.1			
	cont.					

February

February

			T	A		
	KEV	eP	12 14 13			
	H: 12 04 12.8					
	43.2 N, 147.2 E, 45 km					
	Kurile Islands					
8	NUR	iP	12 37 18.1	U	0.9	34.4
		i	23.0			
		ePP	39 20			
		eS	44 36			
		e	46 40			
		eSS	48 08			
	KJN	iP	12 37 33.3	U	1.0	42.5
	OUL	iP	12 37 43.0			
		i	46.8			
	SOD	iP	12 37 55.4			
		e	38 24			
	KEV	ePPP	12 41 36			
		e	43 06			
		eS	46 12			
		eSS	49 56			
	H: 12 28 21.0					
	14.6 N, 54.0 E, 33 km (R)					
	Arabian Sea					
8	KJN	eP	13 31 21			
	OUL	eP	13 31 20			
	SOD	eP	13 31 08			
	H: 13 20 57.0					
	43.2 N, 147.4 E, 36 km (R)					
	Kurile Islands					
8	NUR	iP	23 11 21.0			
	KJN	iP	23 10 57.6			
	OUL	eP	23 10 53			
		i	11 08.4			
	SOD	eP	23 10 43			
		i	55.7			
	KEV	eP	23 10 31			
	H: 23 00 32					
	44.7 N, 152.2 E, 40 km (R)					
	Kurile Islands					
9	NUR	iP	13 26 17.0	D	1.0	70.0
		iPP	31.4			
		i	50.3			
		iS	28 51.6			
		iSS	29 11.4			
	KJN	iP	13 27 01.9	D	0.7	17.1
		i	19.6			
		i	28 09.0			
		eS	30 18			
	cont.					

			T	A		
	OUL	eP	13 27 13			
		i	15.2			
		i	36.6			
		eS	30 36			
		ePcP	31 25			
	SOD	iP	13 27 37.7			
		i	28 49.6			
		iS	31 37.0			
		i	53.1			
	H: 13 22 53.9					
	45.6 N, 26.4 E, 122 km					
	Rumania					
9	NUR	eP	14 47 38			
	KJN	eP	14 47 44			
	OUL	iP	14 47 52.9			
	H: 14 39 46.8					
	29.8 N, 68.7 E, 33 km (R)					
	West Pakistan					
9	NUR	iP	15 43 30.7		1.0	14.0
		i	48.6			
	KJN	iP	15 43 05.0			
	OUL	eP	15 43 00			
	H: 15 33 06.3					
	53.5 N, 169.7 E, 33 km					
	Komandorsky Islands					
9	NUR	eP	20 59 28			
	KJN	iP	20 59 37.3		0.8	11.5
	OUL	eP	20 59 43			
	H: 20 46 44.1					
	13.9 S, 82.4 E, 33 km (R)					
	South Indian Ocean					
10	NUR	eP	00 53 49			
	KJN	iP	00 53 39.3			
10	NUR	eP	05 53 34			
10	NUR	eP	06 23 45			
10	NUR	iP	07 29 31.3		0.9	21.8
	OUL	iP	07 29 01.2			
	H: 07 18 52					
	52.0 N, 173.9 E, 33 km (R)					
	Near Islands					
10	NUR	iP	10 10 41.0	U	0.6	82.5
		i	42.9			
		i	11 05.0			
		e	37			
		ePP	13 01			
	cont.					

February				February			
	T	A		T	A		
		iPKP 03 15.8		12	NUR eP 20 20 43		
		iPKKP 14 14.4			KJN eP 20 21 22		
SOD	iP	05 59 04.0 U		12	NUR iP 20 59 37.0 D 0.7 11.6		
	i	10.1			KJN iP 20 59 25.3 U 0.9 32.1		
	i	06 02 23.1			OUL iP 20 59 29.0		
	i	47.4			SOD iP 20 59 24.3 D		
	ePKKP	14 19			H: 20 47 08		
KEV	eP	05 58 58			11.4 N, 125.2 E, 78 km		
	ePP	06 03 32			Samar, P.I.		
	ePPP	05 36		12	NUR eP 22 27 49		
	eSKS	09 36			KJN iP 22 27 43.8		
	ePS	12 32			OUL iP 22 27 50.0		
	ePKKP	14 47			SOD eP 22 27 47		
	eSS	18 12			i 51.4		
	H:	05 44 47.6			H: 22 17 36		
		5.5 S, 153.2 E, 74 km			22.9 N, 95.4 E, 23 km		
		New Ireland			Burma		
12	OUL eP	06 12 03		13	NUR epP 02 26 52 1.0 18.0		
	SOD eP	06 12 11			iPKKP 42 21.1		
	i	25.1			KJN ipP 02 26 41.9 0.9 13.1		
	e	44			iPKKP 42 26.8 1.1 26.8		
12	OUL eP	06 28 39			OUL epP 02 26 44		
	H:	06 15 11			iPKKP 42 24.7		
		9.2 S, 113.0 E, 33 km (R)			SOD epP 02 26 38		
		South of Java			KEV epP 02 26 41		
12	NUR eP	08 07 52			H: 02 12 31.5		
	KJN eP	08 07 35			5.5 S, 131.1 E, 67 km		
12	NUR iP	10 23 55.1 U 1.2 199.5			Banda Sea		
	i	24 08.0		13	NUR eP 11 40 47		
	eS	27 45			KJN iP 11 40 25.4		
KJN	iP	10 24 31.2 U 0.8 69.2			OUL eP 11 40 24		
	i	25 49.8			SOD eP 11 40 08		
OUL	iP	10 24 37.5 U			H: 11 30 07		
	i	41.2			41.4 N, 142.0 E, 72 km		
	ePcP	27 55			Hokkaido, Japan		
SOD	iP	10 24 58.7 U		13	NUR eP 15 37 27		
	i	25 30.5			i 42.0		
KEV	iP	10 25 19.4 D 0.9 57.1			KJN i 15 37 24.6		
	H:	10 18 51.9			SOD e 15 37 08		
		38.1 N, 17.8 E, 15 km			H: 15 26 40.5		
		Southern Italy			43.2 N, 146.6 E, 37 km (R)		
12	NUR eP	14 55 03			Kurile Islands		
12	NUR eP	16 31 14		14	NUR iP 04 20 32.1		
	H:	16 26 03.6			i 43.0		
		37.9 N, 13.1 E, 33 km (R)			KJN iP 04 20 09.5 0.6 9.6		
		Sicily			cont.		

February				February			
		T	A			T	A
	OUL iP	04 20	07.7 D				
	SOD iP	04 19	55.3				
	KEV eP	04 19	41				
	H: 04 09 43						
	43.3 N, 147.6 E, 33 km (R)						
	Kurile Islands						
14	NUR eP	09 30	38				
	KJN iP	09 30	09.3	1.2	75.7		
	OUL iP	09 29	51.4				
	KEV eP	09 29	28				
	H: 09 27 06						
	71.4 N, 2.0 W, 33 km (R)						
	Jan Mayen Island						
14	OUL eP	14 50	11				
	H: 14 38 26						
	25.8 N, 141.1 E, 42 km						
	Volcano Islands						
14	NUR iP	17 14	40.6	0.7	10.3		
	KJN eP	17 14	22				
	H: 17 03 25						
	30.8 N, 130.7 E, 33 km (R)						
	Kyushu, Japan						
14	NUR eP	23 27	42				
	KJN eP	23 27	55				
15	NUR iP	00 22	24.0				
	e		35				
	KJN eP	00 22	00				
	OUL iP	00 21	57.7				
	SOD iP	00 21	46.6				
	Moscow:						
	H: 00 11 28						
	42.2 N, 148.4 E,						
	Kurile Islands						
15	NUR iP	02 53	35.2	0.6	20.0		
	iPcP	54	04.0				
	KJN eP	02 53	09	0.6	21.2		
	i		22.9				
	OUL iP	02 53	03.1 U				
	i		09.7				
	e		16				
	SOD eP	02 52	49				
	i		53 06.4				
	KEV eP	02 52	32				
	H: 02 42 47.3						
	52.2 N, 171.4 W, 61 km (R)						
	Fox Islands						
15	NUR ePKP	06 13	20				
	KJN ePKP	06 13	16				
	H: 05 53 41						
	32.5 S, 179.6 W, 6 km						
	South of Kermadec Islands						
15	NUR iP	15 55	38.7				
	KJN eP	15 55	11				
	OUL eP	15 55	10				
	SOD eP	15 54	53				
	H: 15 45 02						
	47.1 N, 153.3 E, 41 km						
	Kurile Islands						
15	NUR iP	23 03	55.3	1.0	12.0		
	KJN iP	23 04	17.9 U	1.1	31.1		
	SOD iP	23 04	29.8				
	H: 22 52 54						
	1.9 S, 12.7 W, 33 km (R)						
	North of Ascension Island						
16	NUR eP	01 20	08				
	KJN eP	01 20	03				
	i		09.9				
	OUL eP	01 19	59				
	SOD eP	01 19	57				
	H: 01 07 24						
	9.2 N, 126.4 E, 48 km						
	Mindanao, P.I.						
16	NUR eP	02 52	27				
	i		30.5				
	KJN eP	02 52	04				
	OUL eP	02 52	00				
	SOD eP	02 51	45				
	H: 02 42 32.6						
	61.0 N, 140.2 W, 33 km (R)						
	Southern Yukon, Canada						
16	NUR eP	05 47	01				
	KJN eP	05 46	50				
	OUL eP	05 46	56				
	SOD eP	05 46	56				
	H: 05 37 54						
	33.7 N, 95.1 E, 33 km (R)						
	Tsinghai, China						
16	NUR eP	10 09	20				
	SOD eP	10 08	36				
	KEV eP	10 08	22				
	H: 09 59 59						
	53.9 N, 155.1 E, 415 km (R)						
	Kamchatka						

February						February							
						T	A			T	A		
16	NUR	iP	14 33	01.2 D		0.7	38.7	17	NUR	eP	16 12 04	0.8	10.1
		ipP	34	58.0					KJN	iP	16 11 55.1 U	1.0	21.8
	KJN	iP	14 32	27.4 D		0.7	36.3		OUL	iP	16 11 54.1 U		
		ipP	34	32.3					SOD	eP	16 11 49		
	OUL	iP	14 32	34.9 D				17	NUR	eP	17 32 33		
		ipP	34	30.0					KJN	iP	17 32 22.6 U	1.0	20.7
	SOD	iP	14 32	22.3 D					OUL	eP	17 32 25		
		i		31.6						i	30.9		
		ipP	34	16.8					SOD	eP	17 32 21		
	KEV	iP	14 32	09.5 D		0.9	28.6		KEV	eP	17 32 17		
		epP	34	02									
	H: 14 23 42.6								H: 17 19 31.8				
	49.7 N, 147.7 E, 582 km								4.4 N, 127.7 E, 98 km				
	Sea of Okhotsk								Talaud Islands				
16	NUR	eP	19 41 28					17	NUR	ePKP	20 04 21		
	KJN	eP	19 41 50						KJN	ePKP	20 04 13		
	OUL	eP	19 41 55						OUL	iPKP	20 04 13.9 U		
	SOD	eP	19 42 03						H: 19 46 22				
	H: 19 30 23								13.6 S, 172.8 E, 577 km				
	1.9 S, 12.4 W, 16 km								New Hebrides Islands				
	North of Ascension Island							18	NUR	eSKS	09 52 16		
16	NUR	eP	20 47 55							eSP	55 05		
	OUL	eP	20 47 28							esPS	58 10		
	H: 20 37 08.9									eSS	10 00 40		
	44.3 N, 148.8 E, 33 km (R)									esSS	03 40		
	Kurile Islands								KJN	iP	09 42 21.4		
17	NUR	iP	00 43 01.0			1.0	16.0			iSKS	52 12.2		
17	NUR	iP	04 10 08.0							iPKKP	58 39.3		
	KJN	eP	04 10 03						OUL	iP	09 42 24.6		
	OUL	iP	04 10 09.0							iPKKP	58 36.9		
	SOD	eP	04 10 11						SOD	eP	09 42 21		
										e	44 56		
										iPKKP	58 38.1		
									KEV	eSKS	09 52 08		
	H: 06 25 39								H: 09 29 26.1				
	5.0 S, 35.9 E, 33 km (R)								7.2 S, 125.9 E, 457 km				
	Tanganyika								Banda Sea				
17	NUR	eP	09 03 18					18	NUR	eP	14 58 31		
	KJN	eP	09 03 11					18	KJN	eP	20 22 36	0.8	8.5
	OUL	iP	09 03 05.0						OUL	iP	20 22 38.8		
		i		20.9					H: 20 09 53.0				
	H: 08 50 29								13.8 N, 145.4 E, 100 km				
	18.4 N, 98.7 W, 79 km (R)								Mariana Islands				
	Central Mexico							18	NUR	eP	21 11 11		
									OUL	eP	21 11 09		
17	NUR	iP	10 49 10.0					18	NUR	eSKP	23 45 06		
	KEV	eP	10 50 07						H: 23 23 44				
17	NUR	eP	13 02 47						24.4 S, 179.5 E, 500 km				
									South of Fiji Islands				

February						February					
				T	A						
20	KJN	eP	00 52 23			KJN	eP	06 21 05	1.0	17.4	
							i	19.7			
20	NUR	eP	01 33 13			OUL	eP	06 21 15			
	KJN	iP	01 33 50.6	1.1	24.3		e	22			
			H: 01 28 30					H: 06 15 45.2			
			39.4 N, 25.9 E, 46 km					39.5 N, 25.1 E, 32 km			
			Aegean Sea					Aegean Sea			
20	NUR	iP	02 26 37.5	1.7	231.8	20	NUR	iP	09 40 33.5		
		i	44.0				i	36.6			
		e	27 54				eS	44 24			
	KJN	iP	02 27 14.2	1.3	132.4		e	40			
		e	29 26			KJN	iP	09 41 10.2			
	OUL	iP	02 27 23.6				i	14.2 U	1.0	25.1	
		i	33.7			OUL	iP	09 41 19.8			
	SOD	eP	02 27 43				i	43.8			
	KEV	iP	02 28 03.0	1.2	51.3	SOD	eP	09 41 45			
			H: 02 21 53.0					H: 09 35 50			
			39.6 N, 25.4 E, 13 km					39.3 N, 24.9 E, 33 km (R)			
			Aegean Sea					Aegean Sea			
20	NUR	iP	02 31 04.2 U	1.1	55.9	20	NUR	iP	09 45 53.1	0.8	21.2
	KJN	iP	02 31 16.2 U	1.1	70.2		i	56.3			
	OUL	iP	02 31 11.7 U				i	46 00.5			
		i	21.9				i	47 31.0			
	SOD	iP	02 31 16.3			KJN	iP	09 46 30.0	1.0	20.7	
		i	20.0				i	47 11.1			
	KEV	iP	02 31 19.5	1.0	50.0	OUL	eP	09 46 37			
			H: 02 19 49.6				i	39.7			
			12.4 N, 46.9 W, 13 km				i	47 00.5			
			North Atlantic Ridge			SOD	iP	09 46 59.4			
								H: 09 41 09.6			
20	NUR	eP	03 20 53					39.4 N, 24.9 E, 33 km (R)			
	KJN	eP	03 21 31					Aegean Sea			
20	NUR	eP	04 46 20			20	NUR	eP	16 55 59		
							e	56 12			
20	NUR	iP	05 16 25.3	0.7	16.4		i	57 09.4			
		i	34.2				eS	17 00 22			
	KJN	iP	05 16 01.2	1.0	31.6	KJN	e	16 56 38			
		i	10.2			OUL	eP	16 56 39			
	OUL	iP	05 15 52.9			SOD	eP	16 57 01			
		i	16 02.4				e	38			
		i	18.2					H: 16 50 43.3			
		i	57.1					36.2 N, 27.5 E, 53 km			
	SOD	iP	05 15 36.7					Dodecanese Islands			
		i	48.1								
	KEV	iP	05 15 19.0	1.0	20.0	20	NUR	iP	17 41 22.3	0.7	13.9
			H: 05 06 11.9				KJN	iP	17 41 00.7	0.9	13.4
			58.4 N, 151.7 W, 34 km				OUL	eP	17 40 58		
			Kodiak Island				SOD	eP	17 40 52		
								H: 17 30 34.5			
20	NUR	eP	06 20 27					41.2 N, 142.6 E, 36 km			
			cont.					Hokkaido, Japan			

February						February			
				T	A				
						T			A
20	NUR	eP	21 10 09						
	KJN	iP	21 10 46.2						
	OUL	eP	21 10 56						
	H: 21 05 23								
	39.0 N, 25.1 E, 33 km (R)								
	Aegean Sea								
20	NUR	iP	21 28 57.0	0.5	9.6				
	KJN	iP	21 28 32.6						
	OUL	iP	21 28 27.2						
	SOD	eP	21 28 12						
	H: 21 18 10.7								
	52.2 N, 171.4 W, 59 km								
	Fox Islands								
20	NUR	eP	23 39 03	0.6	10.3				
	KJN	iP	23 38 43.2						
	OUL	iP	23 38 43.2						
	SOD	eP	23 38 34						
	H: 23 28 49.1								
	38.2 N, 135.2 E, 347 km								
	Sea of Japan								
21	NUR	eP	00 02 53						
		eS	12 08						
		eSS	16 36						
		e	20 08						
	KJN	iP	00 02 34.2	0.6	6.2				
	OUL	eP	00 02 36						
	SOD	eP	00 02 29						
	H: 23 51 43.0								
	32.0 N, 130.8 E, 33 km (R)								
	Kyushu, Japan								
21	NUR	eP	00 22 14	0.8	7.1				
	KJN	iP	00 22 51.2	0.6	10.3				
	OUL	eP	00 22 59						
	H: 00 17 32								
	39.5 N, 25.1 E, 33 km (R)								
	Aegean Sea								
21	KJN	eP	01 05 57						
	OUL	eP	01 06 04						
21	NUR	iP	01 56 04.1 D	0.7	11.3				
		i	12.0						
		eS	02 05 08						
		eSS	09 48						
		e	13 20						
	KJN	iP	01 55 45.9	0.8	16.9				
		ePP	58 15						
	OUL	iP	01 55 46.4 D						
		i	58.0						
	SOD	iP	01 55 39.0 D						
	cont.								
	KEV	iP	01 55 32.1				0.9		30.2
	H: 01 44 50.5								
	32.0 N, 130.6 E, 3 km								
	Kyushu, Japan								
21	NUR	eP	05 42 57						
	KJN	eP	05 43 37						
21	NUR	eP	06 00 15						
	KJN	eP	06 00 47						
21	NUR	iP	06 29 00.5						
		ipP	25.9						
	KJN	iP	06 28 35.2	0.8	8.5				
		i	29 05.2						
	SOD	eP	06 28 14						
		epP	40						
	H: 06 18 21.6								
	52.3 N, 175.3 W, 108 km								
	Andreanof Islands								
21	NUR	iP	06 31 41.8	0.8	16.9				
		ipP	32 07.7						
	KJN	iP	06 31 17.2	0.8	20.0				
		ipP	42.4						
		i	48.2						
	SOD	iP	06 30 56.3						
		ipP	31 21.2						
	KEV	iP	06 30 40.5	0.8	21.6				
	H: 06 21 03.6								
	52.3 N, 175.3 W, 107 km								
	Andreanof Islands								
21	NUR	eP	07 23 36						
	KJN	eP	07 24 17						
21	NUR	eP	09 11 34						
		eSKS	22 16						
	KJN	iP	09 11 24.6 U	1.2	25.8				
	SOD	eP	09 11 26						
	H: 08 57 49.1								
	4.0 S, 128.5 E, 18 km								
	Banda Sea								
21	NUR	eP	12 34 57						
	KJN	eP	12 35 39						
21	NUR	eP	12 40 41						
	KJN	iP	12 41 16.0	0.6	6.2				
	SOD	eP	12 41 52						
	BCIS:								
	H: 12 36 00								
	39.5 N, 24.9 E								
	Aegean Sea								

February						February							
				T	A					T	A		
21	NUR	iP	12 47	39.0 D	1.2	36.3	21	NUR	eP	19 40	52		
		i		51.9					iPcP	41	21.2		
		eSKS	58 12					KJN	eP	19 40	28		
	KJN	iP	12 47	27.7 D	0.9	16.1			iPcP	41	05.0		
	OUL	iP	12 47	29.1				SOD	eP	19 40	11		
	SOD	iP	12 47	26.4 D					iPcP		52.6		
	H: 12 34 42.7							H: 19 30 04.9					
	7.0 N, 126.8 E, 39 km							51.6 N, 176.0 W, 57 km					
	Mindanao, P.I.							Andreanof Islands					
21	NUR	iP	13 01	38.2			21	NUR	eP	19 43	20		
	KJN	eP	13 01	01					iPcP		48.2		
	OUL	eP	13 00	44				KJN	eP	19 42	54		
	SOD	eP	13 00	26					iPcP	43	32.4		
	KEV	eP	13 00	17				OUL	eP	19 42	49		
21	NUR	eP	13 31	38				SOD	e	19 42	29		
	H: 13 21 19								ePcP	43	19		
	57.1 N, 152.1 W, 51 km							H: 19 32 32.2					
	Kodiak Island							51.7 N, 175.9 W, 54 km					
								Andreanof Islands					
21	NUR	iP	14 33	11.5	1.0	15.7	21	NUR	iPKP	19 46	41.5 U	0.8	225.6
	KJN	iP	14 32	55.2					i		43.0		
	SOD	eP	14 32	48					ipPKP	47	42.6		
21	NUR	iP	15 41	57.0 U	0.9	41.0		KJN	iPKP	19 46	30.2 U	1.0	31.6
		i		59.0					i		37.3		
	KJN	iP	15 41	43.3 U	0.8	46.1			epPKP	47	22		
	OUL	iP	15 41	34.5				OUL	iPKP	19 46	31.4		
	SOD	iP	15 41	24.8 U				SOD	iPKP	19 46	22.9		
	KEV	iP	15 41	12.2 U	0.8	40.3		KEV	iPKP	19 46	26.2 U	0.9	31.9
	H: 19 27 30.0							H: 19 27 30.0					
	30.2 S, 179.0 W, 228 km							30.2 S, 179.0 W, 228 km					
	Kermadec Islands							Kermadec Islands					
21	NUR	eP	16 20	23			21	NUR	iP	21 18	46.0	1.0	25.5
	KJN	eP	16 19	37					iPcP	19	15.6		
	SOD	eP	16 19	02					i		57.0		
21	NUR	eP	17 19	24				KJN	iP	21 18	21.6	1.0	20.7
		e		20 34					iPcP		59.2		
	KJN	eP	17 20	03				OUL	iP	21 18	15.9		
		e		21 07					iPcP		54.9		
21	NUR	iP	19 19	30.0 U	1.1	18.6		SOD	eP	21 18	01		
		iPcP		57.6					iPcP		46.2		
	KJN	iP	19 19	05.2	1.2	34.4		KEV	eP	21 17	48		
		iPcP		42.0					iPcP	18	37.2		
	OUL	eP	19 18	59					ePP	19	56		
	SOD	eP	19 18	46					eS	25	40		
		ePcP	19 29						ePPS	26	08		
	H: 19 08 39.3							H: 21 07 56.9					
	51.4 N, 176.1 W, 49 km							51.4 N, 176.0 W, 47 km					
	Andreanof Islands							Andreanof Islands					

February						February				
				T	A					
21	NUR	ePKP	21 24 15			22	NUR	iP	05 02 32.4	0.9 19.7
		iSKP	27 08.1				KJN	iP	05 03 09.2	0.8 9.2
	KJN	ePKP	21 24 12				OUL	eP	05 03 17	
	H: 21 05 53.8						SOD	eP	05 03 39	
	20.4 S, 177.9 W, 503 km						H: 04 57 49.1			
	Fiji Islands						39.5 N, 25.1 E, 33 km (R)			
							Aegean Sea			
21	NUR	eP	21 25 58			22	NUR	iP	06 25 44.5	
		iPcP	26 24.4							
	KJN	eP	21 25 32			22	NUR	iP	06 59 33.2	0.6 7.3
		iPcP	26 08.2				H: 06 54 09.6			
	SOD	eP	21 25 14				35.4 N, 28.9 E, 36 km			
		ePcP	55				Eastern Mediterranean Sea			
	H: 21 15 08.0					22	KJN	eP	07 29 34	
	51.4 N, 175.8 W, 52 km									
	Andreanof Islands					22	NUR	ePKP	09 32 05	
21	NUR	eP	21 29 29				e	38		
		iPcP	59.0				eSKP	34 48		
	KJN	eP	21 29 07			KJN	ePKP	09 31 59		
		iPcP	42.7				eSKP	34 35		
	SOD	ePcP	21 29 30			OUL	iPKP	09 32 00.2		
	H: 21 18 42.7						eSKP	34 27		
	51.6 N, 175.9 W, 50 km					SOD	eSKP	09 34 27		
	Andreanof Islands					H: 09 13 47.8				
21	NUR	eP	21 29 48				21.8 S, 179.7 E, 566 km			
		iPcP	30 20.0				South of Fiji Islands			
21	NUR	iP	23 40 46.0	0.8	8.5	22	NUR	iP	10 30 20.0	0.7 7.6
		i	41 29.0				eS	39 24		
	KJN	eP	23 40 36				e	43 40		
	H: 23 32 37						e	47 32		
	38.1 N, 86.9 E, 28 km					KJN	iP	10 30 02.0	0.8 9.2	
	Southern Sinkiang, China					OUL	iP	10 30 03.4		
22	NUR	iP	02 21 25.9			SOD	eP	10 29 57		
	H: 02 16 41.0					H: 10 19 07.6				
	39.6 N, 25.7 E, 24 km					32.0 N, 130.7 E, 11 km				
	Aegean Sea					Kyushu, Japan				
22	NUR	ePKP	02 21 22			22	NUR	eP	12 27 12	
		i	41.0				KJN	eP	12 27 48	
		iPKP ²	52.2				SOD	eP	12 28 18	
	KJN	iPKP	02 21 30.7 U	1.6	169.4					
	OUL	iPKP	02 21 32.6			22	NUR	eP	17 00 49	
	SOD	iPKP	02 21 28.9				iPcP	01 16.3		
	KEV	iPKP	02 21 26.0	1.5	159.6		OUL	eP	17 00 18	
	H: 02 01 46.1						SOD	eP	17 00 08	
	44.4 S, 167.6 E, 33 km (R)						ePoP	47		
	South Island, N.Z.					H: 16 49 58.6				
22	KJN	eP	02 37 11			51.4 N, 176.1 W, 54 km				
						Andreanof Islands				

February

February

				T	A					T	A
22	NUR	eP	17 24 56								
		e	25 51								
	KJN	eP	17 25 06								
		e	59								
	OUL	eP	17 25 11								
	SOD	eP	17 25 27								
	Moscow:										
	H: 17 18 32										
	37.3 N, 57.7 E										
	Iran										
22	NUR	iP	17 57 47.0 D	1.0	19.6						
		iPcP	58 16.0								
	KJN	iP	17 57 21.7 D	1.0	19.6						
		iPcP	59.8								
		e	58 18								
	OUL	iP	17 57 16.3								
		iPcP	56.3								
	SOD	eP	17 57 03								
		ePcP	47								
	KEV	e(P)	17 56 56								
		iPcP	57 38.5								
		eS	18 04 52								
	H: 17 46 57.4										
	51.4 N, 176.3 W, 49 km										
	Andreanof Islands										
22	NUR	eP	18 24 48	0.7	6.3						
		ePcP	25 16								
	KJN	eP	18 24 23								
		ePcP	59								
	OUL	eP	18 24 16								
		ePcP	56								
	SOD	eP	18 24 04								
	H: 18 13 59.3										
	51.4 N, 176.2 W, 66 km										
	Andreanof Islands										
22	NUR	eP	18 25 10								
		ePcP	37								
	KJN	eP	18 24 43								
		iPcP	25 21.6								
	OUL	eP	18 24 43								
	SOD	eP	18 24 29								
23	NUR	eP	00 21 28								
		iPcP	56.2								
	KJN	eP	00 21 02								
		iPcP	40.2								
	OUL	iP	00 20 57.1								
	SOD	e	00 20 56								
		ePcP	21 27								
	H: 00 10 39.5										
	51.5 N, 176.3 W, 65 km										
	Andreanof Islands										
23	NUR	ePKP	02 32 43								
	KJN	ePKP	02 32 33								
		e	58								
	H: 02 13 24.5										
	22.2 S, 170.2 E, 20 km										
	Loyalty Islands										
23	NUR	eP	02 46 42								
23	KJN	eP	05 22 17	0.9	6.3						
23	NUR	iP	05 53 11.5	0.8	7.1						
	KJN	iP	05 53 09.2	0.7	5.5						
	OUL	eP	05 53 14								
	SOD	iP	05 53 16.8								
	H: 05 41 06										
	2.4 N, 98.6 E, 39 km										
	Northern Sumatra										
23	NUR	eP	06 47 37								
23	NUR	eP	08 23 43	0.8	7.1						
		iPcP	24 12.0								
	KJN	eP	08 23 19	0.7	4.1						
		iPcP	56.2								
	OUL	eP	08 23 14								
		ePcP	52								
	SOD	eP	08 22 58								
		ePcP	23 42								
	H: 08 12 55.7										
	51.6 N, 175.9 W, 55 km										
	Andreanof Islands										
23	NUR	eP	09 43 16								
		iPcP	44.2								
	KJN	eP	09 42 53								
		iPcP	43 27.8								
	OUL	eP	09 42 44								
		iPcP	43 24.6								
	SOD	ePcP	09 43 15								
	H: 09 32 26.1										
	51.5 N, 176.3 W, 49 km										
	Andreanof Islands										
23	NUR	iP	11 12 44.5 D	0.8	28.2						
	KJN	iP	11 12 29.1 D	0.6	26.7						
	OUL	iP	11 12 29.8 D								
	SOD	iP	11 12 22.8 D								
	KEV	iP	11 12 16.0 D	0.7	63.4						
	H: 11 01 00.3										
	18.8 N, 145.3 E, 620 km										
	Mariana Islands										
23	NUR	eP	12 24 18								

cont.

February

February

				T	A				T	A					
	SOD	eP	12 23 30						KEV	eP	03 56 36				
			H: 12 14 12.9								H: 03 46 53.4				
			59.1 N, 153.6 W, 67 km								53.8 N, 163.4 W, 19 km				
			Southern Alaska								Unimak Island				
23	SOD	eP	16 28 16						24	KJN	ePKP	04 10 19			
			H: 16 14 41								OUL	ePKP	04 10 16		
			6.1 S, 130.5 E, 119 km									H: 03 51 04			
			Banda Sea									20.6 S, 174.0 W, 33 km (R)			
												Tonga Islands			
23	NUR	iP	19 46 47.0	0.5	7.7				24	NUR	eP	11 46 49			
	KJN	iP	19 46 32.2 U	0.5	18.4						OUL	eP	11 46 39		
	OUL	iP	19 46 32.2 U												
	SOD	iP	19 46 25.6 U						24	NUR	eP	12 59 30			
	KEV	iP	19 46 19.0 U	0.6	20.5						KJN	eP	13 00 08		
			H: 19 35 02.5									BCIS:			
			18.7 N, 145.2 E, 617 km									H: 12 55 03			
			Mariana Islands									41.5 N, 20.5 E			
23	NUR	iP	20 40 18.6	1.0	17.6							Albania-Yugoslavia border			
		epP	44						24	NUR	eP	13 05 09			
		e	43 27								KJN	eP	13 05 07	0.8 8.5	
	KJN	eP	20 39 54									OUL	iP	13 05 13.8	
		epP	40 17										SOD	eP	13 05 16
	OUL	iP	20 39 48.5											H: 12 53 49	
		epP	40 11											8.7 N, 94.0 E, 58 km	
	SOD	eP	20 39 34											Nicobar Islands	
			H: 20 29 38.4						24	NUR	iP	13 27 15.0	0.8 15.5		
			51.9 N, 179.1 W, 89 km								i	20.5			
			Andreanof Islands								i	52.0			
24	NUR	iP	00 10 30.1	0.8	30.1						eS	29 47			
	KJN	iP	00 10 19.9	0.8	7.7						i	30 06.0			
	SOD	eP	00 10 12								KJN	iP	13 27 59.3	0.7 17.1	
												eS	31 06		
24	NUR	ePKP	01 30 53	1.2	206.5						OUL	iP	13 28 09.7		
		i	56.0									i	14.5		
		e	33 20									eS	31 36		
		eSKSP	44 28									SOD	iP	13 28 34.8 U	
		ePPS	47 16										i	39.5	
	KJN	iPKP	01 30 45.1 U	1.0	171.9							KEV	iP	13 28 58.2	1.1 61.9
		i	31 09.2										i	29 08.8	
	OUL	iPKP	01 30 44.2										i	33.2	
		i	31 13.0											H: 13 23 53.4	
	SOD	ePKP	01 30 37											45.8 N, 26.6 E, 134 km	
			H: 01 11 11.6											Rumania	
			32.5 S, 177.7 W, 21 km												
			South of Kermadec Islands						24	NUR	eP	15 22 10	0.9 11.5		
24	NUR	iP	03 57 39.0	1.0	13.7						KJN	iP	15 21 50.1	0.8 7.7	
	KJN	eP	03 57 15									OUL	eP	15 21 50	
	OUL	eP	03 57 08										H: 15 10 50		
	SOD	eP	03 56 56										34.4 N, 139.1 E, 33 km (R)		
			cont.										Honshu, Japan		



February

T A

OUL iP 18 18 39.1
iPcP 19 19.3
SOD eP 18 18 24
iPcP 19 09.7
KEV iP 18 18 08.2 0.9 21.8
iPcP 59.4
ePS 26 24
eSS 30 10
H: 18 08 19.9
51.4 N, 176.0 W, 50 km
Andreanof Islands

25 NUR eP 18 42 38
ePcP 43 05
H: 18 31 48
51.5 N, 175.9 W, 54 km
Andreanof Islands

25 NUR eP 19 44 55
e 45 47
SOD e 19 46 11

25 NUR iP 20 11 33.6 U 0.6 70.0
i 49.5
ePP 14 16
KJN iP 20 11 12.1 U 0.9 157.2
i 27.6
OUL iP 20 11 01.8 U
i 38.4
ePP 13 19
SOD iP 20 11 01.7 U
KEV iP 20 10 51.6 U 1.0 72.0
i 11 00.8
iPcP 29.8
H: 20 00 31.5
37.6 N, 141.4 E, 66 km (R)
Honshu, Japan

25 NUR eP 21 29 09
KJN iP 21 28 49.0 0.6 9.6
OUL iP 21 28 48.4

26 KJN ePKP 06 17 06
OUL ePKP 06 17 09
H: 05 57 19
44.5 S, 167.5 E, 33 km (R)
South Island, N.Z.

26 NUR iP 09 39 24.9 0.9 43.7
KJN iP 09 38 58.0 U 1.1 24.3
OUL eP 09 38 54
SOD eP 09 38 39
ePcP 39 31
cont.

February

T A

KEV iP 09 38 22.2
H: 09 28 54.1
52.7 N, 172.6 E, 56 km
Near Islands

26 NUR iP 10 49 51.0
OUL eP 10 49 21
i 35.9
H: 10 39 06.2
51.1 N, 174.6 E, 33 km (R)
Near Islands

26 NUR iP 11 01 49.9 1.0 288.0
i 55.0
i 02 13.0
ePP 04 30
e 06 32
eS 11 16
ePPS 12 16
eSS 16 28
eSSS 19 36
eLQ 11 21.6
KJN iP 11 01 35.0 U
i 39.2
ePP 04 19
ePPP 06 08
iS 10 55.0
iP'P' 29 22.0
OUL iP 11 01 38.8
i 43.7
i 06 26.1
eS 11 03
eP'P' 29 19
SOD iP 11 01 33.8
i 38.0
ePP 04 15
eP'P' 29 31
KEV iP 11 01 28.9
i 33.7
i 02 11.3
i 35.0
iPP 04 05.3
ePPP 06 00
eS 10 48
eScS 11 36
e 12 40
eSS 15 12
eLQ 11 20.0
eLR 11 25.0
H: 10 50 16.7
22.7 N, 121.5 E, 24 km
Taiwan

February				T	A	February				T	A	
	KJN	iP	10 02 46.9 U	0.9	17.0	28	NUR	eP	13 12 36			
	OUL	iP	10 02 56.2 U				KJN	eP	13 12 19			
	SOD	eP	10 03 05				OUL	iP	13 12 19.2			
		i	12.8				SOD	iP	13 12 11.4			
	H: 09 54 56.1											
	30.3 N, 67.6 E, 25 km						28	OUL	eP	18 43 49		
	West Pakistan							H: 18 30 40.7				
								2.2 N, 126.6 E, 59 km				
28	NUR	iP	12 18 49.5 D	1.0	110.0		Molucca Passage					
		i	19 20.0									
		i	52.2			28	KJN	eP	21 15 58			
		ipP	20 08.0				OUL	iP	21 16 01.6			
		esP	44				H: 21 03 54.5					
		iPP	21 35.2				3.0 N, 122.8 E, 510 km					
		iS	27 40.2				Celebes Sea					
		iScS	28 15.9			29	NUR	iP	04 08 51.0	0.6	12.5	
		esS	29 52					i	09 00.7			
		esPS	30 44				KJN	eP	04 08 25			
		eSS	32 24				OUL	iP	04 08 19.7			
		esSS	34 24					i	29.8			
		eSSS	36 12				SOD	eP	04 08 05			
	KJN	iP	12 18 30.7 D	0.9	83.0		H: 03 58 21.4					
		ipP	19 47.8				52.8 N, 171.2 E, 48 km					
		eP'P'	46 30				Near Islands					
	OUL	iP	12 18 30.8 D			29	NUR	eP	05 23 30			
		ipP	19 47.8				KJN	eP	05 24 05			
		iPP	21 06.0				OUL	eP	05 24 15			
		eS	27 06					i	19.4			
		eP'P'	46 34				H: 05 18 26.7					
	SOD	iP	12 18 22.2 D				38.1 N, 20.2 E, 3 km					
		i	27.1				Greece					
		iPcP	46.1			29	SOD	eP	06 21 08			
		ipP	19 39.2			29	KJN	eSKP	09 30 21			
		i	50.3				H: 09 09 40.4					
		i	21 10.3				17.8 S, 178.6 W, 544 km					
		iPPP	22 15.2				Fiji Islands					
		eP'P'	46 37			29	NUR	ePKP	10 39 49			
	KEV	iP	12 18 13.6 D	0.7	41.3		KJN	ePKP	10 39 41			
		i	16.2				OUL	ePKP	10 39 42			
		i	19 15.7				H: 10 21 15.8					
		ipP	29.4				6.9 S, 155.7 E, 80 km					
		esP	20 08				Solomon Islands					
		eS	26 32			29	NUR	iP	11 51 28.0	0.6	10.0	
		eScS	27 15				KJN	eP	11 52 04	1.2	32.7	
		e	32					e	53 14			
		esS	28 48				OUL	iP	11 52 13.6			
		e	30 04				SOD	eP	11 52 36			
		e	40									
		esSS	32 44									
		eSSS	34 10									
	H: 12 08 01.5											
	32.9 N, 137.7 E, 349 km											
	South of Honshu, Japan											

February				T	A	February				T	A	
29	NUR	eP	12 52 20	0.9	8.0	29	NUR	eP	16 48 39			
	KJN	iP	12 52 56.2				OUL	eP	16 48 12			
		i	53 17.0				29	NUR	eP			17 20 27
	OUL	eP	12 53 05					KJN	eP			17 20 12
	H: 12 47 32					29	NUR	eP	20 49 24			
	39.0 N, 24.3 E, 18 km						e	50 01				
	Aegean Sea						KJN	iP	20 49 49.1			
29	NUR	eP	15 56 16	1.2	17.1	29	NUR	iPKP	23 54 52.0 D	0.8	43.2	
		ipP	53.9				KJN	iPKP	23 54 43.8 U	0.8	30.0	
		e	58 13				e	55 24				
	KJN	eP	15 55 49	1.1	21.6		OUL	iPKP	23 54 43.3 U			
		ipP	56 27.0				e	55 20				
		e	57 29				SOD	iPKP	23 54 40.7 D			
		i	58 53.1				KEV	iPKP	23 54 37.5 D	0.7	24.5	
	OUL	iP	15 55 46.1				H: 23 36 08.5					
		ipP	56 23.5				14.6 S, 167.2 E, 183 km					
		iPcP	39.9				New Hebrides Islands					
	SOD	eP	15 55 32									
		ipP	56 09.5									
		e	57 04									
	H: 15 46 18.2											
	52.8 N, 157.5 E, 151 km (R)											
	Kamchatka											
29	KJN	iP	16 44 43.8	1.2	22.4							
	OUL	iP	16 44 47.2									
	H: 16 31 34.4											
	2.9 S, 119.6 E, 50 km											
	Celebes											

December 10, 1968

Urmas Luosto
Aili Huovila

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March

			T	A
1	NUR iP	12 09 03.4	1.1	16.7
	KJN eP	12 09 46		
1	OUL eP	16 47 22		
	H: 16 34 44.4			
	11.7 N, 85.5 W, 190 km (R)			
	Nicaragua			
1	OUL eP	22 17 46		
	SOD eP	22 17 51		
	H: 22 06 43.8			
	14.7 N, 45.0 W, 33 km (R)			
	North Atlantic Ridge			
1	NUR eP	23 11 21		
	OUL iP	23 11 28.7		
	SOD iP	23 11 34.0 U		
	H: 23 00 26.0			
	14.6 N, 45.1 W, 32 km			
	North Atlantic Ridge			
2	NUR eP	00 37 28		
	KJN eP	00 37 22		
2	NUR eP	03 25 45		
	i	26 12.8		
	KJN iP	03 25 29.3	1.0	18.5
	i	54.5		
	OUL iP	03 25 20.8		
	iPcP	58.2		
	SOD eP	03 25 07		
	H: 03 14 44.5			
	49.2 N, 129.1 W, 33 km (R)			
	Vancouver Island			
2	NUR eP	04 28 56		
2	NUR iPKP	11 33 01.5		
	OUL iPKP	11 33 09.7		
	H: 11 14 01.1			
	60.7 S, 25.5 W, 33 km (R)			
	South Sandwich Islands			
2	NUR iP	16 27 19.0		
	i	38.8		
	KJN eP	16 27 07		
	i	09.8		
	OUL iP	16 27 12.2 U		
	SOD eP	16 27 10		
	i	35.0		
	KEV eP	16 27 12		
	H: 16 17 29.0			
	29.9 N, 100.2 E, 24 km			
	Szechwan, China			

March

			T	A
2	NUR iP	22 14 10.7	1.2	62.7
	e	18 06		
	eS	23 40		
	eScS	24 20		
	e	25 24		
	eSS	28 40		
	KJN iP	22 14 16.2	1.2	163.4
	i	25.0		
	i	15 21.4		
	OUL iP	22 14 23.6 U		
	i	25.4		
	i	15 29.4		
	SOD iP	22 14 31.6 U		
	i	15 27.1		
	KEV iP	22 14 42.1 U	1.0	60.0
	i	45.9		
	eS	24 56		
	H: 22 02 24.8			
	6.1 S, 71.4 E, 33 km (R)			
	Chagos Archipelago			
2	NUR iP	23 50 14.7	0.7	7.7
	KJN iP	23 50 04.2	0.9	28.6
	i	49.0		
	OUL iP	23 50 07.0		
	i	55.0		
	SOD iP	23 50 03.3 D		
	H: 23 37 15.2			
	4.0 N, 128.0 E, 129 km			
	North of Halmahera			
3	NUR iPKP	03 51 46.3	0.8	11.5
	iSKP	54 52.4		
	KJN ePKP	03 51 39		
	eSKP	54 40		
	OUL iPKP	03 51 38.6		
	eSKP	54 40		
	H: 03 32 57.1			
	19.4 S, 169.5 E, 211 km			
	New Hebrides Islands			
3	NUR iP	09 38 52.1 U	0.9	33.6
	KJN iP	09 38 52.1 D	0.8	46.9
	i	39 23.7		
	OUL iP	09 39 02.0		
	ePP	40 36		
	SOD iP	09 39 07.8 U		
	e	38		
	KEV iP	09 39 17.2 U	1.0	80.0
	H: 09 31 20.2			
	34.7 N, 72.3 E, 33 km (R)			
	West Pakistan			

March				March			
	T	A		T	A		
3	NUR	ePKP	12 21 46			esSS	27 00
		iSKP	24 39.3			eSSS	28 10
	KJN	ePKP	12 21 45			e	31 28
		iSKP	24 28.3			e	33 20
	OUL	iPKP	12 21 46.2			H:	22 55 36.8
		iSKP	24 27.3				1.6 N, 122.6 E, 435 km (R)
	SOD	eSKP	12 24 21				Northern Celebes
		H:	12 03 29.3				
			23.5 S, 179.9 E, 556 km				
			South of Fiji Islands				
3	NUR	eP	20 13 43			3	NUR ePKP 23 15 50
							i 54.2
							e 19 08
						KJN	iPKP 23 15 43.1 D 1.0 103.6
							e 48
							i 16 43.0
						OUL	iPKP 23 15 41.6
						SOD	iPKP 23 15 36.4
						KEV	ePKP 23 15 32
							e 39
							H: 22 56 22
							33.6 S, 179.6 W, 132 km
							South of Kermadec Islands
3	OUL	ePKP	21 04 07			4	OUL eP 11 43 10
		H:	20 45 13.7				H: 11 30 31
			56.0 S, 27.3 W, 96 km				18.6 N, 103.0 W, 123 km
			South Sandwich Islands				Michoacan, Mexico
3	NUR	eP	23 08 00			4	NUR iP 17 00 50.0
		ipP	09 36.2				KJN iP 17 00 14.2 D
		i	46.6				OUL iP 16 59 59.2 U
		esP	10 00				SOD iP 16 59 39.3 D
		ePP	11 52				KEV eP 16 59 26
		epPP	13 14				
		eSKS	17 52			4	KJN iP 17 12 27.1 U 0.8 23.0
		eS	18 16				SOD eP 17 12 39
		eSP	19 32				H: 17 01 00
		ePS	20 24				1.2 S, 15.7 W, 25 km
		esS	21 16				North of Ascension Island
		esPS	22 24				
	KJN	iP	23 07 51.8 U 0.9 81.3			4	NUR eP 23 47 33
		i	52.7				KJN eP 23 47 11
		i	08 15.2				OUL iP 23 47 02.1
		i	09 23.0				H: 23 36 48.3
		ipP	35.9				53.5 N, 163.3 W, 33 km (R)
		e	10 33				Unimak Island
		eSKS	18 06				
	OUL	iP	23 07 56.0			5	NUR eP 00 06 29
		ipP	09 30.7				
		i	38.9			5	NUR iP 00 32 55.5 U 0.8 41.8
							i 33 09.0
	SOD	iP	23 07 53.2				KJN iP 00 32 31.0
		i	54.8				OUL eP 00 32 24
		ipP	09 36.3				i 25.1
		i	10 36.2				i 38.6
	KEV	iP	23 07 52.0 U 1.0 34.0				cont.
		ipP	09 29.2				
		e	11 16				
		ePPP	13 36				
		eSKS	18 08				
		eSP	19 16				
		ePS	20 04				
		esS	50				
		esPS	22 04				
		eSS	24 16				

March				T	A	March				T	A
SOD	iP	00 32	08.7			KJN	iP	18 29	09.1	0.6	143.8
	i		20.0				i		10.3		
KEV	iP	00 31	52.0 U	0.6	23.8		i		36.8		
H: 00 22 06.9						OUL	iP	18 29	11.5 U		
53.8 N, 163.3 W, 2 km							i		13.3		
Unimak Island						SOD	iP	18 29	08.1		
5	NUR	iP	00 41 41.0 U	1.2	91.2		i		09.2		
	i		49.6				e	30 05			
	i	42	24.1			KEV	iP	18 29	05.4 U	0.7	37.4
	eS	50	36				e		23		
	eSS	55	16				ePPP	34	24		
KJN	iP	00 41	16.1				eS	39	30		
OUL	iP	00 41	11.2				ePS	40	28		
SOD	iP	00 40	54.8 D				e	42	04		
	i	41	11.0			H: 18 16 39.6					
	ePcP		38			9.6 N, 126.3 E, 61 km					
KEV	iP	00 40	38.6 U	0.6	25.0	Mindanao, P.I.					
H: 00 30 57.4						5	NUR	iP	18 43 45.1 U	0.5	19.8
53.8 N, 163.3 W, 33 km (R)							KJN	iP	18 43 34.3	0.5	55.9
Unimak Island							OUL	iP	18 43 36.4		
5	NUR	iP	01 56 48.8	0.8	8.6		SOD	iP	18 43 32.4		
	KJN	eP	01 56 22				KEV	iP	18 43 29.5		
	OUL	iP	01 56 17.2			H: 18 31 06.3					
	SOD	eP	01 56 02			9.6 N, 126.2 E, 87 km					
H: 01 46 04.5						Mindanao, P.I.					
53.8 N, 163.4 W, 33 km (R)						5	NUR	iP	18 50 48.0 U	0.9	100.8
Unimak Island							i		51 05.9		
5	NUR	iP	03 20 54.2	0.8	14.4		KJN	iP	18 50 36.7	0.8	192.3
5	NUR	eP	03 40 01				i		51 16.1		
5	NUR	iP	12 04 43.0	0.7	15.5		OUL	iP	18 50 38.5		
	KJN	eP	12 04 29				i		48.0		
5	NUR	iPKP	14 55 46.3	0.7	14.2		SOD	iP	18 50 35.3 U		
	KJN	iPKP	14 55 38.9	0.7	8.9		i		45.5		
	OUL	iPKP	14 55 35.9				KEV	iP	18 50 33.0	0.8	74.9
	SOD	e	14 55 40				i		45.0		
H: 14 36 41.5							i	51	26.0		
18.1 S, 174.7 W, 137 km						H: 18 38 06.3					
Tonga Islands						9.6 N, 126.2 E, 60 km					
5	SOD	eP	18 05 25			Mindanao, P.I.					
5	NUR	iP	18 29 20.0	0.7	51.6	5	NUR	iP	19 01 21.2		
	i		21.7				KJN	iP	19 01 10.5 D		
	i	30	15.8				OUL	iP	19 01 13.1		
	ePP	32	44				SOD	eP	19 01 08		
	e	36	44			5	NUR	iP	19 02 21.0	0.6	6.3
	eS	39	52				KJN	iP	19 02 10.1 D	0.5	20.6
	eScS	40	08				OUL	iP	19 02 12.4		
	e	41	32				SOD	eP	19 02 08		
	eSS	46	04			5	NUR	ePKP	21 39 59		
cont.							iSKP		43 19.0		
							KJN	iPKP	21 39 52.3	1.0	16.4
							iSKP		43 07.0		
						cont.					

March

March

		T	A			T	A
	OUL iPKP	21 39	51.8				
	iSKP	43	06.1				
	SOD eSKP	21 43	00				
	H: 21 20	49.8					
	21.8 S, 170.9 E, 86 km						
	Loyalty Islands						
5	NUR ePKP	23 02	43				
	OUL iPKP	23 02	37.3				
	H: 22 43	52.2					
	15.5 S, 167.6 E, 116 km						
	New Hebrides Islands						
5	NUR eP	23 32	52				
6	NUR iP	00 23	41.2 D	0.9	25.2		
	KJN iP	00 23	20.6 D	0.9	46.4		
	OUL iP	00 23	20.3 D				
	SOD iP	00 23	10.3				
	H: 00 12	33.1					
	36.2 N, 139.8 E, 53 km						
	Honshu, Japan						
6	NUR eP	03 05	55				
	i	06	05.4				
	SOD eP	03 05	17				
6	NUR eP	05 19	39				
	KJN iP	05 20	16.1				
	H: 05 14	54					
	39.2 N, 25.3 E, 33 km (R)						
	Aegean Sea						
6	SOD iP	15 01	20.7				
6	NUR ePKP	16 31	56				
	H: 16 12	40.8					
	26.6 S, 177.5 W, 126 km						
	South of Fiji Islands						
6	NUR iP	17 00	44.8 D	0.5	35.6		
	e	01 18					
	KJN iP	17 00	20.0 D	0.7	22.6		
	e	58					
	OUL iP	17 00	18.1				
	e	01 03					
	SOD iP	17 00	05.3				
	KEV iP	16 59	53.0 D	0.6	17.5		
	H: 16 51	10.8					
	48.3 N, 146.3 E, 463 km						
	Sea of Okhotsk						
6	NUR eP	17 41	57				
7	NUR iP	03 05	54.4 U	0.8	31.7		
	i	06	05.1				
	e	14					
	KJN iP	03 05	34.3 U	0.8	46.1		
	i	47.5					
	OUL iP	03 05	34.0 U				
	SOD iP	03 05	24.3 U				
	KEV iP	03 05	15.0 D	0.8	28.8		
	i	27.6					
	H: 02 54	43.4					
	35.6 N, 140.0 E, 52 km						
	Honshu, Japan						
7	NUR eP	04 49	04				
	KJN eP	04 48	39				
	SOD eP	04 48	04				
7	NUR eP	05 29	05				
	KJN iP	05 28	54.3				
	OUL eP	05 28	57				
7	NUR eP	06 25	24				
	KJN iP	06 25	11.0 D	0.6	12.3		
	OUL iP	06 25	13.9				
	SOD eP	06 25	08				
7	NUR iP	07 24	48.0				
	KJN iP	07 24	22.9 U	0.9	19.6		
	OUL eP	07 24	04				
	SOD iP	07 23	46.7				
	KEV eP	07 23	35				
	i	25	20.0				
	eLR	07	25.8				
	H: 07 21	06.5					
	71.7 N, 3.1 W, 26 km						
	Jan Mayen Island						
7	NUR iP	07 25	01.8				
	i	10.2					
	eS	27	56				
	eSS	28	13				
	KJN iP	07 24	36.8				
	e	26	40				
	OUL iP	07 24	18.7				
	e	27	00				
	SOD iP	07 24	01.4				
	KEV iP	07 23	48.3				
	i	57.0					
7	NUR iP	07 31	23.1				
	i	30.0					
	eS	34	10				
	e	35	14				

cont.

March

			T	A
KJN	eP	07 30 58		
	i	31 02.2		
OUL	iP	07 30 41.9		
	eS	33 01		
SOD	iP	07 30 23.9		
	i	45.0		
KEV	iP	07 30 10.1		
	i	14.7		
H: 07 27 42.7				
71.6 N, 3.5 W, 33 km (R)				
Jan Mayen Island				
7	NUR	iP	08 45 23.0	0.8 17.3
	KJN	iP	08 45 07.0	0.8 13.8
	OUL	iP	08 45 09.4	U
	SOD	eP	08 45 04	
7	NUR	eP	13 08 56	
		i	09 05.5	
	KJN	eP	13 08 31	
		i	38.9	
	OUL	eP	13 08 13	
		e	21	
	SOD	eP	13 07 54	
		i	08 04.3	
	KEV	eP	13 07 40	
H: 13 05 13.1				
71.6 N, 3.2 W, 33 km (R)				
Jan Mayen Island				
7	NUR	iPKP	13 40 54.4	
		ePP	41 36	
		ePPP	43 54	
		eSKS	47 36	
		ePS	51 06	
		ePPS	52 22	
		eSS	57 40	
		eSSS	14 01 20	
	KJN	ePKP	13 40 41	
		iPP	41 24.4	
	OUL	eP	13 36 37	
		ePKP	40 43	
	KEV	eP	13 36 32	
		ePKP	41 00	
		ePPP	43 02	
		eSKS	47 06	
		ePS	49 40	
		eSS	56 18	
		eSSS	14 00 08	
		e	05 00	
H: 13 22 16.6				
5.9 S, 151.1 E, 39 km				
New Britain				

March

				T	A
7	NUR	eP	14 39 01	0.8	13.0
	KJN	iP	14 39 32.8	D	0.6 9.6
	OUL	iP	14 39 40.7	D	
	SOD	iP	14 40 01.9	D	
	KEV	eP	14 40 22		
H: 14 33 40					
35.2 N, 25.7 E, 81 km					
Crete					
7	KJN	eP	17 49 45		
H: 17 37 20.9					
6.1 N, 125.5 E, 215 km					
Mindanao, P.I.					
7	NUR	eP	17 54 15		
7	SOD	eP	18 17 37		
8	KJN	eP	08 31 06		
	OUL	eP	08 31 08		
	SOD	eP	08 31 03		
H: 08 18 20					
6.1 N, 126.1 E, 49 km					
Mindanao, P.I.					
8	OUL	ePKP	15 47 11		
H: 15 28 05.9					
58.7 S, 24.9 W, 33 km (R)					
South Sandwich Islands					
8	NUR	iP	17 27 17.0		
	KJN	iP	17 26 58.8		
		i	27 36.8		
	OUL	iP	17 27 00.2		
	SOD	eP	17 26 53		
H: 17 15 54.9					
29.8 N, 130.2 E, 23 km					
Ryukyu Islands					
8	NUR	eP	17 43 36		
	KJN	iP	17 43 25.6	0.8	12.3
		i	36.1		
	OUL	eP	17 43 29		
	SOD	eP	17 43 24		
H: 17 30 53.2					
9.6 N, 126.5 E, 57 km					
Mindanao, P.I.					
8	NUR	iP	20 00 11.6		
	KJN	iP	20 00 00.2	D	1.0 40.3
		i	12.0		
	OUL	iP	20 00 03.0		
cont.					

March				March			
		T	A			T	A
	SOD eP	19 59 58		10	NUR iP	04 00 14.0	1.0 36.0
	H:	19 47 27.1			i	17.3	
		9.4 N, 126.5 E, 50 km			i	32.1	
		Mindanao, P.I.			e	01 15	
8	OUL eP	23 19 48			eS	09 04	
	SOD eP	23 19 49		KJN iP	03 59 49.2 D	0.9 20.5	
	H:	23 08 21			i	53.2	
		8.7 N, 94.1 E, 33 km (R)		OUL iP	03 59 44.4 D		
		Nicobar Islands			i	48.2	
9	NUR iP	00 57 27.0	0.9 16.8	SOD iP	03 59 28.8		
	i	59 58.4			i	33.0	
	eS	01 06 44		KEV iP	03 59 16.0 D	1.0 48.0	
KJN eP	00 57 21				eS	04 07 12	
	i	24.5		H:	03 49 25.0		
OUL iP	00 57 27.2				52.1 N, 177.3 W, 7 km		
	i	29.5			Andreanof Islands		
SOD iP	00 57 28.7			10	NUR eP	06 53 05	0.8 15.8
	i	34.4			KJN iP	06 53 38.9 U	0.9 13.4
	i	39.1			i	43.1	
KEV iP	00 57 43.3 D	0.8 41.8		OUL iP	06 53 50.6		
	i	49.0		SOD eP	06 54 13		
	eS	01 07 20		H:	06 48 16.4		
H:	00 46 00.9				39.1 N, 24.3 E, 33 km (R)		
	8.7 N, 94.0 E, 33 km (R)				Aegean Sea		
	Nicobar Islands			10	NUR iP	07 15 49.0	1.2 77.0
9	NUR iP	03 03 54.4			e	16 35	
					eS	19 44	
9	NUR ePKP	03 37 54	0.6 10.0	KJN iP	07 16 26.0 U	0.7 37.7	
	OUL iP	03 37 48.4			i	30.5	
	H:	03 19 23.7		OUL iP	07 16 33.9		
		5.6 S, 154.0 E, 86 km		SOD iP	07 16 55.5		
		Solomon Islands			i	17 38.5	
9	KJN iP	06 38 15.6 U	0.8 22.3	KEV eP	07 17 17		
	OUL iP	06 38 16.7 U			eS	22 16	
	i	34.6		BCIS:			
SOD iP	06 38 10.5 U			H:	07 10 57		
KEV eP	06 38 05				39.0 N, 24.2 E		
H:	06 25 24.5				Aegean Sea		
	12.2 N, 141.0 E, 38 km			10	NUR eP	07 22 32	
	South of Mariana Islands				KJN eP	07 23 02	
9	KJN iP	06 39 30.1	0.9 25.0	10	NUR iP	07 31 05.2 U	1.0 640.0
	SOD eP	06 39 28			i	12.7	
				KJN iP	07 30 53.8 U		
9	NUR ePKP	22 54 42			i	56.0	
	KJN ePKP	22 54 33		OUL iP	07 30 53.8		
	OUL ePKP	22 54 33			i	55.8	
H:	22 36 20.2			SOD iP	07 30 50.0 U		
	21.7 S, 178.9 W, 544 km				i	31 00.2	
	Fiji Islands			KEV i	07 31 05.1	0.7 23.2	
				H:	07 11 22.1		
					36.3 S, 179.4 E, 76 km		
					North Island, N.Z.		

March		T		A		March		T		A			
KJN	iP	09 44	33.8	1.1		23.0	SOD	ePKP	09 50	52			
OUL	eP	09 44	28				H:		09 31	47.5			
SOD	eP	09 44	27						57.1 S,	23.7 W,	33 km (R)		
H: 09 32 07.4							South Sandwich Islands						
13.0 N, 72.6 W, 11 km													
Caribbean Sea													
12	NUR	iPKP	18 42	54.0			13	KJN	eP	11 05	56		
	KJN	iPKP	18 42	43.8	1.1	21.6		H:		10 55	27.9		
	OUL	iPKP	18 42	42.1						51.7 N,	176.8 W,	60 km	
H: 18 23 34.1							Andreanof Islands						
14.9 S, 176.9 W, 33 km (R)													
Fiji Islands													
12	NUR	ePKP	19 17	49			13	NUR	eP	14 35	12		
	KJN	iPKP	19 17	42.8						e	40		
	OUL	ePKP	19 17	41				KJN	eP	14 34	47		
H: 18 59 18							ePcP 35 24						
24.3 S, 179.0 E, 472 km							OUL eP 14 34 42						
South of Fiji Islands							H: 14 24 23.4						
							51.7 N, 175.4 W, 54 km						
							Andreanof Islands						
12	NUR	eP	20 58	15			13	NUR	iP	15 42	49.0 D		
	KJN	iP	20 57	55.1				KJN	eP	15 42	24		
H: 20 47 09													
36.0 N, 139.9 E, 50 km													
Honshu, Japan													
13	NUR	iP	00 58	43.0 U	1.0	18.0	13	KJN	eP	19 28	21		
		i	59	17.8				OUL	eP	19 28	37		
	KJN	iP	00 59	05.8 U	0.8	7.7		SOD	eP	19 28	39		
	OUL	eP	00 59	16			13	NUR	ePKP	20 43	47		
i 20.1							i 55.6						
i 35.0							iSKP 46 42.2						
BCIS:							KJN iPKP 20 43 48.1						
H: 00 53 37							i 49.8						
39.8 N, 40.5 E							eSKP 46 32						
Turkey							OUL ePKP 20 43 41						
13	NUR	ePKP	03 58	38					i	47.3			
	KJN	ePKP	03 58	23					eSKP	46 33			
H: 03 38 51							SOD ePKP 20 43 45						
32.7 S, 180.0 W, 35 km							eSKP 46 21						
South of Kermadec Islands							H: 20 25 32.1						
							20.5 S, 178.1 W, 520 km (R)						
							Fiji Islands						
13	NUR	eP	05 12	47			13	NUR	iP	22 44	54.2 D	0.8	17.5
							i 45 21.0						
							i 46 25.6						
							eScP 51 37						
13	KJN	iP	07 51	41.3 U	1.2	29.2		KJN	iP	22 44	53.6 D	1.1	31.1
	OUL	eP	07 51	47					i	45 28.7			
	SOD	eP	07 51	50					i	45.2			
	KEV	eP	07 52	12				OUL	iP	22 45	03.8		
							i 39.6						
							iPP 46 04.5						
13	NUR	iPKP	09 50	40.5	0.9	18.5		SOD	eP	22 45	12		
	KJN	iPKP	09 50	48.0 U	1.0	38.1			e	46 03			
	OUL	iPKP	09 50	48.3 U					ePPP		32		
							cont.						
							cont.						

March		T	A	March		T	A
	KEV eP	22 45 19			KEV ePS	07 04 32	
	H:	22 38 38.9			eSS	11 16	
		42.4 N, 66.5 E, 33 km (R)			H:	06 34 31.9	
		Central Kazakh SSR				41.9 S, 88.4 E, 33 km (R)	
14	NUR iP	02 14 52.2 U	0.7	28.4			
	i	15 31.0			15	NUR iP	07 30 23.1
	e	16 19				KJN eP	07 30 00
	KJN iP	02 14 52.2 U	0.7	17.8		OUL eP	07 29 58
	i	15 25.0				SOD eP	07 29 44
	i	41.0				H:	07 19 40
	OUL iP	02 15 02.0 U					44.4 N, 149.0 E, 53 km
	i	47.6					Kurile Islands
	iPP	16 00.1			15	NUR ePKP	09 54 21
	SOD iP	02 15 09.8 U				KJN ePKP	09 54 15
	e	55				OUL iPKP	09 54 15.0
	i	16 06.2				H:	09 35 10.5
	ePPP	28					21.3 S, 169.5 E, 50 km
	iPcP	17 54.1					Loyalty Islands
	KEV iP	02 15 22.9 U	1.0	46.0	15	KJN eP	13 09 23
	i	16 08.3				H:	12 59 11
	H:	02 08 36.6					51.1 N, 178.1 W, 20 km (R)
		42.3 N, 66.5 E, 33 km (R)					Andreanof Islands
		Central Kazakh SSR			15	KJN eP	16 45 39
14	NUR iP	04 45 36.3	0.8	14.4		OUL iP	16 45 39.0
	KJN eP	04 45 13	0.8	7.7		SOD iP	16 45 31.8
	i	25.8	0.8	23.8	15	NUR iP	18 08 22.7
	OUL iP	04 45 28.1			15	KJN ePKP	20 58 10
	SOD eP	04 45 24				H:	20 39 09
14	NUR iPKP	19 04 42.9 U	1.2	39.9			56.9 S, 25.5 W, 33 km (R)
	i	55.0					South Sandwich Islands
	KJN ePKP	19 04 28			15	NUR eP	23 00 29
	OUL ePKP	19 04 35				KJN eP	23 01 15
	H:	18 45 11.6				OUL iP	23 01 22.6
		27.9 S, 176.8 W, 30 km (R)				H:	22 56 34.6
		Kermadec Islands					43.8 N, 20.5 E, 33 km (R)
14	NUR eP	19 06 21					Yugoslavia
	KJN eP	19 06 23			16	OUL eP	01 18 52
	OUL eP	19 06 17				H:	01 07 54
15	NUR eP	03 03 56					35.4 N, 140.4 E, 22 km
	KJN eP	03 04 36	0.8	10.8			Honshu, Japan
	OUL eP	03 04 44			16	NUR eP	02 17 42
	SOD eP	03 05 05				KJN eP	02 17 23
	BCIS:					H:	02 06 58
	H:	02 59 31					34.0 N, 137.8 E, 307 km
		41.5 N, 20.4 E					Honshu, Japan
		Albania-Yugoslavia border					
15	NUR ePS	07 03 48					
	eSS	10 04					
	eSSS	14 40					

cont.

March				T	A	March				T	A
16	NUR	eP	12 36 53			17	NUR	eP	08 27 56		
	KJN	iP	12 36 43.9 U	0.7	8.2	17	NUR	eP	14 01 34		
		i	37 12.4				OUL	eP	14 01 04		
	OUL	iP	12 36 48.7 U				H:	13 51 29			
	SOD	eP	12 36 46				55.1 N, 161.7 E, 22 km (R)				
		i	50.0				Kamchatka				
	KEV	iP	12 36 49.0	1.0	26.0						
	H:	12 26 38.9				17	KJN	iP	15 39 52.0 U	0.9	12.5
	25.5 N, 100.9 E, 45 km						SOD	eP	15 39 50		
	Yunnan, China						KEV	iP	15 39 47.4 D		
16	NUR	eP	13 18 40				H:	15 28 19			
	KJN	iP	13 18 21.9	0.8	6.9		19.2 N, 121.2 E, 58 km				
	H:	13 07 25					Philippine Islands				
	30.1 N, 130.5 E, 72 km					17	SOD	eP	17 52 28		
	Kyushu, Japan						KEV	eP	17 52 13		
16	NUR	eP	17 26 58			17	NUR	iP	20 27 43.5		
16	NUR	iP	18 15 47.8	0.8	13.8		e	28 18			
	KJN	iP	18 16 25.2	0.7	8.9		KJN	iP	20 27 33.0	1.2	55.0
	OUL	iP	18 16 33.4				i	28 05.7			
	SOD	eP	18 16 55				OUL	iP	20 27 35.1 D		
	H:	18 11 06.5					SOD	iP	20 27 32.0 D		
	39.5 N, 25.0 E, 43 km						i	37.5			
	Aegean Sea						KEV	iP	20 27 28.5	1.0	26.0
16	NUR	eP	18 29 52				i	49.5			
17	NUR	eP	00 44 25				H:	20 14 32.8			
	KJN	iP	00 44 03.6				3.4 N, 128.1 E, 62 km				
	i	21.6					North of Halmahera				
	OUL	eP	00 44 05			17	NUR	eP	20 43 53		
	H:	00 33 34					eS	45 33			
	39.4 N, 141.6 E, 86 km						i	46 42.6			
	Honshu, Japan						KJN	iP	20 43 43.0		
17	KJN	eP	02 35 02				eS	45 15			
	H:	02 23 41					i	46 08.4			
	23.8 N, 122.0 E, 2 km						OUL	eP	20 43 57		
	Taiwan						e	45 19			
17	NUR	ePKP	04 22 12				eS	44			
	KJN	ePKP	04 22 05				i	46 38.8			
	OUL	ePKP	04 22 01				SOD	eP	20 44 08		
	SOD	ePKP	04 22 00				eS	46 03			
	KEV	ePKP	04 21 58				e	47 06			
	H:	04 03 13.3					KEV	eS	20 46 40		
	10.5 S, 161.4 E, 39 km (R)						e	47 50			
	Solomon Islands					18	NUR	eP	04 12 54		
17	NUR	iP	07 41 50.5				OUL	eP	04 13 02		
	KJN	eP	07 41 26			18	NUR	iP	04 22 47.0	1.0	23.5
	OUL	iP	07 41 19.9			18	NUR	eP	05 44 32	1.0	19.6
							eS	47 58			

cont.



March					March				
			T	A			T	A	
KJN	eP	05 45 03			OUL	iP	13 37 16.7		
	e	49 24				i	19.6		
OUL	eP	05 45 10			SOD	eP	13 37 09		
	eS	49 50			KEV	eP	13 37 03		
SOD	eP	05 45 37			H:	13 24 24.8			
						14.4 N, 147.6 E, 49 km			
18	NUR	ePKP	07 41 23			Mariana Islands			
	e	42 38			19	NUR	eP	17 16 30	
	iSKP	44 13.1				KJN	eP	17 16 04	
KJN	ePKP	07 41 22				SOD	eP	17 15 30	
	epPKP	43 35			19	OUL	eP	19 08 43	
	iSKP	44 02.0				SOD	iP	19 08 46.1	
OUL	iPKP	07 41 20.0			19	NUR	ePKP	19 37 17	
	epPKP	43 31				KJN	ePKP	19 37 12	
	iSKP	44 00.6				i	22.6		
SOD	iSKP	07 43 54.6				OUL	iPKP	19 37 08.6	
KEV	iSKP	07 43 47.9				H:	19 17 46.8		
H:	07 23 02.6					26.4 S, 177.4 W, 23 km			
	23.2 S, 179.8 W, 522 km					South of Fiji Islands			
	South of Fiji Islands				19	NUR	eP	20 06 50	
19	NUR	ePKP	01 55 05			19	OUL	eP	20 15 37
	i	14.0				SOD	eP	20 15 32	
KJN	ePKP	01 55 01			19	OUL	eP	20 28 20	
	i	12.2				H:	20 15 33.2		
OUL	ePKP	01 54 56				14.7 N, 92.9 W, 43 km			
H:	01 35 49.2					Chiapas, Mexico			
	17.4 S, 172.8 W, 33 km (R)				19	NUR	eP	20 38 04	
	Tonga Islands					KJN	eP	20 37 32	
19	NUR	iP	02 30 48.9	1.0	30.0		OUL	iP	20 37 16.1
	KJN	iP	02 30 55.3 D	1.0	16.4		SOD	eP	20 36 39
	i	31 10.9			19	NUR	eP	23 42 32	
OUL	iP	02 30 49.1				KJN	eP	23 42 12	
	i	31 05.5				OUL	eP	23 42 21	
SOD	iP	02 30 51.6				SOD	eP	23 42 14	
	i	31 14.7			20	NUR	eP	03 56 01	
KEV	iP	02 30 49.2 D	0.8	17.3		KJN	eP	03 55 45	
H:	02 19 12.7				20	NUR	iP	04 22 19.0	
	15.1 N, 60.5 W, 55 km					KJN	eP	04 22 02	
	Leeward Islands					i	15.4	0.8 17.3	
19	NUR	iP	05 49 11.2 D	0.6	15.0		OUL	iP	04 22 03.5
							SOD	iP	04 21 56.7
19	NUR	iP	07 51 32.4 U	1.0	28.0		KEV	eP	04 21 50
	KJN	iP	07 51 47.5 U	0.9	22.3		H:	04 10 48.9	
	OUL	iP	07 51 41.2 U				27.6 N, 129.8 E, 33 km (R)		
	SOD	iP	07 51 47.6 U				Ryukyu Islands		
	H:	07 43 37.2							
	37.2 N, 33.0 W, 33 km (R)								
	Azores Islands								
19	NUR	eP	13 37 32						
	KJN	iP	13 37 17.0	0.6	6.9				
	i	25.4							
		cont.							

March						March				
				T	A					
20	NUR	eP	04 25 55			OUL	iP	02 53 04.7		
	KJN	eP	04 25 17			SOD	eP	02 53 10		
	OUL	iP	04 25 01.8			H: 02 45 56				
	SOD	eP	04 24 32			37.8 N, 72.5 E, 131 km				
						Tadzhik SSR				
20	NUR	eP	05 03 48			21	NUR	eP	06 15 18	
	KJN	eP	05 03 28				KJN	eP	06 15 10	
20	NUR	eP	08 01 36				SOD	eP	06 15 11	
	i		55.4			H: 06 02 40				
	ePP		02 58			5.8 N, 125.6 E, 186 km				
	eS		07 06			Mindanao, P.I.				
	KJN	eP	08 01 34			21	NUR	eP	07 31 18	
	iPP		02 49.7				KJN	eP	07 31 13	
	OUL	iP	08 01 46.4				OUL	iP	07 31 10.9	
	iPP		03 17.5			21	KJN	eP	11 42 40	
	SOD	eP	08 01 49				OUL	iP	11 42 33.8	
	ePP		03 15				SOD	eP	11 42 17	
	KEV	eS	08 07 54			H: 11 33 24.3				
	H: 07 54 40.4					62.4 N, 150.6 W, 72 km				
	40.9 N, 75.1 E, 60 km					Central Alaska				
	Kirgiz-Sinkiang border					21	OUL	eP	12 43 09	
20	OUL	eP	12 21 43				SOD	eP	12 42 54	
	SOD	eP	12 21 38			H: 12 31 46.9				
20	NUR	iP	12 23 53.0	1.2	54.2	42.3 N, 126.2 W, 33 km (R)				
	KJN	iP	12 23 28.0 U	1.1	28.4	Off coast of Oregon				
	OUL	iP	12 23 22.7			21	NUR	iP	16 14 04.0	
	SOD	iP	12 23 09.3 U				KJN	iP	16 14 40.8	1.0 12.0
	KEV	eP	12 22 55				e	15 07		
	H: 12 13 08.4						OUL	iP	16 14 49.8	
	51.4 N, 177.7 E, 45 km						e	15 08		
	Rat Islands						SOD	eP	16 15 10	
20	NUR	eP	18 07 52				KEV	eP	16 15 31	
	KJN	iP	18 07 09.8 U	0.8	7.7		e	16 10		
	OUL	eP	18 06 33				e	17 20		
	SOD	eP	18 06 33				eSS	22 12		
20	NUR	eP	20 27 05			H: 16 09 22.1				
	e		11			39.7 N, 25.6 E, 19 km				
						Aegean Sea				
21	NUR	eP	00 52 08			22	KJN	eP	06 07 46	
	KJN	iP	00 51 47.7 U	0.7	11.0	H: 05 56 35				
	OUL	iP	00 51 47.6 U			28.3 N, 131.3 E, 33 km (R)				
	SOD	iP	00 51 37.8			Ryukyu Islands				
	KEV	eP	00 51 28			22	NUR	iP	09 28 20.8 D	1.0 30.0
	H: 00 40 59.1						eSKS	38 56		
	36.0 N, 140.4 E, 64 km						ePS	40 24		
	Honshu, Japan						eSS	45 44		
21	NUR	iP	02 52 58.0			cont.				
	KJN	iP	02 52 55.7 D	0.8	12.3	cont.				

March				T	A	March				T	A	
KJN	iP	09 28	05.7 U	1.2	96.3	eS	53	44				
	i		47.0			eScS	55	08				
OUL	iP	09 28	06.6 D			eSS	57	40				
	i		13.8			H: 20 34 45.3						
SOD	iP	09 27	59.8			37.4 N, 142.4 E, 18 km						
KEV	iP	09 27	53.4 U	1.2	94.1	Honshu, Japan						
	i		28 05.3			23 NUR eP 00 10 45						
	eSKS		38 20			KJN eP 00 10 20						
	e		40 56			OUL eP 00 10 13						
H: 09 15 12.3						H: 00 00 34.3						
13.1 N, 145.5 E, 50 km						56.5 N, 162.3 W, 189 km						
Mariana Islands						Bristol Bay						
22 NUR eP 12 04 48				0.7	6.5	23 KJN eP 14 20 26						
22 NUR iP 15 11 55.7 U				0.9	50.4	OUL eP 14 20 30						
KJN iP 15 11 42.0 U				1.0	75.2	H: 14 07 53						
	i		48.8			21.8 N, 144.8 E, 33 km (R)						
OUL iP 15 11 34.0 U						Mariana Islands						
SOD iP 15 11 23.8						23 NUR eP 17 21 20			1.0	16.4		
KEV iP 15 11 11.3				0.8	21.6	e 22 34						
	e		48			KJN iP 17 21 59.6						
22 NUR eP 19 34 42						i 22 04.8						
KJN eP 19 35 18						OUL iP 17 22 07.9						
OUL eP 19 35 25						SOD eP 17 22 29						
BCIS:						e 52						
H: 19 29 58						23 NUR eP 17 27 47						
40.1 N, 16.3 E						KJN eP 17 28 24						
Italy						OUL iP 17 28 33.7						
22 NUR iP 20 39 11.0 U				0.8	115.2	SOD eP 17 28 54						
KJN iP 20 38 59.3						23 NUR eP 17 30 31						
OUL iP 20 39 01.7						i 36.6			1.0	53.3		
SOD iP 20 38 59.4						i 31 10.0						
KEV eP 20 38 56						eS 34 20						
22 NUR iP 20 45 56.6 U				1.0	72.0	e 35						
i 46 02.5						KJN iP 17 31 10.0			1.0	46.9		
e 47 50						i 13.0						
ePP 48 30						e 50						
eS 55 04						OUL eP 17 31 18						
eSS 59 25						i 20.9						
KJN iP 20 45 36.0 U						SOD eP 17 31 40						
i 42.0						i 43.4						
i 48.3						e 32 08						
iPcP 46 06.1						KEV i 17 32 05.1			1.0	17.6		
ePP 48 06						eS 36 56						
OUL iP 20 45 34.7 U						H: 17 25 53.2						
i 41.1						39.8 N, 25.5 E, 33 km (R)						
ePP 48 00						Aegean Sea						
SOD iP 20 45 24.8 U						23 NUR eP 20 05 10						
i 31.0						KJN iP 20 04 58.0			0.7	8.2		
KEV iP 20 45 14.8 U				1.0	56.0	SOD eP 20 04 57						
i 20.3												
cont.												

March				T	A	March				T	A	
23	NUR	eP	21 18 25			24	NUR	eP	19 10 11	0.7	10.6	
	KJN	eP	21 19 02				SOD	eP	19 11 06			
	OUL	iP	21 19 11.0									
	H: 21 13 43						25	NUR	ePKP	03 15 51	0.8	14.7
	39.6 N, 25.5 E, 28 km						KJN	iPKP	03 15 44.8 U	0.8	9.2	
	Aegean Sea						OUL	iPKP	03 15 43.8			
							H: 02 56 37.1					
24	NUR	eP	00 17 40				20.0 S, 168.9 E, 21 km					
	KJN	eP	00 17 36				Loyalty Islands					
	OUL	eP	00 17 41									
24	SOD	epP	03 04 36			25	KJN	eP	11 30 50			
	H: 02 51 40.9							eS	32 37			
	18.0 N, 95.5 W, 104 km							e	33 23			
	Vera Cruz, Mexico						OUL	eP	11 30 35			
								eS	32 08			
24	NUR	eP	07 24 11	0.8	16.2			i	47.5			
		eS	33 28				SOD	eP	11 30 16			
		e	34 04					eS	31 34			
		eSS	38 04					i	32 08.2			
		eSSS	41 16				25	NUR	eP	16 44 55		
	KJN	eP	07 24 30	1.0	16.4		KJN	eP	16 44 51			
		i	32.1				OUL	iP	16 44 45.8			
	OUL	eP	07 24 33				SOD	eP	16 44 40			
	SOD	eP	07 24 39				H: 16 32 05.2					
	H: 07 12 47.4						15.2 N, 92.0 W, 60 km					
	1.3 S, 24.2 W, 33 km (R)						Mexico-Guatemala border					
	Central Mid-Atlantic Ridge											
24	OUL	eP	15 37 42			25	NUR	iP	19 56 57.4	0.7	7.9	
	H: 15 27 25											
	51.4 N, 178.7 W, 51 km						25	NUR	iP	22 15 20.8		
	Andreanof Islands						KJN	iP	22 15 03.0	0.5	7.4	
24	NUR	eP	16 10 03				OUL	iP	22 15 03.8 U			
		eSS	23 48				SOD	eP	22 14 55			
	KJN	iP	16 09 43.1	0.6	6.2		H: 22 04 23					
		i	10 09.2	1.0	14.2		29.3 N, 139.7 E, 479 km					
	OUL	eP	16 09 44				South of Honshu, Japan					
	SOD	e(P)	16 09 42									
	KEV	eP	16 09 31				26	NUR	iP	00 54 30.1 D	1.1	144.0
	H: 15 58 49.0							ipP	56 35.0			
	32.1 N, 130.6 E, 4 km							e	59 05			
	Kyushu, Japan							esPP	01 01 20			
24	KJN	eP	16 32 02					epPPP	02 44			
	OUL	eP	16 31 56					eSKS	04 12			
	SOD	eP	16 31 48					eSP	06 24			
	H: 16 21 05							ePS	07 40			
	32.1 N, 130.7 E, 33 km (R)							esS	08 36			
	Kyushu, Japan							esPS	09 44			
24	SOD	eP	17 25 58					iPKKP	11 10.0			
	H: 17 13 20.0							eSS	12 04			
	12.5 N, 86.5 W, 79 km							esSS	15 28			
	Nicaragua							e	16 32			

cont.

March				T	A	March				T	A		
		iPKKP	20 11 10.6					SOD	eP	05 02 36			
		i	33.1					e		48			
	SOD	iP	19 53 15.0					H:	04 52 42.9				
		i	54.0						47.9 N, 154.0 E, 24 km				
	KEV	iP	19 53 12.2	0.8	18.2				Kurile Islands				
		eS	20 03 32										
		esS	04 12										
		H:	19 40 42.1					27	NUR	eP	05 20 55		
			8.1 N, 126.3 E, 83 km (R)						KJN	iP	05 21 32.0	1.0	10.9
			Mindanao, P.I.						OUL	iP	05 21 44.0		
									SOD	eP	05 22 05		
26	NUR	eP	20 41 54						BCIS:				
	SOD	eP	20 42 45						H:	05 16 15			
										39.8 N, 25.4 E			
										Aegean Sea			
26	NUR	iPKP	21 44 33.0 U	0.8	51.5			27	KJN	eP	17 17 12		
		i	36.4						SOD	eP	17 17 02		
		e	45 05						H:	17 05 53			
	KJN	ePKP	21 44 20							34.0 N, 141.3 E, 33 km			
		i	28.1	1.0	18.5					Honshu, Japan			
	OUL	iPKP	21 44 21.7										
	SOD	ePKP	21 44 10					27	NUR	iP	19 04 11.5 U	0.8	30.9
		H:	21 24 59.3						ePcP		43		
			30.3 S, 178.0 W, 60 km (R)						KJN	iP	19 03 50.5 U	0.9	60.7
			Kermadec Islands						i		58.0		
									OUL	iP	19 03 49.4 U		
27	NUR	iP	00 06 46.0						i		57.8		
		i	07 00.3						iPcP		04 30.4		
	KJN	iP	00 06 37.6	1.4	43.2				SOD	iP	19 03 39.4 U		
		i	43.0	1.1	17.0				ePcP		04 24		
	OUL	iP	00 06 36.4						H:	18 53 31.5			
	SOD	eP	00 06 31							40.9 N, 138.0 E, 27 km (R)			
										Eastern Sea of Japan			
27	NUR	eP	01 35 46					27	NUR	ePKP	21 29 27		
		H:	01 25 45						e		34		
			49.6 N, 152.8 E, 228 km						eSKP		32 21		
			Kurile Islands						KJN	iPKP	21 29 25.8		
27	NUR	eP	03 28 32						iSKP		32 10.5		
	OUL	eP	03 28 46						OUL	iPKP	21 29 24.7		
									iSKP		32 09.1		
27	KJN	iP	04 07 38.9						SOD	eSKP	21 32 03		
	SOD	eP	04 07 50						H:	21 11 00.9			
		H:	03 56 06.8							25.5 S, 179.6 E, 525 km (R)			
			1.1 S, 15.4 W, 33 km (R)							South of Fiji Islands			
			North of Ascension Island										
27	NUR	eP	05 03 18					27	NUR	eP	22 22 15		
		i	28.1										
	KJN	eP	05 02 54					27	NUR	eP	22 50 38		
		i	03 06.5						i		43.1		
	OUL	iP	05 02 50.6						e		51 25		
		i	03 02.8						eSKS		23 01 15		
			cont.								cont.		

March

March

				T	A					T	A
	ePS	03 56				28	NUR	iP	07 45 00.8 U		
	eSS	10 05						i	12.0		
KJN	iP	22 50 32.0	0.9	17.9				eS	49 08		
OUL	iP	22 50 31.6						e	24		
	i	34.0						eLQ	07 50.5		
SOD	eP	22 50 32				KJN	iP	07 45 36.5 U	1.3	102.0	
KEV	iP	22 50 28.2	0.9	25.2		OUL	iP	07 45 44.0 U			
	ePS	23 03 08					i	46 27.3			
	eSS	08 44				SOD	iP	07 46 05.3 U			
H:	22 36 43.3					KEV	iP	07 46 25.9	1.2	96.9	
	4.3 S, 133.3 E, 33 km (R)						e	47 10			
	West New Guinea						e	51 48			
						H:	07 39 57.1				
27	KJN	eP	23 44 22				37.9 N, 20.9 E, 6 km				
	OUL	eP	23 44 25				Ionian Sea				
28	KJN	eP	01 09 08			28	KJN	iP	13 12 55.2	0.8	15.4
	H:	00 55 53.1					OUL	iP	13 12 57.2		
	1.2 N, 122.7 E, 11 km						SOD	eP	13 12 54		
	Northern Celebes						H:	13 01 20.5			
28	NUR	eP	01 20 24				19.3 N, 119.9 E, 23 km				
	e	56					Philippine Islands				
	eSKS	30 52				28	NUR	iPKP	13 56 23.5 U	0.8	27.9
	ePS	32 24					KJN	iPKP	13 56 28.0	0.8	23.9
	eSS	37 40					OUL	iPKP	13 56 26.1		
	eLR	01 49.5					SOD	iPKP	13 56 28.4 U		
KJN	eP	01 20 18					H:	13 37 50.2			
OUL	iP	01 20 14.0					34.9 S, 69.4 W, 171 km (R)				
	e	52					Chile-Argentina border				
SOD	eP	01 20 09				28	NUR	eP	16 42 31		
KEV	eP	01 20 04					i	37.7			
	eSKS	30 12					i	43 07.8			
H:	01 07 37.6						eS	46 20			
	15.1 N, 92.1 W, 111 km						e	32			
	Mexico-Guatemala border						KJN	iP	16 43 10.0	0.8	27.7
28	NUR	ePb	03 43 09				OUL	eP	16 43 16		
	eSn	52					i	35.5			
	iSg	44 08.9					SOD	eP	16 43 39		
KJN	eSn	03 44 43					H:	16 37 46.8			
	iSg	45 15.0					39.6 N, 20.4 E, 18 km				
OUL	iSg	03 45 13.2					Greece-Albania border				
SOD	eSg	03 46 09				28	NUR	eP	17 16 57		
28	NUR	iPKP	06 03 58.7 D	0.8	33.2		e	20 33			
	i	04 13.0					KJN	iP	17 17 36.6	0.9	25.9
KJN	iPKP	06 03 51.5 D	0.9	21.4			OUL	eP	17 17 41		
OUL	iPKP	06 03 51.1					SOD	eP	17 18 05		
H:	05 45 06.6						H:	17 12 17			
	10.8 S, 166.0 E, 42 km (R)						40.1 N, 31.4 E, 7 km				
	Santa Cruz Islands						Turkey				

March								March				
				T	A			T	A			
28	NUR	eP	22 34 49							SOD	eSKP	01 04 55
												H: 00 44 20.9
29	NUR	eP	07 13 18									21.5 S, 179.4 W, 626 km (R)
	KJN	eP	07 13 50									Fiji Islands
29	NUR	iP	14 41 03.0 D	0.7	18.5	30	NUR	eP	04 24 40			
		i	21.9									
	KJN	iP	14 40 41.8 U	1.0	34.9	30	NUR	iP	05 18 09.0			
		i	41 00.8				KJN	eP	05 18 43			
	OUL	iP	14 40 39.8 U			30	NUR	eP	05 20 07			
		i	59.0				KJN	iP	05 19 57.0			
	SOD	iP	14 40 28.8				OUL	eP	05 19 53			
		i	48.0									
			H: 14 30 05.1			30	NUR	iP	12 37 27.0 D	0.8	26.5	
			40.3 N, 144.7 E, 41 km				KJN	iP	12 37 02.8	0.7	10.3	
			Honshu, Japan				OUL	iP	12 36 56.6			
29	NUR	iP	19 07 28.5 D	0.6	12.8				H: 12 26 37.7			
	KJN	iP	19 07 29.0	0.8	14.6				52.4 N, 169.3 W, 36 km			
	OUL	iP	19 07 37.8 U						Fox Islands			
	SOD	iP	19 07 45.4 D			31	NUR	eP	01 27 55			
	KEV	eP	19 07 54				KJN	eP	01 27 35			
			H: 19 00 35					i	42.1			
			36.6 N, 70.4 E, 209 km				OUL	eP	01 27 48			
			Hindu Kush				SOD	eP	01 27 43			
29	NUR	eP	19 15 40			31	NUR	eP	03 10 18			
	KJN	eP	19 15 27				KJN	eP	03 09 47			
			H: 19 04 30.6				SOD	eP	03 09 05			
			34.1 N, 135.1 E, 6 km			31	NUR	eP	03 27 44			
			Southern Honshu				e	28 10				
29	KJN	eP	20 43 35				KJN	eP	03 27 32			
	OUL	iP	20 43 28.6				i	49.2				
	SOD	eP	20 43 29				SOD	eP	03 27 39			
			H: 20 32 01.2				i	48.9				
			18.8 N, 64.8 W, 60 km				KEV	eP	03 27 44			
			Virgin Islands				e	28 19				
29	NUR	e	22 46 11						Moscow:			
	OUL	e	22 46 02						H: 03 16 54			
	SOD	eP	22 44 20						15.4 N, 94.7 E			
		e	56						Andaman Islands			
29	NUR	iP	22 50 44.1			31	NUR	eP	03 31 11			
	KJN	iP	22 50 10.9				KJN	iP	03 30 53.8	0.8	9.2	
	OUL	eP	22 49 53				SOD	iP	03 30 44.8			
	SOD	eP	22 49 32				KEV	iP	03 30 38.0 U	0.7	16.8	
30	NUR	iSKP	01 05 15.0			31	NUR	iP	08 32 06.0 U	0.6	25.6	
	KJN	ePKP	01 02 28				KJN	iP	08 31 55.2 U	0.8	64.6	
		iSKP	05 03.8				i	32 09.9				
	OUL	eSKP	01 05 00				OUL	iP	08 31 57.8			
			cont.						cont.			

March

March

			T	A	
	SOD	iP	08 31	53.3 U	
		i	32	08.0	
	KEV	iP	08 31	50.4 D	0.8 27.4
	H: 08 19 35.6				
	11.4 N, 125.3 E, 71 km				
	Samar, P.I.				
31	NUR	ePKP	14 09	16	
	KJN	iPKP	14 09	09.2	
	OUL	iPKP	14 09	09.3	
	H: 13 50 37.8				
	16.3 S, 168.4 E, 243 km				
	New Hebrides Islands				
31	NUR	iP	17 24	30.0	0.8 7.4
	KJN	e	17 24	36	
	OUL	iP	17 24	31.9	
	SOD	iP	17 24	33.6	
	H: 17 11 40.0				
	5.0 S, 102.5 E, 33 km (R)				
	Southern Sumatra				
31	NUR	iP	17 44	26.2	
	KJN	eP	17 44	02	
	OUL	eP	17 43	54	
	SOD	eP	17 43	38	
	H: 17 34 25.8				
	59.6 N, 153.3 W, 79 km				
	Southern Alaska				

				T	A
31	NUR	eP	23 06	10	
	KJN	eP	23 06	00	
	OUL	eP	23 06	07	
	SOD	eP	23 06	06	
31	NUR	iP	23 46	37.8	1.0 12.3
	KJN	eP	23 47	00	
		i		06.5	
	OUL	eP	23 47	04	
	SOD	eP	23 47	20	
	H: 23 35 56.4				
	4.7 S, 35.0 E, 33 km (R)				
	Tanganyika				

December 13, 1968

Urmas Luosto
Aili Huovila

10 FEB 1969

Helsinki, Finland
Prel. Bull. 1968

April

April

	T	A				
1	NUR	iP	00 53	13.8	U	
		i		17.3		
		ePP	55 52			
		ePPP	57 36			
		eS	01 02	28		
		eP'P'	21 21			
	KJN	iP	00 52	55.4	U	
		i		59.0		
		i	53 03	03.0		
		e	01 01	39		
		iS		48.8		
		ePS	02 04			
		iScS		48.2		
		eP'P'	21 34			
	OUL	iP	00 52	56.2	U	
		i	53 05	05.4		
		i	55 37	03.4		
		eP'P'	01 21	24		
	SOD	iP	00 52	48.3	U	
		i		56.3		
		eP'P'	01 21	17		
	KEV	iP	00 52	40.7	U	
		i		43.3		
		i	53 46	09		
		ePP	55 04			
		ePPP	56 48			
		eS	01 01	20		
	H: 00 42 04.2					
	32.5 N, 132.2 E, 33 km (R)					
	Shikoku, Japan					
1	KJN	eP	02 11	35		
1	NUR	eP	02 13	52		
	KJN	eP	02 13	31		
	H: 02 03 15.1					
	43.3 N, 144.1 E, 60 km (R)					
	Hokkaido, Japan					
1	KJN	eP	02 29	09		
	SOD	eP	02 29	10		
1	NUR	iP	05 36	24.1		
	KJN	iP	05 36	05.5		
	H: 05 25 15					
	32.7 N, 132.8 E, 33 km (R)					
	Shikoku, Japan					
1	NUR	eP	06 32	20		
	H: 06 27 23					
	38.2 N, 23.8 E, 33 km (R)					
	Greece					

	T	A				
1	NUR	iP	06 49	38.5	U	0.9 18.9
	KJN	iP	06 49	29.2	U	
	SOD	eP	06 49	25		
	H: 06 35 48.0					
	2.9 S, 133.9 E, 33 km (R)					
	West New Guinea					
1	NUR	iP	07 24	28.3	U	0.8 19.1
		ePP	27 08			
		ePPP	28 48			
		eS	33 36			
		eSS	38 24			
		e	41 52			
		eLR	07 47.2			
	KJN	iP	07 24	10.0	U	1.4 132.3
	SOD	iP	07 24	03.2		
		i		05.3		
		ePcP		34		
	KEV	iP	07 23	55.0	U	1.2 128.3
		i	24 05	02		
		i		50.3		
		ePP	26 20			
		ePPP	27 56			
		eS	32 40			
		eScS	33 50			
		eSS	37 04			
		e	40 00			
	H: 07 13 17.6					
	32.3 N, 132.1 E, 32 km (R)					
	Shikoku, Japan					
1	NUR	iP	08 06	47.2		0.7 13.2
	KJN	iP	08 06	28.8	U	0.7 6.9
1	NUR	eP	09 16	14		
	KJN	iP	09 15	56.5		
	SOD	eP	09 15	55		
	H: 09 05 05.3					
	24.7 N, 118.1 E, 67 km					
	China					
1	NUR	eP	11 44	05		
	KJN	eP	11 44	38		
	OUL	iP	11 44	45.3		
	SOD	iP	11 45	07.3		
		i		16.8		
	H: 11 38 32					
	34.3 N, 26.3 E, 33 km					
	Crete					
1	NUR	eP	15 07	18		
	KJN	eP	15 07	09		

April		T	A	April		T	A
	ePS	42	28		5 OUL	iPKP	02 19 31.5
	eSS	46	04			H:	02 00 25.4
	H:	16 24	45.7				16.0 S, 179.8 W, 33 km (R)
		51.7 N,	174.2 E,				Fiji Islands
		38 km					
	Near Islands				5 KJN	eP	11 50 46
4	NUR	iP	01 52 46.5 D	0.6	12.5	OUL	iP 11 50 38.0 U
	KJN	iP	01 52 52.9 D	0.7	10.3		ipP 51 08.5
	OUL	iP	01 53 03.2 D			SOD	iP 11 50 21.3 U
		i	18.5			KEV	iP 11 50 02.6 U
	SOD	iP	01 53 12.7 D			H:	11 41 49.0
		i	16.1				64.2 N, 148.9 W, 128 km
		ePcP	54 34				Central Alaska
	KEV	iP	01 53 23.0	0.8	24.5		
		i	29.1			5 NUR	iP 15 59 16.0
	H:	01 44	26.4				i 18.8
		24.6 N,	66.0 E,			KJN	iP 15 59 53.1 U
		33 km (R)				OUL	iP 16 00 02.7
	West Pakistan					SOD	eP 16 00 23
4	OUL	iP	06 17 53.8			KEV	eP 16 00 42
	H:	06 07	54.5			H:	15 54 32.2
		56.3 N,	150.1 W,				39.7 N, 25.5 E, 18 km
		30 km					Aegean Sea
	Gulf of Alaska					5 NUR	iP 17 03 28.0 D
4	NUR	iP	09 10 42.8	0.7	10.3	KJN	iP 17 03 03.5 D
	KJN	eP	09 10 20			OUL	iP 17 03 00.7
	OUL	eP	09 10 12			SOD	eP 17 02 48
	SOD	eP	09 09 59			H:	16 52 51.1
	KEV	eP	09 09 49				47.0 N, 154.1 E, 50 km
	H:	09 00	08.3				Kurile Islands
		55.5 N,	155.1 W,			5 NUR	eP 18 17 15
		27 km				KJN	eP 18 16 56
	South of Alaska					H:	18 06 23
4	OUL	ePKP	10 20 22				33.4 N, 138.4 E, 293 km
	H:	10 01	25				South of Honshu, Japan
		56.0 S,	26.9 W,			5 NUR	iP 19 41 49.6 U
		81 km					i 56.3
	South Sandwich Islands					KJN	iP 19 41 25.9 U
4	KJN	eP	11 05 01				i 32.4
	OUL	iP	11 05 02.6			OUL	iP 19 41 18.5 U
	H:	10 54	14.5				i 24.7
		36.4 N,	138.4 E,			SOD	iP 19 41 02.9 D
		5 km (R)					i 09.2
	Honshu, Japan					H:	19 31 22.7
4	NUR	iP	11 45 24.3	0.8	20.2		56.8 N, 151.5 W, 14 km
							Kodiak Island
4	KJN	eP	23 23 31			5 NUR	iP 22 16 33.2 U
	OUL	iP	23 23 31.5			KJN	iP 22 16 15.2 U
	H:	23 13	02			OUL	iP 22 16 16.0 U
		32.9 N,	138.3 E,			SOD	iP 22 16 07.8
		342 km					cont.
	South of Honshu, Japan						
4	NUR	eP	23 40 11				
	KJN	eP	23 40 12				

April

T A

KEV iP 22 16 00.3 U 0.7 32.3
H: 22 05 47
30.2 N, 137.0 E, 498 km
South of Honshu, Japan

6 OUL eP 21 50 06
H: 21 40 13.4
56.9 N, 151.2 W, 33 km (R)
Kodiak Island

6 NUR iP 21 54 09.4 U 0.8 17.3
i 15.3
KJN iP 21 53 58.2
i 54 06.1
i 12.5
OUL iP 21 54 02.3
SOD eP 21 53 58
i 54 04.8
H: 21 41 17.9
7.4 N, 124.3 E, 17 km
Mindanao, P.I.

