SEISMOLOGICAL DEPARTMENT
BOX 12019
S-750 12 UPPSALA
SWEDEN

SEISMOLOGICAL DEPARTMENT
BOX 12019
S-750 12 UPPSALA
SWEDEN

S E I S M O L O G I C A L B U L L E T I N

U P P S A L A, K I R U N A, U M E Å, U D D E H O L M

D E L A R Y and M Y R V I K E N

Uppsala	(UPP)	59°51.5'N,	17°37.6'E; h = 14 m
Kiruna	(KIR)	67°50.4'N,	20°25.0'E; h = 390 m
Umeå	(UME)	63°48.9'N,	20°14.2'E; h = 16 m
Uddeholm	(UDD)	60°05.4'N,	13°36.4'E; h = 240 m
Delary	(DEL)	56°28.2'N,	12°52.2'E; h = 150 m
Myrviken	(MYV)	62°56.5'N,	14°20.8'E; h = 345 m

NOTE: Starting with this bulletin, we will be using the code MYV for our station at Myrviken. MYV-readings are made only in association with regional events.

J A N U A R Y 1 - 31, 1983

1983 Jan. 1 UPP iP 05 45 37.7
Peru-Bolivia border region (h = 170 km).

" 1 UME iP 06 13 45.3
Unimak Island region (h = N).

" 1 UPP iP 11 27 59.0
KIR iP 11 27 03.1
micr sec
P Z' 0.3 1.3
UME iP 11 27 32.3
Southern Alaska (h = 55 km).

" 1 UPP iP 13 04 46.4
KIR iP 13 04 26.1
Luzon, Philippine Islands (h = N).

" 1 UPP iPKP 15 40 35.1
UME iPKP 15 40 17.7

" 1 UPP iP 22 01 37.3
Iran (h = N).

" 2 UPP iP 06 25 00.2
Ionian Sea (h = 10 km).

" 2 KIR iP 18 43 03.5
UME iP 18 43 05.8
Molucca Passage (h = 55 km).

" 2 UME iPKP 22 27 15.5
Fiji Islands region (h = 620 km).

1983 Jan. 3 KIR iP 00 11 05.3
Mindanao, Philippine Islands (h = 80 km).

" 3 UPP iP 00 17 49.6
iPcP 00 21 18.5
micr sec
P Z' 0.1 0.9
KIR iP 00 18 57.6
iPcP 00 21 37.9
micr sec
P Z' 0.1 0.6
UME iP 00 18 22.3
iPcP 00 21 27.3
Crete (h = 70 km).
m = 5.6 (UPP,KIR).

" 3 UPP iP 03 52 49.9 C
KIR iP 03 52 49.1 C
micr sec
P Z' 0.2 0.8
UME iP 03 52 47.3 C
ipP 03 53 03.2
Southern Sumatera (h = 60 km).

" 3 UPP iPKP 06 22 54.0
KIR iPKP 06 22 09.3
UME iPKP 06 23 03.9
South Sandwich Islands region (h = 45 km).

" 3 UPP iP 07 40 26.5
KIR iP 07 40 25.5
micr sec
P Z' 0.1 0.6
UME iP 07 40 23.3
Southern Sumatera (h = 120 km).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Jan. 3 UPP iP 11 38 32.4
i 11 38 41.9
KIR iP 11 38 26.2
UME iP 11 38 25.2
Burma-India border region
(h = 80 km).

" 3 UME iP 19 04 09.5
Hokkaido, Japan region
(h = 80 km).

" 4 UPP iP 03 21 55.4
KIR iP 03 21 55.7
micr sec
P Z' 0.2 0.7
UME iP 03 21 53.3
Southern Sumatera (h = 55 km).

" 4 KIR iP 04 15 20.6
Southern Sumatera (h = 50 km).

" 4 UPP iP 07 14 12.1
KIR iP 07 13 28.8
Hokkaido, Japan region
(h = 60 km).

" 4 UPP iSg1 20 55 41.4
KIR iPg1 20 51 23.4 C
i 20 51 36.4
iSg1 20 51 37.4
UME iPg1 20 52 31.4 C
iSn 20 53 11.6
i 20 53 31.0
iSg1 20 53 34.6
UDD iSn 20 54 57.9
iSg1 20 55 51.1
MYV iPn 20 52 43.8
iSn 20 53 51.4
iSg1 20 54 30.2
Finland-Sweden border region,
68.6°N, 22.9°E.
Origin time = 20 51 04.
M_L(UPP) = 3.4 (0.18) 7.
Felt.
By combination with Finnish
station readings.

" 4 UPP iP 23 19 22.1
UME iP 23 19 20.2
Afghanistan-USSR border
region (h = 130 km).

" 5 UPP iPKP1 00 39 35.5
iPKP2 00 39 42.2
UME iPKP1 00 39 24.7
South of Kermadec Islands
(h = 340 km).

1983
Jan. 5 KIR iP 01 57 03.8
Mindanao, Philippine Islands
(h = 100 km).

" 5 UPP iP 02 11 23.1 C
ipP 02 11 33.5
iS 02 19 47
micr sec
P Z' 0.3 1.2
Mx Z 6.1 18
KIR iP 02 10 27.5 C
micr sec
P Z' 0.4 1.6
Mx Z 7.2 17
UME iP 02 10 54.6 C
iS 02 18 59
Near east coast of Kamchatka
(h = N).
m = 6.2, M = 5,9 (UPP,KIR).

" 5 UPP iP 04 41 01.9
micr sec
Mx Z 2.2 15
KIR iP 04 40 47.4
UME iP 04 40 50.0
iS 04 51 20
Negros, Philippine Islands
(h = N).

" 5 KIR iP 07 28 55.9
UME iP 07 29 12.0
Hokkaido, Japan region
(h = 25 km).

" 5 UPP iPKP1 12 06 51.5
KIR i 12 06 45.7
Kermadec Islands region
(h = N).

" 5 UPP iP 17 03 34.1
KIR iP 17 04 18.7
UME iP 17 03 58.8
Ascension Islands region
(h = 10 km).

" 6 KIR iP 08 35 20.1
Northern Colombia
(h = 170 km).

" 6 KIR iP 12 39 57.6
UME iP 12 40 18.6
Kuril Islands (h = 70 km).

" 6 KIR iP 20 38 17.4
Tibet (h = N).

" 7 UPP iP 18 30 24.1
KIR iP 18 29 45.4
(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Jan. 7 (cont.)
UME iP 18 30 02.4
Honshu, Japan (h = 70 km).

" 7 UPP iP 22 35 45.1
Iran (h = N).

" 8 UPP iPKP1 00 08 00.0
South of Fiji Islands (h = N).

" 8 UPP iPKP 08 24 07.0
KIR ePKP 08 23 48
UME iPKP 08 23 55.4

" 8 UPP iP 10 58 58.0
micr sec
P Z' 0.1 0.8
KIR iP 10 59 06.8
UME iP 10 58 56.2
Hindu Kush region
(h = 200 km).

" 8 UPP Mx micr sec
Mx Z 9.5 27
KIR iPKP 11 40 31.2
UME iPKP 11 40 38.9
Tonga Islands (h = N).

" 8 UPP 12 55
micr sec
Mx Z 6.7 31
Bismarck Sea (h = 90).

" 9 KIR iP 05 18 40.9
Off east coast of Kamchatka
(h = N).

" 9 UPP iP 10 53 05.5
i 10 53 15.4
KIR iP 10 52 10.8
UME iP 10 52 36.7
Off east coast of Kamchatka
(h = N).

" 9 UPP iP 12 54 40.8
KIR iP 12 53 56.0
UME iP 12 54 15.7
Hokkaido, Japan region
(h = 210 km).

" 9 UPP iP 21 14 12.3 C
micr sec
P Z' 0.1 1.1
Mx Z 9.5 20
KIR iP 21 13 17.3 C
micr sec
P Z' 0.1 1.0
(cont.)

1983
Jan. 9 (cont.)
UME iP 21 13 43.2 C
Off east coast of Kamchatka
(h = N).
m = 5.8 (UPP,KIR).

" 10 UPP iP 01 34 38.9
KIR iP 01 35 46.1
Crete (h = 35 km).

" 10 KIR iPKP 12 49 55.4
UME iPKP 12 49 52.9
Santiago del Estero Prov.,
Arg. (h = 560 km).

" 10 UPP iP 17 14 42.1
KIR iP 17 14 45.7
Northern Colombia (h = 170 km).

" 11 UPP iPKP1 08 36 05.6
UME iPKP1 08 35 54.1
Kermadec Islands region
(h = 70 km).

" 11 KIR iP 15 40 31.8
Southern Sumatera (h = N).

" 11 UPP iP 19 01 14.0
Celebes Sea (h = 620 km).

" 11 KIR iP 21 57 50.4

" 12 UPP iP 03 38 42.1
micr sec
P Z' 0.1 0.9
Burma (h = 25 km).

" 12 UPP iP 12 32 43.7
Burma (h = 45 km).

" 12 UME iP 15 19 46.6
Near east coast of Kamchatka
(h = N).

" 13 UPP iP 09 57 29.7

" 13 UME iP 23 28 28.0
Nicaragua (h = 160 km).

" 14 UPP iP 18 31 26.2
i 18 31 38.9
iS 18 40 07
micr sec
P Z' 0.1 1.1
Mx Z 4.4 19
KIR iP 18 30 32.6
i 18 30 43.6
(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Jan. 14 (cont.)
KIR micr sec
P Z' 0.3 1.1
Mx Z 2.4 20
UME iP 18 31 01.1
iS 18 39 20
South of Alaska (h = N).
m = 6.0, M = 5.5 (UPP,KIR).

" 15 KIR iP 00 29 40.4
micr sec
P Z' 0.1 1.2
UME iP 00 29 46.8
Mindanao, Philippine Islands
(h = 40 km).

" 15 UPP iP 00 50 26.1 C
iSKS 00 59 21.5
KIR iP 00 49 51.6 C
micr sec
P Z' 0.2 0.8
UME iP 00 50 06.3 C
Near s. coast of southern
Honshu (h = 440 km).

" 15 UPP iP 01 00 22.9
i 01 00 42.8
KIR iP 00 59 28.5
micr sec
P Z' 0.1 1.0
UME iP 00 59 54.2
Off east coast of Kamchatka
(h = 30 km).

" 15 UPP eP 06 47 14
i 06 50 53
micr sec
Mx Z 4.0 16
KIR iP 06 45 42.8
iS 06 46 57.3
iTSg 06 51 21.8
micr sec
P Z' 0.2 0.9
Mx Z 4.4 17
UME iP 06 46 30.3
iTSg 06 52 53.9
Greenland Sea (h = 10 km).

" 15 KIR iP 11 02 41.8
Western Iran (h = 10 km).

" 15 UPP iP 13 01 25.4
KIR iP 13 00 31.1
UME iP 13 00 59.4
South of Alaska (h = N).

" 15 KIR iP 16 45 06.3
UME iP 16 44 40.7
Uganda (h = 10 km).

1983
Jan. 16 UME iP 07 32 27.1
Near s. coast of Honshu,
Japan (h = 25 km).

" 16 UPP iP 08 02 28.9
KIR iP 08 00 56.6
iS 08 02 10.8
iTSg 08 06 32.3
UME iP 08 01 44.2
iS 08 03 37.1
iTSg 08 08 20.4
Greenland Sea
(h = 10 km).

" 16 KIR iP 12 56 06.6
UME iP 12 56 23.3
Near east coast of Honshu,
Japan (h = 80 km).

" 16 UME iPKP 13 29 59.2
Fiji Islands region (h = N).

" 16 KIR eP 20 34 35
UME iP 20 34 45.7
South of Mariana Islands
(h = 80 km).

" 16 UPP iPKP 22 28 23.2
iPP 22 29 22.2
iPKS 22 38 26
micr sec
Mx Z 7.3 17
KIR iPdiff 22 24 08.0
iPKP 22 28 13.1
iPP 22 28 42.4
micr sec
Pdiff Z' 0.1 1.1
PKP Z' 0.1 1.0
Mx Z 2.1 17
UME iPdiff 22 24 17.4
iPKP 22 28 16.7
iPP 22 28 57.5
East Papua New Guinea region
(h = 240 km).
M = 6.1 (UPP,KIR).

" 17 UPP iP 12 07 21.1
KIR IP 12 06 52.7
Ryukyu Islands (h = 45 km).

" 17 UPP iP 12 46 22.4
iS 12 50 22
KIR iP 12 47 37.6
micr sec
P Z' 3.2 1.6
UME iP 12 47 01.5
(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Jan. 17 (cont.)
UME iS 12 51 27
Greece (h = 15 km).
M = 7.2 (UPP).
M has been computed from
Wiechert records at UPP.

" 17 UPP eP 14 23 47

" 17 UPP iP 15 58 45.7
ipP 15 58 50.3
micr sec
P Z' 0.2 0.7
KIR iP 16 59 59.8
micr sec
P Z' 0.1 1.1
UME iP 15 59 24.3
Greece (h = 10 km).
m = 5.6 (UPP,KIR).

" 17 UPP iP 16 27 16.8
UME eP 16 27 58
Ionian Sea (h = 10 km).

" 17 UPP iP 16 58 19.7 C
ipP 16 58 24.5
micr sec
P Z' 0.4 0.8
Mx Z 4.9 12
KIR iP 16 59 34.4
micr sec
P Z' 0.1 1.0
Mx Z 2.2 12
UME iP 16 58 58.0 C
Greece (h = 10 km).
m = 5.8, M = 5.1 (UPP,KIR).

" 17 UPP iP 17 58 51.5
KIR iP 18 00 05.7
UME iP 17 59 33.9
Ionian Sea (h = 25 km).

" 17 UPP iP 18 14 39.1
Ionian Sea (h = 10 km).

" 17 UPP iP 18 27 33.3
UME iP 18 28 08.4
Ionian Sea (h = 10 km).

" 17 UPP iP 18 38 56.2
Ionian Sea (h = 10 km).

" 17 UPP iP 18 55 56.0
Ionian Sea (h = 10 km).

" 17 UPP iP 19 17 52.8
Ryukyu Islands (h = 50 km).

1983
Jan. 17 UPP iP 21 04 58.0 C
micr sec
P Z' 0.1 0.9
KIR iP 21 05 29.8 C
UME iP 21 05 09.2 C
Southern Iran (h = 50 km).

" 17 UPP iP 23 24 08.6
Ionian Sea (h = 10 km).

" 17 UME iP 23 30 48.6
South of Honshu, Japan
(h = 30 km).

" 18 UPP iPKP1 02 00 09.1
iPKP2 02 00 18.0
KIR ePKP1 01 59 42
UME iPKP1 01 59 59.6
South of Kermadec Islands
(h = N).

" 18 UPP iP 04 03 19.4
Greece (h = 10 km).

" 18 UPP iP 07 57 32.5
UME iP 07 58 13.0
Greece (h = 10 km).

" 18 KIR iP 08 39 57.3
UME iP 08 40 01.4
North Atlantic Ocean
(h = 10 km).

" 18 KIR iP 09 51 54.6
micr sec
P Z' 0.1 1.0
UME iP 09 51 55.0
North Atlantic Ocean
(h = 10 km).

" 18 UPP iP 14 01 05.7
KIR iP 14 00 12.4
Rat Islands, Aleutian Islands
(h = 70 km).

" 18 UPP iPKP 15 42 27.4
micr sec
Mx Z 13.3 27
KIR iPKP 15 42 42.0
iSKP1 15 46 01.9
micr sec
PKP Z' 0.1 1.0
Mx Z 5.5 17
UME iPKP 15 42 39.9
South Sandwich Islands
region (h = 55 km).
M = 6.4 (UPP,KIR).

" 18 UPP iP 18 24 12.1
Ionian Sea (h = 15 km).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Jan. 18 UPP iP 19 19 02.3
Ionian Sea (h = 10 km).

" 18 UPP iP 22 39 32.3
Greece (h = 10 km).

" 18 UPP iP 22 59 11.0
KIR iP 22 59 20.8
Pakistan (h = 70 km).

" 19 UPP iP 00 07 05.0
i 00 07 07.5
iS 00 11 05
micr sec
i Z' 0.4 1.0
Mx Z 24.8 12
KIR iP 00 08 20.5
micr sec
Mx Z 4.5 12
UME iP 00 07 43.6
i 00 07 45.5
Greece (h = 20 km).
M = 5.6 (UPP,KIR).

" 19 UPP iP 00 23 11.9
KIR iP 00 24 24.1
UME iP 00 23 48.1
Greece (h = 25 km).

" 19 UPP iP 03 24 32.6
Ionian Sea (h = 25 km).

" 19 UPP iP 05 46 43.0
ipP 05 46 47.8
i 05 55 28
micr sec
P Z' 0.3 0.7
KIR iP 05 47 57.9
micr sec
P Z' 0.1 1.0
UME iP 05 47 21.2
ipP 05 47 24.7
Ionian Sea.
h = 15 km (UPP,UME).
m = 5.7 (UPP,KIR).

" 19 UPP iP 08 13 29.3
Ionian Sea (h = 10 km).

" 19 UPP iP 08 30 23.3
Greece (h = 10 km).

" 19 KIR iPg1 09 31 45.8
iSg1 09 32 08.0
UME iSg1 09 33 40.1
UDD iSg1 09 35 33.4
(cont.)

1983
Jan. 19 (cont.)
MYV iSg1 09 33 59.8
Coast of Nordland, Norway,
68.2°N, 16.0°E.
Origin time = 09 31 16.
M_L(UPP) = 2.9 (0.23) 4.

" 19 KIR iP 11 51 14.1
Zaire Republic (h = 10 km).

" 19 UPP iP 13 29 49.4
Ionian Sea (h = 10 km).

" 19 KIR iP 13 47 42.4
micr sec
P Z' 0.1 1.0
Kamchatka (h = 20 km).

" 19 UME iP 15 54 09.1
ipP 15 54 16.6
Near s. coast of Honshu,
Japan (h = 25 km).

" 19 UPP iP 22 18 46.4
Greece (h = 10 km).

" 20 KIR iP 17 55 34.4
Southern Xinjiang, China
(h = N).

" 21 UPP iP 10 36 48.8 C
micr sec
P Z' 0.1 0.8
KIR iP 10 36 05.3
micr sec
P Z' 0.1 0.6
UME iP 10 36 24.4 C
Hokkaido Japan region
(h = 80 km).
m = 5.9 (UPP,KIR).

" 22 KIR iP 06 57 50.7
UME iP 06 57 54.4
Southwest of Sumatera
(h = 30 km).

" 22 UPP iPKP1 09 02 49.6
micr sec
PKP1 Z' 0.1 0.9
South of Fiji Islands
(h = 570 km).

" 22 UPP iP 12 58 58.8
Ionian Sea (h = 10 km).

" 22 UPP iP 16 06 31.6
Ionian Sea (h = 10 km).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983 Jan.	23	UPP	iP	08 19 13.5	
		KIR	iP	08 18 27.6	
		UME	iP	08 18 48.0	
		Kuril Islands (h = 150 km).			
"	23	UPP	iP	14 13 32.3	
"	23	UPP	iP	14 42 13.5	
		KIR	iP	14 42 16.1	
				micr sec	
			P Z'	0.1 1.0	
		UME	iP	14 42 18.2	
		Near west coast of Colombia (h = 10 km).			
"	23	UPP	iP	22 51 46.9	
		UME	iP	22 51 29.1 C	
		Bonin Islands region (h = 450 km).			
"	24	UPP	iP	01 01 35.2	
		Ionian Sea (h = 10 km).			
"	24	UPP	iP	02 37 31.5	
			i	02 37 37.4	
		KIR	iP	02 37 49.9	
		UME	iP	02 37 44.7	
		North Atlantic Ridge (h = 10 km).			
"	24	UPP	iP	03 10 35.2	
			i	03 10 41.5	
		KIR	iP	03 10 55.2	
		UME	iP	03 10 49.4	
		North Atlantic Ridge (h = 10 km).			
"	24	UPP	iP	08 30 20.3 C	
			i	08 30 24.9	
			iSKS	08 40 43	
			iS	08 40 59	
				micr sec	
			P Z'	0.1 1.0	
			i Z'	0.2 0.9	
			Mx Z	55.3 23	
		KIR	iP	08 40 07.5 C	
				micr sec	
			P Z'	0.9 1.8	
		UME	iP	08 40 16.4 C	
			iSKS	08 40 39	
			iS	08 40 53	
		Oaxaca, Mexico (h = 55 km). m = 6.4 (UPP,KIR).			
"	24	UPP	iP	08 55 16.2	
		KIR	iP	08 55 02.2	
		UME	iP	08 55 06.8	
		Celebes Sea (h = 610 km).			
1983 Jan.	24	UPP	iP	09 45 38.5	
		UME	iP	09 45 34.7	
		Oaxaca, Mexico (h = N).			
"	24	UPP	iP	11 47 31.6	
		UME	iP	11 47 39.7	
		Southwestern Atlantic Ocean (h = 10 km).			
"	24	UPP	iP	12 39 55.2	
		UME	iP	12 39 48.6	
		Oaxaca, Mexico (h = N).			
"	24	UPP	iP	13 13 31.5	
				micr sec	
			P Z'	0.1 0.9	
		KIR	iP	13 12 38.8	
				micr sec	
			P Z'	0.1 0.8	
		UME	iP	13 13 04.9	
		Rat Islands, Aleutian Islands (h = N). m = 5.9 (UPP,KIR)			
"	24	UPP	iP	13 16 54.6	
		UME	iP	13 16 51.6	
		Oaxaca (h = 70 km).			
"	24	UPP	iP	16 24 16.5	
			i	16 24 28.6	
		KIR	iP	16 23 23.3	
		UME	iP	16 23 49.0	
		Rat Islands, Aleutian Islands (h = N).			
"	24	UPP	iP	16 40 01.5 C	
			iS	16 44 41	
				micr sec	
			P Z'	0.1 1.0	
			Mx Z	9.0 19	
		KIR	iP	16 40 50.9 C	
				micr sec	
			P Z'	0.1 1.0	
		UME	iP	16 40 30.2 C	
		North Atlantic Ocean (h = N). m = 5.6 (UPP,KIR).			
"	24	UME	iP	16 46 51.5	
		South of Honshu, Japan (h = 30 km).			
"	24	UPP	iP	18 09 42.3	
		Greece (h = 10 km).			
"	24	UPP	iP	23 20 36.7	
			i	23 20 43.5	
			iS	23 29 49	

(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Jan. 24 (cont.)

UPP		micr	sec
	P Z'	0.2	1.0
	i Z'	0.6	1.1
KIR	iP	23 20	36.0
	i	23 20	38.6
	i	23 20	41.0
	ipP	23 20	58.6
		micr	sec
	i Z'	0.1	0.6
	i Z'	0.6	1.1
UME	iP	23 20	31.7
	i	23 20	33.1
	iS	23 29	43

Andaman Islands region
(h = 80 km).
m = 6.4 (UPP,KIR).

" 25

UPP	iP	07 38	12.7
	i	07 38	14.4
	i	07 38	26.5
KIR	iP	07 39	34.9
UME	iP	07 38	54.0

Romania (h = 160 km).

" 25 KIR iSg1 09 36 47.4
Norrbotten, Sweden, 66.5°N, 23.1°E.
Origin time = 09 35 50.
M_L(UPP) = 2.1 1.
Solution from Finnish station readings.

" 25

UPP	iP	11 39	15.6
	ipP	11 39	24.4
		micr	sec
	P Z'	0.1	1.0
KIR	iP	11 38	23.0
		micr	sec
	P Z'	0.1	0.8
UME	iP	11 38	49.1

Rat Islands, Aleutian Islands
(h = N).
m = 5.9 (UPP,KIR).

" 25

UPP	iP	20 14	03.9
	ipP	20 14	42.9
KIR	iP	20 14	12.9
	ipP	20 14	52.5
UME	iP	20 14	02.0
	ipP	20 14	41.7

Hindu Kush region.
h = 190 km (UPP,KIR,UME).

" 26

UPP	iPKP2	05 03	24.8
KIR	iPKP1	05 03	14.3
	iPKP2	05 03	23.9
UME	iPKP1	05 03	19.3

Easter Island Cordillera
(h = 10 km).

1983
Jan. 26 UPP iPKP1 06 22 38.5
South of Fiji Islands
(h = 190 km).

" 26

UPP	iPKP	16 21	35.8
	iPKP1	16 21	39.5
		micr	sec
	PKP Z'	1.1	2.0
	PKP1 Z'	2.1	0.8
KIR	iPKP1	16 21	16.3
	iPKP	16 21	22.0
		micr	sec
	PKP1 Z'	0.1	0.9
	PKP Z'	0.7	0.9
UME	iPKP1	16 21	27.5

Kermadec Islands region
(h = 240 km).

" 27 UPP iP 02 04 47.7

" 27 UME iP 02 15 26.9
Caribbean Sea (h = 10 km).

" 27

UPP	iP	04 56	14.3
KIR	iP	04 57	20.4

Dodecanese Islands
(h = 45 km).

" 27

KIR	iP	09 18	20.0
UME	iP	09 18	37.6

Near s. coast of Honshu,
Japan (h = 60 km).

" 27 UME iP 09 53 47.9
Near s. coast of Honshu,
Japan (h = 60 km).

" 27

UPP	iP	17 15	56.7
KIR	iP	17 15	05.2
UME	iP	17 15	54.8

Afghanistan-USSR border region
(h = 55 km).

" 28

UPP	iP	03 27	58.6
KIR	iP	03 27	41.3
UME	iP	03 27	45.8

Celebes Sea (h = 350 km).

" 28

UPP	iPKP1	08 09	26.9
UME	iPKP	08 09	20.4

South of Fiji Islands
(h = 170 km).

" 28 UPP iP 08 47 57.4
Qinghai Province, China
(h = N).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983 Jan. 28 UPP iP 09 17 19.3
UME iP 09 17 57.7
Greece (h = 20 km).

" 28 UPP iPKP 14 41 57.5
KIR iPKP 14 41 43.8
UME iPKP 14 41 49.7
Santa Cruz Islands
(h = 60 km).

" 28 UPP iP 15 16 55.2 D
i 15 16 57.8
micr sec
P Z' 0.1 0.6
KIR iP 15 16 23.2 D
micr sec
P Z' 0.1 0.7
UME iP 15 16 37.0 D
Bonin Islands region
(h = 440 km).
m = 5.6 (UPP,KIR).

" 28 UPP iP 17 47 49.6
Greece (h = 25 km).

" 28 KIR iPKP 23 35 09.0
UME iPKP 23 35 15.5
Vanuatu Islands (h = 240 km).

" 29 UPP iP 02 55 37.0
UME iP 02 55 14.8
Near east coast of Honshu,
Japan (h = 55 km).

" 29 UPP iP 10 04 45.9
UME iP 10 04 20.1
Sea of Okhotsk (h = 470 km).

" 29 UPP iP 10 12 03.2
KIR iP 10 11 16.8
UME iP 10 11 38.0
Sea of Okhotsk (h = 460 km).

" 29 KIR iP 18 36 55.6
UME iP 18 36 44.3
Azores Islands (h = 10 km).

" 30 UPP iP 01 38 01.2
ipP 01 38 18.2
KIR iP 01 38 02.6
ipP 01 38 20.3
micr sec
P Z' 0.1 0.8
UME iP 01 37 58.0
ipP 01 38 15.6
Northern Sumatera.
h = 70 km (UPP,KIR,UME).

1983 Jan. 30 UPP iPKP 05 40 42.7
KIR iPKP 05 41 00.7
UME iPKP 05 40 50.9
South Sandwich Islands region
(h = N).

" 30 KIR iP 08 05 14.0
UME iP 08 05 50.9

" 30 UPP iPKP1 15 32 21.4
South of Fiji Islands
(h = 540 km).

" 30 UPP iP 17 11 29.8
KIR iP 17 12 43.8
UME iP 17 12 07.4
Greece (h = 15 km).

" 30 UPP iP 22 57 22.4 C
ipP 22 57 39.2
micr sec
P Z' 0.1 1.0
KIR iP 22 56 45.8 C
micr sec
P Z' 0.1 1.0
UME iP 22 57 01.8 C
ipP 22 57 17.4
South of Honshu, Japan.
h = 60 km (UPP,UME).
m = 5.7 (UPP,KIR).

" 31 UPP iP 00 13 43.8
KIR iP 00 13 19.0
UME iP 00 13 29.9
Taiwan region (h = 25 km).

" 31 UPP iP 01 11 12.0
Greece (h = 10 km).

" 31 UPP iPKP1 01 22 55.9
KIR iPKP 01 22 46.6
UME iPKP 01 22 54.2
Fiji Islands region
(h = 580 km).

" 31 UPP iP 03 36 23.6
i 03 36 35.0
UME iP 03 36 13.7
Burma-India border region
(h = 70 km).

" 31 KIR iPdiff 05 46 02.5
UME iPdiff 05 46 06.7
Banda Sea (h = 180 km).

" 31 UPP iP 15 31 50.2
iS 15 35 42
(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Jan. 31 (cont.)

UPP			micr	sec
	P	Z'	0.2	0.7
	Mx	Z	5.7	13
KIR	iP		15 33 05.1	C
			micr	sec
	P	Z'	0.1	0.9
	Mx	Z	1.8	11
UME	iP		15 32 28.4	
	iS		15 37 05	

Greece (h = 30 km).
m = 5.6, M = 5.1 (UPP,KIR).

" 31

UPP	iP	19 04 23.6	
KIR	iP	19 04 54.1	
UME	iP	19 04 34.0	

Southern Iran (h = 100 km).

" 31

UPP	iPKP	21 36 22.7	
KIR	iPKP	21 36 08.7	
UME	iPKP	21 36 14.9	

Gilbert Islands region
(h = 30 km).

September 21, 1984

Ronald Arvidsson
Torild van Eck
Conny Holmqvist

SEISMOLOGICAL DEPARTMENT
BOX 12019
S-750 12 UPPSALA
SWEDEN

SEISMOLOGICAL DEPARTMENT
BOX 12019
S-750 12 UPPSALA
SWEDEN

S E I S M O L O G I C A L B U L L E T I N

U P P S A L A, K I R U N A, U M E Å, U D D E H O L M

D E L A R Y and M Y R V I K E N

Uppsala	(UPP)	59°51.5'N,	17°37.6'E; h = 14 m
Kiruna	(KIR)	67°50.4'N,	20°25.0'E; h = 390 m
Umeå	(UME)	63°48.9'N,	20°14.2'E; h = 16 m
Uddeholm	(UDD)	60°05.4'N,	13°36.4'E; h = 240 m
Delary	(DEL)	56°28.2'N,	12°52.2'E; h = 150 m
Myrviken	(MYV)	62°56.5'N,	14°20.8'E; h = 345 m

F E B R U A R Y 1 - 28, 1983

1983 Feb. 1 UPP iP 10 19 55.7

" 1 UPP iP 13 12 22.4
Ionian Sea (h = 10 km).

" 2 UPP iP 06 21 28.6
UME iP 06 22 06.9
Ionian Sea (h = 10 km).

" 2 UME iP 08 19 25.9
Southern Italy (h = 10 km).

" 2 UPP iP 12 48 05.7
UME iP 12 48 45.0
Greece (h = 10 km).

" 2 UPP eP 14 14 25
KIR eP 14 15 02
UME iP 14 14 38.5
Arabian Sea (h = 10 km).

" 2 UME iP 20 48 00.7
North of Ascensian Island
(h = 10 km).

" 2 UPP iP 20 54 08.6 C
KIR iP 20 54 02.0 C
UME iP 20 54 01.1 C
Eastern India (h = N).

" 3 UPP eP 13 30 30
Greece (h = 10 km).

" 3 UPP eP 13 52 37
KIR eP 13 53 35
UME iP 13 53 02.9
Arat republic of Egypt
(h = 10 km).

1983 Feb. 3 UPP iP 23 36 58.4
KIR iP 23 37 56.7
Arab republic of Egypt
(h = 10 km).

" 4 UPP iP 00 39 08.6
UME i 00 40 05.7
Ionian Sea (h = 10 km).

" 4 UPP iP 05 56 31.1
UME iP 05 57 04.8
Greece (h = 10 km).

" 4 UPP eP 10 58 11

" 4 UPP iP 16 48 14.5
UME iP 16 48 55.2
i 16 48 57.6
Albania (h = 10 km).

" 5 UME ePKP 17 26 34
Gilbert Islands region
(h = N).

" 5 UPP iP 23 53 46.7
i 23 53 53.5
micr sec
P Z' 0.1 1.0
KIR iP 23 53 34.8
i 23 53 41.5
i 23 53 53.8
micr sec
P Z' 0.2 1.6
UME iP 23 53 43.6
Taxaca, Mexico (h = N).
m = 6.0 (UPP,KIR).

" 6 UPP iPKP 00 10 37.0
(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Feb. 6 (cont.)

	UPP		micr	sec
		PKP Z'	0.1	1.0
	KIR	ePKP	00 10 22	C
	UME	iPKP	00 10 27.3	

Gilbert Islands region
(h = N).

" 6	UPP	iP	02 00 02.4	
		i	02 00 06.8	
			micr	sec
		i Z'	0.1	1.0
	KIR	eP	02 00 14	
		i	02 00 16.6	
	UME	iP	02 00 01.7	

Hindu Kush region
(h = 70 km).

" 6	UPP	iP	23 40 48.0	
	UME	i	23 41 45.1	

Crete (h = 50 km).

" 7	UME	iPKP	01 39 42.4	

Solomon Islands (h = 80 km).

" 7	UPP	iP	07 27 33.4	

Greece (h = 10 km).

" 7	UPP	iPKP1	11 26 42.7	
		i	11 26 49.6	
			micr	sec
		PKP1 Z'	0.1	0.8
	KIR	iPKP	11 26 30.4	
	UME	ePKP	11 26 30	

South of Fiji Islands
(h = 150 km).

" 7	UPP	i	12 07 43.4	
	KIR	iP	12 07 18.3	
		ipP	12 07 28.5	
		i	12 07 49.5	
	UME	iP	12 07 28.6	
		ipP	12 07 38.6	

Near coast of Guerrero,
Mexico.
h = 35 km (KIR,UME).

" 7	UPP	iP	15 14 23.2	
		i	15 15 06	
		iS	15 20 44	
		iScS	15 24 00	
			micr	sec
		Mx Z	6.8	16
	KIR	iP	15 14 54.3	C
		i	15 15 36.9	
			micr	sec
		Mx Z	4.4	13
	UME	iP	15 14 33.9	C

(cont.)

1983
Feb. 7 (cont.)

	UME	i	15 14 44.3	
		iS	15 21 04	
		iScS	15 24 31	

Southern Iran (h = N).
M = 5.7 (UPP,KIR).

" 7	KIR	eP	17 03 23	

Kuril Islands (h = N).

" 7	UPP	iPKP1	18 15 01.6	
		i	18 15 05.1	
			micr	sec
		PKP1 Z'	0.1	1.0
	KIR	iPKP	18 14 45.5	
	UME	ePKP1	18 14 49	

Kermadec Islands region
(h = 290 km).

" 7	UPP	iPKP	18 42 52.5	
		iPKP1	18 42 56.1	
			micr	sec
		PKP Z'	0.5	2.0
		Mx Z	4.0	24
	KIR	e(PKP)	18 42 32	
		iPKP	18 42 38.7	
			micr	sec
		Mx Z	2.9	22
	UME	iPKP1	18 42 43.3	C

Kermadec Islands (h = 50 km).
M = 6.1 (UPP,KIR).

" 7	UPP	iP	20 03 31.7	
	KIR	iP	20 02 38.8	C
	UME	iP	20 03 03.6	C

Off east coast of Kamchatka
(h = N).

" 7	UPP	iP	21 37 00.7	
	KIR	iP	21 36 26.1	
	UME	iP	21 36 40.5	C

Near s. coast of southern
Honshu (h = 410 km).

" 8	UPP	iP	05 20 09.4	
			micr	sec
		P Z'	0.1	1.2
	KIR	iP	05 19 16.2	
			micr	sec
		P Z'	0.1	0.8
	UME	iP	05 19 41.1	C
		i	05 19 43.5	

Off east coast of Kamchatka
(h = N).
m = 5.4 (UPP,KIR).

" 8	KIR	iP	05 38 55.3	
	UME	iP	05 39 20.2	

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Feb. 8 KIR iP 05 40 21.6
UME iP 05 40 46.4

" 8 UPP iP 06 27 42.5
KIR iP 06 26 52.6
UME iP 06 27 24.8

" 8 UPP iP 06 31 31.8 C
KIR iP 06 30 41.2 C
UME iP 06 31 06.7
Off east coast of Kamchatka
(h = N).

" 8 UPP iP 07 09 17.6
i 07 09 19.0
ipP 07 09 29.9
iS 07 17 56
micr sec
i Z' 0.8 1.3
Mx Z 7.5 16
KIR iP 07 08 24.8
i 07 08 26.4
ipP 07 08 36.9
micr sec
P Z' 0.3 1.4
i Z' 0.6 1.1
Mx Z 3.4 14
UME eP 07 08 48
i 07 08 49.4
ipP 07 08 59.0
iS 07 17 06
Off east coast of Kamchatka.
h = 40 km (UPP,KIR,UME).
m = 6.6, M = 5.9 (UPP,KIR).
Double P, small and large,
in average 1.5 s apart.

" 8 KIR iP 07 45 52.7
UME iP 07 46 18.2
Off east coast of Kamchatka
(h = N).

" 8 UPP iP 09 34 43.7
KIR iP 09 33 49.7
UME iP 09 34 14.2 D
Off east coast of Kamchatka
(h = N).

" 8 UPP iP 09 35 21.5
KIR iP 09 34 48.6
UME iP 09 35 09.5

" 8 KIR iP 09 50 08.0
UME iP 09 50 33.2 D
Near east coast of Kamchatka
(h = N).

" 8 UME iP 11 07 11.2

1983
Feb. 8 UPP iP 11 08 44.0
UME iP 11 08 11.4

" 8 KIR iP 12 11 02.4
UME iP 12 11 32.1

" 8 UPP iP 14 16 37.5 C
KIR iP 14 15 52.3
UME iP 14 16 12.7 C
Hokkaido, Japan region
(h = 250 km).

" 8 UME iP 16 30 24.5
Southwest of Sumatera
(h = N).

" 8 UME iPKP 17 05 19.8
i 17 05 24.7
South of Fiji Islands
(h = 480 km).

" 8 UPP eP 21 53 27
KIR eP 21 53 01
UME eP 21 53 25

" 9 UPP iP 03 17 46.9
KIR i 03 17 29.8
UME iP 03 17 36.2
Philippine Islands region
(h = N).

" 9 UPP iP 05 55 41.6
KIR iP 05 55 20.2 C
micr sec
P Z' 0.1 1.5
UME iP 05 55 26.7
Philippine Islands region
(h = N).

" 9 UPP iP 06 06 05.4
KIR iP 06 05 44.9
micr sec
P Z' 0.1 1.2
UME iP 06 05 51.2 D
Philippine Islands region
(h = N).

" 9 UPP iPKP 07 21 20.5
micr sec
Mx Z 1.6 23
UME ePKP 07 21 12
Solomon Islands (h = 45 km).

" 9 UPP iRg 12 22 36.3
UDD iRg 12 22 13.7
DEL iSg1 12 24 56.0
South-central Sweden.
Near surface event.

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Feb. 9 UPP iP 13 43 10.5
Philippine Islands region
(h = N).

" 9 KIR iP 21 18 19.1
UME iP 21 18 26.9
Panama-Costa Rica border
region (h = 25 km).

" 10 KIR iSn 08 00 33.7
UME iSn 08 02 14.8
Barents Sea, near 76 1/4°N,
24 1/2°E.
Origin time = 07 57 01.
By combination with Finnish
station readings.

" 10 UPP iP 12 29 35.3
UME iP 12 30 07.3
Mediterranean area
(h = 50 km).

" 10 UPP iP 20 13 02.5
Philippine Islands region
(h = N).

" 10 UPP eS 22 36 42
Austria (h = 10 km).

" 11 UPP iP 01 43 23.7
UME iP 01 42 55.3
Kuril Islands (h = 190 km).

" 11 UPP eP 10 04 45
UME iP 10 05 21.6
Greece (h = 20 km).

" 11 UME iP 18 02 38.1

" 11 UPP iP 18 58 06.8
UME iP 18 58 52.3
Greece (h = 10 km).

" 11 UPP iP 23 59 17.5
Off w coast of northern
Sumatera (h = N).

" 12 UPP iP 05 24 29.5
KIR iP 05 24 38.2
UME iP 05 24 27.8 C
Afghanistan-USSR border
region (h = 230 km).

" 12 UPP iP 09 00 20.7
i 09 00 39.5
iS 09 11 00
(cont.)

1983
Feb. 12 (cont.)

		micr	sec	
UPP				
P	Z'	0.1	1.2	
Mx	Z	7.7	21	
KIR	eP		09 00 12	
i			09 00 13.3	
		micr	sec	
P	Z'	0.4	1.0	
Mx	Z	4.1	22	
UME	eP		09 00 17	C
i			09 00 17.3	
iS			09 10 47	

Mindanao, Philippine Islands
(h = 50 km).
m = 6.4, M = 6.0 (UPP,KIR).

" 12 UPP iPKP2 10 53 30.9
KIR ePKP1 10 52 59
UME iPKP1 10 53 06.3
North Island, New Zealand
(h = 90 km).

" 12 KIR iP 11 41 07.6
UME iP 11 41 12.7
Mindanao, Philippine Islands
(h = 55 km).

" 13 UPP iP 01 47 43.8
i 01 47 52.0
iS 01 53 59

		micr	sec	
i	Z'	0.2	1.0	
Mx	Z	82.6	9	
KIR	iP		01 47 49.9	C
i			01 47 54.3	
		micr	sec	
P	Z'	0.3	1.0	
Mx	Z	64.8	9	
UME	iP		01 47 44.0	
iS			01 53 44	

Southern Xinjiang, China
(h = 15 km).
m = 5.9 (UPP,KIR).
Very well developed Lg
crustal waves.

" 13 UPP iPKP1 02 19 50.3
KIR e(PKP) 02 19 13
UME iPKP 02 19 39.7
Kermadec Islands (h = 350 km).

" 13 KIR eP 02 46 43
UME iP 02 46 37.6
Southern Xinjiang, China
(h = N).

" 13 KIR eP 04 26 32
(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Feb. 13 (cont.)
UME i 04 26 28.1
Southern Xinjiang, China
(h = N).

" 13 UPP eP 06 28 44
Greece (h = 10 km).

" 13 UME iP 06 29 21.4
Southern Xinjiang, China
(h = N).
Early arrival when compared
with the NEIS solution.

" 13 UPP eP 06 48 43
KIR iP 06 48 15.8
UME iP 06 48 26.5
i 06 48 32.9
Mariana Islands (h = 110 km).

" 13 KIR iP 07 30 51.0
UME iP 07 30 45.7
Kirgiz-Xinjiang border region
(h = 15 km).
Late arrivals when compared
with NEIS solutions.

" 13 UPP iPKP2 11 41 03.2 C
UME iPKP1 11 40 41.8
North Island, New Zealand
(h = 70 km).

" 13 UPP eP 14 36 17
KIR iP 14 36 02.5
i 14 36 09.3
UME iP 14 36 06.7
Mindanao, Philippine Islands
(h = 50 km).

" 13 UPP ipP 15 23 20.2
KIR i 15 23 14.3
UME ipP 15 23 03.5 C
Philippine Islands region
(h = 45 km).

" 14 UPP iPP 00 40 38.3
iS 00 47 12
micr sec
Mx Z 3.5 25
KIR iP 00 36 21.5
ipP 00 36 30.9
i 00 36 42.6
micr sec
P Z' 0.1 0.9
Mx Z 1.7 22
UME iP 00 36 30.4
ipP 00 36 40.9
(cont.)

1983
Feb. 14 (cont.)
UME iPP 00 40 07.7
iS 00 46 58
West Caroline Islands.
h = 35 km (KIR,UME).
M = 5.6 (UPP,KIR).

" 14 UPP eP 01 43 25
KIR iP 01 43 09.0
UME eP 01 43 15
Molucca Passage (h = 50 km).

" 14 UME iP 03 18 02.0
Andreanof Islands, Aleutian
Is. (h = 55 km).

" 14 UPP iP 03 30 44.0 C
i 03 30 50.1
iS 03 39 24
iP'P' 03 59 27.3
micr sec
P Z' 0.3 1.0
Mx Z 21.3 27
KIR iP 03 29 49.9 C
ipP 03 30 02.7
micr sec
P Z' 0.9 1.1
Mx Z 8.9 21
UME iP 03 30 17.4 C
ipP 03 30 30.3
i 03 31 10.0
iS 03 38 36
iP'P' 03 59 31.6
South of Alaska.
h = 45 km (KIR,UME).
m = 6.8, M = 6.1 (UPP,KIR).

" 14 KIR iP 07 33 39.5
UME iP 07 33 11.0
Turkey (h = 10 km).

" 14 UPP iP 08 20 43.9 C
ipP 08 20 55.5
iS 08 29 25
iP'P' 08 49 37.4
micr sec
P Z' 0.4 1.3
Mx Z 3.9 22
KIR iP 08 19 50.1 C
ipP 08 20 03.1
micr sec
P Z' 1.1 1.3
Mx Z 2.1 21
UME iP 08 20 17.5 C
ipP 08 20 27.5
i 08 21 00.2
iS 08 28 32
South of Alaska.
h = 40 km (UPP,KIR,UME).
m = 6.6 (UPP,KIR).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983 Feb.	14	KIR	iPn	12 07 09.4	
		UME	eP	12 07 55	
			i	12 08 00.6	
		Svalbard region (h = 10 km).			
"	14	UPP	iP	16 11 55.2	
		Greece (h = 10 km).			
"	14	UPP	iP	17 23 26.0	
		UME	i	17 23 13.9	
		Ryukyu Islands (h = N).			
"	14	UPP	iP	23 58 57.7	
		KIR	iP	23 58 04.3	
		Rat Islands, Aleutian Islands (h = 100 km).			
"	16	UPP	iPKP1	10 09 11.5	
			i	10 09 17.3	
		UME	iPKP1	10 09 01.2	
			iPKP	10 09 07.7	
		South of Fiji Islands (h = 510 km).			
"	16	UPP	iP	16 55 39.8	
		UME	iP	16 56 18.3	
		Ionian Sea (h = 20 km).			
"	16	UPP	eP	23 47 13	
			i	23 47 26.4	
		UME	iP	23 47 54.0	
			i	23 48 09.5	
		Romania (h = 150 km).			
"	17	UPP	iP	00 23 49.8	
		KIR	eP	00 23 37	
		UME	iP	00 23 36.9	D
		Northern Xinjiang, China (h = N).			
"	17	UPP	iP	04 35 42.7	
		Yunnan Province, China (h = N).			
"	17	UPP	iP	05 21 26.2	
"	17	UME	iP	05 24 35.1	C
		North Atlantic Ocean (h = 10 km).			
"	17	UPP	eP	05 25 49	
		UME	iP	05 25 49.0	
		North Atlantic Ocean (h = 10 km).			
"	17	UME	iP	05 42 37.7	
		North Atlantic Ocean (h = 10 km).			
1983 Feb.	17	UME	iP	07 57 27.3	
"	17	UME	iP	07 58 26.3	
		North Atlantic Ocean (h = 10 km).			
"	17	UPP	iP	08 06 31.3	
		UME	iP	08 06 32.5	
		North Atlantic Ocean (h = 10 km).			
"	17	UME	iP	10 20 37.5	
		North Atlantic Ocean (h = 10 km).			
"	17	UPP	iP	10 42 03.9	
		UME	iP	10 42 00.6	
		North Atlantic Ocean (h = 10 km).			
"	17	UME	iP	10 55 05.1	
		North Atlantic Ocean (h = 10 km).			
"	17	UME	iP	12 08 00.5	
		North Atlantic Ocean (h = 10 km).			
"	17	UPP	iP	12 15 01.6	
		UME	iP	12 15 03.1	
		North Atlantic Ocean (h = 10 km).			
"	17	UME	iPKP	16 29 59.5	
		Tonga Islands (h = 30 km).			
"	17	KIR	eP	17 33 10	
		UME	iP	17 33 21.8	
		Iceland region (h = 10 km).			
"	17	UME	iP	18 00 10.3	
		Near east coast of Honshu, Japan (h = 120 km).			
"	17	UPP	iP	20 35 11.6	
		KIR	iP	20 35 13.9	
		UME	eP	20 35 07	
		Southern Xinjiang, China (h = N).			
"	17	UPP	iP	21 02 43.1	
"	17	UME	iP	21 20 09.6	
		South of Honshu, Japan (h = 220 km).			
"	17	UME	iP	22 45 57.2	

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Feb. 18 UME iP 04 06 00.4
Volcano Islands region
(h = N).

" 18 UPP iP 07 47 58.7
i 07 51 01.4
KIR iP 07 48 35.0 C
micr sec
P Z' 0.1 0.9
UME iP 07 48 11.7 C
Southern Iran (h = 35 km).

