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DSIR Geology & Geophysics

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Correspondents are asked to note that surface mails from Europe and the Americas are infrequent, and that articles not sent by airmail may take four or five months to reach us.

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INTRODUCTION

The form of this Report follows lines established in recent years, but the lists of shocks now contain only earthquakes of magnitude 3.5 or greater located within 10° of Wellington, and smaller earthquakes known to have been felt in New Zealand. Many other earthquakes have however been assigned serial numbers, so the serials of the shocks listed are often not consecutive.

Phase data are not published here, but are instead sent to the International Seismological Centre, and appear in their bulletins, which constitute the only medium now in use for routine reporting of arrival time observations made in New Zealand. The lists of origin coordinates and magnitudes include sufficient supplementary information for assessment of the quality of the data on which they are based.

Seismologists urgently requiring unpublished New Zealand data may apply to the Observatory. Historic data are also available but unless a two-way information exchange is involved it is the Observatory's practice to make a charge for recovery of this material. Definitive origins for local earthquakes are usually available within a few months of their occurrence.

NEW ZEALAND SEISMICITY IN 1988

The strongest earthquake to shake New Zealand in 1988 (serial 88/0043) occurred in early January. The magnitude (M_L) was 6.1 and the epicentre lay close to Te Puke (in reporting locality 26), but the depth of over 300 km so reduced the effect at the surface that the highest intensity reported was MM4. The shock was apparently unnoticed in the northern half of the North Island, but a straggle of reports was received from Hawkes Bay and places further south, especially in the Wellington area.

In contrast to the January earthquake beneath Te Puke, the Te Anau (130) earthquake of June 3rd (88/2354) produced a report of MM9 from Manapouri (139), although its magnitude was only 5.7. This would have been less surprising if the earthquake had been unusually shallow, but its focal depth was 73 km. The area in which this shock was felt extended from the southern shore of the South Island (156) to Westport (79) and there was even a report of it being felt in Wellington (68). Although damaging intensities were experienced only in thinly populated areas, electricity supplies to Christchurch and Invercargill were interrupted when a switch at Manapouri Power Station was tripped by the earthquake.

Surpassing the Te Anau earthquake in magnitude, another deep earthquake beneath the North Island in early April (88/1369) had its focus some 150 km beneath the northern shore of Lake Taupo (39). Although this shock was felt in the population centres closest to its epicentre, there were no reports from further north, while to the south the felt area extended to Wellington (68). The maximum intensity, MM5, was reported from Palmerston North (62).

The second highest maximum intensity of the year, MM7, reported from Jackson Bay (113), was a result of a May earthquake (88/1990) of only magnitude 4.9. In this case the origin was shallow (10 km) and the epicentre was very close to Jackson Bay. The area in which the shock was felt ran from Greymouth (85) to Gore (150). In July a stronger shock some hundred kilometres farther south (88/3845) was of magnitude 5.7, but its depth of 136 km kept the maximum reported intensity down to MM5 and the felt area stretched only from Te Anau Downs Homestead (130) to Invercargill (149).

A small earthquake (88/3423) of magnitude 4.6 was felt at intensities up to MM5 in Wellington early in July. With its epicentre only 20 km from the capital and a focal depth of a little over 30 km, it prompted parliamentarians to arrange alternative accommodation, so that plans to strengthen their legislative building could be put into effect. The White Island volcano continued to be moderately active through the year, with eruption columns 3000 m high reported in June and July. A moderate phreatic eruption on December 8 ejected water, mud and rocks from the crater of Mount Ruapehu, but the North Island volcanic centres were otherwise fairly quiet.

INSTRUMENTATION IN 1988

In 1988 the Seismological Observatory seismic data collection system was continuing its transition from being mainly a network of seismographs recording analogue traces continuously on paper, to being one in which recognised "events" are recorded digitally on magnetic tape. However continuous recording by WWSSN and SRO seismographs for the registration and analysis of teleseisms and the use, at some sites, of pen-recorders for immediate inspection of freshly recorded events, continues. Some Wood-Anderson seismographs are also being retained as a calibration standard for local earthquake magnitudes. As re-equipment proceeds, some stations will be moved to seismically quieter sites, and some seismometers will be installed in boreholes.

Included in the new system are telemetered networks of several seismographs at spacings of only a few tens of kilometres. These networks have been established for research purposes or to monitor possible changes in seismicity resulting from human activity. Within each network, events are recorded digitally on magnetic tape via telemetry to a central recording station equipped with a SNARE system.

SNARE (Seismic Network Automatic Recording Equipment) is a 16-channel system which relies on a combination of spectral analysis of seismometer outputs and coincidence detection to trigger recording by the whole network.

EARSS (Automatic Equipment for the Recording of Seismograph Signals) was developed from SNARE as a single station system which can operate unattended for at least a week. Because it is a single station system it relies solely on a frequency-spectrum algorithm for event detection. An improvement on SNARE is the introduction of automatic magnification adjustment ("gain-ranging") to allow faithful recording of large-amplitude wave-forms. A 16-channel version of EARSS is under development and will eventually supersede SNARE.

Overseas stations under the scientific direction of the Observatory are not included in the current re-equipment programme, and neither are some instruments in New Zealand which are owned by organisations outside DSIR. In 1987, these cooperating organisations were: the Defence Scientific Establishment, the Universities of Auckland, Wellington and Otago, the Ministry of Works and the Electricity Corporation of New Zealand.

CHANGES TO THE NETWORKS IN 1988

Two completely new seismograph station, Pongaroa (PGZ) and Kahutara (KHZ) were established in 1988. Also, two existing stations were equipped with EARSS recorders and 3 stations with analogue recorders were taken out of service. Pongaroa, which started in September may be considered to be a replacement for the station at Castlepoint which closed down in November. The other two decommissioned stations, Tuai and Taradale, closed in March and May respectively, and had been made redundant by the Hawkes Bay Network which came into operation in 1987.

An EARSS recorder was added to the equipment at Hicks Bay (HBZ) in November, but there was no change to the seismometer, and the analog recorder continued in operation.

Introduction of an EARSS digital recorder at Mangahao (MNG) to record signals from a vertical Willmore II and two horizontal Willmore seismometers had not been without problems, but by mid-February reliability was good enough for analog recording to be stopped, and this date may be regarded, as the start of digital recording there.

At Karapiro (KRP) recording of the N-S component Benioff ceased in September.

The digital station at Kahutara was installed in November.

The Taupo network station Ohaaki 3 (OH3) was vandalised in the course of the year and its replacement was moved a short distance to a slightly less vulnerable site, Ohaaki 4 (OH4).

There was an augmentation of recording at Rotorua, in November when an EARSS recorder was installed to record traces from Tarawera (TAZ) and Utuhina (UTU) digitally on magnetic tape. (Analogue recording of these traces on paper continued). Telemetry from Paeroa (PAT), formerly linked to the Taupo Network was transferred to the Rotorua EARSS at the same time.

INDEX OF STATION CODES AND POSITIONS

The growth in numbers of seismograph stations in recent years has been so great that it is not always possible to find short mnemonic codes that are unique in the world. Nearly all the codes used below are recognised and used by the United States NEIS and by ISC, but some of those for stations in the telemetered networks may not be.

CODE	NAME	LATITUDE d	m	s		LONGITUDE d	m	s		ALT m
		SEISMIC RESEARCH OBSERVATORY								
SNZO	South Karori	41	18	37	S	174	42	17	E	-10
		STANDARD NETWORK								
AFI	Afiamalu	13	54	34	S	171	46	38	W	706
API	Apia	13	48	26	S	171	46	30	W	2
AUC	Auckland	36	51	36	S	174	46	41	E	79
BRZ	Borland Lodge	45	46	45	S	167	32	19	E	190
CAZ	Castlepoint	40	54	15	S	176	13	34	E	6
CBZ	Campbell Island	52	33	03	S	169	09	33	E	30
CDZ	Cobb Surge Chamber	41	05	44	S	172	42	47	E	780
CIZ	Chatham Islands	43	57	18	S	176	33	56	W	45
CMZ	Cashmere	43	35	10	S	172	38	23	E	255
COB	Cobb River	41	05	16	S	172	44	02	E	213
CRZ	Cape Reinga	34	25	55	S	172	40	47	E	140
GNZ	Gisborne	38	38	39	S	178	01	21	E	30
HBZ	Hicks Bay	37	35	57	S	178	18	05	E	0
KAI	Kaimata	42	31	33	S	171	24	31	E	82
KHZ	Kahutara	42	25	05	S	173	32	25	E	40
KKZ	Kaikoura	42	25	19	S	173	41	47	E	109
KRP	Karapiro	37	55	30	S	175	32	15	E	64
MNG	Mangahao	40	37	07	S	175	28	55	E	396
MSZ	Milford Sound	44	40	14	S	167	55	01	E	38
NDF	Nandi	17	45	25	S	177	27	00	E	30
NEZ	North Egmont	39	16	22	S	174	05	46	E	920
NUE	Niue	19	04	35	S	169	55	41	W	56
OBZ	Oban	46	54	18	S	168	06	55	E	26
OMZ	Oamaru	45	04	14	S	170	54	53	E	95
PGZ	Pongaroa	40	37	08	S	176	16	25	E	60
RAO	Raoul Island	29	15	06	S	177	55	06	W	110
RAR	Rarotonga	21	12	45	S	159	46	24	W	28
RGZ	Rangipo	39	09	19	S	175	50	02	E	667

RTY	Rotoiti	41	48	27	S	172	50	35	E	635
SBA	Scott Base	77	51	01	S	166	45	22	E	38
TMP	Tomahawk Gully	44	18	54	S	170	07	12	E	720
TRZ	Taradale	39	33	12	S	176	49	17	E	17
TUA	Tuai	38	48	29	S	177	09	02	E	274
WEL	Wellington	41	17	10	S	174	46	06	E	122
WIZ	White Island	37	31	42	S	177	11	21	E	40
WTZ	Whakatane	37	59	05	S	176	59	18	E	43

CLYDE NETWORK

CFC	Cairnmuir Flats	45	11	03	S	169	17	32	E	576
CMC	Cairnmuir Mts	45	08	57	S	169	16	30	E	1039
LRC	Leaning Rock	45	03	55	S	169	20	46	E	1533
LSC	Lilico Spur	45	06	59	S	169	22	09	E	759
MHZ	Mt Horn	45	03	44	S	169	16	46	E	1127
MSC	Moutere Station	45	05	35	S	169	24	42	E	701
SBC	Sonora Basin	45	05	32	S	169	18	40	E	801
TBC	Trig B	45	08	47	S	169	19	49	E	619

CONTRIBUTING STATIONS

CNZ	Chateau	39	12	00	S	175	32	51	E	1116
DNZ	Dunedin	45	51	59	S	170	30	54	E	15
DRZ	Dome Shelter	39	16	35	S	175	33	49	E	2600
GBZ	Great Barrier	36	13	04	S	175	28	52	E	70
MGZ	Maungaku	39	00	07	S	175	32	20	E	806
NGZ	Ngauruhoe	39	10	39	S	175	36	12	E	1400
TAZ	Tarawera	38	13	59	S	176	30	28	E	1027
UTU	Utuhina	38	10	39	S	176	11	32	E	410

HAWKES BAY NETWORK

MAH	Mahia	39	11	18	S	177	52	51	E	336
MOH	Mohaka	39	07	57	S	177	08	52	E	245
MRH	Marewa	39	29	57	S	176	53	18	E	4
PAH	Panekirikiri	38	51	33	S	177	03	15	E	563
TAH	Taraponui	39	08	09	S	176	44	25	E	1297
TEH	Te Atua	39	59	22	S	176	48	40	E	407
TTH	Taradale Trig	39	32	29	S	176	49	34	E	120
WAH	Wakarara	39	41	57	S	176	21	19	E	657
WHH	Whakatau	38	53	04	S	176	29	42	E	921