6 NUR iP 22 58 50.3 U 1.1 50.0
i 55.4
KJN iP 22 58 25.2 U 1.1 36.5
i 31.4
ePcP 59 05
OUL iP 22 58 20.4 U
SOD iP 22 58 05.2 U
KEV iP 22 57 49.1 0.8 20.2
H: 22 48 06.8
51.4 N, 176.6 E, 42 km
Rat Islands

7 NUR iP 02 58 42.7 D 0.7 25.8
KJN iP 02 58 21.1 U 0.6 30.8
e 37
i 46.4
OUL iP 02 58 20.9 D
SOD iP 02 58 10.4 U
KEV eP 02 58 00
H: 02 47 40.2
38.5 N, 141.8 E, 33 km
Honshu, Japan

7 NUR eP 03 46 57
KJN eP 03 47 34
H: 03 42 00
38.4 N, 24.5 E, 33 km (R)
Aegean Sea

7 NUR iP 04 51 04.0 1.1 59.5
e 55 24
cont.

April

T A

ePPS 05 00 24
eScS 52
eSS 04 08
KJN iP 04 50 38.7 U 1.3 84.6
i 54.0
iPcP 51 18.1
OUL iP 04 50 34.0 U
SOD iP 04 50 18.7 U
i 34.4
ePcP 51 08
KEV iP 04 50 04.1 1.2 42.8
eS 57 56
eSS 05 02 00
H: 04 40 19.3
51.5 N, 176.5 E, 33 km (R)
Rat Islands

7 NUR iP 05 21 21.8
i 26.0
i 33.2
KJN iP 05 20 46.3 D 0.8 92.3
i 53.5
OUL iP 05 20 32.2 D
SOD iP 05 20 03.9
i 11.0
e 23 19
KEV iP 05 19 33.2 0.9 21.8
eS 22 08

H: 05 16 24.9
81.5 N, 3.9 W, 33 km (R)
North of Svalbard

7 KJN eP 07 44 25
OUL iP 07 44 28.8 U
SOD eP 07 44 14

7 OUL iP 10 24 26.0
i 33.8
SOD iP 10 24 10.4
i 18.6
H: 10 14 50.3
59.1 N, 147.5 W, 33 km (R)
Gulf of Alaska

7 OUL iP 10 56 52.9
SOD eP 10 56 38

7 OUL eP 11 10 18
H: 10 59 31
36.7 N, 140.6 E, 33 km (R)
Honshu, Japan

8 NUR ePKP 02 32 52
cont.

April

T A

OUL iP 02 32 50.7
H: 02 14 34.0
23.5 S, 179.8 E, 550 km (R)
South of Fiji Islands

8 NUR iP 03 42 38.5 0.9 13.4
OUL iP 03 42 05.5
e 19
SOD iP 03 41 49.0
H: 03 32 48.4
61.5 N, 147.8 W, 48 km
Southern Alaska

8 OUL eP 09 04 39
H: 08 59 11
39.5 N, 25.8 E, 33 km (R)
Aegean Sea

8 KJN eP 15 03 53 0.7 6.2
OUL eP 15 03 58
H: 14 50 16.7
6.7 S, 129.4 E, 125 km
Banda Sea

9 NUR iP 01 22 24.6 D 0.5 15.8
KJN iP 01 22 24.0 0.6 3.4
OUL iP 01 22 34.2
SOD eP 01 22 40
H: 01 14 52.7
35.5 N, 73.3 E, 14 km
Northwestern Kashmir

9 NUR eP 01 33 56
KJN iP 01 33 55.1
OUL eP 01 34 05
SOD iP 01 34 11.1

Moscow:
H: 01 26 46
36.7 N, 71.2 E, 90 km
Hindu Kush

9 NUR iP 02 41 17.0 U 1.3 102.3.
i 44.0
e 42 24
e 43 14
ePP 44 26
ePPP 46 28
eS 51 28
ePS 52 16
e 53 32
eSS 56 28
eSSS 03 00 08
eLR 03 07.0

cont.

April

T A

KJN iP 02 41 04.4 U 1.2 84.3
i 08.0

ePP 44 04
eS 50 54
eScS 51 12

OUL iP 02 40 57.0 U
ePP 43 49

SOD iP 02 40 46.2
i 50.0

e 43 27
KEV iP 02 40 34.1 1.1 38.1
i 39.1

ePP 43 20
ePPP 45 08

eS 50 10
eSS 54 40

eLR 03 03.1

H: 02 28 58.9
33.1 N, 116.1 W, 20 km
Southern California

9 NUR eP 03 12 31

9 NUR eP 03 16 08
KJN iP 03 16 04.2 0.7 6.9
OUL eP 03 15 52

e 56
SOD eP 03 15 45

H: 03 03 55.4
33.2 N, 116.0 W, 15 km (R)
Southern California

9 KJN eP 03 20 07

9 NUR eP 07 14 05
KJN eP 07 14 15 0.8 7.7

H: 07 01 29.4
18.6 S, 65.5 E, 33 km (R)
Mascarene Islands

9 KJN ePg 11 13 59
eSn 14 32
e 42
OUL iPb 11 13 35.7
iPg 37.1
eSn 14 00
iSb 02.5
SOD iPg 11 13 24.0
iSg 43.9
i 46.8
KEV ePg 11 13 52
e 14 28
eSg 35

April

April

				T	Δ					T	Δ
9	NUR	ePKP	11 45 32			10	NUR	iP	13 36 08.4	1.0	14.0
		i	45.3	1.2	59.9		KJN	iP	13 35 53.5	0.9	9.8
		eSKP	48 16				OUL	eP	13 35 57		
		ePKS	49 16				SOD	eP	13 35 52		
	KJN	ePKP	11 45 34				H: 13 24 39.5				
		i	38.0	0.8	23.1		22.8 N, 121.2 E, 59 km				
		iSKP	48 05.1				Taiwan				
		iPKS	49 03.0			10	KJN	eP	14 11 43		
	OUL	ePKP	11 45 29				OUL	eP	14 11 35		
		i	36.6				SOD	eP	14 11 25		
		iSKP	48 03.2			10	NUR	eP	17 12 25		
		ePKS	49 04			10	NUR	ePKP	18 51 27		
	SOD	ePKP	11 45 16					ePP	53 54		
		i	32.7					ePKS	54 56		
	KEV	iPKP	11 45 28.8 U	0.8	36.0			e	19 06 48		
	H: 11 27 39.0							eSS	12 06		
	17.8 S, 178.2 W, 650 km (R)							eSSS	17 00		
	Fiji Islands						KJN	ePKP	18 51 17		
9	KJN	eP	18 14 14				OUL	ePKP	18 51 18		
	OUL	eP	18 13 41				KEV	ePP	18 53 04		
	SOD	eP	18 13 40					ePKS	54 28		
9	NUR	eP	22 26 46					e	19 06 08		
10	KJN	iP	01 20 07.5 D	0.6	4.1			eSS	09 44		
	OUL	eP	01 20 13					eSSS	15 08		
	SOD	iP	01 20 09.5				H: 18 32 09.6				
10	NUR	eP	01 25 57				22.6 S, 171.5 E, 60 km				
	KJN	eP	01 26 08				Loyalty Islands				
	OUL	eP	01 26 18			11	KJN	iP	00 33 21.9	0.8	11.5
	KEV	eP	01 26 48				OUL	iP	00 33 26.1		
	H: 01 16 04						SOD	eP	00 33 23		
	8.3 N, 58.9 E, 33 km (R)						H: 00 19 52.4				
	Carlsberg Ridge						4.0 S, 127.6 E, 56 km				
10	KJN	ePKP	05 19 33				Banda Sea				
	H: 05 01 07					11	KJN	iP	01 46 45.0	0.9	9.8
	23.5 S, 179.6 W, 435 km						OUL	iP	01 46 45.3 D		
	South of Fiji Islands						SOD	iP	01 46 37.7		
10	KJN	eP	07 20 52				KEV	iP	01 46 31.4	0.6	10.0
	OUL	eP	07 21 10				H: 01 34 28.9				
10	NUR	iP	08 57 43.0	0.7	12.9		18.0 N, 145.7 E, 185 km (R)				
	KJN	eP	08 57 19	0.8	10.0		Mariana Islands				
	OUL	iP	08 57 11.7			11	NUR	eP	03 49 16		
	SOD	eP	08 56 55				KJN	iP	03 49 12.6 D	0.7	8.9
	KEV	iP	08 56 38.1	0.9	18.5		OUL	eP	03 49 17		
	H: 08 47 18						H: 03 36 42.4				
	56.8 N, 152.1 W, 28 km						5.8 S, 107.9 E, 302 km				
	Kodiak Island						Java				

April						April					
				T	A					T	A
11	NUR	iP	06 08 44.9	0.8	14.4	OUL	eP	11 47 47			
	KJN	iP	06 08 26.9 D	0.6	8.9	H:		11 34 57.1			
	OUL	iP	06 08 27.8					4.8 N, 126.6 E, 108 km			
	SOD	eP	06 08 19					Talaud Islands			
	H:		05 57 30.2								
			28.2 N, 140.3 E, 361 km								
			Bonin Islands								
11	NUR	iP	06 55 52.3 D	0.7	16.8	12	KJN	iP	13 11 47.2 D	1.0	14.2
	KJN	iP	06 55 31.5 D	0.9	31.3		OUL	eP	13 11 50		
		i	56.5				H:		12 58 34.7		
	OUL	iP	06 55 33.2						1.7 N, 122.6 E, 40 km		
	SOD	iP	06 55 22.3						Northern Celebes		
	KEV	eP	06 55 13	0.7	10.3	12	NUR	iPKP	16 54 07.4		
	H:		06 46 27.4				KJN	iPKP	16 54 01.0		
			42.5 N, 131.0 E, 511 km				OUL	iPKP	16 53 59.9		
			E.Russia-N.E.China border				H:		16 35 38.3		
									20.3 S, 177.9 W, 459 km		
									Fiji Islands		
11	NUR	eP	20 47 14			12	KJN	iP	19 58 32.7	0.8	10.0
		i	20.4				OUL	eP	19 58 36		
	OUL	eP	20 47 13								
11	KJN	iP	23 45 08.5 U	0.7	22.6	13	KJN	eP	00 50 03		
		i	22.0				OUL	eP	00 50 25		
	OUL	iP	23 45 11.7 D			13	NUR	eP	01 27 06	1.5	32.7
		i	25.5					eS	36 32		
	SOD	iP	23 45 07.4 D					eSS	41 12		
	KEV	eP	23 45 04				KJN	iP	01 27 11.1 U	1.2	34.4
12	NUR	ePKP	06 35 17					i	17.3		
		eSKP	38 01					i	28 10.1		
	KJN	ePKP	06 35 09				OUL	iP	01 27 06.1		
		iSKP	37 48.5				SOD	eP	01 27 05		
	OUL	iPKP	06 35 08.0					i	14.5		
		iSKP	37 47.4				KEV	eP	01 27 07		
	H:		06 16 51.9					eS	36 32		
			18.1 S, 178.1 W, 471 km				H:		01 15 32.3		
			Fiji Islands						19.0 N, 66.9 W, 51 km		
									Puerto Rico		
12	NUR	eP	10 41 00			13	KJN	eP	11 54 06		
		e	36				SOD	eP	11 53 30		
		ePP	42 24					i	40.0		
	KJN	iP	10 41 04.0	0.8	6.9		KEV	eP	11 53 35		
		i	42 10.2			13	KJN	eP	18 01 39		
	OUL	eP	10 41 12			13	NUR	eP	18 41 16	1.0	28.0
	SOD	eP	10 41 20					i	18.2		
		ePP	42 56				KJN	iP	18 41 07.7 U	0.8	27.7
	H:		10 33 58.3					e	42 01		
			36.7 N, 69.1 E, 67 km				OUL	iP	18 41 11.0 D		
			Hindu Kush					i	12.3		
12	KJN	eP	11 47 43				SOD	iP	18 41 06.7		
		i	48 00.5				H:		18 28 34		
			cont.						7.3 N, 126.6 E, 123 km		
									Mindanao, P.I.		



April

April

				T	A					T	A			
13	NUR	iP	23 41 21.1 U	0.5	7.9				eS	24 48				
	KJN	iP	23 41 14.2 D	0.8	9.2				eSS	29 20				
	OUL	iP	23 41 21.0 D						e	32 20				
	SOD	iP	23 41 21.3 U						H: 13 05 08.0					
		i	23.8						33.4 N, 141.4 E, 41 km					
	KEV	eP	23 41 23						Honshu, Japan					
	H, 23 31 31													
	24.6 N, 94.8 E, 123 km (R)													
	Burma-India border													
14	NUR	iP	08 48 39.9 U	1.0	58.0			14	NUR	iP	14 37 28.5	1.2	28.5	
		i	49 07.0							epP	38 08			
		e	51 08						KJN	iP	14 37 31.8 D	1.0	34.9	
		eS	58 04							ipP	38 12.6			
		eSS	09 02 34						OUL	iP	14 37 27.0 D			
		e	06 44							epP	38 08			
	KJN	iP	08 48 20.1 U	1.0	64.3				SOD	iP	14 37 26.1			
		ePP	50 53							ipP	38 05.6			
	OUL	iP	08 48 20.0 U						KEV	iP	14 37 25.3			
		i	32.1							ipP	38 06.6			
		ePP	50 55						H: 14 24 55.3					
	SOD	iP	08 48 10.6 U						6.8 N, 73.0 W, 161 km (R)					
		i	12.8						Northern Colombia					
		i	29.0					14	NUR	iPKP	15 05 29.0	1.0	16.0	
	KEV	iP	08 48 01.4							eSKP	08 09			
		i	13.4							ePKS	09 01			
		ePP	50 26						KJN	ePKP	15 05 21			
		eS	56 52							i	23.1			
		eSS	09 01 08						OUL	iPKP	15 05 21.2			
		e	04 32							iSKP	07 55.2			
	H: 08 37 12.2													
	33.4 N, 141.4 E, 44 km													
	Honshu, Japan													
14	NUR	iP	13 16 36.0 U	1.0	26.0			14	NUR	iP	15 31 47.9 D	1.0	44.0	
		i	39.4						KJN	eP	15 31 44			
		i	46.3											
		ePP	19 21											
		ePPP	21 10						15	NUR	iP	02 43 42.1	1.0	18.0
		eS	26 00							e	53			
		eSS	30 30											
	KJN	iP	13 16 16.0 U	1.2	51.6			15	NUR	ePKP	03 26 53			
		i	27.0						H: 03 08 34.7					
		ePP	19 02						6.1 S, 154.9 E, 189 km					
	OUL	iP	13 16 16.4						Solomon Islands					
		i	27.7											
		iPP	18 56.5					15	NUR	ePKP	05 39 23			
	SOD	iP	13 16 06.5 D						KJN	ePKP	05 39 19			
		i	17.2						OUL	iPKP	05 39 15.8			
		ePP	18 52						SOD	ePKP	05 39 13			
	KEV	eP	13 15 56						H: 05 19 40					
		e	16 03						38.0 S, 177.3 E, 53 km					
		e	18 06						North Island, N.Z.					
	cont.													

April				T	A	April				T	A
16	KJN	iP	11 59 40.1	1.0	8.7	KJN	iP	09 18 56.2	1.2	29.2	
	OUL	eP	11 59 47				ePP	20 15			
16	KJN	iP	13 37 53.3	0.7	7.5	OUL	iP	09 18 52.9			
	OUL	iP	13 38 00.6				i	59.7			
16	KJN	iP	14 10 21.2 U	1.0	27.3	SOD	eP	09 19 10			
	OUL	iP	14 10 28.1			KEV	eP	09 19 29			
	SOD	eP	14 10 35			H:	09 12 04.3				
			H: 13 58 40.3				35.2 N, 3.7 W, 16 km				
			5.1 S, 68.4 E, 33 km (R)				Straits of Gibraltar				
			Chagos Archipelago			17	NUR	iP	09 57 50.6	0.6	23.8
16	KJN	eP	16 03 10				i	51.7			
	SOD	eP	16 03 10			KJN	iP	09 57 51.2 U	0.8	25.4	
16	NUR	iP	16 16 01.0			OUL	iP	09 57 59.1			
16	KJN	eP	17 00 51	0.8	6.2		i	58 12.7			
	OUL	eP	17 00 59			SOD	iP	09 58 07.3			
16	KJN	iP	19 14 16.1	0.9	5.4	17	KJN	iP	12 02 59.0 D	1.0	17.4
	OUL	eP	19 14 25				OUL	eP	12 03 05		
16	KJN	eP	19 35 03				H:	11 51 17.8			
	OUL	eP	19 35 11					5.1 S, 68.4 E, 33 km (R)			
								Chagos Archipelago			
16	KJN	iP	20 10 31.2 U	1.0	12.0	17	KJN	iP	12 46 50.5	0.8	7.7
	OUL	iP	20 11 37.3				OUL	eP	12 46 58		
16	NUR	eP	20 46 16				H:	12 35 10			
	KJN	eP	20 45 48					4.9 S, 68.2 E, 33 km (R)			
								Chagos Archipelago			
16	NUR	eP	20 49 08			17	SOD	iP	13 18 44.5		
	KJN	eP	20 49 03				KEV	iP	13 18 37.0 U	0.7	16.8
	OUL	iP	20 48 58.7				H:	13 08 13.1			
	SOD	eP	20 48 53					28.4 N, 139.2 E, 529 km			
								Bonin Islands			
16	KJN	iP	22 45 07.1 U	1.0	8.7	17	NUR	iP	13 18 36.0 D	0.6	52.5
	OUL	iP	22 45 14.7				e	19 09			
16	NUR	eP	22 47 57				ePP	20 01			
16	KJN	eP	23 55 20				e	26 28			
16	KJN	eP	23 58 30				e	56			
	OUL	eP	23 58 37			KJN	iP	13 18 35.4 D	0.6	26.0	
17	KJN	eP	05 48 57				i	46.3			
	OUL	eP	05 49 06				e	19 28			
17	NUR	eP	09 18 30	1.2	20.0	OUL	iP	13 18 44.8			
	e		21 51				ePP	20 15			
	eS		23 32			SOD	iP	13 18 51.3			
			cont.			KEV	eP	13 19 00			
						H:	13 11 26.2				
								36.4 N, 71.5 E, 113 km			
								Afghanistan-USSR border			

April

April

		T	A			T	A
17	NUR e	15 24 02		18	NUR iP	14 16 57.0	1.0 18.0
	KJN eP	15 23 43			KJN iP	14 16 43.1 U	0.8 7.7
	i	24 11.0			OUL iP	14 16 34.7 U	
	OUL iP	15 23 46.8			SOD eP	14 16 24	
	SOD eP	15 23 43		18	NUR eP	19 42 41	
	H: 15 11 40.5				KJN eP	19 43 20	
	13.1 N, 120.7 E, 55 km				SOD eP	19 43 41	
	Mindoro, P.I.				H: 19 38 15.4		
17	NUR eP	17 52 44			44.2 N, 8.3 E, 7 km		
					Northern Italy		
18	KJN eP	02 11 00		19	NUR eP	02 21 01	
	OUL iP	02 11 06.6		19	NUR iP	05 51 16.1	
18	NUR iP	03 12 27.0	0.8 14.4		KJN iP	05 51 00.4	
	KJN iP	03 13 08.3 U	0.7 12.3		OUL iP	05 51 02.0 D	
	i	15.4			SOD iP	05 50 55.5 D	
	OUL iP	03 13 14.4 U			H: 05 39 42		
	SOD eP	03 13 37			25.9 N, 128.4 E, 33 km (R)		
	H: 03 08 02.8				Ryukyu Islands		
	41.3 N, 20.3 E, 33 km (R)			19	SOD eP	12 31 36	
	Albania				H: 12 23 52		
18	KJN iP	03 57 00.7			38.2 N, 26.6 W, 33 km (R)		
	OUL iP	03 57 07.2			Azores Islands		
18	NUR ePKP	04 53 21		19	NUR eP	23 38 57	
	eSKP	56 24			i	39 00.4	
	KJN iPKP	04 53 21.4			i	08.3	
	iSKP	56 14.2			KJN iP	23 38 43.1	
	OUL iPKP	04 53 18.2			i	46.6	
	i	20.1			OUL iP	23 38 43.4 U	
	iSKP	56 12.7			i	47.1	
	SOD eSKP	04 56 07			i	55.9	
	H: 04 34 40.6				SOD iP	23 38 37.4 U	
	25.7 S, 179.5 W, 379 km				i	41.1	
	South of Fiji Islands				H: 23 25 43.9		
18	NUR ePKP	10 17 54			12.2 N, 143.8 E, 17 km		
	i	58.4			South of Mariana Islands		
	KJN iPKP	10 17 50.5	0.9 13.4	19	NUR eP	23 53 23	
	iSKP	21 04.6			KJN eP	23 53 07	
	OUL iPKP	10 17 48.3			OUL eP	23 53 08	
	iSKP	21 03.4			SOD eP	23 53 01	
	SOD ePKP	10 17 41			KEV eP	23 52 51	
	H: 09 58 53				H: 23 40 48		
	25.5 S, 177.9 W, 230 km (R)				20.7 N, 144.4 E, 39 km		
	South of Fiji Islands				Mariana Islands		
18	NUR iPKP	12 53 09.1	1.0 30.0	20	NUR iPKP	01 20 06.0	0.9 13.4
	KJN ePKP	12 52 52			KJN iPKP	01 20 13.3 U	1.0 22.9
	H: 12 33 33.0				eSKP	23 04	
	29.8 S, 176.7 W, 32 km				OUL iPKP	01 20 14.1	
	Kermadec Islands				cont.		

April

SOD iPKP 01 20 18.2
 eSKP 23 26
 H: 01 01 31.2
 56.1 S, 27.4 W, 186 km
 South Sandwich Islands

20 KJN eP 07 29 07

20 NUR eP 09 51 26
 e 31
 ePP 53 04
 eS 57 12
 e 38
 KJN iP 09 51 49.7
 SOD eP 09 51 52
 H: 09 44 08.6
 38.3 N, 26.6 W, 33 km (R)
 Azores Islands

20 NUR eP 10 25 22
 i 28.6
 ePP 26 56
 e 31 08
 eS 22
 KJN iP 10 25 42.3 1.4 75.6
 i 26 11.4
 e 27 43
 OUL iP 10 25 36.5
 SOD iP 10 25 45.1
 KEV eP 10 25 51
 ePP 27 32
 eS 32 12
 eSS 35 36
 H: 10 18 01.1
 38.3 N, 26.6 W, 33 km (R)
 Azores Islands

20 NUR eP 12 40 45
 KJN eP 12 40 35
 i 48.2
 OUL eP 12 40 39
 i 50.5
 e 41 00
 SOD eP 12 40 46

20 NUR iPKP 12 44 24.0 0.8 36.0
 i 37.0
 ePP 46 50
 i 47 07.2
 ePKS 52
 e 54 04
 eSKSP 56 44
 eSS 13 04 52
 eSSS 09 16
 KJN iPKP 12 44 16.3 1.1 35.1
 i 30.6
 cont.

April

ePKS 47 39
 OUL iPKP 12 44 15.7
 i 28.6
 SOD ePKP 12 44 10
 i 31.1
 KEV iPKP 12 44 07.4 1.0 28.0
 i 32.9
 ePP 45 52
 ePKS 47 14
 ePPP 48 28
 e 54 16
 e 56 36
 eSS 13 03 04
 eSSS 07 08
 H: 12 25 10.1
 15.7 S, 172.6 W, 30 km
 Samoa Islands

20 NUR eP 14 06 11
 KJN eP 14 06 31
 OUL eP 14 06 38
 SOD eP 14 06 51
 H: 13 55 09.5
 7.7 S, 38.8 E, 33 km (R)
 Tanganyika

20 NUR eP 19 34 07
 KJN eP 19 34 06
 OUL eP 19 34 13
 KEV eP 19 34 34

20 KJN eP 20 03 23
 OUL eP 20 03 26
 SOD eP 20 03 36
 H: 19 50 31
 19.9 S, 11.8 W, 33 km (R)
 South Atlantic Ridge

21 NUR iP 05 42 58.0 D 0.9 20.2
 KJN iP 05 42 47.5 D 0.8 7.7
 OUL iP 05 42 46.4

21 NUR iPKP 06 29 55.9 D 0.8 25.9
 KJN iPKP 06 29 44.5 1.0 14.2
 OUL ePKP 06 29 44
 H: 06 10 19.1
 31.6 S, 177.7 W, 57 km
 Kermadec Islands

21 NUR eP 08 35 39
 KJN eP 08 35 37
 OUL eP 08 35 46
 i 53.8

Moscow:
 H: 08 28 40
 38.4 N, 68.5 E
 Tadzhik SSR

April							April							
					T	A					T	A		
21	NUR	iP	08 45	06.5 U	1.1	85.7	KJN	iPKP ²	17 03	31.0	1.1	16.2		
		i		13.3				e		52				
		iPP	47	37.5			OUL	e	17 03	17				
		ePPP	49	20				ePKP ²		33				
		eS	54	10			SOD	ePKP ²	17 03	32				
		e		28			KEV	ePKP	17 03	16				
		eSS	58	20				ePP	07 04					
		e	09 02	20				e	21 44					
KJN	eS	08 53	29					eSS	26 48					
	ePS		44					H: 16 43	17.2					
OUL	iP	08 44	44.3					56.4 S, 158.0 E, 27 km						
	i		53.9					Macquarie Island						
	iPcP	45	19.1											
SOD	iP	08 44	33.8 U				21	NUR	iP	17 52	59.0			
	i		45.1					KJN	iP	17 52	37.7 U	1.0	16.4	
	iPcP	45	07.5					OUL	iP	17 52	37.3			
KEV	iP	08 44	22.8		1.2	78.8		SOD	eP	17 52	27			
	i		33.0					H: 17 41	56					
	ePP	46	40					38.6 N, 143.1 E, 33 km (R)						
	ePPP	48	16					Honshu, Japan						
	eS	52	48											
	eScS	54	12					21	NUR	eP	18 20	25		
	eSS	56	44											
	H: 08 34	03.5						21	NUR	eP	21 14	13	0.7	11.6
	38.6 N, 143.0 E, 42 km								eS	17 50				
	Honshu, Japan								KJN	eP	21 14	48		
21	NUR	iP	08 45	57.0					OUL	eP	21 14	53		
	OUL	iP	08 45	34.2					H: 21 09	47.0				
	i		43.7						39.8 N, 14.9 E, 311 km					
	SOD	iP	08 45	24.1					Tyrrhenian Sea					
	i		33.0											
	ePcP	46	01					21	NUR	e	23 02	48		
	KEV	eP	08 45	13					eSS	07 20				
									e	12 20				
21	KJN	iP	12 45	47.9 U	0.8	7.7		KEV	eSS	23 08	32			
									e	13 14				
21	KJN	eP	13 50	54										
	OUL	eP	13 50	53				22	NUR	eP	01 24	21		
	SOD	eP	13 50	52										
21	NUR	eP	14 54	11				22	KJN	iP	14 35	26.5 D	1.0	12.0
	KJN	eP	14 53	44					ipP		53.2			
	OUL	iP	14 53	40.6					SOD	eP	14 35	24		
	H: 14 44	06							epP		55			
	54.9 N, 161.5 E, 28 km								H: 14 22	35.0				
	Kamchatka								4.4 N, 127.7 E, 97 km					
									Talau Islands					
21	NUR	iP	15 39	42.4	0.9	16.8		22	NUR	eP	16 30	06		
	KJN	eP	15 39	12										
21	NUR	ePKP	17 03	08				22	NUR	iP	21 51	47.5		
	ePP	07 10							KJN	iP	21 51	26.9		
	eSKSP	17 52							OUL	eP	21 51	27		
									e		45			

cont.

cont.

April				April			
	T	A		T	A		
22	SOD	eP	21 51 17				
	Moscow:						
	H: 21 40 34						
	36.2 N, 141.3 E						
	Honshu, Japan						
22	KJN	eP	22 12 41				
	OUL	iP	22 12 43.8				
22	KJN	eP	23 10 38				
	OUL	eP	23 10 42				
23	NUR	eP	01 39 10				
	KJN	eP	01 38 45				
	OUL	iP	01 38 40.3				
	H: 01 28 26						
	51.1 N, 176.3 E, 33 km (R)						
	Rat Islands						
23	NUR	eP	02 50 45				
		e	51 55				
	KJN	eP	02 50 42	0.8	53.8		
		e	56				
		e	51 44				
	OUL	eP	02 50 52				
		e	56				
	SOD	eP	02 50 58				
		ePP	52 26				
	Moscow:						
	H: 02 43 41						
	38.8 N, 70.7 E						
	Pamir						
23	NUR	eP	04 46 42				
	KJN	eP	04 46 38				
		i	47.4				
	OUL	eP	04 46 43				
		i	49.0				
	SOD	eP	04 46 45				
23	NUR	iP	05 29 40.8				
	KJN	eP	05 29 25				
		i	38.0				
	OUL	eP	05 29 28				
	SOD	iP	05 29 23.7 D				
	H: 05 18 15						
	24.4 N, 122.1 E, 33 km (R)						
	Taiwan						
23	NUR	iP	06 52 20.1 D	0.8	46.1		
		isP	53 01.1				
		eS	58 04				
		e	07 00 24				
	cont.						
	KJN	iP	06 52 20.3 D			0.9	44.7
		ipP	47.9				
		isP	53 03.4				
		i	54 21.0				
	OUL	iP	06 52 29.9 D				
		ipP	56.7				
		esP	53 12				
	SOD	iP	06 52 36.3 D				
	KEV	iP	06 52 42.6				
	H: 06 45 11.5						
	36.3 N, 71.2 E, 114 km (R)						
	Afghanistan-USSR border						
	KJN	eP	07 20 57	23			
	OUL	iP	07 21 05.2				
23	NUR	iP	12 46 25.7 U	0.8	15.8		
	KJN	iP	12 46 39.0	1.1	16.2		
	OUL	eP	12 46 49				
	KEV	iP	12 47 16.3	0.8	11.5		
23	NUR	iP	12 47 12.8 U	0.8	47.5		
		i	32.1				
		ePP	48 44				
		eS	53 14				
		eSS	56 08				
	KJN	iP	12 47 25.1 U	1.2	55.0		
		i	32.0				
		iPP	48 59.4				
		eS	53 37				
	OUL	iP	12 47 36.1				
		i	48 01.2				
	SOD	iP	12 47 48.6 U				
	KEV	iP	12 48 02.6 U	0.8	28.8		
		ePP	49 52				
		eS	54 40				
		eSS	58 00				
	H: 12 39 47.3						
	27.7 N, 56.7 E, 52 km						
	Southern Iran						
23	NUR	eP	17 09 50	0.7	13.2		
	KJN	eP	17 09 38				
23	NUR	iP	17 17 56.7	0.9	8.6		
		e	19 46				
23	KJN	eP	19 29 17				
	H: 19 16 07.9						
	0.4 S, 127.6 E, 89 km						
	Halmahera						

April				T		A		April				T		A		
23	NUR	iP	20 39 27.5	D	1.5	934.1			SOD	eP	03 16 14					
		i	33.0							H:	03 04 17.3					
		iPcP	40 16.4								5.1 S, 68.3 E, 33 km (R)					
		e	41 24								Chagos Archipelago					
		ePP	44						24	OUL	eP	03 57 55				
		ePPP	43 12								H:	03 48 08.9				
		eS	47 44								58.2 N, 151.1 W, 21 km					
		eScS	49 20								Kodiak Island					
		eSS	51 36						24	NUR	eP	04 52 59				
		e	54 32													
		iP'P'	21 08 48.0						24	NUR	eP	07 11 06				
		i	55.3													
	KJN	iP	20 39 03.6	D	1.5	815.9			24	NUR	eP	07 11 06				
		i	06.6													
		e	40 02						24	NUR	iP	08 22 48.0	U	1.0	45.1	
		ePcP	48								i	51.6				
		eS	47 00								e	23 39				
		e	51 35								eS	26 40				
		iP'P'	21 08 53.4								ePcP	58				
		i	57.4						KJN	iP	08 23 25.0	D	1.3	128.0		
	OUL	iP	20 38 56.1	D							i	30.0				
		i	39 01.8								iPPP	24 17.1				
		eP'P'	21 08 47								i	25 29.3				
	SOD	iP	20 38 39.5	D					OUL	iP	08 23 33.2					
		i	46.1								i	38.3				
		iPcP	39 50.3								iPcP	27 08.1				
		eP'P'	21 08 58						SOD	iP	08 23 54.9					
	KEV	iP	20 38 21.5	D	1.6	407.3					i	59.3				
		i	25.4								i	24 36.3				
		iPcP	39 35.2								ePcP	27 12				
		ePP	40 16						KEV	iP	08 24 20.5	U	1.0	44.0		
		eS	45 44								i	25 12.2				
		eScS	48 10								eS	29 16				
		H:	20 29 14.5								H:	08 18 02.5				
			58.7 N, 150.0 W, 23 km (R)									39.3 N, 24.9 E, 17 km (R)				
			Gulf of Alaska									Aegean Sea				
23	NUR	eP	22 36 11						24	NUR	iP	10 42 21.0	U	0.5	6.8	
	KJN	eP	22 36 43								e	43 01				
	SOD	eP	22 37 07							KJN	iP	10 42 08.0	U	0.6	15.6	
		H:	22 30 27							OUL	iP	10 42 15.6				
			34.6 N, 8.9 E, 33 km (R)								e	55				
			Tunisia							SOD	iP	10 42 15.3				
23	NUR	iP	23 38 39.6						KEV	iP	10 42 18.3					
	KJN	iP	23 38 30.2							e	55					
24	OUL	eP	01 11 46							H:	10 35 57.1					
		H:	01 01 57.2								49.8 N, 78.1 E, 0 km (R)					
			58.8 N, 150.0 W, 38 km								Eastern Kazakh SSR					
			Gulf of Alaska						24	OUL	ePKP	14 16 38				
24	KJN	eP	03 15 58								H:	13 59 14.5				
	OUL	iP	03 16 05.8									4.6 S, 149.4 E, 565 km (R)				
			cont.									Bismarck Sea				

April						April											
				T	A					T	A						
24	KJN	iP	16 02	07.9						25	NUR	eP	03 50	31			
		i		17.6							e		51	06			
	OUL	iP	16 02	00.3							SOD	eP	03 50	30			
		i		10.3													
	SOD	eP	16 01	43						25	NUR	eP	04 32	17			
		i		53.8							KJN	iP	04 32	54.4			
	KEV	eP	16 01	35								i		58.4			
		e		41							OUL	eP	04 33	00			
	H: 15 52 38.9										BCIS:						
	60.9 N, 147.5 W, 56 km										H: 04 27 28						
	Southern Alaska										39.0 N, 20.3 E						
											Ionian Sea						
24	NUR	eP	18 25	31						25	KJN	eP	10 09	02	0.9	7.1	
24	NUR	iP	19 43	21.0 U	1.2	43.8					OUL	eP	10 08	55			
	KJN	iP	19 43	30.3 U	1.4	94.5					SOD	eP	10 08	41			
		i		45.8							H: 09 58 27.8						
	OUL	iP	19 43	37.9 U							50.7 N, 129.8 W, 33 km (R)						
	SOD	eP	19 43	46							Vancouver Island						
	H: 19 31 49.5																
	5.0 S, 68.4 E, 33 km (R)										25	KJN	eP	10 39	33		
	Chagos Archipelago										H: 10 34 04.0						
											37.8 N, 22.6 E, 99 km						
24	NUR	iPKP	22 54	06.2	0.7	15.8					Southern Greece						
	KJN	ePKP	22 53	56						25	NUR	iPKP	21 44	51.0	0.9	17.2	
		i		58.5							ePP		47	12			
	OUL	iPKP	22 53	56.8							ePKS		48	17			
	H: 22 35 53.3										e		54	12			
	20.9 S, 179.2 W, 640 km (R)										eSKSP		57	08			
	Fiji Islands										eSS	22 04	56				
24	NUR	iP	23 02	20.6	0.8	14.7					e		07	08			
		i		24.3							e		09	48			
24	NUR	eP	23 47	51							KJN	iPKP	21 44	42.4	1.2	22.4	
	KJN	iP	23 47	35.4							OUL	ePKP	21 44	41			
	OUL	iP	23 47	35.9							SOD	ePKP	21 44	32			
	SOD	eP	23 47	26							KEV	ePKP	21 44	31			
	H: 23 36 26											i		37.0			
	30.0 N, 140.7 E, 190 km											ePP		46	05		
	South of Honshu, Japan										e		48	56			
											e		54	24			
24	NUR	eSKS	24 09	25							ePPS		57	48			
		ePS		12 04							eSS	22 03	08				
	KJN	eP	23 58	31							e		06	04			
	OUL	eP	23 58	37							H: 21 25 36.1						
	KEV	eSKS	24 09	20							15.2 S, 173.1 W, 33 km (R)						
		ePS		11 52							Tonga Islands						
		ePPS		12 36						26	NUR	ePKP	01 01	50			
		eSS		17 08								ePP		04	12		
	H: 23 44 46.2											ePKS		05	16		
	6.9 S, 129.2 E, 52 km											e		12	20		
	Banda Sea																

cont.

April				April			
	T	A		T	A		
	eS	11 08		28	KJN eP	07 14 33	
	ePS	12 00			SOD eP	07 14 41	
	eSS	16 58			KEV eP	07 14 43	
	e	21 16					
	H:	17 48 02.3		28	NUR eP	09 31 13	
		18.7 N, 103.3 W, 65 km			KJN iP	09 30 46.5	0.6 11.7
		Michoacan, Mexico			OUL iP	09 30 29.0	
26	NUR iP	21 33 21.8 U	0.9 51.6		SOD eP	09 30 11	
					H:	09 27 36.6	
26	OUL iP	23 21 54.0				72.0 N, 1.6 W, 33 km (R)	
	H:	23 08 55.1				Jan Mayen Island	
		10.0 N, 139.0 E, 21 km		28	NUR eP	10 16 34	
		West Caroline Islands			KJN iP	10 16 32.5 U	1.0 13.1
27	OUL eP	09 04 27			OUL iP	10 16 26.8	
	H:	08 55 00.1			KEV eS	10 26 50	
		60.1 N, 146.0 W, 33 km (R)			H:	10 03 31.5	
		Southern Alaska				11.8 N, 88.8 W, 39 km	
						Central America	
27	NUR ePKP	11 17 09		28	KJN iP	10 17 07.6	
	e	27			SOD eP	10 16 55	
	OUL ePKP	11 17 01			H:	10 06 44	
	H:	10 58 21.5				42.0 N, 142.6 E, 33 km (R)	
		10.5 S, 165.1 E, 75 km				Hokkaido, Japan	
		Santa Cruz Islands		28	NUR eP	11 05 56	
27	NUR ePKP	14 15 58			KJN iP	11 05 30.0	1.0 14.2
	iSKP	18 36.7			OUL eP	11 05 14	
	KJN iP	14 15 54.3	0.8 11.5		SOD eP	11 04 55	
	eSKP	18 24		28	NUR eP	13 05 39	
	OUL ePKP	14 15 52		28	NUR eP	20 20 16	0.9 6.7
	eSKP	18 24			KJN iP	20 20 33.4 U	
	SOD eSKP	14 18 16			SOD eP	20 20 32	
	H:	13 57 50.1			H:	20 13 36.7	
		21.2 S, 179.2 W, 670 km (R)				45.5 N, 27.8 W, 33 km (R)	
		Fiji Islands				North Atlantic Ridge	
28	NUR iP	04 29 38.3 U	1.3 64.8				
	i	50.0					
	eS	39 04		28	NUR eP	20 52 56	
	KJN iP	04 29 13.0	1.5 53.3		KJN iP	20 52 28.5 U	1.0 13.1
	eP'P'	57 23			OUL eP	20 52 14	
	OUL iP	04 29 10.1			SOD eP	20 51 54	
	eP'P'	57 29					
	SOD iP	04 28 56.0		29	NUR iP	00 33 26.2	0.9 13.4
	KEV iP	04 28 44.1			KJN iP	00 33 09.5 D	0.7 11.7
	H:	04 18 15.7			i	22.6	
		44.8 N, 174.5 E, 39 km			OUL iP	00 33 03.7	
		North Pacific Ocean			SOD iP	00 32 51.8 D	
28	NUR eP	06 34 25			H:	00 21 36.6	
	H:	06 23 02				39.5 N, 122.1 W, 15 km (R)	
		44.8 N, 174.7 E, 33 km (R)				Northern California	
		North Pacific Ocean					

April						April									
				T	A										
				T	A										
29	KJN	eP	00 55 48					eSb	04 44						
		e	56 57					eSg	05 01						
	OUL	eP	00 55 50					OUL	eSg	22 05 04					
		e	57 04												
	SOD	eP	00 55 37					30	NUR	iP	01 52 54.0				
		e	56 49							ipP	53 24.9				
	H: 00 43 14.2								KJN	iP	01 52 26.5				
	14.0 N, 144.7 E, 164 km									ipP	58.8				
	Mariana Islands									ePcP	53 29				
										e	54 51				
29	NUR	iP	05 01 52.6	1.0	16.0				OUL	eP	01 52 24				
										epP	55				
29	NUR	eSKP	09 53 47						SOD	eP	01 52 07				
	KJN	iSKP	09 53 36.4							epP	40				
	OUL	ePKP	09 51 03						H: 01 42 58.7						
		eSKP	53 37						54.3 N, 159.5 E, 118 km (R)						
	SOD	eSKP	09 53 28						Kamchatka						
	H: 09 32 56.8								30	NUR	eP	04 12 19			
	21.3 S, 179.5 W, 640 km (R)									e	55				
	Fiji Islands									KJN	eP	04 12 57			
29	OUL	iP	16 51 17.6							e	14 02				
										SOD	eP	04 13 29			
29	NUR	iP	17 07 15.0 U	1.1	161.8										
		i	08 49.0							30	KJN	eP	14 04 34		
		eS	11 32								OUL	eP	14 04 35		
	KJN	iP	17 07 35.2 U	1.0	147.2						SOD	eP	14 04 30		
		i	45.2								H: 13 52 31.7				
		e	12 26								23.6 N, 143.1 E, 50 km (R)				
	OUL	iP	17 07 46.0								Volcano Islands				
	SOD	iP	17 08 03.0												
		iPP	09 04.2							30	NUR	eP	16 47 42	0.9	10.1
	KEV	iP	17 08 21.3	0.9	26.9						KJN	iP	16 47 18.9		
		i	44.2								OUL	eP	16 47 14		
		ePP	09 23								SOD	eP	16 46 55		
		eS	13 36								KEV	eP	16 46 38		
		eLR	17 16.9								H: 16 36 55				
	H: 17 01 57.6										52.2 N, 170.6 W, 56 km				
	39.2 N, 44.3 E, 34 km										Fox Islands				
	N.W. Iran-USSR border														
29	NUR	eP	18 01 44												
	KJN	iP	18 01 33.4	0.9	8.9										
	OUL	eP	18 01 41												
	SOD	eP	18 01 37												
29	KJN	eP	18 44 07												
29	NUR	ePn	22 01 28												
		eSn	02 58												
		e	03 57												
	KJN	ePn	22 01 59												
		eSn	03 53												

December 18, 1968

Urmas Luosto
Aili Huovila

cont.

May				T	A	May				T	A
1	NUR	iPKP	00 10	14.2 D	0.9	57.1					
	KJN	iPKP	00 10	18.8 D	1.3	112.8					
		e	11 29								
		ePP	12 19								
	OUL	iPKP	00 10	18.4 D							
	SOD	iPKP	00 10	19.3 D							
		ePP	12 17								
	KEV	iPKP	00 10	20.4 D	1.2	45.6					
		ePP	12 24								
	H: 23 51 17.9										
	38.4 S, 71.1 W, 40 km										
	Chile-Argentina border										
1	NUR	eP	01 56	57	1.0	13.7					
	KJN	iP	01 56	42.4 D	0.8	10.8					
	SOD	eP	01 56	39							
1	NUR	iPKP	02 00	00.5	0.7	22.7					
		e		40							
		epPKP	01 43								
	KJN	iPKP	01 59	48.5							
		e	02 00	18							
	OUL	ePKP	01 59	49							
		e	02 01	00							
		i	02 51	2							
	H: 01 40 59.4										
	31.0 S, 179.7 W, 320 km (R)										
	Kermadec Islands										
1	NUR	iP	04 44	50.0							
		ePPP	51 04								
		eSKS	55 24								
		eS	56 12								
		eSS	05 03	08							
	KJN	iP	04 44	40.2 U	1.0	14.2					
	SOD	eP	04 44	39							
	KEV	ePP	04 49	24							
		eSKS	55 12								
		ePS	57 20								
	H: 04 31 09.7										
	2.9 S, 128.0 E, 26 km										
	Ceram Sea										
1	NUR	iP	08 54	51.2 U	0.8	60.5					
		i	55 07	8							
		ePP	57 20								
		ePPP	59 14								
		eS	09 04	00							
		eSS	08 04								
		e	11 40								
	KJN	iP	08 54	30.0 U	0.8	106.9					
		i		44.4							
				cont.							
		iPcP									56.8
		i									56 47.2
	OUL	iP	08 54	29.7 U							38.3
		i									56 52
		ePP									54 18.2 U
	SOD	iP	08 54	18.2 U							27.3
		i									51.8
		i									56 18
		e									08 54 08.3 U
	KEV	iP	08 54	08.3 U	0.9	57.1					46.3
		iPcP									55 48
		e									58 00
		ePPP									09 02 40
		eS	09 02	40							04 00
		eScS									06 40
		eSS									
	H: 08 43 47.4										
	38.6 N, 143.1 E, 36 km										
	Honshu, Japan										
1	OUL	iP	14 48	43.1							
	H: 14 35 50.3										
	0.3 S, 122.8 E, 176 km										
	Northern Celebes										
1	NUR	iP	19 23	46.0	0.8	14.4					
		i		24 17.8							
		ePP		26 14							
	KJN	iP	19 23	24.3 U	0.9	19.6					
		i		48.4							
		i		58.1							
	OUL	iP	19 23	23.4							
	SOD	eP	19 23	12							
	KEV	eP	19 23	01							
	H: 19 12 53.4										
	40.9 N, 142.5 E, 18 km										
	Honshu, Japan										
1	NUR	eP	19 27	29							
	KJN	eP	19 27	07							
	OUL	iP	19 27	06.4							
	SOD	iP	19 26	56.0							
	H: 19 16 39										
	40.9 N, 142.4 E, 45 km										
	Honshu, Japan										
1	NUR	iP	19 49	19.8							
	KJN	iP	19 49	03.1	0.7	6.2					
	OUL	iP	19 49	04.7							
	SOD	eP	19 48	57							
	KEV	eP	19 48	52	0.8	14.4					
	H: 19 37 53.8										
	27.5 N, 128.3 E, 35 km										
	Ryukyu Islands										

May						May			
				T	A				
2	NUR	eP	00 35 41			2	NUR	eP	07 48 14
		i	51.3				KJN	eP	07 48 27
	KJN	eP	00 35 34				SOD	eP	07 48 27
		i	45.3				H: 07 40 07.2		
	OUL	eP	00 35 42				36.2 N, 34.0 W, 33 km (R)		
		e	52				Azores Islands		
	SOD	eP	00 35 42			2	NUR	eP	08 06 10
		i	53.8				KJN	eP	08 06 25
	H: 00 26 02.9						OUL	eP	08 06 19
	26.2 N, 92.2 E, 53 km						SOD	iP	08 06 25.1 U
	Eastern India						KEV	iP	08 06 32.3
2	NUR	eP	03 06 12				H: 07 58 05		
	H: 02 55 41						36.3 N, 34.1 W, 33 km (R)		
	48.2 N, 154.0 E, 48 km						Azores Islands		
	Kurile Islands					2	NUR	iP	09 37 24.2 D
2	NUR	iP	05 41 17.8 D	1.0	78.0		KJN	iP	09 37 09.2 D
		ipP	39.5	1.1	109.5		OUL	iP	09 37 12.5
		isP	48.6	1.2	290.7		SOD	iP	09 37 07.4 D
		i	42 00.4				H: 09 25 58.6		
		e	43 52				24.4 N, 121.7 E, 30 km		
		eS	50 52				Taiwan		
		esS	51 32			2	NUR	ePKP	13 21 34
		eSS	55 44				KJN	ePKP	13 21 26
	KJN	iP	05 41 21.1 D	1.0	95.9		OUL	ePKP	13 21 25
		ipP	43.2	1.2	209.8		H: 13 03 14.7		
		isP	52.3	1.4	540.0		17.6 S, 178.7 W, 504 km		
		i	42 31.1				Fiji Islands		
		epPP	44 31			2	NUR	eP	13 57 26
	OUL	iP	05 41 14.9 D				KJN	eP	13 57 40
		ipP	36.6			2	NUR	eP	23 39 48
		isP	44.9				epP	40 25	
	SOD	iP	05 41 14.0 D				esP	40	
		ipP	35.1				ePP	43 48	
		isP	44.3				e	47 00	
		e	42 08				eSKS	50 12	
	KEV	iP	05 41 11.4 D	1.0	60.0		eS	51 14	
		ipP	32.6	1.2	114.0		ePS	53 05	
		isP	42.3				ePPS	48	
		ePP	43 52				eSS	58 12	
		eS	50 44				KJN	iP	23 39 39.2 D
		esS	51 16					i	59.9
	H: 05 29 38.2							ipP	40 13.0
	18.8 N, 69.6 W, 82 km (R)							e	42 46
	Dominican Republic							ePP	43 44
								e	48 25
2	NUR	eP	05 49 39					iPKKP	55 51.1
	KJN	eP	05 49 18				cont.		
	OUL	eP	05 49 16						
	H: 05 38 48.8								
	40.7 N, 142.8 E, 43 km								
	Honshu, Japan								

May

May

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	OUL	iP	23	39	42.4	D		
		ePP		43	49			
		ePKKP		55	48			
	SOD	iP	23	39	38.6			
		epP		40	12			
		e		42	54			
		ePKKP		55	48			
	KEV	eP	23	39	36			
		iPP		43	48.2			
		e		48	24			
		eSKS		50	00			
		eS			50			
		ePS		52	32			
		ePFS		53	16			
		eSS		58	08			
	H: 23 26 03.6							
	6.4 S, 129.9 E, 128 km							
	Banda Sea							
3	NUR	eP	03	33	06			
	KJN	eP	03	33	40			
	SOD	eP	03	34	10			
	BCIS:							
	H: 03 28 03							
	38.5 N, 20.3 E							
	Ionian Sea							
3	OUL	iP	04	02	22.9			
	SOD	eP	04	02	44			
3	NUR	iP	05	44	06.5	D	1.1	123.8
		ipP			33,8			
		e			50			
		e		47	12			
		e		48	36			
		eS		53	20			
		eScS		54	04			
		eSS		58	24			
	KJN	iP	05	43	50.9	D	0.9	117.9
		i		44	03.1			
		i			11.9			
		e			48			
		eS		52	54			
		ePS		53	36			
		eP'P'	06	11	44			
	OUL	iP	05	43	54.0	D		
	SOD	iP	05	43	47.6	D		
		ipP		44	14.1			
		e			47			
	KEV	iP	05	43	42.6	D	0.8	72.0
		i			54.6			
		ipP		44	09.5			
	cont.							

		ePP		46	12			
		ePPP		47	56			
		eS		52	36			
		ePS		53	12			
		eScS			30			
	H: 05 32 45.7							
	25.1 N, 124.6 E, 98 km (R)							
	Northeast of Taiwan							
3	KJN	ePKP	06	13	42			
	H: 05 55 37							
	20.7 S, 178.8 W, 652 km							
	Fiji Islands							
3	SOD	eP	08	17	32			
3	KJN	eP	12	15	37			
		eS		18	18			
	OUL	eP	12	15	20			
		eS		17	48			
	SOD	eP	12	14	51			
		eS		16	58			
	KEV	eP	12	14	20			
		eS		16	04			
		e		17	26			
3	NUR	iP	16	24	23.1	U	1.0	40.0
		i			32.4			
	OUL	iP	16	23	52.8	U		
	SOD	iP	16	23	36.8	U		
		ePcP		24	26			
	KEV	iP	16	23	19.9		1.0	30.0
		i			32.3			
	H: 16 13 40.0							
	54.2 N, 163.3 W, 17 km							
	Unimak Island							
4	OUL	ePb	01	09	56			
		iSb		10	16.4			
		i			19.4			
	SOD	eSb	01	10	23			
		i			24.5			
	KEV	eSg	01	11	29			
4	NUR	iP	03	32	18.1	U	0.8	36.0
		e			33 01			
		epP			34 10			
	OUL	iP	03	32	01.3	U		
	SOD	iP	03	31	53.1	U		
		epP		33	44			
	cont.							

May		T	A	May		T	A
KEV	iP 03 31 45.4 U	0.8	53.3	KJN	iPKP 09 25 13.9 U	0.8	12.3
	i 32 02.2				i 19.0	0.9	58.9
	H: 03 21 26.3				epPKP 26 15		
	29.7 N, 138.0 E, 484 km			OUL	iPKP 09 25 14.5 U		
	South of Honshu, Japan				i 19.3		
4	NUR eP 10 42 16				epPKP 26 17		
4	NUR eP 18 21 03				ePP 28 39		
	KJN iP 18 20 37.9			SOD	ePKP 09 25 10		
	OUL iP 18 20 32.5				i 12.3		
	SOD eP 18 20 16				epPKP 26 08		
4	NUR iP 18 38 36.0	0.7	11.6		ePP 28 33		
4	NUR iP 20 24 25.2	0.6	8.8	KEV	iPKP 09 25 06.2 U	0.9	84.0
	KJN iP 20 24 14.2	0.7	6.2		iPP 28 26.4		
4	NUR iP 22 22 28.0				H: 09 05 56.3		
	KJN iP 22 22 18.1	0.8	18.4		39.3 S, 174.7 E, 225 km		
	OUL eP 22 22 22				North Island, N.Z.		
	SOD iP 22 22 16.7			5	NUR ePKP 11 06 24		
	KEV eP 22 22 15				KJN iPPKP 11 06 17.7	0.8	9.2
	H: 22 09 20.1				OUL iPPKP 11 06 16.5		
	3.6 N, 126.3 E, 46 km				KEV ePKP 11 06 09		
	Talau Islands				H: 10 47 15.5		
4	NUR eP 23 06 04	0.8	11.5		16.6 S, 175.7 E, 37 km		
	KJN iP 23 05 47.3				Fiji Islands		
	OUL iP 23 05 47.8			5	KJN eP 18 16 22		
	H: 22 54 58.8				OUL eP 18 16 23		
	27.8 N, 139.8 E, 479 km (R)				SOD eP 18 16 20		
	Bonin Islands			5	KJN iP 21 15 54.7 U	1.0	16.4
5	KJN eP 03 17 40				OUL iP 21 15 57.5		
	OUL eP 03 17 40				SOD iP 21 15 52.3		
	SOD eP 03 17 36				KEV eP 21 15 48		
	H: 03 04 43.5				H: 21 04 40.5		
	5.9 N, 127.7 E, 16 km				24.0 N, 122.9 E, 33 km (R)		
	Philippine Islands				Taiwan		
5	NUR iP 07 32 21.4			5	NUR eP 21 37 52		
	KJN iP 07 32 01.7 U	0.8	17.7		KJN eP 21 37 43		
	i 07.5			5	KJN eP 23 03 22		
	OUL iP 07 32 02.6 U			6	NUR eP 04 43 45		
	SOD eP 07 31 54			6	NUR eP 09 43 30		
	H: 07 21 04.1				KJN iP 09 44 04.0	0.9	13.4
	33.0 N, 135.5 E, 33 km (R)				SOD eP 09 44 40		
	Southern Honshu				H: 09 38 47.1		
5	NUR ePKP 09 25 19				40.3 N, 28.6 E, 21 km		
	i 21.9				Turkey		
	i 32.3	0.8	31.7	6	SOD ePKP 09 59 54		
	epPKP 26 11				H: 09 42 16		
	cont.				3.8 S, 153.6 E, 400 km (R)		
					New Ireland		

May			T	A	May			T	A
6	NUR eP	11 22 52			7	KJN eP	04 35 06		
	KJN iP	11 22 27.7			7	NUR iP	09 13 02.1 D	1.0	60.0
	OUL iP	11 22 23.0				i	14 16.0		
	SOD eP	11 22 08				i	27.0		
	KEV eP	11 21 51	1.0	12.0		e	59		
	H: 11 12 00.2					eS	23 28		
	51.7 N, 173.4 W, 32 km					e	24 24		
	Andreanof Islands					eSS	29 16		
6	NUR eP	14 50 32			KJN iP	09 13 05.2	0.8	80.7	
	KJN iP	14 50 31.1	0.9	11.6	ipP	43.1			
	OUL iP	14 50 24.4			eS	23 36			
	SOD eP	14 50 20			OUL iP	09 13 00.2			
	H: 14 37 49.8				i	47.1			
	14.6 N, 90.8 W, 123 km				i	14 04.4			
	Guatemala				SOD iP	09 12 58.7			
6	NUR iPKP	17 56 57.2 U	1.3	75.0	i	13 12.3			
	i	57 11.9			ipP	35.1			
	KJN iPKP	17 56 47.7 U	1.4	116.1	H: 09 00 29.0				
	i	57 06.8			6.7 N, 73.0 W, 168 km (R)				
	OUL iPKP	17 56 46.6 U			Northern Colombia				
	i	57 04.1			7	NUR eP	10 51 16		
	H: 17 37 22					e	52 07		
	34.5 S, 179.3 W, 155 km				KJN eP	10 50 57			
	South of Kermadec Islands				e	51 47			
6	NUR iP	18 32 46.3			OUL eP	10 50 55			
	KJN eP	18 32 36			e	51 46			
	OUL eP	18 32 33			7	NUR iPKP	11 30 38.8	0.8	17.3
6	NUR eP	18 53 32			i	52.8			
	KJN eP	18 53 23			KJN iPKP	11 30 27.6 D	0.8	19.2	
	OUL iP	18 53 21.4			i	41.9			
6	NUR eP	20 15 49			OUL iPKP	11 30 26.8			
	KJN eP	20 15 35			H: 11 10 57				
6	NUR iP	20 56 40.4 U	1.0	78.0	32.7 S, 178.6 W, 33 km				
	i	57 31.3			South of Kermadec Islands				
	isP	55.4			7	KJN ePKP	12 01 44	0.9	19.6
	iPP	58 11.2			eSKP	04 20			
	KJN iP	20 56 41.0 D	0.9	75.9	OUL iPKP	12 01 43.2			
	ipP	57 24.4			SOD eSKP	12 04 10			
	esP	55			H: 11 43 31.6				
	ePP	58 13			19.2 S, 177.6 W, 533 km				
	OUL iP	20 56 50.4 U			Fiji Islands				
	SOD iP	20 56 57.3 D			7	OUL iP	23 51 59.2		
	i	57 13.2			H: 23 39 14.4				
	KEV iP	20 57 05.5	0.7	52.9	13.0 N, 89.7 W, 91 km				
	i	11.3			El Salvador				
	H: 20 49 45.5				8	NUR ePKP	11 19 58		
	36.5 N, 70.8 E, 231 km				i	20 07.2	1.5	51.4	
	Hindu Kush				iPKP ²	26.2			
						cont.			

May				T		A		May				T		A		
KJN	iPKP ²	11 20	23.6 D	1.5	113.2	8	NUR	eP	22 04 33							
	i		29.7				KJN	eP	22 04 16							
OUL	ePKP ²	11 20	01				SOD	eP	22 03 58							
	ePKP ²		28				H: 21 53 02.9									
SOD	iPKP ²	11 20	26.1				43.9 N, 128.2 W, 33 km (R)									
	i		32.1				Off coast of Oregon									
H: 11 00 07.4																
58.0 S, 157.7 E, 33 km (R)																
Macquarie Island																
8	NUR	iP	12 03 37.5	1.1	30.9		8	NUR	eP	22 05 26	1.5	42.0				
	KJN	eP	12 03 30					eS	14 56							
	OUL	eP	12 03 27					KJN	iP	22 05 10.1						
								OUL	eP	22 04 54						
								SOD	eP	22 04 41						
								KEV	eS	22 13 16						
								e	20 24							
8	NUR	iP	12 28 47.0	1.3	296.7		8	NUR	e	22 28 51						
	i		50.0					KJN	eP	22 28 29						
	i		53.2					OUL	eP	22 28 20						
	i		58.2					SOD	eP	22 28 12						
	i	29	16.3					H: 22 17 13.8								
	e		31 00					43.9 N, 128.2 W, 33 km (R)								
	ePPP		33 20					Off coast of Oregon								
	eS		38 20													
	eScS		58					8	NUR	iP	22 52 09.4	0.9	45.4			
	e		41 40						i		29.0					
	eSS		42 36						iPP		53 33.0					
KJN	iP	12 28	29.6 D	1.4	418.5			KJN	iP	22 52 08.5	0.8	34.6				
	i		32.0						ipP		42.0					
	ePP		31 06						isP		53 10.2					
	eP'P'		56 27						ePP		38					
OUL	iP	12 28	21.6 D						isPP		54 45.5					
	i		25.3					OUL	iP	22 52 18.0						
	i		29 03.3					SOD	iP	22 52 23.8						
	eP'P'		56 21						i		37.6					
SOD	iP	12 28	09.4 D						epP		57					
	i		16.1						e		53 49					
	eP'P'		56 32					KEV	iP	22 52 33.1	0.7	21.9				
	e		36					H: 22 45 08.3								
KEV	iP	12 27	55.4 D	1.3	283.0			37.1 N, 71.9 E, 160 km (R)								
	i		57.7					Afghanistan-USSR border								
	i		28 21.3													
	eS		36 40					8	NUR	iP	22 59 58.0	1.0	12.0			
	eScS		37 40						KJN	eP	22 59 56					
	eSS		40 56						i		23 00 12.0					
	eLQ	12	43.5													
H: 12 17 13.4																
43.6 N, 127.9 W, 33 km (R)																
Off coast of Oregon																
8	NUR	eP	13 29 33				8	NUR	eP	23 37 05						
	KJN	eP	13 29 25			0.9	13.4		KJN	eP	23 36 43					
	e		35						OUL	eP	23 36 44					
	OUL	eP	13 29 23					H: 23 26 01								
	SOD	eP	13 29 11					38.4 N, 143.3 E, 33 km (R)								
								Honshu, Japan								

May						May			
			T	A			T	A	
9	NUR ePKP	00 05 16			9	NUR iPKP	12 48 15.2	0.7	29.7
	KJN e	00 05 27				i	23.6		
	H: 23 45 48.8					KJN iPKP	12 48 04.7 U	1.0	49.0
	26.6 S, 176.3 W, 33 km (R)					i	16.5		
	South of Fiji Islands					i	24.5		
9	NUR eP	03 14 37				OUL iPKP	12 48 04.1		
	i	43.9	1.0	40.0		H: 12 28 31			
	eS	24 08				32.7 S, 178.1 W, 33 km (R)			
	eSS	28 36				South of Kermadec Islands			
	KJN iP	03 14 20.2	0.8	14.6	9	NUR ePP	13 10 40		
	i	24.7				eSKS	16 56		
	OUL eP	03 14 10				ePS	19 40		
	i	13.8				eSS	25 08		
	SOD iP	03 13 57.8				KEV ePS	13 19 20		
	i	14 00.6				H: 12 52 24.4			
	KEV i	03 13 58.4				5.3 S, 81.7 W, 35 km (R)			
	eS	22 28				Northern Peru			
	H: 03 03 01.8								
	43.4 N, 127.0 W, 33 km (R)				9	NUR iP	14 33 23.0	0.8	21.6
	Off coast of Oregon					e	42		
9	NUR iPKP	07 39 37.0	0.8	61.3		eS	42 36		
	i	39.0				eSS	47 12		
	i	40 00.3				KJN iP	14 33 03.7 D	0.7	11.6
	KJN iPKP	07 39 26.6	0.6	6.9		OUL iP	14 33 04.8		
	OUL iPKP	07 39 25.6				SOD eP	14 32 55		
	i	27.9				KEV iP	14 32 48.2 D	1.0	28.0
	SOD ePKP	07 39 24				e(S)	41 36		
	H: 07 19 55.0					eSS	45 40		
	31.8 S, 178.7 W, 12 km					H: 14 22 08.7			
	Kermadec Islands					34.2 N, 136.8 E, 18 km			
9	NUR iPKP	09 51 15.4	0.8	15.8		Southern Honshu, Japan			
	i	32.0							
	KJN iPKP	09 51 07.1 U	1.0	40.3	9	NUR iPKP	15 12 55.0	1.0	70.0
	OUL iPKP	09 51 05.3 U				i	13 08.4		
	SOD ePKP	09 51 03				KJN iPKP	15 12 43.7	1.3	65.1
	H: 09 31 30.3					i	57.0		
	34.6 S, 179.1 W, 35 km					OUL iPKP	15 12 41.6		
	South of Kermadec Islands					H: 14 53 12.3			
9	NUR iP	10 45 49.8 U	0.8	36.0		32.6 S, 178.5 W, 33 km (R)			
	i	46 01.6				South of Kermadec Islands			
	KJN iP	10 45 39.1 D	1.0	40.3					
	i	50.6							
	OUL iP	10 45 38.3 U			9	NUR eP	17 02 23		
9	NUR iP	12 44 42.2 U	0.7	14.2		KJN iP	17 02 19.5 U	0.7	19.2
	i	58.5				OUL iP	17 02 14.0		
	KJN iP	12 44 31.7 U	0.8	10.8		SOD iP	17 02 08.9		
	OUL eP	12 44 31				KEV iP	17 02 03.7 U	0.7	18.1
	SOD eP	12 44 29				H: 16 49 46.1			
						17.0 N, 93.7 W, 142 km			
						Chiapas, Mexico			



May				T	A	May				T	A
9	NUR	iP	18 15 54.2 D	1.1	45.2	10	NUR	iP	09 38 06.0	1.3	30.7
		ipP	16 25.2					ipP	27.8		
		e	17 18				KJN	ipP	09 38 21.4		
	KJN	iP	18 15 50.5 D	0.7	25.3		OUL	iP	09 37 54.2		
		ipP	16 21.1					ipP	38 15.4		
	OUL	iP	18 15 44.8 D				SOD	eP	09 37 41		
		i	16 11.4					i	38 09.7		
	SOD	iP	18 15 40.0				KEV	eP	09 37 42		
		ipP	16 10.1				H:	09 25 13.6			
	KEV	iP	18 15 34.3 D	0.6	26.3			18.3 N, 100.6 W, 70 km			
		H:	18 03 09.9					Guerrero, Mexico			
			16.3 N, 93.4 W, 101 km (R)								
			Chiapas, Mexico								
9	NUR	eP	23 27 52			10	NUR	eP	10 30 15		
	KJN	eP	23 27 41					H:	10 19 32		
								43.6 N, 145.8 E, 60 km (R)			
								Hokkaido, Japan			
10	NUR	eP	01 00 32			10	NUR	iP	12 58 07.2 U	0.8	24.5
							SOD	eP	12 58 46		
10	OUL	iP	03 02 56.0			10	NUR	eP	13 41 07		
	SOD	iP	03 02 57.7 U					i	20.0		
							KJN	eP	13 40 55		
10	NUR	iP	03 20 53.0	0.8	10.1	10	NUR	iPKP	13 43 46.8 D	0.7	38.7
	KJN	eP	03 20 32					H:	13 24 16.0		
	OUL	iP	03 20 33.2					28.3 S, 175.9 W, 60 km			
		H:	03 09 56					Kermadec Islands			
			50.2 N, 178.7 W, 32 km								
			Andreanof Islands								
10	NUR	eP	05 52 06			10	NUR	iP	15 20 47.0		
	KJN	iP	05 51 45.6	0.7	13.7			i	55.5		
								e	25 20		
								eS	30 04		
								ePS	48		
								eSS	34 40		
								eSSS	38 16		
							KJN	iP	15 20 31.0	1.4	81.0
								i	44.4		
							OUL	iP	15 20 34.5		
								i	37.0		
							SOD	eP	15 20 30		
								i	34.2		
							KEV	iP	15 20 29.4	1.0	28.0
								eS	29 28		
								H:	15 09 20.6		
								24.3 N, 121.9 E, 26 km			
								Taiwan			
10	NUR	iP	09 34 59.0			10	KJN	ePKP	15 43 03		
		iPcP	35 17.8				OUL	ePKP	15 43 02		
		ePPP	39 28				SOD	iPKP	15 43 07.7		
		eS	44 20					H:	15 24 01.6		
		ePS	45 00					55.7 S, 26.8 W, 33 km (R)			
		e	47 52					South Sandwich Islands			
		eSS	49 36								
		eSSS	52 28								
	KJN	iP	09 34 44.0	0.7	15.8						
		i	51.6								
	OUL	iP	09 34 47.0								
		i	55.3								
	SOD	iP	09 34 41.9 U								
		i	49.3								
	KEV	iP	09 34 38.1	0.7	19.4						
		eS	43 40								
		H:	09 23 31.5								
			24.3 N, 121.8 E, 21 km								
			Taiwan								

May						May							
				T	A								
				T	A								
SOD	iP	15 47	49.9					iPP	53 13.2				
	ePKP	51 59						eS	56 56				
KEV	iP	15 47	45.2	0.6	10.0			e	57 24				
	ePKP	51 57						H: 02 46	35.7				
	ePP	52 14						43.5 N, 40.3 E, 5 km					
	eSKS	58 20						Western Caucasus					
	ePS	16 01	04										
	eSS	07 16						13	NUR	ePKP	03 12 58		
	eSSS	10 44							KJN	ePKP	03 12 54		
H: 15 33 41.2								H: 02 53 37.2					
6.4 S, 147.3 E, 76 km								25.7 S, 176.7 W, 56 km					
East New Guinea								South of Fiji Islands					
11	NUR	eP	21 17 22					13	NUR	ePKP	04 15 23	1.0	14.0
	KJN	eP	21 17 19						KJN	ePKP	04 15 15	1.1	13.5
	OUL	iP	21 17 24.5						OUL	iPKP	04 15 15.4		
	SOD	eP	21 17 25					H: 03 56 09.2					
H: 21 04 40								19.0 S, 169.6 E, 13 km					
4.5 S, 103.3 E, 109 km								New Hebrides Islands					
Southern Sumatra													
11	NUR	iP	22 00 55.0	0.8	11.5			13	NUR	eP	07 54 56		
		e	01 01						KJN	iP	07 54 26.5	1.0	15.3
	KJN	iP	22 00 43.0	0.7	6.9			H: 07 49 29.3					
		i	54.8					86.2 N, 26.3 E, 33 km (R)					
								North of Svalbard					
12	SOD	iP	04 45 24.4					13	SOD	iP	19 36 13.3		
H: 04 32 49													
16.8 N, 95.3 W, 55 km (R)								13	KJN	iP	19 48 42.0	0.8	6.2
Oaxaca, Mexico										i	53.0		
12	NUR	eP	05 30 01						OUL	iP	19 48 36.6		
12	SOD	eP	19 09 26							i	43.8		
									SOD	iP	19 48 35.7		
								H: 19 36 05.2					
								9.0 N, 71.1 W, 46 km					
								Lake Maracaibo					
13	NUR	eP	02 51 03	0.8	79.2								
		iPP	22.8										
		e	52 54										
		eS	54 28										
		e	44										
		eLR	02 56.7										
KJN	iP	02 51	28.7 U	0.9	107.2			13	NUR	eP	20 34 25		
		i	48.7						OUL	iP	20 33 59.7		
		iS	55 25.2						SOD	eP	20 33 45		
OUL	iP	02 51	42.3					H: 20 24 08.5					
		i	56 28.2					51.5 N, 158.6 E, 34 km					
								Kamchatka					
SOD	iP	02 52	01.4 U					13	KJN	iP	21 16 40.3	1.2	36.1
		i	11.0					H: 21 04 13					
		i	21.8					13.0 S, 14.7 W, 33 km (R)					
		iS	56 24.5					South Atlantic Ridge					
		i	48.1										
KEV	iP	02 52	21.0 U	0.9	37.0			13	NUR	eP	21 34 58		
		i	46.7						KJN	iP	21 34 49.0 U	0.7	6.9
								cont.					

May		T		A		May		T		A		
13	KJN iP	23	18	29.8	0.9	7.1	OUL iP	14	15	51.7	U	
	OUL eP	23	18	32			iPP	18	38.5			
	SOD eP	23	18	28			eP'P'	43	56			
14	NUR iP	02	48	23.7 U	0.6	16.3	SOD iP	14	15	43.5	U	
	KJN iP	02	48	23.9 U			eP'P'	43	58			
	e		49	19			KEV iP	14	15	36.3 U	1.0 356.0	
	OUL iP	02	48	33.4			ipP	16	18.2			
	SOD iP	02	48	40.0			esP	32				
	KEV iP	02	48	48.3	0.7	9.0	ePP	18	02			
	H: 02 41 16.1						e	19	00			
	36.1 N, 70.9 E, 128 km						eS	24	10			
	Hindu Kush						eScS	25	12			
							eSSS	32	00			
							eP'P'	44	08			
14	NUR ePKP	05	56	17			H: 14 05 06.0					
	KJN iPKP	05	56	12.8	0.8	6.9	29.9 N, 129.4 E, 168 km (R)					
	OUL ePKP	05	56	09			Ryukyu Islands					
	SOD ePKP	05	56	11								
	e			17			14	KJN eP	19	56	39 1.0 6.5	
	KEV ePKP	05	56	04			e		57	21		
	H: 05 37 05.3						OUL eP	19	56	44		
	23.8 S, 176.9 W, 122 km (R)						SOD eP	19	56	36		
	South of Fiji Islands						H: 19 47 04					
							37.3 N, 114.8 E, 33 km (R)					
							Northeastern China					
14	KJN iP	09	53	34.9			15	NUR iP	00	37	18.0	
	OUL iP	09	53	35.6			KJN iP	00	37	00.5	0.8 6.9	
	SOD eP	09	53	28			OUL iP	00	37	02.8		
	H: 09 41 17						SOD iP	00	36	57.6		
	19.5 N, 145.4 E, 113 km						KEV eP	00	36	52		
	Mariana Islands						H: 00 27 24.6					
							37.4 N, 114.8 E, 33 km (R)					
							Northeastern China					
14	NUR iP	14	16	07.1 U	1.0	216.0						
	iPcP			28.3			15	NUR ePS	02	56	16	
	ipP			47.0			eSS	03	01	44		
	i	17	17.3				KEV eSS	03	01	12		
	i		51.3				H: 02 29 30.1					
	i	18	14.5				1.4 N, 90.6 W, 33 km (R)					
	ePP		48				Galapagos Islands					
	epPP	19	36									
	ePPP	20	36				15	KJN ePKP	02	57	11	
	epPPP	21	20				OUL ePKP	02	57	09		
	eS	25	12				H: 02 39 12					
	ePS		52				18.0 S, 178.6 W, 650 km					
	esPS	27	06				Fiji Islands					
	eP'P'	43	53									
KJN	iP	14	15	49.5 U	0.7	132.2						
	ipP		16	30.5			15	KJN iP	03	16	30.2	0.8 5.4
	iPP		18	18.8			OUL iP	03	16	22.8		
	ePPP		20	01			SOD iP	03	16	09.9		
	esS	25	30									
	eP'P'	44	03									

cont.

May						May			
			T	A				T	A
15	KJN eP	05 49 56			OUL ePKP	15 19 56			
	H: 05 37 23.2				i	20 06.6			
	6.1 N, 125.9 E, 163 km				SOD ePKP	15 19 51			
	Mindanao, P.I.				KEV ePKP	15 19 53			
					e	57			
15	NUR iP	06 21 06.7			ePP	23 24			
	KJN iP	06 20 55.7	0.8	14.6	e	24 36			
	i	21 08.7			eSS	40 36			
	i	16.6			eSSS	45 14			
	OUL iP	06 20 55.8			H: 15 00 29.9				
					29.8 S, 179.0 W, 33 km (R)				
					Kermadec Islands				
15	NUR iP	08 03 04.0	1.3	85.3					
	i	12.4							
	eS	12 44			16 NUR iP	00 59 51.3 U			
	eSS	17 04			i	01 00 21.6			
	KJN iP	08 03 22.9	1.2	106.6	e	09 26			
	i	31.5			KJN iP	00 59 29.4 U			
	i	47.0			e	01 08 52			
	ePP	06 21			OUL iP	00 59 28.9 U			
	OUL iP	08 03 28.7			SOD iP	00 59 17.0 U			
	i	38.3			KEV iP	00 59 06.5			
	i	52.3			i	41.2			
	SOD iP	08 03 40.3			e	01 07 59			
	i	50.6			H: 00 48 55.4				
	KEV iP	08 03 53.2	1.2	57.0	40.8 N, 143.2 E, 7 km				
	i	04 02.2			Honshu, Japan				
	ePP	07 12							
	eS	14 16			16 NUR eP	01 15 46	0.7	77.4	
	H: 07 51 17.4				KJN iP	01 15 24.2	0.9	187.5	
	15.9 S, 25.9 E, 33 km (R)				i	36.2			
	Zambia				OUL iP	01 15 22.5			
					i	34.1			
15	SOD eP	11 17 57			SOD iP	01 15 11.9			
	H: 11 05 03.6				e	26			
	4.0 N, 128.0 E, 77 km				KEV iP	01 15 01.2	1.0	130.0	
	North of Halmahera				H: 01 04 54				
					40.7 N, 143.1 E, 33 km (R)				
					Honshu, Japan				
15	NUR iPKP	15 20 03.2	1.6	206.3					
	i	07.0			16 NUR eP	01 21 56			
	i	21.1							
	e	21 08			16 NUR eP	01 23 24			
	e	30 00			OUL iP	01 22 50.9			
	e	35 32			i	59.4			
	eSS	42 16			SOD iP	01 22 40.1			
	e	43 44			e	48			
	eSSS	47 40							
	e	51 36			16 OUL iP	01 42 56.7			
	KJN iPKP	15 20 01.5			i	43 05.5			
	i	06.7			SOD iP	01 42 45.2			
	e	21 07			H: 01 32 25				
	ePP	23 04			40.1 N, 143.8 E, 33 km (R)				
	ePKS	41			Honshu, Japan				

cont.

May				T	A	May				T	A
16	OUL	iP	01 51 22.2			16	NUR	eP	02 30 53		
	SOD	eP	01 51 08				KJN	eP	02 30 32		
							OUL	iP	02 30 30.6		
16	OUL	iP	01 52 31.1				SOD	eP	02 30 19		
	SOD	eP	01 52 19								
16	OUL	iP	01 56 19.5			16	NUR	eP	02 40 10		
							KJN	eP	02 39 46		
16	KJN	eP	02 00 16				OUL	eP	02 39 47		
							SOD	eP	02 39 35		
16	NUR	iP	02 02 35.4	0.6	10.0	16	NUR	eP	02 42 03		
	KJN	eP	02 02 12	1.0	22.9		KJN	eP	02 41 41		
	OUL	iP	02 02 12.4				KEV	eP	02 41 17		
	SOD	iP	02 02 01.0			16	NUR	eP	02 47 13		
	KEV	iP	02 01 50.1	0.8	17.3		KJN	eP	02 46 47		
16	NUR	iP	02 03 16.8 U	0.6	27.5		SOD	eP	02 46 35		
	e		29								
	KJN	iP	02 02 55.4 U	0.9	71.4	16	NUR	eP	02 48 08		
	i		03 07.2				KJN	eP	02 47 46		
	OUL	iP	02 02 54.3 U				SOD	eP	02 47 34		
	i		03 07.4				KEV	iP	02 47 23.3	0.8	10.1
	i		16.7								
	SOD	iP	02 02 43.3 U			16	NUR	eP	02 59 45		
	i		55.6				KJN	iP	02 59 24.4	0.8	9.2
	i		03 05.1				OUL	eP	02 59 24		
	KEV	iP	02 02 32.3	0.9	21.8		SOD	eP	02 59 13		
	i		44.6								
16	OUL	iP	02 05 15.9			16	NUR	eP	03 01 13		
							KJN	iP	03 00 51.8 U	0.8	8.5
							i		01 06.2		
16	NUR	eP	02 10 20				OUL	iP	03 00 51.2		
	KJN	iP	02 09 59.2	0.9	15.2		i		01 00.9		
	i		10 10.5				SOD	iP	03 00 40.1		
	OUL	iP	02 09 58.9				KEV	eP	03 00 28		
	i		10 11.3								
	SOD	eP	02 09 47			16	NUR	eP	03 08 57		
							e		09 10		
16	NUR	iP	02 11 17.6	0.9	16.8		KJN	iP	03 08 35.6 U	0.7	15.1
	KJN	iP	02 10 55.8 U	0.7	17.8		OUL	iP	03 08 35.0 D		
	OUL	iP	02 10 55.3 U				SOD	iP	03 08 23.4		
	SOD	iP	02 10 42.8				KEV	eP	03 08 12		
						16	KJN	iP	03 11 19.4		
16	NUR	eP	02 12 12	0.6	10.0	16	NUR	eP	03 18 24		
	e		25				KJN	iP	03 18 04.0		
	KJN	iP	02 11 50.4	1.0	51.2		OUL	iP	03 18 05.0		
	OUL	iP	02 11 49.5 U				SOD	eP	03 17 53		
	i		12 02.4								
	SOD	iP	02 11 37.2 D			16	KJN	iP	03 20 32.2	0.9	13.4
	KEV	eP	02 11 27	1.0	16.0		OUL	iP	03 20 31.5		
	e		42				SOD	eP	03 20 19		

May				May			
			T	A		T	A
16	NUR	eP	03 25 17			OUL	eP 04 26 14
	KJN	eP	03 24 54				i 24.5
							i 30.9
16	KJN	iP	03 27 28.3			SOD	eP 04 25 58
	SOD	eP	03 27 54			KEV	eP 04 25 51
						H:	04 15 44.7
16	KJN	eP	03 29 09				40.6 N, 143.0 E, 34 km
	KEV	eP	03 28 55				Honshu, Japan
16	NUR	eP	03 38 35			16	NUR eP 04 27 41
	KJN	eP	03 38 18				KJN iP 04 27 19.8
	OUL	eP	03 38 18				OUL iP 04 27 19.1
							SOD eP 04 27 09
16	NUR	eP	03 47 11			16	NUR eP 04 35 28
		e	22				KJN eP 04 35 06
	KJN	iP	03 46 49.4	1.1	20.3		OUL iP 04 35 06.7
	OUL	eP	03 46 49				SOD eP 04 34 52
	SOD	eP	03 46 44				
16	NUR	eP	03 50 07			16	NUR iP 04 45 51.0 D 0.9 30.2
	KJN	eP	03 49 50				i 46 04.3
	OUL	eP	03 49 50				KJN iP 04 45 28.5 D 0.7 17.8
	SOD	eP	03 49 33				i 42.3
16	SOD	eP	03 50 29				OUL iP 04 45 29.0
							i 42.9
16	NUR	eP	03 56 29				iPcP 46 06.3
		e	42				SOD iP 04 45 16.5 D
	KJN	iP	03 56 06.6 U 1.0 24.0				KEV iP 04 45 05.4 0.7 12.9
	OUL	iP	03 56 06.1				H: 04 35 04.0
		i	16.4				41.5 N, 142.3 E, 33 km (R)
	SOD	iP	03 55 54.7				Hokkaido, Japan
	KEV	eP	03 55 44			16	NUR eP 04 50 54
	H:		03 45 31.3				KJN iP 04 50 32.5 0.9 11.6
			40.1 N, 143.9 E, 33 km (R)				
			Honshu, Japan			16	KJN iP 04 52 36.6 1.0 12.0
16	NUR	eP	04 05 04				i 45.0
	KJN	eP	04 04 40				SOD eP 04 52 24
	SOD	eP	04 04 28			16	KJN eP 04 55 36
16	NUR	eP	04 06 45				
	KJN	eP	04 06 24			16	NUR eP 05 00 28
							e 43
16	NUR	eP	04 12 39				KJN iP 05 00 05.5
	KJN	eP	04 12 17				SOD iP 04 59 53.7
		e	25				KEV iP 04 59 42.7
	OUL	eP	04 12 16				
	SOD	eP	04 12 13			16	NUR eP 05 09 02
16	NUR	eP	04 26 38				KJN iP 05 08 40.8 D 0.6 8.9
		i	49.3				OUL iP 05 08 40.1 D
	KJN	iP	04 26 14.8 U 0.9 13.4				SOD iP 05 08 28.9
			cont.				cont.

May		T	A	May		T	A
	KEV eP 05 08 17 H: 04 58 07.8 40.5 N, 143.1 E, 27 km Honshu, Japan				KJN iP 05 55 13.4 i 23.8 i 35.5 OUL iP 05 55 13.3 i 23.1 i 35.3 i 44.1 ePP 57 35 SOD iP 05 55 02.2 i 12.0 KEV iP 05 54 51.2 i 55 01.0	0.8	19.2
16	NUR eP 05 14 28 e 41 KJN iP 05 14 06.4 OUL iP 05 14 05.5 SOD eP 05 13 54	0.9	8.9				
16	NUR iP 05 16 47.3 KJN iP 05 16 25.6 U OUL iP 05 16 24.9 SOD eP 05 16 13	0.7	8.2		H: 05 44 40 40.6 N, 143.7 E, 25 km (R) Honshu, Japan		
16	NUR eP 05 22 35 KJN iP 05 22 09.6 D i 18.4 OUL iP 05 22 09.0 i 17.9 SOD eP 05 21 58 KEV eP 05 21 50 i 55.7 H: 05 11 34.9 40.4 N, 143.5 E, 15 km Honshu, Japan	0.7	8.2	16	NUR eP 06 09 00 KJN eP 06 08 38 OUL i 06 08 47.0 SOD eP 06 08 25 e 36 KEV eP 06 08 22	1.0	12.0
16	NUR iP 05 26 03.0 KJN iP 05 25 41.3 D i 51.6 OUL iP 05 25 40.4 D SOD iP 05 25 29.6 D KEV iP 05 25 18.2 i 29.0 H: 05 15 07.4 40.6 N, 143.1 E, 19 km Honshu, Japan	0.8	25.4	16	KJN eP 06 17 21 NUR eP 06 28 07 KJN iP 06 27 44.7 D OUL eP 06 27 44 e 50 SOD eP 06 27 33	0.7	7.5
16	NUR iP 05 42 43.3 KJN iP 05 42 21.2 e 29 OUL iP 05 42 20.5 SOD eP 05 42 08 H: 05 31 46.1 40.4 N, 143.1 E, 15 km Honshu, Japan	0.9	17.9	16	KJN iP 06 29 29.2 SOD eP 06 29 17 H: 06 18 56 40.4 N, 143.5 E, 40 km (R) Honshu, Japan		
16	NUR eP 05 55 36 i 45.8 i 57.3 cont.	0.9	18.5	16	NUR eP 06 41 19 i 41.8 KJN iP 06 40 56.3 i 57.4 e 41 22 OUL eP 06 40 55 i 56.7 i 41 15.5 SOD eP 06 40 44 H: 06 30 20.7 40.5 N, 143.6 E, 14 km Honshu, Japan	0.6	13.7
16	NUR iP 06 47 41.0 D i 51.6 i 48 38.0 cont.	1.0	100.0				

May				T	A	May				T	A			
	KJN	iP	06 47	18.6 D	1.0	163.5	16	NUR	eP	07 44	35			
		i		29.6				KJN	eP	07 44	13			
		i	48	26.4				OUL	eP	07 44	13			
		eS	55	50				SOD	eP	07 44	02			
	OUL	iP	06 47	18.3 D				KEV	eP	07 43	58			
		i		29.4										
		ePP	49	36			16	KJN	iP	07 53	09.9 D	1.0	20.7	
	SOD	iP	06 47	06.7 D				OUL	iP	07 53	09.6			
		i		18.4				SOD	eP	07 52	58			
		i		39.0				KEV	eP	07 52	47			
	KEV	iP	06 46	55.5 D	1.1	83.3	16	NUR	iP	07 59	49.0 D	0.5	33.0	
		i	47	09.2					i		56.1			
	H: 06 36 51.0								i	08 00	32.2			
	41.1 N, 143.0 E, 35 km							KJN	iP	07 59	26.4 D	0.7	19.9	
	Hokkaido, Japan								i	08 00	09.0			
16	NUR	eP	07 01	58					i		35.2			
	KJN	eP	07 01	37				OUL	iP	07 59	26.2			
	OUL	eP	07 01	35				SOD	iP	07 59	15.5 U			
	H: 06 51 09							KEV	iP	07 59	03.3 U	0.6	10.0	
	41.1 N, 142.8 E, 45 km (R)							H: 07 49 01.5						
	Hokkaido, Japan							41.3 N, 142.6 E, 38 km						
								Hokkaido, Japan						
16	NUR	eP	07 18	13			16	NUR	eP	08 02	15			
	KJN	iP	07 17	52.9 U	0.8	6.9		KJN	eP	08 01	53			
	OUL	eP	07 17	52				SOD	eP	08 01	41			
	SOD	eP	07 17	40										
	H: 07 07 18							16	KJN	eP	08 13	11		
	40.1 N, 143.0 E, 33 km (R)								OUL	iP	08 13	11.5		
	Honshu, Japan								SOD	eP	08 12	58		
								KEV	eP	08 12	49			
								H: 08 02 31						
16	KJN	eP	07 27	02				41.1 N, 142.8 E, 33 km (R)						
	OUL	eP	07 27	02				Hokkaido, Japan						
	SOD	eP	07 26	50										
16	KJN	eP	07 28	40				16	NUR	eP	08 27	06		
	OUL	eP	07 28	40					KJN	eP	08 26	43		
16	KJN	iP	07 32	35.8					OUL	eP	08 26	43		
	SOD	eP	07 31	55										
16	NUR	iP	07 38	59.5				16	NUR	iP	08 30	48.0 U	0.6	27.5
		i		39 17.6					KJN	iP	08 30	25.5 U	1.0	48.0
		e	42	13						i		31 10.6		
	KJN	iP	07 38	37.2 U	0.6	12.3			OUL	iP	08 30	25.3		
		i		45.8						i		41.7		
	OUL	iP	07 38	36.9 D						e		33 43		
		i		46.3					SOD	iP	08 30	13.9		
	SOD	iP	07 38	25.5					KEV	iP	08 30	02.8 D	0.9	16.8
		e		34				H: 08 19 56.7						
	KEV	eP	07 38	14				41.1 N, 142.8 E, 22 km						
		i		21.8				Hokkaido, Japan						

May		T		A		May		T		A		
16	NUR iP	08 57	33.2	U	0.7	12.9	OUL iP	10 23	08.2			
	KJN iP	08 57	10.5	U	1.0	34.9		i	17.0			
	OUL iP	08 57	09.9	U			SOD eP	10 22	56			
			15.5					i	23 06.0			
	SOD iP	08 56	58.3				H:	10 12	35.7			
	KEV iP	08 56	48.2		1.0	16.0		40.5 N, 143.5 E,	33 km (R)			
			58.7					Honshu, Japan				
	H: 08 46 39.9											
	40.9 N, 143.0 E, 28 km											
	Honshu, Japan											
16	KJN eP	08 59	13				16	NUR iP	10 49	48.2	D	
	SOD eP	08 58	56					iPP	52	13.0		
								iS	58	38.2		
								i		53.8		
								iP'P'	11 18	19.3		
							KJN	iP	10 49	25.8		
16	NUR eP	09 09	01		0.8	53.3		eS		57 55		
	ePP		11 25					eP'P'	11 18	17		
	eS		17 52				OUL	iP	10 49	25.4	D	
	KJN iP	09 08	38.3		1.3	314.7		i		27.1		
			49.8					eP'P'	11 18	09		
	OUL iP	09 08	38.8				SOD	iP	10 49	14.0	D	
	SOD iP	09 08	26.3					eS		57 32		
			36.0					eP'P'	11 18	19		
	KEV eS	09 16	20				KEV	iP	10 49	02.5	D	
	H: 08 58 11.1											
	41.4 N, 142.7 E, 15 km											
	Hokkaido, Japan											
16	NUR eP	09 26	15					iS		57 13.5		
	KJN iP	09 25	54.3					eP'P'	11 18	21		
	OUL iP	09 25	53.3				H:	10 39	01.6			
	SOD iP	09 25	41.8					41.5 N, 142.7 E,	33 km (R)			
	KEV eP	09 25	30		0.8	8.6		Hokkaido, Japan				
	H: 09 15 28.8											
	41.7 N, 142.4 E, 32 km											
	Hokkaido, Japan											
16	SOD eP	09 34	49				16	NUR eP	11 25	48		
								KJN eP	11 25	25		
								OUL eP	11 25	25		
16	NUR e	09 46	22									
	KJN eP	09 45	55									
	OUL iP	09 45	58.8									
	SOD eP	09 45	43									
	H: 09 35 17											
	40.3 N, 143.2 E, 33 km (R)											
	Honshu, Japan											
16	KJN eP	09 52	57									
	e		53 11									
	SOD eP	09 52	45									
16	NUR eP	10 23	31									
	KJN iP	10 23	08.4	U	0.6	8.2						
			17.3									
			cont.									