" 18 UPP iPKP2 10 08 40.1
UME iPKP1 10 08 27.0 C
Kermadec Islands (h = N).

" 18 UPP iP 11 56 51.6
micr sec
P Z' 0.1 0.9
KIR i 11 56 56.0
micr sec
i Z' 0.2 1.5
UME iP 11 56 53.4 D
North Atlantic Ocean
(h = 10 km).
m = 5.6 (UPP,KIR).

" 18 UPP iP 14 39 46.5
KIR iP 14 40 23.0
UME iP 14 39 59.3
Southern Iran (h = 55 km).

" 18 KIR iP 15 04 15.9
UME iP 15 04 18.3
Mindanao, Philippine Islands
(h = 600 km).

" 18 UPP iP 16 11 42.9

" 18 UPP eP 16 40 57
KIR iP 16 42 01.1
UME iP 16 41 34.9
Ionian Sea (h = 10 km).

" 18 UPP iP 17 29 38.9 C
iS 17 34 12
micr sec
P Z' 0.1 1.2
KIR iP 17 29 36.7
micr sec
P Z' 0.2 1.3
UME iP 17 29 40.4
North Atlantic Ocean
(h = 10 km).
m = 5.6 (UPP,KIR).

" 18 KIR eP 19 20 24
Mindanao, Philippine
Islands (h = 60 km).

1983
Feb. 19 UPP eP 00 27 11
i 00 27 20.0
Luzon, Philippine Islands
(h = N).

" 19 UME iP 01 45 59.3

" 19 UPP iP 05 02 32.3

" 19 UPP eP 05 15 49
UME iP 05 15 24.3
Hokkaido, Japan region
(h = 120 km).

" 19 UPP iP 05 32 08.0
UME iP 05 31 52.5 C
i 05 31 56.0

" 19 UPP iP 05 58 37.1
North Atlantic Ocean
(h = 10 km).

" 19 UPP iP 09 16 01.9

" 19 UPP iP 11 48 52.2
UME iP 11 48 25.2
Rat Islands, Aleutian Islands
(h = 50 km).

" 19 UPP iP 16 00 16.8
Southern Greece (h = 60 km).

" 19 UPP iP 16 09 07.9
i 16 09 32.1
UME iP 16 08 49.4
Taiwan region (h = 15 km).

" 19 UPP iP 20 26 24.5 D
iS 20 35 59.3
i 20 36 28.3
micr sec
P Z' 0.2 1.0
KIR iP 20 26 08.0 D
micr sec
P Z' 0.3 1.0
UME iP 20 26 13.6 D
Mindanao, Philippine Islands
(h = 570 km).
m = 6.0 (UPP,KIR).

" 20 UPP iP 01 32 39.1
UME iP 01 32 14.0 C
Kuril Islands (h = 40 km).

" 20 UPP iP 02 38 10.6 C
micr sec
P Z' 0.1 0.8
(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Feb. 20 (cont.)
KIR iP 02 38 10.3 C
micr sec
P Z' 0.1 0.8
UME iP 02 38 06.3 C
Andaman Islands region
(h = N).
m = 5.9 (UPP,KIR).

" 20 UPP iP 05 50 06.5
micr sec
P Z' 0.1 0.9
KIR iP 05 51 20.8
UME iP 05 50 44.9 C
Southern Greece (h = 40 km).

" 20 UPP iP 11 03 06.6 C
i 11 03 08.5
iS 11 13 38
micr sec
i Z' 0.2 1.1
KIR iP 11 02 49.5
i 11 02 52.2
micr sec
P Z' 0.1 1.0
i Z' 0.8 1.3
Mx Z 11.9 26
UME iP 11 02 55.5 C
iS 11 13 58
Mindanao, Philippine Islands
(h = 61 km).
m = 6.7 (UPP,KIR).
Double P, small and large,
in average 2.3 s apart.

" 20 UPP iP 12 47 23.4
i 12 47 25.1
i 12 47 52.8
iS 12 51 27
micr sec
P Z' 0.2 0.8
KIR iP 12 48 38.6
micr sec
P Z' 0.3 1.2
UME eP 12 48 02
Southern Greece (h = 35 km).
m = 5.8 (UPP,KIR).

" 20 KIR eP 14 08 58
UME iP 14 09 05.8
Mindanao, Philippine Islands
(h = 55 km).

" 20 UME iP 17 23 31.7
North Atlantic Ocean
(h = 10 km).

" 20 UME eP 18 48 56

1983
Feb. 20 UME iP 21 00 07.6
South of Mariana Islands
(h = 40 km).

" 21 UPP iP 00 18 01.7
i 00 18 27.9
iS 00 22 03.1
micr sec
P Z' 0.1 1.0
KIR iP 00 19 18.8
UME iP 00 18 41.8
Ionian Sea (h = 25 km).

" 21 UPP iP 00 41 32.2
Ionian Sea (h = 10 km).

" 21 KIR iP 12 04 43.1
UME iP 12 04 53.5
Near coast of Guerrero,
Mexico (h = 45 km).

" 21 UPP eP 18 07 31
iS 18 10 17.0
e 18 12 18
KIR eP 18 09 01
iPn 18 09 16.0
UME iP 18 08 11.3
iPn 18 08 19.4
iS 18 11 52.5
Romania (h = 35 km).

" 21 UME iP 18 50 45.3
Alaska peninsula (h = N).

" 22 UPP iP 03 00 17.2 C
KIR iP 02 59 38.9 C
UME iP 02 59 56.0 C
Near east coast of Honshu,
Japan (h = 80 km).

" 22 UPP iP 09 49 31.8
micr sec
Mx Z 2.3 24
KIR iP 09 49 16.2
UME eP 09 49 24
Taxaca, Mexico (h = 35 km).

" 22 UPP iP 10 57 25.6
UME eP 10 58 07
Ionian Sea (h = 10 km).

" 22 UPP iPKP 15 08 34.7
UME iPKP 15 08 26.3
Vanuatu Islands (h = 150 km).

" 22 UPP iP 18 51 40.7
UME iP 18 51 44.7
Pakistan (h = 5 km).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Feb. 22 UPP iP 23 40 26.3
KIR eP 23 40 07
UME eP 23 40 16

" 23 UPP iPn 01 00 55.9
iSn 01 02 29.5
iSg1 01 03 12.2
micr sec
Sg1 Z' 0.051 0.95
KIR iPn 00 59 26.8
i 00 59 27.6
iSg1 01 00 16.0
micr sec
Sg1 Z' 0.570 0.50
UME iPn 01 00 06.5
i 01 00 11.2
iSn 01 01 13.4
iSg1 01 01 47.4
UDD iPn 01 00 43.7
iSn 01 02 19.3
MYV iPn 01 00 06.0
iSg1 01 01 35.0
Norwegian Sea, near 68 3/4°N, 12°E.
Origin time = 00 58 34.
M_L(UPP) = 3.8 (0.30) 6.

" 23 UPP iP 06 17 26.1
UME eP 06 18 05
Greece (h = 10 km).

" 23 UPP iP 14 20 21.9
KIR iP 14 20 37.1
UME iP 14 20 22.4 C
Uztek SSR (h = N).

" 23 UPP iP 21 40 11.8
KIR eP 21 39 55 C
UME iP 21 40 00.6
Molucca Passage (h = 70 km).

" 23 UPP iP 21 50 34.4
UME iP 21 50 59.8

" 24 UPP iP 00 48 56.9
Southern Greece (h = 45 km).

" 24 UPP iSg1 04 23 53.2
UME eSn 04 23 38
UDD eSg1 04 22 57
DEL iSn 04 22 53.2
MYV eSn 04 22 36
North Sea, near 60 1/4°N, 2°E.
Origin time = 04 19 47
M_L(UPP) = 3.0 (0.03) 2.
By combination with Bergen and Finnish station readings.

1983
Feb. 24 UPP iP 06 03 15.1

" 24 UPP iP 17 24 33.0
Ionian Sea (h = N).

" 24 UPP iP 18 03 15.9
i 18 03 53.0
micr sec
P Z' 0.1 1.0
UME eP 18 03 51
Southern Greece (h = 70 km).

" 24 UME iPKP 18 22 05.3
Vanuatu Islands (h = 20 km).

" 24 UME iSKP1 18 29 27.0
South of Fiji Islands
(h = 540 km).

" 25 UPP iP 08 45 23.6
KIR iP 08 45 24.5
UME iP 08 45 18.6
Eastern Kashmir (h = 40 km).

" 25 UME iP 18 27 06.3
Yugoslavia (h = 25 km).

" 25 UPP iP 18 37 36.4
UME iP 18 37 38.6
North Atlantic Ocean
(h = 10 km).

" 25 UPP iPKP 22 22 06.8
KIR ePKP 22 21 58
UME iPKP 22 22 01.0
i 22 22 40.8
East Papua New Guinea region
(h = 240 km).

" 25 UPP iPdiff 23 03 42.9
iPP 23 08 02.2
iSKS 23 14 09
iS 23 15 18
i 23 16 22
micr sec
Mx Z 8.4 22
UME iPP 23 08 18.7
iSKS 23 14 19
iS 23 15 38
i 23 16 41
Northern Chile (h = 150 km).

" 25 UPP iP 23 55 48.2
UME iP 23 55 49.2 C
North Atlantic Ocean
(h = 10 km).

" 25 UPP iP 02 17 29.4
(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYR = Myrviken

1983						
Feb.	26	(cont.)				
		KIR	iP		02 17 06.3	C
					micr	sec
			P	Z'	0.1	1.1
		UME	iP		02 17 13.9	C
		Taiwan region (h = 25 km).				
"	26	UPP	eP		03 13 01	
		Kyushu, Japan (h = 50 km).				
"	26	UPP	iP		07 21 39.2	C
			i		07 22 06.6	
					micr	sec
			P	Z'	0.3	1.5
			Mx	Z	44.5	25
		KIR	iP		07 20 48.5	
					micr	sec
			P	Z'	0.2	1.1
			Mx	Z	10.7	16
		UME	iP		07 21 12.9	
		Kuril Islands (h = 55 km).				
		m = 6.1 (UPP,KIR).				
"	26	UPP	iPKP2		12 03 13.0	
		UME	i		12 02 56.0	
			iPKP2		12 03 04.0	
		Anckland Islands region				
		(h = 10 km).				
"	26	UPP	iP		12 57 07.7	
		KIR	iP		12 57 33.1	C
		UME	iP		12 57 23.9	
		North Atlantic Ridge				
		(h = 10 km).				
"	26	UPP	iP		20 15 11.7	
			i		20 15 14.3	
					micr	sec
			Mx	Z	3.4	13
		KIR	eP		20 15 19	
			i		20 15 24.3	
			iPP		20 17 04.1	
		UME	eP		20 15 09	
			i		20 15 11.3	
			iS		20 21 06	
		Afghanistan-USSR border				
		region (h = 50 km).				
		Double P, small and large,				
		average separation 3.4 s.				
"	26	UPP	iP		20 32 58.4	
		Greece (h = 10 km).				
"	27	UME	iP		07 44 50.7	
"	27	UME	iP		10 22 16.0	
		Near east coast of Honshu,				
		Japan (h = 50 km).				

1983						
Feb.	27	UPP	iP		12 25 44.9	C
			iS		12 35 05	
					micr	sec
			P	Z'	0.4	1.2
			Mx	Z	1.5	26
		KIR	iP		12 25 06.8	C
					micr	sec
			P	Z'	0.8	1.8
		UME	iP		12 25 23.7	C
			iS		12 34 28	
		Near s. coast of Honshu,				
		Japan (h = 80 km).				
		m = 6.2 (UPP,KIR).				
"	27	UPP	iP		16 06 12.7	
		KIR	iP		16 05 18.5	
		UME	iP		16 05 46.3	
		Alaska peninsula (h = N).				
"	27	UPP	iP		20 41 43.5	
			i		20 41 45.6	
					micr	sec
			i	Z'	0.1	1.1
		KIR	iP		20 41 45.6	
			i		20 41 48.6	
		UME	iP		20 41 38.3	
			i		20 41 40.0	
		Kashmir-Tibet border region				
		(h = N).				
		Double P, average separation				
		2.3 s.				
		The second arrival, when				
		interpreted as pP, gives				
		focal depth of 5 km.				
"	27	UPP	iP		20 51 22.0	
		KIR	eP		20 50 41	
		UME	i		20 51 08.0	
		Vancouver Island region				
		(h = 20 km).				
"	28	UME	iP		01 45 17.9	
		Iran (h = 35 km).				
"	28	UPP	iP		05 55 23.4	
			i		05 55 56.2	
			iS		06 04 35	
					micr	sec
			P	Z'	0.1	0.9
			Mx	Z	8.6	21
		KIR	iP		05 54 38.2	
			i		05 54 52.5	
					micr	sec
			i	Z'	0.1	1.2
			Mx	Z	2.7	18
		UME	iP		05 54 57.8	
			i		05 55 13.7	
			iS		06 03 48	
		Kuril Islands (h = 40 km).				
		m = 5.8, M = 5.8 (UPP,KIR).				

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983				
Feb.	28	UPP	eP	09 08 30
		KIR	iP	09 08 33.8
		UME	iP	09 08 25.9
		Kirghiz SSR (h = N).		
"	28	UME	iP	16 09 38.3
		Aegean Sea (h = 15 km).		
"	28	UME	iP	17 34 25.2
		Dodecanese Islands (h = 110 km).		
"	28	UPP	iP	18 45 27.7
		KIR	e	18 45 05
		UME	iP	18 45 09.0
		Bonin Islands region (h = 45 km).		
"	28	KIR	eP	18 58 03
		UME	iP	18 58 05.5

October 9, 1984

Ingrid Båth
Torild van Eck
Conny Holmqvist
Ota Kulhánek

SEISMOLOGICAL DEPARTMENT
BOX 12019
S-750 12 UPPSALA
SWEDEN

SEISMOLOGICAL DEPARTMENT
BOX 12019
S-750 12 UPPSALA
SWEDEN

S E I S M O L O G I C A L B U L L E T I N
U P P S A L A, K I R U N A, U M E Å, U D D E H O L M, D E L A R Y and M Y R V I K E N

Uppsala	(UPP)	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(KIR)	67°50.4'N,	20°25.0'E;	h = 390 m
Umeå	(UME)	63°48.9'N,	20°14.2'E;	h = 16 m
Uddeholm	(UDD)	60°05.4'N,	13°36.4'E;	h = 240 m
Delary	(DEL)	56°28.2'N,	12°52.2'E;	h = 150 m
Myrviken	(MYV)	62°56.5'N,	14°20.8'E;	h = 345 m

M A R C H 1 - 31, 1983

Mar. 1 KIR iPKP 01 01 40.6
South of Africa (h = 10 km).

" 1 UME iP 01 52 29.7
Ryukyu Islands (h = N).

" 1 UPP iP 02 08 35.4
KIR iP 02 09 04.0
UME iP 02 08 43.3
Turkmen SSR (h = N).

" 1 UME iP 03 59 18.2

" 1 KIR iP 09 13 40.5
UME iP 09 13 55.5
South of Honshu, Japan
(h = N).

" 1 UME iPKP 12 26 42.6
Near east coast of central
Chile (h = 45 km).

" 1 UPP iP 13 32 36.4
ipP 13 32 44.6
KIR iP 13 32 25.9
ipP 13 32 34.4
UME iP 13 32 26.4
ipP 13 32 35.2
India-China border region.
h = 30 km (UPP,KIR,UME).

" 1 UME iP 19 39 55.0
Southern Sumatera (h = 90 km).

" 2 UPP ipP 08 22 59.5
UME iP 08 22 25.9
ipP 08 22 36.8
Near east coast of Honshu
(h = 35 km).

Mar. 2 UPP iP 12 17 15.8
KIR iP 12 17 49.9
UME iP 12 17 37.0
Central Mid-Atlantic Ridge
(h = 10 km).

" 2 UPP epP 15 50 23
UME ipP 15 50 19.8
El Salvador (h = 90 km).

" 2 UME iP 16 07 35.5

" 3 UPP ePKP 02 09 38
KIR iPKP 02 09 22.9
UME iPKP 02 09 29.5
Fiji Islands region
(h = 580 km).

" 3 UPP iP 03 26 50.9
KIR iP 03 26 33.4
Luzon, Philippine Islands
(h = N).

" 3 UPP iP 03 40 13.5 C
ipP 03 40 30.7
micr sec
P Z' 0.1 0.8
KIR iP 03 39 57.9 C
ipP 03 40 15.1
micr sec
P Z' 0.1 0.8
UME iP 03 39 59.4 C
ipP 03 40 17.2
Northern Xinjiang, China.
h = 70 km (UPP,KIR,UME).
m = 5.7 (UPP,KIR).

" 3 UPP iP 09 35 46.5
UME iP 09 36 26.5
Albania (h = 10 km).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Mar. 3 UPP iP 10 44 38.8
South of Honshu, Japan
(h = 500 km).

" 3 UPP iP 12 04 29.8 C
KIR iP 12 04 40.3 C
micr sec
P Z' 0.1 1.0
UME iP 12 04 39.4 C
Windward Islands (h = 60 km).

" 3 UPP eP 16 54 01
KIR iP 16 53 17.8
UME iP 16 53 35.9
Hokkaido, Japan region
(h = 55 km).

" 3 UPP iP 17 54 18.9
KIR iP 17 53 37.1
UME iP 17 53 55.1
Off east coast of Honshu,
Japan (h = 40 km).

" 4 UPP iP 10 09 06.0
UME iP 10 09 45.0
Greece (h = 10 km).

" 4 UPP iP 14 22 52.9
micr sec
Mx Z 4.1 18
KIR iP 14 22 11.5
micr sec
Mx Z 4.4 15
UME iP 14 22 29.6 C
Off east coast of Honshu,
Japan (h = N).
M = 5.8 (UPP,KIR).

" 4 UPP iP 19 18 13.0
UME iP 19 18 36.2
South Atlantic Ridge
(h = 10 km).

" 5 UPP iP 03 22 28.5
UME iP 03 22 27.1
Afghanistan-USSR border
region (h = 90 km).

" 5 UPP iP 14 29 21.3
KIR iP 14 30 01.5
micr sec
Mx Z 3.7 14
UME iP 14 29 35.9
Western Iran (h = N).

" 5 UME iP 21 43 22.7
Southern Honshu, Japan
(h = 45 km).

1983
Mar. 5 UPP iP 22 00 06.7
KIR iP 21 59 17.6
UME iP 21 59 39.0
Northwest of Kuril Islands
(h = 340 km).

" 7 KIR iP 15 24 52.8
micr sec
P Z' 0.1 1.1
Mariana Islands (h = 80 km).

" 8 UPP iPKP 13 40 38.3
UME iPKP 13 40 30.5
Gilbert Islands region (h = N).

" 8 UPP iP 17 18 13.6 C
i 17 27 33
micr sec
P Z' 0.9 1.4
KIR iP 17 18 23.1 C
micr sec
P Z' 1.4 1.1
UME iP 17 18 21.7 C
Windward Islands (h = 80 km).
m = 6.7 (UPP,KIR).

" 8 UPP iPn 18 45 26.4 C
iPg1 18 45 46.6
iSg1 18 47 05.9
KIR i(P) 18 46 25.6
i 18 46 27.9
iLg1 18 49 19.3
UME iPn 18 45 53.0
iSn 18 47 20.1
i 18 47 39.9
iSg1 18 48 08.0
UDD iPn 18 44 58.3 D
i 18 45 02.8
iPg1 18 45 09.7
i 18 45 39.5
iSg1 18 46 02.4
DEL iPn 18 45 17.7
eSn 18 46 17
iSg1 18 46 48.0
MYV iPn 18 45 16.2
i 18 45 19.8
i 18 45 25.6
iPg1 18 45 33.4
iSg1 18 46 39.6
Coast of southwestern Norway,
59.8°N, 5.6°E.
Origin time = 18 43 59.
M_L(UPP) = 4.6 (0.16) 6. Felt.

" 8 UDD iSg1 20 28 51.2
Coast of southwestern Norway,
near 59.8°N, 5.6°E.
Origin time = 20 26 41.
By combination with Norwegian
station readings.
Aftershock to the event at 18 43.

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Mar. 8 KIR iP 23 41 38.7
UME iP 23 41 42.6
Banda Sea (h = 190 km).

" 9 KIR iP 00 18 58.2
UME iP 00 18 57.6
Java (h = 120 km).

" 9 UME iP 05 32 56.4
Mona Passage (h = 35 km).

" 9 KIR iP 16 51 00.9
UME eP 16 50 55
Tajik-Xinjiang border region
(h = N).

" 9 UPP iPKP1 18 11 26.9
KIR iPKP 18 11 19.3
UME iPKP1 18 11 19.1
iPKP 18 11 25.5
Fiji Islands region
(h = 560 km).

" 10 UPP iP 00 38 49.2
i 00 38 50.3
micr sec
i Z' 0.2 0.6
Mx Z 5.0 14
KIR iP 00 38 03.4
i 00 38 05.0
micr sec
i Z' 0.4 0.9
Mx Z 6.1 16
Kuril Islands (h = N).
m = 6.4, M = 5.9 (UPP,KIR).

" 10 UPP iPg1 03 09 12.0
iSg1 03 09 28.7
i 03 09 33.2
iRg 03 09 35.3
UDD iSg1 03 09 08.5
iRg 03 09 12.7
DEL eSg1 03 10 44
Rockburst at the Grängesberg
iron ore mine, Dalarna,
Sweden, 60.1°N, 15.0°E.
Origin time = 03 08 49
By combination with SKI
network readings.

" 10 KIR iPKP 06 04 58.0
Vanuatu Islands (h = 140 km).

" 10 UPP iP 06 08 22.3

" 10 UPP iP 12 11 39.4
micr sec
P Z' 0.1 0.9
Mx Z 3.1 21
(cont.)

1983
Mar. 10 (cont.)
KIR iP 12 11 21.2
micr sec
P Z' 0.1 1.0
Mx Z 3.5 22
Mindanao, Philippine Islands
(h = 50 km).
m = 6.2, M = 5.8 (UPP,KIR).

" 10 UPP iPKP1 18 18 02.2
iPKP 18 18 10.2
Kermadec Islands (h = 90 km).

" 10 UPP iP 21 12 18.0
UME iP 21 11 52.9
Kuril Islands (h = 80 km).

" 11 KIR iP 03 18 17.2
UME iP 03 18 29.0
Near coast of Jalisco,
Mexico (h = N).

" 11 KIR iPdiff 03 25 03.0
iPKP 03 29 06.3
UME iPdiff 03 25 13.4
iPKP 03 29 08.2
East Papua new Guinea region
(h = 60 km).

" 11 UPP iP 06 32 51.3
micr sec
P Z' 0.1 1.0
KIR iP 06 34 14.9
i 06 34 20.4
UME iP 06 33 32.3
Romania (h = 150 km).

" 11 UME iP 11 42 51.2
Vanuatu Islands region
(h = 630 km).

" 11 UPP iP 23 15 52.6
KIR iP 23 15 35.4
UME iP 23 15 40.6
Mindanao, Philippine Islands
(h = 45 km).

" 12 UME iP 00 06 01.7

" 12 UPP iP 00 21 33.1
KIR iP 00 21 01.7
UME iP 00 21 16.5
Mariana Islands region
(h = N).

" 12 KIR iP 00 52 14.8
UME iP 00 52 04.4
Hindu Kush region (h = 220 km).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983						
Mar.	12	UPP	ePdiff		01 07 37	
			iPP		01 11 59.7	
		KIR	iP		01 07 23.2	
					micr	sec
			P	Z'	0.1	1.0
		UME	iP		01 07 27.9	
			iPP		01 11 35.7	
		Banda Sea (h = N).				
"	12	UPP	iP		01 50 30.4	
			i		01 54 44.7	
			iPP		01 54 57.6	
					micr	sec
			Mx	Z	14	17
		KIR	iP		01 50 21.6	
			i		01 54 10.4	
			iPP		01 54 29.6	
					micr	sec
			P	Z'	0.2	1.2
		UME	iP		01 50 25.7	
			i		01 50 26.8	
			iPP		01 54 40.7	
			iSKS		02 00 03	
		Banda Sea (h = 15 km).				
"	12	UPP	iPKP1		06 11 24.5	
		South of Tonga Islands				
		(h = 40 km).				
"	12	UPP	iP		07 11 12.1	
		KIR	iP		07 10 18.2	
		UME	iP		07 10 45.6	
		Fox Islands, Aleutian Islands				
		(h = N).				
"	12	UPP	iPKP		09 08 59.4	
					micr	sec
			Mx	Z	6.0	30
		KIR	iPKP		09 08 44.6	
					micr	sec
			PKP	Z'	0.1	0.9
		UME	i(PKP)		09 08 43.1	
			iPKP		09 08 51.8	
			iSKP1		09 12 11.4	
		Vanuatu Islands (h = 35 km).				
"	12	UPP	iP		14 35 46.7	
		KIR	eP		14 35 31	
		UME	iP		14 35 33.2	
		Sichuan Province, China				
		(h = 35 km).				
"	12	UPP	iP		21 16 57.8	
		KIR	iP		21 16 59.3	
		UME	iP		21 16 54.8	
		Nicobor Islands region				
		(h = 35 km).				

1983						
Mar.	12	UME	iP		22 26 46.1	
		Mariana Islands region				
		(h = N).				
"	13	UME	iP		06 20 42.2	
		Near coast of Chiapas, Mexico				
		(h = N).				
"	13	UME	iP		09 19 27.5	
		Hokkaido, Japan region				
		(h = 40 km).				
"	13	UPP	iP		20 30 07.1	
		KIR	iP		20 30 25.6	
		UME	iP		20 30 44.7	
		Hokkaido, Japan region				
		(h = 70 km).				
"	14	UPP	iPn		11 25 08.4	
			eSg1		11 27 22	
		KIR	iPn		11 23 20.3	C
			iPg1		11 23 26.5	
			iSg1		11 24 09.1	
		UME	iPn		11 24 01.3	
			i		11 24 05.6	
			iSn		11 25 07.5	
			i		11 25 31.0	
			iSg1		11 25 41.2	
		UDD	eSg1		11 27 20	
		MYV	iPn		11 23 59.6	
		Off coast of northern Norway,				
		near 69°N, 12°E.				
		Origin time = 11 22 29.				
		M_L (UPP) = 3.2 (0.37) 7.				
"	14	UPP	iP		12 01 35.6	
		KIR	iP		12 02 04.3	
			iPn		12 03 05.2	
		UME	iP		12 01 43.3	
			iPn		12 02 35.7	
		Turkmen SSR (h = N).				
"	14	UPP	iP		12 19 02.9	
			i		12 19 36.2	
			iS		12 24 17	
					micr	sec
			P	Z'	0.1	1.0
			Mx	Z	6.9	13
		KIR	iP		12 19 31.8	
			iPn		12 20 27.4	
					micr	sec
			P	Z'	0.2	1.2
		UME	iP		12 19 10.6	
			i		12 19 50.8	
			iS		12 24 29	
		Turkmen SSR (h = N).				
		m = 5.8 (UPP,KIR).				
"	14	UDD	iSg1		12 39 05.2	

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983						
Mar.	14	KIR	eP		19 15 50	
		UME	iP		19 15 54.8	
		Banda Sea (h = 30 km).				
"	14	KIR	iP		21 24 57.5	
		UME	iP		21 25 24.3	
		Fox Islands, Aleutian Islands				
		(h = N).				
"	15	UPP	iP		12 33 00.6	
			i		12 33 07.4	
		KIR	eP		12 33 31	
			i		12 33 37.4	
		UME	iP		12 33 11.1	
		Arabian Sea (h = 10 km).				
"	15	UPP	iP		12 50 57.0	
			i		12 51 07.8	
					micr sec	
			P	Z'	0.1 1.1	
		KIR	eP		12 50 40	
					micr sec	
			P	Z'	0.1 1.2	
		UME	iP		12 50 45.9	
		Mindanao, Philippine Islands				
		(h = 35 km).				
		m = 6.0 (UPP,KIR).				
"	15	UPP	iP		13 11 10.4	
			i		13 11 16.0	
"	15	UPP	iP		14 55 33.1	
		KIR	iP		14 56 01.9	
			iPn		14 57 03.1	
					micr sec	
			P	Z'	0.1 1.0	
		UME	iP		14 55 40.8	
		Turkmen SSR (h = N).				
"	15	UPP	iP		15 45 41.0	
		Southern Greece (h = 35 km).				
"	15	UPP	iP		17 38 55.4	
		KIR	iP		17 38 18.5	
		UME	iP		17 38 33.9	
		Near s. coast of Honshu,				
		Japan (h = 45 km).				
"	15	UPP	iP		20 11 47.3	
			ipP		20 11 59.5	
			iPP		20 15 41	
			iSKS		20 22 21.8	
			i		20 22 37	
					micr sec	
			P	Z'	0.1 1.0	
			Mx	Z	34 21	
		(cont.)				

1983						
Mar.	15	(cont.)				
		KIR	iP		20 11 32.8	
					micr sec	
			P	Z'	0.2 1.0	
		UME	iP		20 11 38.1	
			iPP		20 15 33	
			iSKS		20 22 07	
		Mindanao, Philippine Islands				
		(h = 40 km).				
		m = 6.3 (UPP,KIR).				
"	15	UPP	iP		21 25 12.1	
		Ionian Sea (h = 20 km).				
"	16	UPP	iP		04 38 45.8	
			ipP		04 38 49.7	
		KIR	iP		04 38 49.7	
		North Atlantic Ocean				
		(h = 10 km).				
"	16	UPP	iP		09 25 23.7	
			ipP		09 25 31.2	
					micr sec	
			P	Z'	0.1 1.0	
		KIR	iP		09 25 24.8	
			ipP		09 25 32.7	
					micr sec	
			P	Z'	0.1 1.0	
		UME	iP		09 25 21.3	
			ipP		09 25 28.7	
		Off w coast of northern				
		Sumatera.				
		h = 25 km (UPP,KIR,UME).				
		m = 5.3 (UPP,KIR).				
"	16	UME	iP		19 56 30.4	
"	16	UPP	iP		21 24 22.5	
			iS		21 28 11	
					micr sec	
			P	Z'	0.1 0.8	
			Mx	Z	2.1 10	
		KIR	iP		21 25 38.8	
					micr sec	
			P	Z'	0.1 1.0	
		UME	iP		21 25 03.6	
		Greece (h = 10 km).				
		m = 5.4 (UPP,KIR).				
"	17	UME	iP		00 37 22.3	
			i		00 37 28.0	
		Carlsberg Ridge (h = 10 km).				
"	17	UPP	iP		03 06 33.8	
					micr sec	
			Mx	Z	1.9 20	
		(cont.)				

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Mar. 17 (cont.)

KIR	iP	03 06 07.5	
		micr	sec
	P Z'	0.1	1.0
UME	iP	03 06 17.8	C
	i	03 06 24.2	

South of Mariana Islands
(h = 50 km).

" 17

UPP	iP	05 42 49.9	
UME	iP	05 43 29.4	

Greece (h = 10 km).

" 17

KIR	iP	07 20 46.5	C
	iPcP	07 21 53.0	
	iPP	07 22 44.7	
		micr	sec
	P Z'	0.3	1.1
UME	iP	07 21 09.3	C
	i	07 21 12.7	

Sakhalin Island (h = 40 km).

" 17

UPP	iP	18 23 27.2	
	iS	18 33 59	
	iPS	18 35 03	
		micr	sec
	P Z'	0.1	0.9
	Mx Z	3.8	20
KIR	iP	18 23 09.8	
	i	18 23 16.0	
		micr	sec
	P Z'	0.1	1.2
UME	iP	18 23 16.0	
	i	18 23 24.7	
	iS	18 33 34	

Luzon, Philippine Islands
(h = N).
m = 5.9 (UPP,KIR).

" 17

UPP	iP	19 27 00.0	
KIR	iP	19 26 55.2	
UME	iP	19 27 00.8	

Costa Rica (h = 110 km).

" 17

UPP	iP	20 10 16.1	
	i	20 10 20.1	
	ipP	20 10 48.7	
	i(PP)	20 12 40.7	
		micr	sec
	P Z'	0.1	1.0
	i Z'	0.1	1.0
KIR	iP	20 09 34.0	
	i	20 09 38.1	
UME	iP	20 09 53.0	
	ipP	20 10 25.0	

Hokkaido, Japan region.
h = 140 km (UPP,UME).

1983
Mar. 18

UPP	iP	00 29 20.2	
UME	iP	00 28 54.1	

Eastern Sea of Japan
(h = 25 km).

" 18

UPP	iP	00 50 30.1	
	i	00 50 35.2	
		micr	sec
	i Z'	0.1	1.1
UME	iP	00 51 12.0	

Greece (h = 10 km).

" 18

UPP	iP	07 37 40.4	
KIR	iP	07 38 08.2	

Turkmen SSR (h = N).

" 18

UPP	iPKP1	08 56 25.5	

Tonga Islands region
(h = 40 km).

" 18

UPP	iPdiff	09 20 35	
	iPKP	09 24 25.0	
	iPP	09 25 31	
	iPKKP	09 34 57.4	
		micr	sec
	Mx Z	262	27
KIR	iPdiff	09 20 11.4	
	iPKP	09 24 13.9	
	iPP	09 24 47.0	
	iPKKP	09 35 14.6	
		micr	sec
	PKP Z'	0.1	1.0
	Mx Z	252	25
UME	iPdiff	09 20 22.4	
	iPKP	09 24 19.8	
	iPP	09 25 10.8	

New Ireland region (h = 90 km).
M = 7.8 (UPP,KIR).

" 18

KIR	iP	17 39 47.1	
UME	iP	17 39 36.6	

Hindu Kush region (h = 200 km).

" 18

UME	iP	18 30 31.1	

Albania (h = 10 km).

" 19

UPP	iP	00 10 19.0	
KIR	iP	00 09 30.4	
UME	iP	00 09 52.3	

Iceland region (h = 10 km).

" 19

UPP	iP	06 16 55.1	

Sichuan Province, China
(h = 20 km).

" 19

UPP	iP	11 56 59.5	C
	ipP	11 56 09.7	

(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Mar. 19 (cont.)

UPP			micr	sec
	P	Z'	0.1	0.9
KIR	iP		11 56 07.0	C
	ipP		11 56 17.4	
UME	iP		11 56 31.6	C
	ipP		11 56 42.4	

Off east coast of Kamchatka.
h = 35 km (UPP,KIR,UME).

" 19

KIR	iP	12 43 07.6	
UME	iP	12 43 46.1	

Jan Mayen Island region
(h = 10 km).

" 19

UPP	iP		21 47 02.9	C
	iS		21 51 21.2	
			micr	sec
	P	Z'	1.6	1.5
	Mx	Z	5.6	30
KIR	iP		21 48 11.2	C
			micr	sec
	P	Z'	1.2	0.9
UME	iP		21 47 35.6	C

Crete (h = 70 km).
m = 6.5 (UPP,KIR).

" 20

UME	iP	06 51 37.7	

" 20

UPP	iPdiff		14 00 36.8	
	iPKP		14 04 22.5	
			micr	sec
	Mx	Z	6.0	24
KIR	iPdiff		14 00 07.2	
	iPKP		14 04 08.2	
			micr	sec
	Mx	Z	3.1	21
UME	iPdiff		14 00 18.8	
	iPKP		14 04 16.2	

New Ireland region
(h = 80 km).
M = 6.0 (UPP,KIR).
M not corrected for focal depth.

" 20

KIR	iPKP	16 42 11.5	
UME	iPKP	16 42 18.6	

Fiji Islands region
(h = 630 km).

" 20

UPP	eP	17 13 53	
KIR	iP	17 15 01.5	

Crete (h = 70 km).

" 20

UPP	iP	19 46 11.1	
KIR	iP	19 46 43.9	
UME	iP	19 46 23.7	

Arabian Sea (h = 10 km).

1983
Mar. 21

UME	iPKP	04 24 52.6	

New Ireland region
(h = 90 km).

" 21

UPP	iPKP1		08 03 31.8	
			micr	sec
	PKP1	Z'	0.1	0.9
	Mx	Z	16	20
KIR	i(PKP)		08 03 13.8	
	iPKP		08 03 24.3	
	iSKP1		08 06 52.5	
			micr	sec
	PKP	Z'	0.1	0.9
	Mx	Z	6.8	19
UME	i(PKP)		08 03 20.9	
	i		08 03 25.2	
	iPKP		08 03 31.9	
	iSKP1		08 07 03.5	

Tonga Islands (h = 70 km).
M = 6.6 (UPP,KIR).
M not corrected for focal depth.

" 22

UPP	iP	01 43 27.8	
KIR	iP	01 42 34.3	
UME	iP	01 43 00.3	

Andreanof Islands, Aleutian Is. (h = 60 km).

" 22

UPP	iP	05 17 44.1	
UME	iP	05 18 24.7	

Greece (h = 10 km).

" 22

UME	iPKP1	08 41 48.4	

South of Kermadec Islands
(h = N).

" 23

UPP	Mx		07 18	
			micr	sec
	Mx	Z	7.2	27
KIR	Mx		07 10	
			micr	sec
	Mx	Z	5.8	23

Solomon Islands (h = 35 km).
M = 6.2 (UPP,KIR).

" 23

UPP	iP		12 18 55.4	
			micr	sec
	P	Z'	0.1	0.9
KIR	iP		12 19 02.0	
			micr	sec
	P	Z'	0.1	0.8
UME	iP		12 18 52.3	

Afghanistan-USSR border region
(h = 120 km).
m = 5.6 (UPP,KIR).

" 23

UME	iP	16 19 56.2	

Afghanistan-USSR border region
(h = N).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Mar. 23 UPP iPKP1 18 48 35.0
UME iPKP1 18 48 23.9
South of Kermadec Islands
(h = N).

" 23 UPP iP 19 08 42.1
iS 19 12 41
micr sec
P Z' 0.1 1.0
Mx Z 6.9 13
KIR iP 19 10 00.5
micr sec
Mx Z 2.2 10
UME iP 19 09 23.2
iS 19 13 55
Greece (h = 10 km).
M = 5.2 (UPP,KIR).

" 23 UPP iPKP1 20 48 11.3
UME iPKP1 20 47 53.6
South of Kermadec Islands
(h = N).

" 23 UPP iP 20 53 37.4
UME iP 20 54 16.4
Greece (h = 10 km).

" 23 UME iP 22 05 29.9
Near west coast of Honshu,
Japan (h = 40 km).

" 23 UPP iP 23 36 00.0
Southern Greece (h = N).

" 23 UPP iP 23 37 41.6
UME iP 23 38 21.7
Ionian Sea (h = 10 km).

" 23 UPP iP 23 55 57.0 C
iS 23 59 58
micr sec
P Z' 1.6 1.0
Mx Z 65 13
KIR iP 23 57 11.3 C
micr sec
P Z' 0.3 1.0
Mx Z 27 12
UME iP 23 56 35.2 C
iS 00 01 00
Greece (h = 20 km).
m = 6.2, M = 6.2 (UPP,KIR).

" 24 UPP iP 00 17 58.0
Ionian Sea (h = 10 km).

" 24 UPP iP 01 16 41.6
UME iP 01 17 23.3
Greece (h = 10 km).

1983
Mar. 24 UPP iP 02 09 55.9
UME iP 02 10 36.3
Greece (h = 10 km).

" 24 UPP iP 02 40 51.4
micr sec
P Z' 0.2 0.9
KIR iP 02 40 05.6
UME iP 02 41 31.7
Greece (h = 10 km).

" 24 UPP iP 03 01 29.3
Greece (h = 10 km).

" 24 UPP iP 03 03 09.9
UME iP 03 03 50.2
Ionian Sea (h = 10 km).

" 24 UPP iP 04 22 22.2 C
iS 04 26 21.5
micr sec
P Z' 0.3 0.7
Mx Z 10 13
KIR iP 04 23 36.5 C
micr sec
P Z' 0.1 1.0
UME iP 04 23 00.4 C
i 04 23 03.0
iS 04 27 37
Greece (h = 25 km).
m = 5.7 (UPP,KIR).

" 24 UPP iP 06 51 34.0
Ionian Sea (h = 10 km).

" 24 UPP iP 08 57 11.7

" 24 UPP iP 10 52 02.0
UME iP 10 52 43.4
Greece (h = 10 km).

" 24 UPP iP 11 21 11.8
UME iP 11 21 51.4
Mediterranean Sea (h = 10 km).

" 24 UPP iP 12 55 48.3 C
ipP 12 55 52.3
iS 12 59 51
micr sec
pP Z' 0.2 1.0
Mx Z 7.9 17
KIR iP 12 57 06.7
micr sec
Mx Z 4.7 14
UME iP 12 56 27.3 C
ipP 12 56 31.3
iS 13 01 08
Greece.
h = 15 km (UPP,UME).
M = 5.3 (UPP,KIR).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983						
Mar.	24	UPP	iP		14 11 53.7	
		UME	iP		14 12 34.2	
		Greece (h = 10 km).				
"	24	KIR	iPKP		15 33 42.6	
		UME	iPKP		15 33 56.1	
"	24	UPP	iP		18 49 55.7	
		UME	eP		18 50 36	
		Ionian Sea (h = 10 km).				
"	24	UPP	iP		19 40 45.3	
			iS		19 44 52.7	
					micr	sec
			P	Z'	0.1	0.6
			Mx	Z	3.2	15
		KIR	iP		19 42 00.9	
					micr	sec
			Mx	Z	2.5	15
		UME	iP		19 41 23.9	
			i		19 41 25.5	
			iS		19 45 59	
		Greece (h = 10 km).				
		M = 4.9 (UPP,KIR).				
"	24	UPP	iP		22 08 09.3	
		UME	iP		22 08 47.3	
		Greece (h = 10 km).				
"	25	UPP	iP		06 05 29.3	
		Greece (h = 10 km).				
"	25	UME	iP		10 21 43.4	
		Ionian Sea (h = 10 km).				
"	25	UPP	iP		11 04 55.5	
		UME	iP		11 05 35.4	
		Ionian Sea (h = 10 km).				
"	25	UPP	iP		12 04 20.5	
					micr	sec
			P	Z'	0.1	1.1
			Mx	Z	3.0	15
		KIR	iP		12 04 52.8	
					micr	sec
			Mx	Z	1.8	16
		UME	iP		12 04 31.7	
		Iran (h = N).				
		M = 5.1 (UPP,KIR).				
"	25	UPP	iP		19 01 29.3	C
			i		19 01 35.7	
			iS		19 05 28.3	
					micr	sec
			i	Z'	0.1	1.0
			Mx	Z	4.3	12
		(cont.)				

1983						
Mar.	25	(cont.)				
		KIR	iP		19 02 43.8	
					micr	sec
			Mx	Z	2.7	10
		UME	iP		19 02 07.8	
			i		19 02 10.0	
			i		19 02 12.5	
			iS		19 06 46	
		Greece (h = 10 km).				
		M = 5.2 (UPP,KIR).				
"	25	UPP	iP		20 25 35.5	
			i		20 25 40.1	
			i		20 35 02.7	
					micr	sec
			P	Z'	0.1	0.7
		KIR	iP		20 26 50.1	
		UME	iP		20 26 14.2	
			i		20 26 16.1	
		Greece (h = 10 km).				
"	25	UPP	iP		20 48 03.4	
		UME	iP		20 48 42.0	
		Greece (h = 10 km).				
"	25	UPP	iP		21 05 40.5	
			i		21 13 37.5	
		UME	iP		21 06 19.7	
			i		21 06 20.9	
		Greece (h = 10 km).				
"	25	UPP	iP		21 10 25.8	
"	25	UPP	iP		21 13 32.8	
		UME	iP		21 14 09.9	
		Greece (h = 10 km).				
"	26	UPP	iP		03 32 09.3	
		UME	iP		03 32 49.6	
			i		03 33 00.0	
		Ionian Sea (h = 10 km).				
"	26	UPP	iP		04 13 47.9	
					micr	sec
			P	Z'	0.1	1.5
			Mx	Z	1.5	14
		KIR	iP		04 14 23.4	
			i(PP)		04 15 40.0	
					micr	sec
			P	Z'	0.1	1.1
			Mx	Z	1.0	12
		UME	iP		04 14 01.1	
		Iran (h = N).				
		M = 4.9 (UPP,KIR).				
"	26	UME	iP		06 00 34.2	

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983 Mar. 26 KIR iP 09 30 55.4
Talaud Islands (h = 110 km).

" 26 KIR iP 09 31 55.0
UME iP 09 31 53.2
Windward Islands
(h = 100 km).

" 26 UPP iP 10 19 34.5

" 26 KIR iP 10 58 10.1
Turkey-Iran border region
(h = N).

" 26 UPP iP 14 08 32.5
Greece (h = 10 km).

" 26 UPP iP 17 22 15.9
KIR iP 17 23 30.8
UME iP 17 22 54.1
i 17 22 55.9
Ionian Sea (h = 15 km).

" 26 UPP iP 20 31 48.9
KIR iP 20 31 14.7
UME iP 20 31 33.4
Southern Nevada.
Underground explosion.

" 26 UPP iP 21 19 45.1
Ionian Sea (h = 10 km).

" 27 UPP iP 02 52 02.1
Qinghai Province, China
(h = N).

" 27 UME iP 03 44 06.4
Near west coast of Honshu,
Japan (h = N).

" 27 UPP eS 03 47 24
Poland (h = 10 km).

" 27 UPP eP 09 16 48
ipP 09 16 59.9
UME ipP 09 16 41.0
Bonin Islands region
(h = 40 km).

" 27 UPP iP 12 19 11.2

" 27 UPP iP 12 44 47.8
Ionian Sea (h = 10 km).

" 27 UPP iP 15 39 16.9
UME iP 15 39 56.1
Greece (h = 10 km).

1983 Mar. 27 UPP iP 17 30 34.5
UME iP 17 30 29.8
Oaxaca, Mexico (h = 45 km).

" 27 UPP eSg1 18 23 44
KIR iPg1 18 19 00.8
iSg1 18 19 35.8
UME iSn 18 20 59.4
iSg1 18 21 41.8
UDD iSg1 18 23 44.4
MYV iSg1 18 22 14.1
Off coast of northern Norway,
near $70\frac{1}{2}^{\circ}$N, 20°E.
Origin time = 18 18 13.
M_L (UPP) = 3.4 (0.21) 5.

" 27 UPP iP 22 44 54.6
UME iP 22 45 10.5
Mozambique Channel (h = N).

" 27 UME iP 22 49 22.8
Afghanistan-USSR border region
(h = 160 km).

" 27 UME iP 23 07 28.7

" 28 UPP iPKP 00 43 36.2
i 00 43 41.9
UME iPKP 00 43 24.9

" 28 KIR eP 01 43 04
i 01 43 06.3
UME iP 01 43 58.5

" 28 UPP iP 14 34 23.3

" 28 UME iP 16 07 34.4

" 28 UPP iP 19 23 15.9
micr sec
Mx Z 1.9 14
KIR iPn 19 21 34.3
iP 19 21 44.5
iSn 19 22 49.9
micr sec
Mx Z 1.5 13
UME iP 19 22 24.4
i 19 22 26.8
Greenland Sea (h = 10 km).

" 28 UPP iP 19 29 44.2 C
micr sec
P Z' 0.1 0.7
KIR iP 19 29 15.7
UME iP 19 29 27.4
Ryukyu Islands (h = 60 km).

" 28 UPP iP 23 14 41.9
KIR iP 23 14 50.2
(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Mar. 28 (cont.)
UME iP 23 14 39.6
Hindu Kush region
(h = 25 km).

" 29 UPP iP 06 31 21.5
KIR iP 06 32 36.1
UME iP 06 31 59.4
i 06 32 01.5
Greece (h = 10 km).

" 29 UPP iP 17 26 35.2
Ionian Sea (h = 10 km).

" 29 UME iPKP 23 14 25.0
Solomon Islands (h = N).

" 29 UME iP 23 53 21.7

" 30 UPP iP 04 23 03.5
KIR iP 04 23 47.1
UME iP 04 23 48.1
Probably Eastern Kazakh SSR.
Underground explosion.

" 30 UPP iP 04 37 12.4

" 30 UPP iP 06 54 04.7
KIR iP 06 53 59.3
i 06 54 04.1
micr sec
i Z' 0.1 1.0
UME iP 06 53 52.1
iPP 06 55 26.2
Southern Xinjiang, China
(h = 10 km).

" 30 UPP eP 16 21 16
KIR iP 16 21 13.3
i 16 21 16.5
UME iP 16 21 07.0
Southern Xinjiang, China
(h = 25 km).

" 30 KIR iP 17 17 13.7
UME iP 17 18 07.0
Greenland Sea (h = 10 km).

" 30 UPP iP 18 16 07.2 C
ipP 18 16 12.4
micr sec
P Z' 0.2 1.5
KIR iP 18 15 12.5 C
ipP 18 15 17.4
micr sec
P Z' 0.2 1.0
(cont.)

1983
Mar. 30 (cont.)
UME iP 18 15 41.1 C
ipP 18 15 46.1
Southern Yukon Territory,
Canada.
h = 15 km (UPP,KIR,UME).
m = 6.0 (UPP,KIR).