TAUPO NETWORK

HAT	Hinemaiaia	38	53	32	S	176	05	31	E	492
HIT	Hingarae	38	42	31	S	175	45	59	E	458
HUT	Huka	38	38	01	S	176	05	39	E	300
KET	Ketetahi	39	06	02	S	175	39	06	E	1208
OH1	Ohaaki 1	38	32	41	S	176	18	27	E	295
OH2	Ohaaki 2	38	30	42	S	176	18	10	E	300
OH3	Ohaaki 3	38	31	59	S	176	19	34	E	300
OH4	Ohaaki 4	38	32	41	S	176	19	09	E	300
PAT	Paeroa	38	22	53	S	176	15	30	E	940
RAT	Rangitukua	38	52	07	S	175	46	16	E	649
TUT	Tuhingamata	38	42	42	S	175	59	28	E	614
WK1	Wairakei 1	38	38	42	S	176	04	51	E	343
WK2	Wairakei 2	38	37	23	S	176	02	52	E	456
WK3	Wairakei 3	38	36	18	S	176	02	42	E	457
WK4	Wairakei 4	38	37	00	S	176	05	28	E	380

WELLINGTON NETWORK

BHW	Baring Head	41	24	33	S	174	52	17	E	10
BLW	Big Hill	41	22	07	S	175	28	29	E	340
CAW	Cannon Point	41	06	32	S	175	04	04	E	330
CCW	Cape Campbell	41	45	03	S	174	13	01	E	216
KIW	Kapiti Island	40	51	50	S	174	54	42	E	320
MOW	Moikau	41	25	18	S	175	15	07	E	430
MRW	Makara Radio	41	13	57	S	174	42	18	E	235
MTW	Mount Morrison	41	09	34	S	175	30	07	E	282
QHW	Quartz Hill	41	15	07	S	174	41	26	E	190
TCW	Tory Channel	41	12	48	S	174	16	33	E	150
WDW	Wainui Dam	41	16	07	S	174	59	37	E	130
WEL	Wellington	41	17	10	S	174	46	06	E	122

INSTRUMENTATION AND LITHOLOGY

STANDARD NETWORK AND CONTRIBUTING STATIONS

Stations are listed in alphabetical order of their abbreviations. Pendulum and galvanometer periods, To and Tg, are given in seconds. Damping when not listed, may be assumed to be critical. Magnifications listed are for the period of maximum response, except for World-Wide Standard Station instruments, where the magnifications are given at the conventional periods of 1.0 and 15 seconds. Response curves for Willmore II, Benioff, Wood-Anderson and Mark Products L4-C seismographs and an EARSS system, are shown at the end of this section. WWSS pen recorders mimic the response of galvanometers with the Tg shown.

	Instrument	Compt.	To	Tg	Damping	Magnification
AFI	AFIAMALU (World-Wide Standard Station until June).					
	Foundation: Basaltic lava flows.					
	Until June Benioff	ZNE	1.0	0.75		12 500 at 1.0s
	Press-Ewing	ZNE	15	100		750 at 15s
	From June					
	Streckeisen digital	ZNE	(analogue output simulates WWSS paper records)			
API	APIA					
	Foundation: Coral sand on Recent and Pleistocene basalt.					
	Johnson-Matheson (photo-cell amplifier with hot stylus recorder).					
		Z	1.2			Uncertain
AUC	AUCKLAND					
	Foundation: Volcanic beds on Tertiary sandstone and mudstone.					
	Mark Products L4-C (with Kinemetrics VR-1 pen-recorder).					
		Z	1.0			3 800 at 0.25s
BRZ	BORLAND LODGE					
	Foundation: Quaternary gravels.					
	Willmore II	Z	1.0	0.25		29 100 at 0.25s
	Wood-Anderson	X	0.80		crit.	2 800 at 0.80s
	The Wood-Anderson is oriented with the X component northeast.					
CAZ	CASTLEPOINT (until November)					
	Foundation: Quaternary mudstone.					
	Willmore II (with Kinemetrics VR-1 pen-recorder).					
		Z	1.0			Variable
	The magnification may be reduced when high seas are running.					
CBZ	CAMPBELL ISLAND					
	Foundation: Basalt.					
	Willmore II	Z	1.0	0.25		5 000 at 0.25s
CIZ	CHATHAM ISLANDS					
	Foundation: Clay over basalt.					
	Willmore II (with Kinemetrics VR-1 pen-recorder).					
		Z	1.0			4 440 at 0.20s
CMZ	CASHMERE					
	Foundation: Rhyolite.					
	Mark Products L4-C (Telemetered to Kinemetrics VR-1 pen-recorder).					
		Z	1.0			24 000 at 0.20s

	Instrument	Compt.	To	Tg	Damping	Magnification
CNZ	CHATEAU (Geophysical Survey)					
	Foundation: Volcanic ash and Lava.					
	Mark Products L4-C (Telemetered to Kinemetrics VR-1 pen-recorder).					
		Z	1.0			Variable
COB	COBB RIVER					
	Foundation: Schist.					
	Willmore II	Z	1.0	0.25		27 300 at 0.20s
DNZ	DUNEDIN (University of Otago)					
	Foundation: Basaltic lava flow.					
	Willmore III with Kinemetrics pen-recorder.					
		Z	1.0			Variable
		N	1.0			Variable
		E	1.0			Variable
DRZ	DOME SHELTER (Geophysical Survey)					
	Foundation: Recent andesitic ash.					
	Mark Products L4-C (High and low magnifications, telemetered to Kinemetrics VR-1 pen-recorders).					
		Z	1.0			Variable
GBZ	GREAT BARRIER (Defence Scientific Establishment)					
	Foundation: Tertiary volcanics.					
	Mark Products L4-C (with Kinemetrics VR-1 pen-recorder)					
		Z	1.0			
GNZ	GISBORNE					
	Foundation: Alluvium on Tertiary mudstone.					
	Willmore II	Z	1.0	0.25		27 000 at 0.25s
		N	1.0	0.25		29 500 at 0.20s
HBZ	HICKS BAY					
	Foundation: Consolidated conglomerate.					
	Mark Products L4-C in borehole (with Kinemetrics VR-1 pen-recorder).					
		Z	1.0			67 500 at 0.10s
	also EARSS digital recorder from November.					
KAI	KAIMATA					
	Foundation: Moraine and river gravels over Tertiary mudstone and sandstone.					
	Wood-Anderson	X	0.80		crit.	2 800 at .80s
	This instrument is oriented with the X component northeast.					
KHZ	KAHUTARA					
	Foundation: Jurassic greywacke					
	Mark Products	Z	1.0 (with EARSS digital gain-ranging recorder)			
KKZ	KAIKOURA					
	Foundation: Tertiary limestone and mudstone.					
	Willmore II	Z	1.0	0.25		12 000 at 0.25s
KRP	KARAPIRO					
	Foundation: Greywacke.					
	Benioff	Z	1.0	0.20		46 700 at 0.25s
	(until September)	N	1.0	0.20		41 000 at 0.50s
	Wood-Anderson	E	0.8		crit.	2 800 at 0.80s

	Instrument	Compt.	To	Tg	Damping	Magnification
MGZ	MAUNGAKU (Ministry of Works)					
	Foundation: Quaternary andesite.					
	Mark Products L4-C (Telemetered to Kinemetrics VR-1 pen-recorder).					
		Z	1.0			Variable
MNG	MANGAHAO					
	Foundation: Greywacke					
	Willmore II	Z	1.0	0.25		53 000 at 0.33s
	(EARSS digital gain-ranging recorder from February)					
MSZ	MILFORD SOUND					
	Foundation: Gneiss.					
	Willmore II	Z	1.0	0.25		49 800 at 0.25s
NDF	NADI					
	Foundation: Recent clays.					
	Willmore II (photo-cell amplifier with hot stylus recorder).					
		Z	1.25			6 000 approx.
NEZ	NORTH EGMONT					
	Foundation: Volcanic ash.					
	Mark Products L4-C (with Kinemetrics VR-1 pen-recorder).					
		Z	1.0			25 100 at 0.10s
NGZ	NGAURUHOE (Geophysical Survey)					
	Foundation: Recent volcanic flows.					
	Mark Products L4-C (Telemetered to Kinemetrics VR-1 pen-recorder).					
		Z	1.0			Variable
NUE	NIUE					
	Foundation: Hard coral.					
	Willmore II (with Kinemetrics VR-1 pen-recorder).					
		Z	1.0			17 200 at 0.10s
OBZ	OBAN					
	Foundation: Weathered granite.					
	Mark Products L4-C (with Kinemetrics VR-1 pen-recorder).					
		Z	1.0			12 000 at 1.0s
OMZ	OAMARU					
	Foundation: Recent deposits overlying Tertiary limestone.					
	Willmore II	Z	1.0	0.20		11 500 at 0.20s
PGZ	PONGAROA (from September)					
	Foundation: Tertiary Sediments					
	Mark Products L4-C (with EARSS digital gain-ranging recorder).					
		Z (borehole	1.0			
RAO	RAOUL ISLAND					
	Foundation: Volcanic rock.					
	Willmore II	Z	1.0	0.25		4 800 at 0.25s
RAR	RAROTONGA (World-Wide Standard Station)					
	Foundation: Basalt.					
	Benioff	ZNE	1.0	0.75		6 250 at 1.0s
	Press-Ewing	ZNE	15	100		375 at 15s
	EARSS digital event recorder tuned to trigger on T-waves.					

	Instrument	Compt.	To	Tg	Damping	Magnification
RGZ	RANGIPO					
	Foundation: Volcanic rock.					
	Mark Products L4-C (with Kinemetrics VR-1 pen-recorder).					
		Z	1.0			8 000 at 1.0s
RTY	ROTOITI					
	Foundation: Glacial gravels.					
	Mark Products L4-C (with Kinemetrics VR-1 pen-recorder).					
		Z	1.0			Uncertain
SBA	SCOTT BASE (World-Wide Standard Station)					
	Foundation: Frozen basaltic debris resting on lava flows.					
	Benioff	ZNE	1.0	0.75		12 500-50 000 at 1.0s according to season
	Press-Ewing	ZNE	15	100		750 at 15s
TAZ	TARAWERA (Geological Survey)					
	Foundation: Rhyolite lava.					
	Mark Products L4-C (Telemetered to Kinemetrics VR-1 pen-recorder).					
		Z	1.0			Variable
TMP	TOMAHAWK GULLY					
	Foundation: Mesozoic Greywacke					
	Mark Products L4-C (Telemetered to Kinemetrics VR-1 pen-recorder).					
		Z	1.0			750 000 at 0.20s
		N	1.0			100 000 at 0.20s
TRZ	TARADALE (until May)					
	Foundation: Quaternary sands and silts, overlying Quaternary limestone.					
	Willmore II	Z	1.0	0.25		5 550 at 0.25s
TUA	TUAI (until March)					
	Foundation: Thick Tertiary sandstone and mudstone.					
	Willmore II	Z	1.0	0.25		7 080 at 0.25s
UTU	UTUHINA (Geological Survey)					
	Foundation: Ignimbrite.					
	Mark Products L4-C (Telemetered to Kinemetrics VR-1 pen-recorder).					
		Z	1.0			Variable
WEL	WELLINGTON (World-Wide Standard Station)					
	Foundation: Greywacke.					
	Benioff	Z	1.0	0.75		6 250 at 1.0s
	Press-Ewing	ZNE	15	100		750 at 15s
	Wood-Anderson	NE	0.80		crit.	1 400 at 0.8s
	Imamura	Z	1	5:1		2
		NE	4	5:1		2
	The Benioff vertical component operates both pen-and-ink and heated stylus recorders					
WIZ	WHITE ISLAND (Geological Survey/Victoria University)					
	Foundation: Recent andesite.					
	Mark Products L4-C (Telemetered to Kinemetrics VR-1 pen-recorder).					
		Z	1.0			Variable
WTZ	WHAKATANE					
	Foundation: Weathered Jurassic greywacke.					
	Willmore II	Z	1.0	0.20		24 000 at 0.20s

SEISMIC RESEARCH OBSERVATORY

This station is sponsored by the United States Geological Survey. A three-component seismometer sealed in a gas-filled capsule is located in a borehole 165 mm in diameter and about 100 m deep, at a quiet site several kilometres from the Observatory. The ground surface there is 88 m above, and the seismometer 10 m below, sea level. Both digital and analogue recordings are made from the three long-period and the vertical component short-period outputs. Paper analogue records are archived by the Observatory, but the digital tape records of detected events are held by the USGS. The recorder is at the observatory site in Kelburn, and the signals are transmitted to it by landline.