May						May					
				T	A						
16	NUR	eP	11 45 34			16	NUR	iP	12 45 11.8 D	1.1	19.0
	KJN	eP	11 45 11				KJN	iP	12 44 49.7 D	1.0	30.5
	OUL	eP	11 45 10				OUL	iP	12 44 49.3 U		
16	OUL	eP	11 50 58				SOD	iP	12 44 37.3 D		
	SOD	eP	11 50 47				KEV	iP	12 44 26.2 D	0.8	20.2
16	NUR	iP	11 51 44.0				H: 12 34 24.9				
	KJN	iP	11 51 21.4	0.8	15.4		41.7 N, 142.6 E, 26 km				
	OUL	iP	11 51 21.1				Hokkaido, Japan				
	SOD	eP	11 51 09			16	NUR	eP	12 48 51		
	KEV	eP	11 50 59				H: 12 38 05				
16	KJN	eP	11 53 56				41.5 N, 142.6 E, 40 km (R)				
							Hokkaido, Japan				
16	NUR	eP	12 06 30			16	NUR	iP	12 56 27.3	0.8	10.1
	KJN	eP	12 06 07				KJN	iP	12 56 05.4	0.8	10.8
	OUL	eP	12 06 06					i	17.9		
16	NUR	eP	12 08 17				OUL	eP	12 56 05		
	KJN	iP	12 07 55.3				SOD	eP	12 55 54		
	OUL	iP	12 07 54.6 U					e	56 06		
	SOD	iP	12 07 43.4 U				KEV	iP	12 55 43.1	1.0	12.0
	KEV	iP	12 07 32.0 U	0.7	10.3	16	NUR	iP	12 58 41.5	0.5	9.2
	H: 11 57 25.2						KJN	iP	12 58 19.3	0.6	5.5
	41.2 N, 143.2 E, 33 km (R)						OUL	iP	12 58 18.9		
	Hokkaido, Japan						SOD	eP	12 58 07		
16	NUR	iP	12 13 28.3			16	NUR	iP	13 27 45.0		
	KJN	eP	12 13 07				KJN	iP	13 27 22.2 U	0.5	15.4
	SOD	eP	12 12 53					i	31.3		
16	NUR	iP	12 20 23.0				OUL	iP	13 27 21.8 U		
	KJN	iP	12 20 01.5 U					i	30.6		
		e	14				SOD	iP	13 27 10.3		
		ePcP	36				KEV	eP	13 26 59		
	OUL	iP	12 20 00.9				H: 13 16 59.0				
		i	07.2				41.5 N, 141.7 E, 31 km				
	SOD	iP	12 19 49.6				Hokkaido, Japan				
	KEV	iP	12 19 38.6	1.1	26.2	16	NUR	eP	13 30 59		
		i	51.0				KJN	eP	13 30 35		
	H: 12 09 31.9						OUL	eP	13 30 35		
	41.1 N, 143.0 E, 24 km						SOD	eP	13 30 22		
	Hokkaido, Japan						KEV	eP	13 30 09		
16	NUR	eP	12 35 10			16	NUR	iP	13 36 41.2		
	KJN	eP	12 34 47					i	50.0		
	OUL	eP	12 34 47				KJN	iP	13 36 18.7	1.1	21.6
	SOD	eP	12 34 35					i	29.9		
		e	56				OUL	iP	13 36 17.8		
	KEV	eP	12 34 24					i	29.0		
							SOD	iP	13 36 06.7		
							cont.				

May							May							
				T	A					T	A			
	KEV	iP	13 35	55.5	0.9	11.8		KJN	iP	14 13	54.7 U	0.7	61.0	
	H:	13 25	52.8					i		14 04.3				
			41.4 N, 142.9 E,	33 km (R)				OUL	iP	14 13	54.0 U			
			Hokkaido, Japan					i		14 06.6				
16	NUR	eP	13 50	08				ePP		16 16				
	KJN	iP	13 49	46.9	0.7	11.0		SOD	iP	14 13	42.9 U			
	OUL	iP	13 49	45.9				i			55.2			
	SOD	eP	13 49	35				KEV	iP	14 13	32.1 U	0.8	24.5	
								i			44.2			
16	KJN	iP	13 59	54.4 D	0.8	11.5	16	NUR	eP	14 27	06			
	OUL	eP	13 59	53				KJN	eP	14 26	44			
	SOD	eP	13 59	42				e			54			
16	NUR	iP	14 00	37.0	0.8	17.3		OUL	eP	14 26	44			
	i			45.2				i			55.3			
	KJN	iP	14 00	13.3	0.9	38.4		e		27 42				
	i			22.7				SOD	eP	14 26	32			
	OUL	iP	14 00	13.5				KEV	eP	14 26	21			
	i			22.3				H:	14 16 18					
	SOD	iP	14 00	02.7					41.5 N, 142.6 E,	28 km				
	i			11.3					Hokkaido, Japan					
	KEV	iP	13 59	52.0	0.8	18.7								
	i		14 00	12.0				16	NUR	eP	14 36	52		
									KJN	eP	14 36	30		
									SOD	eP	14 36	20		
									H:	14 26 02.1				
										40.9 N, 143.0 E,	46 km			
										Honshu, Japan				
16	NUR	iP	14 03	38.3	1.1	16.7								
	KJN	iP	14 03	16.4 U	1.1	36.5								
	i			25.2				16	KJN	eP	14 52	55		
	OUL	iP	14 03	16.8					SOD	eP	14 52	43		
	i			55.3										
	SOD	iP	14 03	05.0										
	KEV	eP	14 02	54	0.9	15.1		16	NUR	eP	14 54	42		
16	NUR	iP	14 13	26.2					KJN	eP	14 54	19		
	i			41.9					OUL	iP	14 54	19.6		
	KJN	eP	14 13	04					SOD	eP	14 54	09		
	i			18.3										
	OUL	iP	14 13	04.1				16	NUR	iP	15 03	21.1 D	1.1	21.4
	i			08.5					i		31.7			
	i			17.7					iPcP		52.2			
	SOD	eP	14 12	52					KJN	iP	15 02	58.5 U	1.1	33.8
	e			55					i		03 08.4			
	KEV	eP	14 12	45					OUL	iP	15 02	58.5		
	H:	14 02	40.7						i		03 08.2			
			41.4 N, 142.3 E,	37 km					SOD	iP	15 02	46.1		
			Hokkaido, Japan						i		49.4			
16	NUR	iP	14 14	16.1 U	0.5	30.4			KEV	iP	15 02	36.0	1.0	24.0
	i			27.1					H:	14 52	32.0			
				cont.						41.4 N, 143.5 E,	36 km			
										Hokkaido, Japan				

Moscow:
H: 13 49 54
42.2 N, 141.5 E
Hokkaido, Japan

May							May						
					T	Δ					T	Δ	
16	NUR	iP	15 06	47.0	0.6	11.3	KJN	iP	15 59	42.3	0.8	10.0	
	KJN	iP	15 06	24.4	0.8	16.9		i		54.3			
		i		31.3			OUL	iP	15 59	39.9			
	OUL	iP	15 06	23.9				i		52.2			
	SOD	iP	15 06	12.9			SOD	iP	15 59	27.3			
	H: 14 55 51.7							i		41.3			
	40.7 N, 143.3 E, 23 km						KEV	iP	15 59	15.0	0.8	11.5	
	Honshu, Japan												
16	NUR	eP	15 10	14			16	NUR	iP	16 03	18.6	0.7	23.2
	KJN	eP	15 09	52				i		23.1			
	SOD	eP	15 09	40			KJN	iP	16 02	56.3	0.6	10.3	
16	NUR	iP	15 16	23.9			OUL	iP	16 02	56.3			
	KJN	eP	15 16	02			SOD	iP	16 02	44.3			
	SOD	eP	15 15	50			KEV	iP	16 02	33.3	0.8	13.0	
	KEV	eP	15 15	39			16	NUR	eP	16 16	11		
16	NUR	eP	15 20	54				KJN	eP	16 15	49		
	KJN	eP	15 20	56				OUL	eP	16 15	50		
	SOD	eP	15 21	03				SOD	eP	16 15	38		
								KEV	eP	16 15	27		
16	NUR	iP	15 31	14.0	0.6	7.5	16	NUR	eP	16 22	06		
		i		38.5				KJN	iP	16 21	44.3	0.9	8.9
	KJN	eP	15 30	51				OUL	eP	16 21	44		
	OUL	iP	15 30	50.6				SOD	eP	16 21	32		
	SOD	iP	15 30	38.6				KEV	eP	16 21	29		
	KEV	iP	15 30	27.2	0.6	8.8							
	H: 15 20 25.6						16	NUR	iP	16 24	45.4	1.5	228.8
	41.4 N, 143.0 E, 33 km (R)							i		55.0			
	Hokkaido, Japan							i		25 04.3			
16	NUR	eP	15 39	33				iPP		27 15.0			
	KJN	eP	15 39	04				ePPP		28 56			
	SOD	eP	15 38	54				eS		33 44			
16	NUR	eP	15 43	28				eScS		34 44			
	KJN	eP	15 43	06				eSS		38 12			
	SOD	eP	15 42	54			KJN	iP	16 24	22.4	1.3	477.4	
	KEV	eP	15 42	43				i		32.1			
16	NUR	eP	15 47	54			OUL	iP	16 24	22.6	U		
	KJN	eP	15 47	32				i		31.5			
	OUL	iP	15 47	31.6				ePP		26 43			
	SOD	eP	15 47	21			SOD	iP	16 24	11.8	U		
16	NUR	eP	15 55	37				i		21.0			
	H: 15 44 50							ePP		26 26			
	41.5 N, 142.3 E, 33 km (R)						KEV	iP	16 24	00.5	U	1.5	210.2
	Hokkaido, Japan							i		09.5			
16	NUR	eP	16 00	05				ePP		26 16			
		i		18.0	0.8	10.1		eS		32 22			
	cont.							eScS		33 50			
								eSS		36 20			
							H: 16 13 45.1						
							39.7 N, 143.6 E, 29 km						
							Honshu, Japan						

May				T	A	May				T	A
16	NUR	iP	16 32 52.7	0.9	20.2	KEV	iP	17 38 16.0	0.7	28.4	
	KJN	iP	16 32 30.4	1.1	66.2		i	22.8			
	OUL	iP	16 32 30.4					H: 17 28 13.0			
		i	36.4					41.4 N, 143.0 E, 33 km (R)			
		iPP	34 58.5					Hokkaido, Japan			
	SOD	iP	16 32 19.1								
		e	39			16	NUR	iP	17 52 03.5		
	KEV	iP	16 32 09.2	1.0	26.0		KJN	iP	17 51 40.7 U	0.6	8.9
		i	30.0				OUL	iP	17 51 39.8 U		
			H: 16 21 53.4				SOD	iP	17 51 28.3 U		
			39.7 N, 143.6 E, 33 km (R)				KEV	iP	17 51 17.1	0.6	7.5
			Honshu, Japan								
16	KJN	iP	16 50 15.3	0.8	9.2	16	NUR	eP	18 00 57		
		i	29.3				KJN	eP	18 00 35	0.8	5.4
	OUL	eP	16 50 19			16	NUR	eP	18 05 01		
	SOD	eP	16 50 14				KJN	eP	18 04 38		
	KEV	eP	16 50 10					i	41.5		
16	NUR	iP	17 00 07.0				OUL	iP	18 04 40.4		
	KJN	iP	16 59 45.5				SOD	eP	18 04 29		
	OUL	iP	16 59 45.4				KEV	eP	18 04 17		
	SOD	eP	16 59 33			16	NUR	iP	18 05 54.8	0.7	12.9
	KEV	eP	16 59 22				KJN	iP	18 05 33.3	0.7	8.9
		i	34.1				OUL	iP	18 05 32.3		
			H: 16 49 20.0				SOD	iP	18 05 20.9		
			41.5 N, 142.4 E, 33 km (R)				KEV	iP	18 05 09.5	0.9	8.4
			Hokkaido, Japan								
16	NUR	eP	17 27 48			16	KJN	eP	18 25 09		
	KJN	eP	17 27 26				SOD	eP	18 24 58		
	OUL	eP	17 27 25			16	NUR	eP	18 38 44		
	SOD	eP	17 27 15				KJN	iP	18 38 22.1 U	0.8	11.5
16	NUR	iP	17 32 40.0	0.6	8.8		OUL	eP	18 38 21		
		i	51.0				SOD	eP	18 38 11		
	KJN	iP	17 32 17.5	0.9	14.3		KEV	eP	18 38 00		
		i	29.7						H: 18 27 46.3		
	OUL	iP	17 32 17.9						39.8 N, 143.4 E, 40 km		
	SOD	eP	17 32 05						Honshu, Japan		
	KEV	iP	17 31 56.1	0.7	9.0						
			H: 17 21 50.9			16	NUR	iP	18 54 08.2 U	0.9	240.2
			41.1 N, 142.6 E, 38 km					i	16.1		
			Hokkaido, Japan					i	22.2		
16	NUR	eP	17 39 01	0.6	15.0			i	28.0		
		i	06.9					ePP	56 34		
		iPcP	31.6					eS	19 03 56		
	KJN	iP	17 38 38.5	0.6	21.9		KJN	iP	18 53 46.5 U		
	OUL	iP	17 38 38.1					iPP	56 00.3		
		i	49.8				OUL	iP	18 53 46.0 U		
		ePP	40 58					iPP	56 03.8		
	SOD	iP	17 38 26.6				SOD	iP	18 53 34.1 U		
			cont.						cont.		

May				T		A		May				T		A	
	KEV	iP	18 53 23.9 U	0.9		206.6		16	NUR	eP	20 14 31	0.5		2.6	
		i	32.2						KJN	iP	20 14 09.3				
		iPP	55 31.5						OUL	eP	20 14 09				
	H:	18 43 21.0							SOD	eP	20 13 57				
		40.7 N, 142.1 E, 59 km								e	14 10				
		Honshu, Japan							KEV	iP	20 13 46.0				
									H:	20 03 45.6					
16	NUR	eP	19 04 11							41.6 N, 142.7 E, 46 km					
	KJN	iP	19 03 57.7	1.1		32.4				Hokkaido, Japan					
	OUL	eP	19 03 48												
		i	56.9					16	NUR	eP	20 23 19				
	SOD	eP	19 03 36						KJN	iP	20 22 57.3	0.8		12.3	
		e	46						OUL	eP	20 22 57				
									SOD	eP	20 22 45				
16	NUR	iP	19 27 33.7	1.0		66.0			KEV	eP	20 22 34				
		i	48.8												
		ePP	29 57					16	NUR	eP	20 33 01	1.1		107.1	
		eS	36 20							i	03.2				
		ePS	44							i	09.7				
	KJN	iP	19 27 11.9 U	0.7		63.7				i	54.5				
		eS	35 44							ePP	35 23				
		eScS	36 03							eS	41 52				
	OUL	iP	19 27 11.2 U							ePS	42 10				
		e	20							eSS	46 24				
	SOD	iP	19 26 59.7						KJN	eP	20 32 38				
	KEV	iP	19 26 49.2	0.9		43.7				i	40.4				
		i	27 01.2							i	52.8				
		eS	35 12							eS	41 09				
	H:	19 16 47.2								OUL	eP	20 32 38			
		41.3 N, 142.4 E, 42 km (R)									i	39.9			
		Hokkaido, Japan									i	51.9			
16	NUR	eP	19 47 56							SOD	iP	20 32 27.1			
	KJN	eP	19 47 37								i	28.1			
	SOD	eP	19 47 27								i	40.0			
16	NUR	eP	19 54 43							KEV	iP	20 32 17.0	0.9		87.4
	KJN	iP	19 54 20.2 D	0.7		10.3					i	27.0			
	OUL	iP	19 54 19.4								eS	40 24			
	SOD	iP	19 54 08.1							H:	20 22 14.9				
	KEV	iP	19 53 57.2	0.8		14.4					41.4 N, 142.6 E, 39 km (R)				
	H:	19 43 56.3									Hokkaido, Japan				
		41.7 N, 142.6 E, 33 km (R)													
		Hokkaido, Japan							16	NUR	iP	20 36 16.6			
										KJN	eP	20 35 51			
16	NUR	iP	19 58 11.3 U	0.8		24.5									
	KJN	iP	19 57 58.2 U	0.9		30.4			16	NUR	eP	20 51 42			
	OUL	iP	19 57 59.4 U							KJN	iP	20 51 21.3	1.1		17.6
		epP	58 39												
	SOD	iP	19 57 52.9 U												
	KEV	iP	19 57 47.3 U	1.0		28.0			16	NUR	eP	20 52 41			
	H:	19 45 23.5								KJN	eP	20 52 19			
		12.6 N, 141.6 E, 170 km								OUL	iP	20 52 16.4			
		South of Mariana Islands								SOD	eP	20 52 07			

May							May						
					T	A					T	A	
16	NUR	iP	21 14	12.2	0.8	15.8	16	NUR	iP	23 07	54.5	0.8	8.6
		i		23.8					i	08	03.0		
		iPcP		41.0				KJN	iP	23 07	33.3	0.9	11.6
	KJN	iP	21 13	50.3	1.0	25.0			i		41.7		
		i		14 00.8				OUL	iP	23 07	32.6		
	OUL	iP	21 13	49.3					i		40.4		
		i		14 01.5				SOD	iP	23 07	21.0		
	SOD	iP	21 13	38.1					i		29.5		
		e		51				H: 22 56 57					
	KEV	iP	21 13	27.2	0.8	11.5		39.9 N, 143.5 E, 33 km (R)					
		i		37.5				Honshu, Japan					
	H: 21 03 24.3												
	41.2 N, 142.4 E, 33 km												
	Hokkaido, Japan												
16	NUR	eP	21 33	59			16	NUR	eP	23 14	01		
	KJN	iP	21 33	37.3	0.8	15.4		KJN	iP	23 13	39.5	0.8	11.5
	OUL	iP	21 33	36.4				OUL	iP	23 13	39.1		
	SOD	iP	21 33	25.0				SOD	iP	23 13	27.8		
	KEV	eP	21 33	14				KEV	eP	23 13	17		
	H: 21 23 03												
	40.3 N, 143.1 E, 33 km (R)												
	Honshu, Japan												
16	NUR	iP	21 36	48.3	0.7	12.9							
		i		54.7									
	KJN	iP	21 36	26.4	0.8	24.6		KJN	iP	23 15	29.3		
	OUL	iP	21 36	25.8					iPP		17 50.4		
	SOD	iP	21 36	14.3					eS		24 10		
	KEV	iP	21 36	03.2	1.0	18.0			ePPS		40		
		i		14.0					eScS		25 19		
	H: 21 25 56.4									eP'P'		44 24	
	40.9 N, 143.0 E, 30 km								OUL	iP	23 15	28.2	
	Honshu, Japan									i		30.8	
									iPP		17 51.3		
									eP'P'		44 22		
16	NUR	iP	21 39	20.8	0.9	11.8		SOD	iP	23 15	17.7		
	KJN	iP	21 38	58.3	0.9	15.2			i		19.9		
	OUL	iP	21 38	57.9				KEV	iP	23 15	06.7		
									i		09.0		
									eS		23 28		
									eScS		25 00		
	H: 23 04 54.7								H: 23 04 54.7				
	39.8 N, 143.1 E, 37 km								39.8 N, 143.1 E, 37 km				
	Honshu, Japan								Honshu, Japan				
16	NUR	eP	22 13	38			16	NUR	eP	23 49	15		
	KJN	eP	22 13	17				KJN	iP	23 48	53.3	0.9	17.9
	OUL	eP	22 13	17				OUL	iP	23 48	52.2		
	SOD	eP	22 12	58				SOD	eP	23 48	40		
								KEV	iP	23 48	30.5	1.0	12.0
	H: 23 38 15.6								H: 23 38 15.6				
	39.7 N, 143.2 E, 33 km (R)								39.7 N, 143.2 E, 33 km (R)				
	Honshu, Japan								Honshu, Japan				

May						May							
				T	A					T	A		
17	NUR	iP	00 02	35.6	0.9	13.4	OUL	iP	02 38	50.7			
		i		44.5			SOD	iP	02 38	39.3			
	KJN	iP	00 02	13.3 U	0.8	23.1		e		53			
		i		22.4			KEV	eP	02 38	28			
	OUL	iP	00 02	13.0			H:		02 28	28.3			
		i		22.3						41.5 N, 142.2 E, 50 km (R)			
	SOD	iP	00 02	01.5						Hokkaido, Japan			
		i		10.5									
	KEV	iP	00 01	51.0	0.8	13.0	17	KJN	eP	02 47	22		
								SOD	eP	02 47	12		
17	NUR	iP	00 07	35.0 U	0.8	24.5	17	NUR	eP	02 53	46		
		i		45.7				KJN	iP	02 53	17.4	0.7	4.1
	KJN	iP	00 07	12.9 U	0.9	57.2			i		32.3		
		i		23.4				OUL	eP	02 53	17		
		ePcP		48					i		32.0		
	OUL	iP	00 07	12.6				SOD	eP	02 53	06		
		i		21.3					e		20		
	SOD	iP	00 07	01.2 U				H:		02 42	50		
		i		12.0							40.3 N, 143.3 E, 33 km (R)		
	KEV	iP	00 06	50.7	0.8	17.3					Honshu, Japan		
		i	07	01.2									
	H:		23 56	35.3			17	NUR	eP	02 57	40		
				39.6 N, 143.4 E, 33 km (R)				KJN	iP	02 57	18.2 U	0.7	7.5
				Honshu, Japan				OUL	iP	02 57	18.1		
17	NUR	eP	00 15	51				SOD	eP	02 57	07		
	KJN	iP	00 15	30.3	0.6	7.5		H:		02 46	45		
	OUL	eP	00 15	30							40.2 N, 143.3 E, 33 km (R)		
	SOD	eP	00 15	18							Honshu, Japan		
	KEV	iP	00 15	07.2									
	H:		00 05	07.9			17	NUR	eP	03 00	09		
				41.9 N, 142.2 E, 33 km (R)				KJN	iP	02 59	58.9	0.7	4.1
				Hokkaido, Japan				SOD	eP	02 59	47		
17	NUR	eP	00 35	19			17	KJN	eP	03 04	56		
	KJN	iP	00 34	57.3 U	0.9	13.4							
	OUL	eP	00 34	57			17	NUR	eP	04 14	07		
	SOD	eP	00 34	45				KJN	eP	04 13	44		
	H:		00 24	25.1				OUL	iP	04 13	44.0		
				40.3 N, 143.0 E, 33 km (R)				SOD	eP	04 13	32		
				Honshu, Japan				KEV	eP	04 13	21		
17	NUR	eP	00 56	25				H:		04 03	19		
	KJN	eP	00 56	03							41.4 N, 142.2 E, 33 km (R)		
	SOD	eP	00 55	50							Hokkaido, Japan		
	KEV	eP	00 55	40									
17	KJN	iP	01 07	34.8	0.7	5.5	17	NUR	eP	04 18	19		
	SOD	eP	01 07	23				KJN	iP	04 17	51.4	0.8	7.7
								OUL	iP	04 17	50.7		
17	NUR	iP	02 39	13.6 U	0.8	10.1		SOD	iP	04 17	39.4		
	KJN	iP	02 38	51.3	1.0	18.0		KEV	iP	04 17	28.3	0.6	6.3
		e	39	03				H:		04 07	25.3		
				cont.							41.1 N, 143.0 E, 33 km (R)		
											Hokkaido, Japan		

May						May					
				T	A			T	A		
17	NUR	eP	04 47 32			SOD	iP	06 35 04.1 U			
		e	41				i	13.0			
	KJN	eP	04 47 05			KEV	iP	06 34 53.2	0.9	15.1	
		i	16.3				eS	43 16			
	OUL	eP	04 47 04				eSS	47 20			
	SOD	eP	04 46 56			H:	06 24 35.2				
		e	47 04				39.1 N, 143.5 E, 40 km				
	H:	04 36 27.4					Honshu, Japan				
		39.1 N, 143.6 E, 33 km (R)									
		Honshu, Japan				17	NUR	eP	07 23 22		
							KJN	eP	07 23 00		
17	KJN	eP	05 07 18				OUL	eP	07 23 00		
	SOD	eP	05 07 14				SOD	eP	07 22 47		
17	NUR	eP	05 14 47				KEV	eP	07 22 38		
	KJN	iP	05 14 23.2	0.8	15.4		H:	07 12 36			
	OUL	iP	05 14 22.4					41.7 N, 142.2 E, 33 km (R)			
	SOD	eP	05 14 11					Hokkaido, Japan			
17	NUR	eP	05 18 16			17	KJN	iP	07 47 22.4	0.7	7.5
	KJN	eP	05 17 53				OUL	eP	07 47 22		
	SOD	eP	05 17 42				SOD	eP	07 47 12		
	KEV	eP	05 17 37			17	NUR	iP	07 56 03.0	0.9	21.8
17	KJN	eP	05 22 06			17	NUR	ePKS	08 20 00		
	SOD	eP	05 21 31				KJN	ePKP	08 16 22		
17	NUR	iP	05 30 35.0 D	0.8	20.2			ePP	18 56		
	KJN	iP	05 30 13.0 U	1.0	63.2		OUL	ePKP	08 16 25		
		i	23.2					i	32.9		
		ePcP	45				KEV	ePP	08 18 16		
	OUL	iP	05 30 12.3					ePKS	19 28		
		i	22.9				H:	07 57 18			
	SOD	iP	05 30 01.0 D					22.7 S, 173.0 E, 91 km			
		i	11.5					Loyalty Islands			
	KEV	iP	05 29 50.5	0.9	16.8	17	NUR	iP	09 12 43.0 U	1.0	30.0
		e	59				KJN	iP	09 12 21.0 U	0.8	12.3
	H:	05 19 34.9					OUL	iP	09 12 20.7 D		
		39.6 N, 143.4 E, 33 km (R)						i	38.4		
		Honshu, Japan					SOD	iP	09 12 09.1		
17	NUR	iP	06 26 09.8				KEV	iP	09 11 58.0	0.8	11.5
							H:	09 01 54.9			
								41.3 N, 142.7 E, 34 km			
								Hokkaido, Japan			
17	NUR	iP	06 35 38.1 U	0.9	23.5	17	KJN	eP	10 18 53		
		i	46.5				H:	10 08 24			
		eS	44 36					40.7 N, 143.1 E, 33 km (R)			
		eSS	49 00					Honshu, Japan			
	KJN	iP	06 35 15.4 U	0.9	51.2						
		i	24.7								
		ePP	37 38			17	NUR	eP	10 27 38		
	OUL	iP	06 35 14.9 U				KJN	eP	10 27 18		
		i	24.5				OUL	eP	10 27 16		
			cont.						cont.		

May						May					
				T	A						
				T	A						
	SOD	eP	10 27 06			17	NUR	iP	13 13 23.5 U	0.8	24.5
	KEV	eP	10 26 58					i	30.3		
	H:		10 16 54.1					i	14 25.2		
			41.7 N, 142.5 E, 33 km (R)					eS	22 08		
			Hokkaido, Japan					ePS	32		
								eSS	26 40		
17	NUR	iP	10 53 45.4	0.9	40.3		KJN	iP	13 13 01.4 U		
		i	54 00.2					eS	21 29		
		i	24.8				OUL	iP	13 13 00.9 U		
		ePP	56 20					i	18.3		
		eS	11 02 42				SOD	iP	13 12 49.4 U		
		eScS	03 38				KEV	iP	13 12 38.1 U	0.9	26.9
	KJN	iP	10 53 23.6 U					e	49		
		i	49.3					e	16 24		
		i	54 11.5					eS	20 44		
		iPP	55 53.7					e	21 08		
		eS	11 02 02					H:	13 02 37.3		
		ePS	17						41.5 N, 142.8 E, 45 km (R)		
	OUL	iP	10 53 23.1 U						Hokkaido, Japan		
		i	50.2								
		i	54 13.9			17	KJN	eP	13 57 22		
	SOD	iP	10 53 12.2 U			17	NUR	eP	14 10 47		
		i	23.0				KJN	iP	14 10 26.2 U	0.8	10.0
		ePP	55 30				OUL	iP	14 10 25.8 D		
	KEV	iP	10 53 00.9 U				SOD	eP	14 10 14		
		i	12.0					H:	13 59 52.1		
		e	55 08						40.3 N, 143.2 E, 25 km		
		e	56 40						Honshu, Japan		
		eS	11 01 21								
		e	02 36								
		eSS	05 20			17	NUR	iP	15 04 11.0 D	0.8	15.8
	H:		10 42 45.9					i	19.2		
			39.6 N, 143.4 E, 33 km (R)				KJN	iP	15 03 49.4 U	1.2	51.6
			Honshu, Japan					i	57.2		
								i	04 12.2		
17	NUR	iP	11 00 59.0	0.9	18.5		OUL	iP	15 03 49.0		
	KJN	iP	11 00 33.4	0.9	10.7			i	57.1		
								i	04 12.9		
17	NUR	iP	11 32 32.3				SOD	iP	15 03 37.6 D		
								i	46.0		
17	NUR	eP	12 24 08					H:	14 53 11.0		
	KJN	iP	12 23 44.4						39.6 N, 143.6 E, 33 km (R)		
	H:		12 13 20						Honshu, Japan		
			41.6 N, 143.0 E, 33 km (R)								
			Hokkaido, Japan								
17	NUR	eP	12 54 10			17	NUR	eP	15 13 08		
	KJN	eP	12 53 52				KJN	eP	15 12 45		
	H:		12 43 21.2				SOD	eP	15 12 33		
			41.3 N, 143.1 E, 33 km (R)								
			Hokkaido, Japan								
17	KJN	iP	13 11 43.6	0.7	5.5	17	NUR	eP	15 28 22		
	OUL	iP	13 11 35.9				KJN	iP	15 27 57.5	0.9	10.7
	SOD	eP	13 11 25					i	28 08.0		
							OUL	iP	15 27 57.3		
									cont.		

May						May					
			T	A			T	A			
17	NUR	iP	19 59 56.9	0.8	17.3	17	NUR	eP	23 19 57		
	KJN	iP	19 59 35.2 U	0.9	41.1		KJN	iP	23 19 35.1	1.1	14.9
		i	42.8					H:	23 09 07.5		
	OUL	eP	19 59 34						41.1 N, 143.0 E, 33 km (R)		
		i	42.1						Hokkaido, Japan		
	SOD	iP	19 59 23.3			17	NUR	eP	23 26 32		
		i	31.0								
	KEV	iP	19 59 12.5	1.0	22.0	17	NUR	iP	23 28 06.0		
		H:	19 48 57.7				KJN	iP	23 27 46.9	0.9	22.3
			39.6 N, 143.1 E, 33 km (R)					i	55.4		
			Honshu, Japan				OUL	iP	23 27 46.2 U		
17	KJN	eP	20 02 01					e	54		
17	NUR	eP	20 25 01				SOD	iP	23 27 34.5 U		
	KJN	eP	20 24 39					H:	23 17 12.4		
	OUL	eP	20 24 38						40.2 N, 143.3 E, 33 km (R)		
		H:	20 14 10						Honshu, Japan		
			41.1 N, 142.8 E, 33 km (R)			18	NUR	eP	00 47 56		
			Hokkaido, Japan			18	NUR	ePKP	01 21 22		
17	KJN	eP	21 06 48	1.4	35.1		KJN	ePKP	01 21 30	0.8	9.2
		H:	20 56 13.8					i	38.6		
			40.5 N, 144.0 E, 34 km				OUL	iPKP	01 21 30.1		
			Honshu, Japan				SOD	iPKP	01 21 33.3		
17	NUR	iP	21 13 38.3	0.6	16.3			ePP	23 40		
	KJN	iP	21 13 16.3 U	0.9	9.8			H:	01 02 29.2		
	OUL	iP	21 13 16.2						55.4 S, 27.7 W, 33 km (R)		
		i	20.0						South Sandwich Islands		
	SOD	eP	21 13 05			18	NUR	iP	05 01 55.0	0.8	17.3
17	NUR	iP	21 39 01.2	0.8	14.4		KJN	iP	05 01 33.2	0.9	14.3
17	NUR	iP	22 47 10.0	0.9	15.1		OUL	iP	05 01 32.3		
		i	18.3					i	46.1		
		e	50				SOD	eP	05 01 20		
		ePP	49 48				KEV	iP	05 01 10.2	0.7	14.2
		eS	56 04					H:	04 51 08		
		eSS	23 00 28						41.6 N, 142.4 E, 33 km (R)		
	KJN	iP	22 46 47.6 U	1.0	38.2				Hokkaido, Japan		
		i	52.4			18	KJN	eP	05 06 22		
		ePP	49 04					H:	04 55 59		
	OUL	iP	22 46 46.9						41.7 N, 142.1 E, 33 km (R)		
		i	50.8						Hokkaido, Japan		
	SOD	iP	22 46 36.0			18	NUR	eP	05 30 33		
		i	45.9			18	NUR	eP	05 55 22		
	KEV	eP	22 46 25				KJN	eP	05 55 00		
		eS	54 36				OUL	eP	05 55 01		
		H:	22 36 14.6				SOD	eP	05 54 49		
			40.6 N, 143.7 E, 33 km (R)					H:	05 44 34.5		
			Honshu, Japan						41.4 N, 142.4 E, 33 km (R)		
									Hokkaido, Japan		

May		T	A	May		T	A
18	NUR iP 06 01 55.0	1.1	35.7	18	KJN eP 13 07 30		
	KJN iP 06 01 30.6	1.2	22.4		OUL eP 13 07 39		
	epP 02 01			18	NUR iP 14 18 38.3		
	OUL eP 06 01 25				i 19 04.3		
	ipP 55.6				KJN eP 14 18 15	1.0	32.7
	SOD ipP 06 01 40.0				OUL iP 14 18 14.1		
	KEV epP 06 01 22				i 39.3		
	H: 05 51 24.1				SOD iP 14 18 02.8		
	53.8 N, 168.3 W, 131 km				KEV iP 14 17 51.7	0.8	24.5
	Fox Islands				H: 14 07 50.3		
18	NUR eP 07 15 14				41.6 N, 142.6 E, 33 km (R)		
	KJN eP 07 14 53				Hokkaido, Japan		
	H: 07 04 27			18	NUR iP 14 28 41.2		
	41.3 N, 142.3 E, 33 km (R)				KJN eP 14 28 35		
	Hokkaido, Japan			18	NUR eP 14 38 34		
18	NUR eP 08 09 13			18	NUR eP 15 44 37		
	KJN iP 08 08 49.1				i 45.9	0.7	11.6
	OUL iP 08 08 42.9				KJN eP 15 44 15		
	H: 07 58 35.4				e 23	0.6	11.6
	54.1 N, 164.7 W, 58 km				OUL eP 15 44 15		
	Unimak Island				i 22.9		
18	KJN eP 08 27 37				SOD eP 15 44 03		
	SOD eP 08 27 38				i 11.3		
18	NUR eP 08 40 48				KEV eP 15 43 59		
	KJN eP 08 41 15				H: 15 33 44.3		
18	NUR iP 09 18 42.8				40.8 N, 143.2 E, 33 km (R)		
	KJN eP 09 18 20	0.8	16.9		Honshu, Japan		
	e 29			18	NUR eP 17 06 59		
	e 44				H: 16 56 11		
	OUL iP 09 18 19.9				41.4 N, 142.1 E, 33 km (R)		
	i 28.7				Hokkaido, Japan		
	SOD eP 09 18 07			18	NUR eP 17 38 21		
	KEV eP 09 17 56				KJN eP 17 37 58		
	H: 09 07 47.3				OUL iP 17 37 58.7		
	40.5 N, 143.4 E, 33 km (R)				H: 17 27 35		
	Honshu, Japan				41.4 N, 142.6 E, 39 km		
18	NUR iP 12 31 37.3				Hokkaido, Japan		
18	NUR eP 13 06 11			18	NUR iP 19 27 58.2	0.6	16.3
	KJN eP 13 05 49	0.5	12.5		KJN eP 19 27 35	1.1	20.3
	OUL iP 13 05 48.6				OUL eP 19 27 36		
	SOD iP 13 05 37.3 U				SOD eP 19 27 22		
	KEV eP 13 05 26	0.7	9.0		KEV eP 19 27 13		
	H: 12 55 24.5				H: 19 17 09.6		
	41.7 N, 142.5 E, 33 km (R)				41.3 N, 142.4 E, 33 km (R)		
	Hokkaido, Japan				Hokkaido, Japan		

May						May					
				T	A						
18	KJN	eP	20 52 30			KJN	eP	06 05 07	1.0	16.4	
							e	21			
18	NUR	eP	20 53 51			OUL	iP	06 05 07.3			
						SOD	eP	06 04 56			
19	KJN	eP	01 28 49	0.9	16.1		e	05 06			
		e	58			KEV	eS	06 13 24			
	OUL	iP	01 28 48.3				eScS	14 36			
		i	56.6				eSS	17 36			
	SOD	iP	01 28 36.2			H:	05 54 08.4				
		i	45.0				35.6 N, 141.9 E, 25 km (R)				
	H: 01 18 11.9						Honshu, Japan				
	39.8 N, 143.7 E, 33 km (R)					19	NUR	iP	09 42 32.3	0.9	16.8
	Honshu, Japan							i	35.3		
19	KJN	eP	02 23 36					eS	46 40		
	OUL	eP	02 23 35			KJN	iP	09 43 07.7	1.1	24.3	
	SOD	eP	02 23 25			OUL	iP	09 43 13.9			
	H: 02 13 12					SOD	iP	09 43 34.4			
	41.7 N, 142.0 E, 33 km (R)					H:	09 37 29.8				
	Hokkaido, Japan						38.5 N, 15.0 E, 24 km				
							Sicily				
19	NUR	iP	04 23 57.8			19	NUR	eP	10 18 49		
		i	24 04.7				KJN	eP	10 18 28		
		i	25.5				SOD	eP	10 18 15		
		ePP	26 32			H:	10 08 02.1				
		ePPP	28 24				41.6 N, 142.7 E, 33 km (R)				
		eS	33 12				Hokkaido, Japan				
		eScS	34 00			19	NUR	eP	13 10 06		
		eSS	37 40				KJN	iP	13 09 44.3 U	0.8	9.2
	KJN	eP	04 23 37	0.7	15.1		OUL	eP	13 09 44		
		e	44				SOD	eP	13 09 32		
		e	54			H:	12 59 09.6				
		e	26 23				40.3 N, 143.7 E, 33 km (R)				
	OUL	eP	04 23 36				Honshu, Japan				
		i	58.1			19	NUR	eP	13 14 14		
		i	24 07.2					e	34		
	SOD	eP	04 23 26				KJN	iP	13 13 52.3 U	0.7	6.2
		i	35.9				OUL	iP	13 13 51.3		
	KEV	eP	04 23 16				SOD	eP	13 13 40		
		eS	31 54			H:	13 03 26.0				
		eScS	33 14				41.3 N, 142.5 E, 33 km (R)				
		eSS	36 00				Hokkaido, Japan				
	H: 04 12 40.3					19	NUR	eP	13 21 57		
	35.6 N, 141.7 E, 46 km						KJN	iP	13 21 34.8	0.8	9.2
	Honshu, Japan						OUL	eP	13 21 34		
19	NUR	iP	05 01 55.6			H:	13 11 08.5				
	H: 04 49 28						41.5 N, 142.3 E, 22 km				
	17.9 S, 13.4 W, 33 km (R)						Hokkaido, Japan				
	South Atlantic Ridge										
19	NUR	iP	06 05 27.0								
		eS	14 44								
		eSS	19 08								
	cont.										

May				May			
		T	A			T	A
19	NUR eP	14 19 11		19	NUR iP	22 27 38.8 U	0.9 25.2
	KJN eP	14 18 50			i	40.5	
	SOD eP	14 18 37			i	28 03.7	
	H:	14 08 22.9			i	37.2	
		41.6 N, 142.1 E, 38 km			eS	36 32	
		Hokkaido, Japan			eSS	40 52	
					eSSS	44 00	
19	NUR iP	15 15 13.0		KJN iP	22 27 16.5 U	1.0 32.7	
	KJN iP	15 14 51.2 U	0.9 25.0	OUL iP	22 27 15.3		
	OUL iP	15 14 49.5		i	17.1		
	SOD iP	15 14 39.3		i	33.8		
	H:	15 04 15.9		SOD iP	22 27 04.4		
		40.2 N, 143.8 E, 33 km (R)		KEV iP	22 26 53.2	1.0 18.0	
		Honshu, Japan		eS	35 02		
				H:	22 16 44.8		
					40.9 N, 143.2 E, 18 km		
					Honshu, Japan		
19	NUR eP	16 30 40	1.0 22.0	19	NUR eP	23 13 34	
	e	52			KJN iP	23 13 11.5	
	KJN iP	16 30 19.7 U	0.8 13.8		SOD eP	23 13 01	
	OUL iP	16 30 19.7			H:	23 02 45.8	
	i	32.4				41.3 N, 142.3 E, 33 km (R)	
	SOD eP	16 30 09				Hokkaido, Japan	
	e	16					
	H:	16 19 30		20	NUR eP	00 46 01	
		36.9 N, 141.6 E, 33 km (R)					
		Honshu, Japan					
19	NUR eP	16 56 00		20	NUR eP	00 57 35	
	i	03.3			KJN iP	00 57 13.0	0.9 9.8
	i	50.2			OUL eP	00 57 12	
	e	57 05			SOD eP	00 57 01	
	KJN iP	16 56 12.4	0.9 14.3		H:	00 46 37	
	i	52.8				40.4 N, 143.8 E, 33 km (R)	
	OUL iP	16 56 23.3				Honshu, Japan	
	i	27.0		20	KJN eP	02 06 54	
	SOD iP	16 56 37.4			H:	01 56 21	
	e	57 37				40.5 N, 143.5 E, 33 km (R)	
	KEV iP	16 56 52.8 U	0.7 18.1			Honshu, Japan	
	e	57 51		20	NUR eP	02 12 11	
	H:	16 49 50.4			KJN eP	02 12 00	
		36.3 N, 53.4 E, 33 km (R)					
		Iran		20	NUR iP	02 42 37.2	0.9 16.8
19	NUR eP	21 10 52			i	46.3	
					KJN iP	02 42 14.5 U	0.9 45.5
					i	28.5	
19	KJN eP	21 24 23			OUL iP	02 42 14.6	
	OUL eP	21 24 09			i	27.5	
					ePP	44 36	
19	KJN iP	21 48 49.3	0.9 8.0		SOD iP	02 42 03.7 U	
	H:	21 35 01.2			KEV iP	02 41 52.3	1.0 30.0
		6.8 S, 129.5 E, 43 km			H:	02 31 45.0	
		Banda Sea				40.4 N, 142.3 E, 44 km	
						Honshu, Japan	

May						May						
				T	A							
						T	A					
		ePPS	41 12				OUL	iP	21 20 02.7			
		eSS	48 00					eP'P'	49 15			
KJN		iPKP	20 25 13.4	0.8	49.2		SOD	iP	21 19 49.7			
		iPP	28 28.5					i	20 06.0			
		iPKS	55.6					eP'P'	49 05			
OUL		iPKP	20 25 12.6				KEV	iP	21 19 37.2 U	1.2	71.3	
		i	15.0					eS	27 37			
		iSKP	28 55.1					iScS	29 29.3			
SOD		iPKP	20 25 06.3				H: 21 09 44.8					
		i	17.0				44.8 N, 150.3 E, 38 km					
KEV		ePKP	20 25 01				Kurile Islands					
		i	11.7	0.9	57.1		20	NUR	eP	21 49 32		
		ePP	27 54									
		ePKS	28 44				20	NUR	eP	21 50 19		
		eSKSP	38 08									
		ePPS	40 28				20	NUR	eP	22 26 55		
		e	41 40						i	27 08.5	0.7	15.5
		eSS	46 02									
H: 20 05 49.1							20	NUR	eP	22 39 47		
30.7 S, 178.4 W, 46 km								KJN	iP	22 39 30.5	0.6	10.3
Kermadec Islands									i	35.6		
20	NUR	eP	20 35 48					OUL	eP	22 39 35		
	KJN	eP	20 35 53	1.1	18.9			SOD	eP	22 39 30		
	OUL	eP	20 35 58					KEV	eP	22 39 26	0.7	12.9
H: 22 27 58							20.1 N, 121.9 E, 33 km (R)					
20	NUR	iP	20 37 17.0	0.7	15.5		Philippine Islands					
	KEV	eP	20 36 33									
20	NUR	iPKP	20 39 56.8	0.9	157.9		20	NUR	eP	23 03 10		
		i	58.1					KJN	eP	23 02 46		
	KJN	iPKP	20 39 46.1	0.9	16.1			OUL	eP	23 02 45		
		i	53.5					SOD	eP	23 02 31		
	OUL	iPKP	20 39 46.0				20	KJN	eP	23 19 27		
		eSKP	43 24									
	SOD	ePKP	20 39 39									
	KEV	iPKP	20 39 42.1	1.2	28.5		20	NUR	iP	23 35 07.5		
H: 20 20 23									i	21.0		
31.0 S, 178.1 W, 59 km								KJN	iP	23 34 43.5		
Kermadec Islands								OUL	iP	23 34 42.3		
20	KJN	eP	21 01 46	0.9	8.9			SOD	iP	23 34 28.9		
	SOD	eP	21 01 18				H: 23 24 26.9					
20	NUR	iP	21 20 28.0 U	0.9	35.3		45.0 N, 150.5 E, 52 km					
		i	45.0				Kurile Islands					
		ePP	22 47									
		eS	29 11				21	NUR	iP	00 08 33.2		
		eScS	30 22					KJN	iP	00 08 11.1	0.7	7.5
KJN		iP	21 20 04.5 U	1.2	246.0				i	23.4		
		i	41.7					OUL	eP	00 08 10		
		eS	28 27						e	20		
		iScS	29 57.8					SOD	eP	00 07 59		
		eP'P'	49 09						e	08 07		
cont.							cont.					

May		T	A	May		T	A
	KEV e	00 08 00			KEV iP	02 40 08.2	0.7 10.3
	H: 23 57 38.3				H: 02 30 05.1		
	40.2 N, 142.5 E, 33 km (R)				41.5 N, 142.5 E, 27 km		
	Honshu, Japan				Hokkaido, Japan		
21	NUR eP	00 15 52		21	NUR eP	03 11 06	
	KJN eP	00 15 28			KJN iP	03 10 44.4	0.8 9.2
	OUL eP	00 15 26			i	53.3	
	SOD eP	00 15 13			OUL iP	03 10 43.8	
	H: 00 05 06				e	53	
	43.9 N, 150.3 E, 45 km				SOD eP	03 10 32	
	Kurile Islands				e	41	
					H: 03 00 08.9		
21	NUR iP	00 30 17.3 U	0.6 41.3		40.2 N, 143.7 E, 33 km (R)		
	i	41.0			Honshu, Japan		
	KJN iP	00 29 53.6 U	0.7 40.4				
	ePcP	30 31		21	NUR iP	04 05 48.5 U	0.6 46.3
	OUL iP	00 29 52.4 U			i	06 38.0	
	SOD iP	00 29 39.3 U			i	07 56.7	
	KEV iP	00 29 26.2	0.6 18.8		KJN iP	04 05 50.7 U	0.9 50.9
	iPcP	30 18.0			i	06 19.0	
	H: 00 19 34.8				i	32.4	
	44.8 N, 150.2 E, 45 km (R)				i	08 11.0	
	Kurile Islands				OUL iP	04 06 01.7 U	
21	NUR eP	00 38 05			i	07 08.1	
21	NUR eP	00 52 47			i	20.4	
21	NUR eP	01 56 37			SOD iP	04 06 10.1 U	
	OUL eP	01 57 03			i	07 03.1	
	SOD eP	01 57 19			i	20.0	
	KEV eP	01 57 30			KEV iP	04 06 20.2 U	0.6 22.5
21	NUR eP	02 29 10			e	07 26	
	KJN eP	02 28 48			iPP	40.2	
	OUL eP	02 28 48			i	08 56.0	
	i	53.8			H: 03 59 11.5		
	SOD eP	02 28 34			38.9 N, 65.2 E, 13 km		
	i	42.5			Southeastern Uzbek SSR		
	KEV eP	02 28 22		21	NUR iP	04 22 16.0	1.1 40.5
	H: 02 18 19.4				i	27.0	
	41.4 N, 142.7 E, 27 km (R)				e	51	
	Hokkaido, Japan				eS	31 04	
21	NUR eP	02 40 51			KJN iP	04 21 54.3	1.1 64.8
	i	41 01.0			i	22 03.4	
	KJN eP	02 40 32			OUL iP	04 21 53.0	
	i	40.0	0.7 10.3		i	22 04.8	
	OUL iP	02 40 31.5			SOD iP	04 21 41.7	
	i	39.7			i	54.0	
	SOD eP	02 40 19			KEV iP	04 21 31.0	1.1 23.8
	i	28.0			i	43.2	
	cont.				i	22 27.1	
					eS	29 40	
					H: 04 11 24.7		
					41.1 N, 143.5 E, 33 km (R)		
					Hokkaido, Japan		

May				T	A	May				T	A		
21	NUR	iP	05 32 54.7			KJN	iP	11 03 49.6	0.7	18.5			
		i	33 06.8				i	56.6					
	KJN	iP	05 32 31.9	0.7	5.5		i	04 28.8					
	SOD	eP	05 32 20			OUL	iP	11 03 53.1					
	KEV	eP	05 32 11			SOD	iP	11 03 47.4					
	H: 05 22 04.1						i	04 07.0					
	41.4 N, 143.5 E, 40 km					KEV	iP	11 03 44.3	0.6	12.5			
	Hokkaido, Japan					H: 10 52 16.6							
21	NUR	eP	06 47 42			20.2 N, 122.0 E, 30 km							
	KJN	iP	06 47 19.0	0.6	7.5	Philippine Islands							
	OUL	iP	06 47 18.2			21	NUR	iP	11 11 28.6	0.7	14.2		
	SOD	iP	06 47 07.1				KJN	iP	11 11 05.7	1.1	56.7		
	KEV	iP	06 46 55.5	0.7	6.5		i	20.1					
	H: 06 36 55						i	12 06.0					
	41.7 N, 142.5 E, 33 km (R)					OUL	iP	11 11 03.4					
	Hokkaido, Japan					SOD	iP	11 10 50.9					
21	NUR	iP	08 30 44.0 U	0.6	41.3	KEV	iP	11 10 38.1	1.1	35.7			
		i	46.5				i	11 36.1					
		i	31 24.7			H: 11 00 44.6							
	ePPP		35 00			44.7 N, 150.2 E, 33 km (R)							
	eS		39 32			Kurile Islands							
	ePPS		40 10			21	NUR	iP	11 14 38.4 D	0.7	27.1		
	eScS		42				i	43.0					
	eSS		44 12			KJN	iP	11 14 14.7 D	0.7	21.9			
	e		46 56				i	28.9					
	KJN	iP	08 30 20.0 U	0.7	41.1	OUL	iP	11 14 13.1					
		i	29.0				i	15 05.5					
		eS	38 45			SOD	eP	11 13 59					
		e	55			KEV	iP	11 13 47.3	0.8	17.3			
		e	39 19			H: 11 03 57.5							
		eScS	40 10			45.0 N, 150.1 E, 48 km (R)							
	OUL	iP	08 30 18.7 U			Kurile Islands							
		i	21.3			21	NUR	eP	13 19 22				
	SOD	iP	08 30 05.9 U				KJN	eP	13 18 59				
		i	14.2				OUL	iP	13 18 57.8				
	KEV	iP	08 29 52.9 U	0.7	24.5		SOD	eP	13 18 44				
		i	30 48.8			H: 13 08 40							
		i	31 21.8			44.7 N, 150.0 E, 40 km (R)							
		ePPP	33 28			Kurile Islands							
		eS	37 48			21	NUR	iP	15 21 03.0				
		eSS	41 56				KJN	iP	15 20 40.8	0.5	5.9		
	H: 08 20 00.9						i	21 11.8					
	44.9 N, 150.2 E, 33 km (R)						i	36.9					
	Kurile Islands					OUL	iP	15 20 40.0					
21	NUR	iP	10 11 50.8	0.8	14.4		i	21 14.9					
		i	12 10.0			SOD	eP	15 20 28					
	KJN	eP	10 11 32			KEV	iP	15 20 19.0	0.7	12.9			
21	NUR	iP	11 04 02.8	0.9	16.8	H: 15 10 13.4							
		eS	13 44			41.5 N, 142.9 E, 26 km							
	cont.					Hokkaido, Japan							

May						May					
				T	A					T	A
21	NUR	iP	15 38	50.4 U	0.7	15.5	KJN	iPKP	00 37	29.8	
	KJN	iP	15 38	28.2 U	0.6	13.0		i		40.8	
		i		43.3			OUL	ePKP	00 37	29	
	OUL	iP	15 38	27.9				i		36.6	
	SOD	iP	15 38	16.3			SOD	ePKP	00 37	22	
		i		29.0			KEV	ePKP	00 37	30	
	KEV	iP	15 38	04.6	0.8	7.2	H: 00 18 05.9				
		i		22.1			30.4 S, 177.8 W, 43 km				
	Kermadec Islands										
	H: 15 27 59.0										
	41.2 N, 143.4 E, 33 km (R)										
	Hokkaido, Japan										
21	NUR	eP	15 49	45			22	NUR	iP	02 19	39.1
		i		50 00.6				KJN	eP	02 19	16
	KJN	eP	15 49	42				OUL	eP	02 19	15
								SOD	eP	02 19	04
								KEV	eP	02 18	51
21	NUR	eP	16 05	34			22	KJN	eP	04 26	39
	KJN	iP	16 05	11.0	0.6	5.5		SOD	eP	04 26	27
	OUL	iP	16 05	10.6				H: 04 16 14			
	SOD	eP	16 04	58				41.9 N, 141.8 E, 33 km (R)			
	KEV	eP	16 04	49				Hokkaido, Japan			
	H: 15 54 46										
	41.4 N, 142.5 E, 33 km (R)										
	Hokkaido, Japan										
21	KJN	eP	16 14	49			22	KJN	iP	04 37	14.5
	H: 16 04 21										
	41.7 N, 141.9 E, 28 km										
	Hokkaido, Japan										
21	NUR	iP	18 58	12.2 U	0.5	15.8	22	KJN	eP	05 14	07
		e	19 07	36				KJN	eP	05 13	46
		eSS	11	36				SOD	eP	05 13	30
	KJN	iP	18 57	48.8 U	0.6	10.3		KEV	eP	05 13	22
		i		51.4				H: 05 03 20.1			
		iPcP	58	24.5				41.6 N, 142.5 E, 35 km			
	OUL	iP	18 57	47.4				Hokkaido, Japan			
		i		49.8			22	KJN	eP	05 37	41
	SOD	iP	18 57	34.2				H: 05 27 19			
	KEV	iP	18 57	21.0				44.6 N, 150.7 E, 45 km (R)			
	H: 18 47 30.5										
	44.8 N, 150.3 E, 51 km (R)										
	Kurile Islands										
21	NUR	eP	21 42	11			22	KJN	eP	10 54	42
		i		25.2				OUL	iP	10 55	01.8
	KJN	eP	21 42	06				SOD	eP	10 55	06
21	NUR	eP	21 46	24			22	NUR	iP	11 02	39.2
	KJN	eP	21 46	20					i		50.1
	SOD	eP	21 45	56					e	04	54
									eS	11	24
									ePS		52
22	NUR	iPKP	00 37	41.0 U	0.7	52.9			eSS	15	52
		i		47.1				cont.			
	cont.										

May				May			
		T	A			T	A
	eS	48	31				
	ePS		52				
OUL	iP	19	39 55.5 U				
	i		40 10.7				
	iPP		42 14.3				
	i		30.7				
SOD	iP	19	39 44.3 U				
	i		59.0				
KEV	iP	19	39 34.1	0.7	29.0		
	i		47.0				
	e		41 36				
	ePPP		43 24				
	eS		47 40				
	e		48 14				
	e		49 40				
	eSS		51 46				
	H:	19	29 25.7				
			40.2 N, 142.3 E, 40 km (R)				
			Honshu, Japan				
22	NUR	iP	20 02 55.0	0.9	8.4		
22	NUR	iP	20 11 56.0	0.7	6.5		
	i		12 09.6				
	KJN	iP	20 11 32.6 U	0.8	7.7		
	i		36.7				
	OUL	iP	20 11 30.1 U				
	SOD	eP	20 11 17				
	H:	20	01 13.3				
			44.8 N, 150.2 E, 46 km (R)				
			Kurile Islands				
22	NUR	eP	20 46 39				
22	NUR	eP	21 23 55				
	KJN	iP	21 23 44.0 U	0.8	18.5		
	i		52.8				
	i		24 08.7				
	OUL	iP	21 23 45.4				
	i		58.7				
	SOD	iP	21 23 43.3				
	KEV	eP	21 23 40				
	H:	21	10 45.3				
			2.9 N, 126.5 E, 58 km				
			Molucca Passage				
22	KJN	eP	21 36 17				
22	KJN	eP	21 38 57				
	SOD	eP	21 38 49				
	H:	21	27 41				
			31.5 N, 139.8 E, 33 km (R)				
			South of Honshu, Japan				
22	KJN	eP	22 42 43				
	OUL	eP	22 42 41				
	SOD	eP	22 42 31				
	H:	22	31 23.3				
			31.5 N, 139.8 E, 33 km (R)				
			South of Honshu, Japan				
22	NUR	e	23 29 31				
	i		45.1				
	KJN	eP	23 29 09				
	OUL	iP	23 29 08.2				
	i		22.9				
	SOD	eP	23 28 51				
	H:	23	18 44				
			42.2 N, 141.4 E, 26 km				
			Hokkaido, Japan				
22	KJN	iP	23 38 06.7 U	0.6	8.2		
23	NUR	eP	00 19 30				
	H:	00	08 42				
			40.8 N, 144.1 E, 19 km				
			Honshu, Japan				
23	KJN	eP	01 31 01				
23	SOD	eP	02 38 20				
	H:	02	28 40				
			50.2 N, 157.0 E, 44 km				
			Kurile Islands				
23	NUR	eP	02 44 33				
23	NUR	eP	03 08 22				
	KJN	eP	03 08 01				
	OUL	eP	03 07 59				
	SOD	eP	03 07 48				
	KEV	iP	03 07 37.4	0.7	10.6		
	H:	02	57 34				
			41.6 N, 142.5 E, 25 km				
			Hokkaido, Japan				
23	NUR	eP	07 53 10				
	KJN	eP	07 52 49				
	OUL	eP	07 52 44				
	SOD	eP	07 52 31				
	H:	07	42 28				
			44.7 N, 150.5 E, 50 km (R)				
			Kurile Islands				
23	KJN	eP	13 41 52				
	H:	13	31 21				
			41.2 N, 143.4 E, 33 km (R)				
			Hokkaido, Japan				

May				T	Δ	May				T	Δ
	KEV	iP	18 42 52.2	0.9	13.4	23	NUR	eP	21 18 29		
		e	43 57				KJN	eP	21 18 07		
	H: 18 33 01						OUL	eP	21 18 08		
	44.9 N, 150.2 E, 33 km (R)						H: 21 07 41				
	Kurile Islands						41.5 N, 142.2 E, 35 km (R)				
							Hokkaido, Japan				
23	KJN	iP	18 47 40.0	1.0	12.0	23	KJN	eP	23 23 11		
23	NUR	eP	18 54 05				OUL	iP	23 23 12.3		
23	NUR	iPKP	19 02 34.2	1.4	140.4	23	NUR	iP	23 44 36.9	0.8	16.9
		i	48.0				KJN	iP	23 44 59.8 U	0.9	8.9
	KJN	iPKP	19 02 25.5	0.9	12.5		OUL	iP	23 45 09.6 U		
		i	38.0				H: 23 36 06.4				
		e	04 21				14.7 N, 40.2 E, 33 km (R)				
	OUL	ePKP	19 02 26				Ethiopia				
		i	36.0			23	NUR	eP	23 48 34		
		e	04 20				KJN	iP	23 48 12.3		
	SOD	ePKP	19 02 14				OUL	iP	23 48 12.3		
	KEV	ePKP	19 02 13			24	NUR	iP	00 07 20.8	0.9	16.4
	H: 18 43 01						KJN	iP	00 06 59.4 U	0.9	25.9
	30.6 S, 177.7 W, 70 km						i	07 07.3			
	Kermadec Islands						ePP	09 17			
23	NUR	eP	19 14 44				OUL	iP	00 06 59.1 U		
	KJN	eP	19 14 32				i	07 27.2			
	OUL	eP	19 14 35				SOD	iP	00 06 47.3		
	SOD	eP	19 14 28				e	07 16			
23	NUR	iP	19 28 03.3	1.0	11.8		KEV	iP	00 06 36.2	0.9	13.4
	KJN	iP	19 27 50.8	0.8	11.5		H: 23 56 24.7				
	OUL	eP	19 27 55				40.3 N, 143.6 E, 38 km				
	SOD	eP	19 27 45				Honshu, Japan				
	KEV	eP	19 27 45			24	NUR	iP	01 13 16.0	0.7	10.1
	H: 19 16 21						KJN	eP	01 13 06		
	19.8 N, 122.0 E, 71 km						OUL	eP	01 13 07		
	Philippine Islands					24	NUR	iP	02 18 55.0	1.2	22.3
23	NUR	eP	20 04 30			24	KJN	eP	03 23 36		
	KJN	iP	20 04 12.0				OUL	eP	03 23 38		
23	KJN	eP	20 06 13			24	KJN	eP	04 24 26		
	OUL	eP	20 06 14				OUL	eP	04 24 29		
23	NUR	eP	20 24 06				SOD	eP	04 24 25		
	KJN	eP	20 24 00				KEV	eP	04 24 19		
	OUL	iP	20 24 00.6			24	NUR	ePKP	04 49 17		
	SOD	eP	20 23 54				KJN	ePKP	04 49 09		
23	KJN	eP	20 40 02				OUL	ePKP	04 49 08		
	OUL	eP	20 40 04				H: 04 31 06				
	KEV	eP	20 39 53				20.7 S, 178.9 W, 681 km				
							Fiji Islands				

May				T	A	May				T	A	
24	KJN	eP	05 19 15				eS	26 08				
	OUL	eP	05 19 16				eSS	30 34				
24	NUR	iP	06 43 34.5	0.8	9.9	KJN	iP	14 16 53.0 U	1.3	295.1		
	KJN	iP	06 42 51.7	0.6	5.5		i	17 09.8				
		i	43 03.6				iPP	19 08.7				
		eS	45 18				e	21 14				
	OUL	iP	06 42 36.7			OUL	iP	14 16 53.6 U				
		i	47.7				iPP	19 08.9				
		iS	44 52.4			SOD	iP	14 16 41.2 U				
	SOD	eP	06 42 07				i	58.0				
		iS	44 01.8				ePP	18 54				
	KEV	eP	06 41 40			KEV	iP	14 16 30.9 U	1.2	94.1		
		eS	43 10				ePP	18 36				
	H: 06 39 34						ePPP	20 12				
	77.1 N, 12.2 E, 33 km (R)						eS	24 42				
	Svalbard						ePS	25 00				
							eSS	28 46				
24	NUR	iPKP	07 42 40.0	0.8	9.9	H: 14 06 24.2						
	KJN	iPKP	07 42 32.6	0.7	8.2	40.9 N, 143.0 E, 38 km						
		i	40.8			Honshu, Japan						
	OUL	iPKP	07 42 34.1			24	NUR	iPKP	15 13 27.5	0.8	21.2	
	SOD	ePKP	07 42 29				KJN	iPKP	15 13 19.6			
	KEV	ePKP	07 42 25				OUL	ePKP	15 13 18			
	H: 07 22 49						H: 14 53 49.3					
	42.0 S, 172.1 E, 33 km (R)						30.9 S, 177.2 W, 33 km (R)					
	South Island, N.Z.						Kermadec Islands					
24	KJN	eP	11 04 31			24	NUR	iP	15 21 16.5	1.2	25.1	
	OUL	eP	11 04 32				e	24 54				
24	NUR	iP	11 27 50.8	0.8	14.1	KJN	iP	15 20 50.6 U	1.2	32.7		
		e	28 05				e	23 37				
	KJN	iP	11 27 25.8	0.7	5.5		e	24 28				
		i	40.8			OUL	iP	15 20 34.5				
	OUL	iP	11 27 21.3			SOD	eP	15 20 16				
		i	34.8				i	21.0				
	SOD	eP	11 27 05			KEV	eP	15 20 02				
	KEV	iP	11 26 48.0	0.7	12.9	H: 15 17 39.8						
	H: 11 17 02.5					71.6 N, 2.4 W, 33 km (R)						
	53.2 N, 163.1 W, 33 km (R)					Jan Mayen Island						
	Unimak Island					24	NUR	iP	15 56 27.0 D	1.1	121.2	
24	NUR	eP	14 05 32				ipP	58 42.5				
	KJN	iP	14 05 11.6				esP	59 26				
	H: 13 54 42						iSKS	16 06 05.0				
	40.8 N, 143.2 E, 34 km						i	36.1				
	Honshu, Japan						iSP	08 22.0				
24	NUR	iP	14 17 15.0 U	1.3	143.2	KJN	iP	15 56 19.8 D	0.8	70.0		
		i	34.0				i	26.9				
		ePP	19 40				ipP	58 35.6				
		ePPP	21 16				isP	59 21.8				
	cont.						cont.					

May				May				May					
				T	A			T	A			T	A
	iSKS	16 05	57.2			24	NUR	iPKP	21 17	20.0		1.0	39.2
	i	06	24.6					i		32.5			
	eS		44					ePP	21 00				
	e	07	09			KJN	iPKP	21 17	13.5				
OUL	iP	15 56	24.4	D			i		20.0				
	i		31.2				i		42.8				
	iSKS	16 00	57.1			OUL	iPKP	21 17	14.5				
	iPKKP	12	54.0			SOD	ePKP	21 17	09				
SOD	iP	15 56	22.5	D			i		14.5				
	e	58	48				i		21.5				
	esP	59	20			KEV	iPKP	21 17	05.1		1.2	85.5	
KEV	iP	15 56	22.2	0.9	26.9		ePP	20	28				
	ePP	16 00	28				H:	20 57	27.3				
	iSKS	05	59.4					41.8 S,	172.0 E,	33 km (R)			
	iS	06	49.2					South Island,	N.Z.				
	H:	15 43	54.2			24	NUR	eP	21 45	24			
		6.8 S,	118.9 E,	609 km (R)			i		29.0		0.7	10.1	
		Flores Sea				KJN	iP	21 44	59.7	D	1.0	15.3	
							i		45 09.0				
24	NUR	eP	16 48	29		OUL	eP	21 44	59				
24	NUR	eP	16 52	21		SOD	eP	21 44	47				
	KJN	eP	16 51	52			i		56.8				
	OUL	eP	16 51	36		KEV	iP	21 44	36.0				
	SOD	eP	16 51	18			i		43.0		0.9	16.8	
	KEV	eP	16 51	04			Moscow:						
24	KJN	eP	17 45	26			H:	21 34	28				
24	NUR	iPKP	18 00	46.0	0.8	26.8		41.1 N,	143.8 E				
	i			53.9				Hokkaido,	Japan				
KJN	ePKP	18 00	38			24	NUR	iP	21 47	35.0	U	0.9	34.4
	i			39.7			i		39.8				
	e			46		KJN	iP	21 47	08.6	U	1.0	28.3	
OUL	ePKP	18 00	37				i		11.8				
	i			40.2		OUL	iP	21 47	04.7	U			
	eSKP	04	21				i		09.1				
SOD	iPKP	18 00	34.7			SOD	iP	21 46	48.8	U			
	i			55.4			i		53.1				
KEV	iPKP	18 00	31.7	0.8	54.7	KEV	iP	21 46	32.2		0.8	14.4	
	i			33.2			i		38.2				
	i			38.5			H:	21 37	11.2				
	H:	17 40	54					54.2 N,	169.3 E,	5 km			
		41.9 S,	171.8 E,	27 km				Komandorsky	Islands				
		South Island,	N.Z.			24	NUR	eP	21 55	28			
24	KJN	eP	19 12	20			i		36.5				
24	NUR	eP	19 58	32		KJN	iP	21 55	06.4				
	KJN	iP	19 58	16.6	D	0.8	10.8	OUL	eP	21 55	13		
	OUL	iP	19 58	16.9				SOD	eP	21 54	53		
	SOD	eP	19 58	05				24	KJN	eP	21 57	21	
								OUL	eP	21 57	22		
								SOD	eP	21 57	17		
								KEV	eP	21 57	13		

May						May			
				T	A				
24	NUR	eP	23 48 16			25	NUR	eP	05 43 48
	KJN	eP	23 47 55				KJN	eP	05 43 47
	OUL	eP	23 47 54			25	NUR	eP	07 10 40
	SOD	eP	23 47 42				i		45.0
	H: 23 37 29						eS		13 43
	41.7 N, 142.7 E, 22 km						KJN	eP	07 11 11
	Hokkaido, Japan						i		22.6
24	NUR	iP	23 59 26.0	0.7	6.3		eS		14 47
	KJN	iP	23 59 30.4 U	0.7	8.9		OUL	iP	07 11 25.2
	OUL	iP	23 59 26.0				SOD	eP	07 11 43
	SOD	eP	23 59 25				i		48.3
	H: 23 47 04.0						eS		15 47
	10.9 N, 69.4 W, 33 km (R)						KEV	eP	07 12 25
	Venezuela						eS		16 48
25	KJN	eP	00 22 32				Moscow:		
	e		41				H: 07 06 39		
	eS		25 18				45.1 N, 38.2 E		
	OUL	eP	00 22 22				Caucasus		
	eS		24 55			25	KJN	eP	11 27 32
	SOD	eP	00 21 54						
	eS		24 01			25	NUR	iP	11 38 07.1
	KEV	eP	00 21 27				KJN	iP	11 38 00.5 U
	eS		23 04				OUL	iP	11 38 00.4
25	NUR	iP	00 34 25.5	1.1	37.3		SOD	eP	11 37 56
	eS		38 38			25	NUR	iP	12 03 52.7 U
	KJN	iP	00 34 49.6	0.9	24.1		iPP		06 18.0
	i		35 31.7				ePPP		08 08
	OUL	iP	00 34 59.6				eS		12 46
	i		35 01.7				eSS		17 16
	i		10.1				KJN	iP	12 03 31.1 U
	SOD	iP	00 35 20.5				iPP		05 50.6
	i		27.3				eS		12 04
	H: 00 29 25.9						ePPS		39
	40.8 N, 42.0 E, 9 km						OUL	iP	12 03 31.2 U
	Turkey						i		39.4
25	NUR	iPKP	02 30 52.0	1.0	11.8		ePP		05 52
	KJN	ePKP	02 30 45	1.1	16.2		SOD	iP	12 03 19.3 U
	OUL	ePKP	02 30 46				i		26.1
	SOD	ePKP	02 30 42				KEV	iP	12 03 08.7
	KEV	iPKP	02 30 38.3	0.8	13.0		i		18.4
	H: 02 11 01						i		26.3
	42.1 S, 171.8 E, 33 km (R)						ePPP		06 50
	South Island, N.Z.						eS		11 24
25	NUR	eP	05 01 01				eScS		12 54
	KJN	eP	05 00 40				eSS		15 32
	OUL	eP	05 00 38				H: 11 52 57.4		
	SOD	eP	05 00 24				40.1 N, 143.1 E, 37 km (R)		
							Honshu, Japan		

May				May					
			T	A			T	A	
25	NUR eP	13 49 01			26	NUR iPKP	00 09 09.3	1.0	58.0
	KJN eP	13 48 39				i	21.0		
	OUL eP	13 48 39				KJN iPKP	00 09 01.7		
	SOD eP	13 48 26				i	03.2		
	H: 13 37 59.3					OUL iPKP	00 09 02.4		
	39.2 N, 142.9 E, 42 km					i	09.5		
	Honshu, Japan					SOD ePKP	00 08 58		
						i	09 03.2		
25	NUR eP	13 51 54				KEV ePKP	00 08 54		
	KJN eP	13 51 32				H: 23 49 16.7			
	OUL eP	13 51 32				42.0 S, 171.8 E, 28 km			
	SOD e	13 51 31				South Island, N.Z.			
	H: 13 41 01.5				26	NUR eP	01 30 36		
	40.9 N, 143.1 E, 30 km					KJN eP	01 30 29		
	Honshu, Japan					OUL iP	01 30 28.1		
25	NUR eP	14 29 29			26	NUR eP	04 15 07		
	i	39.5				KJN iP	04 15 00.0 D	1.0	17.4
	KJN eP	14 29 08				ipP	30.2		
	i	17.6				ePP	18 45		
	OUL eP	14 29 07				OUL iP	04 15 04.4		
	e	17				SOD eP	04 14 59		
	SOD eP	14 28 55				i	15 04.5		
	i	29 05.7				H: 04 01 57.8			
25	NUR iP	14 29 53.3	1.0	17.4		0.4 S, 124.0 E, 106 km			
	KJN iP	14 29 31.8				Molucca Sea			
	OUL iP	14 29 31.4			26	NUR iP	05 39 28.2 U	0.8	8.6
	i	40.2				KJN iP	05 39 49.3	0.8	6.9
	SOD iP	14 29 20.0				e	40 46		
	KEV eP	14 29 15				OUL iP	05 40 00.1		
	H: 14 18 52					SOD eP	05 40 22		
	38.9 N, 143.0 E, 30 km					e	40		
	Honshu, Japan					Moscow:			
25	KJN eP	15 46 52				H: 05 34 31			
	OUL iP	15 47 02.3				41.0 N, 42.2 E			
	SOD eP	15 47 09				Turkey			
25	NUR eP	18 29 00	1.2	27.9	26	NUR eP	14 15 13		
	KJN eP	18 29 35				KJN iP	14 14 52.8 U	0.8	9.2
25	NUR eP	18 48 04				OUL eP	14 14 51		
	KJN eP	18 47 55				SOD eP	14 14 38		
25	NUR eP	20 20 41				H: 14 04 16.7			
	KJN iP	20 20 19.6	0.7	6.9		40.0 N, 142.7 E, 33 km (R)			
	OUL iP	20 20 18.5				Honshu, Japan			
	SOD eP	20 20 07			26	NUR ePKP ²	15 02 01		
25	NUR eP	21 21 08				ePKP ²	44		
	KJN iP	21 20 47.0	0.6	7.5		ePP	06 28		
	OUL eP	21 20 45				eSKSP	17 00		
	SOD eP	21 20 33				ePPS	20 16		
						eSS	27 04		

cont.

May				T	A	May				T	A	
	KJN	ePKP ²	15 02 48	1.2	31.0	OUL	iP	23 09 43.2				
	OUL	ePKP ²	15 02 53				i	55.8				
	SOD	ePKP ²	15 02 52			SOD	iP	23 09 33.0				
	KEV	eSKKS	15 13 28			KEV	eP	23 09 29				
		eSKSP	17 32					H: 22 59 14.2				
		eSS	27 20					40.7 N, 143.2 E, 40 km (R)				
		H: 14 41 52						Honshu, Japan				
		63.3 S, 170.7 E, 9 km										
		Balleny Island				27	KJN	eP	00 08 16			
							OUL	eP	00 08 09			
26	NUR	eP	16 50 15			27	NUR	eP	06 28 45			
	KJN	e	16 49 52					e	58			
	OUL	eP	16 49 44			KJN	iP	06 28 24.0 U	0.7	16.4		
	SOD	eP	16 49 26					e	38			
		H: 16 40 55				OUL	iP	06 28 22.7				
		66.1 N, 161.5 W, 33 km (R)						i	36.2			
		Alaska				SOD	iP	06 28 12.0				
26	NUR	iP	17 52 32.6 U	0.9	20.2	KEV	eP	06 28 01	0.6	8.8		
	KJN	iP	17 52 11.1 U	0.7	39.7			H: 06 17 54				
		i	21.7					40.4 N, 141.8 E, 50 km (R)				
		iPcP	48.8					Honshu, Japan				
		ePP	54 32			27	KJN	iP	07 35 55.7			
	OUL	iP	17 52 09.6 U									
		i	18.7			27	NUR	iP	10 14 44.7	0.9	8.4	
		i	36.0				SOD	eP	10 14 59			
		ePP	54 30			27	NUR	eP	10 49 05			
	SOD	iP	17 51 59.3 U				KJN	iP	10 48 45.4	0.8	10.0	
	KEV	iP	17 51 48.8	0.9	21.8		OUL	eP	10 48 44			
		H: 17 41 10.1					SOD	eP	10 48 33			
		40.1 N, 142.3 E, 49 km (R)						H: 10 38 08				
		Honshu, Japan						39.6 N, 143.2 E, 38 km				
26	NUR	iP	18 45 11.1					Honshu, Japan				
		e	26			27	NUR	iPKP	11 56 11.1 U	0.6	21.3	
	KJN	iP	18 44 51.2	0.9	4.5			i	47.2			
	OUL	eP	18 44 49				KJN	ePKP	11 56 00			
	SOD	eP	18 44 37				OUL	iPKP	11 56 00.1			
		H: 18 34 25.0						H: 11 36 33.8				
		41.3 N, 142.5 E, 44 km						30.7 S, 177.9 W, 32 km				
		Hokkaido, Japan						Kermadec Islands				
26	KJN	eP	20 53 48									
26	NUR	eP	20 57 31			27	NUR	iP	12 18 36.9	0.9	10.1	
	KJN	eP	20 57 25	0.6	4.1							
	OUL	iP	20 57 25.1			27	NUR	eP	12 23 02			
26	KJN	eP	21 04 20	1.0	7.6			i	17.0			
26	NUR	iP	23 10 06.8				KJN	eP	12 22 03			
	KJN	iP	23 09 45.2 D	1.1	20.3		OUL	eP	12 22 33			
		i	57.0			27	NUR	iP	18 44 35.6 D	0.7	19.4	
		cont.					KJN	iP	18 44 33.1 D	0.8	15.4	
								cont.				



May		T	A	May		T	A	
	OUL iP	18 44	40.8		28 NUR iPKP	09 26	07.0	
	SOD iP	18 44	45.2		i		09.6	
	KEV iP	18 44	51.5 D	0.6	21.3	i	28.9	
	H: 18 35 57				e		40	
	29.7 N, 80.4 E, 27 km				eSKSP	39 40		
	Nepal-India border				eSS	48 36		
27	KJN ePKP	19 21	58		KJN iPKP	09 25	57.0	
	H: 19 02 50.0				OUL ePKP	09 25	56	
	21.3 S, 174.5 W, 100 km				i		58.4	
	Tonga Islands				SOD ePKP	09 25	43	
					e		26 10	
					ePP	28 53		
28	NUR eP	01 38	37		H: 09 06 29.9			
					30.9 S, 177.8 W, 33 km (R)			
28	NUR iPKP	01 48	00.5 D	0.9	20.2			
	i		18.2					
	e		36		28 NUR iPKP	11 12	11.5	
	KJN ePKP	01 47	49		i		30.2	
	OUL ePKP	01 47	49		KJN ePKP	11 12	05	
	H: 01 28 22.1				H: 10 52 29.3			
	30.9 S, 177.4 W, 33 km (R)				31.3 S, 176.8 W, 33 km (R)			
	Kermadec Islands				Kermadec Islands			
28	NUR iPKP	02 29	23.0	0.7	7.7	28 NUR eP	12 32	07
	i		32.2			KJN iP	12 31	45.0
	KJN ePKP	02 29	11			OUL eP	12 31	46
	i		21.4			i		58.1
	H: 02 09 42.0					SOD eP	12 31	33
	31.3 S, 176.8 W, 33 km (R)					KEV eP	12 31	22
	Kermadec Islands					H: 12 21 18		
						41.6 N, 142.5 E, 18 km		
28	NUR iPKP	03 53	28.1 U	1.0	28.0	28 NUR eP	12 31	22
	i		54.1			H: 12 21 18		
	e		54 08			41.6 N, 142.5 E, 18 km		
	eSKP		57 37			Hokkaido, Japan		
	KJN ePKP	03 53	19	1.0	7.6			
	e		57 37			28 NUR iP	13 41	17.2 U
	OUL ePKP	03 53	16			i		21.5
	H: 03 33 49					e		58
	31.1 S, 177.3 W, 33 km (R)					i		42 42.0
	Kermadec Islands					e		44 12
						e		39
						e		45 00
						ePP		44
						e		48 00
28	NUR iPKP	04 30	36.5			eSKS		51 48
	KJN ePKP	04 30	24			ePS		54 40
	SOD ePKP	04 30	29			ePKKP		57 18
	H: 04 10 55					i		30.0
	31.5 S, 176.8 W, 33 km (R)					eSS	14 00	12
	Kermadec Islands					eP'P'	05 28	
						KJN iP	13 41	05.7 U
						i		10.0
						i		36.7
						i		44 28.0
						iPP		45 34.9
28	NUR iPKP	07 09	54.0					cont.
	H: 06 50 19							
	30.6 S, 177.7 W, 33 km (R)							
	Kermadec Islands							



May	T	A	May	T	A
eSKS	51	47	28 NUR eP	20 45 55	
eS	52	54	KJN iP	20 45 35.4	0.9 6.3
ePS	54	27	28 NUR iP	21 36 36.4	0.9 11.8
ePPS	55	15	e	43 20	
e	56	33	KJN eP	21 37 12	
iPKKP	57	37.4	OUL eP	21 37 21	
eP'P'	14 05	26	SOD eP	21 37 42	
OUL iP	13 41	06.8	28 NUR iP	22 40 36.0 U	1.1 214.2
i		10.6	i		43.3
e	44	38	e	41 48	
ePP	45	23	ePP	43 00	
e	56	13	ePPP	44 48	
ePKKP	57	37	eS	49 16	
eP'P'	14 05	26	eScS	50 20	
SOD iP	13 41	04.3 U	eSS	53 24	
i		08.3	KJN iP	22 40 10.2 U	1.1 124.2
i	44	43.0	i		36.5
iPP	45	21.3	i	41 10.7	
KEV iP	13 40	58.8 U 1.0 46.0	e	42 12	
i	41	03.5	eS	48 28	
i		16.3	OUL iP	22 40 05.8 U	
e	43	43	i		12.4
i	44	40.6	iPcP		53.0
ePP	45	06	SOD iP	22 39 50.4 U	
ePPP	47	12	i		59.1
eSKS	51	40	iPcP	40 41.0	
ePS	54	36	KEV iP	22 39 34.4 U	1.0 52.0
e	56	16	i		41.7
ePKKP	57	37	i	40 14.1	
e	58	25	ePcP		33
eSS	59	04	ePPP	43 04	
H: 13 27 18.7			eS	47 20	
2.9 S, 139.3 E, 65 km (R)			eSS	51 12	
New Guinea			e	53 12	
28 NUR iP	14 41	10.5	H: 22 29 56.8		
KJN iP	14 40	48.0 0.8 11.5	52.2 N, 172.8 E, 15 km		
e	41	17	Near Islands		
OUL iP	14 40	47.4	28 NUR iP	23 06 01.8	
SOD eP	14 40	36	KJN eP	23 05 36	1.0 12.0
KEV eP	14 40	25	OUL iP	23 05 31.5	
H: 14 30 19.9			H: 22 55 28.5		
41.0 N, 143.0 E, 40 km (R)			52.4 N, 172.9 E, 55 km		
Hokkaido, Japan			Near Islands		
28 NUR eP	14 49	58	28 NUR iP	23 11 25.4	0.5 13.2
H: 15 46 21			KJN iP	23 11 03.9 U	0.7 17.1
31.4 S, 176.8 W, 33 km (R)			e		24
Kermadec Islands			OUL iP	23 11 03.3	
28 KJN eP	18 23	35	SOD eP	23 10 52	
			cont.		

May						May			
			T	Δ				T	Δ
	KEV eP	23 10 41			29	NUR ePKP	17 40 40		
	H: 23 00 39					iSKP	43 45.5		
	40.9 N, 142.0 E, 60 km (R)					ePKS	44 06		
	Honshu, Japan					OUL iPKP	17 40 32.6		
28	NUR eP	23 50 31	0.8	8.6		e	41 37		
	e	42				H: 17 21 52.9			
						18.6 S, 169.0 E, 214 km			
						New Hebrides Islands			
29	NUR iP	00 19 02.2	1.0	30.0	29	NUR eP	20 21 41		
	KJN iP	00 18 35.5	1.0	14.2		KJN eP	20 21 18		
	OUL iP	00 18 31.9							
	SOD eP	00 18 16							
	H: 00 08 28								
	52.5 N, 173.1 E, 33 km (R)								
	Near Islands								
29	NUR eP	00 35 26			30	NUR iP	00 17 39.6 U	0.5	13.2
						KJN iP	00 17 57.7 U	1.0	17.4
						OUL iP	00 18 08.2		
						SOD iP	00 18 24.5		
						KEV eP	00 18 41		
						H: 00 11 16.7			
						32.6 N, 48.3 E, 41 km			
						Western Iran			
29	NUR eP	02 53 44			30	NUR iP	00 47 32.1	0.8	7.2
	SOD eP	02 52 32				KJN iP	00 47 16.5 U	0.8	9.2
						OUL iP	00 47 07.7		
						SOD eP	00 46 56		
						H: 00 35 59.8			
						42.3 N, 119.8 W, 24 km			
						Oregon			
29	NUR iP	04 02 49.0			30	NUR iP	01 17 48.7 U		
						iPP	19 18.7		
						e	20 32		
						eS	23 38		
						e	46		
						eSS	26 20		
						KJN iP	01 18 03.0 U	1.0	26.2
						i	10.8		
						i	42.7		
						iPP	19 33.9		
						iPcP	20 04.6		
						eS	24 07		
						OUL iP	01 18 13.9 U		
						SOD iP	01 18 27.7 U		
						i	31.3		
						ePP	19 56		
						KEV iP	01 18 42.4 U	0.9	40.3
						i	46.8		
						ePP	20 33		
						eS	25 20		
						eSS	28 32		
						H: 01 10 30.0			
						27.8 N, 54.0 E, 27 km			
						Southern Iran			
29	NUR iP	10 14 55.0							
	KJN iP	10 14 35.7	0.8	9.2					
	OUL eP	10 14 35							
	SOD eP	10 14 26							
	H: 10 03 51.5								
	36.1 N, 140.2 E, 89 km								
	Honshu, Japan								

Moscow:
H: 08 55 18
40.4 N, 143.8 E
Honshu, Japan

May								May							
				T	A						T	A			
30	NUR	iPKP	02 51 07.8	0.8	11.5		30	NUR	iP	16 47 38.1	0.8	10.1			
		i	19.4					KJN	iP	16 47 18.5 D	0.6	8.2			
	KJN	ePKP	02 51 00					OUL	iP	16 47 18.8					
	H: 02 31 29							SOD	eP	16 47 05					
	30.8 S, 177.3 W, 33 km (R)														
	Kermadec Islands						30	NUR	iP	17 45 48.2					
30	NUR	iPKP	04 44 50.8 D	1.0	22.0			i		51.4	0.8	51.8			
	KJN	iPKP	04 44 43.7	0.7	8.2			i		46 37.0					
	OUL	iPKP	04 44 43.9					eS		50 10					
		i	49.4					eScP		53 02					
	SOD	ePKP	04 44 38					eScS		56 48					
	KEV	ePKP	04 44 36					KJN	iP	17 46 20.1	0.7	43.8			
	H: 04 24 59.1							i		24.7					
	41.9 S, 172.0 E, 30 km							i		48.0					
	South Island, N.Z.							eS		51 05					
								iScP		53 11.6					
30	NUR	iP	05 34 31.4 U	0.7	45.2			eScS		57 03					
		i	44.0					OUL	iP	17 46 28.6					
		i	35 03.1					i		57.6					
		ePPP	38 54					ePcP		49 34					
		eS	43 14					eS		51 21					
		eScS	44 28					iScP		53 14.8					
		eSS	47 50					SOD	iP	17 46 49.6					
	KJN	iP	05 34 07.9 U	1.3	195.3			i		47 19.0					
		i	19.8					eScP		53 24					
		i	35 06.8					KEV	iP	17 47 11.3	1.0	32.0			
		eScP	38 43					i		17.4					
	OUL	iP	05 34 06.4 U					i		33.8					
		i	20.9					ePcP		49 52					
	SOD	iP	05 33 52.8					eS		52 32					
		i	34 08.9					e		53 00					
		e	35 46					H: 17 40 24.4							
	KEV	iP	05 33 41.5	0.8	28.8			35.5 N, 28.0 E, 21 km							
		i	56.3					Eastern Mediterranean Sea							
		ePPP	37 12												
		eS	41 44												
		e	42 20				30	NUR	iP	18 11 38.0	0.9	25.2			
		eScS	43 32					i		58.0					
		eSS	46 00					e		12 33					
	H: 05 23 48.9							KJN	iP	18 11 27.7	1.0	17.4			
	44.7 N, 150.3 E, 49 km (R)							i		37.9					
	Kurile Islands							OUL	iP	18 11 30.7					
30	NUR	iP	09 15 08.0					SOD	iP	18 11 27.2					
	KJN	iP	09 14 46.0 U	0.8	9.2			KEV	eP	18 11 25					
	OUL	iP	09 14 45.3					H: 17 58 40.8							
	H: 09 04 20.9							5.2 N, 126.8 E, 90 km							
	40.7 N, 142.3 E, 66 km							Philippine Islands							
	Honshu, Japan														
30	KJN	eP	10 09 20	0.9	7.1		30	NUR	eP	18 19 25					
	H: 09 55 32.0							KJN	iP	18 20 12.9					
	6.7 S, 129.5 E, 33 km (R)							SOD	eP	18 20 41					
	Banda Sea							H: 18 15 42							
								45.1 N, 17.1 E, 33 km (R)							
								Yugoslavia							

May				T	A	May				T	A	
30	NUR	iP	19 24 20.0	0.7	14.2	OUL	iP	21 22 41.0				
		i	36.4				epP	23 25				
	KJN	iP	19 23 54.7	0.8	10.8	SOD	iP	21 22 48.2 U				
		i	24 07.7				epP	23 33				
	OUL	eP	19 23 52			KEV	iP	21 22 57.5 U	0.8	20.2		
		i	24 09.9									
	SOD	iP	19 23 41.2 U			30	NUR	iP	21 27 54.2			
		i	48.5				KJN	eP	21 27 43			
	KEV	iP	19 23 28.0 U	0.8	15.8	30	NUR	eP	21 56 39			
							e	52				
	H: 19 13 28.2											
	45.0 N, 153.6 E, 30 km											
	Kurile Islands											
30	NUR	iP	20 00 01.2			30	KJN	iP	23 04 44.4			
	KJN	iP	20 00 17.7	1.2	43.0	30	NUR	eP	23 25 35			
		i	50.8									
		ePP	01 40									
	OUL	iP	20 00 28.2			30	NUR	iP	23 39 05.3			
		i	01 01.2				KJN	eP	23 39 00			
	SOD	eP	20 00 43									
		i	01 17.0			31	NUR	iP	00 28 33.8	0.9	10.1	
		i	02 04.1				i	42.0				
	KEV	iP	20 00 59.3	1.1	38.1		KJN	eP	00 28 39			
		iPP	02 41.2									
	H: 19 53 06.0					31	NUR	eP	01 28 46			
	29.7 N, 51.3 E, 32 km						KJN	eP	01 28 25			
	Southern Iran						H: 01 17 56					
							41.6 N, 142.8 E, 12 km					
							Hokkaido, Japan					
30	NUR	iPKP	20 02 03.0	0.9	99.1	31	NUR	iP	03 10 09.0 U	0.7	19.4	
		i	04 44.5				KJN	iP	03 10 07.0 U	0.9	14.3	
		iSKP	05 47.6				e	12 08				
	KJN	iPKP	20 01 50.3	1.3	84.6		OUL	iP	03 10 15.1 U			
		ePKS	05 34				SOD	eP	03 10 19			
	OUL	ePKP	20 01 52				KEV	iP	03 10 25.6	0.6	11.3	
		i	02 05.4				H: 03 01 35.7					
		eSKP	05 36				29.9 N, 80.0 E, 33 km (R)					
	KEV	iPKP	20 01 47.4				Nepal-India border					
		ePP	04 36									
		ePKS	05 20									
	H: 19 42 25.1					31	NUR	eP	05 12 49			
	31.0 S, 177.6 W, 42 km						KJN	eP	05 12 36			
	Kermadec Islands						OUL	eP	05 12 42			
30	NUR	iP	20 13 14.0	0.7	7.7	31	NUR	eP	06 00 21			
30	NUR	eP	20 16 03				KJN	eP	06 00 00			
		e	11				SOD	eP	05 59 47			
	KJN	eP	20 16 45				H: 05 49 23					
							40.1 N, 144.0 E, 33 km (R)					
							Honshu, Japan					
30	NUR	iP	21 22 30.8	0.7	16.8							
		epP	23 17									
	KJN	iP	21 22 31.9 D	0.9	19.6	31	KJN	eP	10 12 17			
		ipP	23 16.7				H: 10 01 47					
		e	25 06				40.9 N, 143.1 E, 33 km (R)					
			cont.				Honshu, Japan					

May

				T	A	
31	NUR	iPKP	13 01	52.3	0.7	14.2
	KJN	iPKP	13 01	42.0	1.0	7.6
	H: 12 42 11.4					
	31.4 S, 176.9 W, 33 km (R)					
	Kermadec Islands					
31	NUR	iP	13 27	03.1	0.7	12.9
31	KJN	iP	14 15	37.3 U	1.1	12.2
	OUL	iP	14 15	28.0		
31	NUR	iPKP	15 43	05.0	0.8	24.5
		i		14.5		
	KJN	iPKP	15 42	53.7	1.1	9.5
	H: 15 23 26.7					
	31.0 S, 177.8 W, 33 km (R)					
	Kermadec Islands					
31	NUR	iPKP	18 39	20.8	0.8	41.8
	KJN	iPKP	18 39	14.1 U	0.7	23.3
	OUL	iPKP	18 39	13.8 U		
	SOD	iPKP	18 39	10.4		
	KEV	iPKP	18 39	07.0 U	0.6	12.5
	H: 18 20 42.7					
	13.6 S, 167.2 E, 205 km					
	New Hebrides Islands					

May

					T	A
31	NUR	iP	20 02	46.8	1.1	14.3
	KJN	iP	20 02	24.0	1.1	18.9
	OUL	iP	20 02	24.2		
	SOD	eP	20 02	11		
	KEV	iP	20 02	03.4	0.8	10.1
	H: 19 51 58.5					
	41.4 N, 142.6 E, 33 km (R)					
	Hokkaido, Japan					
31	NUR	ePKP	21 37	45		
	KJN	ePKP	21 37	38		
	OUL	ePKP	21 37	38		
	H: 21 18 57.0					
	14.7 S, 167.4 E, 142 km					
	New Hebrides Islands					

February 27, 1969

Urmas Luosto
Aili Huovila

5 MAY 1969

June				T	A	June				T	A
1	NUR	eP	00 38 09			1	NUR	eP	07 45 48		
1	SOD	iP	00 52 10.4				KJN	eP	07 45 25		
1	NUR	eP	01 06 48				SOD	eP	07 45 09		
		i	59.2				H: 07 35 06				
	KJN	eP	01 06 26	0.9	6.3		45.1 N, 150.1 E, 33 km (R)				
	OUL	eP	01 06 28				Kurile Islands				
	SOD	eP	01 06 14			1	NUR	iP	09 01 57.0	1.2	29.2
	KEV	e	01 06 11					i	02 08.9		
	H: 00 55 59.9						KJN	eP	09 01 45	1.3	17.4
	41.3 N, 142.3 E, 33 km (R)					1	NUR	iP	10 42 41.0 U	1.1	87.8
	Hokkaido, Japan							i	53.6		
1	NUR	eP	03 32 23					i	43 17.0		
	KJN	iP	03 32 00.7 U					iPP	45 06.2		
	OUL	eP	03 32 00					eS	51 32		
	SOD	iP	03 31 49.2					eSS	56 12		
	H: 03 21 33						KJN	iP	10 42 19.5 U	1.1	290.3
	40.9 N, 142.0 E, 33 km (R)							i	30.3		
	Honshu, Japan							i	43 32.8		
1	NUR	iP	04 09 13.0					iPP	44 37.6		
	KJN	iP	04 08 52.0 U	0.5	8.1			eS	50 51		
		e	09 10					ePS	51 16		
		ePcP	25				OUL	iP	10 42 18.7 U		
	OUL	iP	04 08 51.8					i	32.1		
	SOD	iP	04 08 40.8					iPP	44 37.2		
	H: 03 58 14						SOD	iP	10 42 07.8 U		
	38.2 N, 141.8 E, 77 km							i	22.0		
	Honshu, Japan							i	29.3		
1	KJN	ePn	04 51 36					ePP	44 26		
		e	37				KEV	iP	10 41 57.0 U	1.0	96.0
		eSn	52 30					i	43 11.1		
		iSg	51.9					ePPP	45 50		
	OUL	ePg	04 51 27					eS	50 08		
		e	58					ePS	24		
		iSn	52 04.6					eSS	54 12		
		iSb	12.4					H: 10 31 49.3			
	SOD	ePn	04 50 58					40.2 N, 142.3 E, 50 km			
		i	59.5					Honshu, Japan			
		iSn	51 27.0			1	NUR	iPKP	11 42 13.8	0.7	21.1
		i	30.9					i	21.0		
	KEV	ePb	04 51 02				KJN	ePKP	11 42 03	0.7	4.8
		eSn	30					i	16.6		
		e	34					eSKP	46 15		
1	NUR	eP	05 26 57	1.0	10.0		OUL	ePKP	11 41 59		
	KJN	eP	05 26 55	0.8	5.4		SOD	ePKP	11 41 58		
	SOD	eP	05 26 56				KEV	e	11 42 08		
	H: 11 22 35.1						H: 11 22 35.1				
	31.0 S, 177.7 W, 33 km (R)						31.0 S, 177.7 W, 33 km (R)				
	Kermadec Islands						Kermadec Islands				

June						June			
				T	A				
1	NUR eP	12 37 00				SOD eP	00 59 40		
	KJN iP	12 36 44.5	0.6	4.1		H: 00 49 33			
	i	50.0				41.3 N, 142.3 E, 95 km			
	SOD eP	12 36 42				Hokkaido, Japan			
	KEV eP	12 36 36			2	NUR iPKP	01 29 34.0	0.8	8.8
	H: 12 25 41					KJN iPKP	01 29 26.6	0.5	8.8
	24.7 N, 121.9 E, 81 km					OUL ePKP	01 29 26		
	Taiwan					H: 01 11 19.4			
1	KJN eP	13 33 57				18.5 S, 177.7 W, 559 km			
	SOD eP	13 33 57				Fiji Islands			
	KEV eP	13 33 56			2	NUR eP	02 10 30		
	H: 13 21 00					KJN eP	02 10 34		
	1.1 N, 127.4 E, 152 km					eS	12 06		
	Halmahera					SOD eP	02 11 09		
1	NUR iP	14 04 08.0			2	NUR eP	02 51 05		
	KJN eP	14 03 47			2	KJN eP	03 59 05		
	OUL eP	14 03 46			2	NUR eP	04 58 41		
	SOD eP	14 03 34				KJN eP	04 58 55		
	KEV eP	14 03 23			2	NUR eP	05 55 19		
	H: 13 53 21				2	NUR iP	06 38 59.0	0.8	11.8
	41.6 N, 142.6 E, 34 km					KJN iP	06 38 36.4	0.7	4.1
	Hokkaido, Japan					OUL eP	06 38 34		
1	NUR eP	18 08 59				SOD eP	06 38 21		
	e	09 09				H: 06 28 18			
1	NUR iP	18 39 59.8	1.0	8.2		44.2 N, 147.2 E, 31 km			
	i	40 06.4				Kurile Islands			
	KJN eP	18 39 50			2	NUR eP	08 10 50		
1	NUR eP	19 57 44				KJN eP	08 10 28		
	KJN iP	19 57 23.4 U	0.6	8.2		OUL eP	08 10 26		
1	NUR eSg	20 31 43				SOD iP	08 10 12.0		
	KJN e	20 30 53				KEV e	08 10 09		
	e	31 23				H: 07 59 58.8			
	iSg	31.0				41.2 N, 143.4 E, 33 km (R)			
	OUL e	20 30 52				Hokkaido, Japan			
	e	31 16			2	NUR iPKP	08 37 18.0	0.8	35.3
	i	18.4				ipPKP	40.0		
	iSg	22.0				ePP	38 56		
	SOD eSg	20 32 19				KJN iPKP	08 37 11.2	0.8	18.5
1	NUR eP	21 23 02				ePP	38 33		
	KJN iP	21 22 40.6				OUL ePKP	08 37 11		
2	NUR eP	00 02 17				SOD ePKP	08 37 09		
2	NUR eP	00 20 56				ePP	38 26		
2	NUR eP	01 00 14				KEV iPKP	08 37 06.8	1.0	18.0
	KJN eP	00 59 54				H: 08 18 36.2			
						8.1 S, 158.6 E, 35 km			
						Solomon Islands			

cont.