" 31 UPP iSg1 04 49 41.3
UME iSg1 04 50 14.0
UDD iSg1 04 48 41.9
DEL iSg1 04 49 53.7
MYV eSg1 04 48 45
Coast of southwestern Norway,
near 61 ½°N, 5°E.
Origin time = 04 46 27.
M_L (UPP) = 2.8 (0.11) 3.

" 31 UPP iP 07 24 52.0
UME iP 07 25 31.8
Greece (h = 10 km).

" 31 UPP iP 13 25 53.6
KIR iP 13 25 52.8
UME iP 13 25 58.6
Colombia (h = 20 km).

" 31 UPP iP 13 35 37.7
KIR iP 13 35 02.2
UME iP 13 35 16.9
Near s. coast of southern
Honshu (h = 380 km).

" 31 KIR iP 18 03 39.1
Kirgiz SSR (h = N).

November 13, 1984

Conny Holmqvist
Myung-Soon Jun
Won Young Kim
Ota Kulhánek

SEISMOLOGICAL DEPARTMENT
BOX 12019
S-750 12 UPPSALA
SWEDEN

S E I S M O L O G I C A L B U L L E T I N
U P P S A L A, K I R U N A, U M E Å, U D D E H O L M
D E L A R Y and M Y R V I K E N

Uppsala	(UPP)	59°51.5'N,	17°37.6'E; h = 14 m
Kiruna	(KIR)	67°50.4'N,	20°25.0'E; h = 390 m
Umeå	(UME)	63°48.9'N,	20°14.2'E; h = 16 m
Uddeholm	(UDD)	60°05.4'N,	13°36.4'E; h = 240 m
Delary	(DEL)	56°28.2'N,	12°52.2'E; h = 150 m
Myrviken	(MYV)	62°56.5'N,	14°20.8'E; h = 345 m

A P R I L 1 - 30, 1983

Apr. 1 UPP iP 00 29 42.6
UME iP 00 29 44.7
North Atlantic Ocean
(h = 10 km).

" 1 UPP iPg1 02 51 07.1
iSg1 02 51 30.7
UME iSg1 02 51 49.7
UDD iPg1 02 51 15.1
iSg1 02 51 45.1
i 02 51 46.5
MYV iPg1 02 51 04.2
iSg1 02 51 26.4
Hälsingland, Sweden, 61.7°N,
17.2°E.
Origin time = 02 50 34.
M_L(UPP) = 2.1 (0.27) 3.
Felt.

" 1 UPP eP 09 06 03

" 1 UPP iP 12 47 25.9
UME iP 12 48 07.3
Greece (h = 10 km).

" 1 KIR eP 22 10 12

" 2 KIR eP 00 38 59
UME eP 00 38 34
N.W. Iran-USSR border
region (h = N).

" 2 UPP iP 04 52 38.8
KIR eP 04 51 03
UME iP 04 51 55.9 C
Greenland Sea (h = 10 km).

" 2 UME iPKP1 07 08 17.6
iPKP 07 08 24.2
South of Fiji Islands
(h = 40 km).

Apr. 2 UME iP 08 58 37.1 C
South of Honshu, Japan
(h = N).

" 2 UME iP 10 21 47.4

" 2 KIR iPKP1 20 53 18.5
UME iPKP1 20 53 27.0
Off E. coast of N. Island,
N.Z. (h = 120 km).

" 2 UPP iP 22 03 07.2
KIR iP 22 03 16.1 C
UME iP 22 03 05.2 C
Hindu Kush region (h = 220 km).

" 3 UPP iP 03 02 46.3
i 03 02 52.7
i 03 03 04.0
iS 03 13 17.0
micr sec
P Z' 0.3 1.3
i Z' 1.4 1.3
i Z' 1.0 1.3
Mx Z 176 22
KIR iP 03 02 43.2 C
iS 03 13 15.7
micr sec
P Z' 3.4 1.6
Mx Z 70.4 16
UME iP 03 02 48.7 C
i 03 02 54.0
iS 03 13 36
Costa Rica (h = 35 km).
m = 7.3, M = 7.3 (UPP,KIR).

" 3 UPP iP 03 13 22.3
UME iP 03 13 24.4 C
Costa Rica (h = N).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983						
Apr.	3	UPP	iP		03 17 00.5	
			i		03 17 02.9	
					micr sec	
			i	Z'	0.1 1.0	
		KIR	iP		03 16 57.7	
			i		03 16 59.5	
					micr sec	
			i	Z'	0.1 1.4	
		UME	iP		03 17 02.4	C
			i		03 17 04.4	
		Costa Rica (h = N).				
		m = 6.0 (UPP,KIR).				
		Double P, small and large,				
		on average 2 s apart.				
"	3	UPP	iP		03 26 26.7	
		KIR	iP		03 26 23.4	
			ipP		03 26 29.6	
					micr sec	
			P	Z'	0.2 1.5	
			pP	Z'	0.3 1.7	
		UME	iP		03 26 28.3	C
			ipP		03 26 33.6	
		Costa Rica.				
		h = 20 km (KIR,UME).				
"	3	KIR	eP		03 56 21	
		UME	iP		03 56 24.8	
		Costa Rica (h = N).				
"	3	UPP	iP2		05 17 46.8	
		KIR	eP2		05 17 41	
					micr sec	
			P2	Z'	0.2 1.6	
		UME	iP1		05 17 42.3	C
			iP2		05 17 49.4	
		Costa Rica (h = 30 km).				
"	3	UPP	iP		06 02 17.2	
		KIR	eP		06 02 13	C
			ipP		06 02 20.2	
					micr sec	
			pP	Z'	0.2 1.6	
		UME	iP		06 02 18.4	C
			ipP		06 02 24.2	
		Costa Rica.				
		h = 20 km (KIR,UME).				
"	3	UPP	iP		14 59 37.5	
		UME	iP		14 59 36.4	
			i		14 59 39.3	
		Costa Rica (h = N).				
"	3	UME	iP		17 09 30.8	
"	3	UPP	iP		19 10 10.9	
		KIR	iP		19 10 45.3	
		(cont.)				

1983						
Apr.	3	(cont.)				
		UME	iP		19 10 32.6	
		Central Mid-Atlantic Ridge				
		(h = 10 km).				
"	3	UPP	iP		19 24 48.7	D
			ipP		19 25 17.8	
					micr sec	
			P	Z'	0.3 1.0	
		KIR	iP		19 23 56.5	
			ipP		19 24 24.4	
					micr sec	
			P	Z'	0.2 1.0	
		UME	iP		19 24 21.8	D
			ipP		19 24 50.4	
		Rat Islands, Aleutian Islands.				
		h = 120 km (UPP,KIR,UME).				
		m = 6.1 (UPP,KIR).				
"	3	UPP	iP		19 37 20.0	
			i		19 37 38.2	
		KIR	i		19 36 39.7	
		UME	iP		19 36 51.6	
		Andreanof Islands, Aleutian Is.				
		(h = 60 km).				
"	3	UME	iP		21 27 25.4	C
"	4	UME	iP		00 52 31.3	
			i		00 52 36.4	
		Afghanistan-USSR border region				
		(h = N).				
"	4	UPP	iP		03 03 27.9	C
			i		03 03 30.1	
			ipP		03 03 50.7	
			iS		03 13 14.4	
			i		03 13 34.5	
					micr sec	
			P	Z'	3.6 1.5	
			Mx	Z	89.2 30	
		KIR	iP		03 03 29.7	C
			i		03 03 32.2	
			ipP		03 03 50.8	
			i		03 04 10.0	
			iS		03 13 19.4	
			i		03 13 22.0	
			iSKS		03 13 51	
					micr sec	
			P	Z'	5.3 1.7	
			Mx	Z	26.2 21	
		UME	iP		03 03 25.2	C
			i		03 03 27.2	
			iS		03 13 10.2	
			i		03 13 13.0	
			i		03 13 34.2	
		Northern Sumatera.				
		(cont.)				

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983 Apr.	4	(cont.)			
		h = 90 km (UPP,KIR).			
		m = 7.0, M = 6.8 (UPP,KIR).			
		Double P, small and large,			
		on average 2.2 s apart.			
		Double S, small and large,			
		on average 2.7 s apart.			
		M uncorrected for focal			
		depth.			
"	4	UPP	iP	03 15 27.9	
			ipP	03 15 53.8	
			iS	03 25 16.5	
		KIR	iP	03 15 30.3	
			ipP	03 15 56.0	
		UME	iP	03 15 27.0	
			ipP	03 15 51.3	
		Northern Sumatera.			
		h = 100 km (UPP,KIR,UME).			
"	4	UPP	eP	07 10 52	
		KIR	iP	07 10 55.6	
			i	07 11 12.5	
		UME	iP	07 10 51.4	
		Northern Sumatera (h = 80 km).			
"	4	UPP	eP	07 40 25	
		UME	iP	07 40 25.2	
		Costa Rica (h = N).			
"	4	UPP	iP	15 26 29.6 D	
		UME	iP	15 26 42.4 D	
		Carlsberg Ridge (h = 10 km).			
"	4	UPP	iP	09 01 03.8	
			i	09 01 06.1	
"	4	UPP	iP	19 14 47.7 C	
			iS	19 23 14	
				micr sec	
			P Z'	0.4 1.1	
			Mx Z	4.6 21	
		KIR	iP	19 13 53.7 C	
				micr sec	
			P Z'	0.2 1.0	
			Mx Z	1.6 15	
		UME	iP	19 14 19.2 C	
			iS	19 22 18	
		Off east coast of Kamchatka			
		(h = 40 km).			
		m = 6.4, M = 5.5 (UPP,KIR).			
"	4	UME	iP	20 01 53.6	
		Banda Sea (h = 140 km).			
"	4	UPP	iP	23 23 27.0 C	
			i	23 23 45.5	
		(cont.)			

1983 Apr.	4	(cont.)			
		UPP	iS	23 32 06	
			iSKS	23 33 06	
			iP'P'	23 52 05.1	
				micr sec	
			P Z'	0.3 1.5	
			Mx Z	67.1 23	
		KIR	iP	23 23 36.7 C	
				micr sec	
			P Z'	0.3 1.3	
			Mx Z	20.3 22	
		UME	iP	23 23 00.8	
			iS	23 31 17	
			iP'P'	23 52 19.1	
		Kuril Islands (h = 50 km).			
		m = 6.1, M = 6.5 (UPP,KIR).			
"	5	UPP	iPKP	00 17 54.7	
			iSKP1	00 21 06.9	
			iPKS	00 21 16.8	
		KIR	iPKP	00 17 41.0	
		UME	iPKP	00 17 46.9	
		Vanuatu Islands (h = 120 km).			
"	5	KIR	iP	00 54 18.8	
		UME	iP	00 54 23.5	
		Costa Rica (h = N).			
"	5	UPP	iP	01 02 32.2	
		KIR	eP	01 02 37	
		UME	iP	01 02 27.4	
		Kirghiz SSR (h = N).			
"	5	UPP	iP	05 27 06.4	
			i	05 27 15.7	
"	5	UPP	iP	06 58 10.2	
			ipP	06 58 14.5	
			i	06 59 45.4	
			iS	07 04 19	
			i	07 07 02	
				micr sec	
			pP Z'	0.1 0.8	
			Mx Z	12.8 11	
		KIR	iP	06 58 11.0	
			i	06 58 14.8	
			i	07 11 41.8	
				micr sec	
			i Z'	0.4 1.1	
			Mx Z	6.3 10	
		UME	iP	06 58 05.0	
			i	06 59 40.1	
			iS	07 03 59.5	
			i	07 07 29.1	
			i	07 11 09.7	
			i	07 11 31.0	
		Kirghiz-Xinjiang border region			
		(h = N).			
		m = 5.9, M = 6.0 (UPP,KIR).			

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Apr. 5 UPP eP 07 15 02
KIR iP 07 15 03.7
i 07 15 47.5
UME i 07 15 42.0
Southern Xinjiang, China (h = N).

" 5 KIR iP 07 53 37.1
UME iP 07 53 44.6
Mindanao, Philippine Islands (h = 60 km).

" 5 UPP iP 09 12 01.7
i 09 12 07.7
KIR eP 09 11 46
UME iP 09 11 49.1
Eastern China (h = N).

" 5 UME iP 11 36 37.2
Costa Rica (h = N).

" 5 UPP eP 14 02 12

" 5 UME iP 15 17 38.1

" 5 KIR iP 16 10 55.2
UME iP 16 10 54.6
Leeward Islands (h = N).

" 6 UME iP 02 15 47.1
Afghanistan-USSR border region (h = 100 km).

" 6 UPP iP 07 41 07.8 D
i 07 41 25.1
iS 07 45 30
micr sec
P Z' 0.1 0.9
KIR iP 07 41 57.9 D
ipP 07 42 01.7
micr sec
P Z' 0.2 1.1
UME iP 07 41 27.8 D
ipP 07 41 31.1
i 07 44 38.4
iS 07 46 10
Turkey.
h = 10 km (KIR,UME).
m = 5.5 (UPP,KIR).

" 6 UPP iP 09 32 48.4
micr sec
Mx Z 0.9 21
KIR iP 09 31 59.0
UME iP 09 32 25.4
Queen Charlotte Islands region (h = 10 km).

1983
Apr. 6 UPP iP 14 02 43.9
iS 14 06 44
micr sec
Mx Z 1.3 23
KIR Mx 14 09
micr sec
Mx Z 1.0 14
UME iP 14 02 45.5
iS 14 06 31
Iceland region (h = 10 km).
M = 4.3 (UPP,KIR).

" 6 UPP iP 14 19 23.2
UME iP 14 19 23.7
iS 14 23 12
Iceland region (h = 10 km).

" 6 KIR iPKP 18 26 11.7
UME iPKP 18 26 16.0
Fiji Islands region (h = 620 km).

" 6 UPP iP 21 34 52.5
KIR eP 21 34 05
i 21 34 09.1
UME iP 21 34 26.8
Kuril Islands (h = 40 km).

" 6 UPP iP 22 26 15.5
i 22 27 46.0
i 22 39 14
micr sec
Mx Z 2.6 14
KIR iP 22 26 21.2
micr sec
Mx Z 1.2 12
UME iP 22 26 11.9
i 22 27 32.1
iS 22 32 12
Afghanistan-USSR border region (h = N).
M = 5.1 (UPP,KIR).

" 6 UPP iP 22 34 30.3
UME iP 22 34 24.3

" 7 KIR iPg1 03 55 27.8
iSg1 03 56 02.3
UME iSg1 03 56 48.4
MYV eSn 03 57 28
eSg1 03 58 04
Northern Finland, 66.9°N, 26.4°E.
Origin time = 03 54 44.
M_L(UPP) = 2.7 (0.46) 3.
By combination with Finnish station readings.

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Apr. 7 UPP iP 18 25 48.1
KIR eP 18 25 14
UME iP 18 25 29.0
South of Honshu, Japan
(h = 370 km).

" 7 UPP eP 19 42 03
i 19 42 22.7
iS 19 52 32
KIR iP 19 42 00.0 C
micr sec
Mx Z 1.7 17
UME iP 19 42 04.8 C
i 19 42 25.4
iS 19 52 32
South of Panama (h = 35 km).

" 7 UPP eP 20 59 30
KIR iP 20 59 27.0 C
micr sec
P Z' 0.2 1.5
UME iP 20 59 31.7 C
South of Panama (h = N).

" 7 UME iP 23 06 43.6
Near east coast of Kamchatka
(h = N).

" 8 UPP iP 02 38 09.4 D
ipP 02 38 12.9
i 02 41 32
i 02 45 58
micr sec
P Z' 0.1 1.0
pP Z' 0.1 0.7
KIR iP 02 38 41.5 D
i 02 41 10.0
micr sec
P Z' 0.3 0.9
Mx Z 18.3 19
UME iP 02 38 22.5 D
ipP 02 38 25.3
i 02 38 55.6
i 02 41 45
iS 02 46 23
Arabian Sea.
h = 10 km (UPP,UME).
m = 6.2 (UPP,KIR).

" 8 UPP eP 03 28 19
i 03 28 23.5
KIR eP 03 28 49
UME iP 03 28 29.6
i 03 28 33.7
Arabian Sea (h = 10 km).

" 8 UME iP 08 54 18.3

" 8 KIR iP 16 17 05.1
UME iP 16 16 54.6
(cont.)

1983
Apr. 8 (cont.)
Hindu Kush region
(h = 230 km).

" 8 UME iP 22 51 09.9
Arabian Sea (h = 10 km).

" 9 UME eP 00 59 37
Ascension Island region
(h = 10 km).

" 9 UME iP 12 20 15.6

" 10 UPP iP 00 42 26.1

" 10 KIR iP 00 57 28.0
UME iP 00 57 26.8
Java (h = 90 km).

" 10 UPP eP 01 26 33
KIR eP 01 26 55
UME eP 01 26 47
North Atlantic Ridge
(h = 10 km).

" 10 KIR eP 05 46 32
Kirghiz-Xinjiang border
region (h = N).

" 10 UPP ePKP1 06 09 52
KIR iPKP 06 09 44.6
UME iPKP 06 09 46.0
South of Fiji Islands
(h = 600 km).

" 10 KIR iPg1 09 15 45.8
iSg1 09 16 05.1
UME eSg1 09 16 58
Norrbotten, Sweden, 66.8°N,
23.1°E.
Origin time = 09 15 20.
M_L(UPP) = 2.2 1.
By combination with Finnish
station readings.

" 10 UPP iP 18 41 35.8
ipP 18 41 48.4
iS 18 51 29
micr sec
P Z' 0.1 1.1
KIR eP 18 41 01
ipP 18 41 13.2
UME iP 18 41 15.9 C
ipP 18 41 28.0
South of Honshu, Japan.
h = 40 km (UPP,KIR,UME).

" 10 UPP iP 19 39 53.9
KIR iP 19 39 53.8
UME iP 19 39 50.6
Northern Sumatera (h = 140 km).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Apr. 11 UPP iP 08 29 55.1 D
iS 08 39 36
micr sec
P Z' 0.3 1.1
Mx Z 3.3 19
KIR iP 08 30 04.3 D
i 08 30 18.2
micr sec
P Z' 0.4 1.1
Mx Z 3.8 20
UME iP 08 30 03.2 D
i 08 30 10.8
i 08 30 13.0
iS 08 39 54
Near coast of Venezuela
(h = 40 km).
m = 6.3, M = 5.7 (UPP,KIR).

" 11 UPP iP 08 38 37.4
KIR iP 08 38 51.8
UME iP 08 38 38.3
Uzbek SSR (h = N).

" 11 UME iPKP 10 54 17.0 D
Kermadec Islands region
(h = 350 km).

" 11 UPP eP 14 39 03
UME eP 14 39 16
Turkmen SSR (h = N).

" 11 UPP eP 15 45 47
i 15 45 47.5
ipP 15 46 12.1
micr sec
P Z' 0.2 0.9
UME iP 15 45 21.2
ipP 15 45 45.4
Kuril Islands.
h = 100 km (UPP,UME).
m = 6.3 (UPP,KIR).

" 11 UPP iPKP1 17 23 33.9
iPKP2 17 23 46.2
i 17 23 57.4
UME iPKP 17 23 20.0
iPKP1 17 23 25.0
iPKP2 17 23 29.0
i 17 23 37.3
i 17 23 47.8
East of North Island, N.Z.
(h = 50 km).

" 11 UPP iP 17 27 02.8
micr sec
P Z' 0.1 1.0
UME iP 17 27 14.4
Carlsberg Ridge (h = 10 km).

1983
Apr. 11 UPP iP 17 28 01.5
UME iP 17 28 40.0
Greece (h = 25 km).

" 12 UME iP 03 47 46.6
Eastern Kazakh SSR.
Underground explosion.

" 12 UPP iP 12 21 15.3
ipP 12 21 45
iPP 12 25 09.8
iS 12 32 25
isS 12 33 18
micr sec
P Z' 0.2 1.1
Mx Z 27.8 23
KIR iP 12 21 18.0
iPP 12 25 12.3
micr sec
P Z' 0.2 1.0
Mx Z 5.5 16
UME iP 12 21 19.5
ipP 12 21 51.2
iPP 12 25 16.0
iS 12 32 29
Peru-Ecuador border region.
h = 120 km (UPP,UME).
m = 6.6, M = 6.5 (UPP,KIR).
M uncorrected for focal depth.

" 12 UDD iSg1 13 16 31.2
Southern Norway, near 58 1/4°N,
6 ½°E.
Origin time = 13 14 23.
M_L(UPP) = 2.4 1.
By combination with Norwegian
station readings.

" 12 KIR iPKP 16 19 13.7
UME iPKP 16 19 19.5
Santa Cruz Islands
(h = 290 km).

" 12 UPP iP 20 13 49.7
i 20 13 51.4
KIR iP 20 15 12.8
UME iP 20 14 30.8
Romania (h = 150 km).

" 12 KIR iPKP 23 00 30.0
UME iPKP 23 00 36.2
Vanuatu Islands (h = 220 km).

" 12 UPP iPKP 23 01 29.6 C
micr sec
PKP Z' 0.1 0.7
KIR iPKP 23 01 13.0
UME iPKP 23 01 19.8
South of Fiji Islands
(h = 520 km).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Apr. 12 UPP Mx 23 54
micr sec
Mx Z 1.1 21
KIR Mx 23 55
micr sec
Mx Z 1.1 21
New Ireland Region
(h = 60 km).
M = 5.5 (UPP,KIR).

" 13 UME iP 17 04 05.6
Poland (h = 10 km).

" 13 UME iPKP 17 27 27.8
Kermadec Islands
(h = 240 km).

" 13 KIR iP 18 42 15.3
Southern Xinjiang, China
(h = N).

" 13 UPP eP 19 51 32
KIR iP 19 50 46.3
UME iP 19 51 06.9
Northwest of Kuril Islands
(h = 330 km).

" 13 UPP eP 21 17 44
KIR eP 21 17 39
epP 21 18 07
UME iP 21 17 36.9
ipP 21 18 04.5
Burma.
h = 140 km (KIR,UME).

" 14 UME iP 06 17 00.3
Afghanistan-USSR border
region (h = 220 km).

" 14 UPP eP 07 32 07
iS 07 42 42
micr sec
Mx Z 2.9 29
KIR Mx 08 09
micr sec
Mx Z 2.8 24
UME iP 07 32 04.6 C
iPP 07 35 26.1
iS 07 42 27
Guatemala (h = 90 km).
M = 5.6 (UPP,KIR).
M uncorrected for focal
depth.

" 14 UPP iP 09 19 33.6
UME eP 09 19 33
Hindu Kush region (h = 35 km).

1983
Apr. 14 UPP eP 11 39 19
UME eP 11 39 05
i 11 39 12.2
Luzon, Philippine Islands
(h = 50 km).

" 14 UPP iPn 14 55 13.3
iSn 14 57 23.1
iLg1 14 58 47.7
UME iP 14 56 02.5
i 15 01 10.5
Austria (h = 10 km).

" 14 UPP eP 17 44 24
UME iP 17 44 09.3
Taiwan (h = 20 km).

" 14 UPP iP 19 16 48.9 C
UME iP 19 16 34.4 C
Southern Nevada.
m = 6.2 (UPP,KIR).
Underground explosion.

" 14 UME iP 23 36 14.3

" 15 UPP iPKP 00 28 30.7
i 00 31 48.1
UME iPKP 00 28 24.0
e 00 31 33
i 00 31 38.5
i 00 31 52.2
Tonga Islands (h = 230 km).

" 15 UME eP 03 34 51
Greece (h = 10 km).

" 15 UPP iPKP 05 02 44.0
UME iPKP 05 02 37.5
Solomon Islands (h = 40 km).

" 15 UME iP 09 16 52.0
North of Ascension Island
(h = 10 km).

" 15 UPP iP 09 35 29.5 C
micr sec
P Z' 0.1 1.1
UME iP 09 35 23.0 C
Southeast Asia (h = 10 km).

" 15 UPP iP 10 21 39.0
UME iP 10 21 44.4
Northern Peru (h = 120 km).

" 15 UME iPKP 14 05 47.0
South of Fiji Islands (h = N).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Apr. 15 UPP iP 14 34 26.1
i 14 34 34.7
i 14 35 15.1
UME iP 14 34 14.1
e 14 34 20
Mindoro, Philippine Islands (h = 40 km).

" 15 UPP iP 15 02 20.9 C
i 15 02 43.7
P Z' micr sec
Mx Z 1.5 26
KIR Mx 15 33
micr sec
Mx Z 0.5 14
UME iP 15 01 52.1 C
Near east coast of Kamchatka (h = 70 km).
m = 6.3, M = 4.9 (UPP,KIR).

" 15 UDD iSg1 23 48 08.0
DEL iSg1 23 47 46.1
Västergötland, Sweden, 57.8°N, 12.3°E.
Origin time = 23 46 56.
M_L(UPP) = 2.0 1.
Felt.
By combination with SKI network readings.

" 16 UPP iP 13 11 31.5
i 13 14 35.2
i 13 15 38.1
KIR eP 13 11 26
i 13 15 29.6
UME iP 13 11 26.4
ipP 13 11 41.9
i 13 15 47.0
South of Java (h = 60 km).

" 16 UPP iP 17 39 31.5
ipP 17 39 48.6
KIR eP 17 38 48
UME eP 17 39 08
ipP 17 39 24.6
Hokkaido, Japan region.
h = 60 km (UPP,UME).

" 17 UPP iSKP1 14 29 41.4
micr sec
Mx Z 13.6 23
KIR iPKP 14 26 03.2
i 14 26 11.3
i 14 29 20.9
micr sec
Mx Z 10.9 23
UME iPKP 14 26 08.7
(cont.)

1983
Apr. 17 (cont.)
UME iSKP1 14 29 34.4
Vanuatu Islands (h = 25 km).
M = 6.6 (UPP,KIR).

" 17 UPP iP 23 27 01.6
i 23 27 26.5
ipP 23 27 28.1
micr sec
P Z' 0.1 0.7
KIR iP 23 26 57.1
ipP 23 27 21.7
UME iP 23 26 55.4
ipP 23 27 20.8
i 23 27 28.4
Burma.
h = 100 km (UPP,KIR,UME).

" 18 UPP eP 01 31 21
i 01 31 28.4
KIR eP 01 31 51
Turkmen SSR (h = N).

" 18 KIR iPg1 09 27 06.1
iSg1 09 27 25.8
UME iSg1 09 28 01.8
i 09 28 06.3
Norrbotten, Sweden, 66.4°N, 21.9°E.
Origin time = 09 26 39.
M_L(UPP) = 2.7 (0.11) 2.
By combination with Finnish station readings.

" 18 UPP iP 11 06 52.6 C
iPP 11 08 42.0
iS 11 13 17
micr sec
P Z' 1.6 1.0
Mx Z 84.9 30
KIR iP 11 07 16.8 C
iPP 11 09 14.8
iS 11 14 04.1
micr sec
P Z' 2.4 1.0
Mx Z 69.4 28
UME iP 11 06 59.8 C
iPP 11 08 45.6
iS 11 13 28
Southern Iran (h = 60 km).
m = 6.9, M = 6.5 (UPP,KIR).

" 18 KIR iPKP 17 33 32.7
UME iPKP 17 33 39.3
Vanuatu Islands (h = 220 km).

" 19 UME iP 02 29 33.7

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983					
Apr.	19	UPP	eP	10 28 34	
			i	10 28 39.1	
		KIR	eP	10 29 49	
		Greece (h = 10 km).			
"	19	UPP	iP	15 16 55.1	
		UME	iP	15 16 36.5	
		South of Honshu, Japan			
		(h = 460 km).			
"	19	UME	iP	16 03 15.6	
"	19	UPP	ePKP	19 12 27	
		KIR	iPKP	19 12 15.1	
		UME	iPKP	19 12 22.7	
		Tuamotu Archipelago region.			
		Underground explosion.			
"	19	UPP	iP	19 22 21.1	
			ipP	19 22 48.8	
		KIR	iP	19 21 23.9	
			ipP	19 21 51.6	
		UME	iP	19 21 53.5	
			ipP	19 22 20.5	
		Central Alaska.			
		h = 120 km (UPP,KIR,UME).			
"	20	UPP	eP	10 06 05	
		UME	eP	10 06 28	
			i	10 06 30.1	
		Turkey (h = 10 km).			
"	21	KIR	eP	10 38 28	
			i	10 38 36.7	
		UME	iP	10 38 30.6	
			i	10 38 37.4	
		Molucca Passage (h = 50 km).			
"	21	UPP	eP	16 23 57	
			i	16 24 00.7	
		KIR	eP	16 24 59	
		UME	iP	16 24 24.0	
		Turkey (h = 10 km).			
"	22	UPP	iP	00 49 06.7	
			i	00 50 07.9	
			iS	00 58 37	
				micr sec	
			P Z'	0.3 1.1	
			Mx Z	9.7 18	
		KIR	eP	00 49 00	
				micr sec	
			P Z'	0.4 1.2	
			Mx Z	5.4 14	
		UME	iP	00 49 00.3	
			i	00 50 01.9	
		(cont.)			

1983					
Apr.	22	(cont.)			
		UME	iS	00 58 25	
			iSS	01 03 02	
		Southeast Asia (h = 10 km).			
		m = 6.4, M = 6.1 (UPP,KIR).			
"	22	UPP	iP	02 51 12.5	
		UME	eP	02 51 52	
			i	02 51 55.8	
		Ionian Sea (h = 10 km).			
"	22	UPP	iP	03 33 07.8	
				micr sec	
			P Z'	0.1 0.7	
		KIR	iP	03 33 01.8	
				micr sec	
			P Z'	0.1 1.0	
		UME	iP	03 33 01.4	
		Southeast Asia (h = N).			
		m = 5.8 (UPP,KIR).			
"	22	UPP	iP	04 03 20.1	
		KIR	iP	04 03 34.1	
		UME	iP	04 03 20.2	
		Uzbek SSR (h = N).			
"	22	UPP	iP	07 48 47.4	
"	22	UPP	eP	08 05 02	
			i	08 05 05.0	
				micr sec	
			i Z'	0.1 1.0	
		KIR	iP	08 04 45.6	
			i	08 04 48.3	
				micr sec	
			i Z'	0.2 0.9	
		UME	iP	08 04 50.6	
			i	08 04 54.6	
		Mindanao, Philippine Islands			
		(h = 70 km).			
		m = 6.4 (UPP,KIR).			
"	22	UME	iPKP	11 19 56.3	
		South Sandwich Islands region			
		(h = N).			
"	22	KIR	iP	16 18 04.6	
		UME	iP	16 18 11.1	
		Mindanao, Philippine Islands			
		(h = 190 km).			
"	22	UPP	iP	18 36 40.7	
			ipP	18 36 47.7	
				micr sec	
			P Z'	0.1 0.6	
			pP Z'	0.1 0.7	
		(cont.)			

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Apr. 22 (cont.)

KIR iP 18 36 25.2 C
ipP 18 36 32.2
micr sec
P Z' 0.1 0.7
pP Z' 0.1 0.7
UME iP 18 36 27.2 C
ipP 18 36 33.8
Northern Xinjiang, China.
h = 25 km (UPP,KIR,UME).
m = 5.6 (UPP,KIR).

" 22 UME iP 23 43 24.1

" 23 UPP iP 04 32 05.7
KIR eP 04 32 25
UME iP 04 32 08.1
Pakistan (h = 25 km).

" 23 UPP eP 14 00 32
KIR eP 14 00 26
UME iP 14 00 25.1
Southeast Asia (h = N).

" 23 UPP iP 18 38 18.7
UME iP 18 38 19.7
Costa Rica (h = N).

" 23 UPP iP 18 58 09.4
KIR iP 18 58 25.5
UME iP 18 58 12.4
Pakistan (h = N).

" 23 KIR iP 22 13 47.6
UME iP 22 13 44.7
Southern Sumatera
(h = 40 km).

" 23 UPP iPKP2 23 54 15.3
micr sec
Mx Z 0.6 21
UME iPKP2 23 54 21.5
Easter Island Cordillera
(h = 10 km).

" 24 UME eP 03 37 05

" 24 UPP iPKP1 03 48 44.7
iPKP 03 48 47.1
KIR ePKP 03 48 34
UME ePKP 03 48 39
Tonga Islands region
(h = 30 km).

" 24 UPP eP 09 21 31
KIR iP 09 21 03.3
(cont.)

1983
Apr. 24 (cont.)

UME iP 09 21 15.3
South of Mariana Islands
(h = N).

" 24 UPP ePKP 09 27 41
i 09 29 12.6
micr sec
Mx Z 5.2 25
KIR Mx 10 20
micr sec
Mx Z 5.2 20
UME ePKP 09 27 32
Solomon Islands (h = 10 km).
M = 6.2 (UPP,KIR).

" 24 UPP iP 11 33 20.4
UME iP 11 32 58.6
Honshu, Japan (h = 60 km).

" 24 UPP ePKP1 18 44 06
iPKP2 18 44 14.8
UME iPKP 18 43 57.2
iPKP1 18 43 58.3
Kermadec Islands region
(h = 220 km).

" 24 UPP eP 20 22 09
i 20 22 12.4
UME iP 20 22 34.0
i 20 22 37.9
North of Ascension Island
(h = 10 km).

" 25 KIR iP 07 54 30.0
UME iP 07 55 08.3
i 07 57 32.5
Jan Mayen Island region
(h = 10 km).

" 25 UME iP 08 46 04.4

" 25 UPP iP 14 06 06.3
UME iP 14 05 41.4
Sakhalin Island (h = 300 km).

" 25 UPP iP 14 11 08.3
i 14 11 43.3
KIR eP 14 10 17
UME iP 14 10 41.6
i 14 11 26.9
Kamchatka (h = 100 km).

" 25 UME iP 14 11 53.0

" 25 UPP iP 16 55 15.2

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Apr. 25 UPP iP 19 16 30.0
i 19 16 35.2
micr sec
P Z' 0.1 0.8
KIR iP 19 16 12.1
UME iP 19 16 17.9
i 19 16 20.9
i 19 16 24.0
Luzon, Philippine Islands
(h = 30 km).

" 26 KIR eP 05 10 34

" 26 UPP ePKP 11 34 46
KIR iPKP 11 34 32.4
micr sec
PKP Z' 0.1 1.1
UME iPKP 11 34 39.0
Vanuatu Islands (h = N).

" 26 UPP eP 12 51 24
i 12 51 35.5
KIR iP 12 51 21.4
UME eP 12 51 20
Sunda Strait (h = 80 km).

" 26 UPP iP 13 30 20.2
i 13 30 24.7
i 13 30 34.4
micr sec
Mx Z 0.8 19
KIR iP 13 31 11.0
UME iP 13 30 49.6
i 13 30 53.0
North Atlantic Ocean
(h = 10 km).

" 26 UPP iP 15 38 15.7 C
ipP 15 38 45.8
iS 15 47 48.8
i 15 48 12.9
micr sec
P Z' 0.5 1.5
pP Z' 0.2 1.2
Mx Z 1.3 24
KIR iP 15 37 51.0 C
ipP 15 38 20.1
iPP 15 40 30.5
micr sec
P Z' 0.6 1.5
pP Z' 0.2 1.5
UME iP 15 37 59.9 C
i 15 38 31.2
iS 15 47 19
Taiwan region.
h = 120 km (UPP,KIR).
m = 6.1 (UPP,KIR).

1983
Apr. 26 UPP iP 16 12 47.9
KIR eP 16 11 59
UME iP 16 12 21.4
Kuril Islands (h = 130 km).

" 26 UPP iP 18 27 18.5
KIR iP 18 26 54.0
UME eP 18 27 03
Taiwan (h = 60 km).

" 27 UPP ePKP2 01 59 58
micr sec
Mx Z 2.0 17
KIR iPKP2 02 00 01.6
micr sec
Mx Z 2.4 20
UME iPKP2 01 59 59.9
i 02 00 04.9
Balleny Islands region
(h = 10 km).
M = 6.1 (UPP,KIR).

" 27 UPP iP 08 17 21.6
KIR iP 08 16 54.9
UME eP 08 17 06
Ryukyu Islands (h = N).

" 27 UPP eP 10 29 09
Central Mid-Atlantic Ridge
(h = 10 km).

" 27 UPP eP 11 27 26
UME iP 11 28 16.8
Poland (h = 10 km).

" 27 UPP eP 16 35 49
KIR iP 16 35 57.6
UME iP 16 35 47.2
Hindu Kush region (h = 120 km).

" 27 UPP iP 17 27 36.7
UME iP 17 27 30.2
Southeast Asia (h = N).

" 27 UPP Mx 18 46
micr sec
Mx Z 1.0 24
KIR Mx 18 48
micr sec
Mx Z 0.9 19
UME iPKP 17 39 54.6
Tonga Islands (h = 10 km).
M = 5.5 (UPP,KIR).

" 18 UPP iP 02 07 42.9
KIR eP 02 07 53
UME iP 02 07 41.9
Afghanistan (h = N).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Apr. 28 UPP eP 09 08 31
KIR eP 09 07 40
Kamchatka (h = 120 km).

" 28 UPP iP 11 46 53.6
UME iP 11 47 38.4
Yugoslavia (h = 10 km).

" 28 UPP iP 12 01 06.1

" 28 UPP eP 12 57 54

" 28 UPP iPKP1 21 56 31.9
iPKP2 21 56 36.6
UME iPKP 21 56 20.3
Kermadec Islands (h = N).

" 28 UME iSg1 23 48 46.2
Gulf of Bothnia, 64.2°N, 22.4°E.
Origin time = 23 48 12.
M_L(UPP) = 1.5 1.
By combination with Finnish station readings.

" 29 UPP iP 01 14 54.8
iS 01 25 11
micr sec
Mx Z 1.5 26
KIR eP 01 14 46
e 01 15 16
UME eP 01 14 54
i 01 15 30.7
iS 01 25 12
El Salvador (h = 80 km).

" 29 KIR eP 13 50 03
UME iP 13 50 18.4
i 13 50 22.1
Honshu, Japan (h = 10 km).

" 30 UPP Mx 04 08
micr sec
Mx Z 0.7 24
KIR ePKP 03 10 56
micr sec
Mx Z 1.3 23
UME iPKP 03 11 05.0
Tonga Islands (h = 20 km).
M = 5.5 (UPP,KIR).

" 30 UPP iP 14 14 56.5 D
iS 14 24 00
micr sec
P Z' 4.2 1.9
Mx Z 33.0 15
(cont.)

1983
Apr. 30 (cont.)
KIR iP 14 14 13.3 D
i 14 15 01.2
iS 14 22 43
micr sec
P Z' 3.1 2.0
Mx Z 42.8 17
UME iP 14 14 32.8 D
i 14 14 35.6
iS 14 23 18.9
isS 14 23 35.4
Hokkaido, Japan region (h = 30 km).
m = 7.1, M = 6.7 (UPP,KIR).

" 30 KIR iP 16 07 32.2
UME iP 16 07 52.4
Hokkaido, Japan region (h = 50 km).

" 30 UPP eP 19 15 11
micr sec
Mx Z 1.7 25
KIR eP 19 14 20
UME iP 19 14 44.3
Kuril Islands (h = 45 km).

" 30 UME iP 19 37 14.2

" 30 UME eP 20 28 22
Hokkaido, Japan region (h = 45 km).

" 30 UME iP 21 19 42.0

" 30 UPP eP 22 26 30
KIR eP 22 26 38
UME iP 22 26 28.7
Hindu Kush region (h = 60 km).

December 12, 1983

Torild van Eck
Conny Holmqvist
Myung Soon Jun
Won Young Kim
Elizabeth Shah

SEISMOLOGICAL DEPARTMENT
BOX 12019
S-750 12 UPPSALA
SWEDEN

SEISMOLOGICAL DEPARTMENT
BOX 12019
S-750 12 UPPSALA
SWEDEN

S E I S M O L O G I C A L B U L L E T I N

U P P S A L A, K I R U N A, U M E Å, U D D E H O L M

D E L A R Y and M Y R V I K E N

Uppsala	(UPP)	59°51.5'N,	17°37.6'E; h = 14 m
Kiruna	(KIR)	67°50.4'N,	20°25.0'E; h = 390 m
Umeå	(UME)	63°48.9'N,	20°14.2'E; h = 16 m
Uddeholm	(UDD)	60°05.4'N,	13°36.4'E; h = 240 m
Delary	(DEL)	56°28.2'N,	12°52.2'E; h = 150 m
Myrviken	(MYV)	62°56.5'N,	14°20.8'E; h = 345 m

M A Y 1 - 31, 1983

1983					
May	1	UME	iP	00 29 44.8	
"	1	KIR	iPKP	00 32 24.5	
		UME	i	00 32 26.8	
			iPKP	00 32 31.6	
		Fiji Islands region (h = 600 km).			
"	1	UPP	iP	07 24 40.4	
		KIR	iP	07 23 57.2	
		UME	iP	07 24 16.4	
		Hokkaido, Japan region (h = 50 km).			
"	1	UPP	ePKP1	14 33 52	
		UME	iPKP1	14 33 41.6	
			i	14 33 48.3	
		South of Kermadec Islands (h = N).			
"	1	KIR	eP	15 38 12	
		Celebes Sea (h = 300 km).			
"	1	UPP	iP	18 21 38.4 C	
			i	18 22 06.8	
			iS	18 30 36.9	
			iSKS	18 31 35.9	
				micr sec	
			P Z'	2.5 1.5	
			Mx Z	9.3 17	
		KIR	iP	18 20 49.9 C	
			i	18 21 25.5	
				micr sec	
			P Z'	1.2 1.5	
			Mx Z	13 16	
		UME	iP	18 21 12.5 C	
			i	18 21 52.9	
		(cont.)			
1983					
May	1	(cont.)			
		UME	iS	18 29 46.5	
		Kuril Islands (h = 25 km).			
		m = 7.0, M = 6.2 (UPP,KIR).			
"	1	UPP	eP	19 06 14	
		Hokkaido, Japan region (h = 60 km).			
"	1	UPP	iP	20 22 55.5 C	
			i	20 23 03.4	
			iS	20 31 53.4	
				micr sec	
			P Z'	0.2 1.0	
			Mx Z	1.8 19	
		KIR	iP	20 22 07.2 C	
				micr sec	
			P Z'	0.2 0.8	
			Mx Z	2.4 17	
		UME	iP	20 22 29.5 C	
			i	20 22 34.2	
			iS	20 31 04	
		Kuril Islands (h = N).			
		m = 6.2, M = 5.4 (UPP,KIR).			
"	1	KIR	eP	21 08 09	
		Philippine Islands region (h = N).			
"	1	UPP	eP	23 14 04	
		UME	iP	23 14 08.6	
		Iran (h = N).			
"	2	UPP	eP	00 14 49	
		KIR	iP	00 14 05.2	
		UME	iP	00 14 22.8	
			i	00 14 28.1	
"	2	UME	iP	00 20 50.1	

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983						
May	2	KIR	iP		01 35 38.7	
		UME	iP		01 35 44.3	
		Banda Sea (h = 310 km).				
"	2	UPP	Mx		08 07	
					micr	sec
			Mx	Z	1.4	15
		KIR	iP		07 13 25.9	
					micr	sec
			Mx	Z	1.4	15
		UME	eP		07 13 32	
			iS		07 24 38	
		South of Java (h = N).				
		M = 5.6 (UPP,KIR).				
"	2	UPP	iPKP1		10 16 26.9	
			i		10 16 35.5	
			iSKP1		10 19 15.3	
		KIR	iPKP		10 16 17.7	
			iSKP1		10 18 51.0	
		UME	i(PKP)		10 16 12.6	
			i		10 16 19.4	
			iPKP		10 16 24.8	
			iSKP1		10 19 03.0	
		Fiji Islands region				
		(h = 600 km).				
"	2	DEL	iSg1		12 02 56.2	
		Halland, Sweden, 56.8°N,				
		12.7°E.				
		Origin time = 12 02 32.				
		Solution from SKI network				
		readings.				
"	2	UPP	iP		15 32 48.6	
					micr	sec
			P	Z'	0.1	1.2
			Mx	Z	0.7	17
		KIR	eP		15 32 01	
					micr	sec
			Mx	Z	0.8	15
		UME	iP		15 32 22.8	
			i		15 32 35.7	
		Kuril Islands (h = N).				
		M = 5.0 (UPP,KIR).				
"	2	UPP	iP		21 33 41.5	C
			i		21 34 12.3	
					micr	sec
			P	Z'	0.1	1.1
			Mx	Z	1.5	16
		KIR	iP		21 32 53.2	C
					micr	sec
			P	Z'	0.1	1.1
			Mx	Z	0.9	16
		UME	iP		21 33 15.4	C
		(cont.)				

1983						
May	2	(cont.)				
		UME	i		21 34 02.2	
			iS		21 41 49	
		Kuril Islands region (h = N).				
		m = 5.8, M = 5.2 (UPP,KIR).				
"	2	UPP	eP		21 42 38	
		KIR	eP		21 41 51	
		UME	iP		21 42 12.9	
"	2	UME	iP		21 43 54.2	
"	2	UPP	iPKP1		21 57 15.2	
		UME	iPKP1		21 57 02.3	
		Kermadec Islands region				
		(h = 45 km).				
"	2	UPP	eP		23 44 15	
		UME	iP		23 43 48.0	
"	2	UPP	iP		23 54 38.3	C
			i		23 54 39.4	
			iPP		23 57 37	
			iS		24 04 29	
					micr	sec
			i	Z'	0.3	1.0
			Mx	Z	39	16
		KIR	iP		23 54 03.1	C
			i		23 54 04.1	
			i		23 54 26.4	
			i		23 57 18.3	
					micr	sec
			i	Z'	0.3	1.0
			Mx	Z	16	17
		UME	iP		23 54 22.9	C
			i		23 54 23.9	
			i		23 54 51.2	
			iS		24 04 06	
		Central California (h = 10 km).				
		m = 6.3, M = 6.6 (UPP,KIR).				
"	3	UPP	eP		00 29 59	
		UME	iP		00 29 43.4	
		Central California (h = 10 km).				
"	3	UPP	iP		01 09 44.0	
		KIR	iP		01 09 08.7	
		UME	iP		01 09 28.5	
		Central California (h = 10 km).				
"	3	UPP	iP		02 49 12.2	C
					micr	sec
			P	Z'	0.1	0.9
		KIR	iP		02 48 24.1	C
		UME	iP		02 48 46.5	C
		Kuril Islands (h = N).				

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983 May 3 UPP iP 04 29 06.0 C
micr sec
P Z' 0.1 1.1
KIR iP 04 28 17.5 C
UME iP 04 28 40.2 C
Kuril Islands (h = N).

" 3 UME iP 07 56 20.4

" 3 UPP iP 08 27 25.5

" 3 UPP iP 11 31 09.3

" 3 UPP iP 13 37 35.6
KIR iP 13 38 04.6
UME iP 13 37 43.5
Iran (h = N).

" 3 KIR iP 15 34 45.6
UME iP 15 35 19.4

" 3 UPP iP 15 53 45.5
UME iP 15 53 30.3
Central California
(h = 10 km).

" 3 UPP i(PKP) 15 57 49.4
iSKP1 16 00 41.1
KIR iPKP 15 57 44.4 C
iSKP1 16 00 17.0
UME i 15 57 44.4 C
iPKP 15 57 50.4
iSKP1 16 00 28.4
Fiji Islands region
(h = 590 km).

" 3 UPP iP 17 33 16.8
KIR iP 17 32 28.6
UME iP 17 32 51.4
Kuril Islands (h = N).

" 3 UPP iP 18 48 10.6 C
i 18 48 14.2
ipP 18 48 21.8
micr sec
P Z' 0.1 1.1
KIR iP 18 47 22.4 C
micr sec
P Z' 0.1 1.2
UME iP 18 47 45.0 C
i 18 47 47.9
ipP 18 47 56.0
Kuril Islands.
h = 40 km (UPP,UME).
m = 5.8 (UPP,KIR).

" 3 UPP eP 19 53 40
KIR iP 19 52 50.7
UME iP 19 53 13.9
Kuril Islands (h = N).

1983 May 3 UPP iP 20 08 46.5
UME eP 20 09 26
Romania (h = 50 km).

" 3 KIR eP 21 15 22
Talaud Islands (h = 70 km).

" 3 UPP eP 22 59 22
Greece (h = 10 km).

" 4 UME iP 00 47 28.4
Crete (h = 50 km).

" 4 UME iP 01 16 50.8
Honshu, Japan (h = 70 km).

" 4 UME iP 07 40 22.7
Central California
(h = 15 km).

" 4 UPP iP 14 11 17.2

" 4 UPP iP 14 40 28.8
i 14 40 31.8
KIR eP 14 39 45
UME iP 14 40 04.8
Hokkaido, Japan region
(h = 110 km).

" 4 UPP iPKP1 15 18 24.9
iPKP2 15 18 35.8
i 15 18 41.0
UME iPKP1 15 18 15.9
i 15 18 22.4
South of Kermadec Islands
(h = 55 km).