Code	Station	Component	Magnification
SNZO	South Karori	ZNE Z	5 000 at 25s 6 250 at 1.0s
The lithological foundation is Jurassic-Permian Greywacke.			

CLYDE NETWORK

A network of seismometers has been installed near Clyde to collect data on the prevailing level of microseismicity in the area of the dam now being constructed on the Clutha River. The network is operated in 1988 by the Electricity Corporation of New Zealand and is used to monitor any changes in local seismicity associated with the use of the lake for the generation of electricity. The system records all detected seismic events in digital form, on magnetic tape. Tapes are interpreted and retained at the Observatory where they are available for other seismological use. Clyde network stations are linked by radio telemetry to a multi-channel SNARE (Seismic Network Automatic Recording Equipment), which both detects and records seismic events, at Clyde. The seismometers are Mark Products L4-C instruments with a natural period of one second and the lithological foundation at all stations is Schist. Recorded waveforms can be displayed on a monitor screen at any required scale.

Code	Station	Component
CFC	Cairnmuir Flats	Z
CMC	Cairnmuir Mountains	Z
CYZ	Clyde (renamed Trig B)	Z
LRC	Leaning Rock	Z
LSC	Lilico Spur	Z
MHZ	Mount Horn	Z
MSC	Moutere Station	Z
SBS	Sonora Basin	Z
TBC	Trig B (formerly Clyde)	Z

HAWKES BAY NETWORK

The Hawke's Bay network has been installed to monitor seismicity in an area which has not only some potential for hydro-electric power generation, but also a history of severe earthquakes. Station codes are not internationally recognised. Marewa produces high- and low-gain records from a three-component seismometer. The network records on a SNARE System in Napier.

Code	Station	Component(s)	Foundation
MAH	Mahia	Z	Mudstone
MOH	Mohaka	Z	Dune Sand
MRH	Marewa	ZNE (High gain)	Alluvium
		ZNE (Low gain)	"
PAH	Parekirikiri	Z	Pumice Tuff
TAH	Taraponui	Z	Limestone
TEH	Te Atua	Z	Limestone
TTH	Taradale Trig	Z	Calcareous mudstone
WAH	Wakarara	Z	Greywacke
WHH	Whakatau	Z	Ignimbrite

TAUPO NETWORK

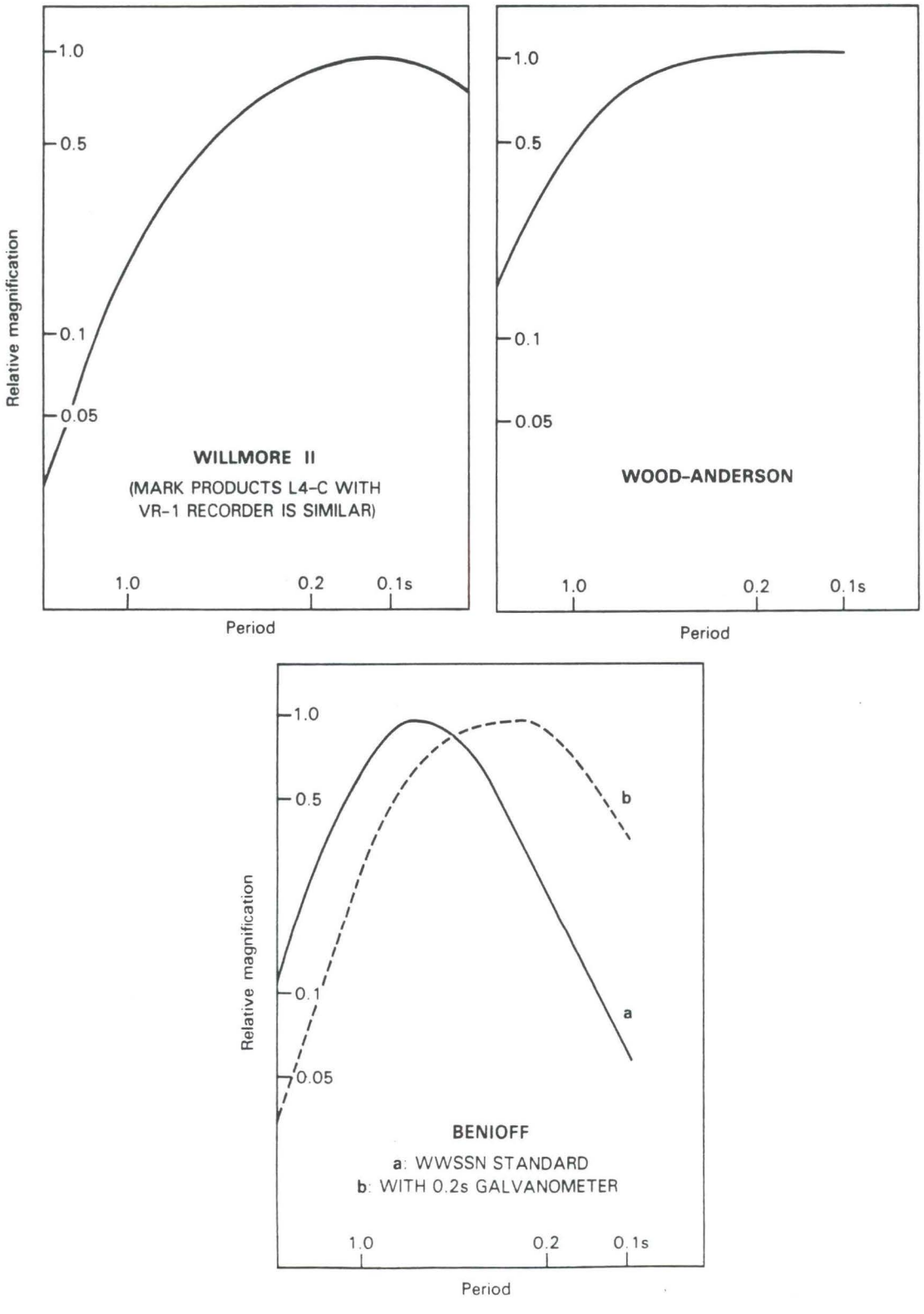
This network is intended to monitor volcanic and geothermal activity in the Taupo Volcanic Region. Although relatively quiet in historic times, (the 1886 Tarawera eruption notwithstanding), the geological record shows that the Region has been the scene of larger-scale activity at a number of times in the more distant past. The network records on a SNARE system at Wairakei. Station codes are not internationally recognised.

Code	Station	Component	Foundation
HAT	Hinemaiaia	Z	Ignimbrite
HIT	Hingarae	Z	Ignimbrite
HUT	Huka	Z	Pumice breccia
KET	Ketatahi	Z	Andesite
OH1	Ohaaki 1	Z	Pumice
OH2	Ohaaki 2	Z	Pumice
OH3	Ohaaki 3	Z	Pumice
OH4	Ohaaki 4	Z	Pumice
PAT	Paeroa	Z	Ignimbite
RAT	Rangitukua	Z	Rhyolite
TUT	Tuhingamata	Z	Rhyolite
WK1	Wairakei 1	Z	Pumice
WK2	Wairakei 1	Z	Pumice
WK3	Wairakei 1	Z	Pumice
WK4	Wakrakei	Z	Pumice

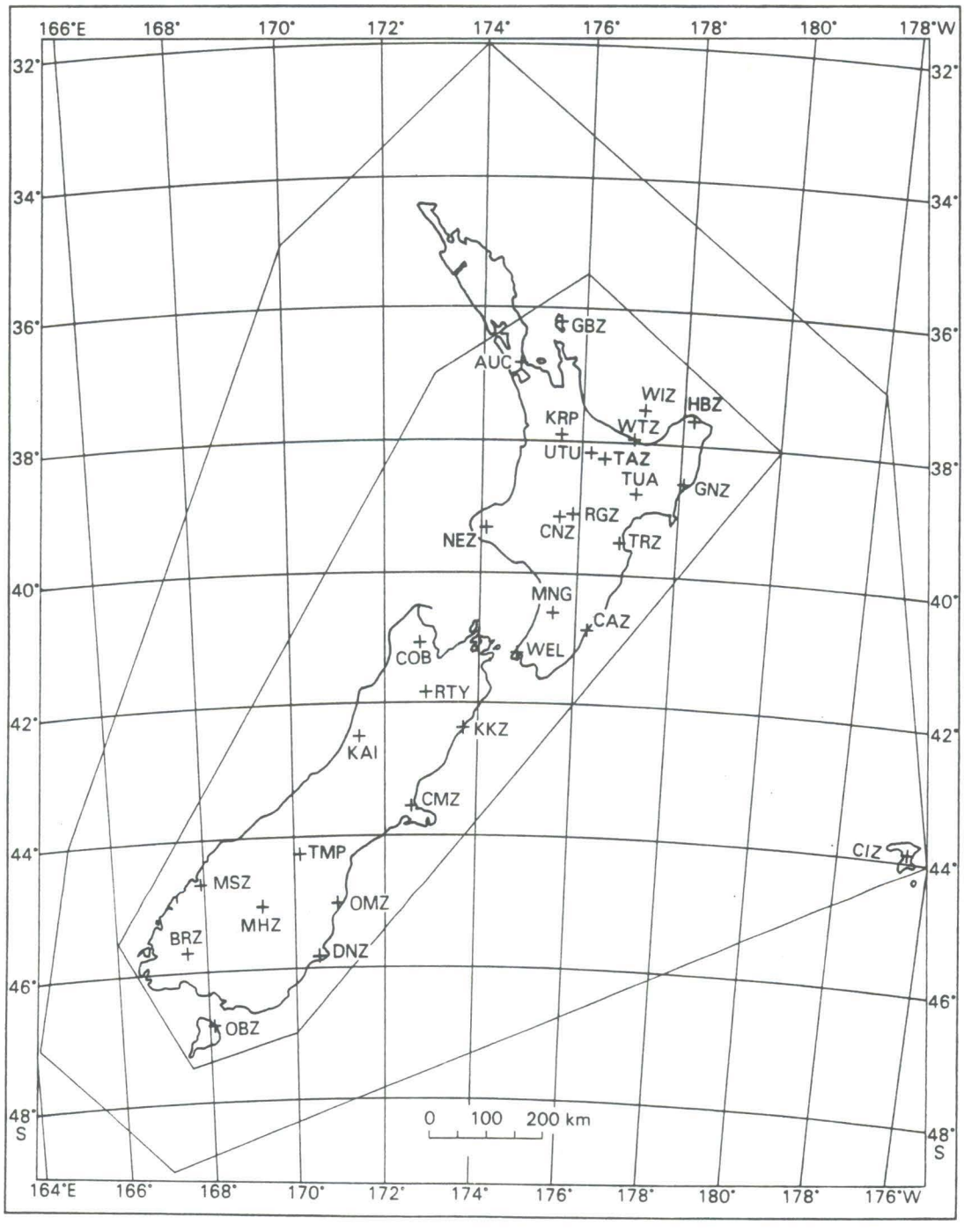
WELLINGTON NETWORK

The stations of the Wellington network are linked by radio or land-line to a common SNARE event-detecting and recording system at the Observatory at Kelburn. The seismometers are Mark Products L4-C instruments with a period of 1.0 second. SNARE records are made on magnetic tape and may be displayed on a monitor screen at any required magnification. The lithological foundation at all stations is Jurassic-Permian Greywacke, except at CCW which is on Miocene sandstone.