June				June			
			T	A		T	A
2	KJN ePKP	12 16 31			KJN iP	05 42 50.3 U	0.7 10.3
	OUL ePKP	12 16 30			i	43 00.6	
	KEV ePKP	12 16 24			OUL iP	05 42 51.0	
	H:	11 56 48			e	59	
		41.7 S, 172.5 E, 62 km			SOD eP	05 42 40	
		South Island, N.Z.			H:	05 31 58.4	
2	NUR eP	19 42 00				36.0 N, 141.2 E, 57 km	
	KJN eP	19 41 56				Honshu, Japan	
	OUL iP	19 41 50.2			3	NUR iP	05 58 25.8 D 0.6 10.0
	SOD eP	19 41 46			KJN iP	05 58 04.3 0.9 14.3	
	KEV eP	19 41 40			OUL iP	05 58 03.4	
	H:	19 29 14			SOD eP	05 57 52	
		15.9 N, 93.3 W, 100 km			KEV iP	05 57 41.0 0.8 10.1	
		Chiapas, Mexico			H:	05 47 38.8	
2	KJN eP	20 42 59	1.0	8.7		41.4 N, 142.4 E, 33 km (R)	
	OUL eP	20 43 02				Hokkaido, Japan	
	SOD eP	20 42 57			3	NUR iP	08 43 13.0 0.8 14.4
	H:	20 31 42			i	23.0	
		23.6 N, 122.4 E, 33 km (R)			KJN iP	08 42 53.0 U 0.9 31.3	
		Taiwan			i	43 04.0	
2	NUR eP	20 44 57			OUL iP	08 42 52.6 U	
	KJN iP	20 44 52.9 D 0.7 10.3			i	43 03.3	
	OUL iP	20 44 56.9 D			SOD iP	08 42 42.9	
	SOD eP	20 44 57			i	53.2	
	H:	20 32 11			KEV iP	08 42 33.8 0.8 8.6	
		6.8 S, 109.4 E, 249 km			i	44.1	
		Java			H:	08 32 00.9	
2	KJN eP	21 27 35				35.9 N, 141.3 E, 56 km	
	SOD iP	21 26 54.4				Honshu, Japan	
2	NUR eP	22 31 47			3	NUR iP	09 04 49.0 0.7 12.9
	e	32 34			KJN iP	09 04 31.5 U 0.6 3.4	
	KJN eP	22 32 41			OUL iP	09 04 32.2 U	
2	NUR eP	23 23 48			SOD iP	09 04 24.2	
	KJN eP	23 23 27	0.9	7.1	KEV iP	09 04 16.7 0.6 8.8	
	OUL eP	23 23 25			H:	08 53 50	
	SOD eP	23 23 15				28.1 N, 138.9 E, 521 km	
3	NUR eP	02 23 17				Bonin Islands	
	KJN eP	02 22 55			3	NUR eP	09 29 43
	SOD eP	02 22 43			i	30 00.5	
	H:	02 12 32.7			KJN eP	09 29 49	
		41.5 N, 142.4 E, 57 km			3	NUR iP	09 46 57.0
		Hokkaido, Japan			KJN iP	09 31 42.2 1.0 9.8	
3	NUR eP	05 42 18			epP	32 33	
3	NUR eP	05 43 10			ePKKP	47 06	
	i	20.3			OUL eP	09 31 42	
		cont.			epP	32 42	
					ePKKP	47 04	
						cont.	

June			T	Δ	June			T	Δ
	SOD	eP 09 31 37			4	NUR	eP 01 50 11		
		epP 32 25				KJN	iP 01 50 26.7 U	0.8	21.5
		ePKKP 47 08					e 51 12		
	H:	09 17 46.2				OUL	iP 01 50 38.6 D		
		5.4 S, 147.0 E, 190 km					i 42.0		
		East New Guinea				SOD	iP 01 50 33.7 D		
3	NUR	iP 10 46 26.2	0.9	10.1		KEV	iP 01 51 11.0		
	KJN	eP 10 46 57					ePP 52 27		
	SOD	eP 10 47 25				H:	01 44 26		
	H:	10 41 00					37.5 N, 49.0 E, 50 km		
		35.4 N, 28.1 E, 20 km					Caspian Sea		
		Eastern Mediterranean Sea			4	NUR	eP 02 45 47		
3	KJN	eP 13 31 13				KJN	iP 02 45 31.5		
3	KJN	eP 13 39 01				OUL	eP 02 45 27		
	H:	13 27 39.7				SOD	eP 02 45 12		
		42.2 N, 119.8 W, 20 km				KEV	eP 02 45 03		
		Oregon				H:	02 34 15.7		
							42.3 N, 119.9 W, 21 km		
							Oregon		
3	NUR	iP 14 26 41.0 U	0.8	99.4	4	KJN	eP 02 49 44		
		i 54.0				H:	02 38 29.0		
		e 29 40					42.3 N, 119.8 W, 25 km		
		eS 35 06					Oregon		
		esS 36 18			4	NUR	eP 06 33 50		
	KJN	iP 14 26 17.3 U	0.9	122.3		KJN	eP 06 33 34		
		i 28.5				SOD	eP 06 33 12		
		i 27 38.5				H:	06 22 19.0		
		i 29 10.2					42.2 N, 119.8 W, 33 km (R)		
		eS 34 22					Oregon		
	OUL	iP 14 26 15.0			4	NUR	iP 06 56 28.5 U	0.6	26.9
		i 24.6					ePPP 57 51		
		iPP 28 29.3				KJN	iP 06 56 46.6 U	1.0	49.1
	SOD	iP 14 26 02.9 U					i 47.6		
		i 08.1					e 57 07		
	KEV	iP 14 25 50.0 U	0.8	77.8			ePP 58 05		
		i 26 26.8					eS 07 02 08		
		eS 33 28				OUL	iP 06 56 58.9		
	H:	14 16 20.0					ePcP 59 28		
		45.7 N, 148.3 E, 160 km				KEV	iP 06 57 30.9	0.9	16.8
		Kurile Islands					e 58 49		
3	NUR	eP 17 00 53				H:	06 50 06.6		
	KJN	eP 17 00 31					32.7 N, 48.3 E, 40 km		
	SOD	e 17 00 20					Western Iran		
	H:	16 48 56			4	NUR	iP 08 37 05.0	0.5	8.1
		40.3 N, 127.1 W, 15 km				KJN	eP 08 36 42		
		Northern California							
4	NUR	e(P) 01 25 02							
	KJN	i(P) 01 24 38.5							
		e 25 39							
	SOD	e(P) 01 24 43							

June						June						
				T	A					T	A	
4	NUR	iPKP	08 58 29.0			4	NUR	iP	17 26 42.3	1.1	56.1	
	KJN	ePKP	08 58 21					eS	36 14			
	H: 08 39 13						KJN	iP	17 26 26.7 U	0.7	46.6	
	21.7 S, 169.7 E, 33 km (R)							i	27 13.2			
	Loyalty Islands						OUL	iP	17 26 30.6			
4	KJN	iP	10 16 26.3	0.8	6.2		SOD	iP	17 26 25.4 U			
		i	34.5				KEV	iP	17 26 22.1 U	1.0	30.0	
	SOD	eP	10 16 09					eS	35 36			
		e	23				H: 17 15 09.8					
							22.5 N, 121.4 E, 47 km					
							Taiwan					
4	NUR	iP	13 31 33.3 D	0.8	25.0	4	NUR	iP	18 42 11.0	0.6	9.0	
	KJN	iP	13 31 15.6 D	1.0	27.3		KJN	iP	18 41 48.6	0.7	6.9	
	SOD	iP	13 31 08.3 D				OUL	iP	18 41 47.9			
	KEV	iP	13 31 01.0 D	0.6	13.8		SOD	eP	18 41 36			
	H: 13 20 26.7						KEV	iP	18 41 25.2			
	27.6 N, 139.7 E, 479 km						H: 18 31 25					
	Bonin Islands						41.8 N, 142.6 E, 33 km (R)					
4	NUR	iPKP	14 21 04.1 U	0.7	15.8		Hokkaido, Japan					
		i	07.8			4	NUR	eP	19 52 15			
	KJN	iPKP	14 20 57.5				KJN	iP	19 51 08.7			
	SOD	ePKP	14 20 46				SOD	eP	19 50 57			
	H: 14 01 30.7											
	30.7 S, 178.1 W, 60 km											
	Kermadec Islands											
4	NUR	iP	14 30 58.1			4	NUR	eP	19 56 07			
4	KJN	iP	15 14 23.7	0.8	4.6	4	NUR	eP	20 45 17			
	SOD	eP	15 14 29			5	NUR	eP	00 16 39			
	H: 15 01 12							e	17 50			
	8.3 S, 107.9 E, 33 km (R)						KJN	iP	00 16 43.1	0.6	4.1	
	Java							ePP	18 06			
4	NUR	iP	15 20 55.5	0.8	11.8		OUL	iP	00 16 53.3			
		i	22 21.2				SOD	eP	00 17 02			
	KJN	iP	15 20 32.8 U	0.8	11.5			e	18 26			
	SOD	iP	15 20 21.1 U				H: 00 09 41					
	KEV	iP	15 20 10.4	0.8	11.5		36.1 N, 66.2 E, 33 km (R)					
	H: 15 10 10.6						Hindu Kush					
	41.9 N, 142.5 E, 33 km (R)						5	NUR	eP	03 45 37		
	Hokkaido, Japan						5	NUR	iP	03 47 27.5	0.9	10.3
4	NUR	eP	15 27 23					i	39.2			
4	NUR	iP	15 41 37.0	0.5	16.2		KJN	iP	03 47 35.3			
	KJN	iP	15 41 14.2 D	0.6	7.5	5	NUR	eP	03 51 11			
	SOD	iP	15 41 02.7			5	NUR	eP	04 57 04			
	KEV	eP	15 40 51				KJN	eP	04 56 43	0.7	3.4	
	H: 15 30 50.2						SOD	eP	04 56 31			
	41.4 N, 142.6 E, 48 km											
	Hokkaido, Japan											

June						June					
			T	A			T	A			
5	KJN	eP	05 03 13			5	NUR	iP	13 02 06.0		
	H:	04 51 56.8					KJN	iP	13 01 54.8 U	0.8	18.5
		42.3 N, 119.9 W, 21 km					OUL	eP	13 01 58		
		Oregon					SOD	iP	13 01 54.6 U		
5	NUR	iPKP	06 37 32.2	0.6	14.1		KEV	iP	13 01 52.1	0.7	7.7
	KJN	iPKP	06 37 39.5 U	0.8	18.5		H:	12 49 37			
		i	51.9					11.1 N, 122.3 E, 33 km (R)			
		iSKP	40 57.0					Panay, P.I.			
	OUL	iPKP	06 37 40.0			5	NUR	iPKP	13 03 10.6	1.0	24.6
	SOD	iPKP	06 37 43.3				KJN	iPKP	13 03 03.3 D	1.3	60.8
	KEV	ePKP	06 37 49					i	09.0		
	H:	06 18 35.4					OUL	ePKP	13 03 03		
		58.7 S, 25.7 W, 33 km (R)						i	10.6		
		South Sandwich Islands					SOD	ePKP	13 02 58		
5	NUR	iPKP	06 57 03.2				KEV	iPKP	13 02 55.8	1.0	42.0
	KJN	ePKP	06 56 55				H:	12 43 22			
	H:	06 38 27.9						41.8 S, 172.0 E, 66 km			
		7.0 S, 155.5 E, 66 km						South Island, N.Z.			
		Solomon Islands				5	NUR	iP	15 21 26.2	1.0	16.4
5	NUR	eP	07 24 51	0.7	10.6			e	23 01		
	KJN	iP	07 24 24.0	0.7	4.1		KJN	iP	15 21 16.9 U	1.0	28.3
	OUL	iP	07 24 20.4					e	22 06		
	SOD	iP	07 24 04.8				OUL	iP	15 21 19.3		
	KEV	eP	07 23 49				SOD	iP	15 21 16.3 U		
	H:	07 15 04						e	22 16		
		56.4 N, 161.3 E, 94 km					KEV	iP	15 21 13.1		
		Kamchatka					H:	15 08 39			
								5.0 N, 125.1 E, 142 km			
5	NUR	eP	07 27 09					Mindanao, P.I.			
	KJN	iP	07 26 47.1 U	1.0	15.3	5	NUR	iPKP	16 32 17.5		
	OUL	iP	07 26 45.9				OUL	ePKP	16 32 00		
	SOD	eP	07 26 35				H:	16 13 54			
	KEV	eP	07 26 37					6.9 S, 154.7 E, 175 km			
								Solomon Islands			
5	NUR	iP	09 33 56.1	0.7	6.6	5	NUR	e	19 31 30		
	KJN	eP	09 33 33				KJN	eP	19 29 11		
	OUL	eP	09 33 33					eS	30 49		
	SOD	iP	09 33 22.0					e	31 31		
	KEV	iP	09 33 10.9	0.6	6.3	5	NUR	iP	23 16 13.2 U	1.0	61.5
	H:	09 23 07.3						i	24.6		
		41.3 N, 142.5 E, 33 km (R)						i	58.3		
		Hokkaido, Japan					KJN	iP	23 15 47.8 U	0.9	20.5
5	OUL	eP	11 23 41					i	58.8		
	SOD	eP	11 23 52					i	16 41.9		
5	NUR	eP	11 39 48				OUL	iP	23 15 43.0 U		
	KJN	iP	11 39 37.7	0.5	8.1			i	54.3		
	OUL	eP	11 39 41						cont.		

June						June						
				T	A							
SOD	iP	23 15	28.3 U			6	NUR	iP	18 32 11.2 U	0.6	17.9	
	e		39					e	30			
	e	16 31				KJN	iP	18 31 49.6 U	0.7	39.0		
KEV	iP	23 15	12.0	0.8	10.1		e	32 14				
	i		21.1			OUL	iP	18 31 48.5 U				
H: 23 05 36.8							e	32 15				
52.2 N, 174.3 E, 41 km						SOD	eP	18 31 32				
Near Islands							i	37.6				
5 NUR ePKP 23 22 53						H: 18 21 26						
KJN ePKP 23 22 45						40.6 N, 142.3 E, 81 km						
OUL ePKP 23 22 46						Honshu, Japan						
H: 23 04 06						6	NUR	iP	19 56 07.7	0.9	43.0	
18.9 S, 169.4 E, 215 km							i	17.1				
New Hebrides Islands							eS	20 06 04				
6 KJN ePKP 01 41 18							eSS	11 20				
H: 01 22 12.3							eSSS	14 36				
17.9 S, 167.5 E, 12 km						KJN	iP	19 55 56.2 U	0.8	52.3		
New Hebrides Islands						OUL	iP	19 55 59.4 U				
6 KJN eP 04 23 27				0.7	4.8		i	56 08.2				
OUL eP 04 23 28						SOD	iP	19 55 56.1 U				
SOD eP 04 23 20							i	56 05.2				
6 KJN iP 04 41 08.7				0.7	5.5	H: 19 44 07.9						
OUL eP 04 41 21						14.9 N, 119.9 E, 80 km						
SOD eP 04 40 57						Luzon, P.I.						
6 NUR eP 09 23 29						6	NUR	eP	20 52 06			
6 NUR eP 12 41 10							i	11.6				
6 NUR iPKP 13 05 13.0 U				1.5	67.1	6	NUR	iPKP	20 53 01.2 U	0.8	29.4	
e 07 07							e	55 09				
KJN iPKP 13 05 09.0 U						KJN	iPKP	20 52 51.2	0.6	6.9		
OUL iPKP 13 05 08.2							i	53 13.5				
H: 12 45 48							ePP	56 16				
30.2 S, 178.5 W, 127 km							e	57 12				
Kermadec Islands						OUL	iPKP	20 52 50.9				
6 NUR iPKP 15 20 56.2				0.8	19.1		i	53 00.4				
KJN ePKP 15 20 44						SOD	ePKP	20 52 45				
SOD ePKP 15 20 43							e	53 26				
H: 15 01 18.1							i	31.0				
31.8 S, 178.5 W, 47 km							e	55 18				
Kermadec Islands						H: 20 33 28.1						
6 KJN iSg 16 22 27.8						30.7 S, 178.1 W, 60 km						
OUL iSg 16 21 53.9						Kermadec Islands						
SOD eSg 16 21 52						6	NUR	iP	21 28 01.4 D			
6 OUL eP 17 28 31							i	20.8				
							e	30 16				
							eS	36 48				
							ePS	37 12				
							eSS	41 20				
						KJN	iP	21 27 39.2 D	1.2	104.9		
							i	44.0				
						cont.						

June				June			
		T	A			T	A
	OUL iP	21 27	38.3				
	i		45.8				
	SOD iP	21 27	27.2 D				
	i		40.0				
	H: 21 17 14.4						
	41.3 N, 142.6 E, 37 km						
	Hokkaido, Japan						
6	NUR iP	22 02	31.0				
6	NUR eP	23 02	27				
6	NUR eP	23 02	38	0.7	13.2		
	iPcP	03	10.3				
	KJN iP	23 02	16.1 D	0.6	11.0		
	i		27.5				
	iPcP		56.1				
	OUL iP	23 02	13.4				
	i		25.4				
	iPcP		55.6				
	SOD eP	23 02	01				
	i		13.3				
	iPcP		47.7				
	H: 22 52 00.4						
	44.5 N, 148.1 E, 57 km						
	Kurile Islands						
7	NUR eP	12 10	48				
	e		13 40				
	ePP		14 36				
	eS		21 52				
	eSS		28 28				
	eLR	12	40.0				
	KJN iP	12 10	41.5	1.1	20.3		
	i		47.8				
	i		53.0				
	i	12	07.1				
	e	14	14				
	ePP		30				
	OUL iP	12 10	45.5				
	ePP	14	35				
	SOD iP	12 10	43.2				
	i		49.0				
	i		57.7				
	ePP	14	30				
	KEV eP	12 10	40				
	ePP	14	24				
	eSKS	21	04				
	eS		44				
	eSS	28	12				
	eLR	12	42.0				
	H: 11 57 29.4						
	1.8 S, 120.1 E, 20 km						
	Celebes						
	7 NUR eP	21 44	12				
	ePP		48 08				
	eS		55 20				
	e		56				
	ePS		56 36				
	eSPP		57 24				
	eSS	22 01	50				
	KJN iP	21 44	03.0	0.9	9.8		
	i		25.0				
	OUL iP	21 44	06.5				
	i		31.7				
	SOD eP	21 44	06				
	KEV ePP	21 47	44				
	eS		55 00				
	e		44				
	H: 21 30 50.3						
	2.1 S, 120.5 E, 23 km						
	Celebes						
	7 NUR eP	22 57	42				
	KJN iP	22 57	20.4	0.9	7.1		
	H: 22 46 56						
	41.0 N, 142.1 E, 54 km						
	Hokkaido, Japan						
	8 NUR ePKP	00 35	23	1.0	10.3		
	H: 00 16 39.5						
	8.8 S, 157.6 E, 33 km (R)						
	Solomon Islands						
	8 NUR iP	00 47	07.8	1.1	41.5		
	i		14.0				
	eS		51 40				
	KJN iP	00 46	33.1	1.2	80.8		
	i		42.0				
	i		47 16.6				
	OUL iP	00 46	23.6				
	i		29.9				
	eS		50 25				
	SOD iP	00 45	59.0 D				
	i		46 05.8				
	i		44.8				
	KEV iP	00 45	29.8				
	i		33.0				
	H: 00 41 29.0						
	87.0 N, 51.3 E, 33 km (R)						
	North of Franz Josef Land						
	8 NUR iP	02 55	31.5	1.0	22.6		
	i		40.0				
	ePP		58 00				
	eS	03 04	24				

cont.

June							June							
					T	Δ					T	Δ		
	KJN	iP	02 55	09.8 U	1.1	43.2		8	KJN	eP	12 43	18		
		i		19.6					OUL	eP	12 43	28		
		i		54.8										
		ePP	57 31					8	KJN	eP	12 56	42		
	OUL	iP	02 55	08.8 U				8	KJN	eP	13 29	47		
		e		19					OUL	eP	13 29	45		
	SOD	eP	02 54	58										
		i		55 07.0										
	KEV	iP	02 54	46.2				8	KJN	eP	19 21	57		
		i		52.9					OUL	eP	19 21	48		
		eS	03 03	04										
	H: 02 44 37.3													
	40.6 N, 143.7 E, 33 km (R)													
	Honshu, Japan													
8	KJN	iP	03 26	56.8 D	0.9	25.0								
	OUL	iP	03 26	59.2										
	SOD	iP	03 26	56.7										
	H: 03 13 17.7													
	7.0 S, 129.4 E, 109 km													
	Banda Sea													
8	NUR	iP	05 40	30.6 U	0.7	62.0								
	KJN	iP	05 40	07.5 U	0.7	50.7								
		i		21.0										
	OUL	iP	05 40	06.6 U										
	SOD	eP	05 39	53										
		i		54.4										
	KEV	iP	05 39	41.3										
		ePPP	43 16											
		eS	47 40											
	H: 05 29 46.5													
	43.4 N, 147.1 E, 43 km													
	Kurile Islands													
8	NUR	eP	06 17	57										
	KJN	eP	06 17	25	0.9	10.7								
	OUL	eP	06 17	17										
	SOD	eP	06 16	51										
	H: 06 12 20													
	87.0 N, 50.0 E, 33 km (R)													
	North of Franz Josef Land													
8	NUR	eP	11 12	52										
	KJN	eP	11 12	28										
	OUL	iP	11 12	24.6										
		i		35.6										
	SOD	eP	11 12	10										
		e		21										
	H: 11 02 31													
	51.2 N, 159.0 E, 33 km (R)													
	Kamchatka													
	8	KJN	eP	12 43	18									
		OUL	eP	12 43	28									
	8	KJN	eP	12 56	42									
	8	KJN	eP	13 29	47									
		OUL	eP	13 29	45									
	8	KJN	eP	19 21	57									
		OUL	eP	19 21	48									
	8	NUR	eP	19 35	27									
	8	KJN	iP	20 30	39.1	0.7	4.8							
		OUL	eP	20 30	38									
		SOD	eP	20 30	26									
	H: 20 20 10													
	41.0 N, 143.5 E, 33 km (R)													
	Hokkaido, Japan													
8	NUR	iP	20 59	52.0 D	0.9	35.3								
	KJN	iP	20 59	36.4 D	0.7	34.3								
	OUL	iP	20 59	39.0 D										
		i		48.4										
	SOD	iP	20 59	33.3 D										
	KEV	iP	20 59	27.8	0.8	23.0								
	H: 20 48 44													
	26.3 N, 124.4 E, 160 km													
	Northeast of Taiwan													
8	NUR	iP	21 05	31.8 D	1.0	44.0								
		i		43.0										
		i		58.1										
	KJN	iP	21 05	09.8 D	1.0	62.1								
		i		21.1										
		ePP	07 19											
	OUL	iP	21 05	08.7 D										
		i		11.8										
		i		18.7										
	SOD	iP	21 04	57.7 D										
		i		05 08.0										
	KEV	iP	21 04	46.3 D	0.8	27.4								
		i		56.4										
		e		06 08										
	H: 20 54 45.2													
	41.5 N, 142.3 E, 30 km													
	Hokkaido, Japan													
8	NUR	iP	21 53	30.6	0.6	12.5								
	KJN	iP	21 53	13.2	0.6	7.5								
		i		31.0										
	OUL	eP	21 53	15										

cont.

June				June									
	T	Δ		T	Δ								
KEV eP	21	53	02										
H: 21 42 06.3													
28.4 N, 129.6 E, 33 km													
Ryukyu Islands													
8 NUR eP	22	23	16										
8 NUR eP	22	34	06										
8 NUR ePP	23	43	04										
e		45	22										
eSKS		48	58										
e		50	40										
ePS		52	24										
eSS		58	24										
KJN ePKP	23	42	36										
ePP		43	27										
OUL ePKP	23	42	39										
SOD ePKP	23	42	43										
i		43	14.0										
KEV ePKP	23	42	50										
e		43	02										
ePP		44	12										
ePPP		46	32										
eS		51	56										
ePS		53	56										
eSS	24	00	24										
H: 23 24 05.2													
48.8 S, 31.5 E, 33 km (R)													
South of Africa													
9 NUR eP	00	03	48	0.6	7.5								
KJN iP	00	03	25.2	0.8	6.2								
OUL eP	00	03	25										
SOD iP	00	03	12.0										
H: 23 53 04													
43.6 N, 146.8 E, 33 km (R)													
Kurile Islands													
9 NUR iP	01	01	57.0	1.0	50.0								
e		06	32										
KJN iP	01	02	15.1	1.8	139.0								
i			30.7										
iPcP		05	27.1										
e		07	27										
OUL eP	01	02	30										
SOD eP	01	02	44										
e		03	34										
ePP			44										
KEV eP	01	03	02	0.7	14.2								
H: 00 56 33.9													
39.0 N, 46.0 E, 50 km													
N.W. Iran-USSR border													
				9	KJN eP	04	24	46					
					OUL eP	04	24	54					
					SOD eP	04	24	52					
					KEV eP	04	24	57					
					H: 04 13 08								
					6.4 N, 95.2 E, 33 km (R)								
					Nicobar Islands								
				9	KJN iP	04	59	00.8	D	0.8	4.6		
					OUL eP	04	59	00					
					SOD iP	04	58	48.6					
					H: 04 48 23								
					39.5 N, 143.4 E, 33 km (R)								
					Honshu, Japan								
				9	NUR iP	06	26	38.5		0.8	15.8		
					i			51.5					
					KJN ePKP	06	26	34					
					H: 06 07 00								
					31.0 S, 177.8 W, 33 km (R)								
					Kermadec Islands								
				9	NUR ePKP	06	39	57					
					H: 06 20 11								
					30.2 S, 179.9 W, 18 km								
					Kermadec Islands								
				9	NUR iP	09	12	41.0		0.8	13.0		
					KJN iP	09	12	31.3		0.7	4.1		
					OUL ePKP	09	12	33					
					H: 08 53 10								
					30.4 S, 178.0 W, 79 km								
					Kermadec Islands								
				9	NUR eP	09	29	18					
					SOD eP	09	30	53					
				9	NUR eP	09	33	28					
					KJN eP	09	33	31					
					SOD eP	09	33	11					
					e			34	52				
				9	NUR ePKP	09	35	52		1.0	18.0		
					iSKP			38	38.8				
					KJN iP	09	35	46.8		1.0	14.1		
					iSKP			38	28.0				
					i				34.0				
					iPKS			39	19.0				
					OUL iP	09	35	45.9					
					iSKP			38	26.6				
					i				31.6				
					cont.								



June	T	Λ	June	T	Λ
SOD ePKP 09 35 42 eSKP 38 20 i 23.8 KEV ePKP 09 35 38 iSKP 38 13.5 ePKS 39 05 H: 09 17 31.7 24.1 S, 178.5 E, 580 km South of Fiji Islands			SOD eP 16 25 10 H: 16 14 56 41.2 N, 143.2 E, 27 km Hokkaido, Japan		
9 OUL eP 10 34 17 SOD eP 10 34 14 KEV eP 10 34 08 H: 10 21 35.9 14.6 N, 92.0 W, 60 km Chiapas, Mexico			9 NUR eP 17 58 32 i 41.8 KJN eP 17 59 05		
9 NUR iPKP 11 15 25.0 0.8 25.9 i 39.0 KJN iPKP 11 15 12.9 0.8 4.6 OUL ePKP 11 15 14 H: 10 55 43.6 31.2 S, 177.6 W, 16 km Kermadec Islands			9 NUR eP 18 10 02 KJN iP 18 09 40.1 U 0.7 15.8 OUL eP 18 09 38 SOD eP 18 09 27 i 28.1 KEV iP 18 09 16.9 U 0.7 14.2 i 23.8 H: 17 59 13.2 41.4 N, 142.6 E, 21 km Hokkaido, Japan		
9 NUR eP 11 43 47 KJN iP 11 44 07.7 0.8 5.4 KEV eP 11 44 51 H: 11 38 22.9 39.0 N, 46.1 E, 40 km N.W. Iran-USSR border			9 NUR iP 19 26 26.0 0.9 8.6 KJN iP 19 26 18.8 0.6 4.1 OUL iP 19 26 19.3 SOD eP 19 26 17 KEV eP 19 26 12		
9 NUR iP 13 02 58.0 0.8 10.1			9 NUR eP 21 15 18		
9 NUR ePKP 13 06 50 KJN ePKP 13 06 47 H: 12 47 15 30.4 S, 178.1 W, 33 km (R) Kermadec Islands			9 NUR iP 22 21 36.0 0.8 23.5 i 50.5 KJN ePKP 22 21 26 i 37.0 OUL ePKP 22 21 26 iSKP 25 08.5 SOD ePKP 22 21 22 H: 22 01 58 31.3 S, 177.8 W, 33 km (R) Kermadec Islands		
9 NUR eP 13 59 09 KJN iP 13 58 47.6 1.2 24.1 OUL eP 13 58 47 SOD eP 13 58 35 KEV eP 13 58 28 H: 13 48 14.5 39.9 N, 144.0 E, 67 km Honshu, Japan			9 KJN iP 22 32 03.8 0.9 8.9 OUL eP 22 32 11		
9 NUR eP 16 25 47 KJN eP 16 25 26			9 NUR ePKP 23 03 01 KJN iP 23 02 53.9 D 0.6 4.8 OUL iP 23 02 53.8 H: 22 44 21 14.3 S, 167.3 E, 197 km New Hebrides Islands		
			10 NUR eP 00 35 49		
cont.			10 NUR eP 01 36 52		

June				T	Δ	June				T	Δ
10	NUR	eP	02 49 37	0.8	24.6	10	KJN	iP	15 17 20.3	0.9	7.1
	KJN	iP	02 49 12.9			OUL	eP	15 17 14			
		i	27.8			10	KEV	iP	15 17 23.0	1.0	18.0
	OUL	iP	02 49 12.8				H:	15 06 58			
	SOD	iP	02 49 00.9					22.3 N, 45.0 W, 33 km (R)			
	KEV	eP	02 48 50	1.0	16.0			North Atlantic Ridge			
	H: 02 38 42.6					10	NUR	iPKP	15 49 00.2	0.9	41.3
	40.2 N, 142.3 E, 49 km						KJN	ePKP	15 48 49		
	Honshu, Japan						OUL	ePKP	15 48 50	0.8	7.7
10	NUR	eP	03 38 24				H:	15 29 21.1			
10	KJN	eP	04 11 18					31.1 S, 177.7 W, 33 km (R)			
10	NUR	iP	04 31 39.5			10	NUR	eP	17 43 42	0.8	6.9
	H: 04 20 56						KJN	iP	17 43 38.5		
	44.2 N, 148.7 E, 43 km						OUL	eP	17 43 48		
	Kurile Islands						H:	17 36 30			
10	KJN	eP	11 21 16					39.0 N, 75.1 E, 51 km			
	OUL	eP	11 21 16					Southern Sinkiang, China			
	H: 11 10 36					10	NUR	eP	17 49 46		
	39.5 N, 144.6 E, 33 km (R)					11	NUR	iP	03 12 22.0 U	0.5	26.8
	Honshu, Japan						i	50.4			
10	NUR	iP	12 51 16.8	0.7	66.0		i	13 17.7			
	ipP		52 00.6					KJN	iP	03 12 09.0 U	0.7
	eS		59 34				i	43.1			
	e		13 00 24			OUL	iP	03 12 16.6 U			
	e		02 16				i	55.4			
	KJN	iP	12 50 52.5	1.1	41.9		SOD	iP	03 12 16.1 U		
	ipP		51 35.6					KEV	iP	03 12 19.0	0.7
	eS		58 48				H:	03 05 57.8			
	OUL	iP	12 50 45.6 D					49.8 N, 78.2 E, 0 km			
	ipP		51 28.5					Eastern Kazakh SSR			
	KEV	iP	12 50 13.2 D	1.0	36.0	11	NUR	eP	06 05 06		
	ipP		53.8						eSKS	15 14	
	eS		57 32			KJN	iP	06 05 04.0	0.9	20.5	
	esS		58 48				ipP	54.1			
	eSS		13 01 04				ePP	08 35			
	H: 12 41 05.7					OUL	iP	06 04 57.6			
	56.3 N, 161.6 W, 182 km						ipP	05 49.6			
	Alaska Peninsula					SOD	eP	06 04 55			
10	NUR	eP	13 55 49				H:	05 52 33.5			
10	NUR	eP	14 12 29					13.9 N, 88.8 W, 199 km			
	KJN	eP	14 12 03					El Salvador			
	i		15.2			11	NUR	iP	06 14 50.2	0.8	33.8
	H: 14 01 28						i	15 21.0			
	39.9 N, 144.4 E, 28 km					KJN	iP	06 15 09.7 U	0.9	14.3	
	Honshu, Japan					OUL	iP	06 15 20.6 U			
10	NUR	eP	14 19 55					cont.			

June				June			
		T	A			T	A
	SOD eP	06 15 37		12	NUR iP	04 39 08.7 U	0.7 29.0
	H: 06 09 28				i	24.0	
	38.6 N, 43.1 E, 33 km (R)				e	52	
	Turkey				KJN iP	04 39 02.7 U	0.9 18.8
11	NUR iP	10 37 06.1 U	0.7 14.5		i	16.3	
	ipP	20.0			iPcP	59.0	
	KJN iP	10 37 03.3 U			OUL iP	04 39 09.6 U	
	ipP	17.6			i	21.3	
	OUL iP	10 37 08.4 U			iPcP	40 02.9	
	ipP	22.9			SOD iP	04 39 11.0 U	
	SOD eP	10 37 09			i	21.8	
	epP	25			ePcP	40 03	
	KEV iP	10 37 11.0			KEV iP	04 39 14.6	0.6 13.8
	H: 10 24 12.3				H: 04 29 22.6		
	5.8 S, 103.9 E, 60 km				24.9 N, 91.9 E, 44 km		
	Southern Sumatra				India-East Pakistan border		
11	NUR eP	15 31 18		12	NUR eP	09 10 33	
	KJN iP	15 30 57.9			i	11 15.5	
	SOD eP	15 30 46			KJN eP	09 11 03	
	H: 15 20 22.1				OUL iP	09 11 11.1	
	37.9 N, 138.6 E, 33 km (R)				H: 09 05 04.6		
	Honshu, Japan				35.3 N, 28.0 E, 33 km (R)		
					Eastern Mediterranean Sea		
11	KJN epP	16 02 17		12	NUR iP	13 52 48.0 U	1.1 144.0
	H: 15 49 53.0				i	56.8	
	10.9 N, 62.1 W, 109 km				i	53 08.2	
	Near coast of Venezuela				ePP	55 32	
11	NUR eP	16 26 37			ePPP	57 00	
	e	44			eS	14 01 52	
	KJN iP	16 26 13.2	0.6 4.1		e	03 28	
	i	20.6			eSS	06 28	
	OUL iP	16 26 12.7			eP'P'	21 09	
	i	20.1			i	23.5	
	SOD eP	16 26 01			eLR	14 14.0	
	KEV eP	16 25 56			KJN iP	13 52 26.6 U	1.0 305.2
11	NUR eP	21 13 27			i	35.1	
	KJN iP	21 13 04.9 U	1.0 9.8		iS	14 01 17.2	
	SOD eP	21 12 53			iP'P'	21 15.1	
	H: 21 02 31.6				OUL iP	13 52 26.7 U	
	40.5 N, 143.7 E, 33 km (R)				i	35.2	
	Honshu, Japan				iP'P'	14 21 14.7	
11	KJN eP	22 10 35			SOD iP	13 52 14.7 U	
11	NUR iP	22 40 54.2	0.5 8.1		iSP	14 01 15.3	
	KJN eP	22 40 29			eP'P'	21 31	
	OUL eP	22 40 29			KEV iP	13 52 05.0 U	1.0 130.0
	SOD eP	22 40 15			i	13.1	
	H: 22 30 15.5				i	25.5	
	45.6 N, 150.9 E, 60 km				e	56 06	
	Kurile Islands				ePS	14 00 40	
					eSS	04 24	

cont.

June				T	A	June				T	A
	SOD	iP	15 02 23.8				OUL	iP	15 59 38.3 U		
	KEV	iP	15 02 13.0	0.8	11.5		SOD	iP	15 59 27.2 U		
	H: 14 51 59.8						i		38.0		
	39.9 N, 143.1 E, 33 km (R)						KEV	iP	15 59 16.2	1.0	32.0
	Honshu, Japan						H: 15 48 59.5				
12	NUR	eP	15 07 05			12	NUR	iP	16 34 18.0	0.7	10.6
	KJN	iP	15 06 44.1	0.7	8.9		i		26.8		
	OUL	eP	15 06 44				KJN	iP	16 33 57.0 D	0.7	23.3
	SOD	iP	15 06 32.1				i		34 05.2		
12	NUR	eP	15 09 44				OUL	iP	16 33 56.0		
	KJN	eP	15 09 14				i		34 04.8		
		i	23.6				SOD	iP	16 33 44.8		
12	NUR	iP	15 19 51.9 U	0.8	25.0		i		53.6		
	e		20 05				KEV	eP	16 33 34		
	KJN	iP	15 19 30.1 U	1.0	74.1		H: 16 23 17.1				
	OUL	iP	15 19 29.9 U				39.5 N, 143.1 E, 21 km				
	SOD	iP	15 19 18.6 U				Honshu, Japan				
	KEV	iP	15 19 07.9	0.9	20.2	12	KJN	eP	16 38 01		
	i		18.9								
	H: 15 08 52.2					12	NUR	eP	16 40 18		
	39.5 N, 143.0 E, 28 km						KJN	iP	16 39 53.5	0.8	10.8
	Honshu, Japan						i		40 00.6	0.7	11.6
12	NUR	eP	15 24 00				OUL	eP	16 39 53		
	KJN	iP	15 23 37.1	0.7	8.9		SOD	i	16 39 48.0		
	OUL	eP	15 23 37				H: 16 29 13				
	SOD	iP	15 23 25.2				39.0 N, 143.5 E, 33 km (R)				
	Honshu, Japan						Honshu, Japan				
12	NUR	iP	15 34 52.1 U	0.8	17.6	12	NUR	eP	16 45 36		
	KJN	iP	15 34 30.7 U	0.8	40.0		KJN	eP	16 45 18		
	ePP		36 48				SOD	eP	16 45 07		
	OUL	iP	15 34 30.0 U				H: 16 34 38				
	SOD	iP	15 34 19.3 U				39.3 N, 142.7 E, 33 km (R)				
	KEV	iP	15 34 08.8 U	0.7	16.8		Honshu, Japan				
	H: 15 23 52.5					12	NUR	eP	17 07 02		
	39.4 N, 143.1 E, 29 km						KJN	iP	17 06 39.1		
	Honshu, Japan						OUL	eP	17 06 41		
12	KJN	eP	15 42 14				SOD	eP	17 06 29		
12	NUR	eP	15 50 23				H: 16 56 02				
	KJN	iP	15 49 59.3	0.8	9.2		39.4 N, 142.5 E, 33 km (R)				
	OUL	eP	15 49 59				Honshu, Japan				
	H: 15 39 12					12	NUR	eP	17 34 19		
	39.4 N, 142.8 E, 32 km						e		23	0.8	8.8
	Honshu, Japan						KJN	iP	17 33 56.1	0.8	5.4
12	NUR	iP	16 00 00.2 U	0.8	22.0		i		34 04.3		
	KJN	iP	15 59 38.6 U	0.8	38.5		OUL	eP	17 33 59		
	i		16 00 17.1				i		34 03.9		
	cont.						cont.				

June				T	A	June				T	A
	SOD	eP	17 33 44				SOD	iP	19 46 48.2		
		i	52.8				H:	19 36 24.7			
	H:	17 23 18					39.5 N, 143.0 E, 55 km				
		39.5 N, 143.1 E, 33 km (R)					Honshu, Japan				
		Honshu, Japan									
12	NUR	iP	18 03 02.0	1.0	30.8	12	NUR	eP	19 49 46		
		i	11.7				KJN	iP	19 49 22.1	1.1	14.9
	KJN	iP	18 02 40.6 U	1.2	72.2		OUL	eP	19 49 21		
		i	46.6				SOD	eP	19 49 12		
		iPP	05 09.1				H:	19 38 43.5			
	OUL	iP	18 02 40.0 U				39.3 N, 142.7 E, 40 km				
		i	50.0				Honshu, Japan				
		iPP	05 08.0			12	NUR	eP	19 59 28		
	SOD	iP	18 02 29.1 U				KJN	iP	19 59 07.1	0.7	8.9
		i	38.2					i	17.1		
	KEV	eP	18 02 19	0.8	43.2		OUL	eP	19 59 06		
		i	28.0				e	17			
	H:	17 52 01.2					SOD	eP	19 58 56		
		39.1 N, 142.9 E, 30 km					H:	19 48 28.7			
		Honshu, Japan					39.4 N, 142.8 E, 32 km				
		Honshu, Japan					Honshu, Japan				
12	KJN	eP	18 28 10								
12	NUR	eP	18 59 52	1.0	14.4	12	NUR	eP	20 24 14		
	KJN	iP	18 59 31.1 U	0.9	18.8		KJN	iP	20 23 52.7	0.8	13.8
		i	52.9				OUL	iP	20 23 52.1		
	OUL	eP	18 59 31				SOD	eP	20 23 41		
		e	52				H:	20 13 14.0			
	SOD	iP	18 59 19.0 U				39.3 N, 143.1 E, 33 km (R)				
	KEV	eP	18 59 08				Honshu, Japan				
	H:	18 48 53.4									
		39.4 N, 142.8 E, 33 km (R)									
		Honshu, Japan				12	NUR	iP	20 29 26.9	1.0	28.7
12	OUL	iP	19 06 09.8				ePP	33 12			
12	NUR	iP	19 06 46.0 U	0.9	25.8		eSKS	39 48			
		i	55.5				ePS	42 24			
	KJN	iP	19 06 24.1 U	0.9	52.7		eSS	47 52			
		ePP	08 45				KJN	iP	20 29 16.3 U	1.1	20.3
	OUL	iP	19 06 24.4				OUL	eP	20 29 19		
		i	34.0				SOD	eP	20 29 15		
	SOD	iP	19 06 13.3 U				KEV	eP	20 29 14		
		i	24.0				eS	40 22			
	KEV	iP	19 06 02.4	1.0	32.0		ePS	41 40			
	H:	18 55 46.4					eSS	47 14			
		39.6 N, 143.2 E, 30 km					H:	20 15 47.8			
		Honshu, Japan					0.6 S, 132.8 E, 33 km (R)				
		Honshu, Japan					West New Guinea				
12	NUR	eP	19 47 21			12	KJN	iP	20 30 59.1		
	KJN	iP	19 47 00.2	0.7	9.6		H:	20 20 21			
	OUL	iP	19 46 59.6				39.2 N, 142.8 E, 33 km (R)				
			cont.				Honshu, Japan				

June				T	A	June				T	A	
12	NUR	eP	21 27 40			SOD	eP	23 00 31				
	KJN	iP	21 27 16.4	0.8	5.4	H:	22 50 18.8					
	OUL	eP	21 27 20				41.5 N, 142.7 E, 38 km					
	SOD	eP	21 27 05				Hokkaido, Japan					
			H: 21 16 41									
			39.6 N, 142.4 E, 33 km (R)									
			Honshu, Japan			12	KJN	iP	23 02 40.1	0.8	7.7	
							OUL	eP	23 02 39			
12	NUR	eP	22 04 54			12	KJN	iP	23 31 24.1	0.7	4.1	
	KJN	iP	22 04 27.6									
	OUL	eP	22 04 32									
12	NUR	iP	22 08 41.0	0.8	32.3	12	NUR	iP	23 38 30.2	0.8	11.8	
		i	51.2					ipP	39 14.0			
		ePP	11 16					e	41 36			
		ePPP	12 48					eS	48 22			
		eS	17 38					e	49 20			
		eScS	18 36				KJN	iP	23 38 19.6 U	0.7	30.8	
		eSS	22 00					i	51.1			
	KJN	iP	22 08 19.1 U	1.0	95.9			ipP	39 00.9			
		i	29.6					OUL	iP	23 38 23.4		
		iPP	10 48.1						i	54.4		
		i	11 51.1						ipP	39 04.9		
		iS	17 00.1					SOD	iP	23 38 19.2		
		iP'P'	37 06.3						i	22.2		
	OUL	iP	22 08 19.5						i	54.0		
		e	10 33						ipP	39 02.0		
		ePP	49					KEV	iP	23 38 16.4	0.6	15.0
	SOD	iP	22 08 07.9 U						i	54.0		
		i	17.9						ipP	39 00.5		
		i	31.8						ePP	41 20		
		iPP	10 35.5						eS	48 00		
		e	13 06						H:	23 26 30.8		
	KEV	iP	22 07 57.4 U	1.0	50.0					13.8 N, 120.7 E, 141 km		
		i	08 07.8							Mindoro, P.I.		
		eS	16 16									
			H: 21 57 41.3									
			39.3 N, 142.8 E, 36 km									
			Honshu, Japan			13	NUR	iP	00 16 01.3	0.8	19.1	
12	KJN	eP	22 19 16					i	13.8			
	OUL	eP	22 19 17					i	56.5			
	SOD	eP	22 19 04					ePP	18 45			
12	KJN	eP	22 26 09				KJN	iP	00 15 40.0 U	0.9	47.3	
12	NUR	eP	22 29 14					i	52.6			
	KJN	iP	22 28 53.2	0.6	5.5			OUL	iP	00 15 39.0		
12	NUR	eP	22 43 18						ePP	18 03		
12	NUR	eP	23 01 06					SOD	iP	00 15 27.7		
	KJN	eP	23 00 42						i	34.0		
			cont.						i	52.6		
								KEV	iP	00 15 16.9	0.8	24.5
									i	28.0		
									H:	00 05 00.7		
										39.5 N, 143.0 E, 24 km		
										Honshu, Japan		

June

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13 NUR eP 00 53 15
i 24.9
i 48.0
ePP 55 48
KJN eP 00 52 54
i 53 01.6
ePP 55 21
OUL eP 00 52 55
i 53 03.5
i 15.0
ePP 55 24
SOD eP 00 52 44
i 51.5
i 53 02.5
KEV eP 00 52 36 0.8 11.5
H: 00 42 15.0
39.3 N, 142.7 E, 33 km (R)
Honshu, Japan

13 NUR iP 01 53 54.6 0.8 10.3
KJN iP 01 53 33.1 D 0.9 17.9
i 42.0
OUL eP 01 53 33
SOD iP 01 53 21.1
e 30
H: 01 42 54.9
39.5 N, 143.0 E, 33 km (R)
Honshu, Japan

13 NUR iP 02 16 43.0 U 0.8 22.1
ePP 19 12
eS 25 36
eSS 30 12
KJN iP 02 16 21.5 U 0.7 41.1
OUL iP 02 16 21.1 U
iPP 18 39.1
SOD iP 02 16 09.6 U
e 30
KEV iP 02 15 59.5 0.8 40.3
i 16 15.2
eS 24 20
eSS 28 16
H: 02 05 42.8
39.4 N, 142.8 E, 25 km
Honshu, Japan

13 NUR eP 03 43 50
e 59
H: 03 32 55
40.8 N, 143.4 E, 33 km (R)
Honshu, Japan

June

T A

13 NUR iP 04 01 57.2 U 1.0 18.5
eS 04 54
i 05 46.2
KJN iP 04 01 33.6 0.9 10.7
i 48.1
OUL iP 04 01 17.7 U
i 23.9
i 29.2
eS 03 41
SOD eP 04 01 03
e 13
KEV eP 04 00 54 1.5 79.5
H: 03 58 11
71.2 N, 5.6 W, 33 km (R)
Jan Mayen Island

13 NUR iP 04 17 55.0 0.8 14.7
H: 03 58 18
30.6 S, 177.5 W, 33 km (R)
Kermadec Islands

13 NUR eSn 04 51 57
eSb 52 10
KJN ePn 04 50 51
eSn 51 29
OUL ePn 04 50 39
e 51 04
iSn 07.3
SOD ePn 04 51 08
iSn 54.0
KEV eSn 04 52 28
eSb 56

13 NUR eP 05 56 04
KJN eP 05 55 41 0.7 5.5
OUL eP 05 55 40
H: 05 44 54
38.9 N, 142.9 E, 33 km (R)
Honshu, Japan

13 KJN eP 06 44 04
OUL eP 06 44 09

13 NUR eP 07 47 48
ePP 51 54
eSKS 58 28
ePS 08 01 10
e 56
eSS 06 58
KEV eP 07 47 32
ePP 51 32
e 55 40
eSKS 58 12

cont.

June		T	A	June		T	A
	ePS 08 00 36			SOD	iP 15 06 42.9 U		
	eSS 06 04				i 46.5		
	H: 07 33 50.5				e 07 57		
	0.3 S, 91.5 W, 33 km (R)			KEV	iP 15 06 32.5	0.8	24.5
	Galapagos Islands				H: 14 56 15.1		
13	NUR iP 08 59 14.9				39.4 N, 142.9 E, 20 km		
	eS 09 08 16				Honshu, Japan		
	KJN iP 08 58 54.1			13	NUR iP 15 46 04.4		
	OUL iP 08 58 53.1				e 47		
	i 59.9				ePP 47 46		
	e 59 13			KJN	iP 15 46 15.2	0.8	6.9
	SOD eP 08 58 42			OUL	iP 15 46 20.7		
	e 48			SOD	eP 15 46 29		
	H: 08 48 12.8				e 34		
	39.1 N, 143.2 E, 28 km			KEV	eP 15 46 42		
	Honshu, Japan				H: 15 37 43		
13	KJN eP 09 01 53				24.7 N, 66.4 E, 33 km (R)		
	H: 08 51 29				West Pakistan		
	51.5 N, 129.8 W, 33 km (R)			13	NUR ePS 16 12 20		
	Queen Charlotte Islands				eSS 17 52		
13	NUR iP 12 07 24.2 D 0.8 41.2				H: 15 44 52.6		
	i 31.0				0.5 S, 91.4 W, 33 km (R)		
	ePP 09 47				Galapagos Islands		
	ePPP 11 36			13	NUR iP 16 22 20.3	0.9	10.3
	eS 16 24				i 22.7		
	eSS 20 28			13	NUR iP 16 27 40.1		
KJN	iP 12 07 02.9 D 0.8 76.1				i 28 01.3		
	i 15.1			KJN	iP 16 27 18.1 D 0.8 13.8		
	ePP 09 20			OUL	eP 16 27 14		
OUL	iP 12 07 02.2				H: 16 16 40.3		
	i 15.9				39.6 N, 143.1 E, 33 km (R)		
	ePP 09 20				Honshu, Japan		
SOD	iP 12 06 51.2 D			13	NUR eP 18 09 16		
	i 58.2				KJN eP 18 08 56	0.8	7.7
KEV	iP 12 06 40.3 D 1.0 54.0				Moscow:		
	i 47.8				H: 18 01 04		
	eS 15 03				48.1 N, 103.0 E		
	eScS 16 28				Mongolia		
	eSS 18 52						
	H: 11 56 23.4			13	KJN eP 18 48 47	0.9	8.9
	39.2 N, 143.0 E, 33 km (R)				H: 18 37 50		
	Honshu, Japan				37.8 N, 140.9 E, 33 km (R)		
13	NUR eP 14 26 38				Honshu, Japan		
13	NUR iP 15 07 16.1 U 0.8 23.5			13	NUR eP 19 20 54		
	i 19.4				e 21 05		
KJN	iP 15 06 55.1 U 0.8 51.5						
	i 07 09.0						
OUL	iP 15 06 54.1 U						
	cont.						

June				T	A	June				T	A
13	NUR	eP	19 42 03			14	NUR	iP	00 57 05.0	0.7	11.9
	KJN	iP	19 41 42.0 U	0.7	12.3			i	13.0		
	OUL	iP	19 41 41.5				KJN	iP	00 56 43.6	0.7	17.8
13	NUR	iP	20 03 03.7	1.0	12.3			i	52.2		
		i	15.0				OUL	iP	00 56 42.8		
13	NUR	iP	21 21 35.5 U	0.8	36.8			e	51		
		i	45.0				SOD	iP	00 56 31.8		
	ePP		24 10				KEV	iP	00 56 21.2	0.9	20.2
	eS		30 32				H: 00 46 08				
	eSS		35 00				39.7 N, 142.5 E, 33 km (R)				
	KJN	iP	21 21 13.2	0.8	89.2	14	NUR	iP	01 09 00.2		
		i	23.6				KJN	iP	01 08 38.2	0.9	9.8
	iPP		23 40.7				OUL	eP	01 08 37		
	OUL	iP	21 21 12.9 U				H: 00 57 55				
		i	22.6				38.6 N, 143.1 E, 33 km (R)				
	ePP		23 32				Honshu, Japan				
	SOD	iP	21 21 02.8 U			14	NUR	iP	01 25 30.0	0.7	31.7
		i	12.2				KJN	iP	01 25 09.0 D	0.7	63.0
	KEV	iP	21 20 52.0 U	0.8	34.6		OUL	iP	01 25 09.4		
		i	21 01.4					ePcP	52		
	eS		29 12					e	26 51		
	eSS		33 10				KEV	iP	01 24 49.6	0.5	17.2
	H: 21 10 35.4						H: 01 15 55.5				
	39.4 N, 142.9 E, 29 km						42.6 N, 132.7 E, 436 km				
	Honshu, Japan						Eastern Russia				
13	NUR	eP	21 32 03			14	NUR	eP	01 47 38		
13	NUR	iP	22 44 58.9 D	0.7	15.8		KJN	iP	01 47 16.1	0.7	8.9
	KJN	iP	22 44 58.5	0.7	9.6		OUL	eP	01 47 15		
		ipP	45 45.1				SOD	eP	01 47 04		
	OUL	iP	22 45 08.0				H: 01 36 37.7				
		ipP	54.2				39.5 N, 142.9 E, 30 km				
	H: 22 38 01						Honshu, Japan				
	36.6 N, 71.5 E, 213 km					14	NUR	eP	02 49 32		
	Afghanistan-USSR border						KJN	iP	02 49 10.1 U	0.6	10.3
13	NUR	iP	23 10 56.0				OUL	iP	02 49 10.0		
		e	11 50				SOD	eP	02 48 58		
	KJN	iP	23 11 12.1				H: 02 38 41				
	OUL	iP	23 11 23.2				40.6 N, 142.0 E, 33 km (R)				
	SOD	eP	23 11 38				Honshu, Japan				
	KEV	iP	23 11 59.0			14	OUL	ePKP	03 08 15		
	H: 23 04 00.3						H: 02 49 14				
	29.7 N, 51.5 E, 33 km (R)						21.5 S, 170.5 E, 94 km				
	Southern Iran						Loyalty Islands				
14	NUR	iP	00 00 17.3	0.9	12.0	14	NUR	iP	03 29 16.0	0.6	20.5
	KJN	iP	00 00 00.4	0.7	5.5			e	21		
	OUL	eP	00 00 00					ePP	31 51		
							cont.				

June						June						
				T	Δ							
						T	A					
	SOD	iP	13 53 42.1				KEV	iP	22 51 11.6	0.9	20.2	
	H:		13 44 05				H:		22 41 50			
			51.7 N, 159.0 E, 33 km (R)						51.7 N, 159.4 E, 33 km			
			Kamchatka						Kamchatka			
14	NUR	iP	15 29 24.0	0.7	13.2	14	NUR	eSKS	22 52 28			
	KJN	iP	15 28 58.1	0.7	6.8			ePS	55 04			
	OUL	iP	15 28 54.9 U					eSS	23 00 44			
	SOD	iP	15 28 40.4 U				KEV	ePP	22 45 36			
	H:		15 19 04					eSKS	52 12			
			51.7 N, 159.1 E, 33 km (R)					ePS	54 36			
			Kamchatka					eSS	23 00 00			
							H:		22 27 43.8			
14	NUR	eSKS	16 48 24						0.3 S, 91.2 W, 21 km			
		ePS	51 08						Galapagos Islands			
		eSS	56 44				14	NUR	iP	23 13 26.2	0.7	18.5
	KEV	ePP	16 41 32					KJN	iP	23 13 00.2	0.7	16.4
		eSKS	48 12					OUL	iP	23 12 56.7		
		ePS	50 36					i	13 07.9			
		eSS	56 04					SOD	iP	23 12 42.2		
	H:		16 23 44.7					H:		23 03 05.2		
			0.2 S, 91.4 W, 33 km (R)						51.7 N, 159.4 E, 33 km (R)			
			Galapagos Islands						Kamchatka			
14	OUL	iP	17 16 55.0				15	NUR	eP	00 15 21		
14	NUR	eP	18 29 35					KJN	eP	00 15 38	0.5	3.7
	KJN	iP	18 29 13.6	0.7	7.5			OUL	iP	00 15 48.5		
	OUL	iP	18 29 10.6					H:		00 08 24		
	SOD	iP	18 28 55.9 D						29.6 N, 51.6 E, 33 km (R)			
									Southern Iran			
14	NUR	eP	18 33 09				15	NUR	eP	00 19 10		
	KJN	eP	18 33 10	0.7	4.1			OUL	eP	00 18 56		
14	NUR	iPKP	19 23 18.9	0.9	31.0		15	NUR	eP	00 43 14		
		i	26.0					KJN	iP	00 42 53.0	0.8	10.8
	KJN	iPKP	19 23 12.1 U	1.5	113.2			OUL	iP	00 42 52.2		
	OUL	iPKP	19 23 13.1					SOD	eP	00 42 41		
		i	19.1					H:		00 32 08		
	SOD	iPKP	19 23 10.1						38.8 N, 143.8 E, 33 km (R)			
	KEV	iPKP	19 23 05.1	1.2	85.5				Honshu, Japan			
		i	10.0									
	H:		19 03 27.8									
			41.9 S, 171.9 E, 25 km									
			South Island, N.Z.									
14	NUR	iP	22 52 10.4 U	0.8	20.6	15	NUR	iP	00 54 05.0	0.8	17.6	
	KJN	iP	22 51 45.1 U	0.7	17.8			KJN	iP	00 53 39.5 U	0.7	11.0
	OUL	iP	22 51 41.9 U					OUL	iP	00 53 35.8 U		
		i	52 09.9					SOD	iP	00 53 21.1		
	SOD	iP	22 51 27.2 U					KEV	iP	00 53 06.0	0.8	10.1
		i	39.3					H:		00 43 43		
			cont.						51.5 N, 159.5 E, 33 km (R)			
									Kamchatka			

June		T	A	June		T	A	
	SOD eP	07 50 25			OUL eP	13 47 30		
	H: 07 37 33.5				SOD iP	13 47 14.2 U		
	11.9 N, 143.9 E, 52 km				KEV iP	13 46 55.6 U	0.8 10.1	
	South of Mariana Islands				H: 13 38 06.5			
15	NUR iP	11 27 45.2	1.0	16.4	61.0 N, 146.9 W, 19 km			
	KJN iP	11 27 19.9	0.8	9.2	Southern Alaska			
	OUL eP	11 27 18			15	NUR ePKP	13 53 27	
	SOD eP	11 27 05				ePKS	56 48	
	KEV eP	11 26 55			KJN iP	13 53 17.4	1.0 8.7	
	H: 11 17 58				OUL ePKP	13 53 19		
	52.1 N, 143.6 E, 33 km (R)				e	31		
	Sakhalin Island				KEV ePKP	13 53 15		
					H: 13 34 14.4			
15	NUR iP	11 37 52.6 U	0.8	151.4	18.3 S, 167.9 E, 11 km			
	i	38 06.2			New Hebrides Islands			
	eS	46 20			15	NUR iP	14 11 56.3 U	1.2 87.6
	KJN iP	11 37 27.0 U	1.0	189.7		i	12 37.0	
	i	40.4			KJN iP	14 11 42.6 U	1.0 91.6	
	iPoP	38 23.6			i	52.4		
	OUL iP	11 37 23.8 U			OUL iP	14 11 35.1 U		
	iPoP	38 16.5			SOD iP	14 11 24.1 U		
	SOD iP	11 37 09.2			i	33.3		
	KEV iP	11 36 53.9 U	0.9	100.8	KEV iP	14 11 11.0 U	1.0 42.0	
	i	37 07.1			i	35.1		
	i	33.0			15	NUR eP	14 35 43	
	H: 11 27 32.9				KJN iP	14 36 24.4	0.7 6.9	
	51.7 N, 159.4 E, 39 km				OUL eP	14 36 36		
	Kamchatka				SOD eP	14 36 53		
					H: 14 31 32			
15	KJN iP	12 14 14.5	0.8	9.2	42.9 N, 18.6 E, 33 km (R)			
	OUL eP	12 14 10			Yugoslavia			
	SOD eP	12 14 03			15	KJN eP	15 46 12	
	H: 12 03 37							
	39.4 N, 142.8 E, 33 km (R)				15	NUR ePP	17 58 32	
	Honshu, Japan					eSKS	18 04 59	
						ePS	07 40	
15	NUR ePP	13 32 48				eSS	13 18	
	eSKS	39 16			KEV eP	17 54 04		
	ePS	41 58			ePP	58 10		
	eSS	47 36			eSKS	18 04 44		
	KEV eP	13 28 20			ePS	07 12		
	ePP	32 32			eSS	12 28		
	eSKS	39 04			eSSS	16 28		
	ePS	41 28			H: 17 40 17.4			
	ePPS	42 20			0.2 S, 91.4 W, 33 km (R)			
	eSS	46 48			Galapagos Islands			
	H: 13 14 36.7				15	NUR eP	18 46 02	
	0.3 S, 91.1 W, 33 km (R)							
	Galapagos Islands							
15	NUR eP	13 48 03						
	KJN iP	13 47 38.4 U	0.8	10.0				
		cont.						

June		T	A	June		T	A
15	NUR iP	20 03	54.5 U	1.0	92.3		
	i	04	45.2				
	e	05	57				
	KJN iP	20 03	32.3 U	1.0	85.0		
	i	04	23.7				
	OUL iP	20 03	31.7				
	SOD iP	20 03	19.7 U				
	i		45.6				
	KEV iP	20 03	08.7	0.9	47.0		
	i		22.0				
	H: 19 53 09.2						
	41.9 N, 142.7 E, 33 km (R)						
	Hokkaido, Japan						
15	NUR ePP	21 43	12				
	eSKS	49	48				
	ePS	52	22				
	eSS	58	00				
	KEV ePP	21 42	56				
	eSKS	49	32				
	ePS	51	48				
	eSS	57	14				
	H: 21 25 01.4						
	0.1 S, 91.4 W, 33 km (R)						
	Galapagos Islands						
15	NUR iP	23 25	08.9				
	KJN iP	23 24	47.2	1.0	12.0		
	OUL eP	23 24	46				
	SOD eP	23 24	35				
	H: 23 14 23.3						
	41.4 N, 142.5 E, 44 km						
	Hokkaido, Japan						
16	NUR eP	00 45	00				
	ePP	49	22				
	eSKS	55	40				
	ePS	58	28				
	eSS	01 04	08				
	KEV ePP	00 48	56				
	eSKS	55	28				
	ePS	57	52				
	eSS	01 03	16				
	eSSS	07	12				
	H: 00 31 03.2						
	0.2 S, 91.3 W, 30 km						
	Galapagos Islands						
16	NUR eP	01 17	21.7				
	KJN eP	01 17	01				
	OUL eP	01 17	00				
	cont.						
	SOD eP	01 16	47				
	H: 01 06 34						
	41.6 N, 143.2 E, 33 km (R)						
	Hokkaido, Japan						
16	NUR iP	02 39	54.0	0.8	11.8		
	KJN iP	02 39	38.8 U	0.9	28.6		
	OUL iP	02 39	39.4 U				
	i		52.3				
	SOD iP	02 39	31.7				
	e	40	17				
	KEV eP	02 39	24				
	H: 02 27 29.6						
	18.6 N, 145.4 E, 227 km						
	Mariana Islands						
16	NUR eP	04 01	08				
	ePP	05	20				
	eSKS	11	48				
	ePS	14	28				
	eSS	20	12				
	KEV eP	04 00	56				
	ePP	04	52				
	eSKS	11	32				
	ePS	13	52				
	eSS	19	20				
	eSSS	23	12				
	H: 03 47 08.3						
	0.2 S, 91.3 W, 33 km (R)						
	Galapagos Islands						
16	NUR ePS	05 23	00				
	eSS	28	20				
	H: 04 55 57						
	36.2 S, 15.9 W, 33 km (R)						
	Tristan da Cunha						
16	KJN eP	06 18	24				
	OUL eP	06 18	25				
16	NUR iP	06 50	46.7				
	i		56.2				
	KJN iP	06 50	25.4				
	SOD eP	06 50	13				
	H: 06 39 57						
	41.4 N, 143.1 E, 36 km						
	Hokkaido, Japan						
16	NUR eP	07 27	16				
	ePP	31	28				
	eSKS	38	08				
	ePS	40	36				
	cont.						

June				June						
			T	A			T	A		
	ePPS	41 24			16	NUR eSKS	13 24 52			
	eSS	46 16				ePS	27 32			
KEV	ePP	07 31 10				ePPS	28 22			
	eSKS	37 48				eSS	33 18			
	ePS	40 12			KEV	eP	13 13 58			
	eSS	45 24				ePP	18 04			
	H:	07 13 16.7				ePS	27 06			
		0.2 S, 91.2 W, 33 km (R)				eSS	32 28			
		Galapagos Islands				H:	12 59 57.6			
16	NUR	iP	08 39 37.9	1.1	24.4		0.3 S, 91.7 W, 33 km (R)			
	KJN	eP	08 40 08				Galapagos Islands			
	H:	08 34 19				16	NUR eP	15 51 56		
		36.9 N, 34.5 E, 25 km					KJN eP	15 51 32		
		Turkey					H:	15 40 55.0		
16	KJN	eP	09 35 02				39.4 N, 142.6 E, 33 km (R)			
	H:	09 24 25					Honshu, Japan			
		39.4 N, 142.9 E, 33 km (R)			16	KJN eP	16 10 19			
		Honshu, Japan				H:	15 59 36			
16	NUR	e	10 30 12				39.3 N, 143.0 E, 33 km (R)			
	eSKS	36 58					Honshu, Japan			
	ePS	39 36			16	NUR eP	16 34 16			
	ePPS	40 24				ePP	38 32			
	eSS	45 13				eSKS	44 52			
KEV	ePP	10 30 08				ePS	47 40			
	eSKS	36 40				eSS	53 16			
	ePS	39 06			KEV	eP	16 34 00			
	eSS	44 24				ePP	38 10			
	H:	10 12 14.3				eSKS	44 36			
		0.3 S, 91.3 W, 33 km (R)				ePS	47 08			
		Galapagos Islands				eSS	52 28			
16	NUR	iP	11 48 46.0	0.5	6.8		H:	16 20 14.9		
	KJN	iP	11 48 23.6				0.4 S, 91.4 W, 33 km (R)			
	OUL	eP	11 48 23				Galapagos Islands			
	SOD	iP	11 48 11.1 U			16	NUR eP	16 41 35		
16	NUR	eP	12 15 37			16	NUR iP	17 07 36.5	0.6	6.4
	KJN	iP	12 15 15.5	0.7	6.9		KJN iP	17 07 14.9 D	0.7	11.0
	SOD	eP	12 15 04				OUL eP	17 07 13		
	H:	12 04 45					SOD iP	17 07 02.8		
		40.4 N, 142.2 E, 33 km (R)					H:	16 56 36.4		
		Honshu, Japan					40.3 N, 143.8 E, 11 km			
16	NUR	eP	13 08 28	1.4	42.0		Honshu, Japan			
	eS	12 48				16	NUR eP	19 02 29		
	KJN	eP	13 09 12				KJN iP	19 02 06.4	0.7	5.5
	i	19.4					SOD eP	19 01 56		
	OUL	eP	13 09 12				H:	18 51 32		
	e	25					39.5 N, 141.9 E, 33 km (R)			
	H:	13 03 23.1					Honshu, Japan			
		38.0 N, 14.9 E, 33 km (R)								
		Sicily								

June

June

T A

T A

16 NUR ePS 19 12 36
ePPS 13 30
eSS 18 20
KEV ePP 19 03 10
e 10 00
ePS 12 08
eSS 17 36
H: 18 45 15.6
0.2 S, 91.4 W, 33 km (R)
Galapagos Islands

16 NUR ePP 19 33 39
eSKS 39 28
ePS 43 14
eSS 49 24
KJN iPP 19 34 06.5
KEV ePKP 19 33 03
i 14.1
e 41 44
eSS 52 08
eSSS 56 04
H: 19 14 05
53.9 S, 8.7 E, 33 km (R)
Bouvet Island

16 NUR eP 20 49 44
KJN iP 20 49 23.6 0.8 6.9
OUL eP 20 49 20
SOD eP 20 49 12
H: 20 38 45.2
39.5 N, 142.5 E, 27 km
Honshu, Japan

16 NUR eSKS 23 35 20
ePS 38 04
eSS 43 44
KEV ePP 23 28 36
eSKS 35 08
ePS 37 32
eSS 42 56
H: 23 10 39
0.6 S, 91.8 W, 33 km (R)
Galapagos Islands

17 NUR eSKS 01 32 24
ePS 35 10
eSS 40 52
KEV ePS 01 34 40
eSS 40 04
H: 01 07 44.7
0.4 S, 91.5 W, 33 km (R)
Galapagos Islands

17 NUR eSKS 02 39 32
ePS 42 12
ePPS 43 04
eSS 47 52
KEV eP 02 28 36
ePP 32 44
eSKS 39 16
ePS 41 44
eSS 47 08
H: 02 14 49
0.7 S, 91.8 W, 33 km (R)
Galapagos Islands

17 NUR iP 04 38 04.0 0.9 17.2
KJN iP 04 37 49.8 U 0.8 22.3
OUL iP 04 37 53.3 U
SOD iP 04 37 48.3 U
KEV iP 04 37 44.1 0.6 16.3
H: 04 26 31.9
22.4 N, 121.4 E, 39 km
Taiwan

17 NUR eP 04 42 18
ePP 46 36
eSKS 53 10
ePS 55 40
ePPS 56 32
eSS 05 01 24
KEV ePP 04 46 12
eSKS 52 48
ePS 55 12
ePPS 56 02
eSS 05 00 36
H: 04 28 22.0
0.2 S, 91.5 W, 33 km (R)
Galapagos Islands

17 NUR iP 05 01 48.0 0.7 34.3
KJN iP 05 02 03.2 U 0.7 19.9
i 05.6
OUL iP 05 02 14.6
SOD eP 05 02 32
H: 04 56 31
40.7 N, 48.0 E, 33 km (R)
Eastern Caucasus

17 NUR iP 05 04 20.8 U 0.7 104.3
i 05 50.8
eS 08 38
KJN iP 05 04 36.4 U 0.6 52.7
i 09 17.9
OUL iP 05 04 46.6 U
SOD iP 05 05 03.3
cont.

June							June						
					T	A					T	A	
	KEV	iP	17 06	29.5 U	0.9	32.7		eS		16 20			
		i		33.3				eSS		20 24			
		ePP	08 42					H: 18 57	27.5				
		eS	14 46					38.7 N, 143.6 E,	17 km				
		eScS	16 22					Honshu, Japan					
		eSS	18 46										
	H:	16 56	13.1				17	NUR	eP	19 32 16			
		40.1 N, 143.7 E,	6 km					KJN	eP	19 31 46			
		Honshu, Japan						OUL	eP	19 31 45			
17	NUR	iP	17 51	03.4	0.7	7.9	17	NUR	eP	20 29 51			
								KJN	eP	20 30 06			
17	NUR	iPKP	18 28	30.5 U	0.9	41.3	17	KJN	eP	22 27 55			
		i		47.5									
		ePP	30 21										
	KJN	iPKP	18 28	23.4 U	1.0	29.4	17	NUR	eSKS	22 30 24			
		ePKKP	38 26						ePS	33 00			
	OUL	iPKP	18 28	24.1 U					eSS	38 44			
		ePKKP	38 26					KEV	ePP	22 23 36			
	SOD	ePKP	18 28	19					eSKS	30 06			
	KEV	ePKP	18 28	16					ePS	32 36			
		ePS	39 00						eSS	38 00			
	H:	18 09	34.1					H:	22 05	41.6			
		12.3 S, 166.7 E,	33 km (R)						0.4 S, 91.1 W,	33 km (R)			
		Santa Cruz Islands							Galapagos Islands				
								17	NUR	eP	23 34 39		
17	NUR	eP	19 01	31			18	NUR	eSKS	00 33 20			
	KJN	iP	19 01	10.6 U	0.6	7.5			ePS	36 08			
		i		18.4					eSS	41 54			
	OUL	eP	19 01	10				KEV	ePP	00 26 40			
		e		18					eSKS	33 06			
	SOD	iP	19 00	59.1					ePS	35 36			
		i	01	06.8					eSS	41 06			
	H:	18 50	31.7					H:	00 08	46.4			
		39.3 N, 143.3 E,	33 km (R)						0.2 S, 91.2 W,	33 km (R)			
		Honshu, Japan							Galapagos Islands				
17	NUR	iP	19 08	35.0	1.0	32.8	18	OUL	eP	01 51 26			
		i		44.8									
		i		53.2									
		ePP	11 13					18	NUR	eSKS	02 47 20		
	KJN	iP	19 08	12.1	1.3	65.1			ePS	50 04			
		i		23.0					eSS	55 48			
		i		32.0				KEV	ePP	02 40 32			
		eS	17 02						ePS	49 40			
	OUL	eP	19 08	12					eSS	55 00			
		e		14				H:	02 22	45.5			
		e		23					0.2 S, 91.5 W,	33 km (R)			
	SOD	iP	19 08	02.7					Galapagos Islands				
		i		12.1				18	NUR	eP	03 04 14		
	KEV	eP	19 07	51					e	23			
				cont.						cont.			

June				T	A	June				T	A	
	KJN	eP	03 04 21			18	NUR	eP	07 49 00			
	OUL	eP	03 04 19					i	11.4			
18	NUR	eSKS	04 17 44				KJN	eP	07 48 36			
		ePS	20 20				SOD	eP	07 48 25			
		eSS	26 04				H:	07 38 13				
	KEV	eSKS	04 17 26					41.5 N, 142.9 E, 33 km (R)				
		ePS	19 56					Hokkaido, Japan				
		eSS	25 20			18	NUR	eP	09 07 19			
	H:	03 53 00.3					KJN	iP	09 06 57.5			
		0.5 S, 91.4 W, 33 km (R)					OUL	eP	09 06 57			
		Galapagos Islands					SOD	eP	09 06 45			
							H:	08 56 23.7				
18	NUR	iP	05 31 42.1 U	1.1	31.7			39.7 N, 141.8 E, 33 km (R)				
		i	58.3					Honshu, Japan				
		i	32 20.3			18	NUR	ePS	09 23 36			
		eS	34 53					eSS	29 16			
		eSS	35 10				H:	08 56 10.3				
	KJN	iP	05 32 23.1	0.9	60.7			0.2 S, 91.3 W, 33 km (R)				
	OUL	iP	05 32 26.3 U					Galapagos Islands				
		iS	36 26.1			18	NUR	iP	10 14 17.3	0.6	7.7	
	SOD	iP	05 32 48.0				KJN	iP	10 14 35.0 D	0.8	13.1	
	KEV	eP	05 33 07	0.9	20.6		OUL	eP	10 14 45			
	H:	05 27 33.0										
		45.7 N, 8.1 E, 5 km				18	NUR	eSKS	10 54 56			
		Northern Italy						ePS	57 36			
18	NUR	iPKP	07 00 28.5					ePPS	58 24			
		i	40.7	0.6	25.6			eSS	11 03 20			
		iSKP	03 17.7				KEV	ePP	10 48 08			
		e	48					ePS	57 10			
		ePKS	04 13				H:	10 30 14.1				
	KJN	ePKP	07 00 20					0.4 S, 91.7 W, 33 km (R)				
		i	31.2	0.6	27.4			Galapagos Islands				
		iSKP	03 06.2			18	NUR	eP	11 21 23			
		iPKS	04 01.0					H:	11 16 36.8			
	OUL	ePKP	07 00 18					38.0 N, 23.5 E, 179 km				
		i	30.0					Greece				
		iSKP	03 05.0									
	SOD	ePKP	07 00 26			18	NUR	iP	11 28 37.0 D	0.7	11.9	
		iSKP	02 58.5					KJN	eP	11 28 47	1.2	13.8
	KEV	eSKP	07 02 51									
	H:	06 42 21.9				18	NUR	eSKS	12 52 20			
		21.7 S, 179.6 W, 600 km						ePS	55 04			
		Fiji Islands						eSS	13 00 44			
18	NUR	eSKS	07 37 38				KEV	ePP	12 45 30			
		ePS	40 20					ePS	54 28			
		eSS	46 06				H:	12 27 35.5				
	KEV	ePP	07 30 56					0.5 S, 91.4 W, 33 km (R)				
		ePS	39 52					Galapagos Islands				
		eSS	45 20									

June				T	A	June				T	A	
18	KJN	eP	14 16 14					OUL	ePKP	18 17 45		
	OUL	eP	14 16 14						H:	17 58 36		
										37.0 S, 176.7 E, 252 km		
										North Island, N.Z.		
18	NUR	eP	14 46 02			18	NUR	iP	18 46 39.2			
18	NUR	eSKS	15 07 16			18	NUR	eSKS	19 22 38			
		ePS	09 50					ePS	25 20			
		eSS	15 40					eSS	31 04			
	KEV	ePS	15 09 28				KEV	ePS	19 24 59			
		eSS	14 48					eSS	30 22			
		H:	14 42 32.7					H:	18 57 58.6			
			0.3 S, 91.5 W, 33 km (R)						0.5 S, 91.3 W, 33 km (R)			
			Galapagos Islands						Galapagos Islands			
18	NUR	eP	15 15 51			18	NUR	eSKS	20 35 36			
18	NUR	eP	16 03 48					ePS	38 24			
18	NUR	eSKS	16 42 04					ePPS	39 16			
		ePS	44 40					eSS	44 08			
		ePPS	45 28				KEV	ePS	20 37 56			
		eSS	50 24					eSS	43 20			
	KEV	ePS	16 44 08					H:	20 11 00.1			
		eSS	49 36						0.3 S, 91.3 W, 33 km (R)			
		H:	16 17 17.6						Galapagos Islands			
			0.3 S, 91.2 W, 33 km (R)				18	NUR	eSKS	22 13 28		
			Galapagos Islands					ePS	16 08			
18	NUR	iP	17 07 03.9	0.6	9.0			eSS	21 56			
		e	08 06					KEV	ePP	22 06 44		
	KJN	iP	17 07 18.5					ePS	15 40			
	OUL	iP	17 07 30.1					eSS	21 00			
								H:	21 48 48.2			
18	NUR	eP	17 21 29						0.4 S, 91.7 W, 33 km (R)			
	KJN	iP	17 21 06.5	1.1	13.5				Galapagos Islands			
	OUL	eP	17 21 05				18	NUR	ePP	23 55 50		
	SOD	eP	17 20 54					eSKS	24 02 16			
		H:	17 10 41.8					ePS	04 58			
			41.4 N, 142.5 E, 34 km					eSS	10 44			
			Hokkaido, Japan					KEV	ePP	23 55 20		
18	NUR	ePKP ²	17 50 58					ePS	24 04 28			
		i	51 21.6					eSS	09 52			
	KJN	iPKP ²	17 50 40.1	0.5	5.9			H:	23 37 29.6			
	OUL	ePKP ²	17 50 41						0.6 S, 91.5 W, 33 km (R)			
	SOD	ePKP	17 50 31						Galapagos Islands			
		H:	17 30 49				19	NUR	ePS	01 37 48		
			44.5 S, 167.8 E, 37 km					eSS	43 40			
			South Island, N.Z.					KEV	ePS	01 37 28		
18	NUR	iPKP	18 17 54.4	0.8	7.4			eSS	42 40			
	KJN	ePKP	18 17 45					H:	01 10 27.6			
									0.5 S, 91.2 W, 33 km (R)			
									Galapagos Islands			

cont.

June						June							
					T	A					T	A	
19	NUR	iP	01 49	16.6	0.6	15.4	KEV	iP	05 12	20.0 U	0.6	21.3	
		i		26.1				i		56.0			
		ePP	51	47				H:	05 05	57.3			
		eS	58	18					50.0 N,	79.1 E,	0 km		
	KJN	iP	01 48	55.2 U	0.7	19.2			Eastern Kazakh SSR				
		i	49	04.0									
	OUL	iP	01 48	54.9 U			19	NUR	eSKS	06 12	24		
		i	49	04.7					ePS	15	04		
	SOD	iP	01 48	43.4					eSS	20	50		
	KEV	iP	01 48	32.1	0.9	18.5		KEV	ePP	06 05	30		
		eS	56	44					eSKS	12	08		
	H:	01 38	17.4						ePS	14	36		
		39.5 N,	142.9 E,	33 km					eSS	20	00		
		Honshu, Japan											
	H:	05 47	42.7						0.5 S, 91.7 W, 33 km (R)				
		Galapagos Islands											
19	NUR	iP	01 59	00.3	0.8	17.6	19	NUR	ePP	07 48	40		
	KJN	iP	01 58	57.0 U	0.9	30.4			eSKS	55	08		
	OUL	iP	01 59	02.4 U					ePS	57	48		
	SOD	iP	01 59	03.8					ePPS	58	36		
	KEV	iP	01 59	06.0	1.0	24.0			eSS	08 03	28		
	Moscow:							KEV	ePP	07 48	16		
	H:	01 46	40						ePS	57	20		
		0.9 N,	100.8 E						eSS	08 02	40		
		Indonesia											
19	NUR	eP	03 21	30					H:	07 30	26.8		
	H:	03 17	13.7						0.5 S, 91.7 W, 33 km (R)				
		Galapagos Islands											
19	NUR	iP	03 28	09.1			19	NUR	iP	08 27	21.0	1.0	20.5
	KJN	eP	03 27	47					i		26.3		
	OUL	eP	03 27	46					i	30	58.2		
	SOD	eP	03 27	35					iPP	31	37.2		
	H:	03 17	13.7						ePPP	33	52		
		40.7 N,	144.0 E,	23 km					eSKS	37	56		
		Honshu, Japan											
19	NUR	eSKS	04 30	16					eS	39	00		
		ePS	33	00					ePS	40	28		
		eSS	38	44					e	42	16		
	KEV	ePP	04 23	28					ePKKP	43	25		
		ePS	32	32					eSS	45	40		
		eSS	37	52					eSSS	49	56		
	H:	04 05	40.1						eP'P'	51	50		
		0.2 S,	91.2 W,	33 km (R)				KJN	iP	08 27	24.5	1.0	16.4
		Galapagos Islands											
19	NUR	iP	05 12	24.1 U	1.0	184.5			e	30	53		
		i	13	31.0					iPP	31	36.1		
	KJN	iP	05 12	10.9 U					eSKS	38	05		
		i		42.0					ePKKP	43	10		
	OUL	iP	05 12	17.9 U					e		55		
		i	13	09.9					eP'P'	51	53		
		iPcP	15	13.6					OUL	eP	08 27	21	
	SOD	iP	05 12	17.7 U					i		26.8		
				cont.					ePP	31	28		
									ePKKP	43	35		
											cont.		

June

T A

June

T A

SOD eP 08 27 18
e 30 55
ePP 31 26
ePKKP 43 40
KEV eP 08 27 20
e 31 06
ePP 22
eSKS 38 00
ePS 40 29
ePKKP 43 30
eSS 45 32

H: 08 13 35.0
5.6 S, 77.2 W, 28 km
Northern Peru

19 NUR iPKP 11 45 30.1 U 1.0 53.3
i 34.3
OUL ePKP 11 45 19
KEV ePKP 11 45 08
H: 11 25 53.8
30.7 S, 177.9 W, 33 km (R)
Kermadec Islands

19 NUR ePS 13 04 04
eSS 09 48
H: 12 36 45.7
0.5 S, 91.6 W, 33 km (R)
Galapagos Islands

19 NUR eP 15 08 32
KJN iP 15 08 55.8 D 0.8 6.2
OUL eP 15 09 07
SOD eP 15 09 25

Moscow:
H: 15 03 35
41.2 N, 44.1 E
Caucasus

19 NUR eSKS 15 30 24
ePS 33 08
eSS 38 48
KEV ePP 15 23 32
eSKS 30 12
ePS 32 40
eSS 38 00
H: 15 05 47
0.0 S, 91.1 W, 33 km (R)
Galapagos Islands

19 NUR eP 15 33 26
Moscow:
H: 15 28 18
41.3 N, 43.8 E
Caucasus

19 NUR eSKS 17 12 20
ePS 15 02
eSS 20 44
KEV ePP 17 05 30
ePS 14 32
eSS 19 59
H: 16 47 41.7
0.1 S, 91.7 W, 33 km (R)
Galapagos Islands

19 NUR iP 18 14 16.0 U 0.7 15.8
KJN iP 18 13 54.9 U 0.8 9.2
i 14 21.5
OUL iP 18 13 53.9 U
e 14 16
SOD iP 18 13 42.6
KEV iP 18 13 31.5 1.0 20.0
H: 18 03 21.1
40.3 N, 143.3 E, 33 km (R)
Honshu, Japan

19 NUR eSKS 18 21 20
eSS 29 52
H: 17 56 46
0.1 S, 91.2 W, 33 km (R)
Galapagos Islands

19 NUR eSKS 19 44 08
ePS 46 48
eSS 52 32
KEV ePP 19 37 22
eSKS 43 56
ePS 46 20
eSS 51 48
H: 19 19 29.7
0.4 S, 91.5 W, 33 km (R)
Galapagos Islands

19 NUR iPKP 20 17 12.7 U 1.0 24.6
ePKS 20 36
KJN ePKP 20 17 24 1.0 7.6
ePKS 20 47
OUL ePKP 20 17 16
SOD iPKP 20 17 17.0
KEV iPKP 20 17 18.0 1.0 22.0
ePP 19 48
ePKS 20 48
H: 19 58 01.9
43.9 S, 75.1 W, 24 km
Southern Chile

19 NUR eSKS 22 36 02
ePS 38 40

cont.

June				June					
		T	A			T	A		
20	NUR	eSKS	12 39 04			20	NUR	eSKS	23 50 06
		eSS	47 28					ePS	52 48
	KEV	ePP	12 32 18					eSS	58 32
		ePS	41 20				KEV	ePP	23 43 20
		eSS	46 44					ePS	52 20
		H:	12 14 26					H:	23 25 28.2
			0.0 S, 91.6 W, 33 km (R)						0.1 S, 91.7 W, 33 km (R)
			Galapagos Islands						Galapagos Islands
20	NUR	eSKS	14 15 02			21	NUR	e	00 40 04
		eSS	23 28					eSKS	50 32
		H:	13 50 23.6					ePS	52 56
			0.7 S, 91.8 W, 33 km (R)					eSS	58 24
			Galapagos Islands				KJN	eP	00 40 03
20	NUR	ePP	16 27 20				KEV	eSKS	00 50 28
		eSKS	33 48					ePS	53 00
		ePS	36 28					H:	00 26 07.8
		eSS	42 10						5.7 S, 77.3 W, 22 km
	KEV	ePP	16 26 56						Northern Peru
		eSKS	33 36			21	NUR	eP	01 37 37
		ePS	35 59				KJN	eP	01 37 32
		eSS	41 22				OUL	eP	01 37 27
		H:	16 09 07.3				SOD	eP	01 37 23
			0.4 S, 91.6 W, 33 km (R)					H:	01 24 53.9
			Galapagos Islands						15.4 N, 92.1 W, 115 km
20	KJN	eSg	18 21 42						Mexico-Guatemala border
	SOD	eSg	18 21 06			21	NUR	eSKS	02 56 16
20	NUR	iP	18 23 10.8					ePS	59 16
	KJN	iP	18 22 48.6	1.2	34.4			eSS	03 04 52
	OUL	eP	18 22 47					H:	02 31 50
	SOD	iP	18 22 36.2						0.2 S, 91.1 W, 33 km (R)
	KEV	iP	18 22 25.0	0.9	11.8				Galapagos Islands
		H:	18 12 25.3						
			41.4 N, 142.6 E, 50 km						
			Hokkaido, Japan						
20	NUR	eSKS	21 00 52			21	NUR	eSKS	06 12 00
		ePS	03 30					ePS	14 40
		eSS	09 08					eSS	20 24
	KEV	ePP	20 54 04				KEV	ePP	06 05 14
		eSKS	21 00 32					eSKS	11 52
		ePS	03 00					ePS	14 12
		eSS	08 30					eSS	19 44
		H:	20 36 11.7					H:	05 47 22.8
			0.2 S, 91.6 W, 33 km (R)						0.4 S, 91.8 W, 33 km (R)
			Galapagos Islands						Galapagos Islands
20	NUR	ePKP	22 08 58			21	NUR	eSS	10 05 28
	OUL	ePKP	22 09 01					H:	09 32 30.8
		H:	21 49 40.5						0.2 S, 91.8 W, 33 km (R)
			22.8 S, 173.3 E, 62 km						Galapagos Islands
			Loyalty Islands						

June						June									
			T	A				T	A						
21	NUR	ePS	11 32 00							ePS	18 32				
		eSS	37 32							eSS	24 12				
		H:	11 04 38.2			KEV	eSKS	21 15 36			ePS	18 00			
			0.1 S, 91.6 W, 33 km (R)				eSS	23 28			H:	20 51 08.6			
			Galapagos Islands									0.2 S, 91.5 W, 33 km (R)			
21	KJN	eP	13 59 58			22	NUR	iPKP	00 46 47.4	0.6	6.4				
		H:	13 49 32.6				KJN	iPKP	00 46 54.5	0.9	9.8				
			41.2 N, 142.4 E, 33 km				OUL	iPKP	00 46 55.9						
			Hokkaido, Japan					epPKP	47 28						
21	NUR	eP	16 33 55				SOD	iPKP	00 46 59.4						
	KJN	eP	16 33 30					ipPKP	47 31.5						
21	NUR	iP	17 23 35.0	1.2	29.2		KEV	ePKP	00 47 03						
		i	43.0				H:	00 28 11.3							
	KJN	iP	17 23 05.0	0.6	8.2			56.0 S, 27.5 W, 174 km							
		eS	25 20					South Sandwich Islands							
	OUL	eP	17 22 49			22	NUR	ePS	00 49 20						
		eS	24 53					eSS	55 04						
	SOD	iP	17 22 30.2				KEV	ePS	00 48 56						
		eS	24 20					eSS	54 20						
		i	44.0				H:	00 22 02.6							
	KEV	eP	17 22 14					0.1 S, 91.6 W, 33 km (R)							
		i	20.6					Galapagos Islands							
	H:	17 20 06				22	NUR	iP	01 23 30.0 U	1.1	104.9				
		72.2 N, 1.0 E, 33 km (R)						i	38.5						
		Norwegian Sea						i	49.9						
21	NUR	iP	19 03 24.2	0.8	14.7			iPP	25 57.0						
	KJN	iP	19 03 06.1 U	0.8	10.8			ePPP	27 36						
	OUL	iP	19 03 06.6 U					eS	32 26						
	SOD	eP	19 02 57					eSS	36 52						
	KEV	eP	19 02 48	0.8	8.6		KJN	iP	01 23 07.9 U	1.1	225.4				
	H:	18 51 35.9						i	17.0						
		29.9 N, 142.7 E, 45 km						iPP	25 26.1						
		South of Honshu, Japan						eS	31 48						
21	KJN	eP	20 28 11				OUL	iP	01 23 07.4 U						
	OUL	eP	20 28 12					i	16.9						
	SOD	eP	20 28 06					ePP	25 28						
	H:	20 15 15.6					SOD	iP	01 22 55.9 U						
		12.2 N, 143.4 E, 33 km (R)						i	23 05.0						
		Mariana Islands						ePP	25 12						
21	NUR	iP	21 15 59.1	0.5	6.8		KEV	iP	01 22 45.0 U	1.1	73.8				
	KJN	iP	21 15 41.0	0.7	6.9			i	53.5						
	OUL	iP	21 15 41.7					i	23 08.0						
	KEV	eP	21 15 26					ePP	25 01						
	H:	21 05 17						eS	31 02						
		31.1 N, 137.6 E, 502 km						eScS	32 34						
		South of Honshu, Japan						eSS	35 04						
21	NUR	eSKS	21 15 52				H:	01 12 30.9							
		cont.						40.3 N, 143.7 E, 15 km							
								Honshu, Japan							

June				T	Δ	June				T	Δ		
22	NUR	iP	01 32 11.0	0.7	8.2	22	NUR	iP	12 25 29.5	1.2	24.1		
	KJN	iP	01 31 49.0			KJN	iP	12 26 13.1					
	OUL	eP	01 31 49			OUL	iP	12 26 17.8					
	SOD	eP	01 31 37			SOD	eP	12 26 41					
22	KJN	eP	01 36 16										
	OUL	eP	01 36 17										
22	NUR	eP	06 10 17	0.7	4.1	22	NUR	eP	12 41 47	0.8	8.5		
	KJN	iP	06 09 53.8			KJN	iP	12 42 29.6					
	H: 05 59 41					OUL	eP	12 42 33					
	47.8 N, 155.6 E, 45 km					SOD	eP	12 43 00					
	Kurile Islands												
22	NUR	ePKP	08 27 18										
		iSKP	30 11.5										
	KJN	ePKP	08 27 10										
		iSKP	30 00.0										
	OUL	ePKP	08 27 11			22	NUR	eP	16 03 43				
		iSKP	29 58.5				KJN	iP	16 03 58.4				
	SOD	iSKP	08 29 51.1					i	04 55.0				
	H: 08 08 44.4						OUL	iP	16 04 09.7				
	20.0 S, 177.8 W, 415 km						SOD	eP	16 04 25				
	Fiji Islands						H: 15 56 46.6						
							29.6 N, 51.5 E, 32 km						
							Southern Iran						
22	NUR	iP	09 19 07.0	0.8	12.3	22	NUR	eP	18 51 08				
	KJN	iP	09 18 45.9							eS	52 27		
	OUL	iP	09 18 44.8							e	53 10		
	SOD	eP	09 18 34						KJN	eP	18 51 15		
	H: 09 08 09							eS	52 36				
	39.5 N, 142.5 E, 33 km (R)							e	53 03				
	Honshu, Japan							e	15				
22	NUR	ePS	10 14 12				SOD	e	18 53 04				
		eSS	19 52					e	54 07				
	H: 09 46 50												
	0.1 S, 91.5 W, 33 km (R)												
	Galapagos Islands					23	KJN	eP	01 05 50	0.9	7.1		
							OUL	eP	01 06 08				
22	NUR	iP	11 16 39.0	0.7	5.5	23	NUR	eP	01 25 04				
	KJN	iP	11 16 16.0						KJN	eP	01 25 02		
	OUL	eP	11 16 14						OUL	eP	01 25 07		
	SOD	eP	11 16 02						H: 01 12 07				
	H: 11 05 50.1						6.0 S, 103.9 E, 32 km						
	Hokkaido, Japan						Southwest of Sumatra						
22	KJN	eP	11 18 06			23	KJN	eP	02 12 01				
	H: 11 07 55						H: 02 01 23						
	34.7 N, 135.6 E, 379 km						39.2 N, 143.0 E, 36 km						
	Honshu, Japan						Honshu, Japan						

June						June			
				T	A				
23	KJN eP	04 15 43				23	NUR eP	14 37 35	
	OUL eP	04 15 56					KJN iP	14 37 13.6	0.8 6.2
	SOD eP	04 15 10					OUL eP	14 37 12	
	KEV eP	04 14 57					H: 14 26 42		
							40.7 N, 143.4 E, 33 km (R)		
							Honshu, Japan		
23	NUR iP	05 08 38.8				23	NUR iP	15 12 21.0 D	0.8 16.2
	KJN iP	05 08 16.5 U	0.7	9.6			KJN iP	15 11 57.2 D	0.9 7.1
	OUL iP	05 08 15.9 U					OUL iP	15 11 50.1 D	
	SOD iP	05 08 04.1 U					SOD iP	15 11 34.0 D	
	KEV iP	05 07 53.6	0.8	10.1			KEV iP	15 11 15.6 D	
	H: 04 57 52.2						H: 15 01 56.0		
	41.6 N, 143.4 E, 45 km						56.8 N, 152.2 W, 35 km		
	Hokkaido, Japan						Kodiak Island		
23	NUR eP	05 31 38				23	NUR iP	17 04 16.3 U	0.8 27.9
	KJN eP	05 31 13	1.0	14.1			eS	12 48	
	OUL eP	05 31 18					KJN iP	17 03 52.8 U	0.9 18.8
	SOD eP	05 31 05					e	04 20	
	H: 05 20 38.0						OUL iP	17 03 45.5 U	
	39.1 N, 143.0 E, 45 km						e	04 02	
	Honshu, Japan						SOD iP	17 03 29.3 U	
23	NUR eP	09 07 34					KEV iP	17 03 11.2 U	0.7 14.2
	KJN eP	09 07 11					i	26.9	
	SOD eP	09 06 47					eS	10 44	
	H: 08 57 21.6						H: 16 53 50.2		
	57.6 N, 152.2 W, 45 km						56.7 N, 152.4 W, 33 km (R)		
	Kodiak Island						Kodiak Island		
23	NUR iP	09 23 11.2	0.9	25.8		23	NUR eP	18 47 14	
	ePP	24 24					KJN iP	18 46 50.5	1.0 8.7
	eS	28 40					OUL iP	18 46 43.2	
	KJN iP	09 23 28.1	1.0	55.6			SOD eP	18 46 27	
	i	30.5					H: 18 36 49.3		
	iPP	25 00.5					56.7 N, 152.2 W, 41 km		
	eS	29 17					Kodiak Island		
	OUL iP	09 23 39.6				24	NUR eP	03 00 47	
	ePP	25 11					e	01 01	
	SOD iP	09 23 54.3				24	NUR eP	03 32 10	
	ePP	25 22					KJN iP	03 32 34.4 U	1.0 12.0
	KEV iP	09 24 10.2	1.1	100.0			OUL iP	03 32 41.3 U	
	i	31.0					SOD iP	03 32 55.8	
	iPP	25 44.3					KEV iP	03 33 10.2	0.8 8.7
	eS	30 24					H: 03 22 00.2		
	eSS	33 20					0.3 S, 29.8 E, 33 km (R)		
	H: 09 16 18.6						Republic of the Congo		
	29.8 N, 51.2 E, 34 km					24	NUR iP	04 18 19.0	0.7 9.2
	Southern Iran					24	KJN iP	08 38 54.9	0.8 8.5
23	NUR iP	11 34 40.5					SOD eP	08 38 43	
	KJN iP	11 34 31.5	0.6	8.2					
	OUL eP	11 34 31							
	SOD eP	11 34 30							
	KEV eP	11 34 25	0.8	10.1					

June				T	A	June				T	A
24	NUR	eP	09 57 01			25	NUR	eP	04 17 45		
	KJN	iP	09 57 34.1 U	0.8	5.4			e	53		
	OUL	iP	09 57 41.9				KJN	eP	04 17 24		
	SOD	eP	09 58 03					i	34.0		
	Moscow:						OUL	eP	04 17 24		
	09 51 44							e	34		
	35.3 N, 25.3 E, 110 km						H: 04 06 14.1				
	Aegean Sea						32.9 N, 141.2 E, 35 km				
							South of Honshu, Japan				
24	NUR	eP	10 22 27	0.8	16.2	25	KJN	eP	05 47 04		
		i	29.0				H: 05 35 39				
		i	45.0				0.2 S, 15.7 W, 33 km (R)				
	KJN	iP	10 23 02.9	1.0	5.5		North of Ascension Island				
	OUL	iP	10 23 10.6			25	KJN	iP	05 56 54.1	1.2	20.6
	SOD	iP	10 23 32.1				SOD	eP	05 57 06		
	KEV	iP	10 23 52.5	0.8	10.2		H: 05 45 31				
		e	24 10				1.0 S, 16.2 W, 33 km (R)				
	BCIS:						North of Ascension Island				
	H: 10 17 29					25	NUR	iP	06 57 31.0	1.0	16.4
	37.8 N, 20.4 E						KJN	iP	06 57 53.0	0.8	13.1
	Ionian Sea							i	58 05.0		
24	NUR	eSg	17 26 50				OUL	eP	06 57 59		
	KJN	eSg	17 27 25				SOD	eP	06 58 02		
24	OUL	iSg	18 09 45.9				KEV	iP	06 58 26.0	1.0	20.0
	SOD	eSg	18 09 43				H: 06 46 28.7				
24	NUR	eP	18 34 06				0.7 S, 15.9 W, 33 km (R)				
		i	20.5				North of Ascension Island				
	KJN	iP	18 34 21.4	0.4	7.1	25	NUR	iP	10 19 25.1	0.6	7.7
		i	37.0					i	33.8		
		eS	39 03				KJN	iP	10 19 40.5	0.6	6.2
	OUL	eP	18 34 33					i	48.0		
		i	47.9				OUL	eP	10 19 52		
	SOD	eP	18 34 58					i	59.5		
	KEV	e	18 35 39				SOD	e	10 20 29		
	Moscow:						Moscow:				
	H: 18 28 46						H: 10 13 56				
	40.4 N, 48.4 E						39.7 N, 49.2 E				
	Caucasus						Caucasus				
24	KJN	iP	20 02 37.7	0.8	7.7	25	KJN	iP	23 32 27.1	0.8	5.4
24	NUR	eP	20 23 26				SOD	eP	23 32 15		
		i	31.2				H: 23 21 46.4				
	KJN	iP	20 23 47.5	1.2	29.2		39.5 N, 143.5 E, 19 km				
		i	53.9				Honshu, Japan				
	OUL	eP	20 23 48			25	NUR	iP	23 44 19.5 U	0.9	37.8
	SOD	iP	20 23 58.7					i	29.4		
	KEV	iP	20 24 15.3	1.4	49.2			e	45 37		
	H: 20 12 19.8							ePP	46 48		
	1.6 S, 15.7 W, 33 km (R)							eS	53 20		
	North of Ascension Island						cont.				