" 4 UPP eP 15 40 55
KIR iP 15 40 39.7
UME iP 15 40 44.8
Panay, Philippine Islands
(h = 45 km).

" 4 UPP iP 19 17 08.3
KIR iP 19 16 20.1
UME iP 19 16 43.0
Kuril Islands (h = N).

" 4 UPP iPKP 20 34 58.9
UME iPKP 20 35 14.6

" 4 UPP iPKP 20 43 59.9
i 20 44 10.3
KIR iPKP 20 43 38.4
UME iPKP 20 43 48.3

" 4 KIR ePKP 20 50 20
(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983 May	4	(cont.)			
		UME	iPKP	20 50 30.3	
			i	20 50 41.8	
"	4	UPP	iP	21 30 48.6	
		KIR	eP	21 30 42	
		UME	iP	21 30 41.3	
		Burma (h = 35 km).			
"	4	UPP	eP	21 58 26	
		KIR	iP	21 57 37.6	
		UME	iP	21 57 59.9	
"	4	UPP	iPKP1	22 34 39.3	
		KIR	ePKP	22 34 31	
		UME	i	22 34 33.5	
			iPKP	22 34 39.6	
		Fiji Islands region (h = 480 km).			
"	5	UPP	iPKP1	05 03 39.8	
			i	05 03 46.8	
			i	05 03 55.4	
		KIR	iPKP1	05 03 22.4	
		UME	iPKP1	05 03 29.4	
			i	05 03 36.9	
		South of Kermadec Islands (h = 25 km).			
"	5	KIR	iP	06 27 24.1	
		UME	eP	06 27 13	
			i	06 27 21.5	
		Tajik SSR (h = N).			
"	5	KIR	iP	07 46 47.4	
		UME	iP	07 46 50.3	
		South of Panama (h = 10 km).			
"	5	UPP	iP	12 49 13.5	
		KIR	iP	12 50 37.6	
		UME	iP	12 50 04.8	
		Romania (h = 130 km).			
"	5	UME	iP	15 31 33.9	
		Southern Nevada. Underground explosion.			
"	5	UPP	iP	21 56 01.4	
		KIR	iP	21 55 15.3	
		UME	iP	21 55 36.3	
		Kuril Islands region (h = N).			
"	6	UME	iPKP1	01 50 52.4	
			i	01 51 10.5	
		Kermadec Islands region (h = 90 km).			
"	6	UPP	iP	02 01 11.7	

1983 May	6	UPP	iP	02 38 21.4	
		Kuril Islands (h = N).			
"	6	UPP	iP	04 27 18.9	
		KIR	iP	04 26 34.6	C
			i	04 26 40.0	
		UME	iP	04 26 53.8	
		Kuril Islands (h = N).			
"	6	UPP	iP	07 29 06.3	
		KIR	iP	07 29 47.4	
		UME	iP	07 29 22.9	
		Western Iran (h = N).			
"	6	UPP	iP	18 36 43.5	
			i	18 36 45.5	
			iS	18 47 02.5	
				micr sec	
			i Z'	0.1 1.0	
			Mx Z	3.6 15	
		KIR	iP	18 36 24.4	
			i	18 36 26.0	
				micr sec	
			i Z'	0.2 1.0	
			Mx Z	1.7 14	
		UME	iP	18 36 30.6	
			i	18 36 32.4	
			i	18 36 46.9	
		Luzon Philippine Islands (h = N). m = 6.1, M = 5.8 (UPP,KIR).			
"	6	UPP	iP	20 58 49.3	
		KIR	eP	20 57 54	
		UME	iP	20 58 21.0	
		Near east coast of Kamchatka (h = 120 km).			
"	7	UPP	iP	07 12 45.0	
		KIR	eP	07 12 35	
		Oaxaca, Mexico (h = 55 km).			
"	7	UPP	iP	10 34 43.0	
		KIR	eP	10 34 37	
		UME	iP	10 34 35.4	
"	7	UPP	iP	12 02 22.9	
		KIR	iP	12 01 38.5	
		UME	iP	12 01 58.6	
"	7	UPP	iP	12 56 24.1	
		KIR	iP	12 55 36.3	
		UME	iP	12 55 58.2	
		Kuril Islands (h = N).			
"	7	UPP	iP	20 53 44.5	
		KIR	iP	20 53 43.3	
		(cont.)			

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
May 7 (cont.)
UME iP 20 53 40.8
Southern Sumatera (h = 60 km).

" 7 UPP iP 22 13 26.1
Greece (h = 10 km).

" 7 UPP iP 22 51 51.4
UME iP 22 51 30.5
South of Honshu, Japan
(h = 100 km).

" 8 UPP iP 00 09 46.6
UME iP 00 09 31.0
Taiwan (h = 20 km).

" 8 UPP eP 01 22 21
KIR iP 01 22 28.5
UME iP 01 22 18.4
Afghanistan-USSR border
region (h = 140 km).

" 8 UPP iP 01 28 33.3
KIR iP 01 27 38.2
UME iP 01 28 04.6
Komandorsky Islands region
(h = 55 km).

" 8 UPP eP 03 44 07
KIR eP 03 45 13
Crete (h = 70 km).

" 8 UPP iP 06 05 21.0
UME iP 06 04 58.7
Honshu, Japan (h = 130 km).

" 8 UPP iP 08 33 53.9
KIR iP 08 34 02.3
UME iP 08 33 52.2
Hindu Kush region (h = N).

" 8 UPP iP 08 41 42.6
KIR iP 08 41 23.3
Luzon, Philippine Islands
(h = N).

" 8 UPP Mx 15 56
micr sec
Mx Z 3.8 20
KIR iP 15 17 45.6
i 15 17 51.0
UME iP 15 18 01.8
i 15 18 09.8
Revilla Gigedo Islands
region (h = 10 km).

1983
May 8 UPP Mx 17 16
micr sec
Mx Z 3.8 20
KIR eP 16 37 45
i 16 37 52.0
Revilla Gigedo Islands region
(h = 10 km).

" 8 UPP iSg1 17 51 12.2
UME iSg1 17 51 42.8
micr sec
Sg1 Z' 0.008 0.70
UDD iSg1 17 50 11.9
micr sec
Sg1 Z' 0.009 0.80
DEL iSg1 17 51 15.6
micr sec
Sg1 Z' 0.019 0.50
MYV Sg1 17 50 16.0
Off coast of southwestern
Norway, near 61½°N, 4°E.
Origin time = 17 47 39.
M_L(UPP) = 3.0 (0.20) 3.
By combination with Norwegian
station readings.

" 8 UPP iP 18 00 17.3
KIR iP 18 00 15.9

" 8 UPP iP 21 41 52.6 C
KIR iP 21 41 08.2
UME iP 21 41 27.9 C
Kuril Islands (h = 50 km).

" 8 UPP iP 22 49 40.4
UME iP 22 50 17.6
Greece (h = 45 km).

" 9 KIR iP 01 01 33.9
Revilla Gigedo Islands region
(h = 10 km).

" 9 UPP iP 03 01 10.8
UME iP 03 00 55.3 C
Central California (h = 15 km).

" 9 UPP iP 09 08 38.8
Greece (h = 10 km).

" 9 UPP iPKP 11 17 24.2
iPP 11 19 24.3
micr sec
PKP Z' 0.1 1.2
Mx Z 3.6 18
KIR iPKP 11 17 31.6
i 11 17 42.4
(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
May 9 (cont.)

KIR			micr	sec
	PKP	Z'	0.1	1.4
UME	iPKP		11 17 29.0	
	i		11 17 40.5	

Off coast of southern Chile (h = 25 km).

" 9	KIR	iP	14 00 14.0
	UME	iP	14 00 05.7

" 9	KIR	iPKP2	14 06 19.2

Balleny Islands region (h = 10 km).

" 9	UME	iP	15 50 08.8

Panama-Costa Rica border region (h = N).

" 9	UPP	iP	16 05 50.6	
		iS	16 16 33	
			micr	sec
		P	Z' 0.1	1.1
		Mx	Z 7.4	21
	KIR	iP	16 05 46.6	
		ipP	16 05 57.2	
		i	16 06 11.3	
			micr	sec
		P	Z' 0.4	1.9
	UME	iP	16 05 51.2	
		ipP	16 06 01.7	

Panama-Costa Rica border region.
h = 35 km (KIR,UME).
m = 6.3 (UPP,KIR).

" 9	UPP	iP	16 26 05.9
		ipP	16 26 14.7
	KIR	iP	16 26 49.1
		ipP	16 26 58.5
	UME	iP	16 26 26.0
		ipP	16 26 35.3

Tanzania.
h = 30 km (UPP,KIR,UME).

" 9	UME	iP	17 50 35.9

Near east coast of Honshu, Japan (h = 35 km).

" 9	UPP	ePP	20 25 51
		iS	20 33 55
	KIR	iP	20 21 52.2
	UME	iP	20 22 05.7

Revilla Gigedo Islands region (h = 10 km).

1983
May 10

UME	iPKP		00 17 00.5

Fiji Islands region (h = 340 km).

" 10	UPP	iP	00 26 49.7	
		i	00 26 52.4	
		iPP	00 29 44.7	
			micr	sec
		i	Z' 0.1	1.0
	KIR	iP	00 26 25.6	
		i	00 26 28.1	
			micr	sec
		i	Z' 0.1	1.2
	UME	eP	00 26 34	
		i	00 26 36.8	

Taiwan (h = 30 km).
m = 5.8 (UPP,KIR).

" 10	UPP	iP	01 30 43.8 C
	KIR	iP	01 30 20.0 C
	UME	iP	01 30 28.5 C

Taiwan (h = 25 km).

" 10	UPP	iPKP	03 13 47.2
	UME	iPKP	03 13 38.2
		i	03 13 50.2

" 10	UPP	ePKP	11 21 03
		i	11 21 39.2
		i	11 31 31
	KIR	iPKP	11 20 53.1
		i	11 21 25.4
	UME	iPKP	11 20 57.1
		i	11 21 38.3

New Britain region (h = 110 km).

" 10	UPP	iP	11 31 44.1
	UME	iP	11 32 15.7

" 10	UPP	eP	18 42 21
	KIR	eP	18 41 50
	UME	iP	18 41 57.8

" 10	UPP	iPKP	18 46 05.2	
		i	18 46 11.4	
		i	18 46 15.4	
		i	18 53 25	
		i	18 54 34	
			micr	sec
		Mx	Z 12	23
	KIR	ePKP	18 45 55	
		i	18 46 03.9	
			micr	sec
		Mx	Z 6.0	26
	UME	iPKP	18 45 59.3	

New Britain region (h = 70 km).
M = 6.3 (UPP,KIR).
M not corrected for focal depth.

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
May 10 UME iP 18 57 22.2

" 10 UPP iP 19 08 30.7
KIR eP 19 08 13
UME iP 19 08 18.3
ipP 19 08 28.7
Luzon, Philippine Islands
(h = 80 km).

" 10 UPP iP 19 12 39.0 C
i 19 14 12.8
micr sec
P Z' 0.1 0.6
KIR iP 19 12 48.8 C
micr sec
P Z' 0.2 0.6
UME iP 19 12 37.6 C
i 19 14 15.7
Hindu Kush region
(h = 220 km).
m = 5.6 (UPP,KIR).

" 10 UPP iPg1 19 46 49.7
Local near-surface event.
Felt.

" 10 KIR iP 21 03 16.3
Mindanao, Philippine Islands
(h = 100 km).

" 11 UPP iP 00 30 35.8
ipP 00 31 08.7
KIR iP 00 30 18.9
ipP 00 30 52.7
micr sec
P Z' 0.1 0.9
UME iP 00 30 24.4
ipP 00 30 58.4
Halmahera.
h = 130 km (UPP,KIR,UME).

" 11 KIR iP 01 37 24.3
Halmahera (h = 140 km).

" 11 UME iP 03 37 54.8
Near east coast of Honshu,
Japan (h = 55 km).

" 11 KIR iP 07 54 44.0
UME iP 07 54 54.1
South of Mariana Islands
(h = 35 km).

" 11 KIR iP 13 49 21.4
Afghanistan-USSR border
region (h = N).

1983
May 11 UPP iPKP 22 07 44.4
KIR iPKP 22 07 26.4
UME iPKP 22 07 33.8
Tonga Islands (h = 35 km).

" 12 UPP ePKP 03 14 14
KIR iPKP 03 14 28.2
UME iPKP 03 14 23.6
Drake Passage (h = N).

" 12 UME iP 03 46 22.7
Ascension Island region
(h = 10 km).

" 12 UPP iSg1 04 18 47.1
KIR eSg1 04 21 14
UME iSg1 04 19 50.2
UDD iPg1 04 16 56.8
iSg1 04 17 43.0
DEL i 04 17 16.9
iSg1 04 18 30.2
MYV iPn 04 17 15.0
iSg1 04 18 26.0
Southwestern Norway, 59.8°N,
6.6°E.
Origin time = 04 15 54.
M_L(UPP) = 3.1 (0.21) 6.

" 12 UPP eP 10 29 29
i 10 29 45.8
KIR iP 10 29 51.8
UME eP 10 29 46
i 10 30 15.1
North Atlantic Ridge
(h = 10 km).

" 12 UPP iP 11 02 10.2
ipP 11 02 14.2
iS 11 10 41
micr sec
pP Z' 0.1 1.0
Mx Z 3.2 17
KIR iP 11 02 32.4
ipP 11 02 35.7
micr sec
pP Z' 0.3 1.4
UME iP 11 02 25.0
iS 11 11 06
North Atlantic Ridge.
h = 10 km (UPP,KIR).
m = 6.1 (UPP,KIR).

" 12 UPP iP 11 13 03.6
ipP 11 13 05.2
micr sec
pP Z' 0.1 1.2
(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
May 12 (cont.)

KIR	iP		11 13 24.9	
	ipP		11 13 26.5	
			micr	sec
	P	Z'	0.1	1.0
	pP	Z'	0.2	1.5
UME	iP		11 13 17.8	
	ipP		11 13 19.7	

North Atlantic Ridge.
h = 5 km (UPP,KIR,UME).
m = 6.0 (UPP,KIR).

" 12 UPP iP 12 14 30.4
North Atlantic Ridge
(h = 10 km).

" 12 KIR eP 12 54 34
UME iP 12 54 36.8 C
Haiti region (h = N).

" 12 KIR eP 15 08 02
UME eP 15 08 33
Norwegian Sea (h = 10 km).

" 12 KIR iP 16 49 43.2
UME iP 16 49 21.1
Caspian Sea (h = N).

" 12 UPP iP 22 03 54.6
KIR iP 22 03 01.8
UME iP 22 03 27.1
Andreanof Islands, Aleutian
Is (h = 55 km).

" 12 UME iP 23 26 58.0
Kuril Islands (h = N).

" 13 UPP iPKP 01 23 30.6
UME iPKP 01 23 17.8

" 13 UPP iP 01 39 57.6
UME iP 01 40 36.5
Sicily (h = 20 km).

" 13 UDD iSg1 07 18 24.1
Värmland, Sweden, 59.4°N,
14.1°E.
Origin time = 07 18 02.
Solution from SKI network
readings.

" 13 UPP iP 07 53 35.3
UME eP 07 54 14
Greece (h = 10 km).

" 13 KIR iP 15 04 51.1

1983
May 13 KIR iP 18 22 38.3
UME iP 18 22 46.5
Halmahera (h = 120 km).

" 13 UPP iP 23 53 38.7
i 23 53 39.7
KIR iP 23 54 53.6
UME iP 23 54 18.8 C
Greece (h = 10 km).

" 13 UPP iP 23 55 17.7 C
i 23 55 18.6
i 23 59 11
micr sec
P Z' 0.3 0.6
Mx Z 8.5 14
KIR iP 23 56 32.9
micr sec
P Z' 0.1 0.9
UME iP 23 55 56.6
i 23 55 57.9
iS 24 00 30
Greece (h = 10 km).
m = 5.7 (UPP,KIR).

" 14 UPP iP 00 22 41.5
UME iP 00 23 20.9
Greece (h = 10 km).

" 14 UPP iP 01 07 11.1
Greece (h = 10 km).

" 14 UPP iP 01 24 07.6
i 01 24 08.3
micr sec
i Z' 0.1 0.7
KIR eP 01 25 23
UME iP 01 24 46.9
Greece (h = 10 km).

" 14 UPP iP 01 32 05.9
Greece (h = 10 km).

" 14 UPP iP 07 08 10.9
UME iP 07 08 11.9
Hindu Kush region (h = N).

" 14 UPP iP 11 11 19.1
KIR iP 11 11 00.6
UME iP 11 11 06.3
Luzon, Philippine Islands
(h = 50 km).

" 14 UPP iP 11 37 13.7
KIR iP 11 37 14.0
Nicobar Islands region
(h = 25 km).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
May 14 UPP i 13 40 24.9
ipP 13 40 28.3
KIR iP 13 39 40.3
ipP 13 39 47.3
UME iP 13 39 58.0 C
ipP 13 40 05.2
Near west coast of Honshu, Japan.
h = 25 km (KIR,UME).

" 14 UPP iP 23 18 34.9
i 23 18 36.2
iS 23 22 29
micr sec
i Z' 0.3 0.9
Mx Z 16 14
KIR iP 23 19 50.9
micr sec
P Z' 0.1 1.0
Mx Z 7.0 11
UME iP 23 19 14.3
i 23 19 16.2
i 23 19 40.3
iS 23 23 39
Greece (h = 10 km).
m = 5.7, M = 5.6 (UPP,KIR).

" 14 UPP iP 23 30 47.9
i 23 30 49.0
micr sec
i Z' 0.1 1.7
Mx Z 5.7 14
KIR iP 23 32 04.6
micr sec
P Z' 0.1 1.1
Mx Z 2.2 14
UME iP 23 31 27.8
Greece (h = 10 km).
m = 5.5, M = 5.1 (UPP,KIR).

" 15 UPP iP 00 40 53.2
Greece (h = 10 km).

15 UPP iPKP 00 43 22.4
micr sec
Mx Z 16 25
KIR ePKP 00 43 08
micr sec
Mx Z 7.9 21
UME iPKP 00 43 14.9
Tonga Islands (h = N).
M = 6.6 (UPP,KIR).

" 15 UME iP 01 44 12.6
South of Panama (h = 10 km).

" 15 UPP iP 02 30 47.4
KIR iPn 02 29 21.6
(cont.)

1983
May 15 (cont.)
KIR i 02 29 30.6
iSn 02 30 46.3
UME iP 02 30 02.9
iSn 02 31 59.7
Norwegian Sea (h = 10 km).

" 15 KIR eP 11 24 24
Southern Iran (h = N).

" 15 UPP iSg1 14 28 06.3
KIR iPg1 14 25 21.3
iSn 14 25 54.1
iSg1 14 26 06.4
UME iPg1 14 25 22.4
i 14 25 52.9
iSg1 14 26 07.7
UDD iSn 14 27 54.5
iSg1 14 28 34.6
DEL iSg1 14 30 08.5
MYV eSn 14 27 28
Northern Finland, 65.6°N, 27.5°E.
Origin time = 14 24 19.
M_L(UPP) = 2.8 (0.17) 5.
By combination with Finnish station readings.

" 15 UPP iPg1 16 58 54.0
Probably the same origin as that of the event of Oct. 5, 19:46.

" 15 UME iP 21 11 43.3
Near east coast of Honshu, Japan (h = 50 km).

" 15 UPP iP 23 12 02.6
UME iP 23 12 45.0
Greece (h = 10 km).

" 16 UPP iP 02 38 27.5
Off coast of northern California (h = 10 km).

" 16 UPP iP 12 14 49.8
KIR iP 12 15 04.2
UME iP 12 14 50.0
Uzbek SSR (h = N).

" 16 UME iP 13 29 12.0
Near east coast of Honshu, Japan (h = 70 km).

" 16 KIR iP 15 40 03.3
UME iP 15 40 13.2
Iceland reigon (h = 10 km).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983						
May	16	UPP	iP		15 46 27.4	
					micr	sec
			P	Z'	0.1	1.4
			Mx	Z	2.0	10
		KIR	iP		15 46 14.1	
					micr	sec
			P	Z'	0.1	1.2
			Mx	Z	0.8	15
		UME	iP		15 46 22.4	
		Iceland region (h = 10 km).				
"	16	UPP	iP		16 04 45.7	
		Costa Rica (h = N).				
"	16	UPP	iP		16 38 06.8	
		KIR	iP		16 37 50.7	
		UME	iP		16 37 52.5	
		Northern Xinjiang, China (h = 20 km).				
"	16	KIR	eP		21 14 13	
"	16	UPP	iP		21 51 13.1	
		KIR	iP		21 50 31.6	
		UME	iP		21 50 49.7	
		Off east coast of Honshu, Japan (h = N).				
"	17	KIR	iP		02 42 19.2	
		UME	iP		02 43 11.7	
		Svalbard region (h = 10 km).				
"	17	UPP	iPKP		10 06 16.6	
					10 06 22.3	
		UME	iPKP		10 06 05.4	
"	17	UPP	iP		10 23 14.0	
		KIR	iP		10 24 22.6	
		Mediterranean Sea (h = 30 km).				
"	17	UME	iP		12 10 14.0	
"	17	UPP	iPKP		20 52 30.3	
		KIR	iPKP		20 52 16.4	
		UME	ePKP		20 52 32	
		Vanuatu Islands (h = 35 km).				
"	17	UPP	iPKP2		21 22 03.8	
		UME	iPKP1		21 21 44.3	
			i		21 21 52.0	
		Kermadec Islands (h = N).				
"	17	UME	iP		21 45 40.8	
"	18	UPP	iP		01 01 19.0	
		UME	eP		01 01 01	
		Off coast of northern California (h = 10 km).				
1983						
May	18	UPP	ePKP		01 09 00	
			i		01 09 10.4	
		UME	iPKP		01 08 46.7	
"	18	UPP	iPKP1		04 17 53.9	
		UME	iPKP1		04 17 42.8	
		Kermadec Islands (h = 30 km).				
"	19	UPP	iP		10 06 25.8	
		Ryukyu Islands (h = 40 km).				
"	19	UPP	iP		16 33 52.3	
"	19	UPP	iP		17 59 36.3	
		KIR	iP		17 58 43.0	
		Andreanof Islands, Aleutian Is. (h = 30 km).				
"	19	UPP	iP		19 08 53.8	
		KIR	iP		19 08 55.0	
		Nicobar Islands region (h = 120 km).				
"	19	UPP	iP		19 20 27.5	
		KIR	iP		19 20 30.2	
		Colombia-Ecuador border region (h = 25 km).				
"	19	KIR	iP		21 30 26.6	
		Off east coast of Kamchatka (h = 40 km).				
"	19	UPP	iP		23 34 29.5	
		KIR	iP		23 34 34.0	
					micr	sec
			P	Z'	0.1	1.0
		UME	iP		23 34 34.9	
		Northern Colombia (h = 160 km).				
"	20	UPP	iP		11 59 58.5	
"	20	UPP	iP		16 54 01.9	
		Greece (h = 10 km).				
"	20	UPP	ipP		17 51 55.8	
		KIR	eP		17 51 44	
			ipP		17 51 57.9	
		UME	iP		17 51 46.9	C
			ipP		17 52 00.0	
		Dominican Republic region. h = 45 km (KIR,UME).				
"	21	UPP	iP		02 17 11.1	C
		KIR	eP		02 18 33	
		UME	iP		02 17 51.8	
			i		02 17 57.7	
		Romania (h = 160 km).				

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983 May 21
UPP iP 05 13 36.6
UME iP 05 13 19.3 C
Bonin Islands region (h = 480 km).

" 21
UPP iPKP1 10 14 15.2
South of Fiji Islands (h = 540 km).

" 21
UPP iP 10 58 11.6 C
UME iP 10 57 49.9 C
Near east coast of Honshu, Japan (h = 30 km).

" 21
UME iP 14 48 48.7

" 21
UME iP 18 43 57.2
Near east coast of Honshu, Japan (h = 30 km).

" 21
UME iP 20 37 40.7 C
Near east coast of Honshu, Japan (h = 70 km).

" 22
UPP eP 11 49 18

" 22
UPP iP 12 27 23.2
UME eP 12 27 02
South of Honshu, Japan (h = N).

" 22
UPP iP 13 48 14.0
KIR eP 13 48 15

" 22
UME iPKP 15 18 21.0
Santa Cruz Islands (h = 90 km).

" 22
KIR iP 17 23 29.6
Kuril Islands (h = N).

" 22
UPP iPg1 18 10 03.1
iSg1 18 10 22.8
UME eSg1 18 11 09
UDD iSg1 18 10 31.2
MYV iPg1 18 10 07.6
iSg1 18 10 31.0
Hälsningland, Sweden, 61.3°N, 16.3°E.
Origin time = 18 09 36.
M_L (UPP) = 2.0 (0.23) 2.
By combination with SKI network readings.

" 23
UME ePKP 07 13 37
Vanuatu Islands region (h = 25 km).

1983 May 23
UPP eP 18 07 16
i 18 07 20.0
KIR eP 18 06 35
i 18 06 39.9
UME iP 18 06 53.7 C
i 18 06 57.7
Near east coast of Honshu, Japan (h = 55 km).

" 24
UPP iP 05 14 18.7
KIR iP 05 13 41.9
UME iP 05 13 57.6
ipP 05 14 29.7
South of Honshu, Japan (h = 130 km).

" 24
UPP iP 05 21 39.6
ipP 05 21 50.4
KIR iP 05 21 09.4
UME iP 05 21 22.6
Volcano Islands region (h = N).

" 24
UPP eP 05 59 14
KIR iP 05 59 45.1
i 05 59 57.8
i 06 00 10.8
micr sec
P Z' 0.1 0.9
UME iP 05 59 22.4
i 06 00 14.5
Caspian Sea (h = N).

" 24
UPP iP 07 50 05.2
KIR eP 07 50 33
UME iP 07 49 47.5 C
Bonin Islands region (h = 460 km).

" 24
UME iPKP 10 22 57.2
Kermadec Islands region (h = N).

" 24
UPP iP 16 07 16.5
Greece (h = 10 km).

" 24
UPP iP 19 08 04.9
KIR eP 19 09 20
UME i 19 08 47.7
Ionian Sea (h = 10 km).

" 24
UME iP 20 22 23.5

" 25
KIR eP 00 45 07
UME iP 00 45 29.4
Kamchatka (h = 120 km).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
May 25 KIR iP 01 43 48.2
Near east coast of Kamchatka (h = N).

" 25 UME iP 05 35 34.0
Near east coast of Honshu, Japan (h = 30 km).

" 25 UPP iP 10 50 37.5
KIR iP 10 49 44.0
UME iP 10 50 10.2
Near Islands, Aleutian Islands (h = 70 km).

" 25 UPP iP 12 13 09.5
UME iP 12 12 43.3
Kuril Islands (h = N).

" 25 KIR iPKP 14 03 17.7
UME iPKP 14 03 24.8
Fiji Islands region (h = 580 km).

" 25 KIR iP 16 02 18.9
UME iP 16 02 33.1
South of Honshu, Japan (h = 450 km).

" 25 UPP e 17 50 19
iPKP 17 50 27.1
KIR e 17 50 08
iPKP 17 50 15.3
micr sec
PKP Z' 0.1 1.2
UME i 17 50 14.4
iPKP 17 50 17.5
Tuamotu Archipelago region.
Underground explosion.

" 25 UME iP 20 57 49.8

" 25 KIR ePn 21 47 54
iSn 21 48 49.7
iSg1 21 49 10.5
UME iSn 21 50 24.5
iSg1 21 51 25.5
micr sec
Sg1 Z' 0.007 0.90
Barents Sea, near 73 1/4°N, 23 1/2°E.
Origin time = 21 46 24.
M_L (UPP) = 2.9 (0.30) 2.
By combination with Finnish station readings.

" 26 UPP iP 03 11 03.3
i 03 11 07.3
(cont.)

1983
May 26 (cont.)
UPP ipP 03 11 10.4
iPP 03 13 44.0
iS 03 20 08
iP'P' 03 39 03.3
i 03 39 22.9
micr sec
P Z' 0.4 1.5
i Z' 0.7 1.5
pP Z' 6.7 1.7
Mx E 425 11
Mx N 660 16
KIR iP 03 10 22.9
i 03 10 26.4
ipP 03 10 29.6
micr sec
P Z' 0.8 1.8
i Z' 1.5 1.6
pP Z' 3.3 1.4
UME iP 03 10 40.4
Near west coast of Honshu, Japan.
h = 25 km (UPP,KIR).
m = 7.4 (UPP,KIR).
M = 8.1 as determined from Wiechert records.

" 26 KIR eP 03 18 31

" 26 UPP iP 03 21 34.8
KIR iP 03 21 02.0
UME iP 03 21 11.7 C
i 03 21 20.0

" 26 UPP iP 03 50 03.8
micr sec
P Z' 0.1 0.9
KIR iP 03 50 22.8
UME iP 03 49 40.8
Near west coast of Honshu, Japan (h = N).

" 26 UPP iP 04 08 00.7 C
micr sec
P Z' 0.2 1.0
KIR iP 04 07 19.8 C
micr sec
P Z' 0.2 1.0
UME iP 04 07 37.4 C
i 04 07 49.0
Near west coast of Honshu, Japan (h = 30 km).

" 26 UPP iP 04 26 28.9
UME iP 04 26 05.4
Hokkaido, Japan region (h = 25 km).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983					
May	26	KIR	iP	04 27 55.6	
		UME	iP	04 28 07.2	
		Near west coast of Honshu, Japan (h = 25 km).			
"	26	UPP	iP	04 34 27.6	
"	26	UME	iP	04 36 27.9	
"	26	UME	iP	04 36 47.2	
"	26	UME	eP	05 05 40	
"	26	UPP	iP	05 17 13.3	
		KIR	iP	05 16 31.9	
		UME	iP	05 16 50.0 C	
		Hokkaido, Japan region (h = 25 km).			
"	26	KIR	eP	05 53 07	
		UME	eP	05 53 25	
		Near west coast of Honshu, Japan (h = 25 km).			
"	26	UPP	iP	05 56 27.8 C	
			ipP	05 56 36.9	
				micr sec	
			P Z'	0.1 1.0	
			pP Z'	0.1 1.0	
		KIR	iP	05 55 47.0 C	
			ipP	05 55 55.4	
				micr sec	
			pP Z'	0.1 1.2	
		UME	iP	05 56 05.1 C	
			ipP	05 56 14.2	
		Near west coast of Honshu, Japan.			
		h = 30 km (UPP,KIR,UME).			
		m = 5.8 (UPP,KIR).			
"	26	UME	iP	06 07 46.9	
		Eastern Sea of Japan (h = N).			
"	26	UME	iP	06 26 12.1	
"	26	UPP	iP	06 28 44.1	
			ipP	06 28 49.5	
				micr sec	
			pP Z'	0.1 1.1	
		KIR	iP	06 28 02.5 C	
			ipP	06 28 07.8	
				micr sec	
			P Z'	0.1 0.8	
			pP Z'	0.1 1.0	
		UME	iP	06 28 20.7 C	
			ipP	06 28 26.3	
		Eastern Sea of Japan.			
		h = 20 km (UPP,KIR,UME).			
		m = 5.9 (UPP,KIR).			

1983					
May	26	UME	iP	07 04 55.6	
			i	07 05 01.8	
		Near west coast of Honshu, Japan (h = N).			
"	26	UME	iP	07 34 44.0	
"	26	UME	iP	08 15 41.3	
"	26	UME	iP	08 20 01.6	
		Eastern Sea of Japan (h = N).			
"	26	KIR	eP	08 55 03	
		UME	iP	08 55 20.9	
			ipP	08 55 29.4	
		Near west coast of Honshu, Japan (h = N).			
"	26	UPP	eP	09 35 27	
		UME	iP	09 35 04.6	
		Near west coast of Honshu, Japan (h = N).			
"	26	KIR	iP	09 45 50.5 C	
		UME	iP	09 46 09.1 C	
		Eastern Sea of Japan (h = 20 km).			
"	26	KIR	iP	10 22 44.3 C	
		UME	iP	10 23 02.8 C	
		Hokkaido, Japan region (h = 30 km).			
"	26	UME	iP	11 15 19.9	
"	26	KIR	iP	11 24 20.5	
		UME	iP	11 24 39.4	
			i	11 24 43.5	
		Hokkaido, Japan region (h = N).			
"	26	UME	iP	11 28 34.6	
		Near west coast of Honshu, Japan (h = N).			
"	26	UME	iP	11 39 53.4	
"	26	KIR	ipP	11 44 10.5	
		UME	iP	11 44 18.0	
			ipP	11 44 29.0	
		Near west coast of Honshu, Japan (h = N).			
"	26	KIR	iP	12 17 57.7	
		UME	eP	12 17 59	
		Burma-China border region (h = N).			

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
May 26 UME iP 12 48 00.7
Near west coast of Honshu, Japan (h = N).

" 26 KIR iP 13 11 45.0
UME iP 13 12 02.9
Near west coast of Honshu, Japan (h = 35 km).

" 26 KIR eP 13 23 52
UME iP 13 24 10.9
Honshu, Japan (h = N).

" 26 UPP iP 14 23 27.9
ipP 14 23 36.6
micr sec
P Z' 0.1 1.2
KIR iP 14 22 46.7 C
ipP 14 22 55.2
micr sec
P Z' 0.1 1.2
UME iP 14 23 04.9 C
ipP 14 23 12.5
Eastern Sea of Japan.
h = 30 km (UPP,KIR,UME).
m = 5.8 (UPP,KIR).

" 26 KIR iP 17 20 06.5
UME iP 17 20 24.4
Hokkaido, Japan region (h = 30 km).

" 26 UME iP 19 07 10.1
Hokkaido, Japan region (h = N).

" 26 UME eP 22 08 32
i 22 08 36.4
Near west coast of Honshu, Japan (h = N).

" 26 UME iP 22 51 56.8
Hokkaido, Japan region (h = N).

" 26 UPP iP 22 59 26.4
KIR iP 22 58 45.2
ipP 22 58 53.5
UME iP 22 59 03.3
ipP 22 59 11.6
Hokkaido, Japan region.
h = 30 km (KIR,UME).

" 26 UME iP 23 26 43.2
Near west coast of Honshu, Japan (h = 45 km).

1983
May 26 KIR eP 23 35 33
ipP 23 35 38.1
UME iP 23 35 50.4 C
ipP 23 35 55.4
Eastern Sea of Japan.
h = 15 km (KIR,UME).

" 27 UPP iP 04 27 55.5
KIR iP 04 27 14.1
UME iP 04 27 32.2 C
ipP 04 27 37.8
Near west coast of Honshu, Japan (h = 20 km).

" 27 KIR iP 08 43 30.0
UME iP 08 43 48.7
Honshu, Japan (h = N).

" 27 UPP iP 12 21 19.8
KIR iP 12 21 23.0
i 12 21 28.4
North Atlantic Ocean (h = 10 km).

" 27 KIR iP 13 44 46.0
UME iP 13 45 05.0
Near e. coast of eastern USSR (h = 430 km).

" 27 UPP iP 23 07 51.7
KIR iP 23 07 34.2
UME iP 23 07 40.8
Mindoro, Philippine Islands (h = 190 km).

" 28 UPP iP 02 40 25.7
KIR iP 02 39 43.5
micr sec
P Z' 0.1 1.2
UME iP 02 40 01.9 C
Hokkaido, Japan region (h = 20 km).

" 28 UPP iP 03 39 07.7
KIR iP 03 38 56.2
Burma-China border region (h = 10 km).

" 28 KIR iP 06 25 05.4
UME iP 06 25 23.9
Near west coast of Honshu, Japan (h = 25 km).

" 28 UPP iP 07 55 55.8
KIR iP 07 55 14.7
UME iP 07 55 32.5 C
Near west coast of Honshu, Japan (h = 20 km).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
May 28 UME iP 08 55 49.3
Off east coast of Honshu, Japan (h = N).

" 28 KIR iP 11 01 53.2
UME iP 11 02 11.4
Near west coast of Honshu, Japan (h = N).

" 28 UPP iP 11 42 36.4
i 11 48 14.7
i 11 49 26.6
micr sec
P Z' 0.3 1.2
Mx Z 1.9 12
KIR iP 11 43 17.8 C
ipP 11 43 24.3
iS 11 49 14.7
micr sec
P Z' 0.3 1.2
Mx Z 1.2 12
UME iP 11 42 52.0 C
ipP 11 42 58.3
iS 11 48 31
Western Iran.
h = 25 km (KIR,UME).
m = 6.0, M = 5.0 (UPP,KIR).

" 28 KIR iP 12 26 30.6
i 12 26 35.6
Western Iran (h = N).

" 28 UPP iP 15 23 08.5 C
KIR iP 15 22 25.3
UME iP 15 22 45.1
Off coast of Hokkaido, Japan (h = 45 km).

" 28 KIR eP 16 14 04
UME iP 16 14 26.5
Near west coast of Honshu, Japan (h = 30 km).

" 28 KIR eP 16 21 08
UME eP 16 21 27
i 16 21 30.8
Near west coast of Honshu, Japan (h = 20 km).

" 28 UPP eP 16 54 50
UME iP 16 55 21.7
Crimea region (h = N).

" 28 UPP iP 18 02 23.9
KIR iP 18 02 24.3 C
micr sec
P Z' 0.1 1.0
UME iP 18 02 20.9 C
(cont.)

1983
May 28 (cont.)
UME i 18 02 35.1
Southern Sumatera (h = 25 km).

" 28 UPP iP 18 40 51.8
i 18 40 55.9
KIR iP 18 41 33.0
UME iP 18 41 07.4
i 18 41 26.5
Western Iran (h = N).

" 28 UPP iP 18 45 09.3
UME iP 18 44 57.3
Luzon Philippine Islands (h = N).

" 28 UPP iP 22 30 22.7
i 22 31 26.3
KIR iP 22 31 03.9 C
iPP 22 32 36.9
micr sec
P Z' 0.1 1.0
UME iP 22 30 38.3
Western Iran (h = N).

" 29 UPP iP 01 56 54.2
KIR iP 01 57 35.2 C
UME iP 01 57 13.0
Western Iran (h = N).

" 29 UPP iP 02 26 35.2
KIR iP 02 26 21.4
UME iP 02 26 26.0
Celebes Sea (h = 610 km).

" 29 UPP iP 04 56 21.8
micr sec
Mx Z 1.4 21
KIR iP 04 55 31.2 C
micr sec
Mx Z 1.3 19
UME iP 04 55 54.8 C
Kuril Islands (h = 45 km).
M = 5.2 (UPP,KIR).

" 29 UPP iP 05 14 08.7
KIR eP 05 15 27
UME iP 05 14 48.9
Greece (h = 10 km).

" 29 UPP iP 05 38 20.4 C
ipP 05 38 29.3
micr sec
pP Z' 0.1 1.2
KIR iP 05 37 40.6 C
ipP 05 37 49.8
(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983					
May	29	(cont.)			
		UME	iP	05 37 58.0	C
			ipP	05 38 07.9	
		Off east coast of Honshu, Japan.			
		h = 30 km (UPP,KIR,UME).			
"	29	UPP	iP	07 07 18.1	
		KIR	iP	07 06 38.9	
		UME	iP	07 07 00.5	
			i	07 07 05.1	
			i	07 07 17.6	
		Off coast of northern California (h = 10 km).			
"	29	UPP	iP	07 26 33.3	
			i	07 26 42.0	
		KIR	iP	07 25 52.2	C
			i	07 26 00.9	
		UME	iP	07 26 10.1	C
			i	07 26 19.0	
		Eastern Sea of Japan.			
		h = 30 km (UPP,KIR,UME).			
"	29	UPP	iP	08 17 44.1	
		KIR	iP	08 18 25.3	
		UME	iP	08 17 58.9	
		Western Iran (h = N).			
"	29	KIR	eP	12 46 33	
			i	12 46 35.8	
				micr sec	
			i Z'	0.1 1.4	
		UME	iP	12 47 18.6	
		North of Svalbard (h = 10 km).			
"	29	UPP	iP	13 55 10.1	
			i	13 44 13.2	
		KIR	iP	13 55 04.9	
			i	13 55 08.6	
		UME	eP	13 55 03	
			i	13 55 06.6	
		Burma.			
		h = 10 km (UPP,KIR,UME).			
"	29	UPP	iP	21 04 51.9	
			iS	21 13 45	
				micr sec	
			P Z'	0.1 0.9	
		KIR	iP	21 04 09.0	
			ipP	21 04 27.8	
		UME	iP	21 04 27.9	
			i	21 04 41.3	
			iS	21 13 00	
		Hokkaido, Japan region (h = 80 km).			

1983					
May	29	UPP	iP	22 12 51.8	C
				micr sec	
			P Z'	0.1 1.0	
			Mx Z	0.7 13	
		KIR	iP	22 12 10.6	C
				micr sec	
			P Z'	0.1 1.0	
		UME	iP	22 12 28.6	C
		Near west coast of Honshu, Japan (h = 35 km).			
		m = 5.9 (UPP,KIR).			
"	29	UPP	iPKP	22 26 42.2	
		KIR	iPKP	22 26 26.9	
		UME	iPKP	22 26 34.1	
		Tonga Islands (h = 290 km).			
"	30	UME	iP	01 56 59.9	
			i	01 57 01.5	
		Near west coast of Honshu, Japan (h = N).			
"	30	UME	iP	01 58 12.5	
			i	01 58 19.1	
"	30	UPP	iP	03 40 40.5	C
			iPn	03 41 41.7	
			iPP	03 41 59.2	
				micr sec	
			P Z'	0.1 0.9	
		KIR	iP	03 40 24.8	C
			i	03 41 25.4	
				micr sec	
			P Z'	0.2 0.8	
		UME	iP	03 40 25.3	C
			i	03 40 41.5	
			i	03 41 23.1	
		Eastern Kazakh SSR.			
		h = 5.9 (UPP,KIR).			
		Underground explosion.			
"	30	KIR	iP	08 48 18.5	
		UME	iP	08 48 09.3	
"	30	UPP	eP	12 46 07	
		KIR	iP	12 45 52.3	C
		UME	iP	12 45 57.1	
			i	12 46 13.4	
		Molucca Passage (h = 80 km).			
"	30	UME	iP	13 04 50.4	
		Near east coast of Honshu, Japan (h = 80 km).			
"	30	UPP	iP	15 00 12.1	C
		KIR	iP	15 00 11.3	
				micr sec	
			P Z'	0.2 0.9	
		(cont.)			

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983 May	30	(cont.)			
		UME	iP	15 00 09.2	C
		Southern Sumatera (h = 60 km).			
"	30	UPP	iP	15 57 57.7	
			i	15 58 15.4	
		KIR	iP	15 57 28.7	
		UME	iP	15 57 40.1	
		Ryukyu Islands (h = N).			
"	30	UPP	iP	16 05 17.5	
		KIR	iP	16 04 23.9	
			ipP	16 04 50.2	
		UME	iP	16 04 50.7	
			ipP	16 05 17.6	
		Andreanof Islands, Aleutian Is.			
		h = 110 km (KIR,UME).			
"	30	UPP	eP	16 33 58	
		KIR	eP	16 34 26	
		UME	eP	16 34 09	
"	31	UME	iP	00 28 13.2	
		Near west coast of Honshu, Japan (h = 10 km).			
"	31	UPP	iP	21 14 12.1	
			i	21 14 14.3	
		KIR	iP	21 14 13.6	
		UME	iP	21 14 08.4	
		Kashmir-Tibet border region (h = 45 km).			
"	31	UME	iP	21 26 38.9	
			i	21 26 46.4	
		Eastern Sea of Japan (h = 25 km).			
"	31	UPP	iP	23 16 10.3	
		Mediterranean Sea (h = 35 km).			
"	31	UPP	iP	23 30 15.8	
			ipP	23 30 22.0	
		KIR	iP	23 29 33.9	
			ipP	23 29 40.7	
		UME	iP	23 29 52.5	
			ipP	23 29 58.2	
		Near west coast of Honshu, Japan.			
		h = 20 km (UPP,KIR,UME).			
"	31	UPP	iP	23 33 35.4	
		KIR	iP	23 32 54.1	
		UME	iP	23 33 12.2	
		(cont.)			

1983 May	31	(cont.)			
		UME	i	23 33 18.6	
		Near west coast of Honshu, Japan (h = 25 km).			

January 15, 1985

Ingrid Båth
Conny Holmqvist
Ota Kulhánek

SEISMOLOGICAL DEPARTMENT
BOX 12019
S-750 12 UPPSALA
SWEDEN

S E I S M O L O G I C A L B U L L E T I N

U P P S A L A, K I R U N A, U M E Å, U D D E H O L M

D E L A R Y and M Y R V I K E N

Uppsala	(UPP)	59°51.5'N,	17°37.6'E; h = 14 m
Kiruna	(KIR)	67°50.4'N,	20°25.0'E; h = 390 m
Umeå	(UME)	63°48.9'N,	20°14.2'E; h = 16 m
Uddeholm	(UDD)	60°05.4'N,	13°36.4'E; h = 240 m
Delary	(DEL)	56°28.2'N,	12°52.2'E; h = 150 m
Myrviken	(MYV)	62°56.5'N,	14°20.8'E; h = 345 m

J U N E 1 - 30, 1983

1983 June	1	UPP	iP		01 09 49.7	
		KIR	iP		01 09 08.9	
		UME	iP		01 09 27.2	
		Near west coast of Honshu, Japan (h = N).				
"	1	UPP	iP		01 49 05.0	
			i		01 49 13.3	
			ipP		01 50 04.0	
			iS		01 59 04	
					micr sec	
			P	Z'	0.1 1.0	
		KIR	iP		01 48 47.3	C
			ipP		01 49 44.4	
					micr sec	
			P	Z'	0.2 1.0	
		UME	iP		01 48 53.4	
			ipP		01 49 50.8	
		Mindoro, Philippine Islands.				
		h = 240 km (UPP,KIR,UME).				
		m = 5.7 (UPP,KIR).				
"	1	UPP	i(PKP)		02 18 42.0	
			iPKP		02 18 56.2	
			i		02 21 29.3	
					micr sec	
			PKP	Z'	0.1 1.0	
			Mx	Z	2.5 23	
		KIR	i(PKP)		02 18 25.5	
			iPKP		02 18 40.1	
			iPP		02 20 43.0	
					micr sec	
			PKP	Z'	0.9 2.3	
			Mx	Z	1.6 21	
		UME	i(PKP)		02 18 33.5	
			iPKP		02 18 46.9	
			iSKP1		02 22 00.3	
		Tonga Islands (h = 180 km).				
		M = 5.8 (UPP,KIR).				
		M uncorrected for focal depth.				

1983 June	1	UPP	iP		02 54 52.3	
"	1	UME	iP		07 25 15.5	
		Near west coast of Honshu, Japan (h = N).				
"	1	UPP	iP		11 18 03.7	
					micr sec	
			Mx	Z	4.1 23	
		KIR	Mx		12 07	
					micr sec	
			Mx	Z	2.8 20	
		Samoa Islands region (h = N).				
"	1	UPP	iP		11 25 48.3	
			ipP		11 25 58.3	
		KIR	iP		11 25 31.0	
			ipP		11 25 41.1	
		UME	iP		11 25 33.8	
			ipP		11 25 43.1	
		Northern Xinjiang, China.				
		h = 35 km (UPP,KIR,UME).				
"	1	UPP	Mx		21 20	
					micr sec	
			Mx	Z	0.9 16	
		KIR	Mx		21 19	
					micr sec	
			Mx	Z	1.4 20	
		Southwest of Africa (h = 10 km).				
		M = 5.6 (UPP,KIR).				
"	1	UPP	iP		14 49 26.3	
					micr sec	
			Mx	Z	1.5 18	
		KIR	iP		14 50 36.4	
		UME	iP		14 50 01.1	
		Aegean Sea (h = 10 km).				

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
June 2 UPP eP 11 32 14
UME iP 11 31 48.4
Kuril Islands (h = N).

" 2 UDD iSg1 12 54 40.8
Southwestern Norway, near 59½°N, 7°E.
Origin time = 12 52 56.
M_L(UPP) = 2.1 1.
By combination with Norwegian station readings.

" 2 UDD iSg1 13 40 45.1
Southwestern Norway, near 59 1/4°N, 7°E.
Origin time = 13 38 55.
M_L(UPP) = 2.2 1.
By combination with Norwegian station readings.

" 2 UPP iP 20 25 22.0
ipP 20 27 32.2
iSKP 20 34 59
iS 20 35 54
i 20 37 17
micr sec
P Z' 0.1 1.1
KIR iP 20 25 30.9 D
ipP 20 27 40.2
micr sec
P Z' 0.1 1.0
UME iP 20 25 30.4
ipP 20 27 39.9
iSKP 20 35 09
iS 20 36 09
Peru-Brasil border region.
h = 600 km (UPP,KIR,UME).
m = 6.2 (UPP,KIR).

" 2 UPP iPKP1 21 10 28.1
South of Fiji Islands (h = 510 km).

" 3 UPP iP 01 41 02.6
Andreanof Islands, Aleutian Islands (h = 55 km).