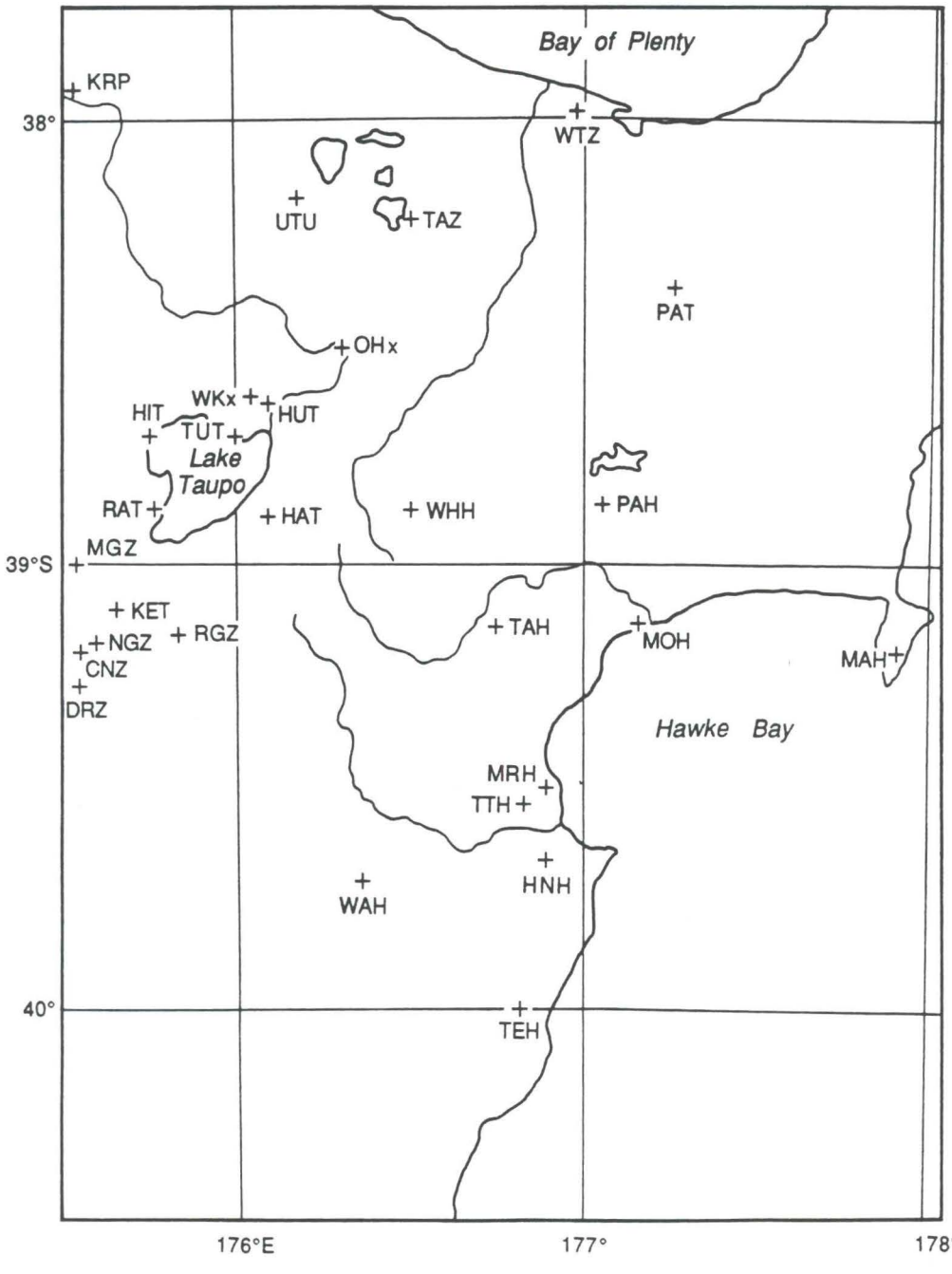
Code	Station	Component(s)
BHW	Baring Head	Z
BLW	Big Hill	Z
CAW	Cannon Point	Z
CCW	Cape Campbell	Z
KIW	Kapiti Island	Z
MQW	Moikau	Z
MRW	Makara Radio	Z
MTW	Mount Morrison	Z
QHW	Quartz Hill	ZNE
TCW	Tory Channel	Z
WDW	Wainui Dam	Z
WEL	Wellington	N



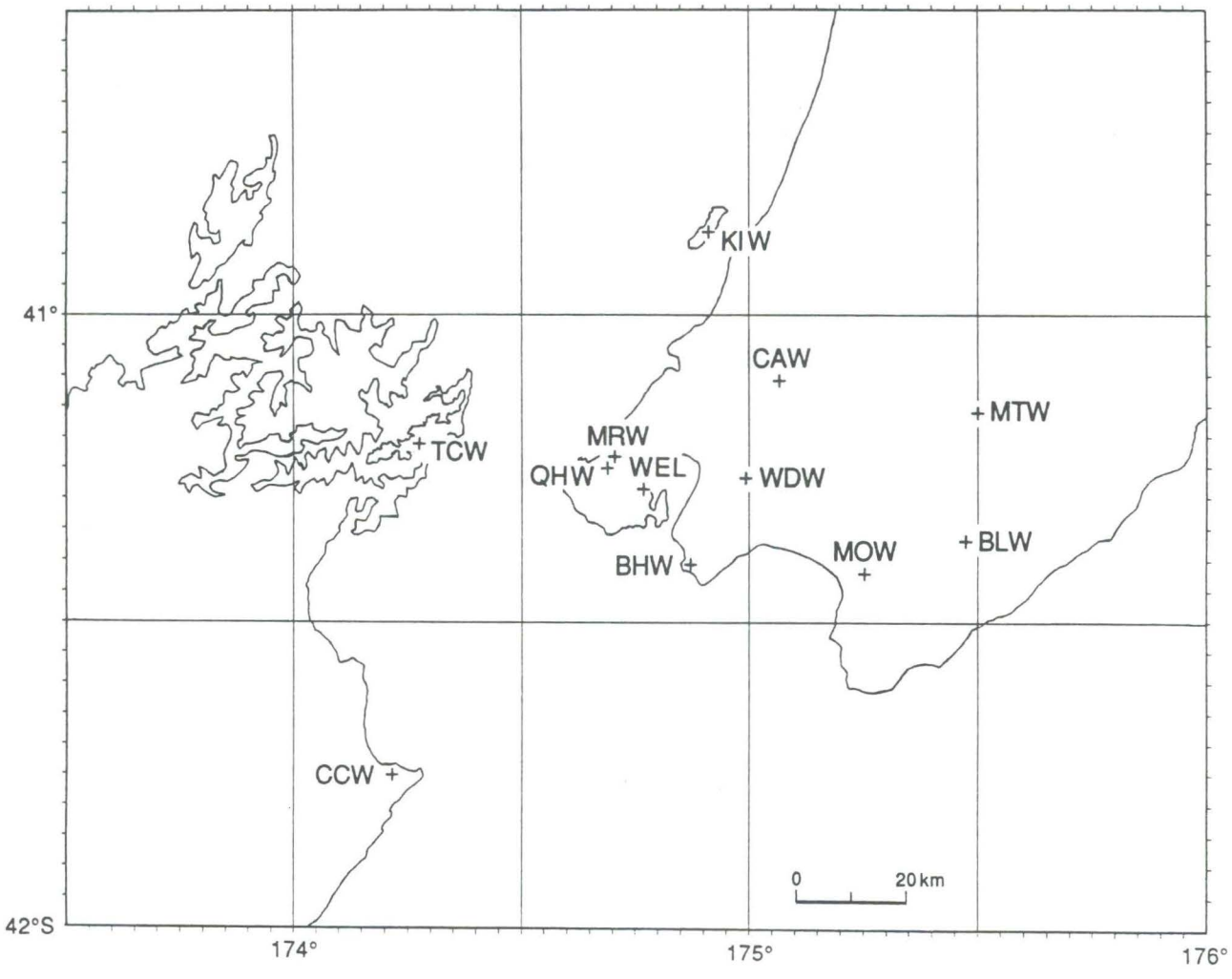
Period response curves of short period seismographs.



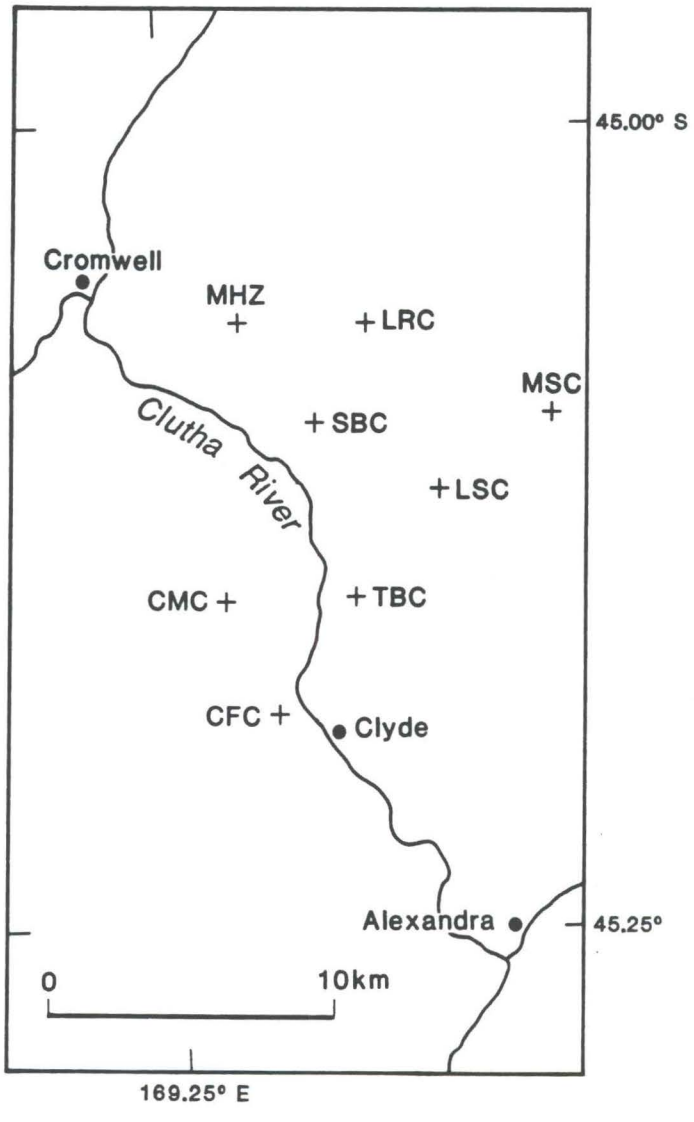
Stations of the National Seismograph Network. Some stations that are too closely spaced to show on this scale are shown instead on the map of the Taupo and Hawke's Bay networks. The inner and outer polygons define areas where accuracy of epicentre locations is considered reliable, less reliable and inadequate.