June				T	A	June				T	A
	KJN	iP	23 43 59.0 U	1.1	13.9		KJN	iP	10 34 09.5 U	1.0	141.7
		i	44 08.1				SOD	iP	10 33 57.4		
		iPP	46 27.0				H:	10 23 48.2			
	OUL	iP	23 43 58.8 U					42.1 N, 142.7 E, 33 km (R)			
		i	44 07.5					Hokkaido, Japan			
		ePcP	28				26	KJN	eP	10 59 23	
	SOD	iP	23 43 46.9 U					H:	10 47 46.0		
		i	56.1					40.2 N, 124.4 W, 33 km (R)			
		ePP	46 11					Northern California			
	H:	23 33 18.0									
		39.6 N, 143.4 E, 16 km									
		Honshu, Japan									
26	NUR	iP	01 54 14.4	1.2	58.4		26	KJN	eP	13 54 57	
		i	24.6					SOD	eP	13 54 43	
		eS	02 03 56					H:	13 43 37.4		
	KJN	iP	01 53 57.7	1.0	19.6			32.3 N, 141.6 E, 25 km			
		i	54 09.0					South of Honshu, Japan			
	OUL	eP	01 53 47				26	NUR	ePKP	15 59 40	
	SOD	iP	01 53 37.7					ePP	16 02 16		
		e	50					iPKS	03 10.4		
	H:	01 42 19.5						eSKSP	12 08		
		40.1 N, 124.4 W, 10 km						ePPS	14 12		
		Northern California						KJN	iPKP	15 59 33.2	1.2 29.2
								ipPKP	58.0		
26	NUR	eP	02 01 10					ePP	16 01 55		
	KJN	iP	02 01 25.0					iSKP	02 50.0		
	OUL	iP	02 01 36.6					iPKS	57.4		
	SOD	eP	02 01 51					SOD	ePKP	15 59 29	
	H:	01 54 15.3						KEV	ePP	16 01 20	
		29.8 N, 51.1 E, 33 km (R)						ePKS	02 44		
		Southern Iran						H:	15 40 31.1		
								22.2 S, 171.4 E, 90 km			
								Loyalty Islands			
26	NUR	iP	02 01 39.5	0.6	12.8						
	KJN	iP	02 01 55.9 U	0.6	17.8						
		i	03 23.0				26	KJN	eP	20 05 38	
	OUL	iP	02 02 07.1					SOD	eP	20 05 36	
	SOD	iP	02 02 21.2 U					H:	19 52 42		
26	NUR	eP	03 34 26					4.6 N, 127.5 E, 49 km			
								Talau Islands			
26	KJN	eP	06 04 52								
	SOD	eP	06 04 35								
	H:	05 54 24					26	NUR	e	20 37 32	
		41.2 N, 142.9 E, 33 km (R)						KJN	iP	20 36 56.0	
		Hokkaido, Japan						i	37 05.1		
								SOD	eP	20 36 43	
								H:	20 26 19.0		
26	NUR	iP	10 34 32.1	0.7	76.6			39.5 N, 143.0 E, 34 km			
		i	46.0					Honshu, Japan			
		i	35 33.0								
		eS	43 16								
		ePS	38								
		eScS	44 36				27	NUR	eP	01 56 49	
		eSS	47 44					KJN	iP	01 56 25.0 U	0.7 7.5
		cont						SOD	eP	01 56 03	
								KEV	eP	01 55 47	

June						June				
				T	A					
				T	A					
	OUL	iP	14 34 33.4			SOD	eP	06 34 24		
		e	41			KEV	eP	06 34 20		
	SOD	iP	14 34 23.2			H: 06 21 48.1				
	KEV	iP	14 34 12.2	0.8	7.2	13.6 N, 90.2 W, 97 km				
		eS	42 28			Near coast of Guatemala				
	H: 14 24 00.1					29	NUR	iP	08 20 51.0	0.7 21.3
	40.5 N, 143.4 E, 20 km						i	21 07.0		
	Honshu, Japan						KJN	eP	08 20 28	
28	NUR	eP	18 27 21				OUL	eP	08 20 28	
	KJN	iP	18 26 59.0				SOD	eP	08 20 15	
	OUL	iP	18 26 57.8 U				KEV	eP	08 19 55	
	SOD	iP	18 26 47.0			29	NUR	iPKP	11 26 24.0	0.7 22.4
	KEV	eP	18 26 37				KJN	iPKP	11 26 17.2	0.7 11.6
	H: 18 16 34.9						OUL	iPKP	11 26 16.7	
	41.6 N, 142.4 E, 33 km (R)						KEV	iPKP	11 26 10.5	
	Hokkaido, Japan						H: 11 07 40.5			
28	NUR	eP	19 47 18				11.6 S, 166.4 E, 123 km			
	H: 19 39 50						Santa Cruz Islands			
	34.6 N, 70.8 E, 25 km					29	NUR	iP	11 58 34.5	
	Afghanistan						KJN	iP	11 58 57.0 U	1.0 15.3
28	KJN	iP	20 44 11.5	1.5	69.9		OUL	eP	11 59 03	
	OUL	eP	20 44 18				SOD	iP	11 59 17.8	
	SOD	eP	20 44 17				KEV	iP	11 59 32.6 U	0.8 12.7
	H: 20 34 55.3						H: 11 48 19.5			
	30.1 N, 95.1 E, 44 km						0.9 S, 29.1 E, 33 km (R)			
	Tibet.						Republic of the Congo			
29	NUR	iP	01 28 15.7			29	NUR	ePKP	15 50 34	
	KJN	iP	01 27 53.9 U	0.8	10.0		KJN	iPKP	15 50 41.2	0.8 10.8
	OUL	iP	01 27 52.3 U				OUL	ePKP	15 50 42	
	SOD	iP	01 27 41.7				eSKP	53 51		
	KEV	eP	01 27 30				SOD	ePKP	15 50 45	
	H: 01 17 18.1						H: 15 31 37.1			
	40.2 N, 143.6 E, 33 km (R)						58.8 S, 25.2 W, 33 km (R)			
	Honshu, Japan						South Sandwich Islands			
29	NUR	iP	04 31 41.4			29	NUR	iP	19 24 38.5	1.1 28.3
	i		46.0				i	43.1		
	KJN	iP	04 31 19.0 U	0.7	13.7		KJN	iP	19 24 24.9	1.1 24.3
	i		31.4				i	30.0		
	OUL	iP	04 31 18.3				OUL	iP	19 24 17.7	
	SOD	iP	04 31 07.3				e	25 51		
	KEV	iP	04 30 56.6	1.0	14.0		SOD	iP	19 24 06.7	
	e		31 07				e	25 40		
	H: 04 20 46.9						KEV	iP	19 23 54.5	1.0 15.7
	40.0 N, 142.8 E, 52 km						H: 19 12 20.2			
	Honshu, Japan						34.3 N, 119.7 W, 2 km			
29	KJN	eP	06 34 35				Southern California			
	OUL	eP	06 34 26							

cont.

June				T	A	June				T	A	
30	NUR	iP	09 48 39.2			SOD	iP	14 59 08.7				
		eSKS	59 12				i	15.3				
		ePS	10 01 00			KEV	iP	14 58 58.0	0.8	14.4		
		eSS	06 28			H:	14 48 35.9					
	KJN	iP	09 48 24.1 U	0.8	28.5		38.8 N, 142.7 E, 10 km					
	OUL	iP	09 48 26.0 U				Honshu, Japan					
	SOD	iP	09 48 19.3 U			30	NUR	ePKP 19 56 25				
	KEV	iP	09 48 12.9 U	0.8	50.8		i	32.2				
		eSKS	58 36				KJN	ePKP 19 56 23				
	H:	09 35 29.4					OUL	ePKP 19 56 24				
		13.0 N, 145.2 E, 38 km					H:	19 38 19				
		Mariana Islands						18.6 S, 177.9 W, 605 km				
								Fiji Islands				
30	KJN	iP	13 25 57.2			30	KEV	eS 20 44 44				
	SOD	iP	13 25 51.4				H:	20 21 27.7				
	KEV	iP	13 25 44.8	1.1	30.9			17.9 N, 105.8 W, 35 km				
	H:	13 13 01.6						Jalisco, Mexico				
		12.8 N, 145.2 E, 43 km										
		South of Mariana Islands										
30	KJN	iP	14 25 10.0 U	0.8	12.3							
	SOD	iP	14 24 34.7									
		i	42.4									
	KEV	eP	14 24 01									
30	NUR	iP	14 59 41.2 D	0.9	27.4							
		i	48.1									
	KJN	iP	14 59 19.9 D	0.8	32.3							
		i	26.5									
			cont.									

April 17, 1969
Urmass Luosto
Aili Huovila

1 more date indicated - 185

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Helsinki, Finland
Prel. Bull. 1968

(ONLY ONE EVENT, SEE SEPTEMBER)

July					T	A
1	NUR	iP	04 06 08.8		0.6	45.0
		i	11.3			
	KJN	iP	04 06 24.2			
		eS	10 00			
	OUL	iP	04 06 39.5 U			
	SOD	iP	04 06 55.9 U			
	KEV	iP	04 07 14.4	0.8	113.2	
		i	23.0			
	H: 04 02 01.7					
	47.9 N, 48.0 E, 33 km (R)					
	Western Kazakh SSR					
1	NUR	iP	10 56 17.3 U	1.0	600.0	
		i	25.0			
		iPP	58 48.7			
		eS	11 05 22			
		eScS	06 12			
		eSS	09 40			
		eLR	11 16.0			
	KJN	iP	10 55 57.1 U			
		iS	11 04 47.5			
	OUL	iP	10 55 56.7 U			
		iPP	58 17.9			
	SOD	iP	10 55 47.1 U			
	KEV	iP	10 55 38.0 U	1.1	356.2	
		ePP	57 56			
		e	11 00 00			
		eS	04 06			
		e	54			
		e	05 48			
		eSS	08 08			
	H: 10 45 11.9					
	36.0 N, 139.3 E, 67 km					
	Honshu, Japan					
1	NUR	eP	11 07 41			
	KJN	eP	11 07 13			
	OUL	iP	11 07 09.7			
	SOD	eP	11 06 54			
1	NUR	eP	12 02 01			
	KJN	eP	12 01 34			
	SOD	eP	12 01 15			
	KEV	eP	12 01 00			
	H: 11 51 56					
	53.8 N, 160.4 E, 65 km					
	Kamchatka					
1	NUR	iP	17 05 34.3	1.0	14.0	
	KJN	eP	17 06 08	1.0	6.5	
	SOD	eP	17 06 58			

(SUY-MIL)

July					T	A
1	NUR	iP	19 21 55.0		0.7	7.7
	KJN	iP	19 21 46.0		0.8	7.7
	OUL	eP	19 21 52			
	SOD	eP	19 21 55			
	KEV	eP	19 22 00			
	H: 19 14 54.7					
	44.0 N, 79.2 E, 33 km (R)					
	Eastern Kazakh SSR					
1	NUR	eP	21 24 54			
	KJN	eP	21 24 33			
	OUL	eP	21 24 31			
	SOD	eP	21 24 20			
	KEV	eP	21 24 08			
	H: 21 14 09					
	41.4 N, 142.6 E, 50 km					
	Hokkaido, Japan					
1	NUR	eP	23 49 17			
	KJN	iP	23 49 33.0	0.8	5.4	
	OUL	iP	23 49 43.2			
	SOD	eP	23 49 58			
	KEV	eP	23 50 14	1.0	14.4	
	H: 23 42 21					
	29.9 N, 51.5 E, 33 km (R)					
	Southern Iran					
2	NUR	iP	03 57 46.2	1.5	247.5	
		i	58 05.0			
		i	04 00 47.5			
		iPP	01 22.0			
		eSKS	08 16			
		eS	40			
		ePS	09 56			
		eSS	15 10			
	KJN	iP	03 57 41.0	1.4	337.5	
		i	58 02.0			
		i	04 00 43.2			
		i	01 01.5			
		e	06 20			
		eS	08 39			
		iPS	09 04.0			
		i	23.5			
	OUL	iP	03 57 33.5			
		i	50.6			
		iPP	04 01 00.8			
	SOD	iP	03 57 28.3			
		i	32.2			
	KEV	iP	03 57 23.1			
		i	40.0			

cont.

July				July					
			T	A		T	A		
	ePP	04 00 40			2	NUR	iP 18 01 11.2	0.7	10.3
	eS	07 44				e	25		
	e	08 22				KJN	iP 18 01 22.8	1.0	9.8
	eSS	14 14				OUL	eP 18 01 28		
	eLR	04 24.5				SOD	iP 18 01 31.6		
	H:	03 44 48.9			2	NUR	iP 18 54 07.5	0.9	10.1
		17.6 N, 100.3 W, 41 km				e	58 16		
		Guerrero, Mexico				ePP	23		
2	NUR	iPKP 04 50 25.2	1.0	610.0		eSKS	19 04 32		
	i	48.0				ePS	07 32		
	i	52 10.1				eSS	12 50		
	KJN	iPKP 04 50 13.8	0.9	22.3		KJN	iP 18 53 55.5	0.8	32.3
	iPKS	53 55.5				ePP	58 10		
	OUL	ePKP 04 50 11				OUL	iP 18 53 57.0		
	i	14.3				ePP	58 11		
	i	20.1				SOD	iP 18 53 52.9		
	SOD	ePKP 04 50 06				ePP	58 02		
	i	16.1				KEV	iP 18 53 48.2	0.7	10.3
	KEV	ePKP 04 50 02				H:	18 40 10.1		
	i	09.6	0.8	17.6			2.7 S, 138.9 E, 62 km		
	H:	04 30 52.7					West New Guinea		
		29.7 S, 177.9 W, 53 km			2	NUR	iPKP 20 09 11.2	1.0	22.0
		Kermadec Islands				e	22		
2	KJN	eP 06 25 42				KJN	iPKP 20 09 05.0 U	1.0	25.1
	SOD	eP 06 25 55				OUL	iPKP 20 09 05.7		
2	NUR	iP 10 29 54.0	0.7	7.7		e	12		
	KJN	iP 10 29 51.1	0.7	10.3		SOD	iPKP 20 09 02.9		
2	OUL	eP 14 23 29				i	08.0		
	H:	14 13 17				KEV	iPKP 20 09 00.1	1.1	19.0
		54.0 N, 163.9 W, 37 km				H:	19 49 17		
		Unimak Island					45.0 S, 167.0 E, 27 km		
							South Island, N.Z.		
2	NUR	eP 16 01 47			2	NUR	eP 20 18 16		
	KJN	iP 16 01 25.8	0.7	6.9		KJN	eP 20 19 22		
	OUL	eP 16 01 25			2	NUR	eP 20 25 46		
	SOD	eP 16 01 14				eS	26 46		
	KEV	eP 16 01 17				e	27 31		
2	NUR	iP 16 10 21.0				KJN	eS 20 28 26		
2	NUR	iP 16 54 58.5	0.7	9.0		e	29 18		
	eS	17 03 52			2	NUR	eP 21 57 32		
	KJN	iP 16 54 36.1 U	1.2	39.6	2	NUR	iP 22 24 00.1	0.9	30.2
	OUL	iP 16 54 35.5				i	08.0		
	SOD	iP 16 54 24.0				i	29.8		
	H:	16 43 56.4				eS	33 32		
		39.7 N, 143.6 E, 20 km				KJN	iP 22 23 43.5 U	0.9	26.8
		Honshu, Japan				i	52.0		
							cont.		

July

July

					T	A
	OUL	iP	22 23	44.7 U		
		i		53.6		
	SOD	iP	22 23	38.7 U		
		i		47.0		
	KEV	iP	22 23	32.9 U	0.8	21.6
		i		41.0		
	H: 22 12 25.0					
	26.0 N, 128.6 E, 33 km (R)					
	Ryukyu Islands					
2	NUR	iP	22 54	00.2	0.8	13.0
	KJN	iP	22 53	34.0	0.6	5.5
	OUL	iP	22 53	28.8		
	SOD	iP	22 53	14.4		
	KEV	eP	22 52	58		
	H: 22 43 28					
	52.7 N, 171.1 E, 33 km (R)					
	Near Islands					
3	NUR	eP	00 27	03		
3	NUR	eP	00 46	31		
3	NUR	iPKP	01 30	14.5 D	1.0	62.0
		i		25.8		
	KJN	iPKP	01 30	03.0 U	1.2	24.1
		i		27.3		
	OUL	iPKP	01 30	02.7		
		i		15.2		
	H: 01 10 35					
	31.0 S, 176.8 W, 33 km (R)					
	Kermadec Islands					
3	NUR	eP	01 54	13		
	KJN	iP	01 53	51.2	0.9	6.3
	SOD	eP	01 53	39		
	H: 01 43 13					
	39.7 N, 143.6 E, 33 km (R)					
	Honshu, Japan					
3	NUR	eP	02 50	34		
		e		44		
	KJN	eP	02 50	12		
		i		14.8		
	OUL	eP	02 50	11		
	SOD	eP	02 50	01		
	KEV	eP	02 49	50		
	H: 02 39 46					
	41.5 N, 142.9 E, 34 km					
	Hokkaido, Japan					

					T	A
3	NUR	eP	09 54	36		
		i		55 05.5		
3	NUR	iP	10 01	05.8	1.0	30.0
		i		09.0		
	KJN	iP	10 01	07.0	1.2	20.6
		i		09.0		
	OUL	eP	10 00	56		
	SOD	eP	10 00	56		
	KEV	eP	10 00	53	1.4	32.8
		e(S)		05 32		
	H: 09 55 27					
	59.4 N, 30.4 W, 33 km (R)					
	North Atlantic Ocean					
3	NUR	eP	13 07	24		
	KJN	iP	13 07	16.9	0.9	6.3
	OUL	eP	13 07	16		
	SOD	eP	13 07	17		
	KEV	eP	13 07	09		
3	NUR	iP	15 16	37.0		
3	NUR	iP	17 48	14.5	0.9	11.8
3	NUR	eP	19 06	26		
	KJN	eP	19 06	43		
	OUL	eP	19 06	52		
3	NUR	iP	19 54	28.8		
		i		34.0		
	KJN	iP	19 54	27.0	0.8	20.0
	OUL	eP	19 54	35		
	SOD	eP	19 54	41		
	KEV	eP	19 54	48		
	H: 19 46 53.7					
	34.7 N, 75.1 E, 113 km					
	Eastern Kashmir					
3	NUR	eP	21 11	53		
4	NUR	eP	00 21	21		
4	NUR	iP	00 45	21.0 D	1.0	40.0
		ipP		44.6		
		iPP		47 59.0		
	KJN	iP	00 45	01.2 D		
		i		29.0		
		ePP		47 31		

cont.

July

July

				T	A					T	A	
	OUL	iP	00 45 01.1 D				KJN	iP	21 53 29.2	1.2	48.2	
		e	26				OUL	iP	21 53 36.6			
	SOD	iP	00 44 52.2 D					e	56			
		i	45 19.1					ePP	54 29			
	KEV	iP	00 44 42.4 D	1.2	42.8			iPcP	56 55.4			
	H:		00 34 13.2				SOD	iP	21 53 59.3			
			34.8 N, 139.7 E, 104 km					e	54 16			
			Honshu, Japan				KEV	iP	21 54 19.9	1.2	37.0	
4	NUR	eP	02 32 57	1.0	10.5			ePP	55 22			
	H:		02 27 54					iPcP	57 09.0			
			36.9 N, 28.6 E, 108 km					eS	59 28			
			Dodecanese Islands					eLR	22 02.5			
							H:		21 47 55.6			
4	NUR	iP	06 55 25.0	1.2	20.0				37.8 N, 23.2 E, 33 km (R)			
	KJN	iP	06 55 16.0	1.2	20.6				Southern Greece			
	SOD	eP	06 55 21			4	NUR	iP	23 23 16.0	0.8	11.5	
	H:		06 45 58				KJN	eP	23 23 46			
			30.3 N, 94.9 E, 33 km (R)				SOD	eP	23 24 16			
			Tibet				KEV	eP	23 24 42			
							H:		23 17 52.9			
4	NUR	iP	07 23 02.1						35.4 N, 27.9 E, 42 km			
		i	09.0						Dodecanese Islands			
		iPcP	33.0			4	NUR	eP	23 30 26			
	KJN	iP	07 22 39.0	0.9	41.1		KJN	eP	23 30 37			
	OUL	iP	07 22 36.6									
	SOD	iP	07 22 23.4			5	OUL	eP	00 48 03			
		i	26.1				H:		00 36 05.9			
	KEV	iP	07 22 13.0	0.8	17.3				34.2 N, 119.7 W, 10 km			
		i	24.5						Southern California			
	H:		07 12 24.2				5	NUR	iP	00 57 35.3 U	1.2	119.7
			43.9 N, 147.2 E, 80 km					i	40.0			
			Kurile Islands					eS	01 07 48			
4	NUR	iP	07 29 02.0					eScS	08 00			
4	NUR	eP	13 45 52				KJN	iP	00 57 21.3 U	1.2	113.5	
	KJN	eP	13 45 30					i	26.2			
	SOD	eP	13 45 18				OUL	iP	00 57 13.5 U			
								i	18.0			
4	NUR	eP	20 49 56				SOD	iP	00 57 03.6 U			
		e	50 03				KEV	iP	00 56 51.1 U	1.0	50.0	
	KJN	eP	20 49 40					i	56.2			
	H:		20 38 40.5					eS	01 06 28			
			35.4 N, 138.5 E, 18 km				H:		00 45 17.2			
			Honshu, Japan						34.1 N, 119.7 W, 6 km			
									Southern California			
4	NUR	iP	21 52 54.0	1.2	151.5	5	NUR	iSKP	07 43 21.0			
		i	53 14.5				KJN	iSKP	07 43 10.1			
		i	48.0				OUL	eSKP	07 43 09			
		eS	57 00				SOD	iSKP	07 43 01.9			
		eLR	21 58.6				H:		07 22 33			
			cont.						20.7 S, 179.2 W, 630 km			
									Fiji Islands			

July						July						
			T	A				T	A			
	KEV	iP	14 13 32.1	0.9	13.4		SOD	eP	17 47 15			
	H:		14 02 42.0				KEV	iP	17 47 13.6	0.8	11.5	
	41.0 N, 117.4 W, 33 km (R)											
	Nevada											
6	NUR	ePKP	14 36 41			6	NUR	iP	17 50 03.8			
	KJN	iPKP	14 36 48.7	0.8	8.5		KJN	iP	17 49 42.0			
	OUL	iPKP	14 36 49.2				OUL	iP	17 49 34.9			
	SOD	ePKP	14 36 53				SOD	iP	17 49 29.2			
	H:		14 17 45.1				KEV	eP	17 49 21			
	58.7 S, 24.9 W, 33 km (R)											
	South Sandwich Islands											
6	KJN	iP	15 59 44.0	0.8	4.6	6	NUR	iP	19 43 00.8 U	1.0	26.0	
	OUL	eP	15 59 46				ePKKP		58 55			
	SOD	eP	15 59 42				KJN	iP	19 42 50.0 D	0.9	27.7	
	KEV	eP	15 59 36				ePKKP		58 49			
	H:		15 48 33				OUL	iP	19 42 51.7			
	24.1 N, 122.5 E, 50 km							SOD	iP	19 42 49.2		
	Taiwan							ePKKP		58 50		
6	NUR	iP	17 22 07.9 D	0.7	11.6		KEV	iP	19 42 46.1 U	1.0	32.0	
	KJN	iP	17 21 45.8 D	0.6	9.6		i		43 03.1			
	OUL	iP	17 21 44.2				H:		19 28 55.3			
	SOD	iP	17 21 34.0 D				6.4 S, 133.8 E, 27 km					
	KEV	iP	17 21 22.5	0.7	6.5		Aroe Islands					
	H:		17 11 20.5			6	NUR	iP	20 18 00.0	1.0	36.0	
	41.4 N, 142.5 E, 33 km							KJN	iP	20 17 49.2 D	1.0	5.5
	Hokkaido, Japan							i		18 02.1		
6	NUR	iP	17 36 41.0	1.0	44.0		e		33			
	i		46.5				OUL	iP	20 17 50.0			
	eSKS		47 12				SOD	eP	20 17 47			
	KJN	iP	17 36 31.7 D	1.0	5.9		KEV	iP	20 17 45.0	1.0	24.0	
	OUL	iP	17 36 32.4				H:		20 05 15			
	SOD	iP	17 36 29.5				9.7 N, 126.2 E, 33 km (R)					
	KEV	iP	17 36 27.1 D	1.0	18.0		Mindanao, P.I.					
	i		38.9			6	NUR	iP	21 16 45.5			
	eS		46 48				KJN	iP	21 16 35.0	0.6	11.0	
	H:		17 23 55.8				OUL	iP	21 16 36.0			
	9.8 N, 126.4 E, 24 km							SOD	eP	21 16 33		
	Mindanao, P.I.							KEV	iP	21 16 31.8		
6	NUR	iP	17 40 40.0			7	NUR	eP	00 35 08			
	KJN	iP	17 40 37.9	0.9	8.9		KJN	iP	00 34 29.4	0.7	24.0	
	OUL	iP	17 40 43.4				i		36.1			
	e		50				eS		36 51			
	SOD	iP	17 40 46.5				OUL	iP	00 34 13.0			
	KEV	iP	17 40 50.3	0.8	11.5		i		18.5			
6	NUR	iP	17 47 27.5	0.8	17.3		SOD	eP	00 33 44			
	KJN	iP	17 47 17.1	0.8	7.7		eS		35 35			
	OUL	iP	17 47 19.4				KEV	eP	00 33 16			
							e		21			
	cont.						cont.					

July						July			
				T	A				
KEV	iP	17 03	01.0	0.9	25.2	eSS	36 20		
	i		13.2			eLR	23 49.4		
	eS	13 24				H:	23 05 18.2		
H: 16 50 31.0						8.5 N, 103.3 W, 33 km (R)			
9.8 N, 126.2 E, 36 km						Off coast of Mexico			
Mindanao, P.I.									
7	KJN	eP	17 18 28			8	KJN	eP	00 14 55
							OUL	eP	00 14 58
								i	15 22.1
7	KJN	iP	17 27 51.4	0.7	10.3		SOD	eP	00 14 50
	OUL	iP	17 27 53.5				H:	00 02 54	
	KEV	eP	17 27 47				22.4 N, 143.1 E, 123 km		
							Volcano Islands		
7	KJN	iP	18 36 47.8	0.8	12.3	8	NUR	iP	00 29 31.0
	SOD	eP	18 36 41				KJN	iP	00 29 09.5 U
							OUL	iP	00 29 08.0
7	NUR	eP	20 32 13				SOD	iP	00 28 57.6
	KJN	iP	20 32 02.2				KEV	eP	00 28 45
	OUL	iP	20 32 04.0				H:	00 18 39.5	
7	KJN	iP	20 50 13.7	0.6	6.9		40.8 N, 143.2 E, 37 km		
							Honshu, Japan		
7	NUR	iP	21 46 47.5			8	NUR	eP	03 18 34
	eSKS		57 12				KJN	iP	03 18 13.0
	KJN	iP	21 46 38.0	0.9	39.3		OUL	eP	03 18 11
	i		49.0				SOD	eP	03 18 01
	OUL	iP	21 46 39.0			8	KJN	iP	03 28 31.8
	i		52.7				OUL	eP	03 28 30
	SOD	eP	21 46 35				SOD	eP	03 28 19
	e		38				H:	03 18 02	
	KEV	iP	21 46 32.9	0.8	13.0		40.2 N, 141.4 E, 33 km (R)		
	eS		56 56				Honshu, Japan		
	H: 21 34 07.8					8	NUR	iP	03 56 43.2
	9.6 N, 126.5 E, 69 km						KJN	iP	03 56 20.9
	Mindanao, P.I.						OUL	iP	03 56 19.7
7	KJN	iP	23 12 12.3	0.6	5.5		SOD	eP	03 56 08
							KEV	iP	03 55 56.0
7	NUR	eP	23 18 25				H:	03 45 59.9	
	KJN	iP	23 18 09.5	0.8	7.7		42.0 N, 142.4 E, 33 km (R)		
	i		24.0				Hokkaido, Japan		
	SOD	eP	23 18 06			8	NUR	iP	04 04 18.0 U
	KEV	eP	23 18 05				KJN	iP	04 03 56.0
							OUL	iP	04 03 54.9
7	NUR	ePS	23 32 00				SOD	iP	04 03 44.2
	ePPS		48				KEV	iP	04 03 33.3
	eSS		37 20				H:	03 53 33.3	
	OUL	iP	23 18 48.7				41.0 N, 141.9 E, 60 km		
	SOD	eP	23 18 43				Hokkaido, Japan		
	KEV	eSKS	23 29 15						
	ePS		30 48						

cont.

July		T	A	July		T	A
8	KJN eP 06 42 20 OUL iP 06 42 11.6 SOD eP 06 41 56 KEV eP 06 41 43 H: 06 32 47.0 60.5 N, 147.4 W, 33 km (R) Southern Alaska			KEV iP 13 21 49.8 U i 22 21.4 i 23 08.4 iPP 18.3 H: 13 14 29.9 38.0 N, 67.6 E, 28 km Southeastern Uzbek SSR	0.8	16.9	
8	NUR iP 08 12 35.5 U 0.6 31.3 KJN iP 08 12 12.9 U 0.5 19.1 i 27.0 OUL iP 08 12 11.2 U SOD iP 08 12 00.2 i 14.8 KEV eP 08 11 48 iPcP 12 31.3 H: 08 01 49.1 42.5 N, 144.5 E, 33 km (R) Hokkaido, Japan			8 NUR ePKP 16 47 50 KJN iPKP 16 47 47.5 H: 16 28 41 25.3 S, 177.4 W, 140 km South of Fiji Islands			
8	NUR eP 11 31 10			8 NUR iP 17 22 21.5 KJN iP 17 22 37.7 0.7 14.4 i 39.9 i 23 25.5 OUL iP 17 22 48.5 i 59.8 SOD iP 17 23 03.7 i 11.0 ePP 24 43 KEV eP 17 23 21 1.0 19.6 i 27.8 i 36.2 ePP 25 00 eS 29 40 eSS 32 38 H: 17 15 28.3 29.7 N, 51.1 E, 44 km Southern Iran			
8	OUL iP 11 35 12.5 SOD eP 11 35 25 H: 11 27 24 28.0 N, 57.0 E, 33 km (R) Southern Iran						
8	NUR ePKP 12 27 42 1.2 42.8 KJN iPKP 12 27 36.9 0.9 17.0 OUL ePKP 12 27 36 SOD ePKP 12 27 32 KEV iPKP 12 27 29.5 H: 12 09 28.4 22.2 S, 179.8 W, 622 km South of Fiji Islands						
8	NUR iP 13 21 20.8 U 0.7 42.6 i 28.0 i 22 16.5 KJN iP 13 21 22.0 U 0.8 27.7 i 29.6 i 22 24.7 i 42.2 OUL iP 13 21 31.7 U i 39.3 iPP 22 54.7 iPcP 23 56.7 SOD iP 13 21 39.5 U i 22 09.0 iPP 23 01.3 i 21.5 cont.			8 NUR iP 17 46 36.0 0.8 23.0 i 47.8 i 47 29.4 eS 51 11 e 40 KJN iP 17 47 08.3 U 1.3 97.7 OUL iP 17 47 16.4 U i 27.3 iPP 48 12.3 SOD iP 17 47 37.8 U iPP 48 48.3 KEV iP 17 47 58.3 U 1.2 69.8 i 48 09.3 eS 53 24 H: 17 41 05.8 34.4 N, 25.2 E, 33 km (R) Crete			

July

July

				T	A
8	NUR eP	18 23 38			
	KJN iP	18 24 14.0	1.0	17.4	
	SOD eP	18 24 43			
	H: 18 18 09.8				
	34.3 N, 25.2 E, 33 km (R)				
	Crete				
8	KJN eP	18 40 30			
	SOD eP	18 41 00			
	H: 18 34 24				
	34.4 N, 25.2 E, 14 km				
	Crete				
8	KJN iP	20 26 44.2	0.6	6.9	
	OUL iP	20 26 58.7			
	SOD eP	20 26 43			
8	NUR eP	21 11 07			
	KJN eP	21 10 57	0.5	4.4	
	SOD eP	21 10 56			
	KEV eP	21 10 52			
	H: 20 58 23				
	9.8 N, 126.7 E, 41 km				
	Mindanao, P.I.				
8	NUR eP	21 32 08			
	e	19			
	KJN eP	21 31 44	0.6	4.8	
	OUL iP	21 31 38.1			
	SOD e	21 31 33			
	KEV iP	21 31 07.2			
	i	17.6			
	H: 21 21 12.2				
	51.2 N, 173.1 W, 36 km				
	Andreanof Islands				
8	NUR iP	21 36 42.2	1.2	42.8	
	i	50.0			
	eS	46 32			
	KJN iP	21 36 25.0 U	1.1	29.7	
	i	36.7			
	i	37 08.2			
	OUL iP	21 36 24.9 U			
	i	37.1			
	SOD iP	21 36 16.4 U			
	i	28.5			
	i	32.8			
	KEV iP	21 36 08.3	1.1	37.3	
	i	18.5			
	eS	45 25			
	H: 21 24 48.3				
	28.8 N, 142.5 E, 33 km (R)				
	Bonin Islands				

				T	A
9	NUR eP	02 46 10			
	KJN eP	02 45 48			
	OUL iP	02 45 46.6			
	SOD eP	02 45 36			
	KEV eP	02 45 24			
	H: 02 35 30.7				
	43.2 N, 143.6 E, 33 km (R)				
	Hokkaido, Japan				
9	NUR iP	03 26 45.0	1.2	42.8	
	KJN iP	03 26 34.8	1.0	36.0	
	OUL iP	03 26 38.1			
	SOD eP	03 26 34			
	KEV iP	03 26 30.3	0.9	11.8	
	i	41.8			
	H: 03 14 07				
	10.3 N, 126.5 E, 64 km				
	Philippine Islands				
9	KJN eP	03 45 11			
	OUL eP	03 45 12			
	SOD eP	03 45 05			
	KEV eP	03 44 57	0.8	10.1	
	H: 03 33 31				
	21.7 N, 142.9 E, 314 km				
	Mariana Islands				
9	NUR eP	04 02 24			
	KJN iP	04 02 03.0			
	H: 03 51 22				
	38.6 N, 142.0 E, 33 km (R)				
	Honshu, Japan				
9	NUR eP	04 38 47			
	KJN eP	04 38 24			
	i	35.0			
	OUL eP	04 38 27			
	SOD eP	04 38 13			
	KEV eP	04 38 02			
	e	16			
	H: 04 27 54.1				
	41.4 N, 143.6 E, 23 km				
	Hokkaido, Japan				
9	KJN iP	06 25 19.4	0.7	4.8	
	SOD eP	06 25 36			
	e	48			
	KEV eP	06 25 46			
9	NUR eP	08 17 07			
	KJN iP	08 16 46.1	0.8	15.4	
	OUL eP	08 16 45			

cont.

July				July			
	T	A		T	A		
SOD	eP	13 31 40		SOD	iP	22 31 32.3 U	
H:		13 20 12.5		H:		22 21 10.5	
		6.4 N, 33.5 W, 33 km (R)				40.3 N, 143.2 E, 33 km (R)	
		Central Mid-Atlantic Ridge				Honshu, Japan	
10	NUR	eP	19 49 22	11	NUR	iPKP	10 25 08.0 0.8 21.6
	KJN	iP	19 49 10.8 D 0.9 8.9			i	08.8
	OUL	iP	19 49 15.2		KJN	iPKP	10 25 01.0 D 0.8 10.0
	SOD	eP	19 49 11		OUL	iPKP	10 25 00.0
		Moscow:			H:		10 06 46.2
		H: 19 37 10					11.9 S, 167.6 E, 320 km
		13.8 N, 120.8 E					Santa Cruz Islands
		Philippine Islands		11	SOD	eP	21 47 01
10	NUR	iP	20 51 27.0 U 0.8 34.6		H:		21 39 13.8
		i	46.0				33.9 N, 15.5 W, 38 km
		iPP	53 51.8				Madeira Islands
		eS	21 00 24	11	KJN	iP	23 09 29.2
		eSS	04 48	12	NUR	iP	00 55 36.8 U 0.9 68.9
	KJN	iP	20 51 05.1 U 1.2 168.6			i	41.6
		i	23.7			ePP	58 07
		iPP	53 24.0			eS	01 04 35
		eS	59 42			eScS	05 30
	OUL	iP	20 51 03.9 U			eSS	08 46
		i	21.4			eSSS	12 01
	SOD	iP	20 50 54.0 D		KJN	iP	00 55 15.1 U 1.0 187.5
		i	51 11.1			i	24.9
		ePP	53 06			ePP	57 34
	KEV	iP	20 50 43.3 D 1.0 30.8			eS	01 03 55
		i	50.2			e	04 08
		i	51 03.3			eScS	05 07
		eS	59 00		OUL	iP	00 55 13.9 U
		eScS	21 00 32			i	24.2
		eSS	03 00			ePP	57 38
	H:		20 40 31.2		SOD	iP	00 55 03.8 U
			40.2 N, 143.2 E, 33 km (R)			ePP	57 23
			Honshu, Japan		KEV	iP	00 54 52.5 1.0 57.4
10	NUR	iP	22 27 11.2 0.7 14.2			i	54.5
		i	13.0			i	55 01.8
		e	43			ePP	57 17
	KJN	eP	22 27 36			eS	01 03 13
		i	39.2			eScS	04 42
	OUL	eP	22 27 46			eSS	07 10
	SOD	eP	22 28 16		H:		00 44 36.5
10	NUR	iP	22 32 06.0 U 0.9 20.2				39.5 N, 143.2 E, 28 km
	KJN	iP	22 31 44.5 U 0.9 33.0				Honshu, Japan
		iPP	34 03.8	12	NUR	eP	01 30 16
	OUL	iP	22 31 42.9 U		KJN	eP	01 29 54.2
		iPP	34 01.9				cont.

July						July				
				T	A					
	OUL	eP	01 29 54			OUL	iP	09 25 04.3		
	SOD	eP	01 29 43				i	18.8		
	H: 01 19 17					SOD	eP	09 25 07		
	39.6 N, 143.0 E, 33 km (R)					KEV	iP	09 25 09.3		
	Honshu, Japan						i	22.5		
12	NUR	eP	01 41 32			H: 09 12 07.9				
		e	42			5.5 S, 103.9 E, 33 km (R)				
	KJN	eP	01 41 10			Southern Sumatra				
		iPcP	41.8			12	NUR	iP	10 40 57.2	
	OUL	eP	01 41 09				i	42 03.0		
	SOD	eP	01 40 58			KJN	iP	10 41 13.4	0.6	3.4
	H: 01 30 32						iPP	42 40.2		
	39.6 N, 143.1 E, 28 km					OUL	iP	10 41 24.0		
	Honshu, Japan					SOD	iP	10 41 39.8		
12	NUR	iP	04 07 28.0	0.9	47.0		ePP	43 14		
		i	47.0			H: 10 34 03.1				
		ePP	09 59			29.8 N, 50.6 N, 24 km				
		eS	16 28			Southern Iran				
		eScS	17 24			12	NUR	iPKP	11 47 03.2	1.0 126.0
	KJN	iP	04 07 06.0 U	1.2	197.8		ipPKP	49 15.0		
		i	14.0			KJN	iPKP	11 46 52.0	0.6	8.9
		iPP	09 26.2				ipPKP	49 05.0		
		eS	15 45			OUL	iPKP	11 46 52.0		
	OUL	iP	04 07 05.1				i	57.3		
		i	13.5			SOD	ePKP	11 46 44		
		ePP	09 31			H: 11 28 25.2				
	SOD	iP	04 06 54.8			30.8 S, 179.0 E, 545 km				
		i	58.6			Kermadec Islands				
		i	07 03.2			12	NUR	iP	12 14 22.0	0.8 18.7
	KEV	iP	04 06 43.3 U	1.0	40.0		e	57		
		eS	15 00				i	15 20		
		eScS	16 40			KJN	iP	12 14 09.1 U	0.8	24.6
		eSS	18 46				i	40.0		
	H: 03 56 27.5					OUL	iP	12 14 16.2		
	39.5 N, 143.2 E, 26 km						i	15 06.0		
	Honshu, Japan					SOD	iP	12 14 16.3 U		
							e	49		
12	NUR	eP	04 12 12			H: 12 07 57.2				
	SOD	eP	04 11 39			49.7 N, 78.1 E, 0 km				
	H: 04 01 13					Eastern Kazakh SSR				
	39.6 N, 143.1 E, 33 km (R)					12	NUR	eP	13 47 55	
	Honshu, Japan						eS	52 12		
12	KJN	eP	06 56 50			H: 13 42 40.6				
12	NUR	iP	09 25 02.5			38.6 N, 41.3 E, 33 km (R)				
		i	15.8			Turkey				
	KJN	eP	09 25 00	0.8	7.7	12	NUR	iP	16 53 41.2	0.8 20.2
		i	13.3				i	51.6		
			cont.					cont.		

July						July									
						T	A							T	A
	KJN	iP	16 53	20.0 U	0.8	25.4	13	NUR	iP	13 26	37.5				
		i		30.7				KJN	iP	13 26	23.1 U	0.8	6.2		
		ePP	55 50					OUL	iP	13 26	23.9 U				
	OUL	eP	16 53	19				SOD	iP	13 26	18.1 U				
	SOD	eP	16 53	08 U				KEV	eP	13 26	12	0.7	6.5		
		e		19				H:	13 13	25.0					
	KEV	eP	16 52	57	0.9	10.1		12.2 N, 143.6 E, 20 km							
	H:	16 42	45.2					South of Mariana Islands							
		39.8 N, 142.8 E, 41 km													
		Honshu, Japan													
12	NUR	iP	22 11	42.2			13	KJN	ePKP	23 22	36				
	KJN	eP	22 11	18				OUL	ePKP	23 22	34				
	OUL	eP	22 11	15				H:	23 03	20					
		i		16.0				20.8 S, 173.9 W, 33 km (R)							
	SOD	eP	22 11	02				Tonga Islands							
	H:	22 01	08.6				13	NUR	ePKP	23 36	03				
		48.1 N, 154.6 E, 33 km (R)						KJN	ePKP	23 35	55	0.8	3.8		
		Kurile Islands						OUL	ePKP	23 35	52				
								KEV	ePKP	23 35	46	0.8	4.3		
								H:	23 17	09.0					
13	KJN	iP	06 15	11.1	1.3	30.4		18.3 S, 175.0 W, 230 km							
	OUL	iP	06 15	17.1				Tonga Islands							
	SOD	eP	06 15	16											
	H:	06 05	54.2												
		30.3 N, 94.6 E, 33 km (R)													
		Tibet													
13	OUL	eP	06 40	13			14	NUR	eP	00 53	36				
	SOD	eP	06 40	03				14	NUR	eP	04 08	14			
	H:	06 29	06.5					KJN	eP	04 08	13				
		44.7 N, 129.5 W, 33 km (R)						OUL	iP	04 08	06.8				
		Off coast of Oregon						SOD	eP	04 08	03				
								H:	03 55	24.9					
								15.2 N, 88.8 W, 14 km							
								Honduras							
13	OUL	eP	06 44	02			14	NUR	iP	05 35	37.0	0.6	5.0		
	SOD	eP	06 43	50				KJN	iP	05 35	15.0	0.9	12.5		
	H:	06 33	00					i		35.0					
		44.6 N, 129.2 W, 33 km (R)						OUL	iP	05 35	14.7				
		Off coast of Oregon						SOD	eP	05 35	03				
								KEV	eP	05 34	53				
13	KJN	eP	06 51	50				H:	05 24	46.6					
	OUL	eP	06 51	36				40.9 N, 143.0 E, 39 km							
	SOD	eP	06 51	31				Honshu, Japan							
	H:	06 40	38												
		44.5 N, 129.2 W, 33 km (R)													
		Off coast of Oregon													
13	OUL	ePKP	06 56	52			14	NUR	iP	07 34	26.8				
	H:	06 38	26.2					KJN	iP	07 34	04.6				
		6.4 S, 149.7 E, 36 km						OUL	eP	07 34	04				
		New Britain						SOD	eP	07 33	53				
								H:	07 23	33.3					
								41.0 N, 142.9 E, 22 km							
								Hokkaido, Japan							

July				T	A	July				T	A	
14	NUR	eP	07 42 44	0.6	8.2	SOD	eP	00 00 16	0.7	7.5	0.7	7.5
	KJN	iP	07 42 31.7			H: 23 49 29.9						
	OUL	iP	07 42 34.8	35.4 N, 141.1 E, 42 km								
		i	46.5	Honshu, Japan								
	SOD	eP	07 42 31			15	OUL	iP	00 19 55.9			
	KEV	eP	07 42 27			15	NUR	iP	01 28 30.8			
	H:	07 30 46.4										
	17.4 N, 121.4 E, 37 km											
	Luzon, P.I.											
14	NUR	iP	12 58 34.8			15	NUR	eP	01 32 42			
	OUL	eP	12 59 06				KJN	iP	01 32 43.3			
							OUL	eP	01 32 51			
							i	59.3				
							H:	01 25 36				
							36.3 N, 68.4 E, 35 km					
							Hindu Kush					
14	NUR	iP	18 22 08.8	1.2	22.8	15	NUR	iPKP	04 30 38.0			
	e	22										
	KJN	eP	18 21 59	1.1	17.6		iSKP	33 16.5				
	OUL	iP	18 22 06.1									
	SOD	eP	18 22 05									
	H:	18 12 41										
	30.3 N, 94.8 E, 22 km											
	Tibet											
14	NUR	eP	19 07 25				KJN	ePKP	04 30 31			
							iSKP	33 03.3				
							ePKS	51				
							OUL	ePKP	04 30 30			
							iSKP	33 01.5				
							SOD	ePKP	04 30 28			
							eSKP	32 54				
							e	33 41				
							KEV	ePKP	04 30 22			
							H:	04 12 26.3				
							18.0 S, 178.6 W, 585 km					
							Fiji Islands					
						15	KJN	eP	05 18 25			
							SOD	eP	05 18 32			
							H: 05 09 05.9					
							30.3 N, 95.0 E, 21 km					
							Tibet					
14	NUR	eP	22 40 37			15	NUR	eP	08 40 04			
	KJN	eP	22 40 43				e	52				
	SOD	eP	22 41 07				KJN	eP	08 40 20	0.7	7.5	
	e	42 07										
	KEV	eP	22 41 21									
	H:	22 34 37										
	39.2 N, 55.7 E, 33 km (R)											
	Turkmen SSR											
15	NUR	iP	00 00 45.0	0.9	8.4	15	NUR	iP	09 08 47.2			
	KJN	iP	00 00 25.6	0.7	9.6							
	e	43										
	OUL	iP	00 00 25.2									
	cont.											
						15	NUR	iP	09 14 50.3	0.8	17.3	
							eS	22 16				
							cont.					

July

July

				T	A					T	A		
	KJN	iP	09 15 09.4					16	OUL	iP	12 51 24.2		
	OUL	iP	09 15 11.7					16	NUR	eSS	18 28 06		
	Moscow:								H: 17 57 50.4				
	H: 09 05 38								18.7 N, 106.4 W, 41 km				
	14.2 N, 59.6 E								Jalisco, Mexico				
	Arabian Sea							16	NUR	iP	19 16 45.5		
15	NUR	iSKP	10 28 36.1						e		50		
	KJN	ePKP	10 25 45					KJN	iP	19 16 34.8	0.6	15.8	
		iSKP	28 25.0						i		45.0		
	OUL	ePKP	10 25 43					OUL	iP	19 16 37.1			
	SOD	eSKP	10 28 17					SOD	eP	19 16 33			
	H: 10 07 27.5							KEV	eP	19 16 31			
	23.6 S, 179.2 E, 552 km							H: 19 04 07					
	South of Fiji Islands							9.5 N, 126.2 E, 86 km					
15	NUR	eP	15 05 16					Mindanao, P.I.					
15	NUR	iP	18 28 12.6 U	0.7	9.0			16	NUR	iP	20 48 24.3		
	KJN	iP	18 27 52.1	0.8	13.0			KJN	iP	20 48 56.4			
	OUL	iP	18 27 52.0 U						e		49 48		
	SOD	iP	18 27 42.2					OUL	iP	20 49 04.6 U			
	H: 18 16 57.3							SOD	eP	20 49 25			
	35.4 N, 141.1 E, 50 km							H: 20 42 53					
	Honshu, Japan							34.3 N, 26.5 E, 57 km					
15	NUR	iP	19 43 38.5	1.0	16.0			Crete					
		i	46.8					16	NUR	iPKP	21 44 18.7		
15	NUR	iP	23 19 22.3					KJN	iPKP	21 44 12.0	0.8	15.4	
		e	22 51					OUL	iPKP	21 44 10.7			
16	NUR	eSKP	06 01 38					SOD	ePKP	21 44 08			
	KJN	eSKP	06 01 28					KEV	ePKP	21 44 04			
	H: 05 40 10							H: 21 25 41.9					
	24.6 S, 179.8 W, 405 km							13.5 S, 167.1 E, 215 km					
	South of Fiji Islands							New Hebrides Islands					
16	NUR	eP	11 06 26					16	NUR	eP	22 32 33		
	KJN	eP	11 06 03					KJN	iP	22 32 23.6	1.2	15.5	
	OUL	eP	11 06 03					OUL	eP	22 32 30			
	SOD	eP	11 05 48					SOD	eP	22 32 29			
	KEV	eP	11 05 41					H: 22 23 07					
	H: 10 55 42							30.3 N, 94.8 E, 40 km					
	41.4 N, 142.2 E, 66 km							Tibet					
	Hokkaido, Japan							16	NUR	eP	22 48 40		
16	NUR	eP	11 20 49					KJN	eP	22 48 29			
	KJN	eP	11 20 49										
	OUL	eP	11 20 59					17	NUR	eP	02 40 55		
	H: 11 13 40												
	36.0 N, 71.2 E, 137 km												
	Afghanistan-USSR border							17	NUR	iP	04 34 04.5		

July						July						
				T	A					T	A	
17	NUR	eP	05 38 14			KJN	iP	22 34 49.0	1.0	10.9		
		ePP	42 26				i	56.8				
		ePPP	44 42			OUL	iP	22 34 41.8				
		ePS	51 28			SOD	iP	22 34 26.2				
	KJN	eP	05 38 04	1.1	10.8		H:	22 24 43.3				
		i	08.8					56.3 N, 154.0 W, 20 km				
		e	41 19					Kodiak Island				
		ePP	42 12			18	NUR	eP 00 39 42				
		eSKS	48 43				KJN	eP 00 39 29	0.8	4.6		
		ePKKP	54 20					ePP 43 14				
	OUL	eP	05 38 04				OUL	eP 00 39 30				
		i	09.0				SOD	eP 00 39 27				
		ePKKP	54 19					H: 00 26 26.0				
	SOD	eP	05 38 03					2.4 N, 128.3 E, 69 km				
		e	41 12					Halmahera				
		ePKKP	54 18			18	NUR	iP 01 10 24.5	0.7	21.9		
	KEV	eP	05 38 00					i 38.5				
		eSKS	48 40				KJN	iP 01 10 00.4	1.2	25.8		
		e	50 08					i 12.0				
		ePS	51 04				OUL	eP 01 09 58				
		ePPS	36				SOD	iP 01 09 44.8				
		H:	05 24 15.6					H: 00 59 43.2				
			8.8 S, 125.0 E, 25 km					46.1 N, 153.1 E, 43 km				
			Timor					Kurile Islands				
17	NUR	eP	06 09 34									
17	NUR	iP	06 36 08.2			18	NUR	ePKP 05 23 55				
	KJN	iP	06 36 08.1				KJN	ePKP 05 23 47	0.9	13.4		
	OUL	iP	06 36 02.2					eSKP 26 56				
	KEV	iP	06 35 56.2					ePKS 27 08				
		H:	06 23 11.1				OUL	iPKP 05 23 46.1				
			10.4 N, 83.4 W, 12 km				SOD	ePKP 05 23 42				
			Costa Rica					eSKP 26 47				
							KEV	ePKP 05 23 28				
17	NUR	eP	10 11 11					H: 05 04 59.8				
		i	29.5					19.5 S, 175.9 W, 235 km				
	KJN	iP	10 10 50.0	0.8	3.8			Tonga Islands				
	OUL	eP	10 10 48			18	NUR	iP 08 06 51.6				
	SOD	eP	10 10 38					i 07 08.3				
	KEV	eP	10 10 31				KJN	iP 08 06 49.0	0.8	6.2		
		H:	10 00 08.7					i 58.0				
			39.4 N, 143.1 E, 15 km				OUL	iP 08 06 54.2				
			Honshu, Japan					i 07 03.3				
17	KJN	eP	21 15 07				SOD	eP 08 06 56				
		eS	17 35					H: 07 54 18				
	SOD	eP	21 14 21					2.0 S, 99.7 E, 13 km				
		eS	16 17					Southern Sumatra				
17	NUR	iP	22 35 12.5	1.0	16.0	18	NUR	iP 11 31 56.0	0.7	12.9		
		i	20.0					e 32 17				
		i	36 10.3					eS 40 52				
			cont.					cont.				

July							July							
					T	A					T	A		
	KJN	iP	11 31	34.2 U	0.7	27.4		KJN	iP	05 07	46.8 U	0.9	16.1	
		i		44.2					i		51.8			
		i		53.8					ePP	10 31				
	OUL	iP	11 31	33.2					eS	17 02				
		i		42.2					eScS		47			
	SOD	iP	11 31	23.0				OUL	iP	05 07	53.1			
		i		33.0					i		59.6			
	H: 11 20 59.7									eS	17 17			
	40.2 N, 143.6 E, 37 km								SOD	iP	05 07	55.4		
	Honshu, Japan									i		08 02.2		
	H: 04 56 27.2								H: 04 56 27.2					
	8.7 N, 93.6 E, 33 km (R)								8.7 N, 93.6 E, 33 km (R)					
	Nicobar Islands								Nicobar Islands					
18	NUR	eP	14 50	27				19	KJN	iP	06 18	40.0	1.4	37.8
	KJN	eP	14 50	43	1.1	9.5				i		47.9		
	OUL	eP	14 50	41					OUL	iP	06 18	47.3		
		e		51 00					SOD	iP	06 18	50.4		
	SOD	eP	14 50	44						i		19 13.2		
	H: 14 39 21.3								H: 06 07 22					
	9.6 N, 40.2 W, 33 km (R)								8.9 N, 93.8 E, 33 km (R)					
	Central Mid-Atlantic Ridge								Nicobar Islands					
18	NUR	iP	17 31	51.0	1.1	16.7		19	KJN	eP	06 29	18		
	KJN	iP	17 31	49.1	1.1	13.5			OUL	iP	06 29	29.7		
		i		32 08.3					SOD	eP	06 29	06		
	OUL	iP	17 31	55.5					H: 09 21 04.8					
		i		32 04.4					13.0 S, 166.5 E, 29 km					
	SOD	iP	17 31	58.3					New Hebrides Islands					
		i		32 07.0				19	KJN	iP	16 53	39.0		
	H: 17 20 29									OUL	eP	16 53	45	
	8.9 N, 93.9 E, 33 km (R)									SOD	eP	16 53	48	
	Nicobar Islands									H: 16 42 15.9				
18	NUR	eP	17 54	46					8.7 N, 93.7 E, 8 km					
	KJN	eP	17 54	43					Nicobar Islands					
		e		55 04										
	OUL	iP	17 54	50.7										
	SOD	iP	17 54	53.8										
	H: 17 43 24													
	8.8 N, 93.8 E, 33 km (R)													
	Nicobar Islands													
18	KJN	eP	21 01	21				19	NUR	iP	18 58	26.0	1.2	11.4
	SOD	eP	21 01	20					KJN	iP	18 58	16.2	1.2	24.1
18	KJN	eP	23 40	13					OUL	eP	18 58	23		
	OUL	eP	23 40	12					SOD	eP	18 58	22		
19	NUR	eP	02 19	36					H: 18 48 59					
	H: 18 48 59								30.2 N, 94.9 E, 33 km (R)					
	8.8 N, 93.8 E, 33 km (R)								Tibet					
	Nicobar Islands													
19	NUR	iP	05 07	49.9	0.8	10.1		19	KJN	eP	22 24	02		
		i		56.6					OUL	iP	22 24	08.8		
		ePP	10 26						SOD	eP	22 24	10		
		ePPP	12 12						H: 18 48 59					
		eS	17 06						30.2 N, 94.9 E, 33 km (R)					
	cont.								Tibet					
								20	NUR	eP	08 03	20		
									cont.					

July						July					
				T	A					T	A
	KJN	iP	08 03 04.2			21	KJN	iP	00 36 36.5		
	OUL	iP	08 03 05.1				OUL	eP	00 36 29		
	SOD	eP	08 02 58				H:	00 23 40.4			
	H: 07 51 23						14.4 N, 93.1 W, 37 km				
	21.6 N, 142.9 E, 317 km						Chiapas, Mexico				
	Mariana Islands					21	NUR	ePKP	01 48 24		
20	NUR	eP	08 29 12	0.9	11.8		i		34.0		
	KJN	iP	08 29 09.0	0.9	7.1		KJN	ePKP	01 48 25	0.5	8.1
		i	12.0				OUL	iPKP	01 48 23.1		
		e	30 15				e		31		
	OUL	eP	08 29 18				H:	01 30 14.3			
		i	21.1				21.9 S, 179.4 W, 600 km				
	SOD	eP	08 29 23				Fiji Islands				
		e	30 24			21	NUR	iP	01 49 25.6		
	H: 08 22 08.6						e		51 20		
	39.4 N, 73.8 E, 61 km						eS		56 04		
	Tadzhik-Sinkiang border						KJN	iP	01 49 00.2		
20	KJN	ePKP	08 42 56				i		05.7		
	H: 08 23 41						e		35		
	20.8 S, 174.2 W, 33 km (R)						ePP		50 39		
	Tonga Islands						OUL	eP	01 49 01		
20	NUR	iP	10 48 08.0	0.8	8.6		i		07.7		
		i	17.2				iPP		50 38.7		
	KJN	eP	10 47 38				SOD	iP	01 48 50.5		
	OUL	iP	10 47 13.3				i		57.1		
		e	45				e		49 30		
	SOD	eP	10 47 55				H:	01 41 19.5			
	H: 08 23 41						55.2 N, 113.3 E, 33 km (R)				
	20.8 S, 174.2 W, 33 km (R)						East of Lake Baikal				
	Tonga Islands					21	KJN	eP	05 50 24		
20	KJN	iP	11 47 56.5	0.9	9.8		H:	05 39 00.0			
		i	48 07.7				30.9 N, 141.9 E, 33 km (R)				
	OUL	eP	11 47 59				South of Honshu, Japan				
20	NUR	eSn	16 56 40			21	NUR	ePKP	06 10 40		
		e	45				ePP		11 20		
		eSg	57 37				eSKS		17 28		
	KJN	iSg	16 58 09.9				ePS		20 36		
	OUL	eSb	16 57 21				e		22 12		
		eSg	47				eSS		26 52		
		e	53				e		30 24		
	SOD	eSg	16 58 06				eLQ		06 40.0		
20	NUR	ePKP	21 40 58				eLR		06 44.4		
	KJN	iPKP	21 41 05.5	1.0	15.3		KJN	ePKP	06 10 38		
	OUL	iPKP	21 41 06.0				ePP		49		
	SOD	ePKP	21 41 10				SOD	ePP	06 10 38		
	H: 21 22 03						H:	05 52 10.4			
	57.9 S, 24.5 W, 33 km (R)						3.2 S, 150.7 E, 5 km				
	South Sandwich Islands						New Ireland				

July				July			
		T	A			T	A
21	KJN ePP	06 28 21		21	NUR iP	18 39 16.2 D	0.9 11.8
	H:	06 09 41.8			KJN iP	18 38 58.8	0.8 13.1
		3.2 S, 150.5 E, 33 km (R)			epP	40 50	
		New Ireland			OUL iP	18 38 59.0	
21	KJN ePKP	06 51 54	0.9 8.9		SOD iP	18 38 51.1	
	OUL ePKP	06 51 52			H:	18 28 08.2	
	H:	06 32 39.3				27.8 N, 140.0 E, 459 km	
		20.8 S, 174.0 W, 52 km				Bonin Islands	
		Tonga Islands		21	NUR iP	21 11 50.8 D	0.6 28.8
21	NUR iP	13 01 29.3			e	12 17	
	KJN iP	13 01 12.5 U	0.6 6.9		epP	13 48	
	OUL iP	13 01 15.5			KJN iP	21 11 26.2 D	0.7 16.4
	SOD iP	13 01 10.4			i	12 07.7	
	H:	12 50 13.1			ipP	13 19.7	
		24.9 N, 123.4 E, 129 km			OUL iP	21 11 24.0 D	
		Southwestern Ryukyu Islands			i	12 05.5	
21	NUR iPKP	13 32 11.3 U	0.6 18.8		ipP	13 19.1	
	i	21.9			e	15 13	
	KJN ePKP	13 32 00			SOD iP	21 11 11.8 D	
	OUL iPKP	13 32 00.0			i	53.3	
	i	04.6			epP	13 05	
	SOD ePKP	13 31 54			H:	21 02 31.5	
	H:	13 12 30.9				49.7 N, 147.8 E, 576 km	
		32.1 S, 178.8 W, 30 km				Sea of Okhotsk	
		South of Kermadec Islands		22	KJN ePKP	00 13 30	
21	NUR eP	17 07 22			OUL ePKP	00 13 32	
	KJN eP	17 07 40			H:	23 54 21	
	OUL iP	17 07 49.7				58.4 S, 29.5 W, 33 km (R)	
	H:	17 00 32				South Sandwich Islands	
		30.1 N, 50.9 E, 33 km (R)		22	NUR iP	00 24 36.2	0.6 18.8
		Iran			eS	33 16	
21	NUR ePKP	17 48 12			eSSS	40 38	
	eSKKS	58 44			KJN iP	00 24 13.0	0.7 13.7
	eSKSP	18 01 36			i	46.0	
	e	06 16			OUL eP	00 24 12	
	e	09 40			i	13.6	
	eSS	11 28			SOD iP	00 24 02.3	
	eSSS	16 24			H:	00 13 53.0	
	KJN ePKP ₂	17 48 10	0.8 3.8			42.3 N, 142.3 E, 31 km	
	iPKP ₂	19.1				Hokkaido, Japan	
	OUL ePKP	17 48 13		22	NUR eP	03 22 16	
	i	27.8			KJN eP	03 22 54	
	SOD ePKP	17 48 16			eS	26 29	
	e	49 07			e	28 37	
	H:	17 28 17.6			SOD eP	03 23 30	
		58.1 S, 148.3 E, 33 km (R)					
		West of Macquarie Island					



July

July

T A

T A

22 NUR iPP 05 29 05.5
 ePS 38 44
 eSS 45 04
 e 48 36
 KJN ePKP 05 28 06
 OUL ePKP 05 28 08
 SOD ePKP 05 28 13
 H: 05 09 15.7
 54.6 S, 1.7 E, 33 km (R)
 Bouvet Island

22 KJN eP 05 33 55
 OUL eP 05 33 42
 SOD eP 05 33 43

22 NUR iP 06 42 09.2 0.8 11.5
 KJN iP 06 41 58.3 U 0.8 6.2
 OUL eP 06 41 56
 SOD eP 06 41 50

22 NUR iP 07 05 25.0 0.8 14.4
 KJN iP 07 05 01.0
 OUL iP 07 04 53.5
 SOD iP 07 04 37.6
 H: 06 55 00.2
 56.8 N, 152.0 W, 29 km
 Kodiak Island

22 NUR eP 09 08 01
 i 04.0
 eS 10 58
 e 12 51
 KJN eP 09 08 35
 i 39.2
 eS 12 09
 OUL eP 09 08 50
 i 53.3
 SOD eP 09 09 15
 eS 13 24
 H: 09 04 09.0
 44.9 N, 34.4 E, 33 km (R)
 Crimea

22 NUR eP 17 50 45 0.8 11.5
 KJN eP 17 50 41

22 NUR iPKP 18 17 42.4 1.0 40.0
 i 43.3
 i 52.0
 ePP 20 04
 iPKS 21 07.4
 i 19.1
 i 24.0
 cont.

ePPS 32 04
 eSS 38 00
 eSSS 42 36
 KJN iPKP 18 17 34.9 1.2 51.6
 i 45.0
 ePP 19 44
 iPKS 20 55.8
 i 21 05.6
 OUL iPKP 18 17 35.5
 i 46.3
 ePP 20 05
 SOD iPKP 18 17 30.9
 i 41.3
 ePP 19 25

H: 17 58 30.3
 20.1 S, 169.0 E, 34 km
 New Hebrides Islands

22 NUR eP 18 59 49
 KJN eP 18 59 45
 OUL iP 18 59 37.9

22 NUR ePKP 22 12 02
 OUL ePKP 22 11 55
 H: 21 53 25.8
 10.8 S, 166.3 E, 160 km
 Santa Cruz Islands

22 NUR iP 22 44 37.0
 KJN eP 22 44 19 0.7 4.1
 OUL iP 22 44 19.5
 e 52
 SOD iP 22 44 11.1
 H: 22 33 43.2
 30.3 N, 138.4 E, 438 km
 South of Honshu, Japan

23 KJN eP 05 35 23
 23 KJN eP 06 30 46
 e 56
 SOD eP 06 30 38

23 KJN iP 12 16 16.8 0.9 7.1
 i 25.2
 OUL eP 12 16 16
 i 24.0
 SOD iP 12 16 05.6
 i 18.8
 H: 12 05 39
 39.8 N, 143.6 E, 25 km
 Honshu, Japan

July							July							
					T	A					T	A		
23	NUR	iP	18 20 17.5	U	0.9	18.5	23	NUR	iP	23 13 33.8	U	1.2	59.9	
		i	26.0						i	41.8				
		i	21 00.7						i	14 00.6				
		ePP	22 46						ePP	16 10				
		eS	29 12						ePPP	17 36				
	KJN	iP	18 19 55.7	U	1.0	60.0			eS	22 28				
		i	20 03.9						eSS	26 56				
		i	37.9						eSSS	30 04				
	OUL	iP	18 19 53.9	U				KJN	iP	23 13 11.9	U	1.2	120.4	
		i	20 02.4						i	28.0				
		i	20.4						iPP	15 31.0				
		ePP	22 12						i	39.7				
	SOD	iP	18 19 43.8	U					eS	21 49				
		i	52.1						eScS	23 18				
	H: 18 09 18.4								OUL	iP	23 13 09.9	U		
	39.9 N, 143.4 E, 25 km									i	21.0			
	Honshu, Japan									ePP	15 28			
23	NUR	eP	18 41 07		1.1	11.9			SOD	iP	23 13 00.0			
		e	44 36						i	08.6				
		ePP	50						ePP	15 17				
		ePPP	46 32						H: 23 02 35.5					
		eS	52 26						40.3 N, 143.3 E, 14 km					
		eSP	44						Honshu, Japan					
		e	57 28					24	NUR	eP	04 19 51			
		eSS	58 10							eSKS	30 28			
		eLQ	19 07.5							eSS	36 58			
	KJN	eP	18 41 02		1.1	12.2			KJN	eP	04 19 40			
		ePP	44 34							e	56			
	OUL	eP	18 40 55						OUL	eP	04 19 40			
		ePP	44 24						SOD	eP	04 19 25			
	SOD	eP	18 40 50						H: 04 06 41.2					
	H: 18 28 01.2								18.1 N, 106.0 W, 46 km					
	18.7 N, 107.0 W, 33 km (R)								Jalisco, Mexico					
	Jalisco, Mexico								24	NUR	eP	08 34 12		
23	NUR	eP	21 01 14		1.2	14.3			KJN	eP	08 34 15	0.9	3.6	
	KJN	iP	21 01 05.2		1.3	26.0			OUL	eP	08 34 08			
	OUL	iP	21 01 11.2						SOD	eP	08 34 07			
	SOD	iP	21 01 12.1						H: 08 22 28.5					
	H: 20 51 47.9								19.7 N, 70.1 W, 27 km					
	30.3 N, 94.9 E, 30 km								Dominican Republic					
	Tibet								24	NUR	ePKP	09 09 24		
23	NUR	iP	23 11 08.1							iSKP	12 18.1			
	KJN	iP	23 10 46.5		0.8	6.2			KJN	iSKP	09 12 07.3			
	OUL	iP	23 10 44.4						OUL	ePKP	09 09 13			
	SOD	iP	23 10 34.5							i	21.0			
	H: 23 00 12.1										eSKP	12 06		
	40.3 N, 143.4 E, 33 km (R)								SOD	eSKP	09 12 01			
	Honshu, Japan								H: 08 51 02.0					
								24.9 S, 179.6 E, 570 km						
								South of Fiji Islands						

July				T	A	July				T	A
24	NUR	iP	09 34 39.2	0.7	9.0	OUL	iP	03 43 36.4	U		
	KJN	iP	09 34 36.9	0.8	22.3	SOD	iP	03 43 36.6			
	OUL	iP	09 34 39.9			H: 03 34 13					
	SOD	eP	09 34 41			30.2 N, 94.8 E, 33 km (R)					
	H: 09 21 52.0					Tibet					
	5.7 S, 105.5 E, 144 km					25	NUR	eP	04 21 01		
	Sunda Strait						KJN	eP	04 21 37		
24	NUR	eP	14 46 36	0.8	8.6	25	NUR	ePKP	07 00 48		
	KJN	eP	14 46 11				KJN	iPKP	07 00 43.7	1.0	7.6
	OUL	iP	14 46 06.1				OUL	ePKP	07 00 42		
	SOD	eP	14 45 49				H: 06 41 27.0				
	H: 14 35 42						21.3 S, 174.5 W, 33 km (R)				
	51.1 N, 179.5 W, 18 km						Tonga Islands				
	Andreanof Islands					25	NUR	iPKP	07 13 57.0	0.9	15.1
24	NUR	iP	16 09 54.5				KJN	iPKP	07 13 45.3	U	0.9
	KJN	eP	16 10 01				OUL	ePKP	07 13 46		6.3
	OUL	eP	16 10 16				H: 06 54 15.4				
	SOD	eP	16 10 28				31.5 S, 177.0 W, 33 km (R)				
	H: 16 25 45						Kermadec Islands				
24	NUR	iP	16 36 37.2			25	NUR	eP	07 40 16		
		i	50.2				iPKP	42 40.7			
	KJN	iP	16 36 15.0	0.8	9.2		i	42.0			
		i	28.1				e	44 08			
	OUL	iP	16 36 14.0				ePP	46 00			
		e	26				ePPP	49 18			
	SOD	iP	16 36 03.2				e	51 00			
		i	16.6				e	53 48			
	H: 16 25 45						eSKSP	56 04			
	40.2 N, 142.2 E, 57 km						eSS	08 05 18			
	Honshu, Japan						eSSS	10 44			
24	NUR	ePKP	20 40 02	1.1	19.0	KJN	iPKP	07 42 29.3			
		ePKS	43 30				i	30.9			
	KJN	iPKP	20 39 53.7	U			iPP	45 40.2			
	OUL	iPKP	20 39 53.6				iPKS	46 10.8			
	SOD	ePKP	20 39 41				eSKKP	54 18			
	H: 20 20 55.3					OUL	iPKP	07 42 29.0			
	15.4 S, 173.2 W, 84 km						i	30.3			
	Tonga Islands					SOD	iPKP	07 42 23.1			
24	NUR	iP	21 01 14.8	0.9	16.8		i	25.0			
	KJN	eP	21 01 52	0.6	4.1		i	44 40.0			
	OUL	eP	21 01 58				iPP	45 27.2			
		e	02 01				H: 07 23 07.8				
	SOD	eP	21 02 18				30.8 S, 178.4 W, 60 km				
	H: 20 56 24.1						Kermadec Islands				
	38.4 N, 22.2 E, 66 km					25	NUR	iPKP	08 07 22.2	U	0.8
	Greece						i	27.1			72.0
25	NUR	eP	03 43 39			KJN	iPKP	08 07 10.2		1.0	8.7
	KJN	iP	03 43 30.1	U	1.0		i	17.8			
	cont.						cont.				

July				July			
			T	A		T	A
25	NUR	eP	23 47 50			SOD	iP 17 20 43.4
26	NUR	eP	00 41 36				e 55
26	KJN	iP	00 43 13.9	0.8	6.9		ePP 24 33
	OUL	eP	00 43 13				H: 17 07 24.9
26	NUR	iP	02 33 36.0				22.4 S, 12.6 W, 33 km (R)
26	NUR	eP	03 23 44				South Atlantic Ridge
26	NUR	iP	06 47 03.0			26	KJN iP 18 42 28.7
	e		50 24				OUL iP 18 42 24.5
	eSKS		57 40				H: 18 29 53.2
	ePS		59 06				6.8 N, 73.0 W, 161 km
	eSS		07 04 08				Northern Colombia
	eSSS		07 56			26	NUR iP 20 55 44.3
	eLR		07 16.6				iPP 57 13.3
KJN	iP		06 46 59.2	0.9	8.9		KJN iP 20 55 46.9
OUL	iP		06 46 53.6				e 57 18
SOD	eP		06 46 48				OUL iP 20 55 55.2
			H: 06 33 59.6				i 56 02.2
			14.4 N, 93.0 W, 14 km				SOD iP 20 56 04.3
			Chiapas, Mexico				i 10.5
26	NUR	eP	11 47 27				iPP 57 50.0
							H: 20 48 03.2
26	NUR	iP	12 53 34.8				32.1 N, 70.1 E, 35 km
KJN	iP		12 53 24.0	1.1	13.5		West Pakistan
OUL	eP		12 53 30			26	NUR iPKP 22 05 45.0 U
SOD	eP		12 53 30				i 50.7
			H: 12 44 03				e 06 12
			29.4 N, 95.0 E, 33 km (R)				KJN ePKP 22 05 32
			India-China border				OUL iPKP 22 05 32.2
26	OUL	iP	14 13 41.6				i 45.2
			H: 14 00 03.6				SOD ePKP 22 05 26
			8.6 S, 74.2 W, 151 km				H: 21 46 03.4
			Peru-Brazil border				31.2 S, 177.9 W, 12 km
26	NUR	eP	15 47 45				Kermadec Islands
KJN	iP		15 47 34.0	0.9	4.5	26	NUR eP 22 11 54
							KJN eP 22 11 45
26	NUR	iP	17 20 13.1	0.9	16.8	26	NUR eP 23 28 09
	e		21 30				KJN eP 23 28 25
	ePP		23 57			26	NUR eP 23 34 11
	eSKS		30 44				KJN eP 23 34 07
	eSS		36 24				OUL eP 23 34 12
KJN	iP		17 20 30.9	0.9	25.9	27	NUR iP 02 51 13.2
	i		57.0				i 16.2
	e		22 31				e 53 28
	ePP		24 23				eS 55 32
OUL	iP		17 20 32.7 U				e 52
			cont.				cont.

July				T	A	July				T	A
	KJN	iP	02 51 45.7	0.8	13.8	27	NUR	iP	17 52 31.0	0.6	18.8
		i	55.0				KJN	iP	17 52 05.8	0.6	25.3
		i	52 10.1					i	07.0		
		eS	56 32				OUL	iP	17 52 00.3		
	OUL	eP	02 51 53					i	01.2		
		i	56.4				SOD	iP	17 51 45.9		
	SOD	eP	02 52 14				H:	17 41 45.8			
		i	28.2					52.5 N, 170.6 W, 65 km			
		i	53 12.3					Fox Islands			
		e	34								
	H:	02 45 49.2				27	KJN	eP	20 21 27		
		35.4 N, 27.8 E, 21 km					OUL	eP	20 21 11		
		Dodecanese Islands					SOD	eP	20 20 48		
27	NUR	eP	04 31 44			27	KJN	eP	21 02 29	0.7	3.4
	OUL	iP	04 31 18.4				OUL	iP	21 02 13.4 U		
	H:	04 21 05					SOD	eP	21 01 45		
		44.4 N, 147.5 E, 49 km									
		Kurile Islands				27	NUR	eP	21 42 03	0.7	15.5
27	NUR	eP	07 37 55					i	06.0		
	KJN	iP	07 37 38.6	0.7	6.2		KJN	eP	21 41 55		
	OUL	iP	07 37 41.0				OUL	eP	21 41 51		
	SOD	iP	07 37 34.2			28	NUR	iPKP	00 00 14.1	0.6	18.8
	H:	07 26 53						i	21.1		
		27.9 N, 127.2 E, 225 km					KJN	iPKP	00 00 08.1	0.8	5.4
		Ryukyu Islands					OUL	ePKP	00 00 03		
27	NUR	eP	07 42 43				H:	23 40 33			
		e	44 32					30.9 S, 176.7 W, 27 km			
	KJN	eP	07 42 46					Kermadec Islands			
	SOD	eP	07 43 16			28	NUR	iP	03 35 25.0	0.8	21.6
27	NUR	iP	08 33 49.8	0.7	10.3			e	37 33		
	KJN	iP	08 33 28.2 U	0.6	19.2		KJN	iP	03 35 00.6 D	0.9	16.1
	OUL	iP	08 33 27.5 U					e	36 38		
	SOD	iP	08 33 17.1				OUL	iP	03 34 54.0		
	H:	08 22 46.6					SOD	iP	03 34 38.7		
		38.5 N, 142.3 E, 35 km					H:	03 24 35.8			
		Honshu, Japan						52.8 N, 167.1 W, 33 km (R)			
								Fox Islands			
27	NUR	iPKP	11 10 47.9	0.8	10.1	28	NUR	eP	04 14 54		
		ePKS	14 17			28	NUR	iP	07 27 52.0		
		e	24				KJN	iP	07 27 30.0		
	KJN	iPKP	11 10 40.6	0.9	9.8			i	39.4		
		ePKS	14 04				OUL	iP	07 27 29.9		
	OUL	iPKP	11 10 40.1					i	32.1		
	SOD	ePKP	11 10 30				SOD	eP	07 27 19		
	H:	10 51 40.1					H:	07 17 04.1			
		19.2 S, 175.7 E, 88 km						41.2 N, 142.7 E, 38 km			
		South of Fiji Islands						Hokkaido, Japan			

July				T	A	July				T	A		
	KJN	eP	00 18 31	1.0	10.9	30	NUR	iP	06 37 56.8	0.9	13.4		
	OUL	eP	00 18 35				KJN	iP	06 37 47.0	0.9	6.3		
	SOD	eP	00 18 41					i	58.5				
	H: 00 05 07.5						OUL	eP	06 37 47				
	9.3 S, 114.0 E, 64 km						SOD	eP	06 37 55				
	South of Bali Island												
30	NUR	eP	02 29 17	1.4	36.9	30	NUR	iP	07 56 10.0	0.9	11.8		
		i	21.9										
		e	40				30	NUR	eP	08 21 22			
		e	31 26										
	KJN	iP	02 29 08.0 U	1.2	27.5		30	NUR	iP	08 22 26.0 D	0.8	11.5	
		i	32.6					KJN	iP	08 22 01.6 D	0.7	6.2	
		i	43.6					OUL	iP	08 21 55.1 D			
		eS	32 17					SOD	eP	08 21 39			
		e	33 06					H: 08 11 38.5					
	OUL	iP	02 28 55.9					52.8 N, 167.1 W, 45 km					
		i	29 00.6					Fox Islands					
	SOD	iP	02 28 51.2 U				30	NUR	iP	17 45 14.0	0.8	25.9	
		i	55.3					KJN	iP	17 44 51.3	0.8	23.1	
		e	30 55					OUL	eP	17 44 47			
		eS	31 57						i	49.1			
	H: 02 24 48.6							SOD	iP	17 44 37.0			
	66.4 N, 17.4 W, 1 km							H: 17 34 29.0					
	Iceland							44.1 N, 148.8 E, 35 km					
								Kurile Islands					
30	NUR	ePKP	03 08 45				30	NUR	eP	20 52 39			
		e	55						e	55 42			
		iSKP	11 34.0						ePP	56 53			
		ePKS	12 27						e	58 12			
	KJN	iPKP	03 08 48.3	0.8	16.9				eSKS	21 03 16			
		iSKP	11 21.5						eS	04 20			
		ePKS	12 17						ePS	06 08			
	OUL	iPKP	03 08 47.0						eSPP	07 08			
		iSKP	11 20.0						eSS	11 48			
	SOD	ePKP	03 08 43					KJN	eP	20 52 42	1.1	12.2	
		iSKP	11 12.7						e	56 32			
	H: 02 50 41.4								ePP	59			
	20.9 S, 179.2 W, 620 km								OUL	eP	20 52 38		
	Fiji Islands									ePP	56 50		
30	NUR	ePKP	04 29 37					SOD	eP	20 52 39			
		ePP	32 30							ePP	56 45		
		eSKP	33 20					H: 20 38 42.0					
		e	39 25					6.9 S, 80.5 W, 37 km					
		eSKSP	42 36					Northern Peru					
		eSPP	44 44										
	KJN	iPKP	04 29 32.5	0.9	8.0	31	NUR	iP	01 48 20.7	0.9	15.1		
		iPKP	04 29 27.0						eS	57 20			
	SOD	ePKP	04 29 32					KJN	iP	01 47 59.3 U	1.1	32.4	
	H: 04 10 12.1								i	48 09.8			
	22.4 S, 175.0 W, 33 km (R)								OUL	iP	01 47 59.2		
	Tonga Islands										cont.		

July				July			
		T	A			T	A
	SOD iP	01 47	46.9				
	H: 01 37		24.1				
	40.3 N, 144.0 E, 33 km (R)						
	Honshu, Japan						
31	NUR iP	01 51	31.3				
	KJN iP	01 51	09.4	0.9	15.2		
	i		19.5				
	OUL iP	01 51	08.5				
	SOD iP	01 50	57.6				
31	KJN eP	02 53	33				
	OUL eP	02 53	37				
	SOD eP	02 53	37				
31	OUL eP	04 08	36				
	H: 03 58		15				
	41.5 N, 143.1 E, 33 km (R)						
	Hokkaido, Japan						
31	NUR iP	06 50	49.0	0.9	11.8		
	i		59.1				
	eS		59 32				
	KJN eP	06 50	23				
	OUL iP	06 50	18.5				
	SOD eP	06 50	04				
	H: 06 40		10.8				
	52.0 N, 173.0 E, 32 km						
	Near Islands						
31	NUR eP	08 47	53				
31	NUR eP	09 26	55	0.9	8.4		
	KJN iP	09 27	34.7	0.9	6.3		
	i		48.0				
	OUL iP	09 27	38.5				
	SOD eP	09 27	59				
	H: 09 21		59.5				
	37.8 N, 21.4 E, 80 km						
	Southern Greece						
31	NUR eP	10 09	31				
31	NUR iP	10 56	13.0 D				
	KJN iP	10 55	33.2 D	0.9	17.0		
	OUL iP	10 55	18.9 D				
	SOD iP	10 54	50.3				
	H: 10 51		37				
	80.0 N, 6.3 E, 33 km (R)						
	Svalbard						
31	NUR iPKP	14 05	40.0 U			1.2	122.6
	i		48.9				
	KJN iPKP	14 05	28.2			1.1	31.1
	i		42.2				
	OUL ePKP	14 05	27				
	i		42.2				
	SOD ePKP	14 05	22				
	H: 13 46		00.1				
	31.5 S, 178.1 W, 33 km (R)						
	Kermadec Islands						
31	NUR eP	14 22	47				
	KJN eP	14 22	39				
31	NUR iP	14 30	37.0			1.3	34.1
	i		50.4				
	KJN eP	14 30	30			0.8	5.4
	e		31 47				
	OUL iP	14 30	38.2				
	SOD eP	14 30	32				
31	NUR iP	15 48	45.3			1.0	10.0
	KJN eP	15 48	55				
31	NUR eP	19 34	50			0.9	11.8
	i		35 36.1				
	e(S)		39 24				
	KJN iP	19 35	21.0				
	e		36 20				
	eS		40 07				
	OUL iP	19 35	29.7 U				
	i		36.8				
	eS		40 29				
	SOD iP	19 35	50.7				
	H: 19 29		26.7				
	35.5 N, 28.0 E, 27 km						
	Eastern Mediterranean Sea						
31	NUR eP	20 11	57				
	KJN eP	20 12	06				
	OUL eP	20 12	17				
	SOD eP	20 12	28				
	Moscow:						
	H: 20 05		04				
	34.2 N, 60.1 E						
	Iran						
	May 21, 1969						
	Urmas Luosto						
	Aili Huovila						



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August

August

MIL

				T	A
1	NUR	iPKP	00 33 32.0	1.4	196.8
		i	34 30.0		
		i	35 44.2		
		iSKP	36 43.7		
		ePKS	37 13		
		eSS	55 10		
	KJN	ePKP	00 33 19	1.3	36.9
		i	28.2		
		iSKP	36 21.1		
		i	29.0		
		i	37 04.1		
	OUL	iPKP	00 33 20.3		
		i	29.4		
		ePP	36 17		
	SOD	ePKP	00 33 17		
		i	23.2		
		ePP	36 05		
		e	46		
	H: 00 14 16.0				
	26.6 S, 177.5 W, 123 km				
	South of Fiji Islands				
1	SOD	eP	01 10 21		
1	KJN	iP	05 48 20.2		
	SOD	eP	05 48 20		
1	NUR	iP	06 58 13.5	0.9	11.8
	KJN	eP	06 58 13		
1	NUR	eP	07 45 32		
	KJN	iP	07 46 08.1		
1	NUR	iP	08 55 17.1		
	KJN	iP	08 54 50.8 D	0.9	8.9
	OUL	iP	08 54 47.4 D		
	SOD	eP	08 54 28		
	H: 08 45 07.3				
	52.9 N, 159.3 E, 64 km				
	Kamchatka				
1	KJN	iP	12 00 12.8 U	0.7	6.9
	SOD	iP	12 00 12.1		
1	KJN	eP	12 10 47		
	SOD	iP	12 10 46.2		
1	NUR	eP	12 39 24		
1	NUR	iP	13 44 55.2		
		e	45 01		
	KJN	iP	13 44 41.3	0.6	6.9
		i	50.0		
	OUL	eP	13 44 50		
	SOD	eP	13 44 39		

cont.

				T	A
	KEV	eP	13 44 38		
	H: 13 33 05				
	19.4 N, 121.8 E, 33 km (R)				
	Philippine Islands				
1	NUR	iP	14 30 34.0	1.0	20.0
	KJN	iP	14 30 50.0 U	1.1	20.3
		iPcP	32 47.2		
	OUL	eP	14 30 44		
		ePcP	32 45		
	SOD	eP	14 30 51		
		ePcP	32 47		
	KEV	eP	14 31 00		
	H: 14 23 03.9				
	39.2 N, 29.9 W, 33 km (R)				
	Azores Islands				
1	NUR	iP	18 38 09.5 U	0.7	28.4
	KJN	iP	18 37 48.0 U	0.8	76.9
		i	50.5		
	OUL	iP	18 37 48.1 U		
		i	50.7		
	SOD	iP	18 37 37.2 U		
	KEV	eP	18 37 28	0.8	19.1
	H: 18 27 23.1				
	40.0 N, 139.2 E, 42 km				
	Honshu, Japan				
1	NUR	iP	20 31 25.2 U	1.5	163.5
		i	32.0		
		ePP	34 25		
		e	38 12		
		eS	41 20		
		e	31		
		eP'P'	58 17		
	KJN	iP	20 31 13.2 U	1.0	243.1
		i	19.0		
		i	33 35.2		
		iPP	34 25.8		
		eS	41 04		
		eScS	37		
		ePPS	42 07		
	OUL	iP	20 31 16.3 U		
		i	21.4		
		iP'P'	58 16.5		
	SOD	iP	20 31 12.5 U		
	KEV	eP	20 31 10		
		e	18		
		e	32 13		
		e	33 04		
		ePPP	36 00		
		eS	40 56		
	H: 20 19 21.9				
	16.5 N, 122.2 E, 36 km				
	Luzon, P.I.				

August

					T	A
1	NUR	eP	20 46 47		1.0	20.0
	KJN	iP	20 46 35.5 U		0.9	54.5
		e	47 02			
	OUL	iP	20 46 38.8			
		i	45.8			
	SOD	iP	20 46 34.7 U			
	KEV	eP	20 46 32		0.7	10.6
1	NUR	eP	20 50 20			
		i	30.0			
	KJN	eP	20 50 21			
	OUL	iP	20 50 20.8			
		i	24.4			
	SOD	eP	20 50 17			
		e	22			
1	NUR	iP	20 55 14.2		1.3	34.1
		e	25			
		e	56 22			
	KJN	iP	20 55 02.2 D		0.9	26.8
		i	21.2			
	OUL	iP	20 55 07.0			
		i	18.0			
	SOD	iP	20 55 01.3			
		i	20.3			
	KEV	eP	20 55 01			
	H: 20 43 10					
	16.5 N, 122.4 E, 33 km (R)					
	Luzon, P.I.					
1	NUR	eP	20 57 19			
		e	44			
	KJN	iP	20 57 09.5		0.8	21.5
	OUL	iP	20 57 12.8			
	SOD	eP	20 57 08			
	KEV	eP	20 57 06		0.8	5.9
		e	32			
1	KJN	iP	21 02 41.0		0.7	13.0
	SOD	iP	21 02 40.1			
1	NUR	eP	21 09 26			
	KJN	eP	21 09 15			
	OUL	iP	21 09 17.7			
		i	43.5			
	SOD	iP	21 09 11.0			
		i	13.6			
	KEV	eP	21 09 10			
	H: 20 57 18					
	16.0 N, 122.2 E, 33 km (R)					
	Luzon, P.I.					