" 3 UPP Mx 02 23
micr sec
Mx Z 0.9 21
Jordan-Syria region (h = 10 km).

" 3 UPP iP 16 40 29.6
i 16 40 39.1
(cont.)

1983
June 3 KIR eP 16 41 02
i 16 41 13.7
UME iP 16 40 38.8
Caspian Sea (h = N).

" 3 UPP iP 22 20 02.0

" 4 UPP iP 09 45 21.9 C
KIR eP 09 45 06
UME iP 09 45 09.2
Junan Province, China (h = N).

" 4 UPP Mx 13 31
micr sec
Mx Z 1.2 13
KIR Mx 13 29
micr sec
Mx Z 0.9 16
Northeast of Taiwan (h = 40 km).
M = 5.3 (UPP,KIR).

" 5 UPP iP 10 47 22.3
ipP 10 47 28.0
KIR iP 10 47 23.4
ipP 10 47 28.1
UME iP 10 47 15.6
Southern Xinjiang, China.
h = 20 km (UPP,KIR).

" 5 UME iP 17 31 38.8

" 5 UME iP 20 00 28.1

" 6 UDD iSg1 14 47 40.0
Southwestern Norway, near 59 1/4°N, 6 1/2°E.
Origin time = 14 45 47.
By combination with Norwegian station readings.

" 6 UPP iP 21 51 14.9
i 21 51 40.8
micr sec
Mx Z 1.3 19
UME iP 21 50 49.8
Kuril Islands (h = 35 km).

" 7 UME iP 01 42 33.5

" 7 UPP iP 06 43 26.6
UME iP 06 43 23.6
Northern Sumatera (h = 110 km).

" 8 UPP e(P) 09 04 36

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
June 8 UPP iP 10 07 45.3
KIR iP 10 07 45.0
UME iP 10 07 42.3
Southern Sumatera (h = 40 km).

" 9 UPP i(P) 03 52 16.5

" 9 UPP iP 10 34 36.0
ipP 10 34 43.8
micr sec
Mx Z 0.7 14
KIR iP 10 33 55.2
ipP 10 34 03.7
micr sec
Mx Z 0.5 11
UME iP 10 34 13.5
ipP 10 34 21.5
Eastern Sea of Japan.
h = 25 km (UPP,KIR,UME).
M = 5.1 (UPP,KIR).

" 9 UPP iP 13 00 08.0 C
ipP 13 00 16.9
iPP 13 02 42.4
iS 13 09 10
iP'P' 13 28 11.8
micr sec
P Z' 1.0 1.5
Mx Z 8.9 13
KIR iP 12 59 27.6 C
ipP 12 59 35.9
micr sec
P Z' 1.2 1.5
Mx Z 9.4 13
UME iP 12 59 45.1 C
ipP 12 59 53.7
iS 13 08 29
Near west coast of Honshu, Japan.
h = 30 km (UPP,KIR,UME).
m = 6.8, M = 6.2 (UPP,KIR).

" 9 UPP iP 13 15 04.8 C
iPP 13 17 32.7
iP'P' 13 43 09.9
micr sec
P Z' 1.1 1.5
Mx Z 5.5 12
KIR iP 13 14 24.4 C
ipP 13 14 32.6
micr sec
P Z' 1.0 1.5
Mx Z 7.7 13
UME iP 13 14 42.2 C
Near west coast of Honshu, Japan.
h = 30 km (KIR).
m = 6.7, M = 6.1 (UPP,KIR).

1983
June 9 UPP iP 18 57 03.0 C
i 18 57 16.2
iS 19 06 02
iP'P' 19 25 15.2
micr sec
P Z' 1.1 1.0
Mx Z 6.6 21
KIR iP 18 56 09.8 C
i 18 56 23.9
iP'P' 19 25 36.8
micr sec
P Z' 0.7 1.0
Mx Z 3.8 18
UME iP 18 56 36.6 C
i 18 56 49.4
iS 19 05 09
iP'P' 19 25 25.9
Andreanof Islands, Aleutian Islands (h = 20 km).
m = 6.8, M = 5.8 (UPP,KIR).

" 10 UPP iP 02 20 29.0 C
i 02 20 37.5
iS 02 26 09
micr sec
P Z' 0.1 1.0
i Z' 0.4 1.1
Mx Z 6.2 20
KIR iP 02 19 22.2 C
i 02 19 30.7
micr sec
P Z' 0.1 1.3
i Z' 0.4 1.5
Mx Z 4.7 15
UME iP 02 19 54.2 C
i 02 20 02.8
iS 02 25 07
Laptev Sea (h = 10 km).
m = 6.0, M = 5.4 (UPP,KIR).

" 10 UME iP 07 30 58.9
Near west coast of Honshu, Japan (h = 25 km).

" 10 UPP iPKP1 22 58 33.8
i 22 58 34.8
i 22 58 48.6
micr sec
i Z' 0.1 1.0
KIR iPKP 22 58 24.1
South of Fiji Islands (h = 45 km).

" 11 UPP Mx 03 57
micr sec
Mx Z 1.0 19
(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
June 11 (cont.)
KIR Mx 03 56
micr sec
Mx Z 0.8 15
Central California (h = 5 km).
M = 5.2 (UPP,KIR).

" 11 UME iP 22 12 05.3
i 22 12 11.3
Near west coast of Honshu, Japan (h = 25 km).

" 12 UPP iP 02 43 41.7 C
iPn 02 44 47.8
iPP 02 45 00.2
micr sec
P Z' 1.9 0.8
Mx Z 1.4 4
KIR iP 02 43 25.3 C
micr sec
P Z' 2.6 0.9
Mx Z 1.0 5
UME iP 02 43 26.3 C
Eastern Kazakh SSR.
m = 7.1 (UPP,KIR).
Underground explosion.

" 12 UME iP 03 10 53.0
i 03 11 01.3
Near west coast of Honshu, Japan (h = N).

" 12 KIR iPKP 09 31 56.4
UME iPKP 09 32 02.8
Santa Cruz Islands region (h = 620 km).

" 12 UPP iP 09 34 37.2

" 12 UPP iP 10 26 07.6
KIR iP 10 25 51.2
micr sec
P Z' 0.1 1.0
UME iP 10 25 56.8
Halmahera (h = 120 km).

" 12 UPP iP 12 06 43.1
KIR iP 12 07 42.4
i 12 07 49.9
UME iP 12 07 09.7
i 12 07 17.8
Arab Republic of Egypt (h = 10 km).

" 12 KIR iP 19 31 05.8
UME iP 19 31 27.6
Kuril Islands (h = N).

1983
June 13 UPP iP 01 03 16.0
UME iP 01 02 52.1
Off east coast of Honshu, Japan (h = 20 km).

" 13 UPP iP 04 30 42.9
Off east coast of Honshu, Japan (h = N).

" 13 UPP iP 08 10 00.6
KIR iP 08 10 19.5
UME iP 08 10 05.2
i 08 10 09.1 C
i 08 10 17.8
Pakistan (h = N).

" 13 UPP iP 11 10 54.3 C
KIR iP 11 11 22.3 C
UME iP 11 11 05.3
Carlsberg Ridge (h = 10 km).

" 14 UME eP 00 13 31
Hokkaido, Japan region (h = N).

" 14 UPP ePKP1 01 19 17
iPKP2 01 19 22.4
KIR ePKP1 01 19 17
UME iPKP1 01 19 16.1
West of Macquarie Island (h = 10 km).

" 14 KIR iP 03 59 01.3
i 03 59 09.4
UME iP 03 58 56.1
i 03 59 05.3
Southwest of Sumatra (h = 30 km).

" 14 UME iP 04 45 56.0
Greece (h = 10 km).

" 14 UPP iP 16 01 45.5
ipP 16 01 59.0
KIR eP 16 00 52
Andreanof Islands, Aleutian Islands.
h = 50 km (UPP).

" 14 UPP iPKP1 20 32 53.8
Kermadec Islands region (h = 380 km).

" 15 UME iP 01 44 51.3
Eastern Sea of Japan (h = N).

" 15 UPP iP 06 15 16.1
(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
June 15 (cont.)

UPP i 06 15 28.1
micr sec
Mx Z 2.4 14
KIR iP 06 15 05.3
micr sec
Mx Z 1.4 12
UME iP 06 15 06.0
Qinghai Province, China
(h = N).
M = 5.4 (UPP,KIR).

" 15 UPP Mx 07 22
micr sec
Mx Z 0.9 23
KIR iPKP 06 26 54.8
UME ePKP 06 27 03
Tonga Islands (h = N).

" 15 UPP eP 06 57 25
KIR iP 06 56 53.3
UME iP 06 57 07.5
Bonin Islands region
(h = 550 km).

" 15 UPP iP 08 45 38.5
KIR iP 08 45 42.8
UME iP 08 45 44.3
Venezuela (h = 45 km).

" 15 UPP iS 13 12 20.6
i 13 12 55.2
KIR iP 13 10 12.7
iS 13 11 43.0
i 13 12 00.2
UME iP 13 10 19.8
iS 13 11 54.3
i 13 12 14.3
DEL iP 13 10 54.4
iS 13 12 56.1
MYV iP 13 09 54.1
i 13 09 58.1
iS 13 11 05.9
Norwegian Sea, near 65 3/4°N,
1/2° E.
Origin time = 13 08 17.

" 15 UPP iP 13 41 01.5
i 13 42 20.3
KIR iP 13 41 16.1
UME iP 13 41 02.1
Uzbek SSR (h = N).

" 15 UPP iP 14 52 46.6
UME iP 14 52 20.9
Kuril Islands (h = N).

1983
June 15 KIR iP 15 18 46.5
UME iP 15 19 00.9
South of Honshu, Japan
(h = 130 km).

" 15 UPP iP 19 50 56.8
ipP 19 51 04.8
KIR iP 19 50 02.3 C
ipP 19 50 09.8
i 19 50 21.1
micr sec
P Z' 0.1 1.0
UME iP 19 50 30.9
ipP 19 50 38.3
i 19 50 43.3
Kodiak Island region.
h = 30 km (UPP,KIR,UME).

" 15 UPP iP 19 53 45.9
KIR iP 19 53 28.7
UME iP 19 53 35.0
Mindanao, Philippine Islands
(h = 540 km).

" 15 KIR eP 23 25 33
i 23 25 34.7
UME iP 23 25 48.7
i 23 26 03.1

" 17 UPP Mx 12 57
micr sec
Mx Z 1.7 18
KIR Mx 12 48
micr sec
Mx Z 1.6 21
West Chile rise (h = 10 km).
M = 5.8 (UPP,KIR).

" 17 UPP iPKP2 19 51 28.1
UME iPKP1 19 51 11.0
Kermadec Islands region
(h = 330 km).

" 17 UME eP 21 06 08
Hokkaido, Japan region
(h = 40 km).

" 17 UPP iP 22 13 03.8 C
i 22 13 16.6
iS 22 21 34
micr sec
P Z' 0.5 1.0
Mx Z 1.1 21
KIR iP 22 12 10.0 C
micr sec
P Z' 0.3 1.0
Mx Z 0.9 16
(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
June 17 (cont.)

UME	iP	22 12 35.1	C	
	i	22 12 58.3		
	iS	22 20 43		

Off east coast of Kamchatka
(h = N).
m = 6.4, M = 5.1 (UPP,KIR).

" 17

UPP	iP	22 29 07.3	C	
	i	22 29 26.0		

" 17

UME	iP	22 31 51.0		

" 18

UME	iP	03 13 31.1		

Near east coast of Kamchatka
(h = 90 km).

" 18

UPP	eSg1	12 46 12		
KIR	i	12 45 26.1		
	iSg1	12 45 32.6		
UME	iPg1	12 43 53.9	C	
	iSg1	12 44 01.3		
UDD	i	12 46 21.1		
	i	12 46 25.6		
	iSg1	12 46 29.8		
MYV	iSg1	12 45 17.9		

Västerbotten, Sweden, 64.3°N,
20.8°E.
Origin time = 12 43 44.
M_L(UPP) = 3.0 (0.15) 4.
Felt.

" 18

UME	iPKP	19 49 55.9		

Solomon Islands (h = 10 km).

" 18

KIR	iP	21 40 18.4		

Kyushu, Japan (h = 70 km).

" 18

UPP	Mx	22 57		
		micr		sec
	Mx	Z	1.2	15
KIR	iP	22 24 03.2		
		micr		sec
	P	Z'	0.2	1.5
	Mx	Z	1.1	15

Eastern Sea of Japan
(h = 20 km).
M = 5.3 (UPP,KIR).

" 20

UPP	eP	00 34 02		

Turkey (h = 10 km).

" 20

UPP	ipP	02 54 32.9		
KIR	iP	02 53 45.5		
	ipP	02 53 51.0		
UME	iP	02 54 05.9		
	ipP	02 54 09.5		

Hokkaido, Japan region.
h = 15 km (KIR,UME).

1983
June 20

UPP	iPKP1	06 02 01.3		
	iSKP1	06 04 52.9		
KIR	i(PKP)	06 01 43.3		
	iPKP	06 01 51.5		
	iSKP1	06 04 30.2		
		micr		sec
	PKP	Z'	0.2	1.0
UME	i(PKP)	06 01 50.1		
	iPKP	06 01 59.7		
	iSKP1	06 04 42.2		

South of Fiji Islands
(h = 540 km).

" 20

UPP	iP	15 25 25.7		
KIR	iP	15 24 39.0		
		micr		sec
	P	Z'	0.1	1.0
UME	iP	15 25 00.1		

Kuril Islands (h = 110 km).

" 21

UDD	eSg1	03 00 23.8		

Southwestern Norway, near
59 1/2°N, 7°E.
Origin time = 02 58 34.
M_L(UPP) = 2.2 1.
By combination with Norwegian
station readings.

" 21

UPP	iP	06 36 29.3		
	iS	06 45 30.0		
		micr		sec
	Mx	Z	259	17
KIR	iP	06 35 46.3		
	i	06 35 47.2		
	i	06 35 49.3		
		micr		sec
	i	Z'	0.1	1.0
	i	Z'	2.9	1.5
UME	iP	06 36 05.7		
	iS	06 44 46		

Hokkaido, Japan region
(h = 10 km).

" 21

KIR	iP	14 43 14.0		

Taiwan region (h = 40 km).

" 21

UPP	iP	14 59 54.4		
	iS	15 09 42		
		micr		sec
	P	Z'	0.2	1.0
	Mx	Z	50.8	18
KIR	iP	14 59 29.2		
		micr		sec
	P	Z'	0.1	0.9
	Mx	Z	16.2	16
UME	iP	14 59 41.0		
	iS	15 09 17		

(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
June 21 (cont.)
Taiwan region (h = 35 km).
m = 6.0, M = 6.7 (UPP,KIR).

" 21 UME iP 16 12 55.0
Hokkaido, Japan region
(h = 35 km).

" 21 UPP iP 17 18 13.6 C
i 17 18 20.2
ipP 17 18 53.5
micr sec
P Z' 0.6 1.0
KIR iP 17 17 42.9 C
ipP 17 18 23.2
micr sec
P Z' 0.6 1.0
UME iP 17 17 55.1 C
ipP 17 18 35.0
Ryukyu Islands.
h = 170 km (UPP,KIR,UME).
m = 6.3 (UPP,KIR).

" 22 KIR iP 04 44 37.6
UME iP 04 44 56.0
Hokkaido, Japan region
(h = 15 km).

" 22 KIR iP 05 49 50.8
UME iP 05 50 09.3
Hokkaido, Japan region
(h = 20 km).

" 22 UME iPKP1 07 54 03.8
South of Kermadec Islands
(h = N).

" 22 UME iP 14 41 54.8
Sakhalin Island (h = N).

" 22 UPP iP 15 31 24.2
KIR iP 15 30 42.4
UME iP 15 31 00.9
Hokkaido, Japan region
(h = 25 km).

" 22 UPP iP 20 26 53.1
KIR iP 20 26 13.0
i 20 26 17.9
micr sec
P Z' 0.1 1.2
UME iP 20 26 30.5 C
i 20 26 34.9
Eastern Sea of Japan
(h = 15 km).

1983
June 22 UME iP 21 49 02.6
Eastern Sea of Japan
(h = 30 km).

" 22 KIR iPKP 23 00 37.9
UME iPKP 23 00 44.3
Vanuatu Islands (h = 35 km).

" 23 KIR iP 01 55 10.5
Andreanof Islands, Aleutian
Islands (h = 60 km).

" 23 UDD iSg1 03 48 23.3
Southwestern Norway, near
59 1/4°N, 7°E.
Origin time = 03 46 36.
By combination with Norwegian
station readings.

" 23 KIR iP 11 10 53.9
UME iP 11 11 12.6
Hokkaido, Japan region
(h = 80 km).

" 23 UPP iPKP1 12 25 02.6
i 12 25 07.8
micr sec
Mx Z 1.2 22
KIR iPKP1 12 25 01.6
i 12 25 06.2
micr sec
Mx Z 1.7 22
UME iPKP1 12 25 00.1
South of Australia (h = 10 km).
M = 5.8 (UPP,KIR).

" 23 UDD iSg1 17 00 37.7
Southwestern Norway, near
59 1/2°N, 7°E.
Origin time = 16 58 51.
M_L(UPP) = 2.2 1.
By combination with Norwegian
station readings.

" 23 UPP iP 19 00 53.9
KIR iP 18 59 17.1
i 18 59 24.2
UME iP 19 00 05.9
i 19 00 14.9
Greenland Sea (h = 10 km).

" 23 UPP iPKP1 19 59 54.2
South of Fiji Islands (h = N).

" 24 UME iP 02 20 18.2
Near west coast of Honshu,
Japan (h = N).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983						
June	24	KIR	iP		03 02 51.2	
		UME	iP		03 02 52.4	
		Eastern Kazakh SSR.				
		Underground explosion.				
"	24	UPP	iP		07 29 28.8	
			i		07 29 34.9	
			iPP		07 32 05	
			iPPP		07 33 48	
			iS		07 38 37	
		KIR	iP		07 29 16.0	
			i		07 29 17.1	
					micr	sec
			P	Z'	1.2	1.1
			Mx	Z	15.9	14
		UME	iP		07 29 19.3	
			i		07 30 15.9	
			iS		07 38 15	
		Southeast Asia (h = 20 km).				
"	24	UPP	iP		08 54 47.7	
		KIR	iP		08 54 35.3	
		UME	iP		08 54 37.8	
			i		08 54 48.6	
		Southeast Asia (h = N).				
"	24	UPP	iP		09 18 03.3	
		KIR	iP		09 17 16.9	
		UME	iP		09 17 37.8	
		Kuril Islands (h = 90 km).				
"	24	KIR	iP		09 18 01.4	
		Southeast Asia (h = N).				
"	24	UPP	iP		09 18 31.2	C
			iPP		09 21 25	
			iS		09 28 01	
			i		09 28 04	
					micr	sec
			P	Z'	0.4	1.0
		KIR	iP		09 18 07.3	
					micr	sec
			P	Z'	0.4	1.1
			Mx	Z	34.3	15
		UME	iP		09 18 15.9	
			iS		09 27 23	
		Taiwan region (h = 45 km).				
		m = 6.4 (UPP,KIR).				
		M = 6.9 (UPP).				
		M derived from Wiechert horizontal pendulum.				
"	24	UPP	iP		12 28 03.5	
		UME	iP		12 28 03.4	
		Afghanistan (h = N).				
"	24	UME	eP		14 31 15	
		Eastern Caucasus (h = N).				

1983						
June	24	KIR	iP		14 36 10.9	
		UME	iP		14 36 09.5	
		Southeast Asia (h = N).				
"	24	UPP	eP		14 52 59	
		UME	eP		14 53 29	
		Turkey (h = 10 km).				
"	24	UME	iP		19 45 48.7	
"	24	KIR	iP		20 06 44.8	
		UME	iP		20 06 54.3	
		Taiwan region (h = 40 km).				
"	25	UPP	iPKP1		02 53 33.8	
		UME	iPKP1		02 53 21.8	
			i		02 53 25.1	
		Kermadec Islands (h = N).				
"	25	UME	iP		02 54 44.5	
"	25	UPP	iP		03 13 29.3	
		KIR	iP		03 13 01.2	
		Taiwan region (h = 15 km).				
"	25	UME	iP		09 30 56.0	
		Eastern Sea of Japan (h = N).				
"	25	KIR	iP		09 51 14.4	
		UME	iP		09 51 42.5	
		South of Alaska (h = N).				
"	25	UPP	iPKP1		10 23 04.4	
			i		10 23 19.2	
					micr	sec
			Mx	Z	1.0	24
		KIR	ePKP1		12 22 41	
					micr	sec
			Mx	Z	2.3	25
		UME	iPKP		10 22 51.8	
			iPKP1		10 22 54.1	
			i		10 23 06.7	
		South of Kermadec Islands (h = 45 km).				
		M = 5.7 (UPP,KIR).				
"	25	UME	iP		10 32 32.7	
"	25	UPP	iP		14 01 31.6	
		KIR	iP		14 00 57.4	
		UME	iP		14 01 11.6	
		South of Honshu, Japan (h = 380 km).				
"	25	UPP	iP		14 24 52.1	D
					micr	sec
			P	Z'	0.1	1.0
			Mx	Z	0.6	16

(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
June 25 (cont.)

KIR	iP		14 24 28.0	D
			micr	sec
	Mx	Z	0.6	16
UME	iP		14 24 36.8	D

Southwestern Ryukyu Islands (h = 25 km).
M = 5.1 (UPP,KIR).

" 25

UME	iP		15 19 53.1	

" 25

UPP	iPKP1		15 23 01.0	
KIR	ePKP		15 22 52	
UME	i(PKP)		15 22 54.6	
	iPKP		15 22 58.7	
	iSKP1		15 26 09.0	

South of Fiji Islands (h = 280 km).

" 25

KIR	iP		18 50 27.2	
UME	iP		18 50 45.1	

Hokkaido, Japan region (h = 40 km).

" 25

UPP	iPKP1		19 29 49.9	
KIR	ePKP1		19 29 29	
UME	iPKP1		19 29 39.7	
	i		19 29 53.1	

South of Kermadec Islands (h = N).

" 25

UPP	iP		19 52 42.9	
			micr	sec
	P	Z'	0.1	1.0
	Mx	Z	4.4	18
KIR	iP		19 52 18.1	
			micr	sec
	P	Z'	0.1	0.8
	Mx	Z	1.2	16
UME	iP		19 52 27.0	

Taiwan (h = 35 km).
m = 5.8, M = 5.6 (UPP,KIR).

" 25

UPP	iP		20 41 47.1	
KIR	iP		20 42 04.1	
UME	iP		20 41 48.7	

Turkmen SSR (h = N).

" 26

UPP	iP		04 59 31.7	
	i		04 59 44.5	

Andreanof Islands, Aleutian Islands (h = N).

" 26

KIR	iPKP1		05 30 10.9	
UME	iPKP1		05 30 16.1	

South Island, New Zealand (h = 50 km).

1983
June 26

KIR	iP		14 07 12.3	
UME	iP		14 07 30.5	

Hokkaido, Japan region (h = 15 km).

" 26

UPP	iP		17 56 48.2	
KIR	iP		17 56 15.4	
UME	iP		17 56 29.7	

Bonin Islands region (h = 250 km).

" 26

UPP	eP		20 34 49	

Mid-Indian Rise (h = 10 km).

" 26

UPP	iP		20 56 54.8	
KIR	iP		20 56 01.1	
UME	iP		20 56 27.8	

Near Islands, Aleutian Islands (h = 50 km).

" 27

KIR	ePKP		08 44 10	

Vanuatu Islands (h = 35 km).

" 27

UPP	iPKP1		14 28 31.7	
KIR	iPKP		14 28 22.8	
	iSKP1		14 31 03.5	
UME	iSKP1		14 31 13.9	

South of Fiji Islands (h = 530 km).

" 27

UDD	iSg1		20 24 17.3	
	i		20 24 25.9	

Southwestern Norway, near 59 3/4°N, 7°E.
Origin time = 20 22 39.
M_L(UPP) = 2.3 1.
By combination with Norwegian station readings.

" 28

UPP	iP		03 35 16.8	C
	ipP		03 35 22.1	
	iS		03 43 26	
			micr	sec
	P	Z'	0.4	1.2
	Mx	Z	3.2	16
KIR	iP		03 34 22.7	C
	ipP		03 34 30.2	
			micr	sec
	P	Z'	1.2	1.4
	Mx	Z	2.5	15
UME	iP		03 34 51.3	C
	ipP		03 34 58.0	
	iS		03 42 37	

Southeastern Alaska.
h = 20 km (UPP,KIR,UME).
m = 6.5, M = 5.5 (UPP,KIR).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
June 28 KIR eP 04 14 08

" 28 UDD iSg1 13 11 04.3
Southwestern Norway, near
59 1/4°N, 7°E.
Origin time = 13 09 17.
By combination with Norwegian
station readings.

" 29 UPP iP 00 07 23.3
i 00 21 27.4
i 00 24 34
micr sec
Mx Z 0.7 10
KIR iP 00 07 10.5
UME iP 00 07 10.5 C
Northern Xinjiang, China
(h = 25 km).

" 29 UDD iSg1 20 59 20.7
Värmland, Sweden, 59.7°N,
13.0°E.
Origin time = 20 59 02.
Solution from SKI network
readings.

" 29 KIR iP 22 28 39.6
UME iP 22 28 57.8
Hokkaido, Japan region (h = N).

" 30 KIR eP 05 56 30
UME iP 05 56 43.8
Bonin Islands region
(h = 250 km).

" 30 UDD iSg1 06 29 25.0
Southwestern Norway, near
60°N, 7 1/2°E.
Origin time = 06 27 52.
M_L(UPP) = 2.2 1.
By combination with Norwegian
station readings.

" 30 UPP iP 07 05 33.2
KIR iP 07 05 12.4
UME iP 07 05 20.0
Luzon, Philippine Islands
(h = 70 km).

" 30 UPP iP 13 50 04.7
i 13 50 26.5
iS 13 58 57
micr sec
Mx Z 2.0 19
KIR iP 13 49 17.0
(cont.)

1983
June 30 (cont.)
KIR
micr sec
Mx Z 2.4 17
UME iP 13 49 38.5
iS 13 58 13
Kuril Islands (h = 40 km).
M = 5.5 (UPP,KIR).

" 30 UDD iSg1 16 13 40.9
Southwestern Norway, near
59 1/2°N, 6 1/2°E.
Origin time = 16 11 53.
By combination with Norwegian
station readings.

" 30 KIR iP 17 51 05.3
micr sec
Mx Z 1.3 19
Halmahera (h = 25 km).

" 30 UPP iP 18 35 52.1
i 18 35 53.3
i 18 36 10.9
KIR iP 18 35 07.3
micr sec
Mx Z 1.1 18
UME iP 18 35 28.3
i 18 35 30.9
Kuril Islands (h = 45 km).

" 30 UPP iP 23 29 50.2
i 23 30 03.8
KIR eP 23 29 05
UME eP 23 29 26
Kuril Islands (h = 50 km).

" 30 UPP iP 23 53 18.5
i 23 53 32.0
KIR eP 23 52 33
UME iP 23 52 53.9
Kuril Islands (h = 50 km).

February 8, 1985

Torild van Eck
Conny Holmqvist
Myung-Soon Jun
Klaus Meyer

SEISMOLOGICAL DEPARTMENT
BOX 12019
S-750 12 UPPSALA
SWEDEN

SEISMOLOGICAL DEPARTMENT
BOX 12019
S-750 12 UPPSALA
SWEDEN

S E I S M O L O G I C A L B U L L E T I N

U P P S A L A, K I R U N A, U M E Å, U D D E H O L M, D E L A R Y and M Y R V I K E N

Uppsala	(UPP)	59°51.5'N,	17°37.6'E; h = 14 m
Kiruna	(KIR)	67°50.4'N,	20°25.0'E; h = 390 m
Umeå	(UME)	63°48.9'N,	20°14.2'E; h = 16 m
Uddeholm	(UDD)	60°05.4'N,	13°36.4'E; h = 240 m
Delary	(DEL)	56°28.2'N,	12°52.2'E; h = 150 m
Myrviken	(MYV)	62°56.5'N,	14°20.8'E; h = 345 m

J U L Y 1 - 31, 1983

1983 July	1	UPP	iP		02 34 07.9		
					micr	sec	
			P	Z'	0.1	1.0	
		KIR	iP		02 33 22.0		
					micr	sec	
			Mx	Z	1.4	17	
		UME	iP		02 33 42.8		
		Kuril Islands (h = N).					
"	1	UPP	eP		03 27 35		
		UME	iP		03 27 10.3		
		Kuril Islands (h = N).					
"	1	UPP	iP		03 30 29.9		
"	1	UPP	iPKPl		03 34 23.9		
		KIR	iPKP		03 34 15.5		
		UME	i(PKP)		03 34 18.2		
			iPKP		03 34 23.1		
		Fiji Islands region (h = 530 km).					
"	1	UPP	iP		06 47 42.1		
		KIR	iP		06 47 05.5		
		UME	iP		06 47 20.0		
		South of Honshu, Japan (h = 80 km).					
"	1	UPP	iP		09 04 57.0		
		UME	iP		09 04 32.3		
		Kuril Islands (h = N).					
"	1	UPP	iP		10 57 55.6		
		KIR	Mx		11 28		
					micr	sec	
			Mx	Z	0.9	19	
		Kuril Islands (h = N).					
1983 July	1	UPP	iPKP		12 16 12.0		
			i		12 16 25.8		
		KIR	iPKP		12 16 27.6		
			i		12 16 41.1		
		UME	i		12 16 33.9		
		South Sandwich Islands region (h = 30 km).					
		The phase at UME, without notation, corresponds to the second, larger, phase at UPP and KIR.					
"	1	KIR	iP		13 56 50.4		
		UME	iP		13 57 08.7		
		Hokkaido, Japan region (h = 55 km).					
"	1	UPP	iP		22 15 06.3		
			ipP		22 15 19.6		
			i		22 15 32.2		
			iS		22 24 27		
					micr	sec	
			P	Z'	0.1	1.3	
			pP	Z'	0.1	1.0	
			Mx	Z	1.9	20	
		KIR	iP		22 15 26.2		
			ipP		22 15 40.2		
					micr	sec	
			pP	Z'	0.1	1.0	
			Mx	Z	2.1	19	
		UME	iP		22 15 43.8		
			i		22 15 44.5		
			ipP		22 15 57.8		
			iS		22 23 46		
		Near e. coast of Honshu, Japan. h = 50 km (UPP,KIR,UME). m = 5.7, M = 5.4 (UPP,KIR).					

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
July 1
KIR iP 23 42 24.4
UME iP 23 42 42.5
Eastern Sea of Japan
(h = N).

" 2
UPP iP 05 43 47.4
KIR iP 05 43 06.4
micr sec
Mx Z 0.4 12
UME iP 05 43 24.4 C
Eastern Sea of Japan (h = 15 km).

" 2
UPP iP 09 45 56.8 C
ipP 09 46 18.0
iS 09 55 43.3
micr sec
P Z' 0.1 1.0
Mx Z 1.7 29
KIR iP 09 45 58.3 C
ipP 09 46 17.9
iS 09 55 48.3
micr sec
pP Z' 0.2 1.0
Mx Z 1.0 21
UME iP 09 45 54.2 C
ipP 09 46 15.6
iS 09 55 38.5
Northern Sumatera.
h = 90 km (UPP,KIR,UME).
m = 5.7, M = 5.2 (UPP,KIR).

" 2
UPP iP 11 49 16.4
UME iP 11 49 16.4
Uzbek SSR (h = N).

" 2
UPP iP 16 21 09.4
micr sec
Mx Z 1.1 10
KIR iP 16 22 32.7
micr sec
Mx Z 0.8 12
UME iP 16 21 51.7
Greece-Albania border region
(h = 10 km).

" 2
UPP iP 16 43 13.1
micr sec
Mx Z 2.4 13
KIR iP 16 44 31.4
micr sec
Mx Z 0.9 11
UME iP 16 43 54.6
Greece-Albania border region
(h = 10 km).

" 3
UPP iP 03 01 12.8 D
i 03 01 13.5
(cont.)

1983
July 3
(cont.)
UPP iS 03 10 54.6
micr sec
i Z' 1.0 0.8
Mx Z 1.1 16
KIR iP 03 01 50.7 D
i 03 01 51.2
micr sec
i Z' 1.7 1.0
Mx Z 1.1 15
UME iP 03 00 58.0 D
i 03 00 58.4
iS 03 10 27
Philippine Islands region
(h = 220 km).
m = 6.7, M = 5.3 (UPP,KIR).
Double P, small and large,
about 0.6 s apart.

" 3
KIR iP 07 15 41.9
UME iP 07 16 00.4
Hokkaido, Japan region (h = N).

" 3
UME iP 17 26 31.5
Costa Rica (h = N).

" 3
UPP iP 17 27 07.0
i 17 27 12.6
iPP 17 30 33
iSKS 17 37 29
micr sec
Mx Z 10.4 25
KIR iP 17 27 02.5
i 17 27 09.0
micr sec
P Z' 0.3 2.0
i Z' 1.6 2.8
Mx Z 6.9 15
UME iP 17 27 07.3
i 17 27 13.3
iSKS 17 37 29
Costa Rica (h = N).
M = 6.2 (UPP,KIR).

" 3
KIR iP 20 35 59.0
UME iP 20 36 09.8
ipP 20 36 23.4
Taiwan region (h = 60 km).

" 3
KIR iSdl 21 07 55.3
UME iPgl 21 07 22.2
iSgl 21 07 52.4
Norrbotten, Sweden, 65.8°N,
23.1 E.
Origin time = 21 06 41.
By combination with Finnish
station readings.

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
July 4 KIR iPg1 05 54 10.7
iSg1 05 54 16.0
Lapland, Sweden, 67.8°N, 19.4°E.
Origin time = 05 54 04.
M_L (UPP) = 1.7 1.
By combination with Finnish station readings.

" 4 UPP i 11 41 35.7
KIR iP 11 42 17.8
UME iP 11 41 42.3
Eastern Mediterranean Sea (h = 45 km).

" 4 DEL iSg1 21 33 36.9
Skåne, Sweden, 56.2°N, 13.5°E.
Origin time = 21 33 26.
Solution from SKI network readings.

" 4 UPP ipP 22 14 11.1
KIR iP 22 13 31.8
UME iP 22 13 35.3
Talaud Islands (h = 100 km).

" 5 UPP Mx 07 25
micr sec
Mx Z 3.4 13
KIR ePKP1 06 18 32
micr sec
Mx Z 2.3 18
UME iPKP1 06 18 33.5
Easter Island Cordillera (h = 10 km).
M = 6.3 (UPP,KIR).

" 5 UPP iP 09 06 40.9 C
i 09 06 50.3
micr sec
P Z' 0.1 1.0
Mx Z 1.7 13
KIR iP 09 06 12.4 C
micr sec
P Z' 0.1 1.1
Mx Z 0.7 13
UME iP 09 06 23.7 C
Ryukyu Islands (h = N).
m = 5.8, M = 5.4 (UPP,KIR).

" 5 UPP ePKP1 10 17 07
KIR iPKP 10 16 52.0
UME iPKP 10 16 59.6
South of Tonga Islands (h = N).

1983
July 5 UPP e(PKP) 11 30 53
iPKP 11 31 06.8
micr sec
Mx Z 21.8 23
KIR iPKP 11 30 44.7
i 11 30 54.3
iSKP1 11 34 10.1
micr sec
Mx Z 12.7 12
UME iPKP 11 30 54.9
iSKP1 11 34 22.4
Loyalty Islands region (h = N).
M = 6.9 (UPP,KIR).

" 5 UPP iP 12 06 05.7
i 12 06 08.5
i 12 06 12.9
iS 12 09 45
micr sec
P Z' 0.1 1.2
i Z' 0.3 1.1
i Z' 0.3 0.8
KIR iP 12 07 17.9
i 12 07 19.3
micr sec
i Z' 0.4 1.4
UME iP 12 06 41.8
Turkey (h = 10 km).
m = 5.8 (UPP,KIR).

" 5 KIR iPKP 13 14 13.3
UME iPKP 13 14 23.7
Loyalty Islands region (h = N).

" 5 UPP iPKP 16 55 56.5 D
i 16 56 19.8
micr sec
PKP Z' 0.1 0.8
KIR iPKP 16 56 12.2 D
i 16 56 34.6
micr sec
PKP Z' 0.2 1.1
UME iPKP 16 56 05.5
i 16 56 28.0
South Sandwich Islands region (h = N).

" 5 UPP iP 17 05 52.1
i 17 06 15.2

" 5 UPP eP 17 35 22
i 17 35 27.7
UME iP 17 36 06.1
Turkey (h = 10 km).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983					
July	6	KIR	iP	07 59 54.6	
		UME	iP	08 00 03.5	
"	6	UPP	iP	14 14 08.9	
		KIR	iP	14 14 17.0	
"	6	UPP	iP	18 31 51.9	
		KIR	iP	18 31 52.3	
		UME	iP	18 31 49.0	
		Northern Sumatera (h = 80 km).			
"	6	KIR	iPKP	20 21 45.4	
		UME	iPKP	20 21 51.7	
		Loyalty Islands region (h = N).			
"	7	UPP	iP	00 59 07.7	
		UME	iP	00 58 49.1	
		South of Honshu, Japan (h = 60 km).			
"	7	UPP	iPKP	01 22 18.9	
		KIR	iPKP	01 22 04.4	
		UME	iPKP	01 22 10.1	
		Loyalty Islands region (h = N).			
"	7	UPP	eP	03 47 53	
		KIR	iP	03 47 34.5	
		UME	iP	03 47 41.0	
		Samar, Philippine Islands (h = 40 km).			
"	7	UPP	ePKP	05 49 04	
			iSKPl	05 52 42	
		UME	i(PKP)	05 48 51.8	
			iPKP	05 49 00.8	
		Loyalty Islands region (h = 40 km).			
"	7	UPP	iPKPl	09 28 54.5 C	
		KIR	iPKPl	09 28 38.8	
		UME	iPKPl	09 28 43.5 C	
"	7	UPP	iP	10 33 30.9	
		KIR	iP	10 33 13.9	
		UME	iP	10 33 18.0	
		Mindoro, Philippine Islands (h = 45 km).			
"	7	UPP	iP	15 48 25.0	
		UME	iP	15 48 20.0	
"	7	KIR	ePKP	16 24 48	
				micr sec	
			Mx Z	3.1 18	
		UME	iPKP	16 24 56.4	
		Loyalty Islands region (h = 35 km).			
		M = 6.9 (UPP,KIR).			

1983					
July	7	UPP	iP	20 46 34.8 D	
			iPP	20 49 04	
			iS	20 55 32	
				micr sec	
			P Z'	0.9 2.2	
			Mx Z	2.1 22	
		KIR	iP	20 47 21.9 D	
				micr sec	
			P Z'	0.9 1.9	
			Mx Z	1.7 19	
		UME	iP	20 46 58.0 D	
			iS	20 56 12	
		Zaire Republic (h = 10 km).			
		m = 6.5, M = 5.4 (UPP,KIR).			
"	7	UPP	iP	21 54 16.6	
		UME	iP	21 54 39.9 D	
		Zaire Republic (h = 10 km).			
"	7	UPP	iP	22 35 36.8	
		KIR	iP	22 35 14.0	
		UME	iP	22 35 25.1	
"	8	UPP	iP	01 11 30.3	
		KIR	iP	01 11 13.7	
		UME	iP	01 11 19.1	
		Halmahera (h = 160 km).			
"	8	UPP	eP	02 59 43	
		UME	eP	03 00 18	
			i	03 00 25.9	
		Turkey (h = 15 km).			
"	8	KIR	iP	07 12 19.5	
		UME	iP	07 12 27.5	
		Mexico-Guatemala border region (h = 130 km).			
"	8	UPP	iPKPl	10 24 19.5	
		UME	iPKP	10 24 21.1	
		Tonga Islands (h = N).			
"	8	UME	iP	13 22 00.6	
		Iceland (h = 10 km).			
"	9	UPP	iP	06 19 13.7	
			ipP	06 19 35.5	
		KIR	iP	06 19 13.5	
		UME	iP	06 19 09.8	
			ipP	06 19 32.3	
		Andaman Islands regions. h = 100 km (UPP,UME).			
"	9	UPP	iP	07 52 51.2	
		KIR	iP	07 52 16.7	
				micr sec	
			Mx Z	1.5 18	
		UME	iP	07 52 36.5	
			i	07 52 56.4	
		Central California (h = 10 km).			

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983						
July	9	UPP	iP		12 06 33.1	
"	9	UPP	iPKPl		12 47 21.2	C
			i		12 47 40.9	
		South of Fiji Islands				
		(h = 490 km).				
"	9	UPP	eP		14 13 48	
"	9	UPP	iP		19 00 11.6	
"	9	UME	iP		21 04 46.1	
		Gulf of California				
		(h = 10 km).				
"	9	UPP	iP		22 22 12.5	
		UME	iP		22 21 44.6	
		Kuril Islands (h = 130 km).				
"	9	UPP	iP		23 18 34.7	
"	10	UPP	iP		02 55 40.2	
			i		02 55 48.9	
		UME	iP		02 55 42.5	
			i		02 55 49.9	
		South of Panama (h = N).				
"	10	UPP	iP		04 04 49.0	C
			i		04 05 18.1	
					micr	sec
			P	Z'	0.3	0.6
		KIR	iP		04 05 04.1	C
			i		04 05 20.7	
					micr	sec
			P	Z'	0.4	1.0
		UME	iP		04 04 45.9	C
		European USSR.				
		m = 5.9 (UPP,KIR).				
		Underground explosion.				
"	10	UPP	iP		04 09 48.8	C
					micr	sec
			P	Z'	0.3	0.6
		KIR	iP		04 10 03.7	C
					micr	sec
			P	Z'	0.3	0.8
		UME	iP		04 09 46.9	
		European USSR.				
		m = 5.9 (UPP,KIR).				
		Underground explosion.				
"	10	UPP	iP		04 14 48.8	C
					micr	sec
			P	Z'	0.2	0.6
		KIR	iP		04 15 03.5	
					micr	sec
			P	Z'	0.3	0.8
		(cont.)				

1983						
July	10	(cont.)				
		UME	iP		04 14 46.3	
		European USSR.				
		m = 5.8 (UPP,KIR).				
		Underground explosion.				
"	10	UPP	iP		17 31 29.5	C
					micr	sec
			P	Z'	0.1	0.9
		KIR	iP		17 31 01.0	
		UME	iP		17 31 11.7	C
		Ryukyu Islands (h = 60 km).				
"	10	UPP	iP		18 34 17.5	C
		KIR	iP		18 34 26.5	
		UME	iP		18 34 15.7	
		Hindu Kush region (h = 210 km).				
"	10	KIR	iPKP		19 39 09.0	
		UME	i(PKP)		19 39 09.2	
			iPKP		19 39 15.6	
		Fiji Islands region				
		(h = 550 km).				
"	11	UME	iP		10 46 00.5	
		Hokkaido, Japan region (h = N).				
"	11	UPP	e(PKP)		13 15 27	
			iPKP		13 15 41.4	
			i		13 15 55.6	
					micr	sec
			PKP	Z'	0.4	1.6
			i	Z'	0.3	1.3
		KIR	e(PKP)		13 15 51	
			iPKP		13 15 53.8	
			iSKPl		13 18 49.0	
					micr	sec
			PKP	Z'	0.3	1.6
			Mx	Z	20.3	20
		UME	i(PKP)		13 15 39.6	
			iPKP		13 15 49.8	
			i		13 16 03.5	
		South Shetland Islands				
		(h = 10 km).				
"	11	UME	iPKP		13 37 10.2	
		South Shetland Islands				
		(h = 10 km).				
"	11	UPP	iP		19 46 31.3	
		UME	iP		19 46 26.9	
		Iceland region (h = 10 km).				
"	11	UPP	iP		20 31 10.7	
		KIR	Mx		20 36	
					micr	sec
			Mx	Z	1.9	18
		(cont.)				

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
July 11 (cont.)
UME iP 20 31 07.3
i 20 31 11.8
Iceland region (h = 10 km).

" 11 UPP iP 21 26 07.7
KIR iP 21 26 04.2
UME iP 21 25 59.7
Kirghiz-Xinjiang border region (h = N).

" 12 UPP eP 03 52 09
KIR iP 03 51 49.6
micr sec
Mx Z 2.7 17
UME iP 03 51 57.2
i 03 51 59.2
Gulf of California (h = 10 km).

" 12 UPP iPKPl 10 24 41.6
South of Fiji Islands (h = 670 km).

" 12 UPP iP 11 42 04.9 C
i 11 42 13.3
iPP 11 43 46.1
iS 11 48 17
micr sec
P Z' 0.3 1.0
i Z' 0.8 1.2
Mx Z 11.4 20
KIR iP 11 42 37.4 C
i 11 42 40.5
micr sec
P Z' 0.5 1.5
i Z' 0.5 1.0
UME iP 11 42 16.3 C
i 11 42 22.4
iS 11 48 40
Southern Iran (h = 25 km).
m = 6.4 (UPP,KIR).

" 12 UPP iP 11 49 14.3
micr sec
Mx Z 11.4 20
KIR iP 11 49 46.2
UME iP 11 49 25.5
Southern Iran (h = N).

" 12 UPP eP 12 01 49
i 12 01 51.6
UME iP 12 02 00.2
Southern Iran (h = N).

" 12 UME iP 15 07 54.6
Near e. coast of Honshu, Japan (h = 50 km).

1983
July 12 UPP iP 15 19 59.0 D
i 15 20 08.6
iS 15 27 59
eP'P' 15 49 24
micr sec
P Z' 0.5 1.3
i Z' 3.4 1.8
Mx Z 33.5 21
KIR iP 15 19 03.4 D
i 15 19 12.7
micr sec
P Z' 0.5 1.0
i Z' 5.3 1.5
UME iP 15 19 31.6 D
i 15 19 38.8
eP'P' 15 49 18
Southern Alaska (h = 35 km).
m = 7.2 (UPP,KIR).

" 12 UPP iP 18 09 45.2
UME iP 18 09 56.7
Southern Iran (h = N).

" 12 UPP iPgl 19 05 13.8
iSgl 19 05 41.9
UME iSgl 19 07 46.3
UDD iPgl 19 05 04.3
iSgl 19 05 31.2
DEL iSgl 19 05 19.5
Småland-Östergötland, Sweden, 58.1°N, 14.6°E.
Origin time = 19 04 30.
M_L(UPP) = 2.8 (0.30) 4.
Felt.
By combination with SKI network readings.

" 12 UDD iSgl 20 49 27.3
Southwestern Norway, near 59 1/4°N, 7 1/2°E.
Origin time = 20 47 49.
By combination with Norwegian station readings.

" 12 KIR iP 22 46 25.8
UME iP 22 46 02.1
Zaire Republic (h = 10 km).

" 12 UPP iP 23 22 13.3
KIR iP 23 22 59.9
UME iP 22 22 36.3
Zaire Republic (h = 10 km).

" 13 UPP iP 08 27 43.1
KIR iP 08 27 13.3
UME iP 08 27 24.9
Ryukyu Islands (h = 70 km).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
July 13 UPP iP 11 17 15.4
KIR iP 11 17 24.2
UME iP 11 17 13.4
Afghanistan-USSR border region (h = 100 km).

" 13 UPP iPgl 16 11 48.7
iSgl 16 11 58.0
UDD iSgl 16 12 19.8
Västmanland, Sweden, 59.6°N, 16.3°E.
Origin time = 16 11 36.
By combination with SKI network readings.

" 13 UPP Mx 20 25
micr sec
Mx Z 0.6 14
Aegean Sea (h = 15 km).

" 14 UPP iP 02 59 33.6 C
iS 03 03 51.3
micr sec
P Z' 0.4 1.4
Mx Z 4.9 12
KIR iP 03 00 44.7 C
micr sec
P Z' 0.2 1.2
Mx Z 3.8 18
UME iP 03 00 07.7
iS 03 04 48
Mediterranean Sea (h = 25 km).
m = 5.8, M = 5.2 (UPP,KIR).

" 14 UDD iSgl 17 35 20.0
Southwestern Norway, near 59 1/4°N, 7°E.
Origin time = 17 33 35.
M_L(UPP) = 2.5 1.
By combination with Norwegian station readings.

" 14 KIR iP 17 35 50.4
Kuril Islands (h = N).

" 14 UPP iP 20 01 02.2
iSKS 22 11 33
micr sec
P Z' 0.1 1.0
Mx Z 8.0 25
KIR iP 20 00 45.9 C
micr sec
P Z' 1.0 2.0
Mx Z 5.8 22
UME iP 20 00 51.3
iSKS 22 11 22
(cont.)

1983
July 14 (cont.)
UME iS 22 11 52
Mindanao, Philippine Islands (h = 45 km).
m = 6.4, M = 6.1 (UPP,KIR).

" 15 KIR eP 02 05 46
i 02 05 51.4
Southern Iran (h = N).

" 15 KIR eP 02 09 38
Southern Iran (h = N).