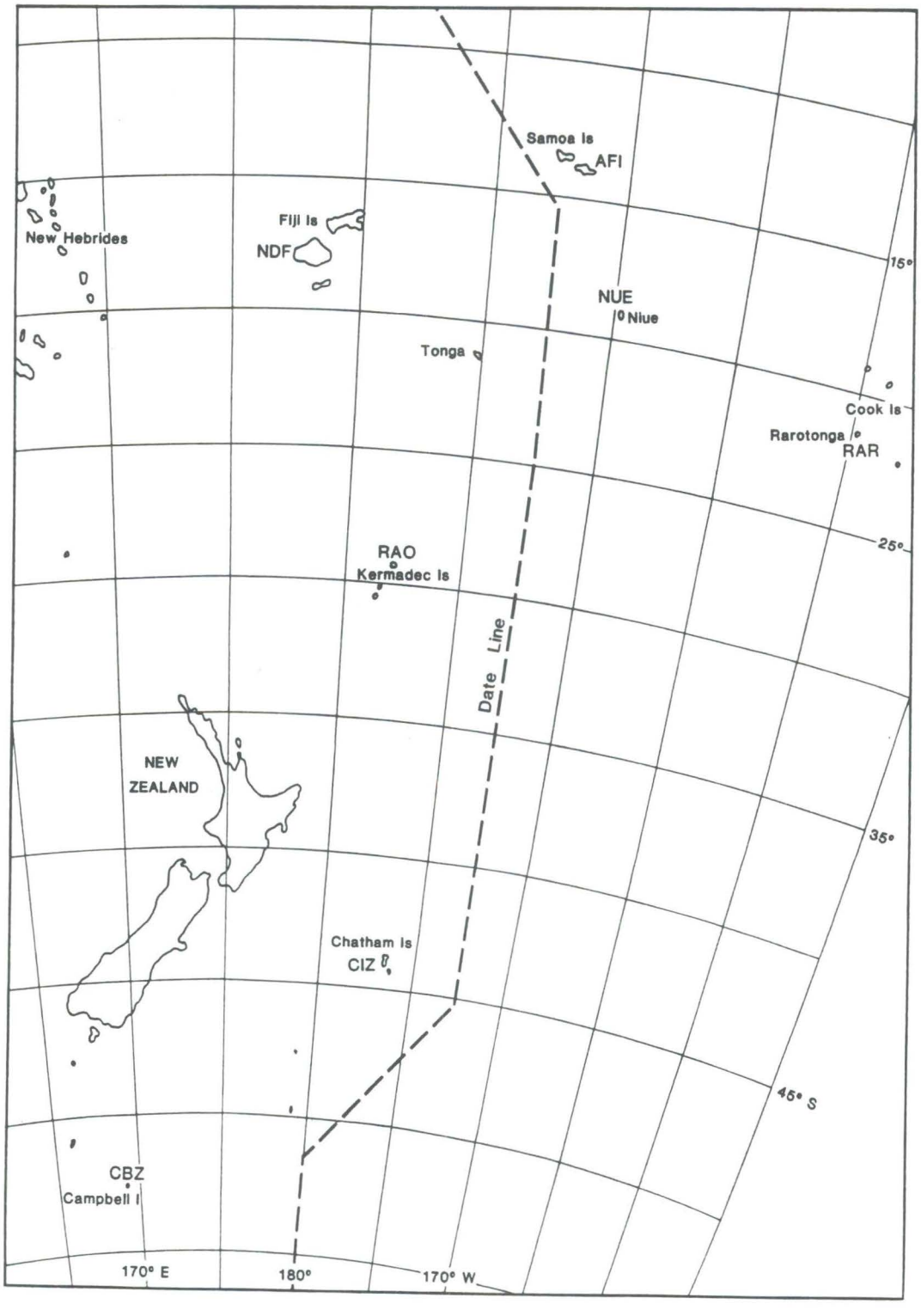
Stations of the Taupo and Hawke's Bay Networks. Other stations lying within the boundaries of the map are also shown. OH1-OH4 and WK1-WK4 are clustered close to the positions shown by OHx and WKx.



The Wellington Network includes stations on both sides of Cook Strait.



The Clyde Network monitors seismic activity around the Clyde Dam.



Pacific Island Stations

TIMING ARRANGEMENTS

Unless stated otherwise, times in this Report are given in Universal Time (U.T. or, more strictly, U.T.C., defined in a later section). For most seismological and civil purposes this may be regarded as the Mean Solar Time of the Greenwich meridian.

On paper seismograms made by the national network, minute marks, derived from quartz crystal clocks of high stability, appear on records as abrupt trace deflections of about two seconds duration. Radio time signals also operate the trace deflector so that the relationship between the locally generated minute marks and Universal Time can be established. In most cases the radio signals are those of the New Zealand Time Service, transmitted hourly through the stations of Radio New Zealand, but in areas where local reception is bad, a time signal broadcast from overseas may be used. It is estimated that the total error in time-signal recording resulting from signal transmission and delay in operation of the trace deflector should never exceed 30 milliseconds.

SNARE and EARSS instruments are also equipped with high stability clocks and radio receivers tuned to pick up Time Service signals. A software routine establishes a clock drift rate and applies a correcting signal calculated to bring the clock smoothly into synchronism with the time signals (which are usually received hourly). The difference between internally kept time and Time Service times is recorded and a correction applied by CUSP interactive display software to the phase onset times chosen by analysts. Corrected arrival times are expressed to a precision of one hundredth of a second, usually with an accuracy of a few hundredths, but errors of almost a tenth of a second have occasionally been detected.

Stations of the World-Wide Standard Seismograph Network have the timing arrangements usual at such stations. At other stations beyond New Zealand, time signals originating from the national Time Service or some other reliable time service are used.

It is sometimes desirable to know the local civil time at which an earthquake occurred. The times now used for civil purposes in New Zealand (except the Chatham Islands) are New Zealand Standard Time, and New Zealand Daylight Time, which are defined in the Time Act, 1974. New Zealand Standard Time is 12 hours, and New Zealand Daylight Time 13 hours, ahead of U.T. The period of Daylight Time is specified by Order in Council, as provided by the Act, and in 1988 Daylight Time was in effect until 02h NZST on March 6th, and from 02h NZST on October 30th until the end of the year.

The time observed in the Chatham Islands is 45 minutes in advance of that currently in use in New Zealand. New Zealand Standard Time is observed at Scott Base, in Fiji and on Raoul and Campbell Islands. Times kept elsewhere in the South Pacific are set by the governments of the respective countries. Those used in places which sometimes report earthquakes to the Observatory are listed below.

Western Samoa	11h 00m behind U.T.
Niue	11h 00m behind U.T.
Rarotonga	10h 00m behind U.T.
Tonga	13h 00m ahead of U.T.
Norfolk Island	11h 30m ahead of U.T.
French Polynesia	10h 00m behind U.T.

Note that Western Samoa, Niue, Rarotonga and French Polynesia are on the opposite side of the International Date Line from New Zealand.

ORIGIN INFORMATION

CONTENT

This section contains origin times, epicentres, focal depths, and magnitudes of earthquakes in the New Zealand region that the Observatory has located from instrumental data, together with indicators of the quality of the data used.

In the areas within the inner and outer polygons outlined on the map on page 20, the Observatory attempts to determine origins for all shallow earthquakes of M_L 3.7 or more, and all shocks of M_L 4.0 or more, respectively. (Origins are regarded as shallow if their depth is less than 60 km.) Origins are also calculated for smaller or more distant earthquakes reported to have been felt in New Zealand. Weak shocks felt during earthquake swarms do not automatically get this individual attention, but an origin is found for at least one shock in any sequence giving rise to felt reports.

DETERMINATION OF ORIGINS

Earthquake origins are determined using P & S phases or first-arriving crustal P & S phases. Four different velocity/depth structures are used to calculate travel-times of rays passing through and immediately beneath the crust in different parts of the country (see table below). Beneath the "Moho" defined by these models, velocities are smoothly merged with those of the Jeffreys-Bullen Tables (British Association for the Advancement of Science, 1958). The Standard velocity model is used to calculate crustal velocities beneath all regions except those defined in the following table.

MODEL	UPPER DEPTH BOUNDARY (km)	Vp (km/s)	Vs (km/s)	CORNERS OF REGION Lat.	Long.
				(in clockwise order)	
New Zealand Standard	0.0	5.5	3.3		
	12.0	6.5	3.7		
	33.0	8.1	4.6		
Wellington	0.0	4.40	2.54	41.0 S	178.0 E
	0.4	5.63	3.16	43.5 S	175.0 E
	5.0	5.77	3.49	42.0 S	173.0 E
	15.0	6.39	3.50	39.7 S	175.7 E
	25.0	6.79	3.92		
	35.0	8.07	4.80		
	45.0	8.77	4.86		
Taupo	0.0	3.00	1.70	35.6 S	180.0 E
	2.0	5.30	3.00	38.0 S	177.5 E
	5.0	6.00	3.50	39.7 S	175.7 E
	15.0	7.40	4.30	39.0 S	175.0 E
	33.0	7.78	4.39	37.0 S	176.0 E
	65.0	7.94	4.51	34.6 S	178.5 E
	96.4	8.08	4.52		
Clyde	0.0	4.4	2.6	45.5 S	172.0 E
	0.5	6.0	3.3	49.0 S	167.0 E
	12.0	6.5	3.7	44.5S	168.0 E
	33.0	8.1	4.6	44.0 S	169.0E

Seismograms are displayed on high-resolution graphics monitor screens under the control of CUSP (Caltech-USGS Seismic Processor) interactive software, for an analyst to select phase onset times by positioning a cursor on the trace. The analyst also selects the amplitude maximum to be used in magnitude calculations. Whenever possible, locations are based exclusively on times of first-arriving P and S phases.

Weights are initially assigned to phase arrival times by analysts according to the precision of the measurement. The weight of readings is further modified by the location program, which, after each iteration, weights the residuals used to adjust the trial origin. The procedure (see Jeffreys, H., 1939: Probability Theory, Cambridge University Press) greatly reduces the weight given to phases with residuals greater than three standard errors.

In general, all four coordinates of the earthquake origin are calculated (origin time, latitude, longitude, and focal depth). In some cases, however, the focal depth is not allowed to vary, but restricted to some chosen depth. This is most commonly done for crustal earthquakes. Unless there is a station within 25 km of a shock in the upper crust, or within 50 km of a shock in the lower crust, a nominal depth of either 12 or 33 km is usually assigned, according to the crustal phases present and the goodness of fit of the resulting solution. Less often, the depth is restricted to a smaller value, particularly when the strengths of locally reported felt intensities indicate an uncommonly shallow focus. The letter R printed after the depth in the lists which follow indicates a restriction for any of the foregoing reasons. There are also times when data not suitable for input to the location program (e.g. overseas PKP readings), indicate the depth of focus; in such cases the depth is similarly fixed and the restriction shown by following the depth by the letter G (to indicate intervention by a Geophysicist). When convergence of the location program fails for lack of enough data, both epicentre and depth are fixed at values consistent with the available information, and computation limited to finding a compatible origin time. Such doubly-restricted origins have the letters RR printed after the depth.

In routine origin determinations, sufficient of the stations nearest to the epicentre are read to ensure that there will be enough data for a satisfactory solution. When enough near observations are available, arrival times recorded at stations more distant from the epicentre are excluded from the calculations. Observatory analysts are free to completely reject data which they think to be unreliable, or to assign a low initial weight to it in the location program's procedure for minimising mean residuals. (See later details of how the weights are used).