August

					T	A
1	NUR	eP	21 21 05			
	KJN	iP	21 20 53.1			
		i	21 04.2			
	SOD	iP	21 20 52.1			
1	NUR	iP	21 27 10.0		1.0	14.0
	KJN	iP	21 26 57.3 U		0.8	36.9
	OUL	iP	21 27 00.7			
		i	09.7			
	SOD	iP	21 26 56.7 U			
	KEV	eP	21 26 55		0.8	10.3
	H: 21 15 03					
	15.7 N, 121.8 E, 33 km (R)					
	Luzon, P.I.					
1	NUR	eP	21 42 22			
	KJN	eP	21 42 03		0.7	4.1
	SOD	eP	21 41 56			
1	KJN	iP	21 58 50.8			
	SOD	eP	21 58 47			
1	KJN	eP	22 35 44			
1	KJN	iP	22 43 46.3		0.8	8.5
	SOD	iP	22 43 45.5			
1	KJN	eP	23 16 55			
		i	17 22.4			
	SOD	eP	23 16 54			
	KEV	eP	23 16 54			
1	NUR	eP	23 19 01			
	KJN	iP	23 18 46.0 D		0.7	5.5
	OUL	iP	23 18 48.4			
		i	56.4			
	SOD	iP	23 18 44.7 D			
		i	52.9			
	KEV	eP	23 18 43			
1	NUR	eP	23 19 36			
	KJN	iP	23 19 16.3			
	OUL	iP	23 19 22.2			
	SOD	iP	23 19 16.6			
1	NUR	eP	23 28 33			
		e	42			
	KJN	iP	23 28 20.7 D		0.8	16.9
		i	30.0			
	OUL	iP	23 28 23.7 D			
	SOD	iP	23 28 19.9			
	KEV	eP	23 28 18			
	H: 23 16 26					
	16.0 N, 122.3 E, 33 km (R)					
	Luzon, P.I.					

August

					T	A
1	KJN	iP	23 47 06.9		0.8	10.0
		i	23.9			
	OUL	eP	23 47 10			
	SOD	iP	23 47 06.2			
	KEV	eP	23 47 05			
1	NUR	iP	23 57 18.0		1.1	19.0
	KJN	iP	23 57 05.8 D		0.8	19.2
		i	15.0			
	OUL	iP	23 57 08.7			
		i	17.7			
	SOD	iP	23 57 04.9 D			
	KEV	eP	23 57 03		0.7	7.9
	H: 23 45 10					
	15.9 N, 122.4 E, 33 km (R)					
	Philippine Islands					
2	KJN	iP	00 47 34.4		1.0	19.6
	SOD	eP	00 47 33			
	KEV	eP	00 47 31			
2	NUR	eP	00 52 34			
	KJN	iP	00 52 18.2 U		0.7	9.6
		i	26.0			
	OUL	eP	00 52 23			
	SOD	eP	00 52 17			
		e	26			
	KEV	eP	00 52 15			
	H: 00 40 24.1					
	16.2 N, 122.5 E, 33 km (R)					
	Luzon, P.I.					
2	NUR	eP	01 17 57			
	KJN	iP	01 17 43.0 U		0.7	18.5
	OUL	iP	01 17 46.3			
	SOD	iP	01 17 41.9 U			
	KEV	eP	01 17 40		0.6	7.7
	H: 01 05 49					
	16.1 N, 122.2 E, 33 km (R)					
	Luzon, P.I.					
2	NUR	iP	01 25 47.3			
2	KJN	eP	01 34 26			
	SOD	eP	01 34 26			
		e	35 45			
2	NUR	eP	01 39 40			
	KJN	iP	01 39 27.4		0.9	17.0
		i	36.0			
	OUL	iP	01 39 31.3			
	SOD	iP	01 39 26.7			
2	NUR	eP	02 07 39		1.2	22.8

cont.

August

					T	A
	KJN	iP	02 07 26.8 U		0.9	14.3
	OUL	iP	02 07 30.5			
	SOD	iP	02 07 26.0			
	KEV	eP	02 07 22			
	H: 01 55 34					
	16.3 N, 121.9 E, 33 km (R)					
	Luzon, P.I.					
2	KJN	eP	03 28 03			
	SOD	eP	03 28 02			
2	KJN	eP	03 55 13		0.9	7.1
2	KJN	eP	04 00 15		0.9	7.1
	SOD	eP	04 00 14			
	H: 03 48 21.7					
	15.6 N, 121.8 E, 49 km					
	Luzon, P.I.					
2	NUR	iP	04 05 21.0			
		e	06 01			
		eS	10 12			
	KJN	iP	04 05 36.8		0.9	10.7
		e	06 46			
	OUL	eP	04 05 45			
	KEV	ePP	04 07 31			
	H: 03 59 23.8					
	36.6 N, 49.1 E, 10 km					
	Western Iran					
2	NUR	ePKP	04 21 46			
		i	22 06.1			
	H: 04 02 06.1					
	31.5 S, 178.0 W, 29 km					
	Kermadec Islands					
2	KJN	iP	05 10 21.1		0.9	8.9
		e	42			
	OUL	eP	05 10 25			
	SOD	eP	05 10 20			
	KEV	eP	05 10 12			
2	KJN	iP	05 13 08.7		0.8	8.5
	SOD	eP	05 13 08			
2	KJN	eP	05 56 24		0.8	8.5
	SOD	iP	05 56 22.8			
2	KJN	eP	06 35 07			
2	KJN	iP	07 23 44.0		0.7	7.5
	SOD	iP	07 23 43.1			
	KEV	eP	07 23 42			
2	KJN	eP	07 50 25			

August							August						
					T	A					T	A	
2	KJN	iP	09 49	09.8	0.8	8.5	KJN	iP	14 19	37.1 U	1.4	194.4	
	SOD	eP	09 49	09				i	20	13.8			
2	KJN	iP	11 08	51.6	0.9	13.4		i	21	13.0			
	OUL	eP	11 08	56				ePP	23	02			
	SOD	eP	11 08	51				eScS	30	54			
2	NUR	iP	13 38	01.9 U	0.9	168.0		ePS	31	09			
		i		18.2				e		26			
		i		48.3				ePPS		59			
		iPP	39	35.0			OUL	iP	14 19	31.1			
		i	40	20.6				i		45.0			
		eS	44	08				ePP	23	00			
		eSS	47	16			SOD	iF	14 19	26.0 U			
	KJN	iP	13 38	11.5 U	1.1	229.5		i		41.0			
		i		16.1				iPP	22	47.3			
		i		36.2				i	23	03.1			
		iPP	39	47.9			KEV	eP	14 19	20	1.2	157.7	
		iS	44	25.2				e		37			
	OUL	iP	13 38	21.5 U				e		59			
		i		24.6				ePP	22	38			
		iPP	40	01.7				ePPP	24	48			
		iS	44	44.0				eS	29	58			
		i		49.7				H: 14 06 43.9					
	SOD	iP	13 38	33.3 U				16.6 N, 97.7 W, 40 km					
		i		44.2				Oaxaca, Mexico					
		eS	45	05			2	KJN	iP	14 42	47.2	0.9	8.9
	KEV	eP	13 38	48	0.9	55.0		SOD	eP	14 42	46		
		e		59			2	KJN	iP	16 39	24.1		
		e	39	23				SOD	eP	16 39	24		
		ePP	40	38			2	NUR	iP	17 25	55.0	1.2	28.5
		eScP	44	08				KJN	iP	17 25	30.9	1.2	18.9
		eS	45	30					i		37.8		
		eSS	48	58				OUL	iP	17 25	22.9		
	H: 13 30 23.3								i		30.3		
	27.5 N, 60.9 E, 62 km							SOD	eP	17 25	07		
	Southern Iran								i		15.1		
2	KJN	iP	13 47	30.0	0.9	23.2	KEV	eP	17 24	50			
		e		39				H: 17 15 28.9					
	OUL	eP	13 47	31				57.0 N, 151.5 W, 15 km					
	SOD	eP	13 47	29				Kodiak Island					
2	NUR	iP	14 19	42.0	1.7	262.1	2	KJN	iP	17 29	48.3	0.8	7.7
		i		58.0				OUL	iP	17 29	51.0		
		e	21	24				SOD	eP	17 29	47		
		i	22	37.8			2	KJN	iP	17 58	08.8	0.8	6.9
		iPP	23	19.0				SOD	eP	17 58	09		
		i		32.0			2	SOD	eP	18 50	37		
		e	28	24				H: 18 37 52.0					
		eSKS	30	08				16.1 N, 97.7 W, 33 km (R)					
		e	31	03				Oaxaca, Mexico					
		eSS	36	12									

cont.

August

August

				T	A					T	A
2	KJN	eP	21 57 35					eS	47 00		
								ePPS	48 02		
2	KJN	iP	23 59 08.0	0.8	9.2	KJN	iP	06 36 57.8 U	1.5	1598.4	
	SOD	eP	23 59 08				iS	46 44.0			
							i	57.1			
3	KJN	iP	02 02 15.8	1.1	16.2	OUL	iP	06 37 00.3 U			
	SOD	eP	02 02 15				i	04.6			
							iPP	40 11.9			
3	NUR	eP	02 22 32				eS	46 49			
	KJN	iP	02 22 20.5			SOD	iP	06 36 56.5 U			
	SOD	eP	02 22 20				i	37 04.0			
3	NUR	iP	05 06 11.2 D	2.1	2930.0	KEV	eP	06 36 56	1.5	677.2	
		i	26.4				ePP	39 37			
		ePP	09 04				eS	46 40			
		ePPP	10 44			H: 06 25 05.8					
		eS	15 44			16.5 N, 122.3 E, 37 km					
		eScS	16 28			Luzon, P.I.					
		e	20 00			3	KJN	iP	07 05 11.3		
		eSS	21 00				SOD	eP	07 05 10		
		eP'P'	33 01			3	NUR	eP	07 21 56		
	KJN	iP	05 05 55.3 D				KJN	eP	07 22 03		
		i	06 06.8				SOD	eP	07 22 03		
		i	09 47.8			3	KJN	iP	07 59 36.1	0.7	8.2
		iS	15 11.3				OUL	eP	07 59 38		
		e	38				SOD	eP	07 59 35		
		iScS	16 04.8			3	OUL	eP	08 00 23		
		eP'P'	33 24			H: 07 51 13.1					
	OUL	iP	05 05 56.9 D			61.8 N, 151.3 W, 60 km					
		eS	15 20			Southern Alaska					
	SOD	iP	05 05 50.5 D			3	KJN	iP	13 04 49.8 U	0.7	6.2
		e	07 16				SOD	eP	13 04 49		
		ePP	08 21			3	NUR	iP	14 09 47.3	0.9	10.1
		i	09 48.0					i	54.6		
	KEV	eP	05 05 47	2.0	2158.2			i	10 02.0		
		e	59					ePP	11 26		
		e	07 37					eS	16 16		
		e	08 08					eSS	19 40		
		ePPP	10 04			KJN	iP	14 09 55.5	1.1	10.8	
		eS	14 56				i	10 10.7			
		eScS	16 06				iPP	11 45.5			
		eSS	19 56			OUL	iP	14 10 05.8			
H: 04 54 32.7							i	13.7			
25.6 N, 128.5 E, 19 km							i	22.8			
Ryukyu Islands							ePP	11 52			
3	KJN	iP	06 16 09.8	0.7	5.5	SOD	iP	14 10 17.1			
	SOD	eP	06 16 08				ePcP	11 46			
3	NUR	iP	06 37 10.0 U	1.5	621.1	KEV	eP	14 10 30			
		i	17.4				ePP	12 24			
		i	34.4			cont.					
		i	55.6			cont.					
		ePP	39 49			cont.					

August

August

				T	A	
	eS	17 36				
	eSS	21 12				
	H:	14 01 46.5				
		25.8 N, 62.8 E, 40 km				
		Western Pakistan				
3	NUR	iP	14 29 42.4	0.9	8.4	
		i	52.0			
	KJN	iP	14 29 30.9	0.7	11.0	
		i	40.2			
	OUL	iP	14 29 34.1			
		e	43			
	SOD	iP	14 29 29.8			
		e	38			
	H:	14 17 35				
		15.5 N, 121.9 E, 33 km (R)				
		Luzon, P.I.				
3	NUR	iP	15 50 43.6	0.9	11.8	
		e	51 17			
	KJN	iP	15 50 32.0 U	0.7	18.5	
		i	40.7			
	OUL	iP	15 50 35.1			
		i	46.5			
	SOD	iP	15 50 31.2			
	KEV	eP	15 50 30			
	H:	15 38 35.6				
		15.5 N, 122.0 E, 33 km (R)				
		Philippine Islands				
3	NUR	iP	16 03 55.4	0.9	8.4	
	KJN	iP	16 03 43.7 U	0.7	19.9	
		i	53.3			
	OUL	iP	16 03 46.8			
	SOD	iP	16 03 42.8 U			
		i	53.0			
	KEV	eP	16 03 41	0.7	9.0	
	H:	15 51 48				
		16.0 N, 122.4 E, 33 km (R)				
		Luzon, P.I.				
3	KJN	iP	17 16 11.0	0.7	4.1	
	SOD	eP	17 16 10			
3	NUR	iP	19 31 08.4 U	1.1	46.4	
		e	52			
		eS	41 10			
	KJN	iP	19 30 55.4 U	0.8	98.4	
		i	31 11.0			
	OUL	iP	19 30 59.7			
	SOD	iP	19 30 55.3 U			
		e	31 03			
	KEV	eP	19 30 55	0.8	28.8	
		e	31 26			

cont.

				T	A	
	eS	40 40				
	H:	19 19 01.6				
		16.3 N, 122.4 E, 22 km				
		Luzon, P.I.				
3	NUR	iP	22 08 09.0			
	KJN	iP	22 07 44.1	0.7	6.2	
3	KJN	eP	23 18 35			
	SOD	eP	23 18 42			
3	NUR	eP	23 50 49			
	KJN	iP	23 50 28.7	0.8	6.2	
		e	40			
	OUL	eP	23 50 29			
4	NUR	eP	00 57 45			
	KJN	iP	00 58 22.9			
		e	59 27			
	H:	00 52 57				
		39.0 N, 21.9 E, 37 km				
		Greece				
4	NUR	eP	02 16 46			
		e	17 18			
		eS	26 44			
	KJN	iP	02 16 36.3	0.9	35.7	
		i	42.6			
		i	17 08.9			
	OUL	iP	02 16 39.1			
	SOD	iP	02 16 35.0			
		i	46.1			
	KEV	eP	02 16 35	0.9	13.4	
	H:	02 04 44				
		16.7 N, 122.5 E, 33 km (R)				
		Luzon, P.I.				
4	NUR	eP	03 59 49	1.1	14.6	
	KJN	eP	03 59 02			
4	KJN	iP	05 30 34.4	0.7	5.5	
4	KJN	eP	06 18 15	0.7	3.4	
4	OUL	eP	06 22 10			
	H:	06 12 00				
		52.6 N, 131.1 W, 33 km (R)				
		Queen Charlotte Islands				
4	NUR	iP	08 17 21.2 U	1.1	29.3	
		i	51.7			
		eS	27 20			

cont.

August

August

				T	Δ					T	Δ
	KJN	iP	08 17 09.0 U	1.0	57.8		ePP	57	34		
		i	12.9				ePPP	59	36		
		i	20.4				e	12	01	00	
		i	18 08.2				eSKS	04	20		
	OUL	iP	08 17 12.4 U				e	05	00		
		i	16.6				eSS	10	08		
	SOD	iP	08 17 08.1 U				H: 11 41 24.8				
		i	11.8				6.6 N, 126.8 E, 107 km				
	KEV	eP	08 17 08	0.9	17.2		Mindanao, P.I.				
			H: 08 05 14.3								
			16.5 N, 122.4 E, 18 km								
			Luzon, P.I.								
4	NUR	eP	08 20 37			4	NUR	eP	15 34 44		
	KJN	iP	08 20 25.2				KJN	iP	15 34 32.9	0.7	14.4
								i	36.1		
	OUL	eP	08 20 27				OUL	iP	15 34 39.2		
								i	44.4		
	SOD	eP	08 20 24				SOD	eP	15 34 32		
	KEV	eP	08 20 21				KEV	eP	15 34 32		
							H: 15 22 38				
							16.2 N, 122.5 E, 33 km (R)				
							Luzon, P.I.				
4	KJN	iP	08 25 58.4	0.8	6.2						
		i	26 07.7								
	SOD	eP	08 25 58			4	KJN	eP	16 56 49	0.9	8.0
							SOD	eP	16 56 43		
4	KJN	eP	10 30 04								
		i	14.5								
4	KJN	eP	10 48 00								
	SOD	eP	10 47 43			4	KJN	iP	17 27 24.4		
							OUL	eP	17 27 07		
4	NUR	iP	11 54 14.1 U	1.2	251.1	4	KJN	iP	18 12 03.2	0.8	11.5
		i	51.2					i	13.7		
		i	57 12.3				OUL	eP	18 12 06		
		iPP	48.0					i	17.6		
		ePPP	59 48				SOD	eP	18 12 02		
		eSKS	12 04 34					e	13		
		eS	05 00				KEV	eP	18 12 03		
		esSKS	32				H: 18 00 08				
		e	07 20				16.4 N, 122.6 E, 22 km				
		eSS	11 33				Luzon, P.I.				
	KJN	iP	11 54 03.6 U			4	NUR	eP	18 24 01	1.1	17.1
		ipP	35.5					e	25 09		
		iSKS	12 04 23.6					e	28 44		
		iS	39.6				KJN	eP	18 24 39		
		isSKS	05 10.5					i	50.6		
	OUL	iP	11 54 06.4 U				OUL	eP	18 24 40		
		ipP	37.3				SOD	eP	18 25 02		
		eS	12 04 47					e	26 18		
	SOD	iP	11 54 02.4				H: 18 18 37.8				
		ipP	30.5				35.4 N, 27.9 E, 41 km				
		ePP	57 31				Dodecanese Islands				
		eS	12 04 41								
	KEV	eP	11 54 02	1.2	116.8	4	NUR	iP	19 10 58.1		
		e	13				KJN	iP	19 10 56.1		
		e	55 43				OUL	iP	19 11 05.9		
			cont.				SOD	eP	19 11 09		



August

August

				T	Δ
OUL	iP	15 03 06.0			
SOD	iP	15 03 01.4			
H: 14 51 09.5					
16.0 N, 122.0 E, 43 km					
Luzon, P.I.					
5	NUR	iP	16 28 10.6	0.7	223.2
		i	23.2		
		ePP	30 45		
		i	32 06.0		
		i	45.2		
		eS	37 12		
		e	46		
		eSS	41 38		
		eP'P'	56 09		
KJN	iP	16 27 51.3 D	1.1	546.8	
	iPP	30 21.0			
	iS	36 37.1			
	iScS	37 40.0			
	eP'P'	56 17			
OUL	iP	16 27 53.1			
	iS	36 42.1			
	iP'P'	56 20.6			
SOD	iP	16 27 43.9 D			
	i	56.9			
	i	28 08.0			
KEV	eP	16 27 41	0.9	327.6	
	e	53			
	e	28 30			
	ePP	30 15			
	ePPP	31 50			
	eS	36 12			
	ePS	37 22			
	eSS	40 04			
H: 16 17 04.8					
33.3 N, 132.2 E, 41 km					
Shikoku, Japan					
5	NUR	eP	16 54 09		
	KJN	eP	16 54 05		
	OUL	iP	16 54 00.1		
	SOD	iP	16 53 55.2		
	KEV	eP	16 53 53	1.3	61.4
H: 16 41 22.9					
17.2 N, 92.3 W, 33 km					
Chiapas, Mexico					
5	NUR	iP	17 06 18.8	0.9	10.1
5	NUR	eP	17 53 34		
5	NUR	eP	20 15 17		

				T	Δ
5	NUR	eP	20 48 49		
	KJN	iP	20 48 28.9	0.9	6.3
	OUL	eP	20 48 28		
H: 20 37 42.7					
36.3 N, 140.0 E, 54 km					
Honshu, Japan					
5	NUR	eP	21 02 23	0.5	5.3
		e	38		
	KJN	iP	21 02 05.3	0.7	8.2
	OUL	iP	21 02 07.2		
	SOD	eP	21 01 57		
	KEV	eP	21 01 51		
H: 20 51 21.5					
33.8 N, 132.2 E, 44 km					
Shikoku, Japan					
6	KJN	eP	00 22 25		
	OUL	iP	00 22 20.4		
H: 00 12 30.3					
26.7 N, 44.6 W, 33 km (R)					
North Atlantic Ridge					
6	NUR	eP	00 36 50		
H: 00 26 02.6					
41.6 N, 142.5 E, 33 km (R)					
Hokkaido, Japan					
6	KJN	iP	01 04 18.5		
6	KJN	iP	01 21 29.2	0.7	6.9
6	NUR	iP	02 45 42.3	0.8	11.5
		e	54		
	KJN	iP	02 45 23.6 U	0.7	13.0
	OUL	iP	02 45 25.5		
	SOD	iP	02 45 16.8		
	KEV	eP	02 45 13		
H: 02 34 38.8					
33.4 N, 132.3 E, 44 km					
Shikoku, Japan					
6	NUR	iP	03 18 32.7	1.3	78.4
		e	54		
		eS	28 32		
	KJN	iP	03 18 19.3	1.0	137.3
		i	25.1		
	OUL	iP	03 18 23.2		
	SOD	iP	03 18 18.5		
		i	22.4		
H: 03 06 27.8					
16.6 N, 122.4 E, 33 km (R)					
Luzon, P.I.					

August

August

		T	A			T	A
6	NUR iP	03 28	33.0				
	e	30 04					
	eS	38 34					
	eSS	44 16					
	KJN iP	03 28	20.3 U	0.8	26.9		
	OUL iP	03 28	24.6				
	SOD iP	03 28	19.7 U				
	H: 03 16 29						
	16.2 N, 121.9 E, 43 km						
	Luzon, P.I.						
6	NUR eP	03 36	55				
	KJN eP	03 36	51				
	OUL iP	03 36	46.8				
	SOD eP	03 36	41				
	H: 03 24 04.3						
	17.2 N, 92.6 W, 13 km						
	Chiapas, Mexico						
6	KJN eP	03 56	02				
	OUL eP	03 55	46				
	e		57				
	H: 03 46 06.8						
	26.7 N, 44.5 W, 33 km (R)						
	North Atlantic Ridge						
6	NUR iP	04 32	07.6	0.7	20.6		
	i		19.5				
	KJN iP	04 31	49.2	0.8	38.5		
	i	32	00.6				
	OUL iP	04 31	50.9 U				
	SOD iP	04 31	41.7 U				
	KEV eP	04 31	38	0.8	18.7		
	H: 04 21 03.2						
	33.4 N, 132.2 E, 43 km						
	Shikoku, Japan						
6	NUR iP	04 46	56.2	0.9	18.5		
	i	47	08.0				
	KJN iP	04 46	40.0	1.0	14.2		
	i		52.2				
	OUL iP	04 46	42.5				
	i		54.8				
	SOD iP	04 46	35.4				
	KEV eP	04 46	33	0.9	16.8		
	H: 04 35 19.4						
	25.6 N, 128.4 E, 33 km (R)						
	Ryukyu Islands						
6	NUR iP	05 05	10.1	1.0	26.0		
	i		18.1				
	eS	15 14					
	cont.						
	KJN iP	05 04	57.7 U	0.9	64.3		
	i	05	06.1				
	i		41.3				
	OUL iP	05 05	01.4				
	i		08.5				
	SOD iP	05 04	56.8 U				
	i	05	04.9				
	H: 04 53 04.6						
	15.7 N, 121.9 E, 50 km						
	Luzon, P.I.						
6	KJN iP	05 21	33.8 D	0.9	11.6		
	SOD iP	05 21	33.3				
6	OUL eP	05 57	18				
	H: 05 44 25						
	13.8 N, 145.7 E, 33 km (R)						
	Mariana Islands						
6	KJN iP	06 19	37.2	0.9	8.9		
6	KJN eP	07 33	51				
6	NUR iP	08 43	39.1 U	1.0	30.0		
	i		50.3				
	eS	50	56				
	eSS	54	44				
	OUL iP	08 44	05.0 U				
	i		13.3				
	i		49.0				
	SOD eP	08 44	18				
	KEV eP	08 44	37	0.9	20.2		
	e		48				
	eS	52	36				
	eSS	56	28				
	H: 08 34 42.3						
	13.9 N, 51.5 E, 33 km (R)						
	Eastern Gulf of Aden						
6	KJN iP	09 40	01.5 U	0.5	9.6		
	SOD iP	09 40	00.7				
6	NUR iP	10 19	37.4 U	0.8	13.0		
	KJN iP	10 19	21.1 U	0.7	11.0		
	i		32.7				
	OUL iP	10 19	23.3 U				
	i		34.1				
	SOD iP	10 19	16.5 U				
	KEV eP	10 19	15	0.8	14.4		
	H: 10 08 01.2						
	25.7 N, 128.4 E, 33 km (R)						
	Ryukyu Islands						

August

					T	A
KEV	ePP	03 29 14				
	eSKP	30 32				
	eSKSP	39 16				
	eSPP	40 58				
	e	41 50				
	eSS	45 30				
	eSSS	50 28				
H: 03 08 04.2						
22.4 S, 113.0 W, 33 km (R)						
Easter Island						
9	NUR	eP	04 43 52			
		e	44 34			
9	KJN	iPKP	07 09 44.0			
	OUL	ePKP	07 09 43			
H: 06 50 50.9						
32.2 S, 71.8 W, 31 km						
Central Chile						
9	NUR	iP	10 48 48.9	U	0.9	40.3
	KJN	iP	10 48 25.0	U	0.9	31.3
		i	49 14.1			
	OUL	iP	10 48 24.1			
	SOD	iP	10 48 11.5			
	KEV	eP	10 48 08			
H: 10 38 04.0						
43.4 N, 147.1 E, 40 km						
Kurile Islands						
9	NUR	eP	14 57 52		0.9	13.4
9	OUL	iP	17 11 48.7			
9	KJN	eP	18 25 38			
	OUL	eP	18 25 44			
H: 18 13 46.8						
15.2 N, 121.0 E, 39 km						
Luzon, P.I.						
9	NUR	iP	21 46 03.0		1.0	16.0
		eS	56 04			
	KJN	iP	21 45 50.5	U	0.9	28.6
		i	46 00.0			
	OUL	iP	21 45 53.6			
		e	46 03			
	SOD	iP	21 45 49.2			
H: 21 33 56.4						
15.7 N, 121.9 E, 46 km						
Luzon, P.I.						

August

					T	A
10	NUR	eP	00 47 03			
		eS	50 16			
	KJN	eP	00 46 22		0.8	14.6
		i	32.8			
		eS	48 47			
	OUL	iP	00 46 06.5			
		i	11.7			
		iS	48 19.9			
	SOD	eP	00 45 37			
		eS	47 29			
	KEV	eP	00 45 21			
		e	29			
		eS	46 46			
H: 00 43 06						
76.7 N, 10.5 E, 33 km (R)						
Svalbard						
10	NUR	eP	01 08 41			
		i	46.0			
		i	09 17.0			
	KJN	iP	01 07 57.5			
		i	08 03.4			
		i	20.6			
		eS	10 23			
	OUL	iP	01 07 41.9			
		i	48.1			
	SOD	eP	01 07 13			
		eS	09 18			
	KEV	eP	01 06 52			
		eS	08 24			
		e	09 12			
H: 01 04 45						
76.0 N, 5.5 E, 33 km (R)						
Svalbard						
10	NUR	iP	02 20 21.3			
		i	28.2			
		e	23 28			
		ePP	24 32			
		eSKS	30 57			
		eS	31 35			
		iPKKP	37 27.0			
		eP'P'	45 34			
	KJN	iP	02 20 12.0	U	1.2	113.5
		iSKS	30 46.5			
		iS	31 19.5			
		iPKKP	37 32.2			
		eP'P'	45 49			
	OUL	iP	02 20 15.5			
		iPKKP	37 30.2			
		eP'P'	45 44			
cont.						

August				August			
		T	A		T	A	
SOD	iP	02 20	12.0 U				
	i		18.4				
	eSKS	30 55					
	eS	31 18					
	ePKKP	37 31					
	i		36.9				
	eP'P'	45 40					
KEV	eP	02 20	17	1.4	164.0		
	e		24				
	e		23 44				
	ePP		24 04				
	eSKS		30 40				
	e		31 00				
	eS		23				
	ePKKP		37 45				
	eP'P'		45 33				
H: 02 07 04.3							
1.4 N, 126.2 E, 33 km (R)							
Molucca Passage							
10	KJN	iP	02 36 07.8	1.0	26.2		
	OUL	eP	02 36 03				
	SOD	eP	02 36 07				
10	NUR	eP	02 53 06				
	KJN	eP	02 52 57				
	OUL	iP	02 53 02.8				
	SOD	eP	02 52 56				
10	NUR	eP	02 56 47	1.0	16.0		
	KJN	iP	02 56 38.5 U	0.8	26.1		
	OUL	iP	02 56 41.3				
	i		50.1				
	SOD	iP	02 56 37.5				
10	KJN	iP	02 57 40.5				
	OUL	eP	02 57 46				
	SOD	eP	02 57 39				
10	NUR	eP	03 02 39				
	KJN	eP	03 02 32				
	OUL	eP	03 02 39				
	SOD	eP	03 02 39				
	i		03 06.1				
10	OUL	eP	03 40 15				
	i		33.0				
10	KJN	iP	04 00 52.5				
	OUL	eP	04 00 55				
	SOD	iP	04 00 52.1				
H: 03 47 42							
1.4 N, 126.4 E, 33 km (R)							
Molucca Passage							
10	NUR	eP	04 10 32				
	KJN	iP	04 10 21.5				
	OUL	eP	04 10 27				
	SOD	eP	04 10 20				
H: 03 57 09.6							
1.4 N, 126.6 E, 33 km (R)							
Molucca Passage							
10	NUR	eP	04 11 49				
	KJN	iP	04 11 39.9	0.8	9.8		
	OUL	eP	04 11 43				
	SOD	eP	04 11 39				
H: 03 58 31.5							
1.3 N, 126.6 E, 33 km (R)							
Molucca Passage							
10	NUR	eP	04 15 47				
	KJN	iP	04 15 34.8	0.7	11.0		
	OUL	eP	04 15 37				
	i		46.1				
	SOD	eP	04 15 34				
H: 04 02 26.6							
1.4 N, 126.4 E, 33 km (R)							
Molucca Passage							
10	NUR	iP	04 19 09.8	0.8	24.5		
	i		20.7				
	e		21 50				
	eSKS		29 36				
	eS		30 17				
	KJN	iP	04 18 58.2				
	i		19 10.5				
	i		23.5				
	iSKS		29 31.3				
	iS		30 05.5				
	i		16.5				
	ePKKP		36 19				
	OUL	iP	04 19 01.3				
	i		05.5				
	i		17.3				
	ePKKP		36 16				
	SOD	iP	04 19 00.9				
	i		26.2				
	e		22 23				
	iPKKP		36 18.8				
H: 04 05 50.6							
1.3 N, 126.5 E, 33 km (R)							
Molucca Passage							
10	OUL	eP	04 23 29				
	SOD	eP	04 23 23				
	i		32.3				
H: 04 10 10.6							
1.2 N, 126.8 E, 33 km (R)							
Molucca Passage							

August			T	A
	OUL	iP 10 19 05.0 H: 10 05 52.1 1.6 N, 126.3 E, 24 km Molucca Passage		
10	NUR eP KJN eP OUL eP	10 29 20 10 29 10 10 29 14 H: 10 16 04 1.5 N, 126.4 E, 33 km (R) Molucca Passage		
10	NUR eP KJN eP OUL eP SOD eP	10 42 21 10 42 08 10 42 12 10 42 09 H: 10 28 56.2 1.6 N, 126.1 E, 6 km Molucca Passage		
10	NUR eP KJN eP OUL iP	10 49 15 10 49 05 10 49 05.9	0.6 0.6	8.8 11.6
10	KJN eP	11 08 23 H: 10 55 16 1.6 N, 126.2 E, 33 km (R) Molucca Passage		
10	KJN iP OUL eP	12 08 37.4 12 08 43 H: 11 55 29.4 1.8 N, 126.4 E, 33 km (R) Molucca Passage		
10	KJN eP	12 38 01 H: 12 24 51 1.4 N, 126.5 E, 33 km (R) Molucca Passage		
10	NUR iP eS KJN iP i OUL eP SOD iP	13 03 26.0 13 28 13 03 13.3 U 17.5 13 03 16 13 03 12.5	0.6 0.7	11.3 27.4
10	NUR eP KJN iP i SOD eP	13 17 15 13 17 03.5 D 06.8 13 17 03	0.7	13.0
10	NUR iP KJN eP	13 57 38.0 13 57 20 cont.	0.8	11.5

August			T	A
	OUL iP SOD eP	13 57 21.5 13 57 13 H: 13 46 44 29.3 N, 139.2 E, 516 km South of Honshu, Japan		
10	NUR eP KJN iP OUL eP SOD eP	14 13 58 14 13 49.0 14 13 52 14 13 48 H: 14 00 40.2 1.6 N, 126.3 E, 33 km (R) Molucca Passage	0.7	5.5
10	KJN eP OUL eP	14 26 41 14 26 34		
10	NUR eP KJN iP OUL iP SOD eP	15 35 01 15 34 52.4 15 34 56.4 15 34 51 H: 15 21 43.5 1.3 N, 126.2 E, 33 km (R) Molucca Passage	0.7	9.6
10	NUR iP KJN iP OUL iP SOD iP	15 58 54.3 15 58 44.9 15 58 47.8 15 58 44.2 H: 15 45 37.2 1.5 N, 126.3 E, 33 km (R) Molucca Passage	1.0 0.8	14.0 13.8
10	NUR eP i i e eS e KJN iP i i OUL iP i SOD eP i i	16 53 31 43.1 59.0 56 16 17 03 32 04 36 16 53 20.5 30.8 54 13.3 16 53 25.7 33.4 16 53 20 29.7 43.3 H: 16 41 25.4 15.5 N, 121.6 E, 33 km (R) Luzon, P.I.	1.3 1.2	27.3 34.4
10	NUR eP KJN iP OUL eP	18 01 23 18 01 14.1 18 01 18 cont.		

August

T A

SOD eP 18 01 15
H: 17 48 04.7
1.5 N, 126.5 E, 33 km (R)
Molucca Passage

10 KJN eP 18 11 39

10 KJN eP 18 45 07

10 NUR ePKP 19 37 43
i 45.9
epPKP 38 18
iSKP 41 03.0
iPKS 14.8

KJN iPKP 19 37 38.7 0.8 17.7
iSKP 40 51.5
ePKS 41 03

OUL ePKP 19 37 38
i 39.0
iSKP 40 50.7

SOD eSKP 19 40 43
KEV ePKP 19 37 32
H: 19 18 43.0
21.5 S, 170.4 E, 136 km
Loyalty Islands

10 NUR iP 20 02 00.4 0.9 13.4
i 09.0
e 04 01
eS 12 04

KJN iP 20 01 47.8 U 0.8 27.7
i 56.4
i 03 47.7

OUL iP 20 01 51.3 U
i 54.6
SOD iP 20 01 46.4
i 54.3
e 03 08

H: 19 49 58.6
17.0 N, 122.4 E, 43 km
Luzon, P.I.

10 NUR eP 21 03 10
KJN eP 21 03 02
OUL eP 21 03 05
H: 20 49 53.6
1.5 N, 126.3 E, 33 km (R)
Molucca Passage

10 NUR eP 23 18 18 0.8 7.2
KJN iP 23 18 05.5 0.7 11.0
OUL iP 23 18 08.7
SOD eP 23 18 04

August

T A

10 NUR iP 23 30 21.0
KJN eP 23 29 59
OUL iP 23 29 58.0
SOD eP 23 29 57

11 NUR eP 01 02 34
KJN iP 01 02 12.3 0.8 10.0
OUL iP 01 02 11.9
SOD eP 01 02 02

11 NUR eP 01 04 24
KJN iP 01 04 10.5
OUL iP 01 04 12.6
SOD eP 01 04 12
H: 00 51 04
1.6 N, 126.0 E, 33 km (R)
Molucca Passage

11 NUR eP 02 59 11
KJN eP 02 59 02
OUL eP 02 59 03
SOD eP 02 59 01
H: 02 45 54.3
1.8 N, 126.4 E, 33 km (R)
Molucca Passage

11 NUR eP 03 01 38
KJN iP 03 01 25.5
e 48
OUL eP 03 01 30
SOD eP 03 01 26
H: 02 48 19
1.8 N, 126.4 E, 33 km (R)
Molucca Passage

11 NUR ePS 03 09 40
e 10 20
H: 02 41 52.8
15.2 S, 74.0 W, 91 km
Peru

11 KJN eP 04 51 39
OUL eP 04 51 46

11 NUR eP 09 13 40
KJN iP 09 13 30.9 0.7 8.2
OUL eP 09 13 32
i 41.2
SOD eP 09 13 30
H: 09 00 24.5
1.8 N, 126.1 E, 33 km (R)
Molucca Passage

August						August					
				T	A					T	A
11	NUR	eP	10 15 58			SOD	eP	13 48 53			
	KJN	iP	10 15 48.0	0.9	12.5		e	49 14			
	OUL	iP	10 15 50.3				H:	13 38 45.4			
	SOD	eP	10 15 48					41.5 N, 142.1 E, 57 km			
	KEV	eP	10 15 45					Hokkaido, Japan			
			H: 10 02 40.3								
			1.5 N, 126.3 E, 33 km (R)			11	NUR	eP	15 21 10		
			Molucca Passage					eSKS	31 40		
								eS	32 24		
11	KJN	eP	12 17 09				KJN	iP	15 21 01.8		
			H: 12 04 01.3				OUL	iP	15 21 02.2		
			1.3 N, 127.2 E, 33 km (R)				SOD	eP	15 21 01		
			Halmahera					i	05.1		
								H:	15 07 53.0		
								1.8 N, 126.3 E, 33 km (R)			
11	NUR	ePKP	12 20 50					Molucca Passage			
	KJN	ePKP	12 20 44								
		eSKP	23 30								
	OUL	iPKP	12 20 42.8			11	KJN	eP	16 37 36		
			H: 12 02 13.7				SOD	eP	16 37 36		
			25.6 S, 179.8 E, 482 km					H:	16 24 19		
			South of Fiji Islands					1.0 N, 126.3 E, 33 km (R)			
								Molucca Passage			
11	NUR	iP	12 47 58.2 U	0.9	176.4	11	NUR	eP	19 00 27		
		iPcP	48 27.0					e	33		
		ipP	38.2				KJN	eP	19 00 19		
		ePPP	51 53				OUL	eP	19 00 22		
		eS	56 32				SOD	eP	19 00 18		
		esS	57 36					H:	18 47 07.1		
		e	58 44					1.6 N, 126.2 E, 6 km			
	KJN	iP	12 47 33.4 U	1.0	115.5			Molucca Passage			
		ipP	48 11.6								
		iScP	51 56.0			11	NUR	iP	20 14 01.3	0.9	15.1
		iS	55 44.8					i	06.4		
	OUL	iP	12 47 28.0 U					i	18.8		
		ipP	48 04.6					ePP	17 53		
		iScP	51 53.9					eSKS	24 32		
		eP'P'	13 16 39					eS	25 24		
	SOD	iP	12 47 13.0 U					ePS	26 16		
		i	27.5					e	27 20		
		e	49 08				KJN	eP	20 13 51	0.7	20.6
		e	50 24					i	52.7		
	KEV	eP	12 46 56	0.9	34.4			i	15 29.5		
		ePcP	47 51					i	17 05.4		
		eS	54 36					eSKS	24 25		
			H: 12 37 28.1					eS	53		
			52.1 N, 179.9 W, 159 km					ePKKP	31 08		
			Andreanof Islands				OUL	iP	20 13 54.5		
								i	55.3		
11	NUR	iP	13 49 27.3	0.8	8.6			i	14 09.9		
		e	44					ePKKP	31 05		
	KJN	iP	13 49 05.4	0.9	9.8		SOD	iP	20 13 52.1		
	OUL	iP	13 49 04.6					i	14 08.0		
			cont.						cont.		

August

			T	A
	ePP	17 39		
	ePKKP	31 06		
KEV	eP	20 13 50	0.8	14.7
	e	14 05		
	ePP	17 28		
	eSKS	24 16		
	ePS	25 56		
	e	26 48		
	eSS	31 04		
H: 20 00 43.4				
1.6 N, 126.1 E, 33 km (R)				
Molucca Passage				
11	KJN eP	21 18 00		
	OUL eP	21 18 03		
	SOD eP	21 18 00		
H: 21 04 48.6				
1.3 N, 126.4 E, 33 km (R)				
Molucca Passage				
11	KJN eP	21 52 50		
11	KJN eP	22 18 39		
	OUL eP	22 18 44		
	SOD eP	22 18 42		
11	KJN eP	22 21 04		
	OUL eP	22 21 07		
	SOD eP	22 21 12		
H: 22 07 56.9				
1.7 N, 126.3 E, 33 km (R)				
Molucca Passage				
12	NUR eP	02 50 55		
	KJN iP	02 50 33.5	0.8	12.3
	OUL iP	02 50 32.7		
	SOD iP	02 50 21.8		
12	KJN eP	07 12 18		
	OUL eP	07 12 22		
	SOD eP	07 12 19		
H: 06 59 10.6				
1.8 N, 126.8 E, 19 km				
Molucca Passage				
12	NUR eP	07 13 58		
	KJN iP	07 13 50.1		
	OUL eP	07 13 55		
	SOD eP	07 13 49		
12	KJN eP	09 23 22		
H: 09 10 13.2				
1.3 N, 126.3 E, 33 km (R)				
Molucca Passage				

August

			T	A
12	KJN iP	13 11 18.1	0.9	10.7
	OUL eP	13 11 22		
	SOD eP	13 11 17		
12	NUR iP	13 57 03.2		
	KJN iP	13 56 54.0	0.7	17.1
	OUL iP	13 56 56.1		
	SOD iP	13 56 53.0		
	i	57 02.1		
	KEV eP	13 56 52	0.7	12.9
H: 13 43 45.9				
1.7 N, 126.3 E, 33 km (R)				
Molucca Passage				
12	KJN iP	14 14 42.1		
12	KJN eP	14 17 50		
H: 14 04 40.4				
1.8 N, 125.9 E, 19 km				
Molucca Passage				
12	KJN iP	14 20 05.6	0.7	8.9
	OUL iP	14 20 08.0		
	SOD iP	14 20 05.1		
	KEV eP	14 20 04		
12	KJN iP	18 00 55.2	0.6	7.5
	OUL iP	18 01 00.0		
	SOD eP	18 00 54		
12	NUR iPKP	18 26 50.3	1.0	150.0
	i	27 04.2		
	i	22.0		
	KJN iPKP	18 26 39.0	1.0	51.2
	i	40.4		
	i	56.0		
	i	27 04.2		
	OUL iPKP	18 26 39.0		
	i	50.1		
	SOD iPKP	18 26 33.5		
	e	28 56		
	KEV ePKP	18 26 28		
	e	27 09		
H: 18 07 10.6				
31.4 S, 177.9 W, 33 km (R)				
Kermadec Islands				
12	SOD iP	18 34 46.1		
12	NUR eP	20 42 37	0.6	15.0
	e	54		
	KJN iP	20 42 15.2		

cont.

August

August

				T	A					T	A
	OUL	iP	20 42 14.4				KJN	iP	03 05 58.3 U	0.8	25.4
		i	18.4					i	06 08.4		
	SOD	iP	20 42 02.4				OUL	iP	03 06 01.0 U		
		i	14.1				SOD	iP	03 05 57.7		
	KEV	eP	20 41 53					i	06 05.4		
		e	42 21					i	23.0		
	H:		20 31 52.8					e	08 41		
			41.4 N, 142.6 E, 68 km				KEV	eP	03 05 57	0.8	34.6
			Hokkaido, Japan					e	06 07		
							H:		02 52 51.9		
12	NUR	iP	20 49 11.0	1.0	28.0				2.0 N, 126.3 E, 33 km (R)		
		i	20.2						Molucca Passage		
	KJN	iP	20 49 00.7	0.8	10.0						
	OUL	iP	20 49 00.4			13	KJN	eP	04 18 34		
		i	10.6				OUL	eP	04 18 37		
	SOD	eP	20 48 53				SOD	eP	04 18 36		
							H:		04 05 25.9		
12	NUR	eP	21 08 37						1.9 N, 126.6 E, 33 km (R)		
	KJN	eP	21 08 15						Molucca Passage		
	OUL	eP	21 08 17			13	NUR	eP	04 45 37		
	SOD	eP	21 08 03					eS	50 04		
	KEV	eP	21 07 53				KJN	eP	04 46 00	1.0	17.4
	H:		20 57 51.0					e	47 48		
			41.4 N, 142.7 E, 48 km				OUL	eP	04 46 13		
			Hokkaido, Japan				SOD	eP	04 46 32		
								e	47 08		
13	KJN	iP	00 10 01.0			13	KJN	eP	06 55 57		
	OUL	iP	00 10 01.2				SOD	eP	06 55 56		
		i	12.0				H:		06 42 48.9		
	SOD	iP	00 09 52.0						1.8 N, 126.6 E, 33 km (R)		
	H:		23 58 33.2						Molucca Passage		
			29.6 N, 141.1 E, 48 km								
			South of Honshu, Japan								
13	KJN	eP	00 26 53	1.1	14.9	13	NUR	iP	07 02 12.2		
	OUL	eP	00 26 57				KJN	eP	07 02 25		
	SOD	eP	00 26 53				SOD	eP	07 02 32		
	H:		00 14 58.8								
			15.6 N, 121.8 E, 45 km								
			Luzon, P.I.								
13	KJN	eP	00 46 31			13	KJN	eP	09 15 56		
	OUL	eP	00 46 36				OUL	eP	09 15 58		
	SOD	eP	00 46 29				SOD	iP	09 15 55.6		
	H:		00 33 23				H:		09 02 49.4		
			1.3 N, 126.0 E, 33 km (R)						1.8 N, 126.5 E, 33 km (R)		
			Molucca Passage						Molucca Passage		
13	NUR	iP	03 06 08.1	1.0	20.0	13	KJN	eP	10 53 28		
		i	08 35.8				SOD	eP	10 53 24		
		eS	17 10				H:		10 40 15		
		ePS	18 30						1.5 N, 126.3 E, 33 km (R)		
			cont.						Molucca Passage		

August				August			
			T	A		T	A
13	NUR	eP	15 14 31				
13	KJN	eP	18 23 08				
	SOD	eP	18 23 08				
13	KJN	eP	18 41 27				
	OUL	eP	18 41 33				
	SOD	eP	18 41 25				
	e		37				
	H: 18 28 17						
	1.7 N, 126.6 E, 33 km (R)						
	Molucca Passage						
13	NUR	iPKP	19 54 12.4	1.1	107.1		
		ePKS	57 30				
	KJN	iPKP	19 54 05.3	1.1	89.1		
		i	55.5				
	OUL	iPKP	19 54 05.3				
	SOD	iPKP	19 54 02.1				
	KEV	ePKP	19 54 01				
	H: 19 35 20.9						
	15.5 S, 167.5 E, 125 km						
	New Hebrides Islands						
14	NUR	iP	00 35 22.7	0.9	13.4		
		i	46.0				
	KJN	iP	00 35 34.1				
	OUL	eP	00 35 33				
		e	40				
14	KJN	eP	00 37 40				
	SOD	eP	00 37 40				
	H: 00 24 29.3						
	1.2 N, 126.4 E, 33 km (R)						
	Molucca Passage						
14	NUR	iP	01 23 41.9	0.8	60.5		
		i	50.5				
		i	24 05.0				
		eS	31 44				
	KJN	iP	01 23 14.8	0.7	27.4		
		iPcP	24 12.2				
	OUL	iP	01 23 10.9				
	SOD	iP	01 22 55.4				
	KEV	eP	01 22 42	0.9	18.9		
		e	58				
		eS	29 56				
	H: 01 13 45.2						
	55.6 N, 162.1 E, 70 km						
	Kamchatka						
14	KJN	eP	02 10 39				
	SOD	eP	02 10 38				
14	KJN	eP	02 23 43				
	OUL	iP	02 23 38.1				
	KEV	eP	02 23 18				
	H: 02 13 17.1						
	53.1 N, 164.1 W, 33 km (R)						
	Unimak Island						
14	NUR	iP	08 08 51.1	U	1.1	80.9	
		i	56.2				
		eS	18 56				
	KJN	iP	08 08 38.9	U	0.9	80.4	
		i	11 39.4				
	OUL	iP	08 08 42.2				
	SOD	iP	08 08 38.3				
	KEV	eP	08 08 38		0.6	24.3	
	H: 07 56 35.5						
	15.1 N, 122.5 E, 8 km						
	Philippine Islands						
14	NUR	iP	08 51 44.2	U	1.1	45.2	
		i	47.7				
		eSS	09 08 52				
	KJN	iP	08 51 37.8	U	1.0	32.7	
		i	43.8				
	OUL	iP	08 51 32.2				
		i	38.8				
	SOD	iP	08 51 25.3	U			
		i	32.9				
	KEV	eP	08 51 22		1.1	85.4	
		e	29				
		eS	09 01 42				
		e	03 48				
		eSS	07 20				
	H: 08 38 48.4						
	18.5 N, 102.8 W, 72 km						
	Michoacan, Mexico						
14	NUR	iP	14 53 12.2		0.9	25.2	
		i	28.4				
	KJN	eP	14 53 10				
	OUL	iP	14 53 01.2				
14	NUR	iP	15 50 23.0		0.8	10.1	
		iS	53 03.2				
		i	19.7				
		e	54 12				
		e	50				
	KJN	iP	15 51 08.0				
		eS	54 40				
	OUL	iP	15 51 21.3				
	cont.						

August				T	A	August				T	A
	SOD	eP	15 51 44			15	KJN	iP	01 51 18.0	0.7	12.3
		e	52 03				OUL	iP	01 51 24.4		
		e	56 03				SOD	iP	01 51 26.7		
	H: 15 47 01.3										
	45.7 N, 26.5 E, 128 km					15	NUR	eP	02 35 08		
	Rumania							i	28.6		
14	OUL	eSg	17 43 45					i	36 11.0		
	SOD	eSg	17 44 09				KJN	eP	02 35 40		
14	NUR	eP	18 28 09					i	36 12.2		
	KJN	iP	18 28 46.0					i	37 17.0		
	OUL	iP	18 28 53.5					eS	40 24		
14	NUR	iP	18 35 40.0				OUL	iP	02 35 45.5		
	KJN	iP	18 36 06.5	0.8	14.6			i	47.6		
	OUL	eP	18 36 12				SOD	eP	02 36 08		
		i	18.5					e	50		
14	NUR	iP	22 27 31.8	1.3	98.9		KEV	eP	02 36 34		
		i	35.2					e	44		
		i	30 18.2				H: 02 29 45.4				
		i	45.6				35.3 N, 26.8 E, 67 km				
		iPP	31 13.0				Crete				
		ePPP	33 16			15	NUR	eP	02 42 16		
		eSKS	38 00					i	22.3		
		eS	38				KJN	eP	02 42 15		
	KJN	iP	22 27 21.0					e	42		
		i	30 22.2				SOD	eP	02 42 12		
		i	52.0					e	28		
		eSKS	37 57			15	KJN	eP	04 25 59		
		eS	38 25					i	26 02.5		
	OUL	iP	22 27 22.8				OUL	eP	04 26 03		
		i	26.0				SOD	eP	04 25 56		
		iPP	31 08.6					i	26 04.0		
	SOD	iP	22 27 21.4				H: 04 13 00.9				
		i	25.9				0.6 N, 119.9 E, 33 km (R)				
		i	28 09.2				Northern Celebes				
		ePP	31 04			15	NUR	eP	05 18 35		
		ePKKP	44 54				KJN	iP	05 18 26.0	0.6	13.7
	H: 22 14 19.4						OUL	iP	05 18 28.5		
	0.2 N, 119.8 E, 23 km						SOD	iP	05 18 25.4		
	Northern Celebes						H: 05 05 18.3				
14	KJN	iP	22 43 07.6				1.6 N, 126.2 E, 33 km (R)				
	OUL	eP	22 43 10				Molucca Passage				
	SOD	eP	22 43 08			15	NUR	iPKP	07 09 41.7	0.8	18.7
14	NUR	eP	22 57 26					i	46.8		
	SOD	eP	22 57 26					i	10 23.7		
15	KJN	iP	00 21 04.8					ePP	12 44		
	SOD	eP	00 20 58					iSKP	13 05.0		

cont.

August

August

August				T	A	August				T	A	
	iPKS		23.6					SOD	eP	21 39 04		
	e		14 30					H:	21 26 00.0			
	eSS		30 36						0.1 N, 120.0 E, 33 km (R)			
KJN	ePKP	07 09	36	0.9	50.0				Northern Celebes			
	i		38.0									
	i		10 42.9			15	KJN	eP	21 59 08			
	iSKP		13 02.7				SOD	eP	21 59 09			
	ePKS		17									
SOD	iPKP	07 09	35.0			15	NUR	eP	23 25 50			
	eSKP		12 53				KJN	iP	23 25 33.0			
KEV	ePKP	07 09	34	0.8	36.8		SOD	eP	23 25 28			
	e		11 48				e		37			
	eSKP		12 48				H:	23 14 18.7				
	e		14 08					27.2 N, 129.3 E, 33 km (R)				
	e		19 52					Ryukyu Islands				
	eSS		29 12									
	H:	06 50	38.7				16	NUR	ePKP	03 50 19		
		23.8 S, 177.4 W, 188 km						eSKP		52 58		
		South of Fiji Islands						KJN	iPKP	03 50 12.5		
15	NUR	iP	08 41 17.8 U	0.7	37.4			iSKP		52 47.9		
	i		32.2					SOD	ePKP	03 50 07		
	eS		44 50					eSKP		52 39		
	SOD	iP	08 42 07.3				H:	03 32 05				
	i		17.1					21.8 S, 179.5 W, 625 km				
	e		46 47					Fiji Islands				
	Moscow:						16	KJN	iPKP	10 32 29.1		
	H:	08 36 41						epPKP		33 05		
		43.8 N, 44.2 E, 40 km						H:	10 13 38.2			
		Caucasus							57.7 S, 26.5 W, 134 km			
									South Sandwich Islands			
15	NUR	iP	11 53 41.9				16	NUR	iP	10 50 23.6 U	1.2	79.8
	KJN	iP	11 53 33.5 U	0.8	41.5			i		44.5		
	SOD	iP	11 53 34.7 U					i		52 35.0		
	H:	11 40 27.5						ePPP		54 40		
		0.2 S, 120.0 E, 11 km						eS		59 30		
		Northern Celebes						eScS		11 00 16		
15	NUR	iPKP	18 00 30.6	1.2	77.0			eSS		03 11		
	i		41.5					KJN	iP	10 50 01.9 U	1.2	132.4
	ePP		02 45					iPP		52 25.0		
	eSS		19 16					SOD	iP	10 49 50.7		
KJN	iPKP	18 00	23.7	1.1	33.8			i		50 12.0		
	i		34.0					KEV	eP	10 49 45	1.1	36.6
	SOD	ePKP	18 00 18					ePP		52 02		
	H:	17 41 28.1						ePPP		53 36		
		12.7 S, 166.2 E, 4 km						eS		58 12		
		Santa Cruz Islands						eScS		59 32		
								eSS		11 02 04		
15	NUR	eS	21 50 14					H:	10 39 16.8			
	KJN	iP	21 39 02.5	0.7	11.6				38.5 N, 143.3 E, 22 km			
			cont.						Honshu, Japan			

August				August			
		T	A			T	A
16	KJN iP	11 11	43.5	17	NUR eP	01 04	14
16	KJN eP	11 21	47		KJN iP	01 03	42.0
	SOD eP	11 21	46		OUL eP	01 03	50
	H: 11 08	38.5			SOD eP	01 03	29
	1.2 N, 126.0 E, 33 km (R)			17	NUR eP	04 13	54
	Molucca Passage				i		57.3
16	NUR iPKP	11 52	18.4		i	15	57.2
	i		28.0		i	17	25.0
	epPKP	54 41			iPP		47.5
	iSKP	55 04.7			eSKS	24 28	
	ePKS	56 02			eS	25 00	
KJN	ePKP	11 52	08	0.9	59.8	iPKKP	30 54.8
	i		21.0		eSS	32 08	
	iSKP	54 52.8			KJN iP	04 13	44.3
	iPKS	55 51.0			eSKS	24 15	
SOD	ePKP	11 52	15		eS		42
	iSKP	54 44.3			iPKKP	31 00.6	
KEV	ePKP	11 52	17	0.9	24.1	OUL eP	04 13
	eSKP	54 42			i		48.2
	ePKS	55 41			iPKKP	30 57.0	
	H: 11 34	16.4			SOD iP	04 13	43.7
	21.1 S, 179.3 W, 640 km				ePKKP	30 59	
	Fiji Islands				H: 04 00	36.3	
					1.4 N, 126.3 E, 33 km (R)		
					Molucca Passage		
16	NUR eP	18 38	51	17	NUR iP	04 49	37.4
	ePP	42 25			i		53.4
	eSKS	49 22			KJN iP	04 49	18.5
KJN	iP	18 38	46.8	0.7	4.8	i	25.6
	i	39 27.9			ipP		36.8
	e	42 12			ePP	51 57	
OUL	iP	18 38	39.0		OUL iP	04 49	17.1
	ePP	42 07			SOD iP	04 49	09.2
SOD	iP	18 38	35.0		i		27.1
	e	41 40			H: 04 38	06.4	
	ePP		57		31.6 N, 140.8 E, 82 km		
KEV	eP	18 38	34	0.8	13.2	South of Honshu, Japan	
	ePP	41 48					
	H: 18 25	55.1					
	16.7 N, 97.7 W, 46 km				17	KJN eP	12 20
	Oaxaca, Mexico					SOD eP	12 20
						H: 12 06	56.0
						1.6 N, 126.2 E, 38 km	
						Molucca Passage	
16	NUR iP	21 37	39.6	1.2	25.7	17	KJN eP
	KJN iP	21 37	33.0	0.9	12.5		OUL eP
	OUL iP	21 37	25.2				SOD eP
	SOD iP	21 37	20.4				H: 13 28
	KEV eP	21 37	19	1.0	28.7		53.0
	H: 21 24	38.1					1.9 N, 126.1 E, 33 km (R)
	18.4 N, 102.9 W, 25 km						Molucca Passage
	Michoacan, Mexico						

August						August			
			T	A				T	A
17	KJN eP	13 51 51			18	NUR iP	07 23 23.8	0.8	14.4
	SOD eP	13 51 50				i	36.4		
	H:	13 38 43.3				i	24 18.6		
		1.8 N, 126.4 E, 33 km (R)				eS	32 24		
		Molucca Passage				eSS	37 06		
17	NUR iP	14 52 13.6	0.9	15.1	KJN iP	07 23 04.0	1.2	56.8	
	KJN iP	14 52 10.8 U	0.8	16.9	SOD eP	07 22 54			
	ipP	27.9			H:	07 12 19.3			
	OUL iP	14 52 14.8 U				35.3 N, 135.3 E, 33 km (R)			
	ipP	33.5				Southern Honshu, Japan			
	SOD iP	14 52 17.0 U			18	NUR iP	12 05 39.3	0.7	20.6
	KEV eP	14 52 24				i	44.1		
	H:	14 39 28.8				ePPP	09 44		
		4.8 S, 103.3 E, 89 km				eS	14 20		
		Southern Sumatra				eSS	18 24		
17	KJN eP	18 17 37			KJN iP	12 05 14.2	0.8	7.7	
	OUL eP	18 17 42			SOD eP	12 04 58			
	H:	18 04 31.1			H:	11 54 59.4			
		2.1 N, 126.7 E, 31 km				48.2 N, 157.3 E, 27 km			
		Molucca Passage				Kurile Islands			
17	KJN iP	19 00 37.0	0.7	5.5	18	NUR iP	14 28 33.8	0.9	20.2
	SOD eP	19 00 37				KJN iP	14 28 27.2 U	1.1	29.7
	H:	18 47 29				SOD iP	14 28 35.9 U		
		2.1 N, 126.7 E, 33 km (R)				KEV eP	14 28 39	0.9	23.5
		Molucca Passage				e	48		
						H:	14 18 59.5		
							26.4 N, 90.6 E, 31 km		
							Eastern India		
17	KJN eP	22 00 08			18	KJN iP	17 48 46.1		
	SOD eP	22 00 07				SOD iP	17 48 45.3		
	H:	21 46 59.3				H:	17 35 37.4		
		1.5 N, 126.6 E, 33 km (R)					1.5 N, 126.1 E, 33 km (R)		
		Molucca Passage					Molucca Passage		
18	KJN eP	02 23 43			18	NUR iP	18 27 32.4	1.2	59.9
	SOD eP	02 23 44				i	33.6		
	H:	02 10 27.2				ePP	29 30		
		0.0 S, 125.7 E, 33 km (R)				KJN iP	18 27 26.0	1.0	20.7
		Molucca Sea				SOD ePKP	18 27 23		
18	NUR eP	05 57 19				H:	18 08 35.3		
	eSKS	06 07 52					12.7 S, 166.2 E, 34 km		
	KJN eP	05 57 03					Santa Cruz Islands		
	i	12.9			18	NUR ePKP	18 48 19		
	e	06 00 05				KJN ePKP	18 48 14		
	SOD eP	05 57 03				H:	18 29 21.8		
	i	11.1					12.6 S, 166.3 E, 38 km		
	H:	05 43 58					Santa Cruz Islands		
		1.4 N, 126.4 E, 33 km (R)							
		Molucca Passage							

August

August

					T	A						T	A
	KJN	iP	17 14	51.3 U	0.9	80.4							
	SOD	iP	17 14	50.0 U									
	KEV	iP	17 14	46.7 U	0.7	20.6							
	H: 17 02 29												
	11.8 N, 125.6 E, 33 km (R)												
	Samar, P.I.												
20	NUR	iPKP	03 34	42.2									
		i		44.9									
		i	35	25.2									
		ipPKP	36	14.0									
		e		49									
	KJN	iPKP	03 34	32.4 D	0.7	19.2							
		e	35	12									
		ipPKP	36	09.7									
	SOD	ePKP	03 34	27									
	KEV	iPKP	03 34	29.0	0.8	15.8							
	H: 03 15 46.1												
	31.1 S, 179.9 E, 361 km												
	Kermadec Islands												
20	NUR	eP	03 45	03									
20	NUR	iP	04 12	21.3	0.6	5.0							
		e		49									
		e	13	10									
	KJN	iP	04 12	08.2	0.6	11.0							
		e		43									
	SOD	iP	04 12	15.3									
	KEV	eP	04 12	19									
	H: 04 05 58.1												
	50.0 N, 78.0 E, 0 km												
	Eastern Kazakh SSR												
20	NUR	iSKP	08 24	51.2									
	KJN	ePKP	08 21	54									
		iSKP	24	41.1									
	SOD	eSKP	08 24	33									
	H: 08 03 22.7												
	25.2 S, 179.9 W, 448 km												
	South of Fiji Islands												
20	KJN	iP	09 02	32.0	0.7	6.9							
	SOD	eP	09 02	31									
20	KJN	iP	09 40	15.1	1.4	62.1							
	SOD	eP	09 40	21									
	Moscow:												
	H: 09 30 58												
	30.3 N, 95.0 E												
	China												
20	NUR	iP	11 30	43.0	1.5	32.7							
		ePP	34	48									
		ePPP	36	44									
		eSKS	41	20									
		ePS	43	20									
		e	46	44									
		eSS	47	28									
	KJN	iP	11 30	29.7 U	1.0	44.7							
		i		39.2									
	SOD	eP	11 30	24									
	H: 11 16 59.3												
	5.6 N, 146.9 E, 33 km (R)												
	Caroline Islands												
20	NUR	iPKP	15 45	07.9	0.8	66.2							
		i		09.8									
		i		32.7									
		i	46	12.4									
	KJN	iPKP	15 44	58.2	1.0	13.1							
		i	45	08.1									
	SOD	ePKP	15 44	49									
	H: 15 25 31.5												
	31.2 S, 178.4 W, 33 km (R)												
	Kermadec Islands												
20	NUR	iP	19 51	45.0									
21	KJN	eP	08 31	19									
	SOD	eP	08 31	18									
21	KJN	iP	13 33	34.0	0.7	8.2							
	SOD	eP	13 33	33									
21	NUR	eP	18 00	07									
		i		57.9									
	KJN	eP	18 00	52									
21	NUR	iPKP	18 16	25.0	1.1	59.5							
		i		27.0									
		i		31.2									
		e	18	00									
		ePP	20	06									
		eSKSP	30	06									
		e	32	12									
		e	35	36									
		e	38	08									
		eSS	40	06									
		eSSS	44	00									
	KJN	ePKP	18 16	14	1.5	46.6							
		ePP	19	34									
	OUL	ePKP	18 16	15									
		i		29.4									
	SOD	ePKP	18 16	14									

cont.

August				T	A	August				T	A
KEV	ePKP	18 16 10				22	NUR	iP	11 31 47.6	0.8	7.2
	ePKS	19 13						i	32 00.4		
	eSS	37 10				22	NUR	iP	13 42 55.8 U	1.1	66.6
	eSSS	42 00						i	43 40.6		
H: 17 56 48.0							KJN	iP	13 42 29.0 U	1.1	33.8
30.9 S, 179.1 W, 33 km (R)								i	43 15.2		
Kermadec Islands							OUL	iP	13 42 25.6		
21	NUR	eP	18 47 04				SOD	iP	13 42 09.4 U		
								i	21.0		
21	KJN	eP	21 47 55					ePcP	43 04		
	OUL	eP	21 47 56				KEV	iP	13 41 53.9	0.6	7.5
								i	42 04.0		
21	NUR	eP	22 41 41			H: 13 32 24.3					
		i	47.5			52.8 N, 171.0 E, 34 km					
						Near Islands					
22	NUR	iP	00 44 42.8			22	NUR	iP	14 10 36.8 U	1.0	190.0
		i	45 28.0					i	11 09.8		
	KJN	iP	00 44 42.9	0.7	6.2			i	15.0		
	OUL	iP	00 44 53.1					ePP	13 00		
	SOD	iP	00 44 59.0					ePPP	14 48		
	KEV	eP	00 45 08					eS	19 12		
22	NUR	iP	01 00 29.7	0.7	3.9			eScS	20 20		
		i	36.0					eSS	23 08		
22	NUR	iP	01 22 14.2					eLR	14 30.2		
		i	29.3				KJN	iP	14 10 10.5 U		
22	NUR	iPKP	02 27 50.0	0.8	28.8			eS	18 24		
		i	51.2				OUL	iP	14 10 07.2		
		i	28 00.9					i	10.5		
	KJN	iPKP	02 27 39.9	0.8	10.0		SOD	iP	14 09 50.9 U		
	OUL	ePKP	02 27 41				KEV	iP	14 09 35.3	0.7	16.8
H: 02 08 10.3								i	45.2		
31.5 S, 178.0 W, 33 km (R)								eS	17 16		
Kermadec Islands								ePS	36		
22	NUR	iP	06 59 38.6	0.9	23.5			eScS	19 24		
		i	51.3					eSS	21 00		
		i	07 01 47.0			H: 14 00 06.8					
	KJN	eP	06 59 34			53.0 N, 171.0 E, 33 km					
	OUL	eP	06 59 44			Near Islands					
22	NUR	iPKP	07 52 47.0	0.9	25.2	22	KJN	iP	15 20 03.2	0.7	6.9
H: 07 33 12.1							OUL	iP	15 20 03.3		
29.8 S, 176.9 W, 39 km							SOD	eP	15 19 51		
Kermadec Islands						H: 15 09 27.9					
						39.3 N, 142.9 E, 55 km					
						Honshu, Japan					
22	NUR	iPKP	16 38 33.1	0.9	18.5						
		epPKP	39 12								
		eSKP	41 46								
		ePKS	59								
		epPKS	42 36								

cont.

August

August

		T	A			T	A		
23	NUR	iPKP	13 06 20.2	1.2	23.4	ipPKP	56 14.1		
		i	25.8			ePKKP	23 05 28		
			H: 12 46 44.8			i	42.0		
			30.4 S, 178.8 W, 33 km (R)			SOD	ePKP 22 54 22		
			Kermadec Islands			ePKKP	23 05 25		
23	NUR	iP	13 16 56.0			i	37.2		
		e	17 14			KEV	ePP 22 55 06		
	KJN	eP	13 16 37			epPP	56 48		
	OUL	eP	13 16 39			ePPP	57 44		
	SOD	eP	13 16 29			eSKS	23 00 12		
	KEV	eP	13 16 21			eSKKS	01 14		
			H: 13 05 51.6			eSP	03 44		
			33.3 N, 132.4 E, 44 km			ePKKP	05 20		
			Shikoku, Japan			i	35.1		
						eSS	09 56		
						H: 22 36 51.3			
						22.0 S, 63.5 W, 537 km			
						Salta, Argentina			
23	NUR	eP	15 46 33			23	NUR	iP	23 23 24.2
	KJN	iP	15 46 33.0			24	NUR	eP	00 57 44
	OUL	eP	15 46 43				e	51	
	SOD	iP	15 46 48.6			24	KJN	eP	08 17 52
	KEV	eP	15 46 56				H: 08 04 51.5		
23	NUR	iP	18 20 28.5	0.8	17.6		1.7 N, 126.9 E, 90 km		
	KJN	iP	18 20 16.0	0.8	6.2		Molucca Passage		
23	NUR	eP	20 16 18			24	NUR	eP	14 14 05
23	NUR	iP	21 07 25.8			24	NUR	eP	14 35 31
	KJN	iP	21 07 09.1 U	0.8	4.6		KJN	eP	14 35 22
	OUL	iP	21 07 13.3				OUL	eP	14 35 29
			H: 20 56 07.7				H: 14 26 07.4		
			25.2 N, 126.3 E, 172 km				30.0 N, 95.1 E, 56 km		
			Ryukyu Islands				Tibet		
23	NUR	eP	22 50 10			24	NUR	iPKP	15 26 39.6
		epP	52 12				i	49.7	
		iPKP	54 20.0 U	0.9	22.4		i	28 48.7	
		i	38.0			KJN	iPKP	15 26 29.2	
		eSKS	23 00 00				i	38.8	
		eSKKS	56			OUL	iPKP	15 26 29.6	
		e	03 06				i	39.5	
		iPKKP	05 47.2			SOD	ePKP	15 26 23	
		esPS	06 52				H: 15 06 58.9		
KJN	iPKP	22 54 22.0					32.9 S, 178.9 W, 37 km		
	iPP	55 05.0					South of Kermadec Islands		
	ipPKP	56 14.1				24	NUR	eP	15 29 06
	iSKS	23 00 11.2					i	16.6	
	iSKKS	01 11.0						cont.	
	ePKKP	05 22						cont.	
	i	26.0							
	i	37.1							
OUL	iPKP	22 54 22.2							
	i	35.8							
		cont.							

August				T	A	August				T	A
	KJN	iP	15 28 57.0			25	NUR	iP	03 24 22.0 U	0.8	26.5
		i	29 06.0					i	30.6		
	OUL	iP	15 28 58.4				KJN	iP	03 24 11.0	0.9	12.5
		i	29 07.1					i	19.1		
24	NUR	iP	15 34 41.2	0.8	13.3		OUL	eP	03 24 12		
		i	49.7					e	21		
	KJN	iP	15 34 38.4	0.9	8.9	25	NUR	iP	03 57 57.3		
								i	58 06.0		
24	NUR	iPKP	16 27 43.1	0.7	22.4	25	NUR	eP	04 43 21		
		i	51.4					e	29		
	KJN	iPKP	16 27 32.1	0.8	9.2		KJN	eP	04 43 09		
		i	41.1								
	OUL	iPKP	16 27 33.7			25	NUR	iP	09 18 28.9 U	1.1	131.8
		i	41.7					i	19 12.1		
	H: 16 08 01.2							iPP	20 56.0		
	32.9 S, 179.0 W, 33 km (R)							ePPP	22 38		
	South of Kermadec Islands							eS	27 24		
24	NUR	eP	17 31 30				KJN	iP	09 18 07.1 U	1.1	330.8
		i	37.8					i	15.0		
								iPP	20 27.0		
24	NUR	iPKP	18 49 30.5				OUL	iP	09 18 07.1 U		
	KJN	ePKP	18 49 25					iPP	20 26.9		
	OUL	ePKP	18 49 24				SOD	iP	09 17 55.0 U		
	H: 18 29 58.9							i	18 18.0		
	22.2 S, 138.8 W, 0 km (R)							ePP	20 11		
	Tuamotu Archipelago						KEV	iP	09 17 45.0 U	1.0	80.0
24	NUR	eP	22 58 07					i	52.0		
								eS	26 00		
							H: 09 07 31.9				
25	NUR	eP	00 12 14				40.1 N, 143.2 E, 33 km (R)				
	KJN	iP	00 12 04.3	0.8	10.0		Honshu, Japan				
	OUL	eP	00 12 08			25	NUR	iP	09 24 45.9 U	1.3	104.7
	SOD	eP	00 12 03					iPP	27 12.4		
	H: 23 58 58.5						KJN	iP	09 24 23.9 U	1.1	198.5
	1.1 N, 126.4 E, 60 km							i	29.2		
	Molucca Passage							i	25 36.1		
25	NUR	eP	00 24 52					ePP	26 44		
	KJN	eP	00 24 41				OUL	iP	09 24 23.7 U		
	OUL	eP	00 24 47					i	35.5		
	SOD	eP	00 24 43					iPP	26 43.9		
	H: 00 11 33.2						SOD	iP	09 24 12.1 U		
	1.2 N, 126.1 E, 62 km							i	19.0		
	Molucca Passage						KEV	iP	09 24 02.0	1.0	48.0
25	NUR	iP	02 05 13.0				H: 09 13 48.5				
	KJN	iP	02 04 48.2				40.1 N, 143.3 E, 31 km				
	OUL	eP	02 04 44				Honshu, Japan				
	H: 01 54 24.0					25	KJN	iP	10 15 58.2		
	52.0 N, 172.9 W, 40 km						OUL	iP	10 15 58.1		
	Andreanof Islands								cont.		

August				August			
	T	A		T	A		
	SOD	eP	10 15 49		SOD	eP	18 23 24
	H:		10 05 24.1		H:		18 11 31.6
			40.2 N, 143.4 E, 37 km				16.2 N, 122.5 E, 33 km (R)
			Honshu, Japan				Luzon, P.I.
25	NUR	iP	10 24 44.1	26	NUR	eP	02 00 23
	KJN	iP	10 24 33.0		KJN	eP	06 06 53
	OUL	eP	10 24 36		OUL	eP	06 07 03
	H:		10 12 10.1		H:		05 59 09.7
			9.9 N, 125.9 E, 112 km				26.7 N, 55.0 E, 33 km (R)
			Mindanao, P.I.				Southern Iran
25	NUR	ePKP	11 34 52	26	NUR	iP	06 10 26.9
	i		35 00.8		KJN	eP	06 10 16
	ipPKP		27.2				0.7 9.2
	iSKP		38 25.0	26	KJN	iP	07 12 08.1
	KJN	iPKP	11 34 54.1		OUL	eP	07 12 06
	ipPKP		35 19.8		SOD	eP	07 11 56
	OUL	ePKP	11 34 53		H:		07 01 31.3
	epPKP		35 21				40.3 N, 143.6 E, 24 km
	H:		11 15 46.3				Honshu, Japan
			20.0 S, 175.3 W, 96 km	26	NUR	iPKP	09 45 11.1
			Tonga Islands			ePKS	48 35
25	NUR	iP	13 36 27.2			eSS	10 05 12
	i		38 08.0		H:		09 25 58.7
	e		39 22				16.3 S, 178.0 E, 25 km
	eS		47 44				Fiji Islands
	ePS		48 52	26	KJN	eP	15 49 21
	KJN	iP	13 36 18.6		i		25.0
	i		25.7		SOD	eP	15 49 20
	OUL	eP	13 36 22		i		30.3
	i		29.5	26	NUR	iP	18 30 38.7
	SOD	eP	13 36 16		KJN	iP	18 30 39.2
	H:		13 23 09.0		e		31 27
			1.1 N, 126.2 E, 33 km (R)		OUL	iP	18 30 48.3
			Molucca Passage		e		31 37
25	KJN	eP	15 51 53		SOD	iP	18 30 55.4
	OUL	eP	15 51 54		KEV	iP	18 31 04.0
	H:		15 38 49.8		H:		18 23 41.3
			1.2 N, 126.2 E, 108 km				36.4 N, 70.7 E, 203 km
			Molucca Passage				Hindu Kush
25	NUR	eP	18 04 33	26	KJN	iP	19 25 54.2
	H:		17 55 05.3				0.8 6.2
			30.4 N, 94.8 E, 19 km	27	NUR	iP	13 59 01.2 U
			Tibet		i		06.9
25	KJN	iP	18 23 26.1 U		eSKS		14 09 24
	OUL	eP	18 23 30		ePS		11 12
			cont.				cont.

August

August

				T	A					T	A
	KJN	iP	13 58 48.2	1.0	17.4	28	NUR	ePKP	12 09 43		
		i	53.1					i	51.6		
		i	59 38.1					ePP	12 40		
	OUL	eP	13 58 48					ePKS	13 17		
		i	54.2					e	25 24		
	SOD	eP	13 58 42					eSS	30 08		
		e	59 02				KJN	iPKP	12 09 42.1	1.2	24.1
	KEV	eP	13 58 39					ePKS	13 06		
		i	55.4					e	16		
	H: 13 45 47.8							OUL	iPKP	12 09 42.3	
	12.3 N, 144.3 E, 16 km							SOD	ePKP	12 09 40	
	South of Mariana Islands							H: 11 50 30.4			
27	OUL	eP	16 41 37					20.0 S, 176.3 E, 36 km			
								South of Fiji Islands			
27	KJN	eP	20 04 14			28	NUR	ePKP	15 24 23		
	H: 19 51 13.0						KJN	ePKP	15 24 13		
	1.0 N, 121.3 E, 35 km						OUL	ePKP	15 24 15		
	Northern Celebes							e	59		
							H: 15 05 31.5				
28	KJN	iP	00 08 45.6	0.9	9.8			14.7 S, 167.3 E, 123 km			
	OUL	eP	00 08 50					New Hebrides Islands			
	SOD	eP	00 08 47			28	NUR	iP	17 50 19.8	0.8	11.8
	H: 23 55 48.3							i	23.6		
	1.0 N, 120.1 E, 33 km (R)						KJN	eP	17 50 12		
	Northern Celebes					28	KJN	iP	20 25 59.0		
28	NUR	iP	02 27 29.0	0.8	7.4		SOD	eP	20 25 58		
	KJN	iP	02 27 17.1 U	0.8	14.6						
	OUL	eP	02 27 20			28	NUR	iP	20 54 27.0 U	1.2	108.4
	SOD	iP	02 27 16.3					e	55 08		
	H: 02 15 20.0							ePPP	59 40		
	15.5 N, 122.3 E, 33 km (R)							eS	21 04 32		
	Philippine Islands							ePS	05 28		
28	NUR	eP	03 05 19					eSS	10 06		
	KJN	iP	03 04 56.9					eSSS	13 14		
	OUL	iP	03 04 56.3				KJN	iP	20 54 15.0 U	1.0	125.4
	SOD	eP	03 04 45					eS	21 04 09		
	H: 02 55 30.9							e	21		
	45.4 N, 136.7 E, 248 km						OUL	iP	20 54 18.5		
	Eastern Russia							i	22.3		
28	NUR	eP	03 28 59				SOD	iP	20 54 14.3 U		
		e	29 06				KEV	iP	20 54 11.2 U	1.2	69.8
	KJN	eP	03 28 32					e	55 00		
28	NUR	eP	05 58 27					ePP	57 12		
	KJN	eP	05 58 40					ePPP	59 08		
								eS	21 04 02		
28	NUR	iP	07 59 57.0	0.6	6.3			ePS	40		
		i	08 00 06.3					eSS	09 12		
	KJN	iP	07 59 46.3				H: 20 42 16.7				
							15.6 N, 122.0 E, 15 km				
							Philippine Islands				

August				T	A	August				T	A
28	KJN	eP	21 03 07	0.7	8.2	29	NUR	eP	20 00 51	1.4	41.0
28	KJN	iP	21 06 53.3	0.7	6.9		KJN	iP	20 00 41.2		
		i	07 30.6				OUL	eP	20 00 49		
28	KJN	iP	21 10 27.5				SOD	iP	20 00 48.7		
	SOD	eP	21 10 29				H: 19 51 24.6 30.2 N, 95.1 E, 33 km (R) Tibet				
28	KJN	iP	21 15 47.9	0.7	5.5	29	NUR	iP	21 20 13.0 U	1.1	64.3
	SOD	eP	21 15 47				i		21.8		
28	KJN	eP	21 24 26				eS		30 12		
28	KJN	eP	21 27 27				ePS		31 12		
28	KJN	eP	23 44 52				e		36 08		
	SOD	iP	23 44 50.9				eSSS		39 24		
29	KJN	iP	00 21 31.8				KJN	iP	21 20 01.2 U	1.0	50.1
	i		39.9				i		09.8		
29	KJN	iP	01 24 58.1				i		15.0		
29	NUR	iP	01 48 30.4	1.3	34.9		OUL	iP	21 20 04.2 U		
	eS		58 32				i		13.2		
	KJN	iP	01 48 18.0 U	0.7	17.1		SOD	iP	21 20 00.7 U		
	OUL	eP	01 48 20				i		09.0		
	e		52				KEV	iP	21 19 57.0	0.9	21.3
	SOD	iP	01 48 17.3				H: 21 08 07.9 15.9 N, 121.7 E, 39 km Luzon, P.I.				
	H: 01 36 18.8					29	NUR	iP	22 56 56.9 U	0.8	44.6
	15.4 N, 121.9 E, 17 km						i		57 22.3		
	Luzon, P.I.						iPP		59 51.0		
29	NUR	eP	02 04 33				KJN	iP	22 56 43.0 U	1.0	92.7
	KJN	iP	02 04 21.2 U	0.9	15.2		i		51.0		
	SOD	eP	02 04 20				e		59 16		
29	NUR	eP	02 23 36				OUL	iP	22 56 34.9 U		
	KJN	iP	02 23 22.1	0.9	13.4		e		59 13		
	H: 02 11 24.0						SOD	iP	22 56 24.3 U		
	15.4 N, 122.1 E, 25 km (R)						KEV	iP	22 56 11.0 U	1.0	43.1
	Philippine Islands					29	NUR	iP	23 11 43.4	0.8	14.4
29	KJN	iP	04 53 42.0				i		53.1		
29	NUR	iP	08 17 40.7 D	1.1	30.9		KJN	iP	23 11 33.2	0.7	6.9
	KJN	iP	08 17 28.5 D	1.0	33.8		i		42.3		
	i		32.2				OUL	eP	23 11 33		
	OUL	eP	08 17 31			29	KJN	eP	23 27 39		
	SOD	iP	08 17 28.0 D			30	NUR	iP	00 06 47.3 D	0.7	24.5
	H: 08 05 30.5						i		56.1		
	15.5 N, 122.1 E, 22 km						KJN	iP	00 06 36.1 D	0.6	11.0
	Philippine Islands						i		45.2		
							OUL	iP	00 06 36.3		
							i		45.6		
						30	NUR	eP	00 29 01		
							KJN	eP	00 28 49		

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August							August							
					T	A					T	A		
30	NUR	iP	02 55	47.9	U	0.7	32.3	OUL	eP	12 29	41			
		i	56	01.1				SOD	iP	12 29	36.2			
		iPP	58	13.0				H:	12 17	39.9				
		eS	03 04	48				16.1	N, 121.9	E, 33	km	(R)		
	KJN	iP	02 55	26.0	U	0.7	67.1	Luzon,	P.I.					
		i		38.9										
		ePP	57	43										
	OUL	iP	02 55	25.4	U			30	NUR	ePKP	12 51	36		
		i		34.7						iSKP	54	22.7		
		ePP	57	46				KJN	eSKP	12 54	12			
	SOD	iP	02 55	14.4	U			H:	12 32	58.9				
	KEV	iP	02 55	03.8		0.9	36.1	23.5	S, 179.6	W, 441	km			
			H:	02 44	52.9			South	of Fiji	Islands				
			40.0	N, 142.7	E, 38	km								
			Honshu,	Japan										
30	NUR	eP	05 12	18				30	NUR	iP	14 36	47.0	0.7	10.3
	KJN	iP	05 12	33.0		0.4	12.5							
	OUL	iP	05 12	44.4				30	KJN	eP	14 41	23		
									SOD	eP	14 41	31		
30	OUL	eP	05 34	35				30	NUR	eP	14 54	25		
			H:	05 24	41.6			KJN	eP	14 54	19			
			51.3	N, 157.7	E, 21	km		i		24.5				
			Kamchatka					OUL	iP	14 54	25.5			
								SOD	iP	14 54	19.2			
30	NUR	iP	05 37	30.8		0.8	13.0							
		eS	41	56				30	NUR	iP	21 13	53.0	1.0	10.0
	KJN	iP	05 37	47.0		0.8	18.5	KJN	eP	21 13	30			
		i		48.9										
	OUL	iP	05 37	58.3				30	NUR	eP	21 18	05		
		i		38	11.2			i		41.0				
			H:	05 32	16.5			H:	21 11	20.4				
			41.0	N, 48.2	E, 33	km	(R)	34.9	N, 59.5	E, 33	km	(R)		
			Eastern	Caucasus				Iran						
30	NUR	i	06 31	51.0				30	NUR	iP	22 11	24.0	1.0	20.0
	KJN	iP	06 31	36.5		0.8	10.8			i	28.2			
	OUL	iP	06 31	39.2						ePP	13	12		
	SOD	iP	06 31	35.8						eS	18	40		
			H:	06 18	30.4			KJN	iP	22 11	37.7			
			1.4	N, 126.3	E, 50	km		i		45.4				
			Molucca	Passage				OUL	eP	22 11	46			
								i		53.7				
30	NUR	iP	12 29	45.0				SOD	eP	22 11	58			
		eS	39	48				e		12	06			
	KJN	iP	12 29	37.6		0.9	18.8	KEV	iP	22 12	19.2	0.8	19.7	
			cont.								cont.			

August						August			
				T	A				
	eS	20 12					ePP	43 20	
	H:	22 02 19.8					KEV iP	11 42 06.8 U	1.3 119.9
		14.6 N, 56.3 E, 33 km (R)					iPP	43 32.8	
		Arabian Sea					H:	11 34 32.9	
30	KJN eP	22 31 17					33.9 N, 59.2 E, 24 km		
							Iran		
30	NUR iP	23 11 45.3	0.7	11.6		31	NUR iP	13 29 47.3	0.8 13.0
	KJN iP	23 11 36.0	0.5	7.4			i	49.9	
	OUL iP	23 11 36.3					ePP	30 46	
31	KJN eP	07 29 58					KJN eP	13 29 56	
	SOD iP	07 30 06.3					ePP	31 08	
31	NUR iP	10 54 26.2					OUL iP	13 30 07.0	
	i	29.5					SOD eP	13 30 19	
	i	34.0					KEV eP	13 30 33	
	i	55 21.2					H:	13 22 59.5	
	i	56.1					34.1 N, 59.4 E, 33 km (R)		
	e	57 16					Iran		
	eS	59 48				31	NUR iP	14 13 07.0	0.7 21.9
KJN	iP	10 54 39.2 U					i	11.7	
	i	44.0					KJN eP	14 13 16	
OUL	iP	10 54 46.3					e	50	
	i	48.7					iPP	14 34.5	
	i	53.8					OUL iP	14 13 27.0	
SOD	iP	10 55 01.0					i	31.1	
KEV	iP	10 55 14.3					SOD iP	14 13 38.4	
	i	26.7					i	51.9	
	iPP	56 44.0					KEV eP	14 13 51	
	e	57 00					i	54.0	
	eS	11 01 20					H:	14 06 16.1	
	H:	10 47 37.4					34.1 N, 59.4 E, 18 km (R)		
		34.0 N, 59.0 E, 13 km					Iran		
		Iran				31	NUR eP	14 35 30	
31	NUR iP	11 41 22.0	1.0	98.0			KJN iP	14 35 08.0 U	0.9 11.6
	i	41.6					i	16.8	
	iPP	42 24.8					OUL iP	14 35 07.4	
	i	30.0					i	16.4	
KJN	iP	11 41 31.1 U	1.1	58.1			SOD iP	14 34 56.2	
	i	34.2					H:	14 24 28.3	
	ePP	42 40					39.8 N, 143.6 E, 17 km		
OUL	iP	11 41 41.9					Honshu, Japan		
	i	44.7							
	ePP	43 06							
SOD	iP	11 41 54.3 U				31	NUR iP	16 13 51.9	0.8 13.0
	i	56.8					i	14 05.0	
		cont.					KJN eP	16 13 49	

August						August				
				T	A					
						T	A			
31	NUR	iP	16 56 29.0 U	0.8	14.4	SOD	eP	18 14 07		
	KJN	iP	16 56 07.6 U	1.0	40.3		e	15 25		
		i	16.4			KEV	eP	18 14 01		
	OUL	iP	16 56 06.7			H: 18 06 35.7				
		i	15.7			56.3 N, 115.6 E, 25 km (R)				
	SOD	iP	16 55 55.8			East of Lake Baikal				
		i	56 07.4							
	KEV	eP	16 55 44							
	H: 16 45 29.7									
	39.8 N, 143.5 E, 26 km									
	Honshu, Japan									
31	OUL	eP	17 56 19			31	NUR	ePKP	20 13 03	
	SOD	eP	17 56 03				KJN	ePKP	20 13 02	
	H: 17 47 06.9							iSKP	15 53.5	
	61.7 N, 150.9 W, 66 km						OUL	ePKP	20 13 04	
	Southern Alaska							eSKP	15 55	
							H: 19 54 35.0			
							18.3 S, 177.7 W, 379 km (R)			
							Fiji Islands			
31	NUR	eP	18 14 49							
		e	15 40							
	KJN	iP	18 14 17.7							
		i	33.8							
	OUL	eP	18 14 20							
		e	35							
			cont.							

June 24, 1969

 Urmas Luosto
Aili Huovila

September

T A

1 NUR eP 00 17 47
 KJN iP 00 17 25.9
 H: 00 06 52.7
 40.6 N, 143.2 E, depth N
 Honshu, Japan

1 NUR iPKP 00 43 44.3 0.9 115.9
 i 45.3
 i 47.1
 i 44 03.1
 i 41.0
 KJN iPKP 00 43 33.0
 i 37.7
 OUL iPKP 00 43 32.3
 i 34.3
 iSKP 47 13.3
 SOD ePKP 00 43 26
 KEV ePKP 00 43 20
 H: 00 24 06.7
 30.7 S, 178.3 W, 25 km
 Kermadec Islands

1 KJN eP 00 53 02
 OUL eP 00 53 08
 H: 00 39 54.8
 1.6 N, 126.3 E, depth N
 Molucca Passage

1 NUR eP 01 24 38
 KJN eP 01 25 16 0.8 8.5
 OUL eP 01 25 28
 SOD eP 01 25 49
 e 52
 H: 01 20 23.9
 43.0 N, 17.4 E, 15 km
 Yugoslavia

1 KJN eP 04 39 25
 H: 04 27 38.5
 0.9 S, 24.4 W, depth N
 Central Mid-Atlantic Ridge

1 NUR iP 05 00 17.7
 eS 09 36
 ePS 10 12
 KJN iP 05 00 37.0 1.0 19.6
 SOD eP 05 00 46
 H: 04 48 52.2
 1.0 S, 24.5 W, depth N
 Central Mid-Atlantic Ridge

September

(ONE)

T A

1 NUR iP 05 45 10.0 1.5 194.9
 i 21.0
 eS 49 44
 KJN iP 05 45 28.3 1.3 130.2
 e 49
 i 46 21.4
 OUL iP 05 45 40.7
 e 46 04
 SOD iP 05 45 57.2
 e 47 01
 KEV iP 05 46 13.7 1.5 123.1
 i 50.6
 H: 05 39 46.7
 39.1 N, 46.0 E, 38 km
 N.W. Iran-USSR border

1 KJN iP 06 08 45.2 1.3 32.6
 SOD eP 06 08 52
 H: 05 59 26.6
 30.3 N, 94.8 E, 20 km
 Tibet

1 NUR iP 07 34 16.3 U
 i 19.7
 i 41.2
 i 35 18.8
 ePP 28
 eS 39 44
 e 41 00
 KJN iP 07 34 26.0 U
 i 35 32.0
 iPP 42.4
 OUL iP 07 34 37.6 U
 i 36 56.9
 SOD iP 07 34 51.7
 iPP 36 12.2
 KEV iP 07 35 03.2 U
 i 06.0
 i 36 10.8
 ePP 24
 eS 41 04
 H: 07 27 30.2
 34.0 N, 58.2 E, 15 km
 Iran

1 NUR eP 08 29 59
 KJN eP 08 30 09
 e 31 20
 OUL iP 08 30 20.4
 SOD eP 08 30 33
 H: 08 23 10.4
 33.7 N, 58.2 E, 16 km
 Iran

September

September

September				T	A	September				T	A	
1	KJN	eP	08 31 40			SOD	eP	21 23 57				
		i	44.9			H:		21 16 44.7				
			H: 08 19 57.2					34.4 N, 58.0 E, 44 km				
			0.9 S, 24.5 W, depth N					Iran				
			Central Mid-Atlantic Ridge									
1	NUR	eP	09 34 26			2	KJN	eP	01 16 56			
	KJN	iP	09 34 02.9				SOD	eP	01 16 45			
	OUL	iP	09 34 00.8				H:	01 06 20.2				
	SOD	eP	09 33 48					39.2 N, 142.7 E, 63 km				
			H: 09 23 45.3					Honshu, Japan				
			45.0 N, 148.9 E, depth N			2	NUR	eP	01 27 03			
			Kurile Islands			2	OUL	iP	09 11 05.3			
1	OUL	iP	09 39 11.3			2	NUR	iPKP	15 40 10.0			
1	NUR	iP	11 10 52.2	0.7	14.2		i	19.0				
	KJN	iP	11 11 00.8				i	41 08.6				
	OUL	iP	11 11 11.3				KJN	ePKP	15 40 01			
	SOD	eP	11 11 23				OUL	ePKP	15 39 59			
	KEV	iP	11 11 36.8				H:	15 20 43.9				
			H: 11 04 02.1					31.1 S, 178.6 W, 117 km				
			34.0 N, 59.6 E, depth N					Kermadec Islands				
			Iran			2	NUR	iP	16 17 03.0			
1	OUL	eP	12 41 24				KJN	iP	16 16 52.0	0.9	17.9	
1	KJN	iP	18 18 46.2	0.5	7.4		OUL	eP	16 16 54			
	SOD	eP	18 18 46				SOD	eP	16 16 48			
			H: 16 04 20.2					9.7 N, 126.3 E, 50 km				
			18.0 N, 68.0 W, 128 km					Mindanao, P.I.				
			Mona Passage			2	NUR	ePKP	17 25 22			
1	KJN	iP	19 18 36.0				eSKP	28 12				
	OUL	eP	19 18 30				KJN	ePKP	17 25 15			
			H: 19 06 55.8				eSKP	28 02				
			18.0 N, 68.0 W, 128 km				SOD	eSKP	17 27 54			
			Mona Passage				H:	17 06 58.5				
1	NUR	iP	19 23 21.4	0.8	18.7			25.3 S, 179.3 E, 605 km				
	ePP		24 42					South of Fiji Islands				
	KJN	iP	19 23 31.1 U	1.1	25.7							
	i		24 30.6			2	KJN	iP	18 00 56.2 U	0.7	11.6	
	iPP		52.9				SOD	iP	18 00 55.4			
	OUL	iP	19 23 42.1 U				H:	17 48 57.1				
	SOD	iP	19 23 54.7					15.4 N, 122.2 E, 20 km				
	ePP		25 27					Philippine Islands				
	KEV	iP	19 24 08.5									
	i		27.3									
			H: 19 16 37.3									
			34.2 N, 58.3 E, 23 km									
			Iran									
1	NUR	eP	21 23 24			2	KJN	e	21 36 23			
	KJN	eP	21 23 34	1.1	13.5		iSg	27.6				
	OUL	iP	21 23 45.4				OUL	e	21 35 46			
			cont.				iSg	50.9				
							SOD	iPg	21 34 58.0			
							iSg	35 11.1				
								cont.				

September

September

				T	A		
3	KEV eSg	21 35 58					
According to the Finnish seismograph station net:							
H: 21 34 39							
67.5 N, 24 E							
Northern Finland							
3	KJN iP	02 40 13.0		0.7	8.2		
3	NUR eP	05 22 25					
	KJN iP	05 22 04.3		0.8	8.5		
	i	14.9					
	SOD iP	05 21 54.2					
H: 05 11 13.1							
36.2 N, 141.6 E, 49 km							
Honshu, Japan							
3	NUR iP	05 34 13.9 U		0.8	89.3		
	i	31.1					
	i	56.6					
	KJN iP	05 33 51.0		1.1	105.3		
	i	34 15.0					
	OUL iP	05 33 49.4 U					
	SOD iP	05 33 37.0					
	KEV iP	05 33 26.0		0.8	31.7		
H: 05 23 30.0							
42.9 N, 145.2 E, 43 km (R)							
Hokkaido, Japan							
3	KJN ePKP	05 51 58					
	OUL ePKP	05 51 57					
	SOD ePKP	05 52 03					
H: 05 32 59.7							
57.9 S, 25.2 W, 63 km							
South Sandwich Islands							
3	NUR eP	07 12 34					
	i	43.0					
	i	46.2					
	eS	21 36					
	eSS	25 48					
	KJN iP	07 12 15.3 U		0.9	20.5		
	i	22.2					
	OUL iP	07 12 14.8					
	i	22.2					
	SOD iP	07 12 04.3					
	i	15.3					
	i	30.7					
	KEV i	07 12 04.8		0.8	18.7		
	eS	20 16					
	eSS	24 12					
H: 07 01 36.5							
37.9 N, 141.7 E, 79 km (R)							
Honshu, Japan							

				T	A		
3	NUR iP	08 24 16.3					
	i	18.4					
	e	26 00					
	eS	27 38					
	eLR	08 28.4					
	OUL iP	08 25 05.4					
	i	08.1					
	SOD iP	08 25 25.4					
	i	29.2					
	i	30 14.2					
	KEV iP	08 25 46.8					
	i	50.0		0.8	86.4		
	eS	30 35					
	eLR	18 33.2					
H: 08 19 52.2							
41.8 N, 32.3 E, 5 km							
Turkey							
3	NUR iP	08 42 57.3					
	SOD eP	08 43 17					
3	NUR eP	09 17 33					
	i	37.1					
	eS	20 55					
	KJN iP	09 18 11.2		1.0	12.0		
	i	15.1					
	eS	22 10					
	OUL eP	09 18 22					
	i	27.9					
	SOD iP	09 18 42.3					
	i	45.4					
	eS	23 18					
	KEV eP	09 19 05					
H: 09 13 11.8							
41.6 N, 32.3 E, depth N							
Turkey							
3	NUR eP	09 39 07					
	i	18.1					
	eS	42 37					
	KJN iP	09 39 44.7		1.0	9.8		
	SOD eP	09 40 10					
3	NUR eP	09 56 20					
	eS	59 49					
	KJN iP	09 57 00.2					
	OUL eP	09 57 10					
	SOD eP	09 57 29					
3	NUR iP	10 00 38.0		0.8	20.2		
	i	41.8					
	e	01 36					
	iPP	49.5					
cont.							