" 15 UPP iP 05 00 01.1
micr sec
P Z' 0.1 1.2
KIR iP 04 59 48.3
i 04 59 51.2
micr sec
P Z' 0.2 1.9
UME iP 04 59 50.6
Southeast Asia (h = 10 km).
m = 5.9 (UPP,KIR).

" 15 UPP iP 07 59 04.5
KIR iP 07 58 04.8
micr sec
P Z' 0.1 1.0
Southeastern Alaska (h = 10 km).

" 15 UPP iP 10 50 58.2
KIR iP 10 50 34.7
UME iP 10 50 43.0
Taiwan (h = 20 km).

" 15 UPP iP 10 58 54.4
iSKS 11 09 25
micr sec
P Z' 0.1 1.0
Mx Z 3.8 27
KIR iP 10 58 37.6
micr sec
P Z' 0.2 1.0
Mx Z 2.4 20
UME iP 10 58 42.3
iSKS 11 09 10
iS 11 09 42
Mindanao, Philippine Islands (h = 50 km).
m = 6.4, M = 5.7 (UPP,KIR).

" 16 KIR iP 01 43 40.9

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
July 16 UPP iP 02 45 33.8
KIR iP 02 45 17.2
i 02 45 29.1
micr sec
P Z' 0.2 1.0
UME iP 02 45 22.9
Mindanao, Philippine Islands
(h = 45 km).

" 16 KIR iP 08 02 45.3
UME iP 08 02 55.3
Near coast of Chiapas, Mexico
(h = 70 km).

" 16 KIR iPdiff 08 09 08.9
UME iPdiff 08 09 13.8
Banda Sea (h = 150 km).

" 16 KIR iP 09 09 32.4
Mindanao, Philippine Islands
(h = N).

" 16 KIR iP 11 38 51.0
UME iP 11 38 54.7
Banda Sea (h = 180 km).

" 16 UPP iP 17 33 35.8
KIR iP 17 34 08.7
UME iP 17 33 46.8
Southern Iran (h = N).

" 17 UPP iP 05 36 11.1
KIR iP 05 35 52.7
micr sec
P Z' 0.1 1.0
Mindanao, Philippine Islands
(h = 50 km).

" 17 KIR iPKP 06 47 21.5
Fiji Islands region
(h = 590 km).

" 17 UPP iPKPl 15 05 29.4
KIR iPKP 15 05 18.4
iSKPl 15 07 57.2
UME iPKP 15 05 27.6
iSKPl 15 08 08.8
South of Fiji Islands
(h = 540 km).

" 17 UPP iP 17 59 34.6
UME iP 17 59 28.4
Southeast Asia (h = 45 km).

" 17 UPP iP 21 13 48.2 C
KIR iP 21 13 57.0
UME iP 21 13 46.4
Hindu Kush region (h = 200 km).

1983
July 17 UPP iPKPl 22 15 59.9 C
micr sec
PKPl Z' 0.1 1.1
KIR iPKPl 22 15 38.0
UME iPKPl 22 15 48.7 C
Kermadec Islands region
(h = 50 km).

" 17 UPP iPKPl 22 32 28.2
UME iPKPl 22 32 17.2 C
i 22 32 31.7

" 17 KIR iPKP 23 21 25.8
UME iPKP 23 21 43.7
iSKPl 23 24 38.3
South of Fiji Islands
(h = 310 km).

" 18 UPP iP 05 23 00.3
KIR iP 05 22 20.2
UME iP 05 22 37.6
i 05 22 46.3
Near e coast of Honshu,
Japan (h = 45 km).

" 18 UPP iP 13 05 17.0
ipP 13 05 39.1
iPP 13 08 42.9
iSKS 13 15 29
micr sec
P Z' 0.1 1.0
KIR iP 13 05 10.1
ipP 13 05 32.8
iPP 13 08 27.8
micr sec
P Z' 0.1 1.3
UME iP 13 05 17.5
i 13 05 22.6
ipP 13 05 40.0
iPP 13 08 40.2
i 13 09 01.4
iSKS 13 15 34
Near coast of Nicaragua.
h = 90 km (UPP,KIR,UME).
m = 5.8 (UPP,KIR).

" 18 KIR iP 13 59 36.2
UME iP 13 59 33.7
Southern Sumatera (h = 90 km).

" 18 UPP iP 18 20 01.8
KIR iP 18 19 26.5
UME iP 18 19 41.6
Near s. coast of southern
Honshu, Japan (h = 380 km).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
July 19 KIR iP 17 17 45.1
UME iP 17 17 59.4
South of Honshu, Japan
(h = 430 km).

" 20 KIR iP 00 02 02.9 C
i 00 02 07.1
micr sec
P Z' 0.1 1.1
UME iP 00 02 07.9 C
Minahessa Peninsula
(h = 300 km).

" 20 UPP iP 23 10 34.8
KIR iP 23 10 17.5
micr sec
P Z' 0.2 1.0
UME iP 23 10 23.7
Philippine Islands region
(h = 45 km).

" 21 UPP eP 13 34 53
KIR eP 13 36 22
UME iP 13 35 38.6
Northern Italy (h = 30 km).

" 21 KIR iP 17 44 37.2
UME iP 17 45 06.0
Kodiak Island region
(h = 55 km).

" 21 UDD iSgl 20 33 51.9
Southwestern Norway, near
59 1/4°N, 7°E.
Origin time = 20 32 05.
By combination with Norwegian
station readings.

" 22 UPP iP 02 47 11.0
i 02 48 01.8
iS 02 54 33
micr sec
P Z' 0.2 1.3
KIR iP 02 47 50.5 C
i 02 48 48.1
micr sec
P Z' 0.9 1.7
UME iP 02 47 24.3 C
Western Iran (h = 40 km).
m = 6.1 (UPP,KIR).

" 22 UPP iP 02 51 55.2
micr sec
P Z' 0.3 0.9
Mx Z 2.7 20
(cont.)

1983
July 22 (cont.)
KIR iP 02 51 20.0
micr sec
P Z' 0.3 1.1
Mx Z 3.4 17
UME iP 02 51 40.1
Central California
(h = 10 km).
m = 6.3, M = 5.7 (UPP,KIR).

" 22 KIR iP 03 54 26.0
UME iP 03 54 46.2
Central California
(h = 10 km).

" 22 UPP iP 05 26 41.0

" 23 UME iP 07 38 30.7
i 07 38 39.1

" 23 UME iP 19 37 39.3

" 24 UPP iPKP1 01 11 58.7
micr sec
Mx Z 1.3 24
KIR iPKP 01 11 45.2
micr sec
Mx Z 1.3 23
UME iPKP1 01 11 47.0
i 01 12 11.8
Kermadec Islands region
(h = 70 km).
M = 5.7 (UPP,KIR).

" 24 UME iP 13 47 00.4

" 24 UPP iPKP1 14 14 07.0
iPKP2 14 14 13.5
UME iPKP1 14 13 56.8

" 24 UPP eP 14 15 44
micr sec
Mx Z 1.1 26
KIR eP 14 16 05
UME iP 14 15 59.0
North Atlantic Ridge
(h = 10 km).

" 24 UPP iP 15 03 23.7
micr sec
P Z' 0.1 1.0
KIR iP 15 03 43.5 D
micr sec
P Z' 0.2 0.9
UME iP 15 03 01.0 D
Near w. coast of Honshu,
Japan (h = 190 km).
m = 5.7 (UPP,KIR).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983 July 24 UPP iP 17 20 06.3
KIR iP 17 21 04.4
West of Gibraltar (h = 10 km).

" 24 UPP iP 23 17 34.3 D
ipP 23 18 17.9
iS 23 25 43.5
iScS 23 27 04.5
eP'P' 23 46 22
micr sec
P Z' 2.4 1.0
KIR iP 23 16 40.6 D
ipP 23 17 23.9
i 23 21 24.4
micr sec
P Z' 2.5 1.5
UME iP 23 17 05.8 D
ipP 23 17 48.8
iS 23 24 50
i 23 26 03
iScS 23 26 34
Near e. coast of Kamchatka.
h = 190 km (UPP,KIR,UME).
m = 6.9 (UPP,KIR).

" 24 UPP iPP 23 56 20.9
micr sec
Mx Z 5.7 24
KIR iPdiff 23 52 00.3
iPP 23 56 12.9
micr sec
Mx Z 1.9 18
UME iPP 23 56 15.3
Flores Island region
(h = 50 km).
M = 5.9 (UPP,KIR).

" 25 UPP iP 22 43 39.4
micr sec
P Z' 0.1 1.5
Mx Z 0.6 21
KIR iP 22 43 04.5
micr sec
P Z' 0.2 1.9
Mx Z 0.8 15
UME iP 22 43 24.3
Central California
(h = 10 km).
m = 5.7, M = 5.0 (UPP,KIR).

" 25 UME iP 23 28 25.7
Eastern Sea of Japan
(h = N).

" 26 UME iP 02 36 03.3
South of Panama (h = 10 km).

1983 July 26 KIR iP 10 13 53.0
UME iP 10 13 57.5
Panay, Philippine Islands
(h = 40 km).

" 26 UPP Mx 13 00
micr sec
Mx Z 0.8 19
KIR Mx 13 05
micr sec
Mx Z 0.6 16
Prince Edward Islands region
(h = 10 km).
M = 5.3 (UPP,KIR).

" 26 KIR iP 17 52 23.7
ipP 17 52 52.2
UME iP 17 52 28.5
ipP 17 52 58.4
Nicaragua.
h = 110 km (KIR,UME).

" 26 UPP iP 20 28 13.0
KIR iP 20 28 00.4
UME iP 20 28 03.7
Minahassa Peninsula
(h = 45 km).

" 27 UPP iP 00 40 47.2
UME iP 00 40 31.5
Qinghai Province, China
(h = N).

" 27 UPP iP 00 41 21.4
micr sec
Mx Z 1.1 13
KIR iP 00 41 00.6
UME iP 00 41 06.0
Qinghai Province, China
(h = N).

" 27 UME iPKP 03 41 27.7
Santa Cruz Islands
(h = 240 km).

" 27 UPP iP 10 24 38.1
KIR iP 10 25 06.0
UME iP 10 24 55.7
Azores Islands region
(h = 10 km).

" 27 UME iPKPl 12 46 01.1
Kermadec Islands region
(h = N).

" 27 UPP iP 13 13 50.6

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
July 27 UPP iPKPl 13 50 15.2 C
Kermadec Islands region
(h = 190 km).

" 27 UME iP 19 09 41.1
Southern Italy (h = 25 km).

" 27 UPP iP 21 01 55.4
UME iP 21 02 18.8
Zaire Republic (h = 10 km).

" 27 UPP iP 22 32 00.4
Kuril Islands (h = N).

" 27 UME iP 23 29 01.2

" 28 UPP iPKP 02 00 10.2
iPKPl 02 00 11.8
micr sec
Mx Z 1.4 25
KIR iPKP 01 59 59.5
micr sec
Mx Z 1.9 23
UME iPKPl 01 59 58.5
Kermadec Islands region
(h = 30 km).
M = 5.8 (UPP,KIR).

" 28 KIR iP 07 13 07.8

" 28 UPP iP 10 09 12.8
micr sec
Mx Z 1.0 18
KIR iP 10 08 27.3
micr sec
Mx Z 1.7 17
UME iP 10 08 48.5
Kuril Islands (h = 35 km).
M = 5.2 (UPP,KIR).

" 28 UPP iP 15 17 43.0 C
micr sec
P Z' 0.1 1.0
UME iP 15 17 19.3 C
Hokkaido, Japan region
(h = 60 km).

" 29 UPP iP 11 38 48.0
micr sec
Mx Z 1.4 21
KIR iP 11 38 44.4
micr sec
Mx Z 2.6 26
UME iP 11 38 42.9
Sunda Strait (h = N).
M = 5.5 (UPP,KIR).

1983
July 29 UPP iP 18 13 48.4 C
i 18 13 56.6
micr sec
P Z' 0.1 1.0
i Z' 0.2 0.9
KIR iP 18 14 22.0 C
i 18 14 30.2
micr sec
P Z' 0.4 1.4
i Z' 0.3 0.8
UME iP 18 14 02.0 C
i 18 14 09.5
Carlsberg Ridge (h = 10 km).
m = 6.3 (UPP,KIR).

" 29 UME iP 19 35 52.7
South of Honshu, Japan
(h = 60 km).

" 29 KIR iP 20 38 58.3 C
micr sec
P Z' 0.1 1.0
Mindanao, Philippine Islands
(h = 55 km).

" 30 KIR iP 08 19 52.0 C
UME iP 08 20 19.2
Fox Islands, Aleutian Islands
(h = 50 km).

" 30 UME iP 15 51 18.7
i 15 51 23.8
Eastern USSR (h = N).

" 30 UPP iP 21 17 52.5

" 31 UPP iP 03 28 05.1

" 31 KIR iP 04 21 34.9
Minahassa Peninsula (h = N).

" 31 UPP iP 04 53 53.0

" 31 KIR iP 09 22 08.7
Minahassa Peninsula
(h = 270 km).

" 31 KIR iPKP 10 45 07.0
South Pacific Ocean
(h = 10 km).

" 31 KIR iP 21 17 24.4
Mariana Islands (h = 160 km).

Uppsala, March 6, 1985

Torild van Eck, Conny Holmqvist, Klaus Meyer, Elizabeth Shah

SEISMOLOGICAL DEPARTMENT
BOX 12019
S-750 12 UPPSALA
SWEDEN

SEISMOLOGICAL DEPARTMENT
BOX 12019
S-750 12 UPPSALA
SWEDEN

S E I S M O L O G I C A L B U L L E T I N

U P P S A L A, K I R U N A, U M E Å, U D D E H O L M,

D E L A R Y and M Y R V I K E N

Uppsala	(UPP)	59°51.5'N,	17°37.6'E; h = 14 m
Kiruna	(KIR)	67°50.4'N,	20°25.0'E; h = 390 m
Umeå	(UME)	63°48.9'N,	20°14.2'E; h = 16 m
Uddeholm	(UDD)	60°05.4'N,	13°36.4'E; h = 240 m
Delary	(DEL)	56°28.2'N,	12°52.2'E; h = 150 m
Myrviken	(MYV)	62°56.5'N,	14°20.8'E; h = 345 m

A U G U S T 1 - 31, 1983

1983 Aug. 1
KIR iP 03 27 37.1 C
UME iP 03 27 49.0 C
Mariana Islands region
(h = 35 km)

" 1
UME iP 04 27 24.8
South of Mariana Islands
(h = 75 km).

" 1
KIR iPKP1 04 53 24.6 C
UME iPKP1 04 53 34.3
East of North Island, N.Z.
(h = N).

" 1
UPP iPKP1 11 39 58.7
i 11 40 05.5
Fiji Islands region
(h = 350 km).

" 1
UME eP 12 11 23
Iran (h = 20 km).

" 1
UPP ePKP 14 28 33
micr sec
Mx Z 1.3 19
KIR ePKP 14 28 41
UME i(PKP) 14 28 29.4
iPKP 14 28 37.2
Near coast of southern
Chile (h = N).

" 2
UPP iP 02 29 30.0 D
ipP 02 30 09.2
iS 02 39 14.0
micr sec
P Z' 1.4 1.2
Mx Z 2.8 14
(cont.)

1983 Aug. 2
(cont.)
KIR iP 02 29 08.7 D
iS 02 38 32.9
micr sec
P Z' 1.2 1.0
Mx Z 1.7 14
UME eP 02 29 18
ipP 02 29 55.3
iS 02 39 47
Philippine Islands region.
h = 160 km (UPP,UME).
m = 6.6, M = 5.7 (UPP,KIR).
M not corrected for focal depth.

" 2
UPP iP 06 19 07.6
i 06 19 11.5
micr sec
i Z' 0.3 1.3
KIR iP 06 18 20.5
i 06 18 23.6
micr sec
i Z' 0.2 1.0
UME iP 06 18 42.7
i 06 18 46.0
Kuril Islands region
(h = 55 km).
m = 6.1 (UPP,KIR).
Double shock, small and large,
in average 3.4 s apart.

" 2
UPP iP 09 21 15.3

" 2
KIR iP 12 56 18.6
micr sec
P Z' 0.1 1.2
Bali Sea (h = 600 km).

" 2
UPP eP 14 22 21

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Aug. 2 UPP iP 22 19 39.1 C
micr sec
P Z' 0.2 1.0
KIR iP 22 19 09.7 C
micr sec
P Z' 0.1 0.8
UME iP 22 19 21.3 C
Ryukyu Islands (h = 60 km).
m = 5.9 (UPP,KIR).

" 3 UDD iSgl 16 47 02.4
Värmland, Sweden, 59.2°N,
14.0°E.
Origin time = 16 46 35.
Solution from SKI network
readings.

" 3 UPP iPKP 18 36 54.1
micr sec
Mx Z 1.4 21
KIR iPKP 18 36 40.3
micr sec
PKP Z' 0.1 1.0
Mx Z 1.3 19
UME iPKP 18 36 45.7
Vanuatu Islands (h = N).
M = 5.7 (UPP,KIR).
Late arrivals when compared
with NEIS solutions.

" 3 UPP iP 18 40 21.0

" 3 UPP iP 22 41 07.3
UME iP 22 41 28.3
i 22 41 40.6
South Atlantic Ocean
(h = 10 km).

" 3 UPP i(PKP) 22 59 11.0
KIR iPKP 22 59 04.5
UME i(PKP) 22 59 04.9
iPKP 22 59 10.0
Fiji Islands region
(h = 610 km).

" 3 UPP iP 23 30 41.8
KIR iP 23 30 13.3 C
micr sec
P Z' 0.1 0.8
UME iP 23 30 25.5 C
Mariana Islands region
(h = 300 km).

" 3 UPP iP 23 37 41.4
KIR iP 23 37 11.7
UME iP 23 37 23.3
Mariana Islands region
(h = 300 km).

1983
Aug. 4 UME iP 05 29 59.0
Southeastern Uztek SSR
(h = N).

" 4 UPP epP 14 05 36
KIR eP 14 05 04
ipP 14 05 29.3
UME iP 14 05 13.7
ipP 14 05 38.9
Guatemala.
h = 90 km (KIR,UME).

" 5 UPP iP 00 44 11.6 C
micr sec
P Z' 0.1 1.0
KIR iP 00 43 17.8 C
ipP 00 43 27.7
UME iP 00 43 43.2
ipP 00 43 52.0
Off coast of Kamchatka.
h = 35 km (KIR,UME).

" 5 UPP iPKP 05 44 55.4
micr sec
Mx Z 1.9 23
KIR iPKP 05 44 41.6
micr sec
Mx Z 1.3 19
UME ePKP 05 44 47
Vanuatu Islands (h = N).
M = 5.7 (UPP,KIR).

" 5 UPP iP 06 34 31.5 C
ipP 06 34 38.5
micr sec
pP Z' 0.1 1.0
Mx Z 0.8 19
KIR eP 06 34 43
ipP 06 34 51.4
UME iP 06 34 41.5
ipP 06 34 48.0
Western Brazil.
h = 25 km (UPP,KIR,UME).

" 5 UPP iP 18 20 59.8
micr sec
Mx Z 0.7 18
KIR iP 18 20 42.1
micr sec
Mx Z 0.9 16
UME iS 18 31 13
Luzon, Philippine Islands
(h = 35 km).
M = 5.2 (UPP,KIR).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Aug. 5 UPP eP 21 04 03
KIR iP 21 03 39.2
Philippine Islands region
(h = N).

" 6 UPP iSn 01 22 27.4
KIR iP 01 24 12.4
UME iP 01 23 21.0 C
Poland (h = 10 km).

" 6 UPP iP 02 39 23.4 C
iSKS 02 49 38
iS 02 49 54
micr sec
P Z' 0.1 0.9
Mx Z 1.7 30
KIR iP 02 39 11.1 C
ipP 02 39 38.0
micr sec
P Z' 0.6 1.3
UME iP 02 39 19.9 C
ipP 02 39 46.2
iS 02 49 50
Chiapas, Mexico.
h = 100 km (KIR,UME).
m = 6.1 (UPP,KIR).

" 6 UPP eP 05 01 04
Pakistan (h = 10 km).

" 6 UPP iP 15 48 28.0 C
i 15 48 34.6
iS 15 52 10
micr sec
P Z' 0.8 1.5
i Z' 7.0 2.0
KIR iP 15 49 43.3 C
e 15 49 51
micr sec
P Z' 1.0 1.5
e Z' 1.3 1.4
UME iP 15 49 06.5 C
Aegean Sea (h = 2 km).
m = 6.6 (UPP,KIR).
M = 7.2 (UPP).
Double P, small and large,
on average 6.9 s apart.
The second onset, when
interpreted as pP, gives
a focal depth of 25 km. M
has been determined by
making use of Wiechert
seismograms.

1983
Aug. 6 UPP iP 16 43 49.0 C
micr sec
P Z' 0.1 1.0
KIR iP 16 42 52.9 C
micr sec
P Z' 0.1 0.8
UME iP 16 43 21.9 C
Southern Alaska (h = 140 km).
m = 5.7 (UPP,KIR).

" 6 UPP iP 16 51 03.6
UME iP 16 51 38.1
Aegean Sea (h = 10 km).

" 6 UME iP 17 17 13.3
Aegean Sea (h = 10 km).

" 6 UME iP 18 29 33.7
Aegean Sea (h = 10 km).

" 6 UPP iP 18 51 25.0
UME eP 18 52 03
Aegean Sea (h = 10 km).

" 6 UME iP 19 03 48.8
i 19 03 57.6
Aegean Sea (h = 5 km).

" 6 UPP eP 19 59 33
Tibet (h = N).

" 6 UPP iP 22 17 04.5
UME iP 22 16 39.2
Kuril Islands (h = N).

" 6 UPP iP 22 48 56.8
UME iP 22 48 31.8
Kuril Islands (h = N).

" 6 UPP iP 22 51 51.9
i(PP) 22 56 07.6
KIR iP 22 51 37.0
i(PP) 22 55 30.3
UME iP 22 51 41.9
i(PP) 22 55 55.0
iPP 22 56 03.5
Banda Sea (h = 160 km).
(PP) denotes early PP arrivals.

" 6 UME iP 23 09 20.3

" 7 UPP iP 01 48 48.5
i 01 49 07.2
UME iP 01 49 26.5
Aegean Sea (h = 10 km).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Aug. 7 KIR iP 01 58 15.7
UME iP 01 58 10.6
North Atlantic Ridge
(h = 10 km).

" 7 UPP iP 04 24 43.4
i 04 30 34.6
KIR iP 04 25 12.8 C
UME iP 04 24 51.2
i 04 25 34.8
i 04 30 57.6
Turkmen SSR (h = N).

" 7 UPP iP 06 39 09.7
KIR iP 06 38 35.3
UME iP 06 38 50.2
ipP 06 39 21.9
South of Honshu, Japan
(h = 130 km).

" 7 UPP iP 19 17 17.5
UME iP 19 16 54.0

" 8 UME iP 02 02 08.4
Aegean Sea (h = 10 km).
Late arrival when compared
with the NEIS solution.

" 8 UPP iPKP 02 22 04.8
iSKP1 02 25 18.9
KIR iPKP 02 21 50.6
UME iPKP 02 21 57.2
eSKP1 02 25 06
Vanuatu Islands (h = 170 km).

" 8 UPP iP 03 59 27.0
iS 04 08 54
micr sec
P Z' 0.5 1.2
Mx Z 3.1 14
KIR iP 03 58 49.7 C
ipP 03 58 57.1
micr sec
P Z' 0.5 1.0
Mx Z 3.4 14
UME iP 03 59 06.1 C
ipP 03 59 14.0
iS 04 08 25
Near s. coast of Honshu,
Japan.
h = 25 km (KIR,UME).
m = 6.5, M = 5.8 (UPP,KIR).

" 8 UME eP 04 38 38
Honshu, Japan (h = N).

1983
Aug. 8 UPP eP 08 14 14
i 08 14 31.5
micr sec
Mx Z 1.6 8
KIR eP 08 15 32
micr sec
Mx Z 1.9 10
UME iP 08 14 53.0
i 08 15 03.2
Aegean Sea (h = 5 km).
M = 4.9 (UPP,KIR).

" 8 UPP iPKP1 09 53 19.1
Fiji Islands region
(h = 550 km).

" 8 UPP eP 12 55 24
KIR e 12 55 54
North Atlantic Ridge
(h = 10 km).

" 8 UPP ePKP1 15 55 48
iPKP2 15 55 54.9
UME iPKP1 15 56 37.0
South of Kermadec Islands
(h = N).

" 8 UPP iSg1 16 00 47.0
KIR iSg1 16 02 03.8
UME iSg1 16 01 16.1
UDD ePn 15 58 23
iSg1 15 59 48.5
DEL iSg1 16 00 54.1
MYV iSg1 15 59 47.4
Off coast of southwestern
Norway, near 61 1/2°N, 3°E.
Origin time = 15 57 06.
M_L (UPP) = 3.2 (0.15) 4.
By combination with NORSAR.

" 8 UPP eP 17 07 17
South Atlantic Ridge
(h = 10 km).

" 8 UME iP 21 28 33.8

" 9 UPP iP 03 07 35.7
Southwestern Kashmir
(h = 130 km).

" 9 UPP iP 16 08 24.0
KIR iP 16 07 29.5
Southern Alaska (h = 30 km).

" 9 UPP iP 16 49 02.2
KIR iP 16 49 07.4
UME iP 16 48 59.0
Afghanistan-USSR border region
(h = 140 km).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Aug. 9 UPP iP 22 45 57.6
KIR iP 22 45 51.7
UME iP 22 45 52.3
Java Sea (h = 660 km).

" 10 UPP iP 01 06 27.3
KIR iP 01 05 33.0 C
i 01 05 38.9
micr sec
P Z' 0.1 0.9
UME iP 01 06 01.3 C
Kodiak Island region
(h = N).

" 10 UPP iP 02 12 42.5
UME iP 02 12 56.5
Carlsberg Ridge (h = 10 km).

" 10 UPP i 10 30 22.3
KIR iP 10 28 57.3 C
micr sec
P Z' 0.1 1.5
UME iP 10 29 38.3
Lomonosov Ridge (h = 10 km).

" 10 UPP iPKP1 20 25 14.5
KIR i 20 25 18.6
Tonga Islands region
(h = N).

" 10 UPP iPn 21 12 01.3
KIR iP 21 13 32.3
UME iP 21 12 55.1
Poland (h = 15 km).

" 11 UPP iP 01 09 15.3
KIR eP 01 10 31
UME iP 01 09 40.9
i 01 10 21.5
Aegean Sea (h = 10 km).

" 11 UPP iP 01 47 02.5
KIR eP 01 46 37
UME eP 01 46 46
Northeast of Taiwan
(h = 230 km).

" 11 UPP iP 05 28 59.7
KIR iP 05 28 38.7
Luzon, Philippine Islands
(h = 30 km).

" 11 KIR iP 08 14 22.7
UME iP 08 14 05.8
Northwestern Kashmir
(h = 100 km).

1983
Aug. 11 UPP iP 12 15 10.2
i 12 15 21.1
iS 12 25 12
micr sec
P Z' 0.1 1.0
i Z' 0.4 1.4
Mx Z 3.8 16
KIR iP 12 14 49.5
i 12 14 59.2
micr sec
P Z' 0.4 1.6
Mx Z 2.0 13
UME iP 12 14 56.2
i 12 24 45
Luzon, Philippine Islands
(h = 15 km).
m = 6.2, M = 5.8 (UPP,KIR).

" 11 KIR iP 13 50 37.5
N.W. Iran-USSR border region
(h = N).

" 11 UPP eP 21 46 38
KIR iP 21 45 55.4
e 21 46 17
UME iP 21 46 14.5
Hokkaido, Japan region
(h = 70 km).

" 11 UPP iP 23 09 36.3
KIR iP 23 09 20.0 D
micr sec
P Z' 0.1 1.0
UME eP 23 09 23
Halmahera (h = 100 km).

" 12 UPP iP 00 02 33.2
KIR eP 00 02 16
Eastern China (h = N).

" 12 UPP iP 07 54 36.3
i 07 54 49.2
iS 08 04 48
micr sec
Mx Z 1.2 22
KIR iP 07 54 18.2
i 07 54 25.7
micr sec
Mx Z 1.3 19
UME iP 07 54 23.5
i 07 54 26.8
Luzon, Philippine Islands
(h = 30 km).
M = 5.3 (UPP,KIR).

" 12 UPP iP 07 58 36.9
KIR eP 07 58 05

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Aug. 12 UPP iS 11 38 10
micr sec
Mx Z 1.9 20
UME iS 11 38 29
Mascarene Islands region
(h = 10 km).

" 12 UPP eP 17 22 13
i 17 22 21.5
UME iP 17 23 00.6
Greece (h = 10 km).

" 12 UPP iP 19 40 48.3
i 19 41 19.0
micr sec
P Z' 0.1 1.3
Mx Z 2.4 12
KIR iP 19 42 02.8 C
micr sec
Mx Z 1.2 11
UME iP 19 41 30.4
i 19 41 33.7
Southern Italy (h = 10 km).
M = 4.7 (UPP,KIR).

" 12 UME eP 20 49 50

" 12 UPP iP 21 37 28.6
KIR eP 21 37 07
UME eP 21 36 42

" 12 UPP ePKP 22 30 47
KIR ePKP 22 31 02 C
UME iPKP 22 30 55.2 C
South Sandwich Islands
regions (h = N).

" 13 UPP iP 02 38 11.5
KIR eP 02 37 20
Near east coast of
Kamchatka (h = N).

" 13 KIR iP 15 53 20.1
UME iP 15 53 25.4 D
Banda Sea (h = 130 km).

" 13 UPP eP 17 26 09
KIR eP 17 26 46
UME iP 17 26 22.4
i 17 26 30.0
Southern Iran (h = N).

" 13 UPP iP 22 41 53.8 C
micr sec
P Z' 0.1 1.0
(cont.)

1983
Aug. 13 (cont.)
KIR iP 22 41 48.6 C
micr sec
P Z' 0.2 1.0
UME iP 22 41 48.9 C
Java (h = 80 km).
m = 6.5 (UPP,KIR).

" 13 KIR ePKPl 23 27 37
South of Australia
(h = 10 km).

" 14 KIR ePKP 12 20 11
New Ireland region
(h = 70 km).

" 14 UPP iPKP 16 38 27.6
KIR ePKP 16 38 19
UME iPKP 16 38 26.7
Fiji Islands region
(h = 520 km).

" 14 UPP eP 19 13 48
KIR eP 19 14 03

" 14 UPP iRg 20 50 41.8
Uppland, Sweden, 60.1°N,
17.5°E.
Rockburst at the Dannemora iron
ore mine.

" 14 UPP Mx 21 39
micr sec
Mx Z 2.2 23
KIR Mx 21 40
micr sec
Mx Z 1.9 23
Balleny Islands region
(h = 10 km).
M = 6.0 (UPP,KIR).

" 14 UPP iRg 22 05 20.8
Dannemora rockburst.

" 14 UDD eSgl 23 53 25
Southwestern Norway, near
62°N, 6°E.
Origin time = 23 51 14.
Solution from NORSAR station
readings.
Felt.

" 15 UPP iRg 00 19 13.0
Dannemora rockburst.

" 15 UPP iRg 00 41 24.7
Dannemora rockburst.

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Aug. 15 UPP iP 02 10 26.7
UME eP 02 10 26
Hindu Kush region
(h = 130 km).

" 15 UPP ePKP2 03 01 37
KIR iPKP2 03 01 36.1
UME iPKP2 03 01 33.0
West of Macquarie Island
(h = 10 km).

" 15 UPP iP 05 00 40.1
KIR eP 04 59 50
UME iP 05 00 14.0
Kuril Islands (h = 80 km).

" 15 UPP iP 05 27 38.7

" 15 UPP ePKP 07 44 05
KIR ePKP 07 43 52
UME iPKP 07 44 00.7
Santa Cruz Islands
(h = 150 km).

" 15 KIR iP 18 35 24.3
Southern Xinjiang, China
(h = N).

" 16 KIR iP 00 46 38.8
UME iP 00 46 49.1
South of Mariana Islands
(h = 60 km).

" 16 UME iP 05 22 41.9

" 16 UPP iPKP1 09 53 50.9
KIR ePKP 09 53 36
i 09 53 47.0
UME iPKP 09 53 38.5
Kermadec Islands region
(h = 380 km).

" 16 UPP eP 13 48 44
KIR iP 13 48 04.7
UME iP 13 48 22.1 C
Near east coast of Honshu,
Japan (h = 60 km).

" 16 UPP iP 16 42 03.8
micr sec
P Z' 0.1 1.4
KIR iP 16 42 02.7 C
micr sec
P Z' 0.1 0.7
UME iP 16 42 00.6 C
Southern Sumatera (h = 90 km).
m = 6.0 (UPP,KIR).

1983
Aug. 16 KIR eP 22 25 06
UME eP 22 24 55
Afghanistan-USSR border region
(h = N).

" 17 UPP iP 11 06 01.6 C
i 11 06 03.1 C
i 11 10 08
iS 11 14 15
iP'P' 11 34 59.3
micr sec
i Z' 3.3 1.3
Mx Z 83 22
KIR iP 11 05 07.3 C
i 11 05 08.3 C
i 11 06 50.9
iP'P' 11 35 06.8
micr sec
i Z' 2.0 0.8
Mx Z 29 22
UME iP 11 05 32.6 C
i 11 05 33.9 C
i 11 07 44.9
i 11 08 54.0
iS 11 13 10
iP'P' 11 35 02.7
Near east coast of Kamchatka
(h = 60 km).
m = 7.2, M = 6.7 (UPP,KIR).
M not corrected for focal depth.

" 17 UPP iP 12 30 06.5
i 12 30 08.5
iS 12 40 20
micr sec
i Z' 0.3 0.8
Mx Z 31 20
KIR iP 12 29 47.0
i 12 29 48.3
micr sec
i Z' 1.0 1.6
Mx Z 19 13
UME iP 12 29 53.4
i 12 29 54.9
Luzon, Philippine Islands
(h = 30 km).
m = 6.5, M = 6.7 (UPP,KIR).

" 17 UPP iPKP2 13 05 12.8
UME iPKP 13 04 55.4
Kermadec Islands region
(h = 490 km).

" 17 UPP iP 13 19 21.3
KIR eP 13 19 06
UME iP 13 19 10.6
Luzon, Philippine Islands
region (h = N).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Aug. 17 KIR eP 13 40 05
Luzon, Philippine Islands
(h = N).

" 17 UPP iP 22 04 23.3
i 22 04 27.8
UME iP 22 04 40.4
Iran (h = 45 km).

" 18 KIR iSgl 06 07 22.9
UME iSgl 06 07 03.0
Norrbotten, Sweden,
65.5°N, 21.8°E.
Origin time = 06 06 08.
M_L (UPP) = 2.4 (0.11) 3.
By combination with
Finnish station readings.

" 18 UPP iP 16 14 26.3 C
eS 16 17 50
micr sec
P Z' 1.1 0.8
Mx Z 1.5 8
KIR iP 16 12 56.0 C
micr sec
P Z' 1.0 1.0
Mx Z 1.2 6
UME iP 16 13 33.5 C
Novaya Zemlya.
Underground explosion.
m = 6.6 (UPP,KIR).

" 18 KIR eP 17 50 13
UME iP 17 49 12.7
Near east coast of Honshu,
Japan (h = 30 km).

" 18 KIR iP 19 35 08.8
Nicobar Islands region
(h = 70 km).

" 19 KIR iP 05 08 30.1
Southern Alaska (h = 110 km).

" 19 UPP eP 13 12 17
KIR eP 13 12 20
Northern Sumatera
(h = 45 km).

" 19 KIR eP 14 28 18
UME iP 14 28 24.2
Luzon, Philippine Islands
(h = 50 km).

" 19 UPP iP 14 49 04.7
KIR iP 14 48 49.1
Molucca Passage (h = 50 km).

1983
Aug. 19 UPP iPKP 20 10 19.2
UME ePKP 20 10 07
i 20 10 26.0

" 19 UPP iP 23 31 56.4
KIR iP 23 31 22.9
UME iP 23 31 28.5

" 20 UPP iP 00 07 17.7
KIR iP 00 06 24.9
UME iP 00 06 49.7
Off east coast of Kamchatka
(h = N).

" 20 UPP iP 00 31 03.4
KIR iP 00 30 10.9
UME iP 00 30 35.5

" 20 UPP iP 01 05 30.2
UME iP 01 05 07.8

" 20 UPP eP 05 34 04
i 05 34 08.8
KIR eP 05 33 14
i 05 33 20.3
UME eP 05 33 36
i 05 33 43.0
Kuril Islands region (h = N).

" 20 UPP iP 05 52 16.8
ipP 05 52 28.8 C
KIR iP 05 52 49.1 C
iPP 05 53 01.8
micr sec
P Z' 0.2 1.0
UME iP 05 52 26.8 C
ipP 05 52 37.8
Caspian Sea.
h = 45 km (UPP,KIR,UME).

" 20 UPP eP 08 13 04
UME iP 08 13 28.5

" 20 UPP iP 13 20 45.8 C
ipP 13 20 58.4
iPP 13 23 52.0
eS 13 30 51
isS 13 31 07.6
micr sec
P Z' 0.3 0.9
Mx Z 1.2 22
KIR iP 13 20 12.4
ipP 13 20 23.2
i 13 20 27.0
i 13 23 00.8
micr sec
P Z' 0.2 1.0
Mx Z 1.4 17
(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Aug. 20 (cont.)
UME iP 13 20 26.7 C
ipP 13 20 40.2
i 13 21 18.2
i 13 22 11.6
i 13 25 08.8
iS 13 30 15
Bonin Islands region.
h = 45 km (UPP,KIR,UME).
m = 6.1, M = 5.3 (UPP,KIR).

" 20 UPP eP 14 20 25
micr sec
P Z' 0.2 1.5
KIR eP 14 20 47
i 14 20 48.3
micr sec
i Z' 0.2 1.7
UME eP 14 20 39
i 14 20 40.6
North Atlantic Ridge
(h = 10 km).
m = 5.7 (UPP,KIR).

" 20 UPP iP 14 58 55.5
KIR iP 14 58 03.4
UME eP 14 58 28
Kuril Islands (h = 80 km).

" 20 UME iP 15 43 27.3

" 20 UPP iP 17 22 58.6
i 17 23 01.0
micr sec
Mx Z 0.9 17
KIR iP 17 23 00.9
i 17 23 02.7
micr sec
i Z' 0.1 1.0
Mx Z 0.7 14
UME iP 17 22 53.5
i 17 22 55.2
i 17 24 21.2
Tajik-Xinjing border region
(h = N).
M = 4.7 (UPP,KIR).

" 20 UME iPKP 17 33 08.6
Fiji Islands region
(h = 650 km).

" 20 UPP iP 17 35 49.9
UME iP 17 35 36.8

" 21 KIR eP 06 09 47
UME iP 06 10 12.3
Near east coast of Kamchtka
(h = N).

1983
Aug. 21 KIR iP 06 31 55.9
UME iP 06 32 04.0
Talaud Islands (h = 60 km).

" 21 UPP iP 08 41 37.9
KIR iP 08 41 32.2
UME iP 08 41 30.8
Burma (h = 120 km).

" 21 UME eP 08 45 19

" 21 UPP iP 08 48 09.1
iSKS 08 58 40
micr sec
Mx Z 2.3 19
KIR iP 08 47 52.5
i 08 48 43.3
micr sec
P Z' 0.1 0.8
Mx Z 3.8 19
UME eP 08 47 58
iSKS 08 58 31
iS 08 59 03
Talaud Islands (h = 45 km).
M = 5.8 (UPP,KIR).

" 21 UPP iP 12 18 42.5
i 12 18 58.1
KIR eP 12 18 50
i 12 19 05.8
UME iP 12 18 43.2
i 12 18 58.5
North Indian Ocean
(h = 10 km).

" 21 UPP iPKPl 23 16 38.8 D
KIR iPKP 23 16 28.9
UME iPKP 23 16 37.3
South of Fiji Islands
(h = 150 km).

" 22 UPP iP 04 43 21.7
Ionian Sea (h = 10 km).

" 22 UPP iP 03 20 20.8
KIR eP 03 20 29
Afghanistan-USSR border region
(h = N).

" 22 UPP eP 04 58 18
UME iP 04 57 57.2
Off east coast of Honshu,
Japan (h = N).

" 22 UPP eP 05 10 07
KIR eP 05 09 28
UME eP 05 09 47
i 05 09 50.4
South of Honshu, Japan
(h = 35 km).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Aug. 22 UPP eP 05 37 44
i 05 37 58.8
KIR eP 05 37 22
UME iP 05 37 30.0
i 05 37 45.0
Philippine Islands region
(h = 70 km).

" 22 KIR iPKP 06 12 09.6
UME iPKP 06 12 16.2
i 06 12 40.1
Vanuatu Islands (h = 80 km).

" 22 UPP eP 08 24 23
UME eP 08 23 56
Rat Islands, Aleutian Islands
(h = N).

" 22 UPP eP 12 49 07
Central Mid-Atlantic Ridge
(h = 10 km).

" 22 UPP iP 12 49 30.5
KIR iP 12 48 35.8
UME iP 12 49 01.3
Near east coast of Kamchatka
(h = N).

" 22 UPP ePKP 23 19 33
iSKPl 23 22 41.2
KIR iPKP 23 19 19.0
UME ePKP 23 19 26
Vanuatu Islands (h = 180 km).

" 23 UPP eP 05 46 42
KIR iP 05 46 51.2
UME iP 05 47 19.1
Aegean Sea (h = 10 km).

" 23 UPP iRg 11 07 04.6
Dannemora rockburst.

" 23 UPP iP 12 22 31.3 C
ipP 12 23 00.2
micr sec
P Z' 0.1 0.8
KIR iP 12 22 24.3 C
micr sec
P Z' 0.1 1.0
UME iP 12 22 23.6 C
ipP 12 22 52.9
Burma.
h = 120 km (UPP,UME).
m = 5.8 (UPP,KIR).

1983
Aug. 23 KIR iPgl 14 39 34.5
iSgl 14 39 59.7
UME iSgl 14 41 47.8
Northern Norway, 69.0°N,
16.3°E.
Origin time = 14 39 00.
M_L (UPP) = 2.9 l.
By combination with Tromsö
readings.
Probably explosion.

" 23 UPP iP 18 23 50.9
i 18 23 54.3
UME eP 18 24 01
Chagos Archipelago region
(h = 10 km).

" 23 UPP iP 22 52 38.2
Nepal-India border region
(h = 60 km).

" 24 UPP iP 13 48 13.4
iS 13 57 48
KIR e(P) 13 47 39
i 13 47 43.2
micr sec
Mx Z 3.8 18
UME iP 13 47 56.5 C
iS 13 57 19
Near coast of northern
California (h = 30 km).

" 24 UPP iP 13 51 24.9
Qinghai Province, China
(h = N).

" 25 UPP iP 11 13 08.5 C
i 11 13 30.6
micr sec
Mx Z 0.8 12
KIR iP 11 13 10.2
i 11 13 19.8
i 11 13 31.5
micr sec
P Z' 0.1 0.7
UME iP 11 13 03.3 C
i 11 13 12.4
Southern Xinjiang, China
(h = N).

" 25 UPP iP 20 34 44.7
ipP 20 35 15.9
iS 20 43 55
micr sec
P Z' 0.9 1.0
(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Aug. 25 (cont.)

KIR	iP	20 34 11.5	C
	ipP	20 34 41.6	
		micr sec	
	P Z'	1.1 1.0	
	Mx Z	4.9 12	
UME	iP	20 34 24.7	C
	ipP	20 34 55.7	
	iS	20 43 17	

Kyushu, Japan.
h = 130 km (UPP,KIR,UME).
m = 6.5, M = 6.2 (UPP,KIR).
M not corrected for focal depth.

" 25

UPP	iSgl	23 38 41.0	
KIR	iSgl	23 38 55.1	
UME	iPgl	23 36 52.4	
	iSgl	23 37 07.7	
UDD	iSgl	23 39 09.8	
DEL	iSgl	23 40 42.5	

Western Finland, 63.3°N, 22.6°E.
Origin time = 23 36 32.
M_L(UPP) = 2.6 (0.26) 6.
Felt.

" 26

UPP	iP	00 00 35.3	
KIR	e(P)	00 02 03	
UME	eP	00 01 14	

Romania (h = 130 km).

" 26

UPP	iP	00 22 13.2	
KIR	iP	00 22 08.4	
UME	iP	00 22 13.7	

Costa Rica (h = 130 km).

" 26

KIR	iPKP	02 47 18.5	
UME	iPKP	02 47 25.3	

" 26

KIR	eP	02 48 25	
UME	iP	02 48 33.3	

Near N. coast of West Irian (h = 70 km).

" 26

UPP	iP	08 16 55.9	
UME	eP	08 17 39	

Greece (h = 10 km).

" 26

UPP	iP	12 56 40.5	
	i	12 56 47.2	
		micr sec	
	Mx Z	2.2 11	
KIR	eP	12 57 56	
	i	12 58 00.4	
		micr sec	
	Mx Z	2.0 12	

(cont.)

1983
Aug. 26 (cont.)

UME	iP	12 57 19.8	
	i	12 57 24.1	
	iS	13 01 29	

Greece (h = 15 km).
M = 4.9 (UPP,KIR).

" 26

UPP	iP	13 32 42.9	

" 26

UME	iPKP	18 39 34.4	

Vanuatu Islands (h = 100 km)..

" 26

UDD	iSgl	19 24 38.8	

Gästrikland, Sweden, 60.8°N, 16.7°E.
Origin time = 19 23 45.
Solution from SKI network readings.

" 27

UPP	iRg	05 45 59.5	

Dannemora rockburst.

" 27

UPP	iP	12 03 33.4	
KIR	eP	12 03 15	

Mindanao, Philippine Islands (h = 45 km).

" 27

KIR	iP	12 36 26.3	
UME	iP	12 37 05.5	
	i	12 37 14.0	

North of Severnaya Zemlya (h = 10 km).

" 27

UPP	eP	19 02 55	
	i	19 03 04.7	
	iSKS	19 13 28	
	iS	19 13 56	
		micr sec	
	Mx Z	8.0 21	
KIR	eP	19 02 39	
	i	19 02 43.9	
		micr sec	
	Mx Z	4.6 16	
UME	iP	19 02 44.1	
	iSKS	19 13 12	
	iS	19 13 34	

Mindanao, Philippine Islands (h = 20 km).
M = 6.1 (UPP,KIR).

" 28

UPP	iP	11 41 04.1	
KIR	eP	11 40 17	
UME	iP	11 40 38.6	

Kuril Islands (h = 80 km).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Aug. 29 UPP iP 08 36 40.1
KIR iP 08 36 43.3
Northern Colombia (h = 170 km).

" 29 UPP iP 10 22 35.6
micr sec
P Z' 0.1 1.4
KIR iP 10 22 00.0
UME iP 10 22 20.2
Central California (h = 10 km).

" 29 UPP eP 15 43 15
KIR e(P) 15 43 03
UME eP 15 43 00
Luzon, Philippine Islands
(h = 15 km).

" 29 UPP iP 15 49 12.8
KIR iP 15 48 54.3
UME iP 15 49 00.7
Mindanao, Philippine Islands
(h = 60 km).

" 30 UPP iPKP 09 09 34.4
micr sec
PKP Z' 0.1 1.2
Mx Z 1.7 24
KIR iPKP 09 09 18.9
micr sec
PKP Z' 0.2 1.5
UME iPKP 09 09 24.8
Samoa Islands region
(h = 40 km).

" 30 UPP iP 10 49 44.6 D
ipP 10 50 01.4
micr sec
P Z' 0.2 1.0
KIR iP 10 49 37.2
ipP 10 49 54.4
micr sec
P Z' 0.2 1.2
UME iP 10 49 36.2 D
ipP 10 49 53.1
Burma-India border region.
h = 70 km (UPP,KIR,UME).
m = 6.2 (UPP,KIR).

" 30 UPP iP 16 27 52.7

" 31 UPP iPKP2 11 45 56.8
UME iPKP1 11 45 36.5
South of Kermadec Islands
(h = 100 km).

1983
Aug. 31 UPP eP 17 39 40
KIR iP 17 40 28.4
Ethiopia (h = 10 km).

" 31 UPP iP 22 30 57.4
KIR iP 22 30 04.6
UME iP 22 30 30.6
Unimak Islands region
(h = N).