In using the results in this section, it is essential to keep in mind that the positions of earthquakes with epicentres outside the network of seismograph stations can be very uncertain, even though the mean residual is small. With the aim of helping the reader to assess the reliability of the results presented here, the positional relationships between an epicentre, and the stations which recorded the data used to find it, are given after the calculated origin coordinates. Similarly, the number of magnitude estimates contributing to the mean value, and an indication of their scatter, are also shown.

The solutions presented here are in all cases based upon uniform procedures applied to laterally homogeneous models. Because well-established local models have been used to calculate the origins of shocks within the Wellington and Clyde Networks, systematic errors in these areas should be smaller than in other parts of the country.

The extensive development of CUSP software necessary to adapt it for use in New Zealand was undertaken by Dr T Webb and Dr E Smith.

MAGNITUDES

The magnitudes assigned to local earthquakes are intended to be the values of M_L as originally defined by C.F. Richter (Bull. Seism. Soc. Am. 25: 1-32, 1935), but his procedure for performing the magnitude calculation at other than the standard distance of 100 km has been modified, so as to take account of the observed characteristics of energy propagation in New Zealand, including the effect of focal depth. (For deteails, see Haines, A.J.: A local magnitude scale for New Zealand earthquakes, Bull. Seism. Soc. Am. 71: 275-94.)

ANALOGUE RECORDS

Magnitude estimates made from analogue seismograms are based on the largest amplitudes in the P and S groups, recorded by Willmore vertical and Wood-Anderson seismographs. (The distribution of these may be found in the earlier section on instrumentation.) At Wellington, where two-component Wood-Anderson instruments are installed, the sum of the amplitudes is used. An amplitude-distance relationship of the form

$$A = A_0 R^{-N} \exp(-\alpha R)$$

where A is a trace amplitude recorded at an epicentral distance R, A_0 is a calibration function, N is a geometric spreading factor and α is an inelastic attenuation coefficient, has been found appropriate for all parts of the country.

For all New Zealand crustal earthquakes N is 2 and α generally takes a value close to 0. With these values, the relationship describes head-wave propagation with no attenuation. In the Central Volcanic Region, however, (see Map, page 30), α takes values of 0.8 deg^{-1} for P waves and 1.05 deg^{-1} for S waves. Adjustments are therefore made according to the distance travelled in the volcanic region.

For deep earthquakes in the Main Seismic Region the same parameters as for crustal earthquakes apply (N = 2, α = 0), provided that (i) R now measures the slant distance from the focus to the base of the crust, and (ii) stations to the west of the volcanic region or south of the Main Seismic Region are not used, because the structure there necessitates different spreading and attenuation terms.

Magnitude corrections for the two classes of focal depth, for P and S phases recorded on Willmore and Wood-Anderson instruments.

Station		Willmore P		Willmore S		Wood-Anderson	
		≤ 33 km	> 33 km	≤ 33 km	> 33 km	≤ 33 km	> 33 km
AUC							
BRZ	Fiordland only		0.05		-0.20		0.05
	All shallow	0.15		-0.10		0.15	
CMZ		0.05		-0.15			
COB		0.15		-0.40			
CRZ		0.25		0.20			
GBZ							
GNZ		0.00	0.00	-0.20	-0.20		
HBZ							
KAI							0.30
KKZ		0.25	0.25	0.05	0.05		
KRP		-0.25		-0.30			
MNG		-0.35	-0.40	-0.45	-0.50		
MSZ	Fiordland only		-0.35		-0.60		
	All shallow	-0.25		-0.50			
NEZ							
OBZ		0.00		-0.40			
OMZ		0.15		-0.15			
RGZ							
RTY							
TMP							
TRZ		0.30	0.45	0.15	0.10		
TUA		0.40	0.40	0.35	0.40		
WEL						0.30	0.30
WTZ		-0.10	0.05	0.05	0.00		

For deep earthquakes in Fiordland the same amplitude-distance relationship is used, with (i) N given the value 1 (body wave propagation), (ii) α increasing with focal depth, and (iii) stations in the Main Seismic Region (apart from COB) not used, because of variations of the coefficients N and α. Milford Sound (MSZ) and Borland Lodge (BRZ) should ideally be excluded for the same reason, but as they are sometimes the only stations from which any estimate of magnitude can be made, they are used when necessary, with $N = 2$ and $\alpha = 0$.

Corrections are applied to allow for differences in site effects, frequency responses and magnifications of the instruments. Their determination is empirical, and made in such a manner as to give the most consistent estimates of magnitude from the different stations, and their absolute level is adjusted to give a standard Wood-Anderson instrument at Wellington a zero correction, a procedure that can be justified on *a priori* grounds and provides a smooth connection with New Zealand magnitudes published before 1977. Station Corrections (Table on page 28) are added to the individual estimates of magnitude, which are then averaged. The trace amplitudes on which magnitude calculations are based are no longer published, but the number of measurements and the number of stations contributing to the average magnitude are listed (e.g. "5M/4stn" appearing in a data summary indicates that 5 amplitude measurements of records from 4 stations were used to compute an average). When amplitude measurements from other stations are available, the BRZ and MSZ estimates are only given half weight in the calculation of the average magnitude.

DIGITAL RECORDS

For stations more than 100 km away from the epicentre of an earthquake, magnitude is estimated using the maximum number of digital amplitude counts in the wave train, scaled to be equivalent to a maximum amplitude (in millimetres) recorded by a Willmore vertical seismometer with an analogue recorder. This amplitude is then processed in the same way as any other Willmore analogue amplitude, to produce a single-station estimate of M_L.

For stations closer than 100 km, the formula

$$M_A = \log_{10} A + 1.0 \log_{10} R + 0.0029 R + K$$

developed by Robinson (1987) is used, where A is the maximum digital count, R is the slant distance from the station to the earthquake focus (in kilometres) and K is a station correction allowing for digital sensitivity and site factors.

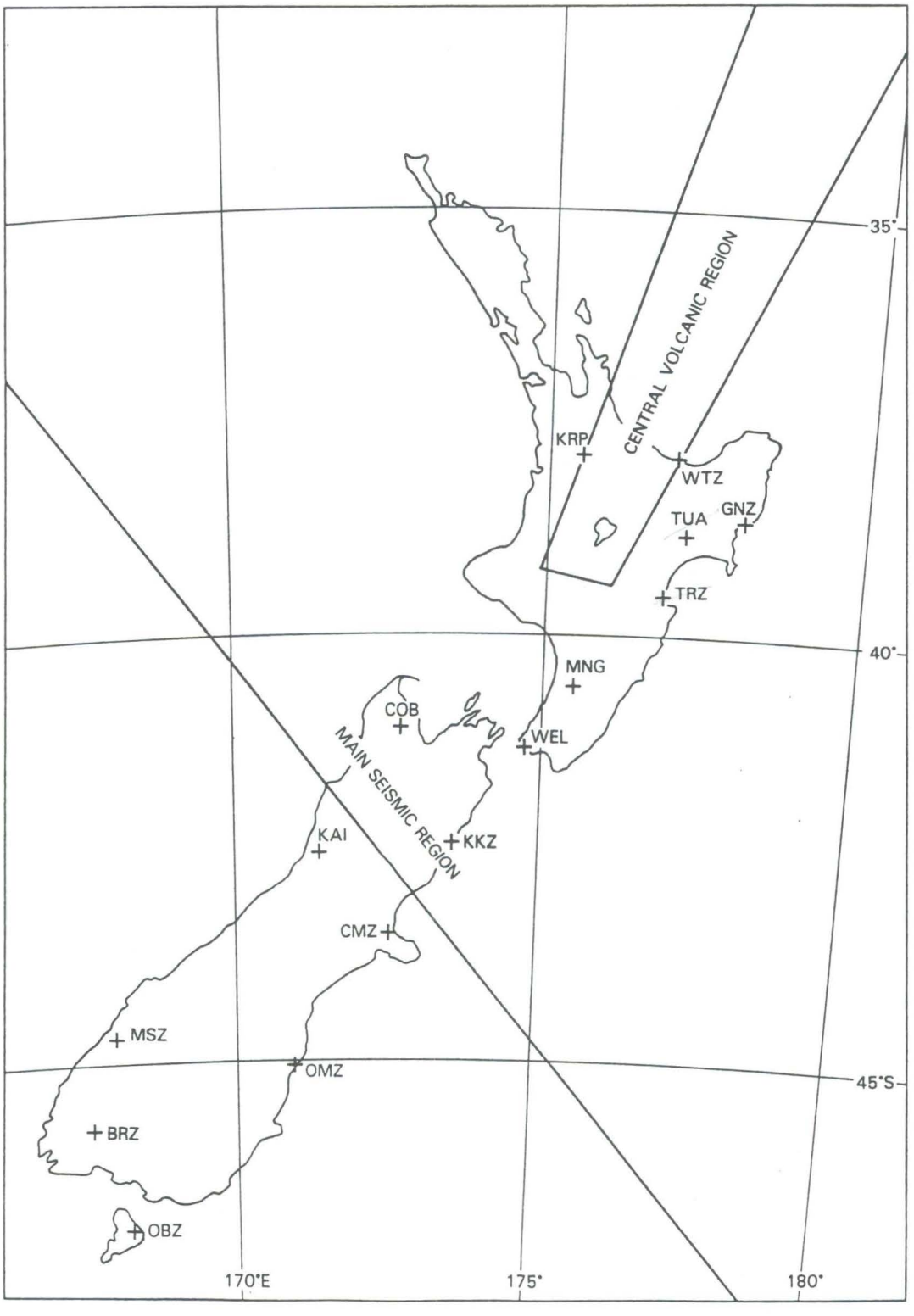
Some stations of the Taupo Network have a non-linear amplitude response, and are used to estimate magnitudes only if earthquakes are of $M_L < 5$ and have epicentres in the Central Volcanic Region. For such earthquakes, the relation

$$M_D = 3.0 \log_{10} D$$

is used, where D is the interval in seconds from the origin time of the event until the amplitude falls below a pre-set level.

The definitive local magnitude is finally calculated as a weighted average of all station estimates, with Taupo Network estimates and estimates from stations at distances less than 100 km given half weight and all other stations given full weight.

Robinson, R., 1987, "Temporal variations in coda duration of local earthquakes in the Wellington region, New Zealand."



Stations and regions used for determination of magnitudes from analogue records.

DATA FROM THE NATIONAL NETWORK

LAYOUT

The first entry for each earthquake is the reference number, used throughout the Report. The second line gives the origin coordinates and the magnitude and the third line shows, beneath each of the coordinates in line two, its standard error. Where depth has been restricted, the letter R or G in place of the standard error indicates the fact. The fourth line starts with Rsd, the standard deviation of residuals, an indication of how well the adopted origin reconciles the available data with the earth models used by the location program. Formally,

$$Rsd = \left[\sum_{i=1}^{n} \{(w_i r_i / 100)^2 / (n-m)\} \right]^{1/2}$$

where r_i is the ith residual, w_i its weight, n the number of readings and m the number of parameters determined (4 for unrestricted depth, 3 when depth is restricted.) When the number of readings used and the number of parameters are the same, the standard errors and Rsd are not defined. This is shown by the letters ND. The remainder of the fourth line and most of the fifth line present information indicating to the reader the degree of constraint on the adopted origin. Xph/Ystn shows that X phases from Y stations were used in the determination of the origin. (All phases given non-zero weight are counted but stations which failed to provide such a phase are not). Dmin is the distance from the epicentre to the nearest of these Y stations and Az. gap is the greatest angular gap in their distribution about the epicentre.