September

September

September				T	A	September				T	A		
KJN	iP	10 00	47.2			3	NUR	eP	12 34	43			
	i		50.6					i		47.1			
	i	01	09.8					eS	38	06			
	i		59.0				KJN	iP	12 35	24.9	1.2	25.8	
	iPP	02	08.7					eS	39	27			
OUL	iP	10 00	57.8				OUL	eP	12 35	34			
SOD	iP	10 01	10.1				SOD	eP	12 35	55			
	i		13.2										
	ePP	02	30			3	OUL	eP	13 02	55			
KEV	iP	10 01	22.1	1.1	23.8								
	ePP	02	49			3	NUR	iP	14 13	33.3			
H: 09 53 47.0								i		42.0			
33.8 N, 59.2 E, 16 km								e	16	46			
Iran								eS		57			
3	NUR	iP	11 00	42.2	0.9	30.2	KJN	iP	14 14	10.8			
	i	01	00.9					i		14.3			
	i		40.7					eS	18	08			
	eS	04	01					e		22			
KJN	iP	11 01	17.0	0.9	27.7		OUL	iP	14 14	22.7			
	i		23.0				SOD	iP	14 14	42.7			
	i	02	08.9					i		53.1			
	eS	05	13				KEV	eP	14 15	04			
OUL	eP	11 01	27					e		31			
	i		35.0				H: 14 09 10.0						
SOD	iP	11 01	48.6				41.7 N, 32.4 E, 14 km						
	i		51.0				Turkey						
	i	02	10.5				3	NUR	iP	15 03	27.1		
KEV	iP	11 02	11.9	0.8	10.1			eS		06 44			
	i		37.0					KJN	eP	15 04	03		
H: 10 56 15.0								OUL	eP	15 04	14		
41.8 N, 32.4 E, 10 km								SOD	eP	15 04	35		
Turkey													
3	KJN	eP	12 15	42									
3	NUR	iP	12 26	22			3	NUR	iP	15 48	14.8	0.8	20.2
	i		26.7					i		25.3			
	i		37.4					i		46.4			
	i	29	27.0					e	49	50			
	iS		43.2					ePPP	52	28			
KJN	iP	12 27	01.5					eS	57	26			
	i		04.2					eSS	16 01	56			
	eS	30	58				KJN	iP	15 48	20.3	U	0.8	16.1
OUL	eP	12 27	11					i		30.2			
SOD	iP	12 27	31.7					i		51.1			
	i		42.3				OUL	iP	15 48	13.1			
KEV	eP	12 27	54					i		22.1			
	e	28	12				SOD	iP	15 48	13.0			
Moscow:								i		14.8			
H: 12 21 56								i		23.6			
41.6 N, 32.0 E								ePP	50	50			
Turkey							KEV	iP	15 48	13.2	0.8	15.8	
							cont.						

September

September

September						September			
				T	A				
	eS	57 22				OUL	eP	19 09 47	
	eSS	16 02 00				SOD	iP	19 09 55.0	
	H:	15 37 00.2					i	10 23.1	
		20.6 N, 62.2 W, depth N				KEV	iP	19 10 03.0	
		North Atlantic Ocean				H:		18 58 08.3	
3	KJN	eP	16 10 05					1.0 N, 28.2 W, depth N	
	OUL	iP	16 10 11.0					Central Mid-Atlantic Ridge	
	SOD	eP	16 10 09			3	NUR	eP	19 12 27
3	NUR	eP	16 43 47				KJN	eP	19 12 55
	eS	47 09				3	NUR	iP	19 50 55.3
	e	19					KJN	iP	19 50 43.8 U
	KJN	eP	16 44 24					i	51 06.0
	eS	48 28					OUL	eP	19 50 47
	e	49 38					SOD	iP	19 50 43.0
	SOD	eP	16 44 58				KEV	eP	19 50 40
3	KJN	eP	16 57 12				H:		19 38 47.2
	H:	16 46 43.8						15.4 N, 122.0 E, 41 km	
		32.1 N, 137.9 E, 383 km						Philippine Islands	
		South of Honshu, Japan				3	NUR	iP	21 12 37.7
3	NUR	eP	17 55 18	1.2	17.1		i	42.0	
	KJN	iP	17 55 09.3	1.0	10.9		eS	16 01	
	OUL	eP	17 55 16				i	06.2	
	SOD	eP	17 55 16			KJN	iP	21 13 15.8	
	H:	17 45 54.1					i	19.6	
		30.2 N, 94.8 E, 53 km					eS	17 18	
		Tibet					OUL	iP	21 13 28.0
3	NUR	iP	18 55 20.1 D	0.9	92.4		SOD	iP	21 13 46.7
	i	31.3					i	56.3	
	iPP	56 41.1					KEV	eP	21 14 16
	eS	19 01 08					H:		21 08 20.3
	KJN	iP	18 55 21.0 D	1.0	150.4			41.8 N, 31.9 E, 55 km	
	i	56 07.3						Turkey	
	i	23.2				3	NUR	iP	22 33 11.2 D
	OUL	iP	18 55 31.1 D				i	37.0	0.8 28.8
	i	36.6					e	35 37	
	SOD	iP	18 55 39.2				iS	42 18.1	
	iPP	57 06.6					KJN	iP	22 32 53.6 D
	KEV	iP	18 55 48.0	1.0	40.0		epP	34 25	0.7 24.7
	iPP	57 12.0					OUL	iP	22 32 54.2 D
	eS	19 01 40					SOD	iP	22 32 45.8 D
	H:	18 48 15.7					KEV	iP	22 32 38.0
		36.2 N, 69.2 E, 75 km					H:		22 22 06.9
		Hindu Kush						29.3 N, 139.3 E, 410 km	
3	NUR	iP	19 09 06.1	1.1	28.6			South of Honshu, Japan	
	i	07.3				3	NUR	ePn	22 36 45
	KJN	iP	19 09 40.2				eSn	37 48	
	i	47.4					e	52	
		cont.					iSg	38 17.0	
								cont.	

September

September

September				T	Δ	September				T	Δ
KJN	ePn	22 37	23			SOD	iP	05 16	56.2		
	iSg		39 46.4			H:	05 06	27.3			
OUL	iSg	22 39	50.5						32.9 N, 138.6 E, 269 km		
SOD	eSg	22 40	48						South of Honshu, Japan		
KEV	eSg	22 41	40								
3	NUR	iPKP	23 49 24.3			4	NUR	iP	06 00 46.2		
		i	30.0				KJN	eP	06 00 56		
		ePKS	52 46				OUL	iP	06 01 07.8		
KJN	iPKP	23 49	17.2				SOD	eP	06 01 18		
	i		26.8				KEV	eP	06 01 34		
OUL	ePKP	23 49	17				H:	05 54	08.3		
	e		26							35.1 N, 58.5 E, depth N	
KEV	iPKP	23 49	09.2							Iran	
	i		18.9			4	NUR	iP	06 30 21.7		
H:	23 30	13.6					i		49.7		
							eS		33 47		
							KJN	eP	06 31 01		
							eS		35 01		
							OUL	eP	06 31 12		
							SOD	eP	06 31 31		
							KEV	eP	06 31 55		
							e		32 14		
4	NUR	eP	00 25 09								
	KJN	eP	00 25 48								
	SOD	eP	00 26 17								
4	KJN	iP	00 49 26.0	1.0	13.1						
	i		31.4								
	epP		51 07								
	i		14.7								
OUL	eP	00 49	31			4	NUR	ePKP	08 00 32		
	epP		51 19				KJN	ePKP	08 00 30		
SOD	iP	00 49	27.7				OUL	iPKP	08 00 25.2		
	epP		51 16				KEV	ePKP	08 00 17		
H:	00 37	11.8					H:	07 41	21.7		
										17.7 S, 167.6 E, 17 km	
										New Hebrides Islands	
						4	NUR	iP	08 15 33.7	0.8	41.8
							e		16 41		
							ePP		55		
							e		17 25		
4	NUR	eP	01 49 19				KJN	iP	08 15 43.4	0.7	8.9
	KJN	iP	01 49 09.0				i		16 40.0		
	SOD	eP	01 49 13				OUL	iP	08 15 53.2		
H:	01 40	04.0					i		55.8		
							SOD	eP	08 16 05		
							i		08.1		
							ePP		17 28		
							KEV	iP	08 16 17.5	0.8	27.4
							i		39.0		
							ePP		17 48		
							H:	08 08	44.3		
										33.9 N, 59.2 E, 24 km	
										Iran	
4	NUR	iP	05 17 23.2	1.0	14.0						
	KJN	iP	05 17 04.7	0.6	11.6						
	OUL	iP	05 17 05.4			4	KJN	eP	10 05 55		
			cont.				SOD	eP	10 05 56		

September

September

				T	A
4	NUR	eP	10 44 40	0.8	8.6
		i	45 00.7		
	KJN	iP	10 44 14.0	1.1	10.8
	OUL	iP	10 44 11.4		
	SOD	iP	10 43 55.7		
	KEV	eP	10 43 41		
	H: 10 34 28.4				
	53.2 N, 159.7 E, 30 km				
	Kamchatka				
4	NUR	iP	11 26 25.1	0.7	38.7
		i	27 27.8		
		i	27 27.0		
		i	28 31.7		
	KJN	iP	11 26 34.8		
		i	37.0		
		iPP	27 43.3		
	OUL	iP	11 26 45.0		
		i	47.5		
	SOD	iP	11 26 56.7		
		i	28 05.2		
	KEV	iP	11 27 09.4	1.0	32.0
		ePP	28 38		
	H: 11 19 35.6				
	33.9 N, 59.1 E, 25 km				
	Iran				
4	KJN	eP	15 32 53	0.9	5.4
4	NUR	eP	16 10 59		
	KJN	iP	16 10 49.0		

				T	A
		iSn	42.1		
		i	48.0		
	H: 17 09 16.7				
	66.8 N, 23.5 E, 63 km				
	Sweden				
	According to the Finnish				
	seismograph station net:				
	H: 17 09 15				
	67.0 N, 23.8 E				
	Finland-Sweden border				
4	KJN	eP	20 55 33		
	H: 20 41 57.0				
	7.3 S, 128.3 E, 124 km				
	Banda Sea				
4	NUR	iP	23 31 34.6	1.2	74.1
		i	52.7		
		ePP	32 42		
		eS	37 04		
	KJN	iP	23 31 44.5	1.2	99.8
		i	32 20.3		
		i	49.0		
		iPP	33 00.8		
	OUL	iP	23 31 55.2		
	SOD	iP	23 32 07.0		
		i	55.1		
		iPP	33 30.0		
	KEV	iP	23 32 21.1	1.5	126.1
		ePP	33 44		
		eS	38 12		
	H: 23 24 47.2				
	34.0 N, 58.2 E, 15 km				
	Iran				

4	NUR	ePn	17 10 50		
		e	11 21		
		eSn	12 01		
		i	31.0		
	KJN	iPn	17 10 06.0		
		i	09.6		
		i	12.4		
		i	33.3		
		iSn	44.2		
		i	51.0		
	OUL	iPn	17 09 48.7		
		iSn	10 14.2		
	SOD	iPg	17 09 35.9		
		iSg	52.2		
	KEV	ePn	17 10 06		
		i	08.0		
					cont.

5	NUR	iPKP	02 26 27.3		
		i	34.0		
	KJN	ePKP	02 26 20		
	H: 02 07 31.2				
	10.9 S, 165.0 E, depth N				
	Santa Cruz Islands				
5	NUR	ePKP	03 02 20		
		ePP	04 56		
		eSKP	05 48		
		ePPP	07 28		
		e	17 48		
		eSS	22 52		
	KJN	ePKP	03 02 17		
		i	26.0		
		ePKS	05 54		
					cont.

September						September					
				T	A						
	OUL	iPKP	22 19 37.1				KEV	iP	14 11 12.2	0.8	11.5
	SOD	ePKP	22 19 26				H: 14 00 00.1				
	H: 22 01 09.4						37.1 N, 116.0 W				
	10.7 S, 166.1 E, 176 km						Southern Nevada				
	Santa Cruz Islands										
6	NUR	eP	02 18 03			6	NUR	eP	16 47 20		
	KJN	eP	02 17 38				KJN	iP	16 47 03.8	1.0	12.0
	OUL	eP	02 17 34				SOD	eP	16 46 55		
	H: 02 07 09.5						H: 16 36 16.9				
	51.2 N, 178.4 E, 1 km						35.1 N, 135.3 E, 35 km				
	Rat Islands						Southern Honshu, Japan				
6	NUR	iP	02 34 26.3	0.9	10.1	6	NUR	iP	19 34 04.0	1.0	76.0
		i	39.3					i	15.0		
		iPP	35 34.3					i	24.2		
	KJN	iP	02 34 33.6	1.0	9.8			ePP	36 11		
		i	35 17.6					eS	43 18		
	OUL	iP	02 34 45.6				KJN	iP	19 33 45.2	0.8	36.9
	SOD	iP	02 34 57.7					i	57.9		
		ePP	36 20				OUL	eP	19 33 47		
	KEV	iP	02 35 10.9	1.0	22.0			i	34 01.3		
	H: 02 27 37.1						SOD	eP	19 33 39		
	34.0 N, 59.3 E, 27 km							i	53.3		
	Iran						KEV	iP	19 33 31.8	1.0	26.0
		i	46.0					i	57.6		
6	NUR	iPKP	03 41 05.0	0.8	11.5			e	38 20		
		i	14.0					eS	42 18		
	KJN	iPKP	03 40 58.3	1.0	10.9			eScS	43 20		
		i	41 08.1				H: 19 22 47.8				
	OUL	ePKP	03 40 58				31.0 N, 131.9 E, 39 km (R)				
	KEV	iPKP	03 40 51.1				Kyushu, Japan				
		i	41 01.0								
	H: 03 21 56.1					6	NUR	eP	20 01 52		
	17.8 S, 167.8 E, 24 km						KJN	eP	20 01 53		
	New Hebrides Islands										
6	NUR	iPKP	07 55 15.3	0.7	11.6	6	NUR	iP	20 29 16.0	0.8	18.7
		ePP	57 24					i	23.9		
		ePKS	58 36				KJN	iP	20 29 05.5	0.8	10.8
	KJN	iPKP	07 55 07.0					i	12.8		
		i	15.0				OUL	eP	20 29 06		
	OUL	iPKP	07 55 08.1					e	13		
	SOD	ePKP	07 54 57								
	KEV	ePKP	07 55 00			6	NUR	eP	23 31 44		
	H: 07 36 06.4						OUL	eP	23 31 12		
	17.8 S, 167.8 E, 28 km						H: 23 21 26.9				
	New Hebrides Islands						57.3 N, 153.1 W, 52 km				
							Kodiak Island				
6	NUR	iP	14 11 57.0 U	1.2	45.6	6	NUR	eP	23 32 53		
	KJN	iP	14 11 43.1 U	0.8	26.9			e	33 05		
	OUL	iP	14 11 35.6 U				KJN	eP	23 32 24		
	SOD	iP	14 11 24.6				cont.				

September				T	A	September				T	A
	KJN	iPKP	00 35 40.2	1.0	25.1		OUL	iPKP	13 23 29.5		
		i	47.5					iSKP	26 33.4		
	OUL	ePKP	00 35 40				SOD	ePKP	13 23 33		
	SOD	ePKP	00 35 36					iSKP	26 40.9		
	KEV	iPKP	00 35 34.1	0.9	20.2		KEV	ePKP	13 23 37		
	H:	00 16 38.0						eSKP	26 49		
	17.6 S, 167.7 E, 20 km						H:	13 04 39.7			
	New Hebrides Islands						58.2 S, 26.6 W, 151 km				
8	NUR	iP	02 12 17.0 D	1.0	38.0	8	NUR	iPKP	13 49 14.0	0.9	25.2
		i	52.4					ePKS	52 35		
		e	14 52				KJN	iPKP	13 49 06.5	0.9	17.0
	KJN	iP	02 11 54.0 D	0.7	28.8		OUL	iPKP	13 49 06.9		
		e	12 37				SOD	iPKP	13 49 02.7		
		ePP	14 03				KEV	iPKP	13 48 59.5		
	OUL	iP	02 11 52.8				H:	13 30 05.9			
	SOD	iP	02 11 40.6				17.5 S, 167.8 E, 28 km				
	KEV	iP	02 11 29.1	0.9	16.8		New Hebrides Islands				
	H:	02 02 23.6				8	NUR	iPKP	14 46 42.0	0.8	13.0
	45.4 N, 142.7 E, 326 km (R)						KJN	iPKP	14 46 35.0	0.8	9.2
	Hokkaido, Japan						OUL	iPKP	14 46 35.0		
8	NUR	iPKP	02 15 39.0				KEV	ePKP	14 46 28		
	OUL	ePKP	02 15 31				H:	14 27 33.8			
	H:	01 56 30.1					17.6 S, 167.8 E, 26 km				
	17.6 S, 167.8 E, 24 km						New Hebrides Islands				
	New Hebrides Islands					8	NUR	ePKP	15 14 26		
8	NUR	ePKP	04 19 04				KJN	iPKP	15 14 19.5	0.9	8.0
	H:	03 59 59.5					OUL	iPKP	15 14 20.0		
	15.0 S, 167.0 E, 35 km							i	15 45.3		
	New Hebrides Islands						H:	14 55 19.0			
8	NUR	eP	07 56 23				17.5 S, 167.8 E, 33 km				
	KJN	iP	07 56 01.3				New Hebrides Islands				
	SOD	iP	07 55 49.7			8	NUR	iP	15 26 37.7	1.2	45.6
	H:	07 45 24.3						i	44.0		
	39.8 N, 143.4 E, depth N							i	57.0		
	Honshu, Japan							e	28 44		
8	NUR	eP	08 55 49					e	29 57		
	KJN	iP	08 55 26.6	0.9	12.5			e	30 25		
	OUL	iP	08 55 26.0					ePP	31 08		
	SOD	eP	08 55 15					e	32 57		
	KEV	eP	08 55 08					eSKS	37 12		
	H:	08 44 51.6						ePS	40 20		
	40.1 N, 143.8 E, depth N							e	41 24		
	Honshu, Japan							eSS	46 12		
8	NUR	iPKP	13 23 21.0			KJN	iP	15 26 25.4 U	1.4	72.9	
	KJN	iPKP	13 23 28.9 U	0.9	23.2			i	31.0		
		ipPKP	24 10.0					i	45.2		
		iSKP	26 33.1					i	29 52.0		
		cont.						i	30 22.6		
								cont.			

September

				T	A	
	iPP		47.0			
	ePKKP	42	13			
OUL	iP	15	26	27.6		
	i			33.7		
	i		30	32.2		
	iPP			47.7		
SOD	iP	15	26	21.8		
	i			28.2		
	e		29	36		
	iPP		30	38.3		
	e		31	20		
KEV	iP	15	26	17.0	1.0	24.0
	e		29	26		
	iPP		30	32.0		
	eSKS		36	48		
	ePS		39	32		
	eSS		45	12		
H: 15 12 23.8						
3.7 S, 143.0 E, 29 km (R)						
New Guinea						
8	KJN	eP	15	46	10	
	SOD	iP	15	46	05.5	
H: 15 32 09.8						
3.7 S, 143.0 E, 42 km						
New Guinea						
8	KJN	eP	16	32	06	
	OUL	eP	16	31	58	
	SOD	eP	16	31	40	
H: 16 22 58.6						
64.8 N, 147.6 W, 12 km						
Central Alaska						
8	KJN	iP	19	05	57.6 U	0.6 11.6
	OUL	eP	19	06	01	
	SOD	iP	19	05	56.8	
	KEV	iP	19	05	53.0	
8	KJN	iP	19	56	55.1	0.6 13.0
	ipP			57	23.2	
OUL	iP	19	56	58.3		
	ipP			57	27.3	
SOD	iP	19	56	56.3		
	ipP			57	25.0	
H: 19 44 04.5						
0.6 N, 121.9 E, 137 km						
Northern Celebes						
8	NUR	iP	20	20	32.0 U	0.7 19.4
	ePcP			21	03	
	e				34	
KJN	iP	20	20	07.6		0.9 13.4
cont.						

September

					T	A
	OUL	iP	20	20	05.5	
	SOD	iP	20	19	52.5	
	e			20	28	
	KEV	iP	20	19	40.5	0.9 16.8
H: 20 09 51.2						
46.0 N, 151.4 E, 31 km (R)						
Kurile Islands						
8	KJN	iP	23	03	07.0	0.9 4.5
8	NUR	ePKP	23	20	28	
	KJN	ePKP	23	20	21	
	OUL	iPKP	23	20	21.2	
H: 23 01 20.6						
17.6 S, 167.8 E, 32 km						
New Hebrides Islands						
9	NUR	eP	00	49	01	
	eSKS			59	20	
	eS			01	00	24
	KJN	eP	00	49	03	
	KEV	eP	00	49	03	
	eSKS			59	20	
	eS			01	00	24
H: 00 35 18.4						
8.7 S, 74.5 W, 144 km (R)						
Peru-Brazil border						
9	NUR	eP	00	51	26	
	ePP			55	36	
	eSKS			01	01	49
	eS				02	52
KJN	eP	00	51	31		1.0 8.7
	ePP			55	41	
	eSKS			01	01	56
	eS				03	06
	iPKKP			07	45.0	
OUL	iP	00	51	26.3		
	iPP			55	30.0	
SOD	eP	00	51	31		
	e			53	17	
	ePP			55	37	
KEV	eP	00	51	32		
	i			52	02.6	
	ePP			55	36	
	e			56	12	
	eSKS			01	01	52
	eS				02	52
H: 00 37 43.2						
8.7 S, 74.5 W, 120 km						
Peru-Brazil border						

September

September

				T	A					T	A
9	NUR	iP	02 29 15.0	1.1	23.8	9	KJN	iP	05 17 07.0	1.0	9.8
		iPcP	30 58.0				SOD	eP	05 17 36		
	KJN	iP	02 28 45.1	1.4	29.7						
		iPcP	30 44.0			9	NUR	iP	07 25 47.0		
	OUL	iP	02 28 42.0					e	27 19		
		iPcP	30 42.4				KJN	iP	07 25 23.0	0.6	4.1
	SOD	iP	02 28 25.2				OUL	iP	07 25 22.5		
		i	28.1					i	33.4		
	KEV	iP	02 28 07.0	1.0	16.0		SOD	iP	07 25 10.4		
		ePcP	30 26					i	21.1		
								i	26 42.2		
	H:		02 20 57.9				KEV	eP	07 24 58		
			66.1 N, 142.1 E, depth N								
			Eastern Siberia				H:		07 14 57.9		
									42.9 N, 147.0 E, 35 km (R)		
9	KJN	ePKP	02 32 49						Hokkaido, Japan		
	OUL	iPKP	02 32 52.6			9	NUR	iP	09 58 40.2	1.2	94.1
	KEV	iPKP	02 32 46.0					i	41.3		
	H:		02 13 52.1					i	59 06.0		
			17.6 S, 167.8 E, 31 km					eS	10 02 24		
			New Hebrides Islands				KJN	iP	09 58 00.5 D	1.0	34.9
9	NUR	iPKP	02 53 41.8 U	0.7	14.2			eS	10 00 59		
	KJN	iPKP	02 53 33.1	1.0	18.5		OUL	iP	09 57 45.8 U		
	OUL	iPKP	02 53 34.1 U					eS	10 00 34		
	SOD	ePKP	02 53 30				SOD	iP	09 57 17.3		
	KEV	iPKP	02 53 27.1	0.8	14.4			i	26.3		
	H:		02 34 33.0					eS	59 41		
			17.5 S, 167.8 E, 28 km				KEV	eP	09 56 47	0.7	18.1
			New Hebrides Islands					eS	58 47		
							H:		09 54 05.6		
9	KJN	iPKP	04 28 29.0						79.5 N, 3.8 E, depth N		
	OUL	iPKP	04 28 28.7						Greenland Sea		
		i	35.2			9	NUR	iP	11 53 46.6	0.9	11.8
	SOD	ePKP	04 28 27					i	58.0		
	KEV	ePKP	04 28 19					iS	57 09.0		
	H:		04 08 42.8				KJN	eP	11 54 18		
			41.9 S, 172.0 E, depth N					e	58 04		
			South Island, N.Z.					eS	19		
9	NUR	iP	05 04 58.0 U	0.8	20.2		OUL	iP	11 54 30.6		
		i	05 04.0				SOD	iP	11 54 50.7		
		iPcP	43.0				H:		11 49 19.4		
	KJN	iP	05 04 33.5	0.9	16.1				41.6 N, 32.3 E, depth N		
		i	40.0						Turkey		
		iPcP	05 34.3								
	OUL	iP	05 04 25.9 U			9	NUR	eP	13 13 38		
		i	32.2								
		ePcP	05 22								
	SOD	iP	05 04 09.7			9	NUR	iP	18 36 57.0	0.9	16.8
		i	15.6				KJN	eP	18 36 31	1.1	10.8
	KEV	iP	05 03 51.0	1.0	16.0		OUL	iP	18 36 27.2		
		i	57.1				SOD	iP	18 36 12.0		
	H:		04 54 46.0				H:		18 26 19.8		
			59.0 N, 149.2 W, 17 km						52.0 N, 174.2 E, 45 km		
			Kenai Peninsula, Alaska						Near Islands		

September					September				
			T	A			T	A	
	OUL	iP	21 36	10.0					
		ipP		42.2					
	SOD	iP	21 36	02.5					
		ipP		34.4					
	KEV	iP	21 35	55.1	0.6	13.8			
		epP	36 27						
	H: 21 23 48.0								
	18.6 N, 145.8 E, 126 km (R)								
	Mariana Islands								
10	NUR	iP	22 10	10.1					
10	NUR	iP	22 43	26.0	0.7	11.6			
	KJN	eP	22 43	15					
	OUL	eP	22 43	15					
10	KJN	iPKP	23 10	18.5	0.9	7.1			
	OUL	ePKP	23 10	17					
	H: 22 51 14.1								
	15.1 S, 177.4 W, depth N								
	Fiji Islands								
10	NUR	eP	23 26	42					
		eSKS		37 16					
		eSS		43 32					
		e		47 36					
	KJN	eP	23 26	39					
	OUL	eP	23 26	34					
	SOD	eP	23 26	25					
	H: 23 13 47.0								
	14.3 N, 92.9 W, 72 km								
	Chiapas, Mexico								
11	KJN	eP	03 16	49					
	SOD	eP	03 16	54					
	H: 03 07 32.0								
	30.3 N, 94.9 E, 38 km								
	Tibet								
11	NUR	iP	04 45	50.4	0.8	20.2			
		i		46 00.8					
		i		08.0					
	KJN	iP	04 45	25.9 U	0.7	11.0			
	OUL	iP	04 45	20.8 U					
	SOD	eP	04 45	03					
		i		05.1					
	H: 04 34 50.2								
	50.4 N, 176.0 W, 29 km								
	Andreanof Islands								
11	KJN	iP	05 19	51.2					
	SOD	eP	05 19	50					
	H: 05 06 43.4								
	1.5 N, 126.3 E, depth N								
	Molucca Passage								
	11	SOD	eP	11 04	30				
	11	NUR	iPKP	18 45	43.0				
		i		47.0					
		i		55.3					
		ePP		47 48					
		iPKS		49 09.2					
		e		55 24					
		ePS		58 20					
		e	19 04	16					
		eSS		05 30					
		eSSS		10 32					
	KJN	iPKP	18 45	50.9	0.8	13.1			
		ePKS		49 18					
	OUL	iPKP	18 45	49.5					
	SOD	ePKP	18 45	47					
		i		50.4					
		i		59.0					
	KEV	ePKP	18 45	55					
		ePP		48 16					
		ePKS		49 20					
		eSS	19 06	12					
	H: 18 26 36.8								
	43.0 S, 75.2 W, 31 km (R)								
	Southern Chile								
	11	NUR	iP	19 24	02.6	1.0	88.0		
		i		10.4					
		i		25 07.2					
		iPP		24.3					
		eS		29 32					
	KJN	iP	19 24	11.0	0.8	11.5			
		iPP		25 36.5					
	OUL	eP	19 24	21					
		i		23.8					
	SOD	iP	19 24	33.7					
		i		44.5					
		i		25 50.3					
	KEV	iP	19 24	47.1	0.8	37.4			
		eS		30 48					
	H: 19 17 12.9								
	33.9 N, 59.4 E, depth N								
	Iran								
	11	NUR	eP	20 54	33	0.7	15.5		
	11	NUR	iP	21 58	48.6	1.0	18.0		
		KJN	iP	21 58	33.8	1.0	29.4		
		i		54.0					
		OUL	eP	21 58	37				
		SOD	iP	21 58	31.5				
		e		47					

cont.

September

September

				T	A					T	A
	KEV	iP	21 58 26.0	0.9	20.2		OUL	eP	19 40 23		
	H:	21 47 21.9					SOD	eP	19 40 05		
		24.0 N, 122.3 E, 42 km					KEV	eP	19 39 44		
		Taiwan					H:	19 30 47.5			
								59.5 N, 146.7 W, 25 km			
12	NUR	eP	04 29 23					Gulf of Alaska			
	SOD	eP	04 29 56								
		e	30 29								
12	OUL	eP	11 53 59			12	NUR	iPKP	23 02 10.3		
	SOD	eP	11 53 44					i	20.4	1.1	304.6
	H:	11 43 58.1						i	30.2		
		51.0 N, 161.7 E, depth N						i	03 19.0		
		Kamchatka						epPKP	04 44		
12	KJN	iP	12 10 31.0	0.8	8.5			iSKP	57.1		
	SOD	eP	12 10 29					iPKS	05 55.2		
12	KJN	eP	12 34 13				KJN	epPKS	08 20		
12	NUR	iP	13 47 30.0 U	0.8	33.1			esPKS	09 18		
		i	38.5					KJN	iPKP	23 02 00.5	
		eS	56 24					i	13.0		
		eScS	57 26					iSKP	04 45.6		
	KJN	iP	13 47 08.5 U	1.0	83.9			iPKS	05 43.2		
		i	17.0				OUL	ePKP	23 02 00		
		ePcP	45					i	12.4		
	OUL	iP	13 47 07.8 U					epPKP	04 37		
		i	16.5					iSKP	45.4		
		ePP	49 33					iPKS	05 42.4		
	SOD	iP	13 46 56.7 U				SOD	ePKP	23 01 55		
		i	47 05.4					i	02 08.0		
	KEV	iP	13 46 46.0 U	0.9	26.9			iSKP	04 37.3		
		i	54.2					ePKS	05 33		
		eS	55 08				KEV	iPKP	23 01 55.0		
		eSS	59 12					i	02 04.4	1.2	282.2
	H:	13 36 27.5						iSKP	04 30.1		
		39.7 N, 143.6 E, 12 km						iPKS	05 28.1		
		Honshu, Japan						epSKP	07 30		
								e	08 54		
								H:	22 44 06.5		
									21.6 S, 179.4 W, 635 km (R)		
									Fiji Islands		
12	NUR	eP	15 44 13								
		e	17								
		eSS	53 08								
	KJN	iP	15 44 08.8	1.1	17.6	13	NUR	iP	01 11 02.0		
	SOD	eP	15 44 19				KJN	iP	01 10 39.8 U	0.6	11.0
	KEV	iP	15 44 25.0	0.8	10.1		OUL	iP	01 10 39.2		
		eSS	53 28				SOD	iP	01 10 27.4 U		
	H:	15 36 48.8					KEV	iP	01 10 16.5 U	0.7	9.0
		39.8 N, 77.8 E, 8 km					H:	01 00 16.8			
		Southern Sinkiang, China						41.3 N, 142.4 E, 61 km			
								Hokkaido, Japan			
12	NUR	eP	19 40 57			13	NUR	iP	05 17 18.7		
	KJN	eP	19 40 26				KJN	iP	05 16 57.9	0.8	8.5
							SOD	iP	05 16 46.6		

cont.

September						September								
				T	A					T	A			
13	NUR	iPKP	05 21	26.3	0.7	18.1	13	KJN	eP	22 00	23			
		i		29.3				OUL	eP	22 00	13			
	OUL	ePKP	05 21	23				SOD	eP	22 00	11			
	H:		05 01	50.3				KEV	eP	22 00	10			
			30.8 S, 179.1 W, 38 km					H:		21 54	26.5			
			Kermadec Islands							57.9 N, 32.4 W, depth N				
										North Atlantic Ocean				
13	NUR	ePKP	07 06	53			14	NUR	eP	01 43	33			
	KJN	ePKP	07 06	48				KJN	iP	01 43	37.2	1.4	35.1	
	OUL	ePKP	07 06	48				OUL	eP	01 43	25			
	H:		06 47	23.8				KEV	eS	01 48	12			
			27.0 S, 176.5 W, depth N											
			Kermadec Islands											
13	NUR	eP	07 43	40			14	NUR	eP	01 44	31			
		ePP		47 16					eS		49 24			
		eSKS		54 14				KJN	iP	01 44	39.0			
		ePS		55 52				OUL	eP	01 44	27			
	KJN	iP	07 43	38.6	0.8	5.4		SOD	iP	01 44	26.2			
	OUL	iP	07 43	32.6				KEV	eP	01 44	26			
	SOD	eP	07 43	28					ePP		45 12			
	KEV	iP	07 43	21.8	0.7	9.0			eS		49 14			
		eS		53 52				H:		01 38	44.8			
		e		55 20						57.9 N, 32.6 W, depth N				
	H:		07 30	43.6						North Atlantic Ocean				
			15.1 N, 93.9 W, 34 km					14	NUR	iP	13 55	41.5		
			Chiapas, Mexico						i		44.5			
13	KJN	eP	12 28	49				iPP		57 09	2			
	SOD	eP	12 28	27				e		58 16				
	KEV	eP	12 28	11				eS	14 01	28				
	H:		12 18	24.0				eLQ	14 04	.1				
			52.4 N, 169.4 W, 37 km					KJN	iP	13 55	57.0	1.2	120.4	
			Fox Islands					iPP		57 31	0			
13	NUR	iPKP	13 08	44.5	0.8	28.8		eS	14 01	56				
	KJN	iPKP	13 08	38.0	0.8	13.1		OUL	iP	13 56	06.9			
	OUL	iPKP	13 08	37.0				iPP		57 42	7			
	SOD	ePKP	13 08	32				iScP	14 01	59.9				
	KEV	ePKP	13 08	30				e		02 27				
	H:		12 49	54.8				SOD	iP	13 56	21.7			
			11.1 S, 164.6 E, 59 km						i		25.1			
			Santa Cruz Islands						iPP		58 01	2		
13	OUL	eP	14 45	16				iScP	14 02	07.3				
13	KJN	iP	20 19	15.2	0.9	8.9		KEV	iP	13 56	37.0	1.2	276.5	
	OUL	eP	20 18	57				i		38.5				
	SOD	eP	20 18	50				iPP		58 16	0			
								eS	14 03	08				
								e		52				
								eSS		06 26				
								H:		13 48	31.2			
										28.4 N, 53.1 E, depth N				
										Southern Iran				
13	NUR	eP	21 05	27			14	NUR	iP	15 07	05.2			

September				September							
			T	Δ		T	Δ				
14	NUR	iP	19 27 33.4 U	0.8	35.3	15	NUR	iP	05 14 29.0		
		iPP	29 00.5				KJN	iP	05 14 09.0	0.9	10.7
	KJN	iP	19 27 48.2 U	0.9	45.5		OUL	iP	05 14 09.5		
		iPP	29 20.0				SOD	eP	05 14 00		
		eS	33 42				H: 05 03 28.3				
	OUL	iP	19 27 59.0				35.1 N, 139.2 E, 144 km				
		e	28 14				Honshu, Japan				
	SOD	iP	19 28 13.2 U			15	NUR	iP	06 22 10.1		
		i	29 31.0				KJN	eP	06 22 25		
		iPP	49.5				OUL	eP	06 22 37		
	KEV	iP	19 28 28.2	0.9	43.7		H: 06 14 58.7				
		i	29 00.5				28.3 N, 53.2 E, 31 km				
	H: 19 20 22.7						Southern Iran				
	28.4 N, 53.2 E, 44 km										
	Southern Iran										
14	NUR	eP	20 37 38			15	NUR	iP	09 49 04.0	0.7	8.8
	H: 20 30 41.9						KJN	iP	09 49 21.2		
	36.3 N, 69.8 E, 193 km						OUL	eP	09 49 26		
	Hindu Kush						SOD	eP	09 49 36		
14	NUR	eP	22 18 00				KEV	eP	09 49 54	0.9	16.8
							H: 09 42 14.6				
14	NUR	eP	23 33 10				34.0 N, 59.4 E, 20 km				
	KJN	iP	23 33 01.5	0.7	6.9		Iran				
	OUL	eP	23 33 07			15	NUR	iP	11 01 06.0 U	1.0	49.7
	SOD	eP	23 32 57				ePP	03 34			
	H: 23 20 42.8						ePPP	05 16			
	12.1 N, 123.2 E, depth N						eS	10 00			
	Luzon, P.I.						eSS	14 16			
15	KJN	ePKP	01 48 20				KJN	iP	11 00 44.3 U	1.5	226.4
	OUL	ePKP	01 48 21				i	01 01.2			
	SOD	ePKP	01 48 20				i	02 55.0			
	H: 01 29 33.8						OUL	iP	11 00 43.3		
	56.0 S, 27.4 W, 139 km						i	01 00.3			
	South Sandwich Islands						SOD	iP	11 00 31.8 U		
15	NUR	iP	05 01 29.5	0.7	12.6		KEV	iP	11 00 20.7	0.9	25.2
		i	33.5				i	40.0			
		ePP	02 10				ePPP	04 08			
		eS	05 52				eS	08 32			
	KJN	iP	05 02 00.5	0.9	9.8		eSS	12 36			
		i	04.1				H: 10 50 11.8				
	OUL	eP	05 02 08				40.9 N, 143.2 E, 15 km				
		e	13				Honshu, Japan				
	SOD	iP	05 02 27.9			15	NUR	eP	12 11 56		
		i	34.9				e	13 01			
	KEV	iP	05 02 54.0	0.8	13.0		KJN	iP	12 11 42.8	0.8	7.7
		i	56.0				OUL	eP	12 11 46		
		e	04 42				SOD	eP	12 11 42		
		eS	08 16				KEV	eP	12 11 45		
	H: 04 55 59.5						H: 11 58 36.0				
	34.7 N, 25.1 E, depth N						1.3 N, 126.2 E, depth N				
	Crete						Molucca Passage				

September				September			
		T	A		T	A	
15	OUL ePKP	13 44 20					
	H:	13 25 29.9					
		13.5 S, 166.5 E, 51 km					
		New Hebrides Islands					
15	NUR iP	14 24 12.0					
	i	15.2	0.8	16.9			
	KJN iP	14 24 11.3	0.8	10.0			
	i	13.8					
	OUL iP	14 24 20.2					
	SOD eP	14 24 27					
	KEV eP	14 24 35					
	H:	14 16 55.8					
		37.2 N, 72.7 E, depth N					
		Tadzhik SSR					
15	NUR iP	15 03 59.5					
	i	04 14.0					
	KJN iP	15 03 40.2 D	0.8	10.8			
	i	54.8					
	OUL iP	15 03 39.8					
	SOD iP	15 03 30.4					
	i	45.1					
	H:	14 52 29.4					
		33.1 N, 142.0 E, 53 km (R)					
		Honshu, Japan					
15	KJN iP	17 40 29.0	0.9	9.8			
	OUL iP	17 40 33.1					
	SOD eP	17 40 29					
	H:	17 27 21.8					
		1.8 N, 126.5 E, depth N					
		Molucca Passage					
15	NUR eP	22 12 19					
	KJN iP	22 12 18.1					
	OUL eP	22 12 28					
	Moscow:						
	H:	22 05 25					
		39.5 N, 70.9 E					
		Tien Shan					
16	NUR eP	03 00 53					
	KJN eP	03 01 31					
	OUL eP	03 01 40					
16	KJN iP	03 20 36.1	0.8	7.7			
	OUL eP	03 20 39					
	SOD eP	03 20 38					
	H:	03 07 28.8					
		1.4 S, 119.5 E, depth N					
		Celebes					
16	KJN eP	07 15 54					
	i	16 27.1					
	Moscow:						
	H:	07 10 03					
		38.8 N, 46.2 E					
		Caucasus					
16	NUR eP	11 21 12					
	KJN iP	11 20 55.3					U
	OUL iP	11 20 55.5					U
	SOD eP	11 20 48					
	KEV eP	11 20 39					
16	KJN eP	11 50 17					
	OUL iP	11 50 01.5					
	SOD eP	11 49 30					
	KEV iP	11 49 12.1					
16	KJN iP	12 15 27.1					
16	NUR iP	14 10 08.0					
	iPKP	14 07.0	0.8	19.7			
	i	35.0					
	iPP	49.3					
	i	17 38.5					
	e	18 36					
	eSKS	21 06					
	ePS	24 38					
	eSS	30 54					
	eLR	14 47.0					
	KJN iP	14 09 55.0	0.9	11.6			
	i	10 11.7					
	iPKP	14 04.8					
	i	22.4					
	iPP	43.0					
	e	18 31					
	iPKKP	25 10.6					
	i	46.0					
	eP'P'	33 31					
	OUL iP	14 09 55.2					
	i	10 17.1					
	iPKP	13 59.8					
	iPKKP	25 09.6					
	SOD iP	14 09 50.5					
	i	10 14.4					
	e	13 44					
	ePP	14 19					
	iPKKP	25 14.0					
	KEV iP	14 09 45.2	0.8	18.3			
	i	10 03.4					
	ePKP	14 00					
	i	12.5					

cont.

September				September			
		T	A			T	A
	iPP		24.7				
	ePPP	16	12				
	eSKS	20	30				
	ePS	23	40				
	iPKKP	25	17.1				
	e	26	00				
	eSS	28	36				
	e	30	00				
	H: 13 55 36.1						
	6.1 S, 148.7 E, 59 km						
	New Britain						
16	NUR	ePKP	14 29 32				
		iSKP	32 22.5				
	KJN	iPKP	14 29 34.9	0.7	8.9		
		iSKP	32 09.9				
	OUL	iPKP	14 29 32.9				
		iSKP	32 07.6				
	SOD	iSKP	14 32 02.1				
	H: 14 11 29.4						
	17.4 S, 178.8 W, 583 km						
	Fiji Islands						
16	NUR	iPKKP	16 30 14.6				
	KJN	ePP	16 19 51				
		iPKKP	30 24.6				
	OUL	ePKKP	16 30 23				
	SOD	eP	16 14 51				
		ePKKP	30 26				
	KEV	ePKKP	16 30 28				
	H: 16 00 53.1						
	6.0 S, 148.8 E, 71 km						
	New Britain						
16	NUR	iP	17 12 17.0				
	KJN	iP	17 12 07.6 U	1.0	13.1		
	OUL	eP	17 12 11				
	SOD	iP	17 12 13.9 U				
	H: 17 02 40.2						
	28.6 N, 95.7 E, 60 km						
	India-China border						
16	NUR	iP	18 35 54.6 D	1.1	41.9		
	KJN	iP	18 35 30.5	0.8	7.7		
	OUL	iP	18 35 23.6				
	SOD	iP	18 35 08.3 D				
	KEV	iP	18 34 50.8	0.6	14.6		
	H: 18 25 10.0						
	53.8 N, 163.6 W, 25 km						
	Unimak Island						
16	NUR	iP	22 31 24.0				
	KJN	iP	22 31 02.4	0.6	9.6		
	cont.						
	OUL	iP	22 31 01.1				
	SOD	iP	22 30 50.3				
	H: 22 20 33.6						
	40.8 N, 143.1 E, 43 km						
	Honshu, Japan						
17	NUR	eP	05 32 40				
	H: 05 22 01.2						
	45.3 N, 149.9 E, 42 km						
	Kurile Islands						
17	KJN	iP	14 11 43.3				
	OUL	iP	14 11 35.1				
	SOD	eP	14 11 24				
	KEV	eP	14 11 12				
17	NUR	ePKP	14 43 02				
	KJN	ePKP	14 42 54				
	H: 14 23 57.7						
	16.1 S, 167.7 E, 39 km						
	New Hebrides Islands						
17	NUR	eSS	15 30 08				
	H: 14 51 11.8						
	21.6 S, 112.6 W, depth N						
	Easter Island Cordillera						
17	OUL	eP	16 24 34				
	SOD	eP	16 24 34				
17	NUR	e	18 06 44				
		ePKP	08 52				
		e	10 56				
		ePKS	12 28				
		ePPS	23 26				
		eSS	29 08				
		eSSS	34 04				
	KJN	ePKP	18 08 57				
	OUL	ePKP	18 08 54				
	H: 17 49 47.6						
	15.0 S, 175.7 W, 17 km						
	Tonga Islands						
17	NUR	eP	21 19 20			1.0	21.6
		i	20 00.5				
		i	18.3				
	KJN	iP	21 19 48.5				
	OUL	eP	21 19 58				
	SOD	eP	21 20 20				
	H: 21 13 52.6						
	35.3 N, 31.3 E, depth N						
	Cyprus						

September						September							
				T	A					T	A		
19	NUR	iPKP	12 45	51.0	0.9	24.6	20	NUR	iP	06 11	59.6 U	0.8	296.1
		i		53.2					i	12	13.0		
	KJN	ePKP	12 45	40					ipP		24.7		
		i		51.8					i	14	37.3		
	H: 12 26 08.7								ePP	15	00		
	31.9 S, 177.3 W, depth N								e	17	36		
	Kermadec Islands								eS	21	46		
19	NUR	eP	20 27	52					esS	22	28		
	OUL	eP	20 28	30					e	25	00		
	H: 20 22 25.4								eSS	27	08		
	35.2 N, 31.3 E, 53 km								e		40		
	Cyprus							20	KJN	iP	06 12	05.0 U	
19	NUR	iP	22 19	49.3 U	0.5	33.5			i		20.9		
		i	20	17.0					iPP	15	07.2		
		iPP	21	17.2					iPPP	17	07.2		
		i		47.5					iS	22	05.0		
		eS	25	36					isS		48.7		
	KJN	iP	22 20	05.0	0.9	39.3			iSKPP'	42	08.4		
		i		27.1					OUL	iP	06 12	00.4 U	
		iPP	21	36.0					iPP	15	02.8		
		eS	26	04					eSKPP'	42	08		
	OUL	iP	22 20	15.0 U					SOD	iP	06 12	02.0 U	
		iPP	21	52.1					iPP	15	05.4		
	SOD	iP	22 20	29.2					eSKPP'	42	05		
		ePP	22	05					KEV	iP	06 12	01.1 U	1.1 228.3
	KEV	iP	22 20	44.8	0.9	41.0			ePP	15	04		
		ePP	22	29					eS	21	56		
		eS	27	16					ePS	22	42		
		eSS	30	20					eSS	26	48		
	H: 22 12 38.2								eSSS	30	28		
	28.4 N, 53.2 E, 34 km								H: 06 00 03.5				
	Southern Iran								10.7 N, 62.7 W, 107 km (R)				
									Near coast of Venezuela				
19	NUR	eP	22 30	07			20	KJN	iP	12 11	10.0	0.8	16.1
	KJN	iP	22 30	37.0									
	OUL	eP	22 30	46									
	SOD	eP	22 31	03									
	KEV	eP	22 31	18									
19	NUR	iP	23 43	08.2			20	NUR	ePKP	13 16	58		
	KJN	iP	23 43	23.0	1.0	16.4							
	OUL	iP	23 43	33.3									
	SOD	eP	23 43	47									
	KEV	eP	23 44	02									
	H: 23 35 56.0												
	28.3 N, 53.1 E, depth N												
	Southern Iran												
19	NUR	eP	23 59	51			20	NUR	iP	14 04	31.0	1.0	20.0
	KJN	iP	24 00	07.2					eS	13	20		
20	NUR	eP	04 27	55					KJN	iP	14 04	09.0 U	1.0 33.8
	KJN	eP	04 27	54					i		18.1		
									i		31.2		
									OUL	eP	14 04	07	
									i		16.6		
									i		32.4		
											cont.		

September				September			
			T	A		T	A
	SOD	iP	14 03	56.6			
		i	04	06.2			
	KEV	eP	14 03	46	1.1	23.3	
	H: 13 53 35.9						
	40.6 N, 143.5 E, 25 km						
	Honshu, Japan						
20	NUR	iPKP	18 48	36.0	1.2	105.5	
		i		44.3			
		eSS	19 10	40			
		eSSS	15	44			
	KJN	iPKP	18 48	32.0	1.0	21.8	
		i		45.7			
	OUL	ePKP	18 48	33			
		i		44.4			
	SOD	iPKP	18 48	29.7			
		e		42			
	KEV	ePKP	18 48	23	1.0	23.5	
		ePP	51	00			
		ePKS		58			
		e	59	32			
		eSKSP	19 01	12			
		eSS	08	56			
	H: 18 29 09.8						
	28.1 S, 176.7 W, 70 km						
	Kermadec Islands						
20	NUR	iP	22 36	36.6	1.0	30.0	
		eSS	50	12			
	KJN	iP	22 36	16.0	0.8	23.1	
		i		23.4			
	OUL	eP	22 36	16			
		e		23			
	SOD	eP	22 36	06			
	H: 22 25 37.1						
	36.8 N, 138.1 E, 59 km						
	Honshu, Japan						
20	NUR	eP	23 14	59			
	KJN	eP	23 15	05			
		i		16.9			
	OUL	eP	23 15	17			
	SOD	eP	23 15	22			
	H: 23 02 43.5						
	13.7 S, 66.1 E, depth N						
	Mid-Indian Rise						
20	NUR	iP	23 46	14.2	1.0	24.0	
	KJN	iP	23 45	54.4	0.9	19.6	
	OUL	eP	23 45	54			
	SOD	iP	23 45	43.8			
	H: 23 35 13.3						
	36.8 N, 138.2 E, 47 km						
	Honshu, Japan						
	21	NUR	eP	00 16	12		
		KJN	eP	00 15	53		
		SOD	eP	00 15	40		
	H: 00 05 16.4						
	36.5 N, 138.1 E, 83 km						
	Honshu, Japan						
	21	NUR	iPKP	03 51	45.0	0.6	25.0
		i		53.1			
		KJN	iPKP	03 51	34.0	0.7	13.7
		i		42.3			
		OUL	iPKP	03 51	33.4		
		i		41.8			
	H: 03 32 00.9						
	33.1 S, 178.8 W, 18 km						
	South of Kermadec Islands						
	21	NUR	eP	11 09	17		
		i		22.4			
		i	10	38.2			
		KJN	iP	11 10	01.0	0.6	4.8
		i		04.7			
		OUL	eP	11 10	11		
		SOD	iP	11 10	36.3		
		epP	11	14			
	H: 11 05 52.9						
	45.7 N, 26.6 E, 128 km						
	Rumania						
	21	NUR	iP	13 16	41.5 U	1.0	260.0
		i		17 00.3			
		i		18 35.2			
		ePP		19 08			
		ePPP		20 44			
		e		22 00			
		eS		25 24			
		ePS		50			
		eScS		26 28			
		eSS		29 36			
		e		30 08			
		eLQ	13	34.9			
		eLR	13	36.5			
		KJN	iP	13 16	19.0 U		
		i		33.1			
		iPP		18 36.0			
		iS		24 43.4			
		i		57.2			
		ePS		25 11			
		eP'P'		45 22			
		OUL	iP	13 16	18.0		
		eP'P'		45 29			
		SOD	iP	13 16	06.7 U		
		eP'P'		45 36			

cont.

September

September

September					September						
			T	A			T	A			
KEV	eP	13 15 54			OUL	iP	09 32 26.6				
	ePP	18 00				i	34.2				
	e	19 48			SOD	e	09 32 21				
	eS	23 52			KEV	eP	09 32 16				
	ePS	24 24				eS	42 00				
	H:	13 05 58.2				e	43 32				
		42.2 N, 142.6 E, 33 km				eSS	47 16				
		Hokkaido, Japan				H:	09 20 26.4				
21	NUR	iP	18 14 21.0				15.7 N, 121.9 E, 20 km (R)				
		i	39.6				Luzon, P.I.				
22	SOD	ePKP	03 16 40		22	SOD	eP	13 41 45			
		H:	02 57 51.7				H:	13 32 33.8			
			56.1 S, 27.4 W, 176 km					59.9 N, 141.5 W, depth N			
			South Sandwich Islands					Southeastern Alaska			
22	KJN	iP	04 02 24.3	0.7	5.5	22	NUR	iP	13 52 13.8	0.9	16.8
		i	31.1				KJN	iP	13 51 54.0	0.7	7.5
	GUL	iP	04 02 15.8				OUL	eP	13 51 53		
		i	22.8				SOD	iP	13 51 43.5		
	SOD	eP	04 02 01					H:	13 41 01.1		
		H:	03 51 54.6						35.3 N, 140.1 E, 56 km (R)		
			51.5 N, 130.9 W, depth N						Honshu, Japan		
			Queen Charlotte Islands			22	KJN	eP	15 16 07		
22	SOD	eP	06 10 08					H:	15 04 04.1		
		i	20.2						10.9 N, 62.7 W, 104 km		
		H:	05 58 41.3						Near coast of Venezuela		
			28.9 N, 142.9 E, depth N			22	NUR	iPKKP	22 22 15.0		
			Bonin Islands				KJN	iPKKP	22 22 06.4		
22	NUR	ePKP	08 18 36				OUL	iPKKP	22 22 00.7		
		i	43.6					i	09.1		
		iSKP	21 17.0				SOD	iPKKP	22 22 07.0		
		i	20.3				KEV	iPKKP	22 22 03.2		
		e	24 32					H:	21 52 59.2		
	KJN	ePKP	08 18 33						24.1 S, 66.9 W, 194 km (R)		
		eSKP	21 03						Salta, Argentina		
	OUL	iPKP	08 18 32.1			23	NUR	iP	05 14 46.0		
		iSKP	21 03.3					i	56.4		
	SOD	ePKP	08 18 31					ePP	17 20		
		eSKP	20 54					ePPP	18 56		
		H:	08 00 32.8					eS	23 40		
			18.1 S, 178.6 W, 630 km				KJN	iP	05 14 25.0	0.9	47.0
			Fiji Islands					i	32.8		
22	NUR	iP	09 32 36.0	1.6	119.5		OUL	iP	05 14 22.7		
		i	43.9				SOD	iP	05 14 12.4		
		eS	42 40					i	23.1		
		eSS	48 28				KEV	iP	05 14 01.0	1.0	18.0
		eSSS	51 48					i	16.0		
	KJN	iP	09 32 22.1	0.8	38.5			e	16 04		
		i	24.0					eS	22 14		
			cont.						cont.		

September

September

			T	A				T	A
	eScS	23 54							
	eSS	26 10							
	H: 05 03 50.0								
	40.3 N, 143.5 E, 30 km (R)								
	Honshu, Japan								
23	NUR eP	19 35 51							
	i	36 05.0							
	KJN iP	19 35 29.8 U	0.7	12.3	24	NUR iP	04 25 04.1	1.0	84.1
	e	44				i	29.4		
	OUL iP	19 35 28.6				eS	29 15		
	SOD iP	19 35 18.2				e	51		
	KEV iP	19 35 07.3	0.7	12.9		i	31 21.0		
23	NUR iP	21 32 54.0				KJN iP	04 25 27.2	1.5	233.1
	e	33 02				i	29.0		
	eS	36 52				i	26 12.3		
	KJN iP	21 33 15.0	1.2	31.0		OUL eP	04 25 37		
	i	24.5				i	41.0		
	OUL eP	21 33 25				SOD iP	04 25 57.3		
	H: 21 27 19.9					KEV eP	04 26 14		
	36.4 N, 40.7 E, 31 km					i	27 12.0		
	Jordan-Syria					H: 04 19 54.5			
23	KJN eP	22 17 37				39.2 N, 40.2 E, 14 km			
	H: 22 06 59.1					Turkey			
	39.7 N, 143.7 E, depth N				24	NUR iP	04 57 01.0 U	0.9	24.1
	Honshu, Japan					i	10.1		
24	NUR iP	00 57 15.0				i	37.7		
	KJN eP	00 57 45				KJN iP	04 56 39.2 U	0.9	53.6
	H: 00 51 42.0					i	49.0		
	34.8 N, 25.5 E, 67 km					iPcP	57 15.8		
	Crete					OUL iP	04 56 37.7 U		
24	NUR eP	02 37 42				i	46.8		
	e	39 39				SOD iP	04 56 27.1 U		
24	NUR iP	03 45 46.0 U	1.0	24.6		i	36.0		
	i	56.9				KEV iP	04 56 16.0	1.0	26.0
	ePP	48 14				H: 04 46 03.6			
	ePPP	49 54				40.3 N, 143.6 E, 26 km (R)			
	eS	54 44				Honshu, Japan			
	eScS	55 48			24	SOD iP	08 05 32.2		
	eSS	59 08			24	NUR ePKP	09 04 57		
	e	04 02 28				H: 08 46 02.1			
	KJN iP	03 45 24.4 U	1.1	64.8		11.0 S, 164.4 E, 40 km (R)			
	i	35.0				Santa Cruz Islands			
	i	46 18.1			24	NUR iP	09 10 41.6	0.8	8.8
	OUL iP	03 45 23.1				e	23 40		
	i	32.0			24	NUR eP	12 12 22		
	SOD iP	03 45 12.4			24	NUR iPcP	13 12 17.3	0.7	19.8
	i	22.2				i	32.9		
	cont.					cont.			



September				T	Δ	September				T	Δ		
	KJN	iPKP	13 12 13.1	0.8	6.9	25	NUR	iP	10 51 19.3				
	OUL	ePKP	13 12 06					i	23.8	1.6	177.9		
		i	11.4					ipP	51.2				
	H:	12 52	41.7					ePP	54 56				
		30.4 S,	177.7 W,					ipPP	55 16.0				
		Kermadec Islands						i	58.0				
24	NUR	iP	17 16 57.2					e	11 00 44				
	KJN	iP	17 16 43.0	0.8	10.8			eS	01 40				
	OUL	iP	17 16 34.7					epS	02 28				
	SOD	eP	17 16 25					ePS	03 04				
24	KJN	iSg	17 34 41.0					eSS	07 24				
	OUL	eSg	17 34 02					eP'P'	17 34				
	SOD	eSg	17 34 04					eLR	11 19.1				
25	NUR	iPKP	00 33 41.2					KJN	iP	10 51 18.3			
		i	52.0					i	25.8				
	KJN	iPKP	00 33 45.1	0.5	15.4			ipP	51.1				
	OUL	iPKP	00 33 42.6					isP	52 04.0				
	H:	00 15	39.5					i	38.0				
		18.0 S,	178.5 W,					ipPP	55 14.2				
		Fiji Islands						e	11 01 57				
25	NUR	iPKP ₂	07 22 50.2	1.1	70.8			eSP	02 51				
		iPKP ₂	23 05.5					iPKKP	08 05.0				
		eSKSP	36 40					iP'P'	17 36.8				
		ePPS	39 36					OUL	eP	10 51 08			
		eSS	46 20					i	13.6				
	KJN	iPKP ₂	07 22 39.4	1.0	21.8			ipP	42.5				
		iPKP ₂	44.0					epPP	55 03				
	OUL	ePKP ₂	07 22 38					ePKKP	11 08 03				
		iPKP ₂	43.3					eP'P'	17 38				
	SOD	iPKP ₂	07 22 38.9					SOD	iP	10 51 06.2			
		iPKP ₂	41.6					epP	40				
		i	49.0					ePP	54 53				
		i	23 35.0					ePPP	56 44				
	KEV	ePKP	07 22 38					KEV	eP	10 50 58			
	H:	07 02	51.8					epP	51 36				
		46.4 S,	166.8 E,					ePP	54 20				
		South Island, N.Z.						e	57 44				
25	NUR	iPKP	09 35 30.0					eS	11 01 16				
	KJN	iPKP	09 35 37.2	0.9	27.7			esS	02 14				
		i	54.2					eSS	06 36				
	OUL	iPKP	09 35 37.4					eLQ	11 13				
		i	54.5					eLR	11 18.5				
	SOD	iPKP	09 35 41.7					H:	10 38 38.4				
	H:	09 16	35.0					15.6 N,	92.6 W,				
		57.9 S,	25.5 W,					138 km					
		South Sandwich Islands						Mexico-Guatemala border					
25	NUR	eP	09 42 50					25	KJN	eP	14 33 26	0.8	15.8
									OUL	iP	14 33 30.5		
									i	45.6			
									H:	14 20 25.9			
									1.6 N,	121.5 E,			
									45 km				
									Northern Celebes				
25	NUR	iP	14 47 29.0					25	NUR	iP	14 47 29.0		

September				T	A	September				T	A	
25	NUR	ePKP	14 53 13			SOD	iP	21 46 55.5				
		eSKP	56 23				e	47 15				
	KJN	iPKP	14 53 11.0	0.8	17.3	KEV	iP	21 46 46.9				
		eSKP	56 20				H:	21 36 51.1				
	OUL	ePKP	14 53 09					41.9 N, 142.1 E, 78 km (R)				
		eSKP	56 16					Hokkaido, Japan				
	SOD	eSKP	14 56 09			25	NUR	eP	22 43 04			
	H:		14 34 22.6				SOD	eP	22 43 54			
			19.3 S, 175.9 W, 230 km (R)									
			Tonga Islands			26	NUR	iP	00 53 42.1 U	0.8	50.4	
25	OUL	eP	16 45 54				i	50.2				
	H:		16 33 02.0				iPP	55 07.0				
			13.4 N, 145.3 E, 60 km				eS	59 32				
			Mariana Islands				KJN	iP	00 53 44.0 U	1.0	76.3	
							i	51.5				
							i	54 34.8				
25	NUR	eP	18 09 46	0.9	15.5		ePP	55 15				
	KJN	iP	18 09 20.0	0.9	9.8		eS	59 40				
		i	39.8				OUL	iP	00 53 53.0			
	OUL	iP	18 09 15.8				i	54 00.1				
	SOD	iP	18 09 01.5				SOD	iP	00 54 00.9 U			
	H:		17 58 53.7				ePP	55 34				
			51.1 N, 179.2 W, 22 km				KEV	iP	00 54 10.3 U	0.7	54.2	
			Andreanof Islands				iPP	55 47.0				
							H:	00 46 13.8				
25	KJN	eP	19 02 46					33.7 N, 69.9 E, 45 km				
	OUL	eP	19 02 48					Afghanistan				
	SOD	eP	19 02 41			26	NUR	iPKP	02 58 03.0			
	H:		18 50 15.5				i	07.6				
			18.8 N, 146.0 E, 51 km				i	12.3				
			Mariana Islands				eSKP	03 00 56				
							ePKS	01 46				
25	NUR	iP	20 57 21.0	1.0	30.8		KJN	iPKP	02 58 06.4 U	0.8	34.6	
		i	25.2				i	14.1				
		eS	21 01 32				iSKP	03 00 42.0				
	KJN	iP	20 57 44.3	1.5	166.5		iPKS	01 34.3				
		i	47.5				OUL	ePKP	02 57 58			
		e	58 01				i	58 05.1				
	OUL	eP	20 57 55				eSKP	03 00 42				
		i	58 01.3				SOD	ePKP	02 57 53			
	SOD	iP	20 58 16.3				i	58 02.0				
		e	43				eSKP	03 00 32				
	H:		20 52 15.9				KEV	i	02 57 57.6	1.2	71.3	
			39.2 N, 40.2 E, 47 km				H:	02 39 56.5				
			Turkey					19.3 S, 177.6 W, 560 km (R)				
								Fiji Islands				
25	NUR	iP	21 47 30.0	0.8	22.1							
		ipP	55.0			26	NUR	iP	06 46 58.0	0.9	20.2	
	KJN	iP	21 47 07.4 U	0.6	13.7		i	47 00.2				
		ipP	28.4				eS	51 00				
	OUL	iP	21 47 05.9				KJN	iP	06 47 28.9 D	0.8	18.5	
		e	26				i	30.1				
			cont.					cont.				

September

September

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OUL iP 06 47 38.3 D
SOD iP 06 47 59.3
H: 06 42 01.2
38.6 N, 33.0 E, 34 km
Turkey

26 NUR iP 08 19 57.0 1.2 28.5
KJN iP 08 19 54.2 U 1.4 59.4
OUL eP 08 19 57
H: 08 06 57.4
5.7 S, 105.5 E, depth N
Sunda Strait

26 NUR iP 08 34 22.5 0.8 15.8
KJN eP 08 33 59
OUL eP 08 33 55
H: 08 23 41.0
45.5 N, 151.4 E, 45 km (G)
Kurile Islands

26 NUR ePKP 08 59 21
e 27
i 34.8 1.0 36.0
iSKP 09 02 12.0
ePKS 03 03
KJN ePKP 08 59 22
i 27.0
eSKP 09 01 59
iPKS 02 52.0
OUL iPKP 08 59 22.5
i 25.5
iSKP 09 01 57.5
SOD ePKP 08 59 22
eSKP 09 01 50
KEV iPKP 08 59 18.0 0.8 23.0
H: 08 41 22.0
17.7 S, 178.5 W, 578 km (D)
Fiji Islands

26 NUR eP 11 11 23
H: 11 00 41.6
45.4 N, 151.2 E, 48 km (D)
Kurile Islands

26 NUR iPKP 14 56 30.1 0.9 20.2
i 40.9 1.0 224.0
iPP 59 25.0
iSKP 52.0
iPKS 15 00 14.2
epPP 52
epPKS 01 42
eSKSP 07 28
ePSKS 09 26
e 11 04
cont.

esSS 19 00
KJN iPKP 14 56 20.4
i 33.0
i 58 40.2
iSKP 59 40.9
iPKS 15 00 02.0
eSKKP 08 26
OUL iPKP 14 56 20.8
i 31.7
i 42.9
iSKP 59 39.4
eSKKP 15 08 47
SOD iPKP 14 56 27.4
ePP 58 50
iSKP 59 31.3
H: 14 37 46.2
20.9 S, 177.0 W, 251 km (R)
Fiji Islands

26 NUR eP 18 20 04
iPKP 22 27.3 0.8 691.2
i 23 16.8
ePP 25 44
eSKSP 36 00
e 38 00
ePPS 40
e 40 04
eSS 45 00
ePSPS 46 00
KJN iPKP 18 22 15.4 U 1.0 32.7
i 20.0
e 24 00
iPP 25 57.8
iSKP 26 14.0
e 33 04
OUL iPKP 18 22 14.0
i 16.2
SOD ePKP 18 22 09
i 13.5
KEV eP 18 19 26
iPKP 22 06.0 1.2 54.2
i 15.0
ePP 25 00
eSKP 45
e 26 36
e 28 12
e 33 32
eSKSP 35 12
ePPS 37 28
e 38 42
eSS 43 04
e 45 00
H: 18 02 50.1
30.5 S, 178.2 W, depth N
Kermadec Islands

September						September					
				T	A					T	A
26	KJN	iP	18 56 07.8	1.0	9.8	OUL	iP	04 12 33.2	U		
	OUL	iP	18 56 13.2				e	16 08			
	SOD	eP	18 56 07				iPKKP	28 39.7			
	KEV	eP	18 56 06			SOD	iP	04 12 30.3			
	H: 18 43 19.9						ePP	16 42			
	5.8 N, 126.3 E, 51 km						ePKKP	28 41			
	Mindanao, P.I.					KEV	iP	04 12 28.8	0.8	60.5	
							i	41.2			
26	KJN	ePKP	20 58 02				isP	13 17.6			
	OUL	ePKP	20 58 00				e	15 30			
	H: 20 39 32.7						ePP	16 40			
	21.3 S, 178.4 W, 407 km						e	17 24			
	Fiji Islands						eSKS	22 52			
							eS	23 40			
26	NUR	iP	21 35 52.7	1.2	20.0		e	24 06			
	KJN	eP	21 36 05				esS	50			
							e	25 32			
26	NUR	eP	22 19 35				eSS	30 50			
		i	52.3				e	32 00			
	KJN	eP	22 19 43				H: 03 58 55.1				
	OUL	eP	22 19 40				6.8 S, 129.1 E, 127 km				
		i	48.7				Banda Sea				
						27	NUR	eP	09 54 52		
26	NUR	eP	22 29 25								
		i	32.5			27	NUR	iP	10 44 57.9	D	0.8 72.0
	KJN	eP	22 29 23				ipP	45 23.5			
	OUL	eP	22 29 26				iPP	46 40.7			
							eS	50 32			
27	NUR	iP	04 12 40.0	1.0	36.0	KJN	iP	10 44 56.0	D		
		esP	13 28				ipP	45 22.7			
		e	14 33				i	46 09.6			
		i	15 48.0			OUL	iP	10 45 05.0			
		ePP	17 00			SOD	iP	10 45 11.1	D		
		e	22 51				i	38.0			
		eSKS	23 02			KEV	iP	10 45 19.0	D	1.2 96.9	
		e	44				ipP	45.2			
		eS	24 08				ePP	46 51			
		esS	25 14				ePPP	47 18			
		ePS	58				eS	51 12			
		ePPS	26 42				eSS	54 04			
		iPKKP	28 36.2				H: 10 37 55.9				
KJN	iP	04 12 31.0	U	1.0	294.3		37.8 N, 72.3 E, 119 km				
	i	45.8					Tadzhik SSR				
	i	13 14.7				27	NUR	eP	15 53 36		
	i	16 22.0					H: 15 42 57.1				
	ePP	40					53.4 N, 167.7 W, depth N				
	iSKS	22 53.2					Fox Islands				
	i	23 27.4				27	NUR	iPKP	17 00 45.3	1.2	181.4
	iS	50.0					i	48.6			
	iPKKP	28 41.8					e	01 10			
	e	29 28					cont.				
		cont.									

September				September			
		T	A		T	A	
28	KJN eP	17	54 33				
	SOD eP	17	54 25				
	H: 17 43		36.0				
	34.3 N, 138.9 E, depth N						
	Honshu, Japan						
28	NUR iP	18	31 08.8 U	0.5	18.9		
	i		33 11.2				
	KJN iP	18	30 46.6 U	0.7	12.3		
	e		31 05				
	OUL iP	18	30 44.7				
	i		31 06.1				
	SOD iP	18	30 34.2				
	e		53				
	KEV eP	18	30 23	0.7	10.3		
	H: 18 20		30.6				
	42.0 N, 142.1 E, 76 km						
	Hokkaido, Japan						
29	KJN eP	01	43 02				
	OUL iP	01	43 10.1				
	SOD eP	01	43 23				
	KEV iP	01	43 33.0				
	H: 01 32		52.0				
	7.6 N, 59.5 E, depth N						
	Carlsberg Ridge						
29	NUR iP	03	49 22.0 U	0.6	70.2		
	i		41.6				
	i		50 01.3				
	i		11.1				
	KJN iP	03	49 09.0 U	0.6	143.9		
	i		36.2				
	OUL iP	03	49 15.5 U				
	i		54.3				
	i		50 09.1				
	SOD iP	03	49 16.0 U				
	i		37.7				
	KEV iP	03	49 18.7 U	0.7	51.6		
	i		53.0				
	i		50 08.3				
	H: 03 42		57.5				
	49.8 N, 78.2 E, 0 km (G)						
	Eastern Kazakh SSR						
29	KJN iP	05	25 13.4				
	i		36.7				
	SOD iP	05	25 13.2				
	H: 05 12		19.2				
	3.1 N, 128.1 E, 109 km						
	North of Halmahera						
29	OUL eP	08	33 58				
	SOD iP	08	33 53.3 U				
	H: 08 21		17.1				
	16.3 N, 144.9 E, depth N						
	Mariana Islands						
29	OUL iP	08	51 14.1				
	SOD iP	08	51 07.7				
	KEV iP	08	51 01.0				
	H: 08 38		32.2				
	16.3 N, 144.8 E, depth N						
	Mariana Islands						
29	SOD iP	08	58 44.4				
	H: 08 46		08.7				
	16.2 N, 144.8 E, depth N						
	Mariana Islands						
29	NUR eP	10	01 41				
29	NUR iPKP	13	02 24.7 D	0.8	19.3		
	KJN iPKP	13	02 17.3 D	0.7	10.3		
	OUL iPKP	13	02 16.0				
	KEV iPKP	13	02 09.7	0.9	18.5		
	H: 12 43		39.9				
	15.5 S, 167.3 E, 190 km (G)						
	New Hebrides Islands						
29	NUR iP	13	40 05.0				
	KJN iP	13	39 54.5 U	0.7	15.8		
	i		40 12.8				
	OUL iP	13	39 56.6				
	SOD iP	13	39 54.4				
	KEV iP	13	39 45.4	0.8	11.5		
	H: 13 26		47.5				
	1.6 N, 126.2 E, depth N						
	Molucca Passage						
29	NUR iPKP	13	57 37.4				
	KJN ePKP	13	57 27				
	OUL iPKP	13	57 28.3				
	H: 13 37		55.3				
	33.0 S, 179.1 W, 15 km						
	South of Kermadec Islands						
29	KJN iP	18	36 22.5	0.8	8.5		
	OUL iP	18	36 20.8				
	SOD iP	18	36 14.2				
	KEV eP	18	36 06	1.0	20.0		
	H: 18 23		40.4				
	16.3 N, 144.8 E, 50 km						
	Mariana Islands						

September				September					
			T	A		T	A		
29	KJN eP	19 55 22			30	KJN eP	14 18 23	0.9	13.4
	OUL eP	19 55 25				OUL iP	14 18 25.7		
	H:	19 41 40.9				SOD iP	14 18 23.4		
		7.3 S, 128.4 E, 86 km				KEV eP	14 18 20	0.7	12.9
		Banda Sea				H:	14 05 14.6		
							1.2 N, 126.2 E, depth N		
29	NUR eP	21 58 23					Molucca Passage		
	KJN iP	21 57 58.1			30	NUR eP	14 28 59		
	OUL iP	21 57 53.7				KJN iP	14 28 48.2 U	1.1	48.6
	H:	21 47 39.2				ipP	29 31.2		
		51.8 N, 176.2 E, 20 km				OUL iP	14 28 49.5		
		Rat Islands				epP	29 45		
29	NUR eP	22 23 46	1.0	28.7		SOD iP	14 28 47.1		
	KJN eP	22 23 19				KEV iP	14 28 44.0	0.7	14.2
						H:	14 15 58.1		
29	NUR eP	23 36 16					3.1 N, 128.2 E, 160 km (G)		
	KJN eP	23 36 33					North of Halmahera		
	OUL iP	23 36 43.5			30	NUR iP	19 02 50.2	0.9	26.2
30	NUR eP	03 03 06	1.0	28.7		KJN ePKP	19 02 35		
						OUL ePKP	19 02 37		
30	KJN eP	04 03 37				H:	18 43 15.6		
	OUL iP	04 03 31.4					30.7 S, 177.9 W, 50 km		
	H:	03 50 51.9					Kermadec Islands		
		15.3 N, 93.0 W, 80 km			30	NUR iP	19 53 31.0		
		Chiapas, Mexico				i	39.4		
30	NUR iP	11 56 55.0	1.0	76.4		KJN iP	19 53 20.2	0.7	7.5
	i	57 04.9				i	28.6		
	KJN iP	11 56 38.2	0.8	8.5		OUL eP	19 53 28		
	H:	11 37 24.2							
		29.5 S, 176.9 W, 74 km							
		Kermadec Islands							
30	NUR iP	13 37 27.0							
	KJN eP	13 37 25							
	e	48							
	OUL eP	13 37 42							
	SOD eP	13 37 24							
	i	34.1							

July 2, 1969

Urmas Luosto
Aili Huovila

R6D

30 SEP 1969

Readings of the Oulu station from October 2nd to December 12th have not been included due to a construction work in the seismometer vault. Three components of Kirnos seismographs were installed on October 23th at Sodankylä station.

October					October <i>MIL</i>				
			T	Δ			T	Δ	
1	OUL	iPKP	01 11 20.9						
	H: 00 52 31.3 12.5 S, 166.1 E, 34 km Santa Cruz Islands								
1	NUR	iP	03 39 17.7			2	NUR	iP	09 21 04.0
	KJN	eP	03 39 06				KJN	iP	09 20 46.8 D
	OUL	eP	03 39 05				OUL	iP	09 20 46.6
							SOD	iP	09 20 39.3 D
							KEV	iP	09 20 31.6 D
							H: 09 09 50.8 27.2 N, 140.1 E, 436 km Bonin Islands		
1	NUR	iP	13 36 05.5			2	NUR	iP	19 58 12.2
1	NUR	iP	16 35 25.5	0.6	22.5	2	NUR	iP	20 03 32.2
	KJN	iP	16 36 01.0 D	0.9	13.4		KJN	iP	20 03 16.4
	OUL	iP	16 36 06.2				SOD	iP	20 03 09.4
	SOD	iP	16 36 27.4 U				KEV	eP	20 03 04
	H: 16 31 03.1 40.2 N, 15.4 E, 291 km Southern Italy								
							H: 19 50 34.5 16.9 N, 147.3 E, 45 km Mariana Islands		
1	NUR	ePKP	17 08 10			3	KJN	eP	02 48 45
	H: 16 48 32.5 30.5 S, 177.1 W, depth N Kermadec Islands								
1	NUR	iPKP	21 30 50.0	0.8	17.3	3	NUR	iP	08 18 30.4
		i	31 12.7				ePPS	32 20	1.0 16.0
		iSKP	34 23.7				KJN	iP	08 18 21.3 U
	KJN	iPKP	21 30 41.3	0.9	8.0		SOD	iP	08 18 21.0
	OUL	ePKP	21 30 38				KEV	eP	08 18 19
	H: 21 11 08.7 31.0 S, 177.5 W, 15 km Kermadec Islands								
							ePS	30 48	
							eSS	36 20	
							H: 08 04 55.6 3.8 S, 128.5 E, 97 km Ceram		
1	KJN	eP	23 15 52			3	NUR	eP	10 26 43
	OUL	eP	23 15 38				KJN	eP	10 26 18
	SOD	eP	23 15 18				SOD	eP	10 25 54
	H: 23 10 26.5 82.9 N, 49.7 W, depth N Greenland								
							H: 10 16 45.3 60.4 N, 148.0 W, 49 km Kenai Peninsula		
2	KJN	eP	02 58 43			3	NUR	iP	11 19 29.2 D
	SOD	eP	02 58 33				i	51.0	0.8 36.0
	H: 02 45 58.1 14.2 N, 91.0 W, 99 km Guatemala								
							KJN	iP	11 19 04.6 D
							i	55.2	0.7 26.7
							cont.		

October

				T	A
	SOD	iP	11 18 44.1		
	KEV	iP	11 18 27.6	0.8	21.6
	H: 11 08 38.9				
	51.6 N, 174.1 W, 46 km (D)				
	Andreanof Islands				
3	NUR	eP	12 37 02		
	KJN	iP	12 36 49.2 D	0.7	14.4
	SOD	iP	12 36 48.0		
		i	58.0		
	KEV	eP	12 36 45		
	H: 12 25 14.2				
	19.6 N, 122.0 E, 40 km				
	Philippine Islands				
3	NUR	iPKP	12 37 48.3 U	1.0	100.0
		i	58.0		
	KJN	iPKP	12 37 37.8	1.0	27.3
		i	52.2		
	H: 12 18 05.0				
	33.6 S, 179.2 W, depth N				
	South of Kermadec Islands				
3	NUR	eP	15 31 24		
	KJN	iP	15 31 18.7	0.8	8.5
	SOD	iP	15 31 27.1 U		
	KEV	eP	15 31 30		
	H: 15 20 48.6				
	18.3 N, 94.8 E, 30 km				
	Burma				
3	NUR	iP	18 23 10.4		
	KJN	iP	18 23 01.2		
	SOD	eP	18 22 56		
		i	23 06.6		
	KEV	eP	18 22 56		
	H: 18 11 01.6				
	16.0 N, 123.2 E, 35 km				
	Philippine Islands				
4	NUR	iP	00 50 47.0	0.9	33.6
	KJN	iP	00 50 22.7	1.0	46.9
	SOD	iP	00 50 11.9		
	KEV	eP	00 50 02	0.7	19.4
	H: 00 40 02.2				
	41.7 N, 142.8 E, 54 km				
	Hokkaido, Japan				
4	NUR	eP	04 35 05		
	KJN	iP	04 34 42.8	0.8	17.7
	SOD	eP	04 34 32		
	H: 04 24 09.8				
	40.3 N, 143.3 E, 31 km				
	Honshu, Japan				

October

				T	A
4	NUR	eP	05 57 02		
	KJN	iP	05 56 44.0 U	0.9	22.3
		i	47.7		
	SOD	iP	05 56 43.1 U		
	KEV	eP	05 56 38		
	H: 05 45 35.2				
	24.9 N, 122.6 E, 27 km				
	Taiwan				
4	NUR	iPKP	06 23 21.2	1.0	62.0
		ipPKP	55.1		
		ePP	25 00		
		eSKP	26 20		
		e	29 24		
		eSKS	30 25		
		eSKKS	31 40		
		ePS	35 12		
		eSS	41 52		
		e	44 56		
	KJN	iPKP	06 23 27.2 U	1.0	88.3
		i	24 08.8		
		i	31.2		
		eSKP	26 29		
	SOD	iPKP	06 23 32.5		
		ipPKP	24 04.6		
		iPP	25 42.0		
		iSKP	26 42.1		
	KEV	iPKP	06 23 38.3	1.1	33.0
		epPKP	24 08		
		ePP	25 40		
		eSKP	26 52		
		e	27 28		
		e	29 24		
		e	31 32		
		e	32 40		
		eSKSP	35 48		
		ePS	36 08		
		eSS	43 12		
	H: 06 04 31.9				
	56.2 S, 27.0 W, 63 km				
	South Sandwich Islands				
4	KJN	eP	07 04 37	0.7	11.0
	H: 06 50 50.9				
	7.3 S, 129.7 E, 52 km				
	Banda Sea				
4	NUR	iP	16 37 17.0		
	KJN	iP	16 36 52.3 D	0.9	31.3
	SOD	iP	16 36 27.3 D		
	H: 16 27 24.5				
	61.3 N, 147.2 W, 44 km				
	Southern Alaska				

October						October						
				T	A					T	A	
4	KJN	iP	19 23 49.5 U	0.8	28.5	6	KJN	iP	07 53 29.5 D	0.8	19.2	
		i	52.9					i	40.0			
		i	59.8				SOD	iP	07 53 38.3 U			
	SOD	iP	19 23 41.4					i	55.0			
	H:	19 11 18.6					KEV	iP	07 53 43.2	0.8	27.9	
		19.5 N, 147.1 E, 41 km (D)					H:	07 42 25.2				
		Mariana Islands						10.0 N, 93.7 E, 111 km				
								Andaman Islands				
4	NUR	eP	22 05 33			6	NUR	ePKP	09 06 28			
	KJN	iP	22 05 21.6	0.8	10.0			ePP	08 24			
								eSKP	09 32			
5	NUR	iPKP	06 25 24.0					ePKS	42			
	KJN	iPKP	06 25 12.8					eSS	26 12			
	H:	06 05 41.7					KEV	e	09 13 40			
		33.5 S, 179.6 W, depth N						eSS	24 24			
		South of Kermadec Islands					H:	08 47 02.0				
								14.7 S, 175.6 W, 3 ^F km				
								Samoa Islands				
5	NUR	eP	15 18 03									
		i	12.0				6	NUR	iP	15 11 54.2	1.2	48.5
		ipP	20.0					i	12 11.6			
		i	25.9					ePPP	36			
		eS	22 13					eS	16 00			
		i	18.0				KJN	iP	15 12 25.6	1.3	32.6	
		i	21.1				SOD	eP	15 12 56			
		i	32.1				H:	15 06 44.8				
	KJN	iP	15 18 16.6 U	0.8	31.5			36.9 N, 26.5 E, 40 km				
		ipP	32.4					Dodecanese Islands				
		eS	22 38									
		i	23 05.0				6	NUR	iP	19 51 52.1 D	0.8	31.7
	SOD	eP	15 18 43					e	52 34			
		i	19 04.7					KJN	iP	19 51 32.8 D	0.7	43.2
		ePPP	54					ipP	57.2			
		i	24 05.2					SOD	iP	19 51 24.3 D		
		i	29.3					i	26.3			
	KEV	iP	15 19 02.0					e	52 03			
		i	14.1				H:	19 40 26.2				
		i	47.0					24.7 N, 140.2 E, 109 km (D)				
		ePP	20 08					South of Honshu, Japan				
		i	24 54.7									
	H:	15 12 51.0										
		41.7 N, 49.5 E, 56 km (D)										
		Caspian Sea										
6	NUR	iP	00 45 52.1	0.9	25.2	6	NUR	iP	22 12 05.2	0.9	25.2	
	H:	00 40 44.0						i	07.3			
		36.9 N, 21.9 E, 55 km						e(S)	16 12			
		Southern Greece					KJN	iP	22 12 36.5 U	0.9	20.5	
							SOD	iP	22 13 06.4 U			
								ipP	52.3			
6	NUR	eSS	05 54 28				H:	22 07 10.9				
	KEV	eSS	05 52 38					38.8 N, 32.6 E, 39 km				
	H:	05 15 11.5						Turkey				
		15.0 S, 175.5 W, depth N										
		Tonga Islands					7	NUR	eP	01 41 48		

October				October			
	T	A		T	A		
7	NUR	ePn	06 57 39			eS	39 52
		eSn	59 22			e	40 48
		e	48			esS	42 46
		iSg	07 00 27.1			e	43 20
KJN	ePn		06 58 00			H: 19 20 20.3	
	e		16			26.3 N, 140.6 E, 516 km (D)	
	eSn		07 00 04			Bonin Islands	
	i		10.6				
	eSg		57	7	NUR	eP	19 58 15
SOD	eSn		07 00 03		KJN	iP	19 57 59.6
	eSg		01 01		SOD	iP	19 57 50.7
KEV	e		07 00 32		KEV	iP	19 57 47.1
	e		51			H: 19 47 02.7	0.6 16.3
	iSg		01 41.0			26.3 N, 140.8 E, 496 km	
	Uppsala:					Bonin Islands	
	H: 06 55 22				7	NUR	eP 20 12 18
	61.3 N, 5.0 E				7	KJN	eP 20 43 14
	West coast of Norway					H: 20 32 37.8	
7	KJN	eP	08 05 34			40.3 N, 143.9 E, depth N	
			H: 07 54 32.2			Honshu, Japan	
			27.6 N, 127.6 E, 91 km		7	NUR	iP 20 59 45.3 U 0.8 91.7
			Ryukyu Islands			i	59.5
7	NUR	iP	19 31 31.4 D			eS	21 08 32
		i	32.5			ePS	56
		epP	33 20			eScS	09 52
		esP	34 06			eSS	13 12
		ePP	44		KJN	iP	20 59 23.1 U 0.9 93.8
		epPP	36 16			i	39.6
		ePPP	32			eS	21 07 45
		e	39 00		SOD	iP	20 59 11.1 U
		eS	40 32			i	14.1
		iScS	50.0		KEV	iP	20 59 02.8 0.8 41.8
		e	42 32			i	05.8
		esS	43 56			i	31.2
		eSS	46 00			H: 20 49 01.3	
		esSS	48 44			42.0 N, 142.4 E, 32 km	
		eP'P'	58 25			Hokkaido, Japan	
		i	20 00 15.8		7	NUR	iP 22 09 18.2
		i	01 05.0				
KJN	iP		19 31 14.6 D		8	NUR	eP 00 00 54
	iS		40 17.7			KJN	eP 00 00 36
	esS		43 30			SOD	iP 00 00 30.4
	iP'P'		58 26.8			KEV	iP 00 00 26.2 0.8 15.8
	i		20 00 26.7			eS	10 52
SOD	iP		19 31 07.4 D			e	11 10
	eP'P'		58 30			H: 23 47 49.6	
	i		20 00 37.1			15.5 N, 146.8 E, depth N	
KEV	iP		19 31 02.7 D			Mariana Islands	
	ePP		33 36				
	e		34 32				
	e		38 06				
			cont.				

October				T	A	October				T	A
8	NUR	iP	01 01 50.3 U	0.6	37.8	9	NUR	iP	15 43 05.0	1.1	23.3
		i	02 07.2				KJN	eP	15 42 54		
	KJN	iP	01 01 29.7								
	SOD	iP	01 01 20.0 U			9	NUR	eP	18 13 07		
		i	38.0					e	10		
	KEV	eP	01 01 13				KJN	eP	18 13 24		
		i	33.0					H:	18 06 03.9		
		H:	00 50 41.8						29.9 N, 53.8 E, 26 km		
			35.6 N, 139.9 E, 76 km						Southern Iran		
			Honshu, Japan			9	NUR	eP	22 30 29		
8	NUR	ePP	08 02 43					i	40.0		
		ePPP	05 08			10	KJN	eP	01 53 13		
		eSKS	08 32					H:	01 41 01.0		
		ePS	12 18						10.7 N, 63.2 W, 26 km		
		e	13 56						Near coast of Venezuela		
		eSS	18 32			10	NUR	ePKP	15 24 01		
		eSSS	22 28					ePP	48		
	SOD	ePKP	08 02 05					ePS	34 12		
	KEV	ePKP	08 02 10					ePPS	35 20		
		ePP	03 12					eSS	41 00		
		ePS	13 10				KJN	ePKP	15 23 59		
		eSS	19 36					iPP	24 42.4		
		e	20 10				SOD	eP	15 20 02		
		eSSS	24 08				KEV	ePP	15 24 02		
		H:	07 43 23.1					ePPP	26 36		
			39.9 S, 87.7 E, depth N					eSKS	30 28		
			Southeast Indian Rise					ePS	33 24		
8	KJN	eP	11 59 43					eSS	39 36		
		H:	11 48 59.5					eSSS	43 28		
			35.7 N, 139.5 E, 103 km					H:	15 05 37.1		
			Honshu, Japan						6.0 S, 148.6 E, 72 km		
8	NUR	eSKKS	15 19 10						New Britain		
		esS	21 28			10	NUR	iP	22 56 08.3	0.5	19.4
		eSP	48				KJN	iP	22 56 08.2 U	0.5	22.1
		esSP	23 12				SOD	eP	22 56 32		
	KJN	ePKKP	15 22 48					H:	22 49 01.5		
	SOD	ePKKP	15 22 48						37.2 N, 70.0 E, 33 km		
		H:	14 53 38.5						Afghanistan-USSR border		
			23.3 S, 66.5 W, 221 km (D)			11	KJN	iP	00 08 03.9	0.7	9.6
			Jujuy, Argentina				SOD	iP	00 08 01.8		
9	NUR	eSSS	04 18 04					H:	23 56 56.4		
	KJN	ePKP	03 57 51	1.0	13.1				24.2 N, 122.2 E, 78 km		
	KEV	ePS	04 10 08						Taiwan		
		eSS	16 12			11	NUR	eP	03 23 47		
		H:	03 38 39.9				KJN	iP	03 23 48.4	0.6	4.8
			14.7 S, 175.5 W, 11 km					H:	03 16 50.0		
			Samoa Islands						36.0 N, 69.5 E, 185 km		
9	NUR	iP	05 09 17.6						Hindu Kush		

October					October				
			T	A			T	A	
11	NUR	eP	04 18 21			iSKP	38	34.3	
	KJN	eP	04 18 07			i		37.7	
		e	18			iPKS	39	29.0	
11	KJN	iP	08 01 04.4			esPKS	42	44	
		i	07.5		KJN	ePKP	19	35 40	
	SOD	iP	08 01 31.5			i		47.3	
11	SOD	eP	09 00 17			iSKP	38	21.3	
11	NUR	iPKP	15 32 51.0	1.0	29.4	i		47.1	
		i	33 02.4			iPKS	39	17.0	
	KJN	iPKP	15 32 45.7			SOD	iPKP	19 35 43.8	
	H:		15 13 14.4			iSKP	38	13.2	
			30.7 S, 177.5 W, 50 km			e	39	03	
			Kermadec Islands			KEV	iPKP	19 35 39.1	
11	NUR	eP	16 22 44			ePP	37	32	
11	NUR	iPKP	17 31 12.8 U	0.7	42.8	eSKP	38	06	
		i	30.9			ePKS	39	01	
	KJN	iPKP	17 31 08.4	1.2	25.8	esPKS	42	15	
	SOD	ePKP	17 30 43			e	49	36	
	H:		17 11 44.4			eSS	54	28	
			30.5 S, 178.0 W, 99 km			H:	19 17 39.9		
			Kermadec Islands				20.9 S, 178.8 W, 607 km (D)		
12	KJN	eP	02 32 32				Fiji Islands		
	SOD	eP	02 32 26			12	NUR	iP	
	H:		02 19 57.9					23 27 16.8 U	
			6.9 N, 72.8 W, 190 km					i	
			Northern Colombia					29.3	
12	KJN	iP	08 11 42.2	0.9	14.3		KJN	iP	
	SOD	eP	08 11 41					23 27 16.9 U	
		e	47					i	
	H:		08 00 05.1					43.0	
			18.9 N, 120.7 E, 26 km					iPP	
			Luzon, P.I.					28 40.0	
12	KJN	eP	12 25 36					eS	
	H:		12 14 34.0					32 51	
			29.6 N, 129.2 E, 27 km					SOD	
			Ryukyu Islands					iP	
12	KJN	iP	17 07 45.5					23 27 33.1	
	SOD	eP	17 07 47					iPP	
	H:		16 55 54.7					29 06.2	
			16.5 N, 122.2 E, 48 km					KEV	
			Luzon, P.I.					eP	
12	NUR	ePKP	19 35 48					23 27 42	
		i	55.5	1.2	181.4			i	
			cont.					42.7	
								i	
								51.0	
								esPP	
								30 20	
								eSS	
								36 44	
								e	
								37 12	
								H:	
								23 20 19.3	
								36.4 N, 70.8 E, 203 km	
								Hindu Kush	
12	NUR	eP	23 33 31			12	NUR	eP	
	KJN	iP	23 33 38.3	1.0	39.2			23 33 31	
	SOD	eP	23 33 25					23 33 38.3	
	KEV	eP	23 33 33					23 33 25	
	H:		23 21 32.3					23 33 33	
			10.8 N, 62.6 W, 80 km (D)					H:	
			Near coast of Venezuela					23 21 32.3	
13	SOD	eP	04 14 57					10.8 N, 62.6 W, 80 km (D)	
	H:		04 02 14.2					Near coast of Venezuela	
			16.5 N, 97.9 W, 64 km						
			Oaxaca, Mexico						

October

October

					T	A
13	NUR	iPKP	08 24	43.0 U	0.8	60.6
		i		47.2		
	KJN	ePKP	08 24	33		
		i		35.2	0.6	15.1
	SOD	ePKP	08 24	26		
	H: 08 05 09.3					
	30.6 S, 178.2 W, 60 km (D)					
	Kermadec Islands					
13	NUR	eP	10 34	35		
	KJN	iP	10 34	12.7 D	0.6	11.0
	SOD	eP	10 33	59		
	H: 10 23 48.8					
	41.6 N, 142.6 E, 40 km					
	Hokkaido, Japan					
14	NUR	iPKP	03 17	41.1	1.2	91.2
		i	18 22	28		
		e	21 20			
		eSKS	24 36			
		e	25 56			
		eS	26 40			
		iPKKP	28 05	2		
		ePS		40		
		e	33 28			
		eSS	35 40			
	KJN	iPKP	03 17	40.0	1.1	33.8
		iPP	18 41	8		
		i	19 54	0		
		ePKKP	28 01			
	SOD	iPKP	03 17	42.8		
		e	18 38			
		ePP		57		
		ePKKP	27 56			
	KEV	ePKP	03 17	43	1.2	91.2
		ePP		19 16		
		ePPP	21 20			
		ePS	29 00			
		eSS	35 28			
		e	36 12			
	H: 02 58 47.8					
	31.5 S, 117.0 E, 1 km					
	Western Australia					
14	NUR	eP	05 33	53		
		i		58.4	1.2	62.7
		eS	43 00			
	KJN	iP	05 33	50.0	1.2	34.4
		i		55.1		
		ePP	36 26			
	SOD	iP	05 33	55.3		
		i	34 03	6		
		iPcP		16.4		

cont.