April 12, 1985

Ingrid Båth
Conny Holmqvist
Won Young Kim
Ota Kulhánek
Klaus Meyer
Elizabeth Shah

SEISMOLOGICAL DEPARTMENT
BOX 12019
S-750 12 UPPSALA
SWEDEN

SEISMOLOGICAL DEPARTMENT
BOX 12019
S-750 12 UPPSALA
SWEDEN

S E I S M O L O G I C A L B U L L E T I N

U P P S A L A, K I R U N A, U M E Å, U D D E H O L M,

D E L A R Y and M Y R V I K E N

Uppsala	(UPP)	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(KIR)	67°50.4'N,	20°25.0'E;	h = 390 m
Umeå	(UME)	63°48.9'N,	20°14.2'E;	h = 16 m
Uddeholm	(UDD)	60°05.4'N,	13°36.4'E;	h = 240
Delary	(DEL)	56°28.2'N,	12°52.2'E;	h = 150 m
Myrviken	(MYV)	62°56.5'N,	14°20.8'E;	h = 345 m

S E P T E M B E R 1 - 30, 1983

1983
Sep. 1 KIR iP 08 18 11.3
micr sec
P Z' 0.1 1.0
UME iP 08 19 03.1
Greenland Sea (h = 10 km).

" 1 UPP iP 14 11 48.6
KIR iP 14 11 14.6
UME iP 14 11 33.8
Southern Nevada.
Underground explosion.

" 1 UPP Mx 19 07
micr sec
Mx Z 3.4 21
KIR iPKP 18 18 23.4
micr sec
Mx Z 1.5 18
South of Africa (h = 10 km).
M = 5.8 (UPP,KIR).

" 1 UPP iPdiff 20 15 37.5
iPP 20 19 52.5
Peru-Bolivia border region
(h = 110 km).

" 2 UPP iP 03 17 12.2
KIR iP 03 16 33.4
UME iP 03 16 50.0
Near east coast of Honshu,
Japan (h = 60 km).

" 2 UPP iP 05 35 34.5 C
micr sec
P Z' 0.1 1.0
(cont.)

1983
Sep. 2 (cont.)
KIR eP 05 36 49
UME iP 05 36 13.9
Ionian Sea (h = 10 km).

" 2 UPP eP 20 47 04
KIR iP 20 48 28.1
i 20 48 40.3
UME iP 20 47 47.0
Yugoslavia (h = 15 km).

" 3 UPP iP 03 32 55.6
i 03 33 04.1
KIR eP 03 34 10
UME iP 03 33 32.4
Aegean Sea (h = 10 km).

" 3 UDD iSgl 08 18 32.8
Southwestern Norway, near
59 1/2°N, 7°E.
Origin time = 08 16 45.
By combination with Norwegian
station readings.
Probably explosion.

" 3 UPP iP 10 33 21.6
KIR iP 10 33 58.8
i 10 34 07.5
UME iP 10 33 39.2 C
i 10 33 47.4
Mozambique Channel
(h = 10 km).

" 3 KIR iPgl 14 08 01.2
i 14 08 17.1
(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Sep. 3 (cont.)
KIR iSgl 14 08 44.7
Off coast of northern Norway, 69.8°N, 13.1°E.
Origin time = 14 07 01.
M_L(UPP) = 2.7 (0.13) 2.
Solution from Finnish station readings.

" 3 UPP iPKPl 15 15 12.6
UME iPKPl 15 15 01.4
Kermadec Islands region (h = N).

" 4 UME iP 12 40 44.8
Hokkaido, Japan region (h = 150 km).

" 4 UPP iSKPl 21 15 32.4
KIR iPKP 21 11 55.7
iSKPl 21 15 09.5
UME iPKP 21 12 02.1
iSKPl 21 15 20.2
Vanuatu Islands (h = 110 km).

" 6 UPP iP 07 48 38.5 C
micr sec
P Z' 0.1 0.9
KIR iP 07 47 58.0 C
UME iP 07 48 16.1 C
i 07 48 28.3
Near east coast of Honshu, Japan (h = 60 km).

" 6 KIR iP 11 40 24.1
UME iP 11 40 38.7

" 7 UPP iP 19 32 00.1
i 19 32 08.7 D
iS 19 40 04
micr sec
P Z' 0.9 1.4
i Z' 0.6 0.9
KIR iP 19 31 04.4 D
i 19 31 12.5
micr sec
P Z' 2.0 1.3
i Z' 1.6 1.0
Mx Z 19.2 23
UME iP 19 31 33.5 D
i 19 31 41.9
iS 19 39 13
Southern Alaska (h = 45 km).
m = 6.8 (UPP,KIR).

" 7 KIR iP 22 31 08.7
(cont.)

1983
Sep. 7 (cont.)
KIR i 22 31 18.6
micr sec
i Z' 1.0 1.0
UME iP 22 31 38.2
i 22 31 48.0
Southern Alaska (h = 45 km).

" 7 UPP iP 23 23 45.7
micr sec
P Z' 0.1 1.0
KIR iP 23 23 20.5
micr sec
P Z' 0.1 1.2
UME iP 23 23 30.2
Taiwan region (h = N).
m = 5.8 (UPP,KIR).

" 8 UPP iP 20 46 55.2
KIR iP 20 47 39.9
UME iP 20 47 21.1
North of Ascension Island (h = 10 km).

" 8 UPP iP 22 09 49.5
iS 22 13 50
micr sec
P Z' 0.1 0.6
Mx Z 5.2 13
KIR iP 22 11 04.2
micr sec
Mx Z 1.1 11
UME iP 22 10 30.0
iS 22 14 55
Ionian Sea (h = 10 km).
M = 5.0 (UPP,KIR).

" 8 UPP iP 22 23 07.5
UME iP 22 23 49.2
Ionian Sea (h = 10 km).

" 9 KIR iP 00 09 47.4
Near east coast of Honshu, Japan (h = 40 km).

" 9 UPP Mx 03 50
micr sec
Mx Z 0.3 13
KIR iP 03 42 57.1
micr sec
Mx Z 0.8 15
Jan Mayen Island region (h = 10 km).

" 9 UPP iP 04 14 14.5
Ionian Sea (h = 10 km).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Sep. 9 KIR iP 08 36 22.7
Mindanao, Philippine Islands
(h = 70 km).

" 9 UPP iP 09 28 14.1
KIR iP 09 27 38.9
micr sec
Mx Z 0.5 15
Central California
(h = 5 km).

" 9 UPP eP 16 44 43
KIR iP 16 44 07.3
UME eP 16 44 29
Hawaii (h = 10 km).

" 9 UPP iP 17 13 25.4
micr sec
Mx Z 5.6 18
KIR iP 17 13 01.2
micr sec
Mx Z 1.3 13
UME eP 17 13 10
Taiwan region (h = N).
M = 5.7 (UPP,KIR).

" 9 UPP iP 18 05 06.9
micr sec
Mx Z 2.1 13
KIR iP 18 06 13.1
micr sec
Mx Z 0.5 11
UME iP 18 05 38.7
Dodecanese Islands
(h = 10 km).
M = 4.7 (UPP,KIR).

" 10 UPP iP 01 50 17.5
KIR iP 01 50 03.6
micr sec
Mx Z 0.6 16
UME iP 01 50 09.0
Molucca Sea (h = 60 km).

" 10 UPP iP 06 18 20.4
micr sec
P Z' 0.1 1.0
KIR iP 06 19 44.1
micr sec
P Z' 0.1 1.5
Mx Z 2.9 12
UME iP 06 19 03.4 C
iS 06 22 56
Yugoslavia (h = 10 km).

" 10 UPP iP 14 13 16.9
KIR iP 14 11 45.8
UME iP 14 12 34.0

1983
~~Oct.~~ Sep. 10 UPP eP 15 36 31
KIR eP 15 35 53
UME iP 15 36 09.0
Near east coast of Honshu,
Japan (h = 60 km).

" 10 UPP iP 16 15 52.2
KIR iP 16 15 33.8
micr sec
P Z' 0.2 1.0
UME iP 16 15 39.8
Mindanao, Philippine Islands
(h = 180 km).

" 10 UPP iP 18 31 01.0
Fox Islands, Aleutian Is.
(h = N).

" 10 UPP iP 19 43 35.1
KIR iP 19 42 46.8
UME iP 19 43 09.3
Kuril Islands (h = 60 km).

" 10 UPP iP 20 12 42.4
UME iP 20 12 16.8

" 11 KIR iSn 09 49 35.0
iSgl 09 49 46.8
UME iSgl 09 50 25.9
Northwestern USSR,
67°N, 31.0°E.
Origin time = 09 47 39.
M_L(UPP) = 2.8 (0.07) 3.
By combination with Finnish
station readings.

" 11 KIR iP 14 01 02.6
Fox Islands, Aleutian Is.
(h = N).

" 11 UDD eSgl 16 02 05
Southwestern Norway, near
59 1/2°N, 6 1/2°E.
Origin time = 16 00 13.
By combination with Norwegian
station readings.
Probably explosion.

" 11 UPP iPKPl 17 12 05.9
KIR iPKP 17 11 54.1
South of Fiji Islands
(h = 160 km).

" 11 KIR eP 20 17 14
Mariana Islands (h = 30 km).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Sep. 12 KIR iP 14 45 14.8
North of Severnaya Zemlya
(h = 10 km).

" 12 UPP iP 15 49 32.1 C
ipP 15 50 16.2
iPP 15 51 08.8
iSp 15 55 19.2
iS 15 55 30.0
micr sec
P Z' 2.0 1.1
KIR iP 15 49 41.2 C
ipP 15 50 23.6
iPP 15 51 22.2
iS 15 55 45.7
micr sec
P Z' 1.4 1.2
UME iP 15 49 31.6 C
iPP 15 51 03
iS 15 55 26
Afghanistan-USSR border region.
h = 210 km (UPP,KIR).
m = 6.5 (UPP,KIR).
The Sp phase at UPP denotes
an S to P converted wave at
the base of the crust under
the receiver.

" 13 UPP iP 02 16 35.8
iSKS 02 27 03
micr sec
Mx Z 2.1 13
KIR iP 02 16 17.6
micr sec
P Z' 0.1 1.4
Mx Z 1.9 18
UME iP 02 16 24.3
iSKS 02 26 49
Mindanao, Philippine Is.
(h = 45 km).
M = 5.6 (UPP,KIR).

" 13 UPP iP 02 32 16.6
i 02 32 36.6
KIR iP 02 31 59.0
UME eP 02 32 09
Guerrero, Mexico (h = 80 km).

" 13 UPP iP 03 43 15.1
KIR iP 03 42 29.8
micr sec
P Z' 0.1 1.0
UME iP 03 42 49.9
Kuril Islands (h = 10 km).

" 13 UPP iP 18 54 23.2
KIR iP 18 54 23.4
Northern Sumatera (h = 90 km).

1983
Sep. 14 UPP iP 02 45 04.9
KIR iP 02 44 09.0
i 02 44 18.9
UME iP 02 44 38.2
Southern Alaska (h = 55 km).

" 14 KIR iP 08 48 39.6
UME iP 08 48 40.2
Near coast of Ecuador
(h = 90 km).

" 14 UPP iP 11 37 47.8
i 11 37 57.0
ipP 11 38 29.1
iS 11 48 02.3
micr sec
P Z' 0.1 0.8
Mx Z 4.0 16
KIR iP 11 37 20.4 C
i 11 37 28.5
iS 11 47 34.1
micr sec
P Z' 0.2 0.9
Mx Z 1.2 14
UME iP 11 37 32.0
iSKS 11 47 42
Mariana Islands.
h = 160 km (UPP).
m = 6.1, M = 5.8 (UPP,KIR).
M uncorrected for focal depth.

" 15 UPP iP 03 50 32.2
KIR iP 03 50 33.6 C
UME iP 03 50 29.6
Northern Sumatera
(h = 80 km).

" 15 UPP iP 10 51 53.2
iS 11 01 43
micr sec
P Z' 0.2 1.2
Mx Z 4.1 20
KIR iP 10 51 19.4 C
ipP 10 51 49.2
micr sec
P Z' 1.6 1.8
Mx Z 1.4 15
UME iP 10 51 28.0
ipP 10 51 57.8
Chiapas, Mexico.
h = 120 km (KIR,UME).
m = 6.3, M = 5.7 (UPP,KIR).
M uncorrected for focal depth.

" 15 UME iSKP1 16 18 01.6
Fiji Islands region
(h = 600 km).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Sep. 16 KIR iSg1 02 52 42.2
Lapland-Norrbotten, Sweden,
67.8°N, 22.6°E.
Origin time = 02 52 20.
M_L(UPP) = 2.2 1.
Solution from Finnish station readings.

" 16 KIR iP 04 34 45.7
UME iP 04 34 48.7
Minahassa Peninsula
(h = 280 km).

" 16 UPP iPKP1 08 27 56.1
i 08 28 13.6
iSKP1 08 30 49.2
KIR iPKP 08 27 45.1
iSKP1 08 30 27.6
UME iPKP 08 27 50.9
iSKP1 08 30 38.4
South of Fiji Islands
(h = 510 km).

" 16 UPP iP 23 23 00.3
i 23 33 07

		micr	sec
P	Z'	0.1	1.0
Mx	Z	1.3	14

KIR iP 23 22 39.2

		micr	sec
P	Z'	0.1	1.1
Mx	Z	1.1	15

UME iP 23 22 47.1
Luzon, Philippine Islands
(h = N).
m = 5.8, M = 5.4 (UPP,KIR).

" 17 UPP iP 04 52 18.3
ipP 04 52 33.6
KIR iP 04 52 20.4
UME iP 04 52 14.2
ipP 04 52 29.6
Nicobar Islands region.
h = 55 km (UPP,UME).

" 17 UPP iP 06 08 57.3 C
ipP 06 09 13.5
iPP 06 12 05.7
iS 06 18 51

		micr	sec
P	Z'	0.2	0.9
Mx	Z	2.6	21

KIR iP 06 08 58.8 C
ipP 06 09 14.3
iPP 06 12 00.3
(cont.)

1983
Sep. 17 (cont.)
KIR

		micr	sec
P	Z'	0.4	1.4
Mx	Z	1.9	18

UME iP 06 08 54.7 C
ipP 06 09 09.2
iS 06 18 47
Northern Sumatera.
h = 60 km (UPP,KIR,UME).
m = 6.1, M = 5.7 (UPP,KIR).

" 17 UPP Mx 13 27

		micr	sec
Mx	Z	15.8	23

KIR iPKP 12 30 45.0

		micr	sec
PKP	Z'	0.6	2.5
Mx	Z	15.1	20

UME iPKP 12 30 51.8
Fiji Islands region (h = N).
M = 6.7 (UPP,KIR).

" 17 UPP iPKP 13 05 53.7
KIR iPKP 13 06 07.7

		micr	sec
PKP	Z'	0.1	1.3

UME iPKP 13 05 59.8
South Sandwich Islands region
(h = N).

" 18 UPP iP 10 59 21.1

		micr	sec
P	Z'	0.1	1.0

KIR iP 10 59 07.9

		micr	sec
P	Z'	0.2	1.0

Chiapas, Mexico (h = 150 km).
m = 5.8 (UPP,KIR).

" 18 UPP iPKP2 20 04 37.7
KIR iPKP2 20 04 15.1
UME iPKP2 20 04 25.1
East of North Island, N.Z.
(h = N).

" 19 UPP iP 01 23 00.3
UME eP 01 23 40
Greece (h = 25 km).

" 19 UPP iP 01 34 42.5
Greece (h = 40 km).

" 19 UPP iP 20 25 24.8
Greece-Albania border region
(h = 10 km).

" 20 UPP iP 06 49 59.0
Costa Rica (h = N).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Sep. 20 UPP iP 09 02 15.2 C
micr sec
P Z' 0.1 1.2
KIR iP 09 02 17.7 C
ipP 09 02 43.7
micr sec
P Z' 0.1 1.0
UME iP 09 02 20.6 C
ipP 09 02 45.9
Mona Passage.
h = 100 km (KIR,UME).
m = 5.6 (UPP,KIR).

" 20 UME ipP 22 57 36.5
Near east coast of Honshu, Japan (h = 60 km).

" 21 UPP iP 19 32 29.8 C
iS 19 42 05.5
micr sec
P Z' 0.6 1.7
Mx Z 122.2 18
KIR iP 19 32 05.4 C
micr sec
P Z' 1.6 2.3
Mx Z 28.8 15
UME iP 19 32 14.3 C
iS 19 41 39
Taiwan region (h = 30 km).
m = 6.3, M = 7.0 (UPP,KIR).

" 22 KIR iP 16 31 22.4 C
Kodiak Island region (h = N).

" 22 UPP iP 16 44 10.8
KIR iP 16 43 23.0
ipP 16 44 20.5
Kuril Islands.
h = 250 km (KIR).

" 22 KIR iPKP 19 45 35.0
South Sandwich Islands region (h = 120 km).

" 22 UPP Mx 20 53
micr sec
Mx Z 1.2 18
Taiwan region (h = 30 km).

" 23 UPP iS 09 41 50
micr sec
Mx Z 1.4 21
KIR Mx 10 13
micr sec
Mx Z 1.4 20
Mid-Indian Rise (h = 10 km).
M = 5.5 (UPP,KIR).

1983
Sep. 23 UPP iP 12 41 10.4 C
iS 12 50 54
micr sec
P Z' 0.6 1.5
Mx Z 22.5 18
KIR iP 12 40 45.7 C
micr sec
P Z' 0.6 2.0
Mx Z 5.5 15
Taiwan region (h = 30 km).
m = 6.3, M = 6.3 (UPP,KIR).

" 23 KIR iP 15 23 02.4
Near east coast of Kamchatka (h = 70 km).

" 23 KIR iP 18 16 39.4
Luzon, Philippine Islands (h = 70 km).

" 23 UPP iP 19 11 23.8
KIR iP 19 11 03.8
Luzon, Philippine Islands (h = 35 km).

" 23 KIR iP 19 29 23.8
Luzon, Philippine Islands (h = N).

" 23 UPP iP 19 58 21.8 C
micr sec
P Z' 0.3 1.2
KIR iP 19 58 31.4 C
ipP 19 59 08.0
micr sec
P Z' 0.3 1.1
Hindu Kush.
h = 190 km (KIR).
m = 5.7 (UPP,KIR).

" 23 UPP iP 23 57 17.5
micr sec
P Z' 0.1 0.9
KIR iP 23 57 13.1
micr sec
P Z' 0.2 1.3
Mx Z 1.0 17
Costa Rica (h = 40 km).
m = 6.1 (UPP,KIR).

" 24 UPP iSgl 02 09 40.5
UDD iPgl 02 08 52.7
iSgl 02 09 17.3
DEL iSgl 02 09 14.3
Västergötland, Sweden, 58.2°N, 13.6°E.
Origin time = 02 08 21.
M_L(UPP) = 2.0 (0.01) 2.
Felt. By combination with SKI network readings.

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Sep. The following 6 events denote a sequence of underground nuclear explosions, carried out in the area northwest of the Caspian Sea. Similar series in the same area have been observed earlier, for instance on October 16, 1982, and on July 10, 1983, comprising 4 and 3 explosions, respectively.

" 24 UPP iP 05 04 55.9
i 05 04 56.5
micr sec
i Z' 0.3 0.5
KIR iP 05 05 28.0
micr sec
P Z' 0.2 0.8
Southwestern Russia.
m = 6.0 (UPP,KIR).
Underground explosion.

" 24 UPP iP 05 09 55.2
i 05 09 55.7
micr sec
i Z' 0.3 0.6
KIR iP 05 10 28.3
micr sec
P Z' 0.1 0.9
Southwestern Russia.
m = 5.7 (UPP,KIR).
Underground explosion.

" 24 UPP iP 05 14 56.2
i 05 14 56.6
micr sec
i Z' 0.2 0.6
KIR iP 05 15 28.1
micr sec
P Z' 0.1 0.8
Southwestern Russia.
m = 5.7 (UPP,KIR).
Underground explosion.

" 24 UPP iP 05 19 56.3
i 05 19 56.9
micr sec
i Z' 0.5 0.6
KIR iP 05 19 28.3
micr sec
P Z' 0.3 0.9
Southwestern Russia.
m = 6.1 (UPP,KIR).
Underground explosion.

1983
Sep. 24 UPP iP 05 24 55.2
i 05 24 56.2
micr sec
i Z' 0.5 0.6
KIR iP 05 25 27.9
micr sec
P Z' 0.3 0.9
Southwestern Russia.
m = 6.1 (UPP,KIR).
Underground explosion.

" 24 UPP iP 05 29 55.5
i 05 29 56.1
micr sec
i Z' 0.6 0.6
KIR iP 05 30 27.6
micr sec
P Z' 0.4 0.9
Southwestern Russia.
m = 6.1 (UPP,KIR).
Underground explosion.

" 24 KIR iP 16 46 50.3
Cyprus (h = N).

" 24 KIR iPn 17 20 58.3
iSn 17 21 48.6
Off coast of northern Norway, 71 1/4°N, 12 1/2°E.
Origin time = 17 19 49.
By combination with Finnish station readings.

" 24 UPP Mx 18 27
micr sec
Mx Z 4.4 18
KIR Mx 18 28
micr sec
Mx Z 3.0 19
New Ireland region
(h = 10 km).
M = 6.0 (UPP,KIR).

" 24 KIR iP 23 37 32.4
Zaire Republic (h = 10 km).

" 25 KIR iP 08 30 20.6
North of Svalbard (h = 10 km).

" 25 UPP iP 10 05 50.2
KIR iP 10 04 57.8
Andreanof Islands, Aleutian Islands (h = 200 km).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, **UDD** = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Sep. 25 UPP iP 13 14 24.7
micr sec
P Z' 0.4 0.5
KIR iP 13 12 53.6 C
P Z' 1.8 1.1
Novaya Zemlya.
Underground explosion.

" 25 UPP iP 18 32 19.4
Northwest of Kuril Islands
(h = 330 km).

" 25 UPP iPKPl 21 09 27.4
Kermadec Islands (h = 70 km).

" 26 UPP iPKP 11 17 44.4
KIR iPKP 11 17 30.9
Vanuatu Islands (h = 110 km).

" 26 UPP iP 19 33 45.9
Iceland region (h = 10 km).

" 27 UPP iP 00 03 10.1
micr sec
P Z' 0.1 1.0
KIR iP 00 02 15.7
micr sec
P Z' 0.2 0.9
Alaska Peninsula(h = 90 km).
m = 5.9 (UPP,KIR).

" 28 UPP iP 00 04 38.8
i 00 04 50.1
ipP 00 05 04.4
iS 00 08 42.4
micr sec
P Z' 0.1 0.9
KIR iP 00 05 44.8
micr sec
P Z' 0.1 0.8
Dodecanese Islands.
h = 150 km (UPP).
m = 5.5 (UPP,KIR).

" 28 UPP iP 08 09 08.6
micr sec
P Z' 0.3 1.3
KIR iP 08 08 29.7
micr sec
P Z' 0.1 0.6
Sea of Japan (h = 520 km).
m = 5.6 (UPP,KIR).

" 28 UPP iP 08 14 42.5
micr sec
P Z' 0.1 0.9
(cont.)

1983
Sep. 28 (cont.)
KIR iP 08 14 04.2
micr sec
P Z' 0.2 0.7
Sea of Japan (h = 510 km).
m = 5.6 (UPP,KIR).

" 28 KIR iP 10 31 24.1
Afghanistan-USSR border
region (h = N).

" 28 KIR iP 21 12 28.8
Ethiopia (h = 5 km).

" 29 KIR eP 01 29 30
Southern Italy (h = 15 km).

" 29 UPP iP 02 13 28.6
KIR iP 02 13 37.3
Hindu Kush region
(h = 190 km).

" 29 KIR iP 02 20 12.1
South of Bali Island (h = N).

" 29 UPP iPgl 05 04 35.0
i 05 05 20.4
iSgl 05 05 26.3
KIR iPn 05 04 28.5 C
i 05 04 36.9
iSn 05 05 16.0
iSgl 05 05 34.4
UDD i 05 04 34.8
iPgl 05 04 37.9
iSn 05 05 10.0
iSgl 05 05 31.7
DEL i 05 05 22.0
iSn 05 06 36.3
iSgl 05 07 19.0
MYV iPgl 05 03 54.2
Ångermanland, Sweden,
63.75°N, 17.52°E.
Origin time = 05 03 25.
M_L(UPP) = 4.1 (0.17) 6.
Felt.
Solution obtained by combination
with Finnish station readings.
This is the largest earthquake
in Sweden since March 9, 1909.
The area of perceptibility,
approximately 70.000 km^2,
comprises parts of provinces of
Lapland, Ångermanland, Medelpad
and Jämtland. Maximum intensity
of degree V (MM, 1956) was felt
at Sunnersta-Kläppsjö area.
(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Sep. 29 (cont.)
Macroseismic data provide an estimate of the focal depth of about 40 km. The dynamic source parameters deduced from Scandinavian observations areas follows: M_o = 9.9 x 10^{20} dyne-cm, L = 1.3 km, $\Delta\pi$ = 1.4 bar and $\bar{u}$ = 0.2 cm.

" 29 UPP iP 07 16 42.4
KIR iP 07 17 49.1
Crete (h = N).

" 30 UPP iP 12 43 56.0
KIR iP 12 42 46.6

" 30 UPP iP 19 07 24.4
micr sec
P Z' 0.2 1.5
KIR iP 19 08 11.4
micr sec
P Z' 0.2 1.3
Mx Z 1.9 15
Ethiopia (h = 10 km).
m = 5.9 (UPP,KIR).

" 30 UPP iP 22 30 52.6
KIR eP 22 30 17
South of Honshu, Japan
(h = N).

April 18, 1985

Torild van Eck
Conny Holmqvist
Myung-Soon Jun
Klaus Meyer

SEISMOLOGICAL DEPARTMENT
BOX 12019
S-750 12 UPPSALA
SWEDEN

SEISMOLOGICAL DEPARTMENT
BOX 12019
S-750 12 UPPSALA
SWEDEN

S E I S M O L O G I C A L B U L L E T I N

U P P S A L A, K I R U N A, U M E Å, U D D E H O L M, D E L A R Y and M Y R V I K E N

Uppsala	(UPP)	59°51.5'N,	17°37.6'E; h = 14 m
Kiruna	(KIR)	67°50.4'N,	20°25.0'E; h = 390 m
Umeå	(UME)	63°48.9'N,	20°14.2'E; h = 16 m
Uddeholm	(UDD)	60°05.4'N,	13°36.4'E; h = 240 km
Delary	(DEL)	56°28.2'N,	12°52.2'E; h = 150 m
Myrviken	(MYV)	62°56.5'N,	14°20.8'E; h = 345 m

O C T O B E R 1 - 31, 1983

1983 Oct.	1	UPP	eSgl	07 55 44	
		UDD	i	07 54 18.7	
			iSgl	07 54 31.0	
		MYV	eSn	07 54 18	
		North Sea, near 60°N, 2°E.			
		Origin time = 07 51 35.			
		Solution from NORSAR.			
"	1	UPP	eP	13 08 55	
				micr sec	
			Mx Z	3.0 22	
		KIR	eP	13 08 10	
				micr sec	
			Mx Z	1.3 19	
		Kuril Islands (h = N).			
		M = 5.3 (UPP,KIR).			
"	1	KIR	iP	15 52 53.1	
		Alma-Ata region (h = N).			
"	1	UPP	iP	19 04 08.2	
"	1	UPP	iP	23 46 07.8	
		KIR	iP	23 45 13.4	
		Near east coast of Kamchatka (h = N).			
"	2	UPP	iP	00 44 14.4	
		KIR	iP	00 43 35.8	
		Near east coast of Honshu, Japan (h = 55 km).			
"	2	KIR	iP	09 35 17.6	
		Hindu Kush region (h = 220 km).			
"	2	UPP	iP	17 20 51.1	
1983 Oct.	2	UPP	e	19 37 48	
		KIR	eP	19 38 24	
"	2	UPP	iP	21 13 19.1	C
		KIR	iP	21 13 12.5	
		India-China border region (h = N).			
"	3	KIR	iP	04 11 51.6	
		Molucca Passage (h = 55 km).			
"	3	UPP	i(P)	05 32 03.9	
"	3	UPP	iSgl	09 51 47.6	
		KIR	eSgl	09 55 20	
		UDD	iPgl	09 50 47.8	C
			iSgl	09 50 53.4	
		DEL	iSgl	09 52 24.6	
		Värmland, Sweden, 59.7°N, 13.2°E.			
		M_L(UPP) = 2.3 (0.05) 2.			
		Origin time = 09 50 41.			
		Felt.			
		Solution by combination with SKI network readings.			
"	3	KIR	iP	11 21 43.8	
		Turkey (h = 10 km).			
"	3	UPP	iP	13 45 17.0	
			i	13 45 21.7	
			iPP	13 48 09.3	
			iS	13 54 54	
				micr sec	
			P Z'	0.2 1.5	
			i Z'	0.8 1.6	
			Mx Z	12 15	

(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Oct. 3 (cont.)

KIR	iP		13 44 40.0	
	i		13 44 43.1	
	iPP		13 47 10.4	
			micr	sec
	i	Z'	0.8	1.8
	Mx	Z	5.8	15

South of Honshu, Japan
(h = 10 km).
m = 6.6, M = 6.2 (UPP,KIR).
Double P, small and large,
in average 3.8 s apart.
The second arrival, when
interpreted as pP, provides
a focal depth of 10 km.

" 3 UPP iP 14 32 58.1
KIR eP 14 32 30
Mariana Islands (h = 120 km).

" 3 UPP iP 17 15 06.6

" 4 UPP iP 03 13 24.4
KIR iP 03 12 47.9
e 03 13 33
South of Honshu, Japan
(h = 10 km).

" 4

UPP	iP		03 22 05.1	
	ipP		03 22 18.0	
	iS		03 32 02	
			micr	sec
	pP	Z'	0.2	1.1
	Mx	Z	3.4	16
KIR	iP		03 21 44.5	
	ipP		03 21 56.7	
			micr	sec
	P	Z'	0.1	1.3
	pP	Z'	0.1	1.0
	Mx	Z	0.6	12

Philippine Islands region.
h = 40 km (UPP,KIR).
m = 5.9, M = 5.5 (UPP,KIR).

" 4 UPP iP 04 56 37.8
KIR eP 04 56 00
South of Honshu, Japan
(h = 20 km).

" 4

UPP	iPdiff		19 06 51	
	i		19 07 12	
	iPP		19 11 40	
	iSKS		19 17 45	
	i		19 21 14	
			micr	sec
	PP	Z'	0.7	2.0
	Mx	Z	1073	30

(cont.)

1983
Oct. 4 (cont.)

KIR	i		19 11 02.0	
	iPP		19 11 49.2	
			micr	sec
	PP	Z'	1.7	2.3
	Mx	Z	136	21

Near coast of northern Chile
(h = 15 km).
m = 7.8, M = 7.9 (UPP,KIR).
m determined by making use
of PP phases.

" 6

UPP	iP		01 53 04.2	C
			micr	sec
	P	Z'	0.7	0.6
KIR	iP		01 53 47.8	C
			micr	sec
	P	Z'	1.8	0.6

Eastern Kazakh SSR.
m = 7.0 (UPP,KIR).
Underground explosion.

" 6

UPP	iP		10 08 25.2	C
			micr	sec
	P	Z'	0.1	0.6
KIR	iP		10 08 10.4	C
			micr	sec
	P	Z'	0.2	1.0

Southern Xinjiang, China
(h = N).
m = 6.0 (UPP,KIR).

" 6 KIR iP 10 21 27.8
Off east coast of Honshu,
Japan (h = 60 km).

" 6

UPP	iP		11 19 51.6	C
			micr	sec
	P	Z'	0.1	0.5
KIR	iP		11 18 54.9	C
			micr	sec
	P	Z'	0.2	0.5

Central Alaska (h = 100 km).
m = 6.2 (UPP,KIR).

" 6 UPP iP 19 39 12.4
KIR eP 19 38 51
Philippine Islands region
(h = 60 km).

" 7 UPP iP 04 18 48.8
KIR iP 04 20 00.1
Southern Greece (h = 140 km).

" 7 UPP iP 05 33 40.5 C
KIR iP 05 33 39.2 C
Southern Sumatera (h = 110 km).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983 Oct.	7	UPP	iP		10 28 11.0	
					micr	sec
			P	Z'	0.1	1.0
		KIR	iP		10 27 52.7	
		New York (h = 15 km).				
"	7	KIR	iP		17 41 02.9	
		Kuril Islands (h = N).				
"	7	UPP	iSn		19 07 08.8	
		UDD	iSn		19 06 26.3	
		DEL	iSn		19 07 34.4	
		MYV	iPn		19 05 08.7	
			i		19 05 44.6	
			iSn		19 06 03.5	
		Norwegian Sea, near 63 1/2°N, 3 1/2°E.				
		Origin time = 19 03 53.				
		By combination with Norwegian station readings.				
"	7	KIR	iP		20 16 39.9	
		Taiwan region (h = N).				
"	8	UPP	eP		01 55 46	
		Near west coast of Honshu, Japan (h = 40 km).				
"	8	UPP	iP		07 54 57.2	
			i		07 54 58.2	
			iPcP		07 55 29.5	
			ipP		07 56 51.0	
			iScP		07 58 36.4	
			iS		08 02 40.3	
			iScS		08 03 47.1	
					micr	sec
			i	Z'	0.3	0.8
		KIR	iP		07 54 18.0	
			i		07 54 18.8	
			ipP		07 56 08.9	
			iScP		07 58 10.1	
					micr	sec
			i	Z'	0.6	0.7
		E. USSR-N.E. China border reg. h = 580 km (UPP,KIR). m = 5.9 (UPP,KIR).				
"	8	KIR	eP		15 53 33	
"	8	UPP	iP		18 51 22.4	
					micr	sec
			P	Z'	0.1	1.0
		KIR	i		18 51 34.3	
		Off east coast of Kamchatka (h = N).				
"	8	KIR	eP		20 01 30	
1983 Oct.	9	KIR	iP		01 45 55.6	
		Afghanistan-USSR border region (h = 240 km).				
"	9	UPP	iP		05 03 18.8	
		KIR	iP		05 03 19.4	C
			i		05 03 44.6	
		Northern Sumatera (h = N).				
"	9	UPP	iP		06 41 47.1	C
"	9	UPP	iP		09 24 30.2	
		KIR	iP		09 24 28.9	
		Tajik SSR (h = N).				
"	9	UPP	ePdiff		11 40 15	
			iPP		11 44 54	
					micr	sec
			Mx	Z	17	30
		KIR	iPP		11 45 14.1	
					micr	sec
			Mx	Z	5.8	23
		Near coast of northern Chile (h = 15 km). M = 6.3 (UPP,KIR).				
"	9	UPP	iP		15 23 26.3	
		KIR	iP		15 33 57.1	
		Southern Iran (h = N).				
"	10	KIR	iP		03 46 31.1	C
			i		03 46 48.6	
					micr	sec
			P	Z'	0.1	1.0
		Southern Sumatera (h = 40 km).				
"	10	KIR	eP		03 57 46	
		Sicily (h = 10 km).				
"	10	UPP	iP		10 21 36.6	
			i		10 21 56.0	
			iS		10 25 12	
					micr	sec
			Mx	Z	8.3	11
		KIR	eP		10 22 45	
			i		10 23 09.2	
					micr	sec
			Mx	Z	3.6	8
		Aegean Sea (h = 10 km). M = 5.4 (UPP,KIR).				
"	10	UPP	iP		10 41 59.7	
		KIR	iP		10 41 40.0	
		Luzon, Philippine Islands (h = 60 km).				
"	10	KIR	iP		11 47 17.4	

UPP=Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Oct. 10 UPP iP 17 02 50.6
Andreanof Islands, Aleutian Is. (h = 50 km).

" 10 KIR iP 19 25 36.4
Andreanof Islands, Aleutian Is. (h = 50 km).

" 10 UPP iP 22 05 52.2
KIR iP 22 07 05.1
Tyrrhenian Sea (h = 390 km).

" 10 UPP iP 23 44 37.4
KIR iP 23 44 37.7
Northern Sumatera (h = 130 km).

" 11 KIR iP 01 23 28.7

" 11 KIR iP 02 36 31.7
Turkmen SSR (h = N).

" 11 KIR iP 12 14 21.1
Turkey (h = 10 km).

" 11 KIR iP 19 41 23.4

" 11 UPP iP 20 41 21.5
KIR iP 20 40 54.1
Mariana Islands (h = 50 km).

" 11 KIR iP 22 29 20.5
Tajik SSR (h = 100 km).

" 11 UPP iP 22 50 29.9 C
iS 22 58 00
micr sec
P Z' 1.0 2.5
Mx Z 2.4 25
KIR iP 22 50 49.6
micr sec
P Z' 2.1 3.0
North Atlantic Ridge (h = 10 km).
m = 6.5 (UPP,KIR).

" 12 KIR iP 02 37 37.1
Ceram Sea (h = 30 km).

" 12 UPP iP 03 52 29.3
micr sec
P Z' 0.1 1.0
KIR iP 03 52 25.5
micr sec
P Z' 0.6 1.9
Panama-Costa Rica border region (h = 20 km).
m = 6.2 (UPP,KIR).

1983
Oct. 12 UPP iP 09 55 34.7
Greece (h = 10 km).

" 12 UPP iP 12 53 04.5
micr sec
P Z' 0.1 1.0
KIR iP 12 52 15.6
Kuril Islands (h = N).

" 12 KIR iP 13 24 37.7
micr sec
P Z' 0.7 2.5
Mx Z 1.4 20
Near coast of Guatemala (h = 70 km).

" 12 KIR iPKP 15 31 29.0
East Papia New Guinea region (h = 35 km).

" 12 UPP eP 15 49 17
KIR eP 15 49 24
Southeastern Uztek SSR (h = N).

" 12 UPP iP 21 35 27.8
KIR iP 21 35 08.2
Philippine Islands region (h = 10 km).

" 13 UPP iP 00 50 19.2
KIR iP 00 50 17.9
Andaman Islands region (h = N).

" 13 KIR iP 03 41 05.4
West Irian (h = N).

" 13 KIR iP 04 39 22.6
i 04 39 42.6
Southern Alaska (h = 80 km).

" 13 KIR iP 05 15 31.7
Banda Sea (h = 570 km).

" 13 KIR eP 05 19 50

" 13 KIR iP 05 53 38.1
Mariana Islands region (h = 110 km).

" 13 UPP iP 10 12 48.0 C
micr sec
P Z' 0.1 1.0
KIR iP 10 12 04.6 C
i 10 12 07.0
i 10 12 22.1
(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Oct. 13 (cont.)
KIR micr sec
i Z' 0.1 1.0
Hokkaido, Japan region
(h = 30 km).
m = 5.9 (UPP,KIR).

" 13 UPP iP 10 32 36.8
Southern Greece (h = 10 km).

" 13 UPP iP 12 31 55.1
micr sec
P Z' 0.3 2.0
KIR iP 12 32 15.1
micr sec
P Z' 0.2 1.6
North Atlantic Ridge
(h = 10 km).
m = 6.0 (UPP,KIR).

" 13 KIR iP 12 46 28.0

" 13 UPP iP 12 46 53.3
North Atlantic Ridge
(h = 10 km).

" 13 KIR iP 12 58 08.2
North Atlantic Ridge
(h = 10 km).

" 13 UPP iP 13 17 38.0
micr sec
P Z' 0.1 1.0
KIR iP 13 18 18.4 C
micr sec
P Z' 0.1 1.2
Central Mid-Atlantic Ridge
(h = 10 km).
m = 5.9 (UPP.KIR).

" 13 UPP iP 22 48 13.2 D
micr sec
P Z' 0.1 0.9
KIR iP 22 47 33.1 D
micr sec
P Z' 0.1 1.0
Near east coast of Honshu,
Japan (h = 70 km).
m = 5.8 (UPP,KIR).

" 13 UPP iP 23 38 17.3
micr sec
P Z' 0.1 1.4
KIR iP 23 38 51.5
i 23 39 03.4
micr sec
P Z' 0.1 1.0
Central Mid-Atlantic Ridge
(h = 10 km).
m = 5.9 (UPP,KIR).

1983
Oct. 14 UPP iP 02 27 43.4
KIR iP 02 27 06.7 C
South of Honshu, Japan
(h = N).

" 14 UPP iP 05 39 20.6
KIR i 05 39 19.0
Mindoro, Philippine Islands
(h = 70 km).

" 14 UPP iP 14 14 46.3
KIR i 14 14 41.5
Kyushu, Japan (h = 120 km).

" 15 UPP iP 03 09 32.3
KIR iP 03 08 53.9
Honshu, Japan (h = 60 km).

" 15 UPP iP 04 47 42.1
Kuril Islands (h = N).

" 15 UPP iPKP 11 15 41.9
i 11 17 09.7
micr sec
Mx Z 52 28
KIR i 11 16 24.8
micr sec
Mx Z 20 20
Solomon Islands (h = 5 km).
M = 6.9 (UPP,KIR).

" 15 UPP iP 19 36 30.0

" 16 UPP iSKS 05 56 19
Minihassa Peninsula
(h = 40 km).

" 16 KIR eP 23 05 09
Eastern Sea of Japan
(h = 110 km).

" 17 UPP iP 00 08 33.8
KIR iP 00 07 46.0
Kuril Islands (h = 60 km).

" 17 UPP iP 19 42 45.1 D
iS 19 47 56.1
micr sec
P Z' 0.6 1.0
Mx Z 59 18
KIR iP 19 43 31.6
micr sec
P Z' 0.8 1.0
Mx Z 22 13
North Atlantic Ocean
(h = 10 km).
m = 6.4, M = 6.3 (UPP,KIR).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Oct. 18 UPP iSgl 03 34 02.9
UDD iSgl 03 33 54.5
Lake Vetter, Sweden,
58.8°N, 14.9°E.
Origin time = 03 33 09.
M_L(UPP) = 1.7 1.
By combination with SKI
network readings.

" 18 KIR iPKP 05 50 33.5
South of Kermadec Islands
(h = N).

" 19 UPP iP 04 55 02.8
KIR eP 04 55 49
iP 04 55 50.6
micr sec
P Z' 0.1 1.0
Ethiopia (h = 10 km).

" 21 UPP iP 08 55 15.1 C
ipP 08 55 40.3
micr sec
P Z' 0.1 0.7
pP Z' 0.2 1.0
KIR iP 08 55 10.1 C
ipP 08 55 32.7
micr sec
P Z' 0.1 0.7
Burma.
h = 100 km (UPP,KIR).
m = 5.8 (UPP,KIR).

" 21 UPP iP 20 39 34.2 C
iS 20 43 27
micr sec
P Z' 0.2 0.9
Mx Z 4.6 10
KIR eP 20 40 44
i 20 41 03.8
micr sec
Mx Z 3.1 13
Turkey (h = 15 km).
M = 5.2 (UPP,KIR).

" 21 UPP iP 23 42 40.8
KIR iP 23 42 33.4
Burma-India border region
(h = 60 km).

" 22 UPP iPKP 04 40 31.5
i 04 40 33.4
i 04 40 41.5
micr sec
Mx Z 27 18
KIR iPKP 04 40 46.7
i 04 40 49.9
(cont.)

1983
Oct. 22 (cont.)
KIR i 04 40 56.6
South Sandwich Islands
region (h = 25 km).

" 22 UPP iPKP 05 51 06.3
South Sandwich Islands
region (h = N).

" 22 UPP iPKP 06 12 18.1
i 06 12 19.8
KIR ePKP 06 12 33
South Sandwich Islands
region (h = N).

" 22 UPP iPKP 13 26 35.1
i 13 26 39.7
micr sec
PKP Z' 0.1 0.7
Mx Z 17 28
KIR iPKP 13 26 50.1
South Sandwich Islands
region (h = N).

" 23 UPP iP 03 20 45.5
KIR iP 03 21 53.5
Dodecanese Islands
(h = 30 km).

" 23 UPP iP 04 55 43.2
ipP 04 55 59.4
micr sec
P Z' 0.1 0.8
KIR iP 04 54 59.6
ipP 04 55 18.5
micr sec
P Z' 0.1 0.9
Hokkaido, Japan region.
h = 70 km (UPP,KIR).
m = 5.7 (UPP,KIR).

" 24 UPP iPKP 05 28 51.4
Kermadec Islands region
(h = 170 km).

" 25 KIR iPgl 13 05 37.5
iSgl 13 06 00.7
micr sec
Sgl Z' 0.049 0.50
UME iSgl 13 07 36.6
MYV iSgl 13 07 55.0
Northern Norway, near
68 1/2°N, 6°E.
Origin time = 13 05 06.
M_L(UPP) = 3.4 1.

" 25 UDD iSgl 14 27 26.6

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983						
Oct.	26	UPP	iP		02 02 02.8	C
			iPn		02 03 07.0	
					micr	sec
			P	Z'	0.5	0.5
		KIR	iP		02 01 46.4	C
					micr	sec
			P	Z'	2.2	0.5
		UME	iP		02 01 47.5	C
		Eastern Kazakh SSR.				
		Underground explosion.				
		m = 7.0 (UPP,KIR).				
"	26	KIR	ePKP		05 58 09	
			i		05 58 16.4	
		East of North Island, N.Z.				
		(h = N).				
"	26	UPP	eP		10 58 51	
			i		11 00 40.9	
			i		11 02 48.4	
		KIR	iP		10 58 34.6	
			i		10 58 43.5	
			i		11 00 29.0	
		Minahassa Peninsula				
		(h = 600 km).				
"	26	UPP	iP		12 20 15.8	
		KIR	iP		12 20 15.0	
		Andaman Islands region				
		(h = 70 km).				
"	26	UPP	iPKP		14 49 10.2	
			iPKP1		14 49 18.0	
		KIR	iPKP		14 48 57.2	
			i		14 49 08.2	
		Off e. coast of N. Island,				
		N.Z. (h = N).				
"	27	UPP	iP		03 27 42.7	
		KIR	iP		03 27 07.5	
		UME	iP		03 27 23.5	
			i		03 27 29.8	
		South of Honshu, Japan				
		(h = N).				
"	27	UPP	eP		04 50 42	
		KIR	eP		04 50 04	
		UME	iP		04 50 21.0	
		South of Honshu, Japan				
		(h = N).				
"	27	UPP	iP		07 02 56.7	
		KIR	eP		07 02 35	
		Luzon, Philippine Islands				
		(h = 20 km).				
1983						
Oct.	27	UPP	e(P)		19 57 11	
		KIR	i(P)		19 57 11.6	
					micr	sec
			Mx	Z	16	21
		UME	eP		19 57 04	
			i		19 57 16.8	
		Minahassa Peninsula				
		(h = 30 km).				
"	28	UPP	iP		02 01 56.2	
		KIR	iP		02 01 17.6	
		UME	iP		02 01 34.8	
		Honshu, Japan (h = 70 km).				
"	28	UPP	iP		05 12 53.8	
			i		05 13 32.3	
		KIR	eP		05 14 07	
			i		05 14 19.3	
		UME	eP		05 13 31	
			i		05 13 32.4	
		Aegean Sea (h = 20 km).				
"	28	UPP	ePKP		06 16 35	
			iPKP1		06 16 40.0	
			iPKP2		06 16 45.9	
		KIR	ePKP		06 16 23	
			i		06 16 29.9	
		UME	iPKP		06 16 28.9	
			i		06 16 35.0	
		Kermadec Islands region				
		(h = N).				
"	28	UPP	iPKP		06 20 09.8	
		UME	iPKP		06 20 17.1	
		South Sandwich Islands region				
		(h = N).				
"	28	UPP	iP		14 17 12.7	
			ipP		14 17 15.3	
			i		14 17 19.1	
			iPP		14 19 53	
			iS		14 26 21	
					micr	sec
			i	Z'	1.0	1.2
			Mx	Z	256	19
		KIR	iP		14 16 35.4	
			ipP		14 16 37.9	
			i		14 16 42.0	
					micr	sec
			i	Z'	1.6	1.3
			Mx	Z	130	17
		UME	iP		14 16 56.6	
			ipP		14 16 59.1	
			iS		14 25 48	
		Eastern Idaho.				
		h = 10 km (UPP,KIR,UME).				
		m = 6.9, M = 7.4 (UPP,KIR).				

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Oct. 28 UPP iP 20 02 30.7
ipP 20 02 33.9 D
micr sec
pP Z' 0.2 1.3
KIR iP 20 01 52.7
ipP 20 01 56.6 D
micr sec
pP Z' 0.2 1.4
UME eP 20 02 14
i 20 02 17.2
Eastern Idaho.
h = 10 km (UPP,KIR).
m = 6.1 (UPP,KIR).

" 29 UPP i 17 53 12.9
iSgl 17 53 49.4
KIR iSgl 17 56 12.4
UME iSgl 17 54 52.3
UDD iPn 17 51 55.9
iSn 17 52 35.9
iSgl 17 52 49.8
DEL iPn 17 52 19.8
iSn 17 53 14.5
Southwestern Norway, near
59 3/4°N, 7°E.
Origin time = 17 51 03.
M_L(UPP) = 3.5 (0.18) 4.
By combination with NORSAR.

" 29 UPP iP 17 57 05.3
UME iP 17 56 42.4
Near e. coast of earstern
USSR.

" 29 UPP iP 23 40 17.4 C
ipP 23 40 20.1
micr sec
pP Z' 0.1 0.9
KIR iP 23 39 39.8
ipP 23 39 42.4
micr sec
pP Z' 0.2 0.9
UME iP 23 40 01.4
ipP 23 40 04.0
Western Idaho.
h = 10 km (UPP,KIR,UME).
m = 6.1 (UPP,KIR).