Corr. is the correlation coefficient of the errors in latitude and longitude. It may be used to construct an epicentral confidence region. (See Flinn, E.A., 1965, "Confidence regions and error determinations for seismic event locations". Rev. Geophys. 3: 156-185.) pM/Qstn shows that p magnitude estimates from phases recorded at Q stations contributed to the average value shown on line two. Msd is the standard deviation of the magnitude estimates.

The numbers of upward and downward first motions recorded are indicated at the end of line five.

Additional information may be appended to the above. This usually consists of a short summary of the places where a shock has been felt and the intensities there, but may include other comments. Further details of reports received by the Observatory concerning the effects of earthquakes and the intensities assessed from these observations appear in later sections of this Report.

The telemetered networks all detect earthquakes of very small magnitude in their respective regions. These are all located and the data are held in the Observatory's archives. The following list, however, contains only those events which were of magnitude 3.5 or greater, or were reported felt. Smaller events have been excluded, as have events located more than 10° from Wellington.

88/1
JAN 01 0038 36.3s 35.47S 179.03E 254km M=4.1
1.1 0.09 0.26 9
Rsd 0.3s 13ph/12stn Dmin 245km Az.gap 338°
Corr. -0.531 10M/10stn Msd 0.1 1↓

88/5
JAN 01 0844 18.4s 37.16S 177.58E 161km M=4.1
0.5 0.02 0.03 5
Rsd 0.2s 15ph/14stn Dmin 81km Az.gap 243°
Corr. 0.204 17M/17stn Msd 0.1 3↑ 1↓

88/8
JAN 01 1502 34.3s 38.98S 174.98E 225km M=4.1
0.5 0.04 0.03 4
Rsd 0.3s 31ph/28stn Dmin 54km Az.gap 171°
Corr. -0.139 16M/16stn Msd 0.2 6↑ 3↓

88/9
JAN 01 1520 24.7s 41.02S 173.24E 119km M=3.6
0.3 0.03 0.02 3
Rsd 0.1s 18ph/17stn Dmin 43km Az.gap 121°
Corr. 0.245 10M/10stn Msd 0.2 7↑ 1↓

88/14
JAN 01 2103 04.4s 34.68S 179.27W 12km M=5.3
0.8 0.06 0.12 R
Rsd 0.2s 18ph/7stn Dmin 391km Az.gap 196°
Corr. -0.625 27M/24stn Msd 0.4 1↑ 1↓

88/16
JAN 02 0305 39.2s 41.10S 173.58E 94km M=4.2
0.3 0.02 0.01 3
Rsd 0.2s 23ph/20stn Dmin 60km Az.gap 101°
Corr. -0.303 8M/6stn Msd 0.2 1↑ 6↓

88/31
JAN 03 1305 22.9s 38.31S 176.33E 182km M=3.7
0.4 0.01 0.04 3
Rsd 0.1s 16ph/16stn Dmin 68km Az.gap 134°
Corr. 0.118 10M/10stn Msd 0.3 1↓

88/35
JAN 03 1951 02.9s 41.68S 173.95E 33km M=3.5
0.2 0.02 0.02 R
Rsd 0.3s 16ph/12stn Dmin 23km Az.gap 152°
Corr. -0.377 14M/12stn Msd 0.1 6↑ 3↓

88/37
JAN 03 2304 45.8s 46.27S 167.95E 12km M=3.7
0.2 0.01 0.04 R
Rsd 0.1s 13ph/13stn Dmin 72km Az.gap 189°
Corr. -0.766 9M/9stn Msd 0.4 2↑ 1↓

88/38
JAN 04 0430 59.2s 34.98S 179.89E 147km M=5.5
1.5 0.09 0.14 21
Rsd 0.6s 10ph/10stn Dmin 324km Az.gap 295°
Corr. 0.516 18M/15stn Msd 0.1

88/39
JAN 04 0657 44.2s 38.63S 176.23E 81km M=3.6
0.3 0.01 0.01 5
Rsd 0.1s 11ph/11stn Dmin 99km Az.gap 118°
Corr. 0.311 6M/6stn Msd 0.2 1↑

88/43
JAN 04 1409 29.3s 37.71S 176.19E 324km M=6.1
0.9 0.06 0.07 7
Rsd 0.3s 21ph/19stn Dmin 52km Az.gap 200°
Corr. -0.234 4M/3stn Msd 0.2 29↑ 11↓
Felt Southern North Island, max MM4.

88/53
JAN 05 1059 07.2s 39.03S 175.58E 200km M=3.6
0.2 0.02 0.03 R
Rsd 0.1s 11ph/11stn Dmin 211km Az.gap 345°
Corr. -0.453 7M/7stn Msd 0.2

88/65
JAN 06 1017 35.1s 36.13S 177.92E 341km M=4.3
0.9 0.09 0.09 11
Rsd 0.2s 13ph/13stn Dmin 166km Az.gap 302°
Corr. -0.002 3M/3stn Msd 0.1 1↑

88/77
JAN 07 0234 58.5s 37.70S 176.44E 203km M=3.5
0.2 0.01 0.01 2
Rsd 0.1s 9ph/8stn Dmin 84km Az.gap 194°
Corr. -0.396 2M/2stn Msd 0.1 1↓

88/81
JAN 07 0729 56.5s 34.77S 179.61W 126km M=5.0
1.1 0.06 0.10 14
Rsd 0.1s 12ph/11stn Dmin 366km Az.gap 338°
Corr. 0.167 10M/9stn Msd 0.1 1↑

88/83
JAN 07 1008 23.8s 42.02S 172.99E 84km M=4.0
0.3 0.02 0.02 4
Rsd 0.3s 20ph/18stn Dmin 26km Az.gap 87°
Corr. -0.393 10M/8stn Msd 0.2 2↑ 7↓

88/86
JAN 07 1800 59.9s 37.43S 177.54E 125km M=3.9
0.5 0.03 0.03 4
Rsd 0.2s 10ph/10stn Dmin 70km Az.gap 214°
Corr. -0.439 5M/5stn Msd 0.1 1↑

88/88
JAN 07 2140 19.8s 40.39S 173.83E 195km M=3.6
0.2 0.03 0.04 3
Rsd 0.1s 11ph/9stn Dmin 99km Az.gap 303°
Corr. -0.459 4M/4stn Msd 0.2 1↑ 1↓

88/94
JAN 08 2032 50.0s 38.87S 175.37E 212km M=3.7
0.5 0.02 0.05 5
Rsd 0.2s 15ph/15stn Dmin 106km Az.gap 169°
Corr. -0.750 7M/7stn Msd 0.2 1↑ 1↓

88/97
JAN 09 0421 41.0s 39.23S 177.21E 27km M=3.9
0.1 0.01 0.01 1
Rsd 0.2s 23ph/20stn Dmin 12km Az.gap 154°
Corr. -0.363 16M/14stn Msd 0.2 5↑ 6↓
Felt Patoka (52) MM5.

88/106
JAN 09 1021 59.5s 37.48S 176.48E 213km M=3.7
0.8 0.04 0.05 7
Rsd 0.4s 10ph/9stn Dmin 72km Az.gap 216°
Corr. -0.249 11M/11stn Msd 0.3 1↓

88/107
JAN 09 1243 47.7s 45.18S 167.44E 98km M=4.1
0.2 0.01 0.03 3
Rsd 0.1s 16ph/14stn Dmin 68km Az.gap 229°
Corr. -0.805 8M/8stn Msd 0.2 1↓

88/120
JAN 10 1728 05.6s 37.52S 176.34E 322km M=4.6
0.5 0.06 0.06 4
Rsd 0.2s 19ph/16stn Dmin 77km Az.gap 217°
Corr. 0.173 22M/19stn Msd 0.4 2↑ 1↓

88/121
JAN 10 2008 44.9s 37.99S 176.92E 5km M=3.1
0.3 0.03 0.02 R
Rsd 0.4s 9ph/7stn Dmin 7km Az.gap 158°
Corr. -0.648 4M/4stn Msd 0.0
Felt Ohope (35) MM4.

88/122
JAN 10 2204 09.5s 41.17S 175.16E 20km M=3.9
0.1 0.00 0.01 1
Rsd 0.1s 25ph/21stn Dmin 11km Az.gap 58°
Corr. -0.072 6M/6stn Msd 0.2 6↑ 6↓
Felt Wellington Region (68, 69) max MM5.

88/125
JAN 11 0308 45.4s 37.07S 176.94E 281km M=4.1
0.6 0.06 0.08 4
Rsd 0.2s 13ph/11stn Dmin 101km Az.gap 270°
Corr. -0.684 9M/9stn Msd 0.2

88/145
JAN 12 1516 58.3s 38.07S 176.09E 176km M=3.5
1.1 0.06 0.04 9
Rsd 0.4s 9ph/7stn Dmin 51km Az.gap 148°
Corr. 0.071 13M/13stn Msd 0.1 1↑

88/148
JAN 12 2120 09.3s 38.01S 176.40E 160km M=3.6
0.8 0.04 0.06 6
Rsd 0.4s 13ph/12stn Dmin 27km Az.gap 158°
Corr. -0.014 15M/15stn Msd 0.1 1↑ 1↓

88/149
JAN 12 2224 02.9s 35.73S 179.35E 151km M=4.0
1.2 0.14 0.09 26
Rsd 0.4s 7ph/5stn Dmin 228km Az.gap 327°
Corr. -0.275 3M/3stn Msd 0.2

88/153
JAN 13 0850 04.7s 37.15S 177.46E 155km M=3.8
0.9 0.06 0.05 7
Rsd 0.3s 10ph/8stn Dmin 90km Az.gap 241°
Corr. -0.059 15M/15stn Msd 0.3

88/156
JAN 14 0021 47.8s 38.87S 178.01E 37km M=3.6
0.3 0.02 0.03 5
Rsd 0.3s 13ph/12stn Dmin 26km Az.gap 209°
Corr. -0.578 7M/7stn Msd 0.2 2↑ 1↓

88/161
JAN 14 1015 43.0s 38.62S 177.93E 114km M=3.6
0.1 0.01 0.01 1
Rsd 0.0s 5ph/4stn Dmin 8km Az.gap 204°
Corr. 0.250 4M/4stn Msd 0.2

88/177
JAN 16 0514 26.6s 39.85S 173.97E 138km M=3.9
0.5 0.01 0.03 6
Rsd 0.2s 17ph/15stn Dmin 65km Az.gap 153°
Corr. -0.299 11M/11stn Msd 0.3 6↑ 2↓

88/181
JAN 16 0800 46.8s 32.72S 177.87W 33km M=4.9
1.1 0.08 0.16 R
Rsd 0.3s 13ph/11stn Dmin 747km Az.gap 334°
Corr. -0.617 6M/6stn Msd 0.4

88/182
JAN 16 0927 15.8s 38.07S 176.28E 190km M=3.6
1.6 0.09 0.13 13
Rsd 0.4s 10ph/10stn Dmin 92km Az.gap 272°
Corr. -0.633 12M/12stn Msd 0.2 1↑

88/190
JAN 17 0757 02.7s 39.20S 174.71E 204km M=4.6
0.6 0.02 0.03 6
Rsd 0.2s 28ph/25stn Dmin 54km Az.gap 126°
Corr. -0.171 16M/15stn Msd 0.2 11↑ 5↓

88/191
JAN 17 0918 18.5s 38.14S 179.09E 57km M=3.9
0.4 0.02 0.04 6
Rsd 0.2s 18ph/18stn Dmin 92km Az.gap 273°
Corr. -0.340 9M/9stn Msd 0.1 2↑ 1↓

88/192
JAN 17 1332 24.1s 38.19S 175.95E 170km M=3.7
0.9 0.04 0.05 6
Rsd 0.3s 16ph/14stn Dmin 46km Az.gap 124°
Corr. -0.352 11M/11stn Msd 0.2 2↑ 1↓

88/193
JAN 17 1351 39.5s 33.06S 178.49W 33km M=4.9
1.1 0.10 0.10 R
Rsd 0.4s 9ph/7stn Dmin 582km Az.gap 332°
Corr. -0.490 7M/7stn Msd 0.4 1↑
T waves on HBZ at 1358.