					T	A
	KEV	iP	05 33	58.6		
		i		34 06.5		
	H: 05 22 44.3					
	12.6 N, 95.2 E, depth N					
	Andaman Islands					
14	NUR	iP	07 40	02.1		
	KJN	iP	07 39	46.1	0.9	14.3
	SOD	iP	07 39	38.8 U		
		i		45.3		
	KEV	eP	07 39	32	1.5	88.7
	H: 07 27 32.5					
	22.5 N, 144.3 E, 31 km					
	Volcano Islands					
14	NUR	iP	09 22	27.2	1.2	79.8
		iP		40.6		
	KJN	iP	09 22	06.2 U	1.3	204.0
		iP		19.7		
	SOD	iP	09 21	54.7		
		e		22 42		
	H: 09 11 27.5					
	38.2 N, 142.1 E, 69 km					
	Honshu, Japan					
14	KJN	eP	17 43	48		
	H: 17 32 37.7					
	24.1 N, 121.6 E, 43 km					
	Taiwan					
15	NUR	eSKS	02 18	52		
	KJN	iP	02 08	13.6	0.9	18.8
	SOD	eP	02 08	14		
	KEV	ePS	02 19	40		
		e		20 24		
	H: 01 55 16.3					
	0.9 N, 119.9 E, 34 km					
	Northern Celebes					
15	NUR	iP	02 22	53.1 U	0.7	116.1
		i		23 02.1		
		i		39.0		
		ePP		26 08		
		eS		33 12		
		e		34 40		
	KJN	iP	02 22	50.3 U	1.0	183.1
		i		25 33.5		
	SOD	iP	02 22	56.6 U		
		i		23 03.3		
		e		25 49		
	KEV	iP	02 22	58.7 U	1.0	100.0
	H: 02 10 34.4					
	0.5 S, 100.6 E, 98 km					
	Southern Sumatra					

October				October			
		T	A			T	A
15	KJN eP	03 06 34					
	H:	02 53 33.5					
		0.8 N, 119.9 E, 13 km					
		Northern Celebes					
15	NUR eP	15 57 27					
	KJN eP	15 57 06					
	e	19					
	H:	15 46 25.1					
		37.3 N, 141.3 E, 78 km					
		Honshu, Japan					
15	NUR iPKP	17 49 51.0 U	0.7	24.5			
	KJN ePKP	17 49 42					
	H:	17 30 16.4					
		30.3 S, 178.0 W, 50 km					
		Kermadec Islands					
15	NUR eP	17 59 20					
	KJN iP	17 59 18.2	0.7	7.5			
	SOD eP	17 59 26					
	H:	17 47 39.0					
		6.1 N, 95.5 E, 35 km					
		Nicobar Islands					
15	NUR iP	20 21 52.0	1.0	42.0			
	i	22 05.0					
	eS	32 28					
	e	52					
	ePS	33 48					
	KJN iP	20 21 41.5	0.8	36.9			
	i	44.3					
	i	22 05.5					
	SOD eP	20 21 38					
	i	43.8					
	KEV eP	20 21 39					
	i	57.7					
	eSKS	32 00					
	eScS	20					
	H:	20 09 08.7					
		9.0 N, 126.3 E, 63 km					
		Mindanao, P.I.					
15	NUR eP	22 39 07					
	SOD iP	22 38 11.7					
15	NUR eP	23 51 23					
	SOD iP	23 51 08.8					
16	SOD iP	01 53 42.3					
16	NUR eP	02 07 17					
	eS	16 56					
		cont.					
	KJN eP	02 07 12					
	SOD eP	02 07 12					
	i	31.1					
	H:	01 55 32.7					
		19.2 N, 69.8 W, 36 km					
		Dominican Republic					
16	NUR eP	04 42 26					
16	NUR eP	07 57 11					
	ePPP	08 01 36					
	eS	06 28					
	eSS	11 12					
	eSSS	14 48					
	eLR	08 20.5					
	KJN iP	07 56 54.0					
	iPcP	57 16.0					
	SOD eP	07 56 46					
	KEV eP	07 56 40					
	ePPP	08 00 40					
	eS	05 36					
	eSS	10 08					
	eSSS	13 12					
	H:	07 45 46.8					
		29.3 N, 129.4 E, 13 km					
		Ryukyu Islands					
16	NUR eP	10 11 20	0.8	13.0			
	KJN iP	10 11 09.8	0.7	13.0			
	SOD eP	10 11 09					
	H:	09 58 34.7					
		7.7 N, 126.8 E, 97 km					
		Mindanao, P.I.					
16	KJN eP	15 34 11					
	SOD eP	15 34 38					
	H:	15 27 29.4					
		32.6 N, 48.8 E, depth N					
		Western Iran					
16	NUR eP	19 47 47					
	KJN eP	19 47 22					
	SOD eP	19 46 54					
	e	47 24					
	KEV e	19 47 06					
	H:	19 37 01.6					
		52.5 N, 169.7 W, 67 km					
		Fox Islands					
17	NUR eSKKS	05 34 48					
	ePPS	38 36					
	eSS	43 52					
		cont.					



October

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KEV eSKS 05 33 56
 ePPS 37 44
 eSS 42 44
 H: 05 09 06.2
 3.8 S, 152.2 E, 22 km
 New Ireland

SOD eP 02 59 27
 epP 03 00 23
 H: 02 47 25.5
 18.9 N, 145.3 E, 225 km (D)
 Mariana Islands

17 NUR iP 07 06 01.2 D 0.8 25.4
 KJN iP 07 05 45.2 0.8 63.1
 ipP 06 01.9
 i 31.0
 SOD iP 07 05 38.3 D
 KEV iP 07 05 31.0 0.9 38.6
 i 45.2
 H: 06 53 16.7
 18.7 N, 146.4 E, 70 km
 Mariana Islands

18 NUR iP 06 05 27.9 U 1.1 39.6
 i 34.9
 eSS 19 56
 KJN iP 06 05 13.0 D 0.9 47.3
 i 19.2
 SOD iP 06 05 11.1
 i 15.8
 KEV iP 06 05 06.1 U 0.9 38.6
 i 12.0
 H: 05 54 05.7
 24.9 N, 122.3 E, 44 km
 Taiwan

17 NUR iP 13 39 18.1 U
 KJN iP 13 38 56.7 U 0.6 24.0
 ipP 39 15.5
 SOD iP 13 38 45.1
 ipP 39 04.3
 H: 13 28 24.8
 39.4 N, 141.9 E, 69 km
 Honshu, Japan

18 NUR iP 10 07 44.8 D 0.6 19.5
 i 08 03.7
 KJN iP 10 07 22.2 D 0.5 12.5
 i 26.3
 SOD iP 10 07 10.1 D
 KEV eP 10 06 59
 H: 09 57 05.8
 42.0 N, 142.3 E, 75 km
 Hokkaido, Japan

17 NUR iPKP 23 32 59.4
 i 33 17.7
 KJN ePKP 23 32 54
 SOD ePKP 23 32 47
 H: 23 13 40.4
 28.4 S, 177.0 W, 151 km
 Kermadec Islands

18 KJN eP 11 34 08
 i 25.0
 SOD eP 11 34 08
 H: 11 20 55.0
 1.2 N, 126.7 E, 11 km
 Molucca Passage

18 NUR eP 00 01 03
 i 18.0
 eS 04 52
 KJN eP 00 01 41
 i 47.3
 i 52.4
 SOD eP 00 02 07
 i 20.7
 i 49.8
 KEV e 00 02 41
 e 03 05
 H: 23 56 05.5
 38.3 N, 20.2 E, 29 km
 Greece

18 NUR eP 12 19 22
 KJN eP 12 19 00
 H: 12 08 44.1
 42.2 N, 142.6 E, 83 km
 Hokkaido, Japan

18 NUR eP 16 06 40
 KJN eP 16 06 34
 SOD iP 16 06 42.2

18 NUR iP 02 59 48.0
 KJN iP 02 59 32.9 D 0.8 11.5
 epP 03 00 25
 cont.

18 KJN i 19 04 30.5
 SOD eP 19 04 26
 i 38.3
 H: 18 53 12.9
 12.3 N, 95.1 E, depth N
 Andaman Islands



October					October						
					T	A					
19	KJN	iP	00 33	11.2 U	0.7	7.5					
	SOD	iP	00 33	10.8							
	H: 00 20 02.3										
	1.5 N, 126.1 E, 20 km										
	Molucca Passage										
19	NUR	iP	02 40	43.6							
		i		48.2	0.9	57.4					
		i		56.9							
		e	41	56							
		iPP	42	12.1							
	KJN	iP	02 40	41.4							
		i		46.4	0.9	58.9					
		e	41	49							
	SOD	iP	02 40	57.9							
	KEV	iP	02 41	05.2							
		eS	47	04							
	H: 02 33 30.9										
	37.3 N, 73.1 E, 76 km										
	Tadzhik SSR										
19	NUR	eP	07 08	48	0.7	32.8					
		e		55							
		e	09	01							
		eS	14	36							
	KJN	iP	07 08	46.7	0.8	22.3					
		i		47.6							
		iPP	10	26.0							
	SOD	iP	07 09	03.0							
		i		11.2							
	KEV	iP	07 09	11.0							
		eS	15	10							
	H: 07 01 33.4										
	37.3 N, 73.2 E, 51 km										
	Tadzhik SSR										
19	NUR	iP	09 59	20.0	0.8	36.7					
		i		23.0							
		i		45.8							
		iPP	10 00	49.0							
		eS	05	12							
	KJN	iP	09 59	18.2	0.7	21.2					
		i		22.0							
		i	10 00	40.0							
		iPP		46.4							
		eS	05	10							
	SOD	eP	09 59	33							
		i		37.6							
		ePP	10 01	04							
	KEV	eP	09 59	38							
		i		48.0							
		iPP	10 01	16.0							
	cont.										
		eS	05	48							
	H: 09 52 03.4										
	37.5 N, 73.3 E, depth N										
	Tadzhik SSR										
19	NUR	iP	15 40	24.4	0.8	21.2					
		i		59.3							
		eS	44	48							
	KJN	iP	15 40	57.3 U	1.0	20.7					
	SOD	iP	15 41	20.3							
		i		26.6							
	KEV	iP	15 41	47.2	0.8	20.2					
	H: 15 34 54.8										
	35.3 N, 23.5 E, 19 km										
	Crete										
19	NUR	ePKP	17 47	57							
		i		48 07.2							
		i		17.0							
		eSKP		51 28							
	KJN	ePKP	17 47	53							
		i		48 09.1							
	SOD	ePKP	17 47	51							
	H: 17 28 43.6										
	15.2 S, 173.3 W, depth N										
	Tonga Islands										
19	NUR	iP	19 27	28.2 U	0.6	34.2					
	KJN	iP	19 27	05.5 U	0.6	24.0					
	SOD	iP	19 26	53.5 D							
	KEV	iP	19 26	42.0	0.7	14.2					
	H: 19 16 46.7										
	41.8 N, 142.7 E, 67 km										
	Hokkaido, Japan										
19	NUR	ePKP	21 50	41							
	KJN	iPKP	21 50	59.1							
	SOD	ePKP	21 50	53							
	H: 21 31 43.0										
	59.4 S, 25.3 W, depth N										
	South Sandwich Islands										
19	NUR	eP	22 04	39							
20	NUR	iP	07 19	44.3							
		i		49.5 D	1.7	402.6					
		i	20	43.0							
		e	23	56							
		eS	29	04							
		eSS	34	10							
	KJN	iP	07 19	29.8 U	0.8	21.5					
		i		34.8 D	1.5	616.1					
	cont.										

October					October				
			T	A			T	A	
SOD	iP	07 19	27.2	U	21	NUR	iP	18 22 07.1	0.9 16.8
	i		32.4	D			i	13.0	
	e	20 22					i	54.6	
KEV	iP	07 19	19.9		KJN	e	18 22 40		
	i		27.4	1.6 374.7	SOD	iP	18 23 09.9		
	ePPP	23 32				i	15.5		
	eS	28 24			KEV	iP	18 23 33.1		
	e	31 30			H: 18 16 41.6				
	eSS	32 40			35.2 N, 23.4 E, 5 km				
H: 07 08 17.1					Crete				
25.0 N, 122.5 E, 15 km (G)					21	NUR	eP	22 30 19	
Taiwan						KJN	eP	22 30 34	
20	NUR	eP	12 32 47			SOD	eP	22 31 03	
	eS		41 36			e		23	
	e		43 44		Moscow:				
	eSS		46 08		H: 22 25 17				
KJN	eP	12 32 24			41.8 N, 44.6 E				
SOD	eP	12 32 13			Caucasus				
H: 12 21 47.2					21	NUR	eP	23 27 17	
40.3 N, 144.2 E, 15 km (G)						KJN	eP	23 27 55	
Honshu, Japan						SOD	eP	23 28 21	
20	KJN	eP	22 06 55		21				
H: 21 54 31.6						KJN	eP	23 44 25	
9.9 N, 61.8 W, 48 km						SOD	eP	23 44 51	
Near coast of Venezuela					22	NUR	eP	02 33 53	
20	NUR	eP	23 18 24			KJN	eP	02 33 50	
	i		30.6	0.7 40.3	22	NUR	eP	07 27 21	
	i		50.0			i		30.3	
	i	19 16.4			KJN	eP	07 28 04		
	eS	20 54			SOD	eP	07 28 35		
	i	21 17.0				i		41.1	
KJN	iP	23 19 09.7			BCIS:				
	eS	22 17			H: 07 23 18				
	i		33.8		43.5 N, 17.0 E				
SOD	iP	23 19 44.6			Yugoslavia				
	i		47.5		22	NUR	ePS	08 14 56	
	e	23 51				eSS		21 04	
KEV	iP	23 20 08.0	1.0 50.0		KEV	ePS	08 14 20		
	i		34.6			eSS		19 56	
	eS	24 28				e		23 44	
	e		41		H: 07 45 56.1				
H: 23 15 04.0					4.4 S, 104.9 W, depth N				
45.7 N, 26.6 E, 123 km					Easter Island Cordillera				
Rumania					22	NUR	eP	19 49 45	
21	NUR	iP	14 16 36.0	0.7 14.2	23	NUR	iPKP	02 13 38.0	1.0 24.0
	KJN	iP	14 16 39.0 D	0.7 10.3		i		47.8	
H: 14 03 37.3					cont.				
6.5 N, 76.5 W, 24 km (D)									
Northern Colombia									

October

October

October				October			
		T	A			T	A
	SOD eP	02 16 26			ePP	07 34	
	H:	02 02 26.9			i	56.1	
		3.5 S, 143.6 E, 40 km			eS	14 49	
		New Guinea			e	15 14	
24	KJN iP	04 27 33.9	0.8	16.1	SOD iP	16 04 04.1	
	SOD iP	04 27 40.8			i	06.1	
	H:	04 15 16.4			i	12.8	
		0.3 N, 99.7 E, depth N			ePP	07 34	
		Northern Sumatra			eS	14 45	
24	KJN eP	05 21 14			e	15 04	
					ePPS	16 24	
24	NUR eSS	05 41 00			eSS	20 52	
	e	52		KEV eP	16 03 59		
	KEV ePS	05 37 16			e	04 05	
	eSS	43 22			i	45.3	
	eSSS	47 28			e	05 19	
	H:	05 07 53.9			ePP	07 28	
		45.6 S, 34.1 E, depth N			e	11 20	
		Prince Edward Islands			eSKS	14 24	
24	KJN eP	09 44 12			eS	48	
	H:	09 32 43.7			ePS	15 56	
		28.7 N, 142.3 E, depth N			eSS	20 24	
		Bonin Islands			eLQ	16 28.5	
					H:	15 51 18.5	
						5.9 N, 127.0 E, 70 km (G)	
						Philippine Islands	
24	NUR iP	14 04 48.0			24 NUR eP	21 08 18	
	i	05 03.7			KJN iP	21 08 08.3	0.7 6.9
	KJN eP	14 05 02			SOD eP	21 08 03	
	SOD eP	14 05 20			H:	20 55 19.3	
						6.0 N, 127.1 E, 85 km	
						Philippine Islands	
24	NUR eP	14 11 56			24 NUR iP	21 56 18.6	1.1 28.0
	KJN iP	14 11 41.0	0.9	16.1	KJN iP	21 55 59.0 U	
	i	46.4			SOD iP	21 55 49.3	
	SOD iP	14 11 45.1			H:	21 44 46.2	
	H:	13 58 35.1				33.1 N, 142.1 E, 28 km	
		1.5 N, 126.4 E, 47 km				Honshu, Japan	
		Molucca Passage			24 NUR iP	22 46 16.3	
24	NUR iP	16 04 18.2	0.7	32.3		iPcP	54.3
	e	27			KJN eP	22 45 52	
	e	05 36			i	46 14.3	
	ePP	07 52			SOD iP	22 45 34.7	
	e	09 24			e	46 02	
	eSKS	14 40			H:	22 35 50.9	
	eS	15 00				49.7 N, 155.8 E, 35 km	
	e	22				Kurile Islands	
	ePS	16 04			25 NUR iPKP	02 41 21.6	
	e	36			KJN iPKP	02 41 28.6 D	0.9 16.1
	KJN iP	16 04 05.8	0.8	40.8			
	i	08.6					
		cont.					

October						October					
				T	A						
	SOD	iPKP	02 41 34.0			KJN	iP	16 08 05.4	0.8	20.8	
	H:		02 22 24.3			SOD	eP	16 08 05			
			59.0 S, 25.6 W, depth N			H:		15 55 11.9			
			South Sandwich Islands					3.5 N, 126.0 E, 80 km (G)			
								Talau Islands			
25	NUR	eP	05 02 52			25	SOD	eP	20 27 33		
	SOD	eP	05 03 05								
25	KJN	eP	05 15 43			26	KJN	iP	10 11 43.3		
	SOD	iP	05 15 25.2				H:		09 58 24.6		
									8.9 S, 110.9 E, 52 km		
25	NUR	iP	05 53 19.6						Java		
		i	24.9			26	NUR	iPKP	14 28 44.7	0.9	82.0
	KJN	iP	05 53 17.4				KJN	ePKP	14 28 33		
	SOD	iP	05 53 15.7				H:		14 09 30.1		
	KEV	eP	05 53 09						29.2 S, 178.6 W, 172 km		
25	SOD	iP	05 58 32.5						Kermadec Islands		
25	KJN	iP	07 30 05.2	0.9	14.3	26	NUR	iP	16 07 11.7	1.0	88.2
	SOD	iP	07 29 47.8					i	22.9		
25	NUR	iP	10 41 14.3	0.9	29.5		KJN	iP	16 06 49.1 D	0.9	44.7
	KJN	iP	10 41 12.0 D	0.8	21.5			iPcP	07 26.9		
		i	29.5				SOD	iP	16 06 36.3 D		
		i	42 16.8				KEV	iP	16 06 24.2	0.9	30.2
	SOD	iP	10 41 20.3 D				H:		15 56 27.1		
		i	37.3						42.9 N, 145.2 E, 41 km (D)		
	KEV	eP	10 41 23	1.0	42.0				Hokkaido, Japan		
		i	46.0			26	NUR	iP	19 27 39.8	0.6	13.4
		eS	51 16				KJN	iP	19 27 15.2 U	0.4	23.2
	H:		10 29 24.1				SOD	iP	19 26 53.8		
			4.3 N, 95.5 E, 33 km				KEV	eP	19 26 36		
			Northern Sumatra				H:		19 16 49.4		
25	NUR	iP	11 49 07.3 D	0.8	21.2				52.4 N, 169.5 W, 30 km		
		ePcP	35						Fox Islands		
	KJN	iP	11 48 42.3 D	0.6	10.3	26	NUR	iP	23 08 40.6		
		iPcP	49 19.8					i	51.9		
	SOD	iP	11 48 22.6				KJN	eP	23 08 25	0.7	9.6
		ePcP	49 07					i	35.2		
	H:		11 38 14.7				SOD	eP	23 08 20		
			50.6 N, 177.4 E, 23 km						Moscow:		
			Rat Islands						H: 22 57 06		
25	NUR	iP	14 08 17.0	1.1	39.6				25.6 N, 127.6 E		
	KJN	eP	14 07 52						Ryukyu Islands		
	SOD	eP	14 07 30			27	NUR	eP	11 34 30		
	H:		13 57 26.5				KJN	iP	11 34 24.0		
			52.4 N, 169.5 W, depth N				SOD	iP	11 34 31.4		
			Fox Islands			27	NUR	iP	13 55 05.0 U	1.0	45.1
25	NUR	iP	16 08 15.0					epP	45		
			cont.						cont.		

October

October

				T	A					T	A	
	KJN	iP	13 54 55.3 U	0.6	22.6		eSPP	04 36				
	SOD	iP	13 54 54.6				e	05 12				
	KEV	eP	13 54 52				e	08 28				
	H: 13 42 26.1						eSS	10 00				
	5.9 N, 125.6 E, 193 km						eSSS	14 32				
	Mindanao, P.I.					KJN	iPKP	23 51 15.1 U	1.0	223.5		
							ipPKP	30.0				
27	KJN	iP	20 49 09.5				i	55.0				
	SOD	eP	20 49 04				i	52 11.8				
	H: 20 38 33.6						i	35.0				
	40.5 N, 143.8 E, 11 km						ePPP	55 29				
	Honshu, Japan						ePKKP	24 01 07				
							e	18				
28	NUR	eP	12 59 24			SOD	iPKP	23 51 11.1				
		eS	13 03 18				ipPKP	26.8				
	KJN	eP	12 59 56				ePP	52 30				
		i	13 00 15.6				iPKKP	24 01 24.6				
	H: 12 54 32.8						eSP	54				
	39.0 N, 25.9 E, depth N					KEV	iPKP	23 51 07.8	0.8	96.5		
	Aegean Sea						ipPKP	22.6				
							ePP	52 20				
28	NUR	iP	14 52 05.0 U	0.9	55.8		eSKS	57 56				
		i	27.3				e	59 16				
		eS	15 01 24				ePS	24 02 00				
		eSS	06 16				eSS	08 36				
	KJN	iP	14 51 45.3 U	1.0	87.2		e	09 36				
		i	52 03.2				e	12 00				
		i	37.0				H: 23 32 28.7					
		ePP	54 21				12.5 S, 166.5 E, 60 km (G)					
	SOD	iP	14 51 36.1				Santa Cruz Islands					
		i	56.0									
	H: 14 40 41.4					29	NUR	eP	04 00 22			
	33.4 N, 140.8 E, 61 km						KJN	eP	04 00 08			
	South of Honshu, Japan					29	NUR	iP	04 17 47.3	1.0	68.6	
28	KJN	iP	17 57 37.0				i	18 08.0				
	SOD	eP	17 57 48				eS	27 20				
	H: 17 48 29.1						eSS	31 52				
	27.3 N, 86.1 E, 37 km						KJN	iP	04 17 28.1 D	1.0	103.6	
	Nepal						i	33.9				
							i	44.7				
28	NUR	iPKP	23 51 22.3	1.0	294.0		SOD	iP	04 17 19.1 D			
		ipPKP	36.8				i	31.0				
		e	52 27				KEV	iP	04 17 10.0 U	1.1	100.0	
		ePP	53 08				H: 04 06 04.1					
		ePKS	54 22				31.2 N, 141.6 E, 17 km					
		eSKS	58 00				South of Honshu, Japan					
		e	20			29	NUR	iP	06 38 31.6	1.1	37.3	
		e	59 40				KJN	iP	06 38 13.2 U	1.0	21.8	
		eSP	24 03 04				SOD	iP	06 38 04.1 U			
	cont.						cont.					

October

T A

KEV eP 06 37 50
H: 06 26 52.2
31.2 N, 141.7 E, 40 km
South of Honshu, Japan

29 NUR iP 06 56 54.0
KJN iP 06 56 37.2 U 1.0 38.2
SOD iP 06 56 27.9 U
KEV eP 06 56 20
H: 06 45 15.4
31.2 N, 141.7 E, depth N
South of Honshu, Japan

29 NUR ePKP 07 39 30
iSKP 42 10.0 1.1 37.3
ePKS 43 01
KJN iPKP 07 39 22.8 D 1.0 34.9
iSKP 41 57.4
ePKS 42 48
SOD ePKP 07 39 17
eSKP 41 49
KEV iPKP 07 39 14.0 1.0 44.0
H: 07 21 16.7
17.8 S, 178.8 W, 567 km (D)
Fiji Islands

29 KJN iP 10 09 43.0
SOD eP 10 09 59
H: 09 59 59.9
17.3 N, 73.9 E, 1 km
India

29 KJN ePKP 11 46 10
H: 11 26 51.8
22.5 S, 175.2 W, depth N
Tonga Islands

29 NUR eP 17 13 56
i 14 07.2
eSKS 24 20
eS 25 00
ePS 26 16
eSS 32 08
KJN iP 17 13 47.2 D 0.6 25.3
i 55.2
i 14 04.7
SOD iP 17 13 46.6 D
i 51.4
KEV eP 17 13 44
eSKS 24 12
cont.

October

T A

ePS 25 48
H: 17 00 40.4
1.8 N, 126.4 E, depth N
Molucca Passage

29 NUR iP 22 25 43.6 U 1.8 1236.9
i 46.6
ePP 27 48
e 28 24
eS 33 20
ePS 36
KJN iP 22 25 17.1 D
i 22.0
iPcP 26 33.1
ePP 27 07
ePPP 28 12
eS 32 35
SOD iP 22 24 51.8 D
i 56.5
ePP 26 44
iPPP 27 34.5
eS 31 48
ePS 56
eSS 35 20
KEV iP 22 24 32.5 U
i 37.0
i 25 06.5
ePP 26 16
ePPP 52
e 28 16
e 30 36
eS 31 12
e 32 32
H: 22 16 15.6
65.4 N, 150.1 W, 7 km
Alaska

29 SOD iP 23 52 06.6
H: 23 43 32.9
65.6 N, 150.0 W, 16 km
Alaska

30 KJN iP 00 20 25.3 U 0.6 13.0
SOD eP 00 20 25
H: 00 07 16.2
1.8 N, 126.4 E, depth N
Molucca Passage

30 KJN eP 00 55 34
H: 00 42 35.5
6.3 S, 103.9 E, 60 km
Southwest of Sumatra

October						October					
				T	A					T	A
30	NUR	eP	01 25 56								
30	NUR	iP	04 14 41.2	0.7	28.4		eS	17 03 22			
	KJN	iP	04 14 39.0 D	0.7	19.9		H: 16 51 33.5				
		i	41.7				37.9 N, 38.6 E, 3 km				
		ePP	16 03				Turkey				
	SOD	eP	04 14 57			31	NUR	eP	00 10 45	0.6	13.8
	H:	04 07 20.7				31	NUR	eP	00 35 12		
		37.4 N, 73.2 E, 12 km					KJN	iP	00 34 46.3 D	0.8	17.7
		Tadzhik SSR						i	51.2		
30	NUR	ePKP	05 45 08				SOD	iP	00 34 20.3 D		
	KJN	iPKP	05 45 15.1	1.0	25.1			i	25.8		
	SOD	ePKP	05 45 20				KEV	eP	00 34 01		
	H:	05 26 11.5					H:	00 25 45.1			
		59.0 S, 25.6 W, 39 km					65.4 N, 150.1 W, 16 km				
		South Sandwich Islands					Alaska				
30	SOD	eP	06 24 06			31	NUR	eP	02 35 12		
	H:	06 15 33.6				31	NUR	iP	03 27 30.8 U	1.5	140.1
		65.6 N, 150.1 W, depth N						i	38.0		
		Alaska						i	53.0		
30	NUR	iPKP	10 01 12.2 D	0.9	231.8			eS	31 48		
		i	18.2					e	32 12		
		isPKP	03 19.5				KJN	iP	03 28 03.7 U	0.9	23.2
	KJN	iPKP	10 01 00.8 U	0.7	30.8			i	18.1		
		i	03.4				SOD	iP	03 28 33.3		
		esPKP	03 03					iPP	29 37.3		
	SOD	ePKP	10 00 51				H:	03 22 15.0			
		esPKP	03 03				36.6 N, 27.1 E, 11 km				
	H:	09 42 10.8					Dodecanese Islands				
		31.0 S, 179.9 W, 328 km				31	NUR	eP	04 48 55	1.1	28.6
		Kermadec Islands				31	NUR	iP	07 51 19.5	0.7	14.2
30	SOD	eP	11 49 04				KJN	iP	07 50 58.3 U	0.7	23.3
	H:	11 41 56.9					SOD	iP	07 50 47.3		
		35.1 N, 3.6 W, 34 km					H:	07 40 19.5			
		Straits of Gibraltar					38.2 N, 142.2 E, 70 km				
							Honshu, Japan				
30	NUR	eP	16 56 53			31	NUR	iP	09 19 54.4 U	1.1	97.6
		i	57 03.5					i	20 13.8		
		eS	17 01 12					ePP	23 50		
	KJN	iP	16 57 18.5	1.4	78.3			e	24 28		
	SOD	eP	16 57 52					eSKS	30 24		
	KEV	eP	16 58 11	1.0	44.0			eS	31 04		
			cont.					ePS	32 12		
								eSS	38 08		
									cont.		

October

T A

KJN iP 09 19 45.0 U
 i 52.0
 i 21 11.9
 ePP 23 14
 eSKS 30 17
 eS 47
 iPKKP 36 58.0
 SOD iP 09 19 45.2 U
 ePP 23 25
 eSKS 30 14
 eS 52
 ePS 31 56
 KEV iP 09 19 43.1 U 1.1 107.1
 i 20 31.4
 ePP 23 36
 eSKS 30 12
 eS 44
 ePS 31 52
 e 33 28
 eSS 36 52
 e 38 00

H: 09 06 36.4
 1.2 N, 126.3 E, depth N
 Molucca Passage

31 NUR eP 12 15 21 1.0 32.0

October

T A

31 SOD iP 14 42 38.8
 H: 14 30 59.3
 17.9 N, 67.6 W; 46 km
 Mona Passage
 31 KJN eP 19 32 55
 SOD iP 19 32 28.9
 H: 19 23 54.3
 65.5 N, 150.0 W, 9 km
 Alaska

September 23, 1969

Urmas Luosto
 Aili Huovila

November				T	A	November				T	A
3	NUR	iP	02 36 49.7	0.8	16.9	3	KJN	eP	08 22 48		
	KJN	iP	02 36 31.2	0.6	11.6		SOD	eP	08 22 48		
	SOD	eP	02 36 22				H: 08 09 54.1 4.0 N, 124.9 E, 131 km Celebes Sea				
3	KJN	iP	03 08 16.8	0.7	6.9	3	NUR	eP	09 58 58		
	H: 03 11 09.8 7.0 S, 155.6 E, 87 km Solomon Islands						e	59 01			
	KJN	eP	09 59 15			3	NUR	eP	15 04 34		
3	NUR	eP	04 53 51				eS	13 32			
	i		53.0				eSSS	21 04			
	i		54 00.0			KJN	iP	15 04 12.0 U	0.8	12.3	
	i		19.6			SOD	eP	15 04 00			
	e		55 42			KEV	eP	15 03 48			
	eS		57 08				eS	12 06			
	eLQ	04	58.0				eSS	16 08			
	eLR	05	00.5			H: 14 53 36.6 40.1 N, 143.7 E, depth N Honshu, Japan					
KJN	eP	04	54 32			3	NUR	eP	18 44 53		
	i		33.2				i	56.2			
	i		39.0				i	45 21.8			
	eS		58 27				eS	48 52			
SOD	iP	04	55 01.2			KJN	iP	18 45 27.0	0.7	10.3	
	i		09.2			SOD	eP	18 45 57			
	i		56 17.7			H: 18 39 58.8 38.8 N, 29.2 E, 5 km Turkey					
	eS		59 27			3	NUR	eP	18 48 58		
KEV	eP	04	55 21	0.6	10.0		KJN	eP	18 49 33		
	i		28.2			H: 18 44 02.1 38.6 N, 29.7 E, 12 km Turkey					
	i		52.4			4	NUR	iP	01 58 01.4 U		
	iPPP		56 20.2				KJN	iP	01 57 50.3 U	0.6	34.9
	ePcP		58 28				SOD	iP	01 57 50.2		
	eS	05	00 12				KEV	eP	01 57 48		
	e		40			H: 01 45 52.4 13.4 N, 120.4 E, 74 km Mindoro, P.I.					
H: 04 49 31.8 42.1 N, 19.4 E, 17 km Yugoslavia						4	NUR	eP	03 58 01		
3	NUR	eP	05 20 30			4	NUR	eP	09 11 54		
	KJN	eP	05 21 18				eS	19 32			
	SOD	eP	05 21 40				eSS	23 24			
3	KJN	eP	07 46 38			KJN	iP	09 12 07.6	1.0	14.2	
	SOD	iP	07 46 13.1			SOD	iP	09 12 17.2			
H: 07 37 40.2 65.6 N, 149.9 W, 14 km Alaska						cont.					
3	NUR	e	08 14 48								
	ePPP		18 08								
	eS		22 36								
	e		29 04								
H: 08 04 15.6 6.8 N, 60.1 E, depth N Carlsberg Ridge											

November

November

				T	A					T	A
	KEV	iP	09 12 41.8	0.9	16.8	4	NUR	eP	13 47 53		
	H: 09 02 31.8						SOD	eP	13 47 20		
	12.2 N, 58.0 E, depth N					4	KJN	iP	15 26 43.3		
	Arabian Sea						SOD	eP	15 26 25		
4	NUR	iPKP	09 25 31.0			4	NUR	eP	20 11 18		
		i	39.6	0.9	258.0		eS	15 24			
		ipPKP	27 50.4				H: 20 05 59.4				
		iSKP	28 06.2				36.5 N, 27.1 E, 39 km				
		iPKS	29 00.9				Dodecanese Islands				
		epPKS	31 08			5	NUR	eP	02 10 48	1.0	20.5
		eSKS	51				KJN	iP	02 10 47.5 U	0.8	16.9
		eSKKKS	33 44				H: 02 02 44.2				
		eSKSP	36 56				32.4 N, 76.4 E, depth N				
		eSKKP	38 17				Kashmir-India border				
		eSPP	36			5	NUR	eP	03 15 12		
		esPS	39 32				KJN	eP	03 15 12		
		e	42 08				i	15.3			
		eSS	44 12				H: 03 07 08.3				
		e	46 38				32.4 N, 76.6 E, depth N				
		e	52 28				Kashmir-India border				
	KJN	iPKP	09 25 32.3			5	KJN	eP	05 25 20		
		ipPKP	27 50.8			5	NUR	eP	18 43 32		
		e	28 14			6	KJN	iP	00 56 06.5	0.7	13.7
		iSKS	31 30.0				SOD	eP	00 56 06		
		i	41.2				H: 00 43 12.2				
		ipKKP	35 18.6				4.0 N, 126.3 E, 58 km				
	SOD	iPKP	09 25 27.7				Talaud Islands				
		ePKKP	35 25			6	KJN	eP	01 05 25		
		eSP	36 04			6	NUR	eP	01 39 43		
	KEV	iPKP	09 25 24.4	1.0	170.0		i	52.6			
		i	36.5				KJN	iP	01 39 21.7	1.1	50.0
		epPKP	27 40				SOD	iP	01 39 09.9		
		eSKP	28 06				H: 01 28 43.6				
		ePKS	58				40.3 N, 143.6 E, 9 km				
		esPP	29 50				Honshu, Japan				
		eSKS	31 28			6	NUR	iP	06 32 53.7	0.5	16.6
		eSKKKS	32 58				KJN	iP	06 32 31.1	0.7	11.0
		ePKKP	35 33				SOD	iP	06 32 19.1		
		eSP	56				H: 06 22 05.5				
		eSPP	37 16				41.2 N, 143.1 E, 48 km				
		e	38 04				Hokkaido, Japan				
		esPS	39 40								
		eSS	42 44								
		eSSS	47 20								
	H: 09 07 38.5										
	14.2 S, 172.0 E, 585 km (D)										
	New Hebrides Islands										
4	NUR	ePKP	10 54 21	0.6	17.9	6	NUR	iP	06 32 53.7	0.5	16.6
	KJN	iPKP	10 54 13.9 U	0.7	16.4		KJN	iP	06 32 31.1	0.7	11.0
	H: 10 36 21.3						SOD	iP	06 32 19.1		
	14.1 S, 172.0 E, 591 km						H: 06 22 05.5				
	New Hebrides Islands						41.2 N, 143.1 E, 48 km				
							Hokkaido, Japan				

November

					T	A
6	NUR	iP	13 46 32.2 U	1.0	86.1	
		i	38.9			
		i	47 27.3			
	KJN	iP	13 47 00.6 U	0.7	14.4	
		i	06.9			
		e	34			
		i	48 12.0			
	SOD	iP	13 47 31.3			
		i	37.2			
		ePP	48 33			
	KEV	eP	13 47 52			
		i	57.9			
	H: 13 41 04.5					
	35.2 N, 32.8 E, 54 km					
	Cyprus					
6	NUR	eP	14 44 43			
6	NUR	eP	17 12 42			
	KJN	iP	17 12 58.0	0.9	9.8	
	H: 17 06 05.3					
	31.7 N, 50.7 E, 42 km					
	Iran					
6	NUR	ePS	20 45 34			
		eSS	51 25			
		eSSS	55 40			
	H: 20 16 06.1					
	6.1 S, 107.1 W, depth N					
	Easter Island Cordillera					
6	NUR	eP	22 33 29			
	KJN	iP	22 33 18.2 U	0.5	15.4	
	SOD	iP	22 33 18.4			
	H: 22 21 19.9					
	13.5 N, 120.4 E, 68 km					
	Mindoro, P.I.					
7	NUR	iP	00 59 11.2			
		i	16.0			
		eS	01 07 57			
		eSS	12 20			
	KJN	eP	00 58 50	0.7	6.9	
	SOD	eP	00 58 29			
	KEV	eP	00 58 08			
		i	13.3			
	H: 00 48 33.6					
	54.3 N, 164.6 W, 37 km					
	Unimak Island					
7	NUR	ePKS	03 55 40			
		eSS	04 12 28			
		eSSS	17 20			
	cont.					

November

				T	A
	KEV	eSS	04 10 32		
		e	15 32		
	H: 03 32 50.8				
	16.6 S, 172.7 W, depth N				
	Samoa Islands				
7	NUR	iP	09 29 58.2	1.0	46.0
		i	30 13.2		
	KJN	iP	09 29 36.2 U	1.2	170.3
		ePP	31 55		
	SOD	iP	09 29 24.3 U		
		i	36.3		
	KEV	iP	09 29 14.1	1.0	38.0
	H: 09 19 07.3				
	40.2 N, 142.3 E, 61 km				
	Honshu, Japan				
7	NUR	iP	10 06 02.0	0.7	657.9
		i	03.0		
		e	08 24		
		eS	09 10		
	KJN	iP	10 05 13.0 U		
		eS	07 36		
	SOD	iP	10 04 43.0		
		eS	06 38		
	KEV	iP	10 04 21.5 U	0.6	650.0
		eS	06 04		
		e	20		
	H: 10 02 05.3				
	73.4 N, 54.9 E, 0 km (G)				
	Novaya Zemlya				
7	NUR	iP	14 47 19.0 U	0.6	58.8
	KJN	iP	14 46 55.0 U	0.7	56.2
	SOD	iP	14 46 40.4 U		
	KEV	iP	14 46 28.5 U	0.9	46.0
	H: 14 36 38.8				
	45.0 N, 150.0 E, 59 km				
	Kurile Islands				
7	NUR	ePKP	18 01 56		
	KJN	ePKP	18 02 04		
	H: 17 43 12.6				
	59.1 S, 24.9 W, 146 km				
	South Sandwich Islands				
7	NUR	eP	23 15 57	0.8	21.2
	KJN	eP	23 15 33		
	SOD	eP	23 15 12		
	H: 23 05 17.7				
	53.8 N, 165.7 W, 60 km				
	Fox Islands				

November

November

				T	A					T	A
8	NUR	iPKP	08 01 36.8	0.9	82.0	9	NUR	eP	04 24 36		
	KJN	iPKP	08 01 29.5 U	0.6	38.4			e	51		
	SOD	iPKP	08 01 25.5				KJN	eP	04 24 11		
	KEV	iPKP	08 01 22.4	0.8	25.4			e	23		
	H: 07 42 57.3						SOD	eP	04 23 35		
	13.3 S, 167.2 E, 192 km (D)							i	42.1		
	New Hebrides Islands						KEV	e	04 23 40		
	H: 04 20 53.1						71.9 N, 3.5 W, depth N				
	Jan Mayen Island						H: 04 31 44.7				
8	NUR	eP	16 15 42			9	NUR	eP	04 45 09		
	KJN	eP	16 15 40				KJN	eP	04 44 55		
		i	43.6				SOD	eP	04 44 55		
	SOD	eP	16 15 23				H: 04 31 44.7				
	KEV	i	16 15 32.1				0.7 N, 126.0 E, depth N				
	H: 16 11 15.7						Molucca Passage				
	64.7 N, 17.4 W, depth N										
	Iceland										
8	NUR	ePKP	18 45 27			9	NUR	eP	12 43 34		
		i	33.0	0.8	28.2		KJN	eP	12 44 14		
		iSKP	48 05.0				SOD	eP	12 44 42		
		iPKS	49 06.0				H: 12 38 57.8				
	KJN	iPKP	18 45 25.3 U	0.8	30.8		40.1 N, 28.7 E, 41 km				
		eSKP	47 52				Turkey				
		ePKS	48 53								
	SOD	iPKP	18 45 20.7			9	NUR	iSKP	13 34 21.6		
		iSKP	47 42.4				KJN	ePKP	13 31 38		
	KEV	iPKP	18 45 17.2	0.8	24.0			eSKP	34 09		
	H: 18 27 26.7						SOD	iSKP	13 34 00.7		
	19.5 S, 179.2 W, 670 km (G)						H: 13 13 31.3				
	Fiji Islands						20.1 S, 178.6 W, 615 km (G)				
	Fiji Islands						Fiji Islands				
8	NUR	ePKP	19 03 40			9	NUR	iP	13 52 00.5	1.0	27.4
	H: 18 45 34.0							ePP	53 47		
	20.0 S, 178.2 W, 596 km							eS	58 40		
	Fiji Islands							eSS	14 01 52		
9	NUR	eP	02 31 40					e	02 24		
	KJN	eP	02 31 30				KJN	iP	13 52 08.0 U	1.0	28.3
	SOD	eP	02 31 29					ePP	53 57		
	H: 02 18 23.0						SOD	iP	13 52 27.7		
	1.4 N, 126.1 E, 40 km						KEV	iP	13 52 37.5	0.8	36.0
	Molucca Passage							i	41.3		
9	NUR	iP	03 00 22.0					e	53 20		
		e	01 00					ePP	54 40		
	KJN	eP	03 00 09					ePS	14 00 08		
	SOD	iP	03 00 16.3					eSS	03 44		
	KEV	eP	03 00 19					e	05 04		
	H: 02 53 57.7						H: 13 43 38.4				
	49.8 N, 78.0 E, 0 km (G)						23.8 N, 64.7 E, depth N				
	Eastern Kazakh SSR						West Pakistan				



November

				T	A
9	NUR	iP	17 12 35.2 U	1.1	58.3
		i	43.0		
		i	13 10.0		
		eS	21 28		
	KJN	iP	17 12 27.8 U	0.9	48.2
		i	34.2		
		e	13 35		
		iPP	14 46.4		
	SOD	iP	17 12 11.6 U		
		i	19.3		
	KEV	iP	17 12 03.1	0.7	25.8
		i	10.0		
		eS	20 28		
	H: 17 01 41.1				
	38.0 N, 88.5 W, 19 km				
	Southern Illinois				

9	NUR	eP	19 25 08		
		eS	29 04		
	KJN	iP	19 25 04.8		
	SOD	eP	19 24 50		
	KEV	eP	19 24 50		
	H: 19 20 22.8				
	63.9 N, 21.1 W, 24 km				
	Iceland				

9	NUR	eP	20 43 59		
		ePP	47 44		
		eS	54 52		
		e	55 00		
		eSP	56 16		
		eSS	21 01 24		
		e	02 20		
	KJN	iP	20 43 48.0	0.9	37.5
		e	45 12		
		ePKKP	21 01 07		
	SOD	iP	20 43 48.8		
		eS	54 49		
		ePKKP	21 01 08		
	KEV	eP	20 43 45	0.7	25.8
		ePP	47 32		
		ePPP	49 12		
		eSKS	54 20		
		eS	40		
		eSP	55 52		
		ePPS	56 28		
		e	57 20		
		eSS	21 00 40		
		e	02 00		
	H: 20 30 41.9				
	2.4 N, 126.8 E, depth N				
	Molucca Passage				

November

				T	A
10	NUR	eP	12 56 17		
	SOD	eP	12 57 14		
	H: 12 50 42.9				
	34.8 N, 24.3 E, 33 km				
	Crete				
10	NUR	eP	14 24 42		
	KJN	eP	14 24 18		
	SOD	eP	14 24 05		
	H: 14 14 18.4				
	44.8 N, 146.7 E, 145 km				
	Kurile Islands				
10	NUR	eP	15 25 30		
	KJN	eP	15 25 05		
	SOD	eP	15 24 57		
	H: 15 14 42.1				
	41.4 N, 142.0 E, 53 km				
	Hokkaido, Japan				
10	NUR	iP	17 13 45.5	1.3	56.6
		i	57.0		
		eS	23 24		
		eSS	28 24		
	KJN	iP	17 13 32.5 D	1.0	41.4
		i	40.2		
		eS	23 01		
	SOD	iP	17 13 31.3		
		i	42.3		
	KEV	iP	17 13 27.1	1.0	56.0
		i	38.8		
		i	14 32.6		
		eS	22 50		
		eSS	28 00		
		e	31 10		
	H: 17 01 59.2				
	20.0 N, 121.4 E, depth N				
	Philippine Islands				
10	NUR	iP	21 37 34.8 U	0.7	37.8
	KJN	iP	21 37 32.0 U	0.7	35.6
		i	52.6		
	SOD	iP	21 37 38.6		
	KEV	iP	21 37 40.1	1.1	76.2
	H: 21 24 51.7				
	3.6 S, 102.0 E, depth N				
	Southern Sumatra				
11	NUR	iP	02 11 56.5	0.7	8.8
	KJN	iP	02 11 32.2	0.7	7.5
	KEV	eP	02 10 48		
	H: 02 01 34.1				
	52.8 N, 175.0 W, 222 km				
	Andreanof Islands				



November				November			
		T	A		T	A	
11	NUR ePKP	02 16	43				
	i		49.0				
	iSKP	19	18.0				
	KJN ePKP	02 16	40				
	iSKP	19	05.9				
	SOD iSKP	02 18	56.9				
	H: 01 58		41.0				
			19.6 S, 179.1 W, 674 km				
			Fiji Islands				
11	NUR iP	03 14	36.0	0.8		25.4	
11	NUR eP	06 31	43				
11	KJN eP	07 01	13	0.8		11.5	
	SOD eP	07 01	06				
	H: 06 49		13.9				
			24.6 N, 142.7 E, 22 km				
			Volcano Islands				
11	NUR iP	09 04	11.1 U	1.0		147.0	
	i		31.1				
	iPcP		49.7				
	KJN iP	09 03	46.9 U	1.0		137.3	
	iPcP	04	35.3				
	SOD iP	09 03	23.3 U				
	i		44.0				
	KEV iP	09 03	05.2 U	0.8		89.7	
	i		26.6				
	iPcP	04	12.2				
	H: 08 53		52.0				
			57.3 N, 155.3 W, 59 km				
			Alaska Peninsula				
11	NUR iP	14 52	11.6 U	0.8		73.3	
	i		21.0				
	i		34.8				
	e		53 00				
	ePP		54 40				
	ePPP		56 20				
	e		52				
	eS	15 01	08				
	ePS		46				
	eSS		05 36				
	eSSS		08 48				
	eLR	15	13.5				
	KJN iP	14 51	50.0 U	0.8		157.6	
	i		58.3				
	i		52 12.9				
	eS	15 00	27				
	ePS		46				
			cont.				
	SOD iP	14 51	37.9 U				
	i		47.2				
	i		57.1				
	eS	15 00	05				
	KEV iP	14 51	27.2 U	0.8		58.8	
	i		32.4				
	e		53 12				
	ePPP		55 12				
	eS		59 40				
	e	15 00	36				
	eScS		01 12				
	eSS		03 48				
	e		06 00				
	H: 14 41		15.9				
			40.1 N, 143.0 E, 35 km				
			Honshu, Japan				
11	KJN iP ²	15 56	58.9				
	SOD iP ²	15 56	57.4				
	KEV iP ²	15 56	54.8	0.9		25.8	
	H: 15 37		06.9				
			46.4 S, 166.1 E, depth N				
			South Island, N.Z.				
11	NUR iP	17 16	29.1 U	0.6		18.3	
	KJN iP	17 16	12.3 U	1.1		54.0	
	SOD iP	17 16	05.0 U				
	KEV iP	17 15	57.5 U	0.9		20.6	
	H: 17 04		35.8				
			25.3 N, 140.9 E, 159 km (D)				
			Volcano Islands				
11	NUR eP	23 39	34	1.3		76.6	
	i		36.6				
	i		46.0				
	iPP		40 09.2				
	eS		43 52				
	KJN eP	23 40	08	1.0		15.3	
	e		20				
	e		41 42				
	SOD eP	23 40	36				
	KEV eS	23 46	16				
	H: 23 34		21.0				
			36.7 N, 27.1 E, 23 km				
			Dodecanese Islands				
11	NUR eP	23 58	18				
	KJN eP	23 58	51				
	H: 23 53		04.1				
			36.5 N, 27.2 E, 21 km				
			Dodecanese Islands				

November				T	A	November				T	A	
12	NUR	iP	00 55 37.2 U	0.8	108.6	12	KJN	eP	07 00 40			
		i	54.0									
		e	57 18			12	NUR	eP	07 36 22			
		ePPP	01 00 10				KJN	iP	07 36 08.0	0.6	10.3	
		eS	04 56				SOD	iP	07 36 15.6			
		ePPS	05 56				KEV	eP	07 36 18			
		eSS	10 20			12	NUR	eP	09 08 21			
		eSSS	13 40				i		35.0			
	KJN	iP	00 55 20.7	1.0	212.6		i		09 01.7			
		i	56 32.0				eS		17 12			
	SOD	iP	00 55 15.7 U				eSS		21 24			
		i	50.5				KJN	iP	09 07 59.1 D			
		e	57 25				i		08 07.0			
	KEV	iP	00 55 09.4	0.9	283.8		SOD	iP	09 07 47.2			
		i	21.3				i		58.7			
		i	57.4				KEV	iP	09 07 36.0	0.9	37.0	
		i	56 14.7				i		47.6			
		e	58 00				e		09 28			
		ePPP	59 36				eS		15 44			
		e	01 00 20				eSS		19 36			
		eS	04 04				H: 08 57 27.1					
		eScS	05 04				41.2 N, 143.9 E, 17 km					
	H: 00 44 12.8						Hokkaido, Japan					
	27.5 N, 128.4 E, 48 km (D)											
	Ryukyu Islands											
12	NUR	iP	03 42 51.0	1.0	29.4	12	NUR	eP	10 05 06			
		i	57.0				KJN	eP	10 04 46	0.7	5.5	
		eS	47 08				SOD	eP	10 04 41			
	KJN	iP	03 43 23.0	1.0	17.4		KEV	eP	10 04 33			
	SOD	eP	03 43 52				H: 09 53 42.2					
	KEV	eS	03 49 40				29.2 N, 129.4 E, 22 km					
	H: 03 37 35.7						Ryukyu Islands					
	36.6 N, 27.3 E, 17 km											
	Dodecanese Islands						12	NUR	iP	14 15 27.8 U	0.6	23.2
								i	40.6			
								iPcP	53.3			
12	KJN	eP	05 59 05				KJN	iP	14 15 06.0 U	0.8	65.4	
	SOD	eP	05 59 10					i	17.6			
	H: 05 46 32.8							ePP	17 23			
	5.9 N, 125.1 E, 138 km							SOD	iP	14 14 54.6 U		
	Mindanao, P.I.							i	15 04.8			
							KEV	iP	14 14 44.2	0.9	28.6	
12	NUR	iP	06 14 09.3	1.2	44.6			i	55.9			
		i	33.1				H: 14 04 34.7					
		eS	18 24				40.0 N, 142.6 E, 53 km					
	KJN	eP	06 14 43				Honshu, Japan					
	SOD	eP	06 15 10									
	KEV	eP	06 15 34			12	NUR	iPKP	22 19 52.5	0.8	9.9	
		eS	20 44					ePKS	23 24			
	H: 06 08 54.3							ePS	33 16			
	36.6 N, 27.3 E, 24 km							e	35 20			
	Dodecanese Islands							cont.				

November				November					
			T	A		T	A		
	eSS	39 40			KEV	iP	18 51 57.0	0.8	37.4
	eSSS	45 08				i	52 10.5		
KJN	iPKP	22 19 45.3	0.9	10.7		i	21.2		
KEV	ePP	22 21 30				ePP	54 08		
	e	32 24				ePPP	55 36		
	eSS	38 20				eS	19 00 12		
	H:	22 00 39.1				ePS	24		
		15.6 S, 172.8 W, 47 km				e	02 00		
		Samoa Islands				eSS	04 12		
						H:	18 41 47.9		
13	NUR	eP	07 34 28				40.2 N, 142.5 E, 49 km		
	KJN	eP	07 34 40				Honshu, Japan		
	SOD	eP	07 34 40						
13	NUR	iP	12 09 35.2			13	KJN	iPKP	21 53 56.2
	KJN	iP	12 09 36.2	1.0	10.9		H:	21 35 47.9	
	H:	12 03 39.9					18.4 S, 178.0 W, 549 km		
		58.3 N, 32.7 W, depth N					Fiji Islands		
		North Atlantic Ocean				14	NUR	ePKP	11 54 11
							eSS	12 16 08	
13	NUR	ePKP	16 07 33				H:	11 35 12.0	
	i	42.7	1.0	29.4			20.0 S, 176.0 W, 220 km (G)		
	iSKP	10 21.0					Fiji Islands		
KJN	iPKP	16 07 35.7	0.9	37.5		14	NUR	iP	12 23 07.2
	iSKP	10 09.0					i	16.6	1.0
	ePKS	11 05					eS	32 16	21.6
SOD	ePKP	16 07 29					eSS	37 04	
	eSKP	10 01					SOD	eP	12 22 45
	H:	15 49 26.4					H:	12 11 50.1	
		20.8 S, 178.8 W, 590 km					31.6 N, 131.5 E, 6 km		
		Fiji Islands					Kyushu, Japan		
13	NUR	iP	18 52 40.8 U	0.7	37.8	14	NUR	eP	17 46 11
	ipP	53.7							
	i	53 34.9				14	NUR	ePKP	23 28 02
	e	55 00					epPKP	27	
	ePP	16					ePKS	31 12	
	ePPP	56 52					eSS	49 12	
	eS	19 01 32					H:	23 08 54.4	
	ePPS	02 12					21.5 S, 170.1 E, 103 km		
	eSS	06 00					Loyalty Islands		
	eSSS	09 12				15	NUR	eP	00 17 25
	eLR	19 13.3					i	32.0	0.8
KJN	iP	18 52 18.9 U	0.7	85.6			SOD	iP	00 16 37.1 D
	ipP	32.1					i	44.1	
	iPP	54 51.9					H:	00 07 09.7	
	ePPP	56 07					58.3 N, 150.4 W, 26 km		
	ePS	19 01 14					Gulf Of Alaska		
SOD	iP	18 52 07.0 U				15	NUR	eP	01 58 00
	i	13.3					i	04.2	
	eS	19 00 32							cont.
	ePS	54							
		cont.							



November				November					
			T	A		T	A		
SOD	iP	01 57 25.8			17	NUR	iP 00 28 27.7	1.0	38.0
H:		01 47 16.2					i 39.0		
		41.6 N, 142.6 E, 55 km					i 29 06.3		
		Hokkaido, Japan					ipP 12.3		
15	NUR	iP 06 32 01.1					i 22.0		
		i 44.2					i 30 08.4		
		i 33 59.0					i 54.4		
		e 34 38					eSKS 38 32		
		eS 37 00					eS 43		
		e 44					esS 39 44		
SOD	iP	06 32 29.8					e 43 16		
		i 35.2					eSS 48		
		iPP 33 43.8					eSSS 47 44		
KEV	eP	06 32 39					e 48 56		
		eS 38 16				KJN	iP 00 28 31.2	1.0	66.5
BCIS:							i 40.3		
H:		06 25 36					ipP 29 14.0		
		37.5 N, 58.2 E					eSKS 38 38		
		Iran-USSR border					eS 50		
16	NUR	iPKP 00 42 30.0	0.7	23.2		SOD	iP 00 28 24.6		
		epPKP 43 10					i 26.0		
		iSKP 45 40.3					ipP 29 08.8		
		ePKS 54					eSKS 38 25		
KJN	iPKP	00 42 25.4	0.7	14.4			eS 32		
KEV	ePKP	00 42 17					esS 39 40		
H:		00 23 40.7				KEV	iP 00 28 22.0	1.0	56.0
		18.0 S, 168.5 E, 173 km					ipP 29 05.9		
		New Hebrides Islands					isP 33.6		
16	NUR	eSS 04 08 08					i 49.4		
		eSSS 13 16					e 30 18		
H:		03 27 39.6					eS 38 28		
		35.8 S, 102.2 W, depth N					e 40		
		Southern Pacific Ocean					esS 39 40		
16	NUR	eP 04 51 33					eSS 43 56		
H:		04 40 36.0					esSS 45 12		
		29.3 N, 138.7 E, 466 km					e 51 04		
		South of Honshu, Japan					H: 00 16 08.6		
16	NUR	ePKP 08 04 58					9.6 N, 72.6 W, 172 km (D)		
		i 05 00.5					Venezuela		
		iPKS 08 23.3				17	NUR	ePKP 04 44 07	
		eSS 24 40					H: 04 25 42.5		
		eSSS 29 40					19.6 S, 177.8 W, 458 km		
KJN	iPKP	08 04 51.2	1.1	35.1			Fiji Islands		
SOD	ePKP	08 04 41				17	KJN	eP 05 32 27	
KEV	eSS	08 23 00					SOD	eP 05 32 26	
H:		07 45 51.7					H: 05 18 59.4		
		16.6 S, 175.9 E, 66 km					3.3 S, 128.7 E, 69 km		
		Fiji Islands					Ceram		
17	NUR	eP 07 52 16				17	NUR	eP 07 52 16	
		i 24.1					i 24.1		
		e 53 14					e 53 14		

cont.

November				November			
		T	Δ			T	Δ
	ePP	54	56				
	ePPP	56	24				
	eS	08 01	12				
	ePS		40				
	eSS	05	48				
	eLR	08 12.5					
KJN	eP	07 52	36				
	i		47.2				
	i		59.2				
SOD	eP	07 52	52				
	i		59.3				
	i	53	13.8				
	eS	08 02	30				
KEV	eP	07 53	06	1.1	42.8		
	i		25.4				
	ePPP	57	40				
	e	59	40				
	eS	08 02	40				
	ePS	03	16				
	eSS	07	24				
	e	08	00				
	eSSS	10	56				
	eLR	08 15.5					
	H: 07 41 16.1						
	1.3 S, 13.6 W, depth N						
	Ascension Island						
17	NUR	eP	10 47 45				
	KJN	iP	10 47 19.3	1.0	16.4		
	H: 10 37 03.7						
	51.9 N, 175.0 E, depth N						
	Rat Islands						
17	NUR	eP	13 10 07	1.0	22.0		
	KJN	iP	13 09 46.4 U	1.0	40.3		
	i		55.8				
	SOD	eP	13 09 35				
	H: 12 59 09.4						
	39.7 N, 143.2 E, depth N						
	Honshu, Japan						
17	NUR	eP	13 19 32				
	KJN	iP	13 19 23.7	0.7	11.6		
	SOD	iP	13 19 23.6				
	H: 13 06 16.5						
	1.2 N, 125.3 E, depth N						
	Molucca Passage						
17	SOD	eP	13 43 30				
	H: 13 31 54.2						
	19.1 N, 68.1 W, depth N						
	North Atlantic Ocean						
17	NUR	eP	20 35 23				
17	NUR	eP	23 13 38				
	KJN	eP	23 13 29				
	SOD	eP	23 13 28				
	H: 23 00 20.7						
	1.8 N, 126.6 E, 30 km						
	Molucca Passage						
18	NUR	iPKP	03 00 34.0	0.7	15.5		
	KJN	ePKP	03 00 28				
	H: 02 42 02.1						
	7.0 S, 155.8 E, 88 km						
	Solomon Islands						
18	NUR	eP	05 12 42				
		ePP	14 20				
	KJN	eP	05 12 41				
	SOD	eP	05 12 59				
	H: 05 05 04.3						
	33.1 N, 71.1 E, 41 km						
	West Pakistan						
18	NUR	iP	06 13 37.9				
		ipP	50.1				
	KJN	iP	06 13 16.2 U	0.8	16.9		
		epP	28				
	SOD	iP	06 13 05.9				
	H: 06 02 32.5						
	37.4 N, 141.4 E, 51 km						
	Honshu, Japan						
18	NUR	eP	09 35 20				
18	NUR	iP	15 32 58.3 D	0.6	18.8		
	KJN	iP	15 32 35.3	0.6	13.7		
	SOD	iP	15 32 22.9				
	H: 15 22 49.3						
	43.9 N, 141.2 E, 223 km						
	Hokkaido, Japan						
18	NUR	eP	17 28 26				
	KJN	eP	17 28 03				
	H: 17 17 17.1						
	36.5 N, 140.5 E, 55 km						
	Honshu, Japan						
18	NUR	iP	19 38 54.4	0.8	14.4		
	KJN	eP	19 38 44				
18	NUR	eP	20 34 07				
	KJN	iP	20 34 04.7	0.7	5.5		
	SOD	eP	20 34 12				



November				T	A	November				T	A
18	NUR	iP	22 33 49.5	0.9	16.8	20	NUR	eP	18 11 58		
19	NUR	iP	04 04 11.4	0.9	18.5		KJN	iP	18 11 44.5 U	0.6	8.9
	KJN	eP	04 03 39				SOD	eP	18 11 26		
		i	45.7			20	NUR	eP	19 57 02		
	SOD	eP	04 03 27				H:		19 45 27.3		
19	NUR	ePKP	10 34 24	0.9	13.4				15.2 N, 60.4 W, 54 km		
	KJN	iPKP	10 34 14.0						Leeward Islands		
			H: 10 14 45.2			20	SOD	eP	22 31 27		
			33.2 S, 179.2 W, 49 km				H:		22 22 08.3		
			South of Kermadec Islands						59.0 N, 153.9 W, 46 km		
19	NUR	eP	11 24 22						Southern Alaska		
	KJN	iP	11 24 10.3 D	0.7	19.9	21	NUR	iP	03 11 36.0 D	0.8	28.8
	SOD	iP	11 24 09.3 D					ipP	12 19.8		
19	SOD	iP	21 59 59.1					isP	42.3		
19	NUR	eP	22 59 28					ePcP	13 53		
	KJN	iP	22 59 25.2 U	1.0	21.8			eS	17 08		
		i	32.4				KJN	iP	03 11 36.1 D	0.9	20.5
	SOD	iP	22 59 34.5					ipP	12 18.3		
		i	41.7					isP	42.3		
			H: 22 48 03.9				SOD	iP	03 11 52.4 D		
			8.7 N, 94.1 E, depth N					ipP	12 35.3		
			Nicobar Islands					esP	13 01		
20	NUR	eP	01 51 41				KEV	iP	03 12 01.2	0.7	20.6
20	NUR	eP	01 54 40					ipP	44.9		
		e	55 12					e	13 17		
		eS	57 30					eS	17 56		
	KJN	iP	01 55 15.0	0.7	8.9			eSS	21 00		
		i	22.3					H:	03 04 39.0		
		eS	58 35						36.4 N, 70.6 E, 204 km (D)		
		e	55						Hindu Kush		
	SOD	eP	01 55 59			21	NUR	iP	07 41 28.7	0.7	12.9
			H: 01 51 13.9			21	SOD	eP	11 17 33		
			45.7 N, 26.8 E, 110 km				KEV	eP	11 17 34		
			Rumania				H:		11 04 16.0		
20	NUR	eP	03 13 08						0.9 N, 125.8 E, depth N		
20	NUR	eP	07 53 30						Molucca Passage		
20	NUR	iP	09 37 05.0	0.9	16.8	21	NUR	eP	13 54 22		
		i	12.0			21	NUR	iP	14 44 27.8	0.7	12.9
	KJN	eP	09 36 27					epP	45 39		
20	NUR	eP	17 13 09	1.0	22.0		KJN	iP	14 44 12.7 D	0.7	39.7
	KJN	eP	17 13 28					i	17.9		
								ipP	45 24.5		
							SOD	iP	14 44 05.8 D		
								i	11.3		
									cont.		

November				T	A	November				T	A	
	KEV	iP	14 43 58.7 D	0.7	21.9		SOD	iP	09 11 16.2 U			
		i	44 13.8					i	22.9			
			H: 14 32 13.0					i	48.1			
			18.8 N, 145.0 E, 299 km (D)					eS	21 06			
			Mariana Islands					ePS	54			
21	NUR	eP	21 52 05				KEV	iP	09 11 12.4 U	1.0	46.0	
								e	12 13			
								e	24			
22	NUR	ePKP	04 02 47	0.8	49.0			ePPP	16 08			
		i	48.2					e	48			
		i	57.0					e	17 12			
		e	03 33					eS	21 00			
	KJN	ePKP	04 02 36	0.7	48.0			eScS	28			
		i	38.1					eSS	26 08			
		e	03 22					e	32			
	SOD	ePKP	04 02 32					eSSS	29 24			
		e	03 19									
			H: 03 43 03.7						H: 08 59 23.1			
			34.5 S, 179.8 E, depth N						16.3 N, 122.3 E, 26 km			
			South of Kermadec Islands						Luzon, P.I.			
22	NUR	eP	05 08 22			22	KJN	eP	09 53 09			
	KJN	iP	05 08 02.5				SOD	eP	09 53 02			
	SOD	iP	05 07 53.5						H: 09 41 16.5			
			H: 04 57 15.7						16.3 N, 122.3 E, 45 km			
			32.9 N, 139.2 E, 182 km						Luzon, P.I.			
			South of Honshu, Japan									
22	KJN	ePn	07 40 32			22	NUR	iP	10 45 04.2	0.9	28.6	
		eSn	41 06					ePS	57 20			
		eSg	17				KJN	iP	10 44 55.2 U	0.7	41.1	
	SOD	ePn	07 40 24					i	59.0			
		eSg	41 01					i	45 23.4			
	KEV	e	07 40 49					e	46 15			
		eSg	41 41					e	47 31			
22	NUR	iP	09 11 28.6	1.2	57.0		SOD	iP	10 44 55.2			
		i	35.4					i	45 25.9			
		i	12 01.8				KEV	iP	10 44 53.7	0.9	26.9	
		e	40					e	45 02			
		e	13 56					eSKS	55 16			
		ePPP	16 24					ePS	57 04			
		e	19 52					e	59 04			
		eS	21 28						H: 10 31 45.1			
		eScS	52						1.5 N, 125.6 E, 7 km			
		ePPS	22 28						Molucca Passage			
		e	23 24			22	KJN	iP	11 00 24.1	0.9	25.9	
		eSS	26 44				SOD	iP	11 00 23.1			
		eSSS	29 58			22	NUR	iP	11 50 40.0 U	1.0	74.0	
	KJN	iP	09 11 17.2 U	0.6	80.8			i	51 10.4			
		i	25.1					KJN	iP	11 50 29.0 U	1.0	95.9
		i	45.4						i	49.1		
		eS	21 06					SOD	iP	11 50 28.0 U		
			cont.						i	48.2		
									cont.			

December

T A

7 NUR eP 16 11 08
 KJN eP 16 10 44
 H: 16 00 25.5
 51.6 N, 175.7 E, depth N
 Rat Islands

7 NUR iPKP 17 28 49.0 0.8 27.6
 KJN iPKP 17 28 42.3 U 0.9 17.9
 SOD ePKP 17 28 37
 H: 17 09 52.5
 14.0 S, 166.8 E, 56 km
 New Hebrides Islands

7 NUR iPKP 20 54 36.0
 ePKS 58 04
 e 21 01 20
 ePSKS 07 18
 e 10 12
 eSS 15 10
 eSSS 19 44
 KJN ePKP 20 54 33
 i 42.2
 SOD iPKP 20 54 39.3
 KEV ePKS 20 58 16
 eSKSP 21 07 36
 ePPS 09 44
 e 10 52
 eSS 16 10
 eSSS 20 48
 H: 20 35 21.2
 45.0 S, 80.3 W, depth N
 Southern Chile

7 NUR ePKP 21 54 40
 e 47
 i 54.0
 i 55 28.7
 iSKP 58 16.0
 iPKS 22.9
 i 46.6
 eSKKS 22 03 50
 ePS 07 40
 eSS 15 00
 e 17 10
 eSSS 19 40
 KJN ePKP 21 54 42
 i 47.8 0.9 28.6
 i 55 05.0
 iSKP 58 04.0
 iPKS 09.1
 e 32
 SOD iPKP 21 54 43.7
 cont.

December

T A

KEV iPKP 21 54 38.7 0.8 34.6
 e 55 01
 eSS 22 13 28
 H: 21 35 44.8
 20.7 S, 169.4 E, 61 km (D)
 New Hebrides Islands

7 NUR ePKP 23 05 06
 H: 22 45 38.0
 27.2 S, 177.0 W, depth N
 Kermadec Islands

8 SOD eP 01 59 42

8 NUR iPKP 07 46 54.2
 KJN ePKP 07 46 51
 SOD ePKP 07 46 54
 H: 07 27 10.0
 53.7 S, 140.2 E, depth N
 West of Macquarie Island

8 NUR iP 09 19 59.0
 KJN iP 09 19 42.2 U 0.6 8.9
 SOD iP 09 19 37.3
 KEV iP 09 19 31.3 0.9 26.9
 ePcP 58
 H: 09 08 34.5
 27.4 N, 128.3 E, 54 km
 Ryukyu Island

8 NUR eP 09 50 19
 KJN eP 09 49 52
 H: 09 40 03.9
 52.6 N, 159.0 E, 31 km
 Kamchatka

8 NUR ePKP 13 01 52
 H: 12 42 53.8
 14.0 S, 166.7 E, 41 km
 New Hebrides Islands

8 KJN eP 13 25 06
 H: 13 11 51.3
 5.4 S, 129.0 E, 253 km
 Banda Sea

8 KJN iP 15 58 52.2 0.9 10.7
 ePP 16 00 06
 SOD eP 15 59 06
 H: 15 51 59.9
 41.6 N, 75.1 E, depth N
 Kirgiz SSR

December				T	A	December				T	A
8	KJN	eP	16 11 42			10	NUR	iP	05 00 25.6	0.6	6.1
								i	43.4		
8	NUR	eP	16 54 23				KJN	eP	05 00 06		
	KJN	eP	16 54 03					i	11.5		
			H: 16 43 12.3					i	13.5		
			35.4 N, 139.0 E, 31 km				SOD	eP	04 59 51		
			Honshu, Japan					e	05 00 08		
8	KJN	eP	17 28 54	0.7	4.8		KEV	eP	04 59 42		
									H: 04 49 27.6		
8	NUR	eP	18 43 42						40.7 N, 145.4 E, depth N		
	KJN	iP	18 43 41.8 U	0.8	10.0				Honshu, Japan		
	SOD	iP	18 43 58.3			10	NUR	iPKP	05 35 33.4	0.9	16.4
			H: 18 36 42.7				KJN	ePKP	05 35 24		
			36.5 N, 71.0 E, 187 km						H: 05 16 33.2		
			Afghanistan-USSR border						14.1 S, 166.7 E, 30 km		
									New Hebrides Islands		
9	KJN	eP	01 42 32			10	KJN	eP	06 20 26		
	SOD	eP	01 42 48						H: 06 06 56.7		
			H: 01 36 26.0						2.7 N, 83.3 W, 24 km		
			39.4 N, 0.1 W, depth N						Central America		
			Spain			10	NUR	eP	07 59 08		
9	NUR	iP	05 20 54.0	1.0	15.3			e	23		
							KJN	iP	07 58 46.0	1.0	17.4
9	NUR	eSS	10 20 48						SOD eP 07 58 34		
		eSSS	25 16						H: 07 48 06.3		
			H: 09 45 26.2						39.7 N, 143.4 E, 13 km		
			5.5 S, 151.6 E, 54 km						Honshu, Japan		
			New Britain			10	NUR	eP	11 33 25		
9	NUR	eP	14 36 48					eS	37 16		
	SOD	eP	14 36 56				KJN	eP	11 33 59		
9	NUR	iP	20 23 15.0					i	34 18.8		
		e	24 22						SOD eP 11 34 28		
	KJN	eP	20 23 32						KEV eS 11 39 40		
									H: 11 28 37.5		
9	NUR	eP	20 27 31						38.9 N, 21.6 E, 65 km		
		eS	31 48						Greece		
	KJN	eP	20 28 12			10	SOD	eP	13 13 52		
			H: 20 22 21.5								
			36.5 N, 27.0 E, 93 km			10	NUR	eP	20 43 36		
			Dodecanese Islands						SOD eP 20 43 10		
10	KJN	eP	03 24 22								
	SOD	eP	03 24 30			11	KJN	ePcP	00 53 27		
									H: 00 42 29.5		
10	KJN	eP	04 39 04						51.7 N, 176.2 W, 65 km		
	SOD	eP	04 39 02						Andreasof Islands		
			H: 04 25 25.5			11	NUR	ePKP	03 10 46		
			6.3 S, 130.4 E, 107 km								
			Banda Sea								

cont.

December				December			
		T	A			T	A
	KEV esPS 07 51 52			13	KJN iP 18 45 41.0		
	eSS 56 00						
	esSS 58 44			14	NUR iP 01 34 01.4	1.0	32.8
	H: 07 19 44.8				i 07.9		
	16.0 S, 177.8 W, 431 km (D)				KJN iP 01 33 50.7	1.0	44.7
	Fiji Islands				i 56.3		
12	KJN eP 15 21 43				OUL iP 01 33 49.5		
	OUL iP 15 21 35.8				H: 01 14 25.0		
	SOD eP 15 21 24				33.5 S, 178.6 W, 96 km		
					South of Kermadec Islands		
12	NUR iP 16 12 32.1			14	NUR eP 02 20 30		
	eS 22 40				OUL eP 02 20 20		
	KJN iP 16 12 20.4	0.7	22.6		SOD iP 02 20 15.5		
	i 27.9			14	NUR eP 03 49 58	0.7	10.6
	i 51.5				KJN iP 03 49 47.0 D	1.0	26.2
	OUL eP 16 12 20				OUL eP 03 49 45		
	SOD iP 16 12 20.0			14	NUR eP 05 09 09	0.9	15.5
	i 27.2				KJN iP 05 08 51.0	0.8	10.8
	KEV eP 16 12 17				OUL eP 05 08 53		
	eS 21 56				SOD eP 05 08 44		
	H: 16 00 30.0				KEV eP 05 08 44		
	16.4 N, 122.2 E, 50 km				H: 04 57 50.9		
	Luzon, P.I.				30.7 N, 130.9 E, 24 km		
12	SOD eP 17 32 17				Kyushu, Japan		
12	NUR iP 17 39 28.6	0.9	24.1	14	NUR iP 10 09 45.5	1.0	30.8
	ePcP 40 47				eS 18 40		
	KJN eP 17 39 48				eScS 19 44		
	OUL iP 17 39 56.6				eSS 22 44		
	i 40 03.6				e 23 14		
	SOD eP 17 40 07				eSSS 25 32		
	H: 17 30 30.2				KJN iP 10 09 20.5 U		
	12.1 N, 45.9 E, depth N				e 24		
	Western Gulf of Aden				i 40.5		
12	NUR iP 19 01 02.8	1.0	26.7		OUL iP 10 09 15.9		
	KJN iP 19 01 15.1 U	1.0	15.3		i 35.1		
	e 02 08				SOD iP 10 09 01.8		
	OUL iP 19 01 26.4				ePcP 52		
	SOD eP 19 01 40				KEV eS 10 17 00		
	KEV iP 19 01 54.8	1.0	26.7		eSS 20 44		
	H: 18 54 47.2				H: 09 59 02.3		
	35.8 N, 53.5 E, depth N				51.5 N, 175.7 E, depth N		
	Iran				Rat Islands		
13	NUR eP 12 21 15	1.0	12.3	14	NUR eP 10 59 39		
13	OUL iP 12 30 27.9			14	NUR eP 11 55 14		
	SOD iP 12 30 11.0				i 24.0		
	H: 12 21 15.8				KJN eP 11 55 15		
	62.0 N, 147.9 W, 44 km				e 25		
	Central Alaska				cont.		

December						December				
				T	A					
						T			A	
	OUL	eP	11 55 22				OUL	ePKP	09 20 51	
		i	32.4				H:	09 02 31.3		
	SOD	eP	11 55 23					20.6 S, 178.0 W, 470 km (G)		
			H: 11 43 14.2					Fiji Islands		
			3.1 S, 85.5 E, depth N							
			South Indian Ocean							
15	NUR	iP	02 25 00.8 U	1.7	363.4		15	NUR	eP	09 35 25
		i	13.2					KJN	iP	09 35 01.8
		ePP	27 20						i	05.0
		ePPP	29 00					OUL	eP	09 34 45
		eS	33 48					SOD	eP	09 34 17
		eScS	35 00				15	NUR	iP	13 06 37.7
		eSS	38 00					OUL	iP	13 06 06.2
	KJN	iP	02 24 36.4	1.9	576.9		15	NUR	iP	14 12 07.0
		ePP	26 48						iPcP	45.2
	OUL	iP	02 24 31.2					KJN	iP	14 11 43.2 U
		i	53.8						iPcP	12 30.2
	SOD	iP	02 24 15.4 U					OUL	iP	14 11 40.9
		e	25 12					SOD	iP	14 11 25.7
	KEV	eP	02 24 00						iPcP	12 19.0
		ePPP	27 32					KEV	eP	14 11 11
		eS	32 00					H:	14 01 43.5	
		eScS	33 44						49.6 N, 155.7 E, 50 km	
		eSS	36 00						Kurile Islands	
			H: 02 14 17.5				15	NUR	iP	21 49 30.2 U
			51.6 N, 175.8 E, depth N					KJN	iP	21 49 50.6 U
			Rat Islands					OUL	iP	21 49 56.3
15	NUR	iP	02 39 14.8 U	1.7	266.1			SOD	iP	21 50 09.0
		i	30.0					KEV	eP	21 50 22
		i	58.4					H:	21 37 56.5	
		eS	48 07						13.5 S, 26.7 E, depth N	
	KJN	iP	02 38 50.5	1.7	209.3				Zambia	
		i	39 02.7							
		iPcP	32.0				16	NUR	eP	00 36 41
	OUL	iP	02 38 45.1					KJN	iP	00 36 41.5 D
		i	51.4						i	46.2
	SOD	eP	02 38 30					OUL	iP	00 36 50.5
		i	33.2					SOD	iP	00 36 57.4 D
		i	48.0					KEV	iP	00 37 06.0
		i	39 09.5					H:	00 29 30.1	
	KEV	eP	02 38 16						36.0 N, 71.0 E, 103 km	
			H: 02 28 32.4						Afghanistan-USSR border	
			51.7 N, 175.8 E, depth N							
			Rat Islands							
15	NUR	eP	08 37 30				16	KJN	eP	03 20 34
	KJN	eP	08 37 27						ePP	24 14
	SOD	eP	08 37 36					OUL	eP	03 20 33
								SOD	eP	03 20 32
15	NUR	ePKP	09 21 00						e	39
	KJN	ePKP	09 20 53					H:	03 07 24.1	
									7.1 N, 82.2 W, 16 km	
									South of Panama	

cont.

December				T	A	December				T	A
16	NUR	eP	10 11 00	0.9	37.8	17	KJN	eP	10 25 40	0.7	39.0
		e	07					i	43.5		
	KJN	iP	10 10 20.5				OUL	eP	10 25 23		
		ePP	39					e	26		
	OUL	eP	10 10 11				SOD	eP	10 25 02		
	SOD	iP	10 09 38.2				KEV	eP	10 24 38		
		i	46.5								
	KEV	eP	10 09 14			17	NUR	iP	12 12 10.0	1.1	268.9
								i	11.2		
	H:		10 06 24.7					e	36		
			79.8 N, 5.2 E, depth N					iPcP	50.5		
			Svalbard					e	14 56		
16	NUR	ePKP	11 05 53	1.0	30.8			ePPP	15 44		
	KJN	iPKP	11 05 45.5	0.8	13.1			iScP	16 50.0		
		i	06 41.5					eS	20 12		
	OUL	iPKP	11 05 44.8					e	48		
	SOD	ePKP	11 05 41					e	21 18		
	KEV	iPKP	11 05 37.9	0.7	10.3			e	40		
	H:		10 46 46.6					eSS	24 08		
			18.0 S, 168.1 E, 49 km					eP'P'	41 37		
			New Hebrides Islands					e	42 11		
16	NUR	ePKP	11 45 37			KJN	iP	12 11 46.5			
		eSKP	48 23				iPcP	12 45.2			
	KJN	ePKP	11 45 26				iPP	13 56.0			
		i	31.5				iS	19 29.5			
		iSKP	48 13.0				eScS	21 27			
	OUL	ePKP	11 45 30				eP'P'	41 31			
		eSKP	48 12				i	52.2			
	SOD	ePKP	11 45 20			OUL	iP	12 11 37.8			
		eSKP	48 06				eScP	16 31			
	H:		11 27 13.2				eS	19 13			
			24.2 S, 179.0 E, 550 km (G)				eP'P'	41 37			
			South of Fiji Islands				e	55			
16	NUR	eP	21 28 53			SOD	iP	12 11 21.1			
							i	22.4			
16	NUR	iP	21 33 57.2				e	14 12			
		i	34 12.2				iScP	16 17.3			
		eS	42 44				eS	18 38			
		eSS	47 08				e	19 14			
	KJN	iP	21 33 35.5 U	0.9	22.3		i	38.7			
	OUL	iP	21 33 34.7				eScS	21 00			
	SOD	iP	21 33 23.5				e	23 28			
		i	32.1				eP'P'	41 21			
	KEV	iP	21 33 13.0	0.8	8.6		e	49			
		i	21.1			KEV	iP	12 11 04.0	0.8	41.8	
		eS	41 32				i	05.7			
		e	42 44				e	30			
	H:		21 22 57.1				e	13 36			
			39.8 N, 143.6 E, 26 km (D)				e	14 12			
			Honshu, Japan				eS	18 08			
16	NUR	eP	22 26 40				e	20 00			
							e	40			

cont.



December				T	A	December				T	A
	OUL	iP	00 39 49.9			OUL	iP	15 25 37.2			
	SOD	iP	00 39 48.7 U				iPcP	26 33.1			
	KEV	eP	00 39 43			SOD	iP	15 25 22.7			
	H:		00 26 37.9				i	39.7			
			0.2 S, 124.3 E, 46 km				iPcP	26 25.4			
			Molucca Sea			KEV	iP	15 25 07.0	0.6	19.2	
19	NUR	iP	05 24 54.0 U	1.0	440.0		ePP	27 08			
		i	59.0				eS	32 24			
		ipP	25 25.4			H:		15 15 55.7			
	KJN	iP	05 24 54.4 U					53.3 N, 160.1 E, depth N			
		ipP	25 27.3					Kamchatka			
		iPP	26 22.0			19	NUR	eP	15 38 04		
	OUL	iP	05 25 03.6				KJN	eP	15 37 49		
		i	13.5				SOD	eP	15 37 45		
		ipP	36.2			19	NUR	iP	16 41 56.8 U	1.0	174.0
		iPP	26 36.6					e	44 27		
	SOD	iP	05 25 11.1 U				KJN	iP	16 41 42.9 U	1.0	158.1
		i	16.0					i	54.9		
		ipP	44.1					i	42 06.5		
		iPP	26 39.1					e	44 16		
	KEV	iP	05 25 20.0 U	1.0	332.0		OUL	iP	16 41 34.2		
		epP	53				SOD	iP	16 41 24.1 U		
		ePP	26 56					i	42 06.0		
		eSS	34 20					i	43 56.6		
	H:		05 17 51.6				KEV	iP	16 41 11.9	1.2	164.5
			36.1 N, 70.1 E, 151 km				H:		16 30 00.0		
			Hindu Kush						37.2 N, 116.5 W, 0 km		
19	KJN	iP	11 38 08.3	1.0	8.7				Southern Nevada		
	OUL	eP	11 38 11			19	KJN	eP	19 58 54		
	SOD	iP	11 38 07.3				SOD	eP	19 58 55		
	H:		11 25 17.3			20	NUR	eP	21 54 37		
			5.0 N, 126.9 E, 65 km					i	54.0		
			Mindanao, P.I.				KJN	iP	21 54 26.2 U	0.7	18.5
19	NUR	iP	14 28 34.8	0.8	14.4			i	29.7		
								i	37.6		
19	NUR	iP	15 26 07.5 U	0.7	42.6		OUL	iP	21 54 28.2		
		i	24.7					i	40.7		
		i	57.3				SOD	eP	21 54 25		
		i	27 51.0					e	42		
		ePPP	29 44				H:		21 41 59.5		
		e	30 12						9.2 N, 125.4 E, 93 km		
		eS	34 20						Mindanao, P.I.		
		ePS	40			20	NUR	iP	23 44 55.0 D	0.7	27.7
		eSS	38 10				KJN	iP	23 44 54.7	0.8	23.1
	KJN	iP	15 25 41.3 U	1.0	86.1			e	46 13		
		i	46.5					iPP	21.2		
		i	55.7				OUL	iP	23 45 04.0		
		i	26 14.3					epP	47		
		i	27 31.3						cont.		
			cont.						cont.		

December				T	A	December				T	A
	OUL	eP	16 38 00			25	NUR	eP	08 58 39		
	SOD	iP	16 37 52.8				KJN	eP	08 58 14		
	KEV	iP	16 37 43.1	1.0	24.0		OUL	iP	08 58 08.2		
24	NUR	iPKP	19 04 41.0	1.0	23.5		KEV	eP	08 57 36		
		i	05 34.6				H: 08 47 54.4				
	KJN	ePKP	19 04 36				53.0 N, 167.7 W, 46 km				
	H: 18 45 18.5						Fox Islands				
	30.6 S, 178.3 W, 130 km					25	NUR	iP	12 22 42.2	0.8	39.5
	Kermadec Islands							i	53.1		
24	NUR	eP	22 38 20					e	23 24		
		i	32.8				KJN	iP	12 23 14.9	1.2	44.7
	KJN	eP	22 38 21					ePcP	26 17		
25	NUR	ePKP	00 54 24				OUL	iP	12 23 22.7		
	KJN	iPKP	00 54 17.7 U	0.8	10.0			iPcP	26 24.1		
	OUL	ePKP	00 54 15				SOD	iP	12 23 44.1		
	H: 00 36 05.6							i	57.8		
	20.8 S, 178.4 W, 570 km (G)							iPcP	26 31.0		
	Fiji Islands						KEV	iP	12 24 05.2	0.7	15.5
25	NUR	iP	04 07 25.0 U	0.8	63.4			i	09.8		
		i	51.3				H: 12 17 20.8				
		i	08 16.9				35.1 N, 24.3 E, 68 km				
		ePP	09 49				Crete				
		eS	16 12			25	KJN	ePn	15 29 43		
	KJN	iP	04 07 02.5	0.7	48.0			eSn	30 35		
		eS	15 31					iSb	57.0		
	OUL	iP	04 07 01.3				OUL	ePn	15 29 27		
		i	13.6					ePb	32		
	SOD	iP	04 06 50.3 U					eSn	30 11		
	KEV	iP	04 06 39.3 U	0.7	19.4			e	17		
		i	53.2				SOD	ePn	15 29 06		
		i	07 07.2					eSn	38		
		eS	14 44				KEV	ePb	15 29 13		
	H: 03 56 39.2							eSn	43		
	41.7 N, 142.8 E, 36 km							i	47.5		
	Hokkaido, Japan					25	NUR	eP	16 02 44		
25	NUR	eP	07 55 21				KJN	iP	16 02 35.0	0.7	13.7
	KJN	eP	07 54 55				OUL	iP	16 02 33.8		
	H: 07 44 30.2					25	NUR	eP	16 26 06		
	51.7 N, 174.3 W, 40 km						OUL	eP	16 26 06		
	Andreanof Islands					25	NUR	iPKP	19 16 23.9 U	0.8	64.9
25	NUR	iPKP	08 45 10.2	0.7	28.4		KJN	iPKP	19 16 12.1		
		e	23					i	19.1		
	KJN	iPKP	08 44 58.8				OUL	ePKP	19 16 11		
	OUL	ePKP	08 44 59					i	13.0		
	SOD	ePKP	08 44 56				SOD	ePKP	19 16 06		
	H: 08 25 29.1						H: 18 56 49.4				
	32.1 S, 178.0 W, depth N						30.2 S, 177.9 W, 50 km				
	South of Kermadec Islands						Kermadec Islands				

December					December				
			T	A			T	A	
25	NUR	iPKP	23 00	52.2 U	0.8	66.3			
		e	01 24						
	KJN	iPKP	23 00	40.0	0.9	8.0			
		i	47.1						
	OUL	ePKP	23 00	39					
		i	41.0						
	SOD	ePKP	23 00	32					
			H: 22 41	16.1					
			30.7 S, 178.1 W,	43 km					
			Kermadec Islands						
26	NUR	ePKP	01 42	01					
	OUL	ePKP	01 41	53					
			H: 01 23	22.4					
			10.7 S, 166.2 E,	150 km (G)					
			Santa Cruz Islands						
26	KJN	eP	09 06	01					
26	NUR	eP	21 19	06					
	KJN	iP	21 18	57.0 U	0.7	6.9			
	OUL	eP	21 18	59					
	SOD	eP	21 18	56					
			H: 21 05	48.3					
			1.7 N, 126.3 E,	depth N					
			Molucca Passage						
26	NUR	eP	22 04	13					
	KJN	eP	22 03	50					
	SOD	eP	22 03	37					
			H: 21 53	27.0					
			41.3 N, 142.5 E,	47 km					
			Hokkaido, Japan						
27	NUR	iP	01 25	42.8	0.8	19.7			
27	NUR	e	07 52	00					
	KJN	eP	07 38	00					
	SOD	eP	07 38	04					
27	NUR	iPKP	10 26	29.0	0.7	49.1			
		i	31.4						
	KJN	iPKP	10 26	18.0	1.0	12.0			
	OUL	ePKP	10 26	18					
		i	26.7						
			H: 10 06	56.4					
			29.5 S, 177.8 W,	48 km					
			Kermadec Islands						
27	NUR	iP	14 48	03.2	0.9	24.6			
		i	13.0						
	KJN	iP	14 47	57.7	0.8	18.5			
			cont.						
	OUL	iP	14 48	04.6					
		i	13.9						
	SOD	iP	14 48	06.4					
		i	16.0						
			H: 14 38	11.6					
			24.1 N, 91.6 E,	26 km					
			India-East Pakistan border						
27	NUR	iP	16 02	30.0					
	KJN	eP	16 02	12					
27	KJN	iP	22 44	48.0	1.0	15.3			
		ePP	48 35						
	OUL	eP	22 44	50					
	SOD	iP	22 44	47.7					
			H: 22 31	15.8					
			3.5 S, 128.2 E,	depth N					
			Ceram						
28	KJN	ePKP	03 16	19					
	OUL	ePKP	03 16	19					
			H: 02 58	06.5					
			22.5 S, 179.5 W,	583 km					
			South of Fiji Islands						
28	NUR	iP	04 25	30.6	0.8	18.3			
	KJN	iP	04 25	06.1 D	0.8	12.3			
	OUL	iP	04 24	57.8					
	SOD	iP	04 24	41.3 D					
			H: 04 15	55.0					
			63.0 N, 148.2 W,	80 km					
			Central Alaska						
28	OUL	eP	06 41	20					
			H: 06 27	23.1					
			3.7 S, 140.0 E,	41 km					
			West New Guinea						
29	NUR	iPKP	02 15	05.0 U	0.7	41.3			
		i	08.2						
		i	21.0						
		i	16 05.7						
	KJN	ePKP	02 14	57					
	OUL	iPKP	02 14	54.7					
	SOD	ePKP	02 14	49					
		e	15 19						
			H: 01 55	33.5					
			29.9 S, 178.2 W,	66 km (D)					
			Kermadec Islands						
29	NUR	eP	02 54	59					
	OUL	iP	02 54	26.3					
			cont.						

December				December			
		T	A		T	A	
	SOD eP	02	54 09				eS 44
	H: 02 45		10.9				eSS 43 16
	61.7 N, 152.2 W,		77 km				eSSS 46 36
	Southern Alaska						H: 07 15 50.5
29	KJN iP	04	17 53.2 U	0.8	17.7		13.6 N, 120.5 E, depth N
	OUL iP	04	17 56.4				Mindoro, P.I.
	SOD iP	04	17 53.1			29	NUR iPKP 08 08 47.0
	H: 04 05		51.3				i 52.4
	13.3 N, 120.2 E,		45 km				i 09 03.0
	Mindoro, P.I.						KJN iPKP 08 08 36.3
							i 47.7
29	NUR iP	04	27 44.2	0.8	18.7		OUL ePKP 08 08 38
	i		48.7				SOD ePKP 08 08 31
	KJN iP	04	27 33.0	1.0	19.6		H: 07 49 21.2
	OUL eP	04	27 32				32.0 S, 178.3 W, 170 km
	SOD eP	04	27 32				South of Kermadec Islands
29	KJN ePKP	05	32 26			29	OUL eP 16 58 39.8
	OUL ePKP	05	32 25				SOD eP 16 58 38.3
	H: 05 13		29.7			29	NUR eP 17 49 25
	15.6 S, 173.4 W,		125 km				e 54
	Tonga Islands						ePP 53 04
29	KJN eP	07	06 48				eSKS 59 56
	OUL eP	07	06 45				eS 18 00 16
	SOD iP	07	06 38.1 U				ePS 01 12
	KEV iP	07	06 31.4	0.9	26.9		eSS 06 12
	H: 06 54		02.5				eSSS 10 12
	16.3 N, 145.0 E,		depth N				KJN iP 17 49 20.8 U
	Mariana Islands						i 39.8
29	NUR iP	07	28 04.3	1.4	41.0		OUL iP 17 49 15.5
	i		09.2				e 42
	eS		38 04				SOD iP 17 49 10.8 U
	eScS		24				i 36.2
	ePS		39 04				H: 17 36 29.9
	eSS		43 52				14.5 N, 92.4 W, 60 km
	KJN iP	07	27 53.0	0.8	13.1	29	NUR iP 18 06 38.8
	i		58.0				KJN iP 18 06 36.7
	OUL eP	07	27 58				i 49.7
	i		28 06.7				SOD eP 18 06 42
	e		15				H: 17 54 15.3
	SOD iP	07	27 52.0				0.5 S, 99.2 E, depth N
	i		56.4				Southern Sumatra
	i		28 15.6			29	NUR eP 18 54 20
	i		51.0				0.9 16.8
	KEV eP	07	27 52			29	NUR ePKP 20 21 40
	i		28 13.1				KJN ePKP 20 21 32
	ePP		30 56				OUL ePKP 20 21 30
	ePPP		32 44				H: 20 03 19.4
	e		33 52				20.2 S, 177.9 W, 550 km (G)
	e		37 24				Fiji Islands

cont.

December

December

					T	A
30	NUR	iP	07 13	31.6 U	0.8	86.4
		ipP		41.4		
		i		56.5		
		eS	21	56		
		ePS	22	16		
		eSS	26	12		
	KJN	iP	07 13	07.1 U	0.9	77.7
		ipP		16.9		
		iPcP		56.8		
		ipPcP	14	06.7		
	OUL	iP	07 12	59.7		
		i	13	04.6		
		ipP		09.7		
		eP'P'	42	41		
		i		50.4		
	SOD	iP	07 12	43.7 U		
		i		47.3		
		ipP		53.2		
		iPcP	13	43.4		
	H: 07 03 11.7					
	57.6 N, 151.4 W, 34 km					
	Kodiak Island					
30	NUR	eP	07 40	05		
		e	42	05		
30	KJN	eP	10 00	22		
	OUL	eP	10 00	26		
	H: 09 47 14.3					
	1.6 N, 126.4 E, 27 km					
	Molucca Passage					
30	NUR	iP	10 31	03.4	1.1	64.3
		i		07.9		
		i		15.0		
		eS	34	12		
		e		19		
	KJN	iP	10 30	21.7	0.7	178.1
		iPP		31.4		
		iPPP		40.2		
		e	32	03		
		eS		48		
	cont.					

					T	A
	OUL	iP	10 30	05.3		
		i		08.2		
		iS	32	20.1		
	SOD	iP	10 29	38.2		
		iS	31	32.0		
	KEV	eP	10 29	10	0.9	67.2
		i		12.0		
		eS	30	41		
	H: 10 27 09.7					
	76.2 N, 7.5 E, 23 km (D)					
	Svalbard					
30	NUR	eP	22 23	05		
	KJN	iP	22 22	53.7 D		
	OUL	eP	22 22	56		
	SOD	iP	22 22	52.1 D		
	KEV	eP	22 22	48		
	H: 22 11 34.0					
	23.2 N, 121.5 E, 2 km					
	Taiwan					
31	KJN	iP	20 06	11.2 U	1.0	27.3
	OUL	iP	20 06	13.5		
	SOD	iP	20 06	09.9		
	KEV	eP	20 06	04		
	H: 19 54 05.6					
	12.8 N, 123.8 E, 113 km					
	Luzon, P.I.					
31	NUR	iP	22 06	26.0	1.2	42.8

October 24, 1969

Urmas Luosto
Aili Huovila