" 29 UPP iP 23 50 10.7 D
i 23 50 18.1
micr sec
P Z' 0.1 1.0
KIR iP 23 49 33.4
i 23 49 35.4
micr sec
P Z' 0.3 1.1
(cont.)

1983
Oct. 29 (cont.)
UME iP 23 49 54.2
i 23 49 57.1
Western Idaho (h = 10 km).
m = 6.3 (UPP,KIR).

" 30 UPP iP 01 53 24.2
i 01 53 25.3
iPP 01 54 53.5
micr sec
P Z' 0.3 1.0
KIR iP 01 53 32.3 D
i 01 53 33.4
micr sec
P Z' 0.4 1.2
UME iP 01 53 22.0
i 01 53 23.0
Afghanistan-USSR border
region (h = 130 km).
m = 6.0 (UPP,KIR).

" 30 UPP iP 04 17 49.6
i 04 17 50.5
iS 04 22 24.8
micr sec
i Z' 1.9 1.5
Mx Z 194 18
KIR iP 04 18 37.1
micr sec
P Z' 0.5 1.3
Mx Z 166 19
UME iP 04 18 07.1
i 04 18 11.0
Turkey (h = 10 km).
m = 6.4, M = 6.7 (UPP,KIR).

" 30 UPP eP 12 45 44
i 12 45 46.2
iS 12 50 10
micr sec
i Z' 0.3 1.3
KIR iP 12 46 30.8
i 12 46 33.4
micr sec
P Z' 0.6 1.9
UME eP 12 46 01
i 12 46 03.9
Turkey (h = 20 km).
m = 6.0 (UPP,KIR).

" 30 UPP iP 17 03 16.1
i 17 03 24.7
micr sec
i Z' 0.2 1.3
KIR iP 17 02 40.4
UME iP 17 02 55.5
Southern Honshu, Japan
(h = 30 km).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983

Oct.	30	UPP	iP		21 49 59.1	C
					micr sec	
			P	Z'	0.6 1.4	
		KIR	iP		21 49 09.8	C
					micr sec	
			P	Z'	0.1 0.5	
		UME	iP		21 49 32.9	C
		Kuril Islands (h = 80 km).				
		m = 6.3 (UPP,KIR).				
"	31	UPP	iP		02 05 53.6	
					micr sec	
			P	Z'	0.1 0.8	
		KIR	iP		02 05 20.9	
		UME	iP		02 05 34.8	
		South of Honshu, Japan				
		(h = 510 km).				
"	31	UPP	iP		05 50 52.1	
		KIR	eP		05 50 06	
		UME	iP		05 50 26.4	
		Hokkaido, Japan region				
		(h = 260 km).				
"	31	UPP	iP		17 51 49.5	C
			i		17 56 12.5	
					micr sec	
			P	Z'	0.2 1.2	
		KIR	iP		17 51 40.1	C
					micr sec	
			P	Z'	0.2 0.9	
		UME	iP		17 51 41.0	
		Sumba Island region				
		(h = 80 km).				
		m = 6.6 (UPP,KIR).				

May 20, 1985

Ronald Arvidsson
Conny Holmqvist
Won Young Kim
Ota Kulhánek

SEISMOLOGICAL DEPARTMENT
BOX 12019
S-750 12 UPPSALA
SWEDEN

SEISMOLOGICAL DEPARTMENT
BOX 12019
S-750 12 UPPSALA
SWEDEN

S E I S M O L O G I C A L B U L L E T I N

U P P S A L A, K I R U N A, U M E Å, U D D E H O L M,

D E L A R Y and M Y R V I K E N

Uppsala	(UPP)	59°51.5'N,	17°37.6'E; h = 14 m
Kiruna	(KIR)	67°50.4'N,	20°25.0'E; h = 390 m
Umeå	(UME)	63°48.9'N,	20°14.2'E; h = 16 m
Uddeholm	(UDD)	60°05.4'N,	13°36.4'E; h = 240 m
Delary	(DEL)	56°28.2'N,	12°52.2'E; h = 150 m
Myrviken	(MYV)	62°56.5'N,	14°20.8'E; h = 345 m

N O V E M B E R 1 - 30, 1983

1983 Nov.	1	UPP	iP	12 06 36.1	
		Costa Rica (h = N).			
"	2	UPP	iP	00 29 43.5	
				micr	sec
			P Z'	0.1	1.1
		KIR	eP	00 30 29	
		Turkey (h = 10 km).			
"	2	KIR	iP	08 42 55.6	D
		Eastern Mediterranean Sea			
		(h = 60 km).			
"	2	UPP	iP	22 57 54.6	
				micr	sec
			P Z'	0.1	1.1
		UME	iP	22 58 28.8	
		Turkey (h = 10 km).			
"	3	UME	iP	04 32 33.2	
"	3	UPP	iP	07 54 33.5	
		KIR	eP	07 54 35	
		UME	iP	07 54 36.7	
		Peru-Ecuador border region			
		(h = 90 km).			
"	3	UPP	iP	10 53 54.7	
		KIR	iP	10 53 52.3	
		UME	iP	10 53 51.0	
		Southern Sumatera (h = 50 km).			
"	4	UME	iP	14 09 38.7	
		Central California			
		(h = 15 km).			
1983 Nov.	4	UPP	iP	19 12 33.3	
			ipP	19 12 42.9	
		KIR	iP	19 11 40.1	
			ipP	19 11 50.5	
				micr	sec
			P Z'	0.1	1.0
		UME	iP	19 12 07.4	
			ipP	19 12 16.0	
		Fox Islands, Aleutian Islands.			
		h = 35 km (UPP,KIR,UME).			
"	4	KIR	iP	19 28 08.1	
		UME	iP	19 28 34.8	
		Fox Islands, Aleutian Islands			
		(h = N).			
"	5	UPP	iP	01 02 07.2	
		KIR	iP	01 02 12.2	
		UME	iP	01 02 13.3	
		North Atlantic Ocean			
		(h = 10 km).			
"	5	UPP	iP	10 38 24.7	
		Kuril Islands (h = N).			
"	5	KIR	iP	18 24 28.2	
		Kirghiz SSR (h = N).			
"	5	UPP	iP	19 57 37.3	D
				micr	sec
			P Z'	0.2	1.3
			Mx Z	3.4	13
		KIR	eP	19 57 28	
				micr	sec
			Mx Z	2.7	15

(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Nov. 5 (cont.)
UME eP 19 57 29
Tibet (h = N).
M = 5.6 (UPP,KIR).

" 6 UPP iP 05 21 58.8
UME iP 05 22 29.7
Turkey (h = 10 km).

" 6 UME iPKP 09 57 12.9
Fiji Islands region
(h = 390 km).

" 6 UPP iP 21 20 17.1 C
i 21 44 47
micr sec
P Z' 0.2 1.0
KIR iP 21 19 49.6 C
micr sec
P Z' 0.2 1.0
UME iP 21 20 00.6 C
Eastern China (h = 20 km).
m = 6.2 (UPP,KIR).

" 7 UPP iP 08 52 59.3
KIR iP 08 52 41.9
UME iP 08 52 49.2
Holmahera (h = 30 km).

" 7 UPP iP 08 56 10.6
i 08 59 58.2
KIR eP 08 55 48
UME iP 08 55 55.1
i 08 56 00.0
Holmahera (h = 60 km).

" 7 KIR iP 14 36 43.3
Iceland region (h = 10 km).

" 7 UPP iP 16 40 10.6
micr sec
Mx Z 17 21
KIR iP 16 39 51.5
micr sec
Mx Z 9.9 22
UME iP 16 39 59.0
Holamhera (h = 40 km).
M = 6.4 (UPP,KIR).

" 8 UPP iP 00 52 16.2
i 00 54 12.7
KIR iP 00 53 52.8
UME iP 00 53 08.8
i 00 53 16.8
Belgium (h = 10 km).

" 8 UME iP 16 37 12.0

1983
Nov. 8 UPP iPKP1 18 10 50.3
South of Fiji Islands
(h = 550 km).

" 8 UPP iP 18 26 18.8 C
i 18 26 25.1
i 18 26 59.7
micr sec
P Z' 0.1 0.8
UME eP 18 27 02
Ionian Sea (h = 40 km).

" 9 UPP iP 03 26 03.4
Philippine Islands region
(h = N).

" 9 UPP ipP 03 56 23.1
UME iP 03 56 29.2
Eastern Caucasus (h = N).

" 9 KIR ipP 08 47 08.8
UME ipP 08 47 28.5
Hokkaido, Japan region
(h = 55 km).

" 9 UPP iP 16 33 32.3
i 16 33 36.9
iS 16 36 43
micr sec
i Z' 0.3 1.0
KIR iP 16 35 02.3
i 16 35 10.0
i 16 35 18.8
micr sec
i Z' 0.2 1.0
UME iP 16 34 22.8
Northern Italy (h = 35 km).
Multiple event.

" 9 UPP eP 18 43 17
ipP 18 43 27.4
UME iP 18 42 59.6
ipP 18 43 09.5
Bonin Islands region.
h = 35 km (UPP,UME).

" 10 UPP eP 17 32 27
KIR eP 17 33 47
UME eP 17 33 07
Bulgaria (h = 10 km).

" 10 KIR iP 23 45 54.0
UME iP 23 45 59.8
Celebes Sea (h = 580 km).

" 11 KIR iP 05 24 07.5
(cont.)

UPP = Uppsala, KIR = Kiurna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Nov. 11 (cont.)
UME iP 05 24 25.4
Near east coast of Honshu, Japan (h = 60 km).

" 11 UPP iP 19 27 01.3
KIR iP 19 25 44.4
UME iP 19 26 09.8

" 11 KIR iP 21 32 11.0
Mindanao, Philippine Islands (h = 140 km).

" 11 UPP eP 22 58 48
KIR iP 22 57 52.8
UME iP 22 58 21.2
Fox Islands, Aleutian Islands (h = 60 km).

" 12 UPP iPKP 23 54 02.9 C
KIR iP 23 54 18.3
UME iP 23 54 10.8
South Sandwich Islands region (h = 110 km).

" 14 KIR iSn 19 03 29.1
Greenland Sea, near 77°N, 21 1/2°E.
Origin time = 18 59 33.
Solution from Finnish station readings.

" 15 UME iP 05 05 18.6
Yugoslavia (h = 10 km).

" 15 UPP iPKP1 05 52 45.6
Kermadec Islands region (h = N).

" 15 UPP iP 17 28 23.0
KIR iP 17 27 27.9
Near east coast of Kamchatka (h = 70 km).

" 15 UPP iP 17 47 04.9 D
iS 17 56 57
micr sec
P Z' 0.5 1.8
Mx Z 15 19
KIR eP 17 46 28
micr sec
P Z' 0.1 1.0
Mx Z 5.6 14
UME iP 17 46 44.7 D
South of Honshu, Japan (h = 25 km).
m = 6.0, M = 6.3 (UPP,KIR).

1983
Nov. 15 UPP iP 18 15 58.2
i 18 16 10.5
micr sec
P Z' 0.1 1.1
KIR iP 18 15 22.4
i 18 15 34.9
micr sec
P Z' 0.1 1.4
UME iP 18 15 38.0
i 18 15 50.6
South of Honshu, Japan (h = 25 km).
m = 5.7 (UPP,KIR).

" 15 UPP iSn 20 59 30.8
iSg1 21 00 06.5
KIR i 20 57 20.2
iPg1 20 57 22.5
iSg1 20 58 02.9
UME iPn 20 57 36.0
iPg1 20 57 46.7
iSn 20 58 22.4
iSg1 20 58 39.5
UDD iPn 20 58 14.9
eSn 20 58 25
iSg1 20 59 59.8
DEL iSg1 21 01 56.6
MYV i 20 57 34.1
iPg1 20 57 35.0
Coast of Nordland, Norway, near 66 1/2°N, 13°E.
Origin time = 20 56 35.
M_L(UPP) = 3.7 (0.13) 4.
Felt.

" 16 UPP iP 01 04 19.0
ipP 01 04 53.1
KIR iP 01 04 09.9
ipP 01 04 44.4
UME iP 01 04 10.4
Burma.
h = 130 km (UPP,KIR).

" 16 UPP iP 10 55 30.6 C
ipP 10 55 43.2
KIR iP 10 54 51.0 C
ipP 10 55 03.6
micr sec
P Z' 0.1 1.0
UME iP 10 55 08.7 C
i 10 55 17.1
ipP 10 55 21.2
Near east coast of Honshu, Japan.
h = 45 km (UPP,KIR,UME).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Nov. 16 UPP iP 16 26 50.9
i 16 26 54.4
iPP 16 31 02.4
iS 16 38 25
micr sec
i Z' 0.4 1.4
Mx Z 17.9 19
KIR iP 16 26 14.7
i 16 26 18.5
iPP 16 29 58.3
micr sec
i Z' 0.6 1.5
Mx Z 9.5 20
UME iP 16 26 31.5
i 16 26 36.1
iPP 16 30 24.3
iSKS 16 37 12
iS 16 37 52
Hawaii (h = 10 km).
m = 6.8, M = 6.5 (UPP, KIR).

" 16 KIR iP 22 21 04.7
micr sec
P Z' 0.1 0.9
Flores Island region
(h = 80 km).

" 17 UME iP 11 37 35.4
Unimak Island region
(h = N).

" 17 KIR iP 11 37 38.6
i 11 37 52.9

" 17 UPP iP 15 04 38.8
UME iP 15 05 03.0 C
i 15 05 10.3
Ascension Island region
(h = 10 km).

" 18 UPP eP 01 20 51
i 01 21 07.0
KIR iP 01 21 43.2
micr sec
P Z' 0.3 1.4
UME iP 01 21 13.0
Turkey (h = 25 km).

" 18 UPP iP 16 30 24.3
micr sec
P Z' 0.1 0.9
KIR iP 16 29 30.1
micr sec
P Z' 0.1 0.9
Near east coast of Kamchatka
(h = 55 km).
m = 5.8 (UPP,KIR).

1983
Nov. 19 UPP iP 08 04 17.8
KIR iP 08 05 01.9
micr sec
P Z' 0.1 0.8
UME iP 08 04 34.8
Iran-Iraq border region
(h = 35 km).

" 20 UPP iP 00 55 47.4
i 00 55 50.2
micr sec
P Z' 0.3 1.5
i Z' 1.3 1.8
Mx Z 28 19
KIR iP 00 55 00.9
micr sec
P Z' 0.3 1.6
Mx Z 14 15
UME iP 00 55 22.2
Kuril Islands region
(h = 30 km).
m = 6.5, M = 6.4 (UPP,KIR).

" 20 UPP iP 03 34 02.2 C
micr sec
P Z' 0.4 0.9
KIR iP 03 33 45.4 C
micr sec
P Z' 0.4 0.7
UME iP 03 33 46.7 C
Eastern Kazakh SSR.
m = 6.3 (UPP,KIR).
Underground explosion.

" 20 UPP iP 08 40 16.2
i 08 40 27.3
KIR iP 08 39 22.2 D
micr sec
P Z' 0.1 1.0
UME iP 08 39 49.8
Alaska Peninsula (h = N).

" 20 UPP iP 20 46 34.5
KIR iP 20 46 18.8
micr sec
P Z' 0.1 0.9
UME iP 20 46 24.5
Tanimbar Islands region
(h = 60 km).

" 22 KIR iP 02 20 12.5
UME iP 02 20 23.1
South of Mariana Islands
(h = 40 km).

" 22 KIR iP 09 02 34.9
UME iP 09 03 05.0
Jan Mayen Island region
(h = 10 km).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Nov. 22 UPP iP 14 34 13.6
iS 14 45 13
micr sec
P Z' 0.1 1.5
Mx Z 12 24
KIR iP 14 34 15.0
micr sec
P Z' 1.0 1.9
Mx Z 7.1 20
UME iP 14 34 15.8
iSKS 14 44 25
Near coast of Ecuador
(h = 55 km).
m = 6.5, M = 6.3 (UPP,KIR).
M not corrected for focal
depth.

" 22 UME iP 14 36 54.9
Hindu Kush region
(h = 200 km).

" 22 UPP iPKP1 16 20 58.6
KIR iPKP1 16 20 38.1
UME iPKP1 16 20 47.1 D
Kermadec Islands region
(h = N).

" 24 UPP iP 00 19 37.3
KIR iP 00 20 33.9
UME iP 00 20 01.1
Turkey (h = 10 km).

" 24 UPP iPdiff 05 44 33.1
i(PP) 05 47 38
iPP 05 49 03.4
micr sec
Pdiff Z' 0.1 0.9
Mx Z 58 24
KIR iPdiff 05 44 14.6
iPP 05 48 41.7
micr sec
Pdiff Z' 0.6 1.0
Mx Z 30 21
UME iPdiff 05 44 18.5
iPP 05 48 48.6
Banda Sea (h = 180 km).
m = 7.1, M = 7.0 (UPP,KIR).
M not corrected for focal
depth.

" 24 UPP iP 07 01 03.1
KIR iP 07 00 09.3
UME iP 07 00 37.8
Kodiak Island region (h = N).

" 24 UPP iP 07 02 14.1
micr sec
P Z' 0.1 1.0
(cont.)

1983
Nov. 24 (cont.)
KIR iP 07 01 20.5
micr sec
P Z' 0.1 1.0
UME iP 07 01 48.5
Kodiak Island region (h = N).
m = 5.9 (UPP,KIR).

" 24 UPP iP 07 07 18.4
KIR iP 07 06 23.7
UME iP 07 06 51.3
Kodiak Island region (h = N).

" 24 UPP iP 07 13 02.8
KIR iP 07 12 08.9
UME iP 07 12 36.7
Kodiak Island region (h = N).

" 24 UPP iP 07 15 17.1
KIR iP 07 14 22.9
UME iP 07 14 50.7
Kodiak Island region (h = N).

" 24 UPP iP 11 09 40.9
KIR iP 11 09 49.3
UME iP 11 09 39.6
Afghanistan-USSR border region
(h = 80 km).

" 25 UPP iP 12 24 46.1
iS 12 29 21
micr sec
P Z' 0.2 1.4
KIR iP 12 25 57.5
micr sec
P Z' 0.1 1.0
UME iP 12 25 21.6
Mediterranean Sea (h = 25 km).
m = 5.6 (UPP,KIR).

" 25 UPP iPKP1 20 15 49.9
i 20 16 03.3
KIR iPKP1 20 15 38.3
UME iPKP1 20 15 42.5
Southeast of Australia
(h = 20 km).

" 25 UPP Mx 23 03
micr sec
Mx Z 4.3 21
KIR Mx 23 01
micr sec
Mx Z 1.3 19
New Britain region
(h = 25 km).
M = 5.8 (UPP,KIR).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Nov. 26 UPP iPKP1 08 07 03.7
UME iPKP1 08 06 54.5 C
South of Kermadec Islands
(h = 180 km).

" 26 UPP iP 10 32 29.2
KIR iP 10 33 37.9
Mediterranean Sea (h = 25 km).

" 26 UPP iSg1 12 37 43.1
KIR iPn 12 34 36.9
iPg1 12 34 45.6
iSn 12 35 21.0
iSg1 12 35 33.7
UME ePn 12 34 39
iSn 12 35 29.0
iSg1 12 35 45.1
MYV iSn 12 36 34.5
iSg1 12 37 06.5
Central Finland, 65.9°N,
28.5°E.
Origin time = 12 33 38.
M_L(UPP) = 2.9 (0.16) 5.
Felt.
By combination with Finnish
station readings.

" 26 UPP iS 20 42 03
micr sec
Mx Z 7.3 24
KIR eP 20 31 14
micr sec
Mx Z 2.3 22
UME iP 20 31 19.5
iS 20 42 05
South of Panama (h = 10 km).
M = 5.8 (UPP,KIR).

" 26 UPP iP 16 02 17.3
KIR eP 16 01 23
micr sec
P Z' 0.1 1.4
UME eP 16 01 53
Alaska Peninsula (h = N).

" 26 KIR iP 23 26 32.2
Ryukyu Islands region
(h = 40 km).

" 28 KIR ePKP 19 29 21
UME ePKP 19 29 22
Off coast of southern Chile
(h = 25 km).

" 28 KIR iP 20 23 49.0
UME iP 20 24 03.6
South of Honshu, Japan
(h = 50 km).

1983
Nov. 29 UPP iP 02 26 02.3
micr sec
P Z' 0.1 0.9
KIR iP 02 25 46.6 C
micr sec
P Z' 0.1 0.7
UME iP 02 25 47.2 C
Eastern Kazakh SSR.
m = 5.7 (UPP,KIR).
Underground explosion.

" 29 KIR iSg1 13 16 09.2
Northern Norway, 69.9°N,
25.0°E.
Origin time = 13 14 50.
M_L(UPP) = 2.7 1.
By combination with Finnish
station readings.

" 29 UPP iP 21 11 25.6
micr sec
P Z' 0.4 1.1
KIR iP 21 10 50.1
micr sec
P Z' 0.3 0.9
UME iP 21 11 05.7
South of Honshu, Japan
(h = 140 km).
m = 6.1 (UPP,KIR).

" 29 UPP iPKP1 23 59 24.7 C
i 23 59 34.0
KIR i(PKP) 23 59 15.1
iPKP 23 59 18.7
UME i(PKP) 23 59 16.4
iPKP 23 59 25.0
Fiji Islands region
(h = 530 km).

" 30 UPP iP 03 07 47.7 C
ipP 03 08 02.3
iS 03 16 45
micr sec
P Z' 0.9 1.7
Mx Z 6.6 22
KIR iP 03 07 04.7 C
i 03 07 15.3
ipP 03 07 20.5
micr sec
P Z' 0.4 1.3
Mx Z 4.1 17
UME iP 03 07 24.0 C
i 03 07 34.1
ipP 03 07 39.2
iS 03 16 05
Hokkaido, Japan region.
h = 55 km (UPP,KIR,UME).
m = 6.4, M = 5.8 (UPP,KIR).
M not corrected for focal depth.

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983						
Nov.	30	KIR	iPKP		10 35 10.6	
		South Sandwich Islands region (h = 90 km).				
"	30	UPP	iP		17 58 06.5	
			iS		18 08 03	
					micr sec	
			P	Z'	6.8 2.2	
			Mx	Z	312 21	
		KIR	iP		17 58 26.6	
			i		17 58 29.3	
					micr sec	
			P	Z'	0.5 1.0	
			i	Z'	14.4 2.4	
			Mx	Z	107 15	
		UME	iP		17 58 12.0	
			i		17 58 16.0	
		Chagos Archipelago region (h = 10 km).				
		m = 7.1, M = 7.5 (UPP,KIR).				
"	30	KIR	iP		18 58 43.4	
		Chagos Archipelago region (h = 10 km).				
"	30	KIR	iP		19 21 00.9	
		Chagos Archipelago region (h = 10 km).				
"	30	UPP	iP		19 28 39.2	
		KIR	iP		19 28 59.7	
			i		19 29 07.0	
		UME	iP		19 28 45.8	
			i		19 28 53.5	
		Chagos Archipelago region (h = 10 km).				
"	30	KIR	iP		20 28 00.5	
		Chagos Archipelago region (h = 10 km).				
"	30	UPP	iP		21 54 11.1	
		KIR	iP		21 54 31.5	
					micr sec	
			P	Z'	0.2 1.5	
		UME	iP		21 54 18.3	
		Chagos Archipelago region (h = 10 km).				
"	30	UPP	iP		22 14 06.2	
		KIR	iP		22 14 26.8	
		UME	eP		22 14 14	
		Chagos Archipelago region (h = 10 km).				
"	30	KIR	iP		22 17 47.5	
		UME	eP		22 17 35	
		Chagos Archipelago region (h = 10 km).				

June 7, 1985

Torild van Eck
Conny Holmqvist
Myung-Soon Jun
Ota Kulhánek
Klaus Meyer
Elizabeth Shah

SEISMOLOGICAL DEPARTMENT
BOX 12019
S-750 12 UPPSALA
SWEDEN

SEISMOLOGICAL DEPARTMENT
BOX 12019
S-750 12 UPPSALA
SWEDEN

S E I S M O L O G I C A L B U L L E T I N

U P P S A L A, K I R U N A, U M E Å, U D D E H O L M,

D E L A R Y and M Y R V I K E N

Uppsala	(UPP)	59°51.5'N,	17°37.6'E; h = 14 m
Kiruna	(KIR)	67°50.4'N,	20°25.0'E; h = 390 m
Umeå	(UME)	63°48.9'N,	20°14.2'E; h = 16 m
Uddeholm	(UDD)	60°05.4'N,	13°36.4'E; h = 240 m
Delary	(DEL)	56°28.2'N,	12°52.2'E; h = 150 m
Myrviken	(MYV)	62°56.5'N,	14°20.8'E; h = 345 m

D E C E M B E R 1 - 31, 1983

1983								
Dec.	1	UPP	iP		05	26	49.6	
		KIR	iP		05	27	57.4	
		UME	iP		05	27	22.1	
		Mediterranean Sea (h = 35 km).						
"	1	UPP	iP		05	57	37.7	D
			i		05	57	44.7	
					micr		sec	
			P	Z'	0.2		1.0	
			Mx	Z	2.7		18	
		KIR	iP		05	57	57.9	D
			i		05	58	05.4	
					micr		sec	
			P	Z'	0.4		1.1	
			Mx	Z	2.8		16	
		UME	iP		05	57	45.3	D
			iS		06	07	47	
		Chagos Archipelago region (h = 10 km).						
		m = 6.4, M = 5.7 (UPP,KIR).						
"	1	KIR	iP		07	10	11.6	
		Chagos Archipelago region (h = 10 km).						
"	1	KIR	iP		07	32	30.8	
		UME	iP		07	32	19.6	
		Chagos Archipelago region (h = 10 km).						
"	1	KIR	iP		08	03	40.4	
					micr		sec	
			P	Z'	0.1		1.2	
		UME	eP		08	03	28	
		Chagos Archipelago region (h = 10 km).						
1983								
Dec.	1	KIR	iP		08	56	19.0	
			i		08	56	27.1	
					micr		sec	
			i	Z'	0.1		1.1	
		UME	ipP		08	56	34.5	
		Mindoro, Philippine Islands (h = N).						
"	1	UPP	iP		12	34	25.8	
			i		12	34	28.8	
		KIR	iP		12	34	46.1	
			i		12	34	49.4	
					micr		sec	
			i	Z'	0.1		1.0	
		UME	iP		12	34	33.7	
		Chagos Archipelago region (h = 10 km).						
"	1	UPP	iP		13	56	43.8	
"	1	KIR	iP		15	21	32.2	
		Chagos Archipelago region (h = 10 km).						
"	1	UPP	iP		18	35	43.2	
					micr		sec	
			P	Z'	0.1		1.0	
		KIR	iP		18	35	04.3	D
					micr		sec	
			P	Z'	0.1		1.0	
		UME	iP		18	35	52.2	
		Chagos Archipelago region (h = 10 km).						
		m = 5.8 (UPP,KIR).						

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Dec. 1 UPP iP 22 41 33.5
i 22 41 39.3
micr sec
i Z' 0.1 1.0
Mx Z 3.8 25
KIR iP 22 41 54.2 C
i 22 41 59.9
micr sec
i Z' 0.2 1.0
UME iP 22 41 42.5
i 22 41 46.6
iS 22 51 45
Chagos Archipelago region
(h = 10 km).
m = 6.0 (UPP,KIR).

" 2 UPP iP 03 21 47.2
i 03 21 51.8
iPP 03 25 28.7
iS 03 32 04
micr sec
i Z' 0.1 0.9
Mx Z 51 19
KIR Mx 03 21
micr sec
Mx Z 37 16
UME iP 03 21 44.3
iPP 03 25 24.4
iS 03 32 01
Guatemala (h = 70 km).
M = 7.0 (UPP,KIR).
M not corrected for focal
depth.

" 2 UPP iP 06 35 33.9
UME iP 06 34 43.8
Svalbard region (h = 10 km).

" 2 UPP iP 20 50 17.9
UME iP 20 50 26.1
Chagos Archipelago region
(h = 10 km).

" 3 UPP ePKP 01 43 12
micr sec
Mx Z 6.7 28
UME iPKP 01 43 03.6
Samoa Islands region (h = N).

" 3 UME iP 01 48 28.3
Off coast of Oregon
(h = 10 km).

" 3 UPP iP 15 35 23.8
UME iP 15 34 55.6
Near east coast of Kamchatka
(h = 100 km).

1983
Dec. 3 UPP iP 17 55 17.7 C
i 17 55 24.3
iS 18 05 11
micr sec
P Z' 0.3 1.0
Mx Z 8.4 19
KIR Mx 17 55
micr sec
Mx Z 14 19
UME iP 17 55 25.4 C
i 17 55 32.1
iS 18 05 31
Chagos Archipelago region
(h = 10 km).
M = 6.3 (UPP,KIR).

" 5 UME iPn 07 31 03.6
i 07 32 52.2
iSg1 07 33 12.2
Norwegian Sea, near 70°N,
9°E.
Origin time = 07 29 16.
By combination with Norsar
bulletin.

" 5 KIR ePKP 12 07 27
UME iPKP 12 07 35.0
Vanuatu Islands (h = 210 km).

" 5 UPP iP 12 51 57.7
i 12 52 12.1
KIR iP 12 51 02.7
UME iP 12 51 29.3
Near Islands, Aleutian
Islands (h = N).

" 5 KIR eP 19 00 49
UME iP 19 01 34.4
Norwegian Sea (h = 10 km).

" 5 KIR iP 19 36 06.3
UME iP 19 36 46.7
North of Severnaya Zemlya
(h = 10 km).

" 5 KIR iP 20 43 05.0
UME iP 20 43 52.3
Greenland Sea (h = 10 km).

" 5 UPP eP 20 57 50
i 20 57 59.0
KIR iP 20 56 05.9
i 20 56 21.2
UME iP 20 56 57.5
Greenland Sea (h = 10 km).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Dec. 6 KIR iP 09 38 01.1
UME eP 09 37 57
Northern Sumatera (h = 70 km).

" 6 KIR iP 09 42 47.4
Chagos Archipelago region
(h = 10 km).

" 6 KIR iP 10 00 14.0
UME iP 10 00 39.5
Near east coast of Kamchatka
(h = N).

" 7 UPP iP 05 01 25.5
KIR iP 05 01 34.9
UME iP 05 01 24.5
Hindu Kush region
(h = 120 km).

" 7 UPP iP 08 34 06.2
KIR eP 08 33 29
UME iP 08 33 45.7 C
South of Honshu, Japan
(h = 110 km).

" 7 UPP iP 12 19 06.4 D
iPP 12 20 35.3
micr sec
PP Z' 0.1 1.0
Mx Z 1.8 9
KIR iP 12 19 18.2 D
micr sec
P Z' 0.1 1.2
Mx Z 1.5 7
UME iP 12 19 06.1
Hindu Kush region (h = 50 km).
m = 5.5 (UPP,KIR).

" 8 UPP iP 01 36 13.1
UME iP 01 36 23.4
Carlsberg Ridge (h = 10 km).

" 8 UPP iP 01 37 03.6 D
micr sec
P Z' 0.1 1.0
KIR iP 01 37 32.0 D
micr sec
P Z' 0.1 1.0
UME iP 01 37 24.2 D
Carlsberg Ridge (h = 10 km).
m = 5.9 (UPP,KIR).

" 8 UPP i(PKP) 02 37 15.9
iPKP 02 37 17.7
KIR iPKP 02 37 07.5
UME iPKP 02 37 09.5
Fiji Islands region
(h = 630 km).

1983
Dec. 8 UPP iP 10 34 41.5
KIR iP 10 34 24.2
UME iP 10 34 35.5
Michoacan, Mexico (h = 70 km).

" 8 UPP iPKP1 11 19 33.5
South of Fiji Islands
(h = 630 km).

" 8 UPP iP 14 01 37.1
KIR iP 14 00 49.3
micr sec
P Z' 0.1 1.0
UME iP 14 01 12.1
Kuril Islands (h = 100 km).

" 9 KIR iPn 18 08 42.8
iSn 18 10 03.7
UME iPn 18 09 31.9
UDD iPn 18 10 05.5
iSn 18 12 26.7
MYV iSn 18 11 23.8
Norwegian Sea, near 73°N, 5°E.
Origin time = 18 06 52.

" 10 KIR iPn 03 51 14.6
UME iPn 03 51 59.4
Norwegian Sea, near 72 1/2°N,
2 1/2°E.
Origin time = 03 49 19.
By combination with Norwegian
station readings.

" 10 KIR iPn 08 33 35.3
UME iPn 08 34 24.7
UDD iPn 08 34 54.6
Norwegian Sea, 73 3/4°N, 3°E.
Origin time = 08 31 43.
By combination with Norwegian
station readings.

" 10 UME iP 14 34 06.5

" 10 UME iP 20 04 29.3
Near east coast of Honshu,
Japan (h = 70 km).

" 10 KIR iP 20 35 06.9
UME iP 20 35 14.5
iS 20 45 39
Guatemala (h = 80 km).

" 11 UPP eP 09 13 37
KIR eP 09 14 22
UME iP 09 13 57.1
Tanzania (h = 10 km).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983						
Dec.	11	UPP	iP		09	27 19.8
			iSKS		09	37 55
					micr	sec
			P	Z'	0.2	1.0
			Mx	Z	38	18
		KIR	iP		09	26 56.7
					micr	sec
			P	Z'	0.5	1.0
			Mx	Z	9.6	18
		UME	iP		09	27 05.8
		West Caroline Islands				
		(h = 25 km).				
		m = 6.7, M = 6.7 (UPP,KIR).				
"	12	UME	iP		01	32 51.5
		Near east coast of Honshu,				
		Japan (h = 45 km).				
"	12	UPP	ePdiff		09	40 06
			iPP		09	44 35.5
		KIR	iPdiff		09	39 51.8
			i(PP)		09	43 45.8
			iPP		09	44 10.0
					micr	sec
			Pdiff	Z'	0.1	1.0
		UME	iPdiff		09	39 55.1
			iPP		09	44 13.3
			iPKKP		09	50 19.6
		Banda Sea (h = 140 km).				
"	12	UME	iP		17	01 35.4
		Near coast of Chiapas, Mexico				
		(h = 40 km).				
"	12	UPP	iP		17	35 16.1
			i		17	35 23.8
		KIR	iP		17	35 36.4
			i		17	35 44.9
		UME	iP		17	35 23.2
			i		17	35 31.4
		Chagos Archipelago region				
		(h = 10 km).				
"	13	UME	iP		06	49 45.0
		Near coast of Chiapas, Mexico				
		(h = 40 km).				
"	15	UPP	iP		04	11 26.5
		KIR	iP		04	11 39.6
					micr	sec
			P	Z'	0.2	1.0
		UME	iP		04	11 34.1
"	15	UPP	iP		04	17 07.9
"	15	UME	iPKP		04	41 11.3
		Chile-Argentina border region				
		(h = 100 km).				
1983						
Dec.	15	UPP	iP		11	01 03.2
					micr	sec
			P	Z'	0.2	0.9
		KIR	iP		11	01 48.1
					micr	sec
			P	Z'	0.1	1.0
		UME	iP		11	00 50.0
		Northern Xinjiang, China				
		(h = 30 km).				
		m = 5.8 (UPP,KIR).				
"	16	UPP	iP		13	23 28.0
			iPP		13	24 58.1
			iS		13	29 33
					micr	sec
			P	Z'	0.2	1.0
			Mx	Z	19	14
		KIR	iP		13	23 31.4
					micr	sec
			P	Z'	0.5	1.4
		UME	iP		13	23 23.0
			iS		13	29 19
		Kirghiz SSR (h = 35 km).				
		m = 5.9 (UPP,KIR).				
"	16	UPP	iP		13	47 58.3
		KIR	iP		13	48 02.2
					micr	sec
			P	Z'	0.1	1.0
		UME	iP		13	47 54.1
			i		13	48 00.9
		Tajik-Xinjiang border region				
		(h = N).				
"	16	KIR	eP		13	55 08
		Kirghiz SSR (h = N).				
"	16	UPP	eP		18	41 50
		Southern Nevada.				
		Underground explosion.				
"	16	UPP	i		21	12 01.3
			iSn		21	12 22.7
			iSg1		21	12 56.6
		KIR	i		21	13 06.0
			iSg1		21	13 46.9
		UME	iPn		21	11 07.6
			iSn		21	12 24.9
			iSg1		21	12 55.0
		UDD	iPn		21	10 40.8
			i		21	11 08.6
			iSn		21	11 42.9
			iSg1		21	12 09.2
		DEL	i		21	11 32.0
			iSn		21	12 45.2
			iSg1		21	13 32.1
		MYV	ePn		21	10 32

(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Dec. 16 (cont.)
MYV i 21 10 46.4
iSn 21 11 23.6
Norwegian Sea, near 63 1/2°N, 4 1/2°E.
Origin time = 21 09 16.
M_L(UPP) = 3.5 (0.18) 6.

" 17 KIR iP 00 20 27.7
i 00 20 32.1
Western Caucasus (h = N).

" 17 KIR iP 00 49 17.0
Andaman Islands region (h = 35 km).

" 17 KIR iP 01 22 48.3
Andaman Islands region (h = N).

" 17 KIR iP 01 44 11.2
Andaman Islands region (h = N).

" 17 KIR iP 01 54 35.6
Andaman Islands region (h = N).

" 17 UPP iP 03 10 11.9
KIR iP 03 10 10.2
micr sec
P Z' 0.2 1.4
UME iP 03 10 08.0
Andaman Islands region (h = N).

" 17 KIR iP 03 20 11.3
Andaman Islands region (h = N).

" 17 KIR iP 04 04 25.9
i 04 04 32.1
Andaman Islands region (h = N).

" 17 KIR iP 04 21 14.4
Andaman Islands region (h = N).

" 17 KIR iP 06 09 13.2
micr sec
P Z' 0.2 1.4

" 17 KIR iP 06 13 49.0
Andaman Islands region (h = N).

1983
Dec. 17 KIR iP 06 31 56.3
Andaman Islands region (h = N).

" 17 KIR iP 06 50 36.3

" 17 KIR iPdiff 09 09 51.1
Banda Sea (h = 200 km).

" 17 KIR iP 15 43 35.9
Chagos Archipelago region (h = 10 km).

" 17 UPP iPKP1 16 07 24.0
UME iPKP1 16 07 10.5
Kermadec Islands (h = 40 km).

" 17 UPP iPKP1 16 12 48.9
i 16 13 06.0
KIR ePKP1 16 12 29
UME iPKP1 16 12 37.2 C
i 16 12 51.3
Kermadec Islands (h = 45 km).

" 17 KIR iP 16 37 31.4
Andaman Islands region (h = N).

" 17 KIR iP 17 41 21.6
Mindanao, Philippine Islands (h = 55 km).

" 18 UPP iPKP1 03 51 06.5
South of Fiji Islands (h = 570 km).

" 18 UPP i(P) 15 15 04.6

" 18 UPP iP 17 41 04.2
i 17 41 10.6
micr sec
P Z' 0.1 1.2
KIR iP 17 39 18.7
Svalbard region (h = 10 km).

" 18 UPP iP 17 52 08.7
KIR iP 17 52 08.2 C
micr sec
P Z' 0.1 1.0
Southern Sumatera (h = 70 km).

" 18 UPP iPKP1 19 17 22.1
KIR iPKP1 19 17 07.5
South of Kermadec Islands (h = N).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Dec. 18 DEL iSg1 21 25 54.0
Kattegat, 56.3°N, 12.0°E.
Origin time = 21 25 21.
Solution from SKI network readings.

" 20 UPP iP 10 52 51.1 C
i 10 53 05.5
micr sec
P Z' 0.1 1.1
KIR iP 10 52 11.8 C
i 10 52 22.9
micr sec
P Z' 0.1 1.1
UME iP 10 52 33.8 C
i 10 52 40.7
Near coast of northern California (h = 5 km).
m = 5.9 (UPP,KIR).

" 20 KIR iP 12 34 59.3
UME iP 12 34 46.7
Chagos Archipelago region (h = 10 km).

" 20 KIR iSn 13 44 31.9
Norwegian Sea, near 75°N, 17 1/2°E.
Origin time = 13 41 22.
Solution from Finnish station readings.

" 20 UPP iP 15 42 28.6
KIR iP 15 41 41.3
UME iP 15 42 03.0
Kuril Islands (h = 40 km).

" 20 KIR iP 22 27 59.6
UME iP 22 27 35.3
Iran (h = 40 km).

" 21 UPP iPdiff 12 18 32.8
i 12 33 34.2
iPKKP 12 33 48.9
micr sec
Mx Z 5.6 18
KIR iPKP 12 22 36.9
i(PP) 12 23 16.7
iPP 12 23 37.7
iPKKP 12 33 30.9
UME iPKP 12 22 33.9
i 12 33 27.2
iPKKP 12 33 36.4
Santiago del Estero Prov., Arg. (h = 600 km).

1983
Dec. 21 UPP iPKP 12 32 27.3
KIR iPKP 12 32 36.3
i 12 32 51.4
UME iPKP 12 32 33.8
Santiago del Estero Prov., Arg. (h = 610 km).

" 21 UPP iP 19 38 32.3
KIR iP 19 38 27.7
UME iP 19 38 22.9
Alma-Ata region (h = N).

" 21 UPP micr sec
Mx Z 7.2 21
KIR iPKP 23 50 40.4
micr sec
Mx Z 3.8 18
UME iPKP 23 50 44.7
New Britain region (h = N).
M = 6.2 (UPP,KIR).

" 22 UPP micr sec
Mx Z 14 23
KIR iPKP 01 20 35.6
micr sec
Mx Z 4.1 22
UME ePKP 01 20 40
New Britain region (h = 25 km).
M = 6.3 (UPP,KIR).

" 22 UPP iP 04 20 48.5 D
iS 04 28 13.1
micr sec
P Z' 0.7 1.1
Mx Z 38 21
KIR iP 04 21 38.2 D
eS 04 29 56
micr sec
P Z' 4.3 2.0
Mx Z 12 14
UME iP 04 21 16.2 D
iS 04 29 08
Northwest Africa (h = 10 km).
m = 6.9, M = 6.3 (UPP,KIR).

" 22 UPP iP 05 39 22.1
micr sec
P Z 0.3 1.3
KIR eP 05 39 33
i 05 39 35.0
micr sec
i Z' 0.2 1.1
UME iP 05 39 21.4 D
i 05 39 23.0
(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Dec. 22 (cont.)
Hindu Kush region (h = N).
m = 5.8 (UPP,KIR).

" 22 UPP iP 09 10 12.4
micr sec
P Z' 0.1 1.0
KIR iP 09 09 43.8 C
UME iP 09 09 55.1
Ryukyu Islands (h = 25 km).

" 22 UME iP 15 01 31.6
Bulgaria (h = 15 km).

" 23 UPP iPKP1 09 20 06.0
UME iPKP1 09 19 54.3
South of Fiji Islands
(h = 530 km).

" 23 UME iP 18 28 38.4

" 23 KIR ePKP 18 40 48
UME ePKP 18 40 48
i 18 40 57.1
Near coast of central Chile
(h = 25 km).

" 24 UPP iP 04 21 42.5
micr sec
P Z' 0.1 0.9
Mx Z 7.8 22
KIR iP 04 20 55.0
micr sec
P Z' 0.2 1.0
Mx Z 2.9 14
UME iP 04 21 16.9
Kuril Islands (h = 50 km).
m = 6.0, M = 5.8 (UPP,KIR).
M not corrected for focal
depth.

" 24 KIR iP 08 26 44.4

" 24 KIR iSKP1 18 42 25.2
UME iSKP1 18 42 38.1
Fiji Islands region
(h = 600 km).

" 25 UME eP 03 01 06
Albania (h = 10 km).

" 26 UPP iP 04 36 02.1
KIR iP 04 35 46.4 C
micr sec
P Z' 0.2 0.5
(cont.)

1983
Dec 26 (cont.)
UME iP 04 35 46.9
Eastern Kazakh SSR.
Underground explosion.

" 26 UME iP 07 57 22.8

" 26 UPP iP 09 48 20.3
i 09 48 31.6
KIR iP 09 47 35.3
UME iP 09 47 55.2
i 09 48 07.0
Kuril Islands (h = 35 km).

" 26 UPP iP 11 18 20.1
Near Island, Aleutian Islands
(h = 80 km).

" 26 KIR iPKP 14 09 41.4
UME iPKP 14 09 33.8
South Sandwich Islands region
(h = 90 km).

" 26 UME iP 18 00 17.2
Romania (h = 160 km).

" 26 UPP iPKP1 18 05 22.4
UME iPKP1 18 05 09.5
Kermadec Islands (h = 60 km).

" 26 UPP iP 19 49 43.9
KIR iP 19 48 49.6
UME iP 19 49 17.7
Alaska Peninsula (h = 150 km).

" 27 UPP iP 00 18 53.6
UME iP 00 18 28.5
Kuril Islands (h = N).

" 27 UME iP 00 51 35.7
Malagasay Republic
(h = 10 km).

" 27 KIR eP 03 24 25
UME iP 03 24 07.5
Chagos Archipelago region
(h = 10 km).

" 27 UPP iP 11 12 22.5
UME iP 11 12 19.7
Sunda Strait (h = 50 km).

" 27 KIR iSg1 20 15 57.0
UME iSg1 20 16 11.4
Central Finland, 65.9°N,
28.5°E.
(cont.)

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983
Dec. 27 (cont.)
Origin time = 20 14 03.
M_L(UPP) = 2.2 1.
Solution from Finnish station readings.
Felt.

" 27 UPP iP 21 55 56.2
UME iP 21 55 28.1
Near east coast of Kamchatka (h = 70 km).

" 27 UPP iP 23 16 40.5
i 23 16 42.3
micr sec
i Z' 0.1 1.0
KIR iP 23 15 47.7
i 23 15 51.4
micr sec
i Z' 0.2 0.8
UME iP 23 16 13.9
i 23 16 15.0
Unimak Island region (h = 55 km).
m = 6.0 (UPP,KIR).

" 28 UPP iP 00 27 20.5
ipP 00 27 47.8
micr sec
P Z' 0.1 1.0
KIR iP 00 26 28.0
UME iP 00 26 54.1
i 00 27 24.8
Andreanof Islands, Aleutian Is. (h = 110 km).

" 29 UPP iP 01 24 51.9
Near east coast of Kamchatka (h = N).

" 30 UPP iP 02 42 10.3
micr sec
P Z' 0.1 1.0
KIR iP 02 41 32.2
UME iP 02 41 48.6 C
Near east coast of Honshu, Japan (h = 60 km).

" 30 UPP iP 05 10 45.6
i 05 10 59.2
micr sec
P Z' 0.1 1.0
KIR iP 05 10 07.9 C
i 05 10 20.7
micr sec
P Z' 0.1 1.0
(cont.)

1983
Dec 30 (cont.)
UME iP 05 10 24.5 C
i 05 10 37.7
Near east coast of Honshu, Japan (h = 60 km).
m = 5.7 (UPP,KIR).

" 30 UME iP 05 56 45.0
Near east coast of Honshu, Japan (h = 55 km).

" 30 UPP iP 08 11 41.4 D
micr sec
P Z' 0.1 0.7
KIR iP 08 11 42.6 D
micr sec
P Z' 0.1 1.0
UME iP 08 11 38.1 D
Nicobar Islands region (h = 100 km).
m = 5.7 (UPP,KIR).

" 31 UPP iP 00 00 02.9 C
iS 00 05 55.0
micr sec
Mx Z 203 14
KIR iP 00 00 12.0 C
micr sec
Mx Z 241 15
UME iP 00 00 02.3 C
Hindu Kush region (h = 220 km).
M = 7.2 (UPP,KIR).
M not corrected for focal depth.

" 31 KIR iP 01 17 29.4
UME iP 01 17 18.8
Hindu Kush region (h = 210 km).

" 31 UPP iP 01 43 09.1 C
micr sec
P Z' 0.1 0.9
KIR iP 01 43 18.1 C
micr sec
P Z' 0.1 0.9
UME iP 01 43 07.5 C
Hindu Kush region (h = 220 km).
m = 5.3 (UPP,KIR).

" 31 KIR iP 05 26 34.9
UME iP 05 26 23.9
Hindu Kush region (h = 210 km).

" 31 UPP iP 11 38 58.7
KIR iP 11 38 10.1
Kuril Islands (h = N).

UPP = Uppsala, KIR = Kiruna, UME = Umeå, UDD = Uddeholm, DEL = Delary, MYV = Myrviken

1983

Dec.	31	KIR	iPn	14 04 35.0
			iSn	14 05 55.5
		UME	iPn	14 05 30.4
			iSn	14 07 29.9
		UDD	iPn	14 06 26.2

Norwegian Sea, near 75 1/4°N, 18°E.
Origin time = 14 02 46.
By combination with Finnish station readings

August 7, 1985

Ronald Arvidsson
Ingrid Båth
Conny Holmqvist
Ota Kulhánek
Klaus Meyer