88/198
JAN 18 0429 29.5s 33.39S 179.09W 33km M=5.0
4.6 0.27 0.26 R
Rsd 0.2s 11ph/10stn Dmin 524km Az.gap 327°
Corr. 0.938 8M/8stn Msd 0.4
T waves on HBZ at 0437. Preceded by event at 0428.

88/199
JAN 18 0436 29.6s 33.86S 179.23W 33km M=4.8
1.4 0.11 0.11 R
Rsd 0.5s 7ph/7stn Dmin 471km Az.gap 324°
Corr. -0.180 5M/5stn Msd 0.4
T waves at HBZ at 0443.

88/202
JAN 18 0648 07.0s 34.38S 179.74E 33km M=4.8
2.5 0.12 0.21 R
Rsd 0.7s 7ph/7stn Dmin 380km Az.gap 317°
Corr. 0.625 5M/5stn Msd 0.5
T waves on HBZ at 0654.

88/203
JAN 18 0718 21.0s 38.06S 176.43E 167km M=3.6
0.9 0.06 0.06 7
Rsd 0.3s 10ph/9stn Dmin 80km Az.gap 228°
Corr. 0.613 6M/6stn Msd 0.2 1↑

88/204
JAN 18 0825 38.4s 44.96S 167.04E 123km M=3.7
1.0 0.06 0.15 8
Rsd 0.2s 10ph/10stn Dmin 76km Az.gap 267°
Corr. -0.926 7M/7stn Msd 0.2 1↑

88/206
JAN 18 0953 30.0s 32.65S 178.43W 33km M=5.5
1.3 0.07 0.13 R
Rsd 0.3s 10ph/10stn Dmin 625km Az.gap 332°
Corr. 0.022 6M/6stn Msd 0.4
T waves on HBZ at 1000.

88/209
JAN 18 1244 58.4s 38.04S 176.03E 200km M=4.2
0.5 0.03 0.05 4
Rsd 0.3s 17ph/16stn Dmin 21km Az.gap 151°
Corr. 0.439 19M/17stn Msd 0.2 4↑2↓

88/210
JAN 18 2352 36.1s 35.01S 178.65E 274km M=4.8
0.5 0.05 0.08 6
Rsd 0.2s 13ph/12stn Dmin 289km Az.gap 326°
Corr. -0.015 16M/16stn Msd 0.2

88/211
JAN 19 0100 44.0s 38.27S 176.35E 144km M=4.0
0.6 0.02 0.03 5
Rsd 0.3s 19ph/18stn Dmin 14km Az.gap 114°
Corr. -0.138 11M/11stn Msd 0.2 2↑3↓

88/214
JAN 19 1422 15.9s 38.24S 175.91E 193km M=4.3
0.5 0.03 0.04 4
Rsd 0.3s 19ph/14stn Dmin 48km Az.gap 120°
Corr. 0.273 14M/11stn Msd 0.2 4↑7↓

88/225
JAN 20 2124 44.5s 38.75S 175.65E 183km M=3.6
0.4 0.02 0.06 3
Rsd 0.1s 10ph/9stn Dmin 47km Az.gap 340°
Corr. -0.149 8M/8stn Msd 0.2 3↑2↓

88/233
JAN 21 1034 31.5s 41.13S 174.48E 42km M=4.7
0.1 0.01 0.01 1
Rsd 0.1s 21ph/19stn Dmin 19km Az.gap 80°
Corr. -0.385 13M/13stn Msd 0.2 6↑7↓
Felt widely in Cook Strait area, max MM5 in Wellington (68).

88/247
JAN 21 2255 45.0s 38.67S 175.79E 199km M=3.5
0.2 0.01 0.11 2
Rsd 0.1s 13ph/11stn Dmin 58km Az.gap 200°
Corr. -0.467 8M/8stn Msd 0.1

88/255
JAN 22 0647 31.6s 38.21S 176.42E 233km M=3.7
1.2 0.03 0.05 13
Rsd 0.0s 12ph/12stn Dmin 179km Az.gap 220°
Corr. -0.438 11M/11stn Msd 0.2 1↑

88/260
JAN 22 0938 17.0s 37.96S 178.66E 52km M=4.6
0.3 0.01 0.02 5
Rsd 0.1s 15ph/14stn Dmin 51km Az.gap 254°
Corr. 0.281 19M/17stn Msd 0.1 5↑3↓

88/262
JAN 22 1045 15.7s 42.02S 178.22E 33km M=3.8
1.6 0.09 0.11 R
Rsd 0.5s 24ph/23stn Dmin 246km Az.gap 284°
Corr. -0.875 20M/20stn Msd 0.3 2↑1↓

88/273
JAN 23 0225 36.6s 40.71S 174.36E 69km M=3.6
0.2 0.01 0.01 4
Rsd 0.2s 17ph/12stn Dmin 49km Az.gap 139°
Corr. -0.350 11M/9stn Msd 0.1 3↑2↓

88/274
JAN 23 0308 43.6s 34.10S 177.12E 216km M=4.3
5.4 0.18 0.46 63
Rsd 0.7s 6ph/4stn Dmin 431km Az.gap 333°
Corr. 0.367 3M/3stn Msd 0.1

88/275
JAN 23 0648 48.8s 40.54S 174.27E 84km M=3.5
0.2 0.01 0.01 4
Rsd 0.2s 23ph/18stn Dmin 65km Az.gap 110°
Corr. -0.246 12M/10stn Msd 0.1 5↑ 2↓

88/276
JAN 23 0751 25.0s 39.62S 174.39E 196km M=4.0
0.3 0.01 0.03 3
Rsd 0.2s 26ph/25stn Dmin 46km Az.gap 106°
Corr. -0.183 17M/17stn Msd 0.2 6↑ 3↓

88/284
JAN 23 1638 01.5s 36.89S 176.70E 325km M=4.3
0.5 0.05 0.07 5
Rsd 0.3s 15ph/14stn Dmin 125km Az.gap 259°
Corr. -0.285 19M/19stn Msd 0.1 1↓

88/285
JAN 23 1754 52.7s 34.82S 179.55W 33km M=4.8
0.7 0.04 0.06 R
Rsd 0.2s 12ph/11stn Dmin 364km Az.gap 316°
Corr. 0.457 25M/23stn Msd 0.3

88/288
JAN 24 0825 56.2s 36.94S 179.67E 33km M=3.6
0.7 0.06 0.05 R
Rsd 0.4s 7ph/7stn Dmin 142km Az.gap 325°
Corr. -0.204 4M/4stn Msd 0.2

88/294
JAN 24 1610 09.1s 39.29S 174.73E 219km M=3.6
1.3 0.05 0.08 11
Rsd 0.5s 8ph/6stn Dmin 55km Az.gap 169°
Corr. -0.083 5M/5stn Msd 0.1 1↓

88/315
JAN 26 0318 48.1s 38.20S 176.20E 5km M=1.6
0.2 R R R
Rsd 0.4s 4ph/3stn Dmin 3km Az.gap 247°
Corr. 0.000 1M/1stn Msd 0.0
Felt Rotorua (33) MM4.

88/317
JAN 26 0610 03.3s 33.09S 179.51W 539km M=5.2
0.7 0.15 0.12 27
Rsd 0.3s 13ph/13stn Dmin 539km Az.gap 340°
Corr. -0.408 21M/19stn Msd 0.3

88/318
JAN 26 0621 30.6s 38.60S 176.04E 126km M=4.1
0.7 0.02 0.03 6
Rsd 0.3s 25ph/21stn Dmin 14km Az.gap 111°
Corr. -0.214 22M/20stn Msd 0.2 8↑ 8↓

88/322
JAN 26 1053 14.3s 37.28S 176.02E 200km M=3.5
0.7 0.05 0.15 R
Rsd 0.2s 9ph/8stn Dmin 373km Az.gap 348°
Corr. -0.118 6M/6stn Msd 0.2 1↑

88/324
JAN 26 1624 24.4s 36.81S 177.22E 297km M=5.0
0.6 0.05 0.05 5
Rsd 0.3s 27ph/24stn Dmin 130km Az.gap 263°
Corr. -0.216 22M/20stn Msd 0.2 5↑ 3↓

88/325
JAN 26 1744 27.8s 40.97S 173.90E 75km M=3.5
0.3 0.02 0.01 4
Rsd 0.3s 20ph/17stn Dmin 42km Az.gap 103°
Corr. -0.287 14M/12stn Msd 0.1 1↑

88/342
JAN 27 1701 50.0s 41.58S 174.03E 35km M=3.7
0.1 0.02 0.02 2
Rsd 0.3s 17ph/16stn Dmin 24km Az.gap 91°
Corr. -0.346 11M/9stn Msd 0.1 4↑ 8↓

88/344
JAN 27 1752 26.9s 39.71S 174.27E 204km M=4.1
0.3 0.01 0.03 3
Rsd 0.2s 24ph/21stn Dmin 51km Az.gap 123°
Corr. -0.032 19M/17stn Msd 0.2 7↑ 4↓

88/350
JAN 28 0135 15.1s 37.50S 176.43E 247km M=4.2
4.3 0.16 0.12 32
Rsd 0.2s 16ph/16stn Dmin 79km Az.gap 321°
Corr. 0.652 14M/14stn Msd 0.2 1↑

88/363
JAN 28 1201 49.1s 36.86S 177.64E 9km M=4.2
0.1 0.00 0.01 1
Rsd 0.0s 17ph/16stn Dmin 100km Az.gap 215°
Corr. 0.414 22M/22stn Msd 0.3 3↑ 1↓

88/367
JAN 28 2008 32.2s 45.10S 167.76E 134km M=3.6
0.1 0.02 0.05 4
Rsd 0.0s 10ph/9stn Dmin 119km Az.gap 276°
Corr. -0.980 7M/7stn Msd 0.2

88/370
JAN 28 2229 25.8s 39.92S 175.20E 22km M=3.2
0.1 0.01 0.01 2
Rsd 0.3s 20ph/19stn Dmin 78km Az.gap 87°
Corr. -0.146 16M/16stn Msd 0.2 1↑ 1↓
Felt Wanganui (57).

88/375
JAN 29 1018 36.0s 37.44S 178.86E 20km M=3.8
0.2 0.01 0.01 1
Rsd 0.0s 14ph/14stn Dmin 52km Az.gap 275°
Corr. 0.156 21M/21stn Msd 0.2 2↑ 4↓

88/391
JAN 30 0222 08.0s 37.21S 177.16E 206km M=4.2
2.3 0.08 0.06 19
Rsd 0.3s 12ph/12stn Dmin 87km Az.gap 232°
Corr. -0.030 19M/18stn Msd 0.2 3↑ 4↓

88/393
JAN 30 0421 41.7s 34.03S 179.64W 374km M=4.3
0.3 0.26 0.52 10
Rsd 0.1s 10ph/7stn Dmin 437km Az.gap 354°
Corr. -0.992 9M/9stn Msd 0.1

88/399
JAN 30 1156 44.0s 38.73S 175.82E 196km M=3.6
0.2 0.01 0.13 2
Rsd 0.1s 14ph/13stn Dmin 54km Az.gap 341°
Corr. -0.641 9M/9stn Msd 0.1 4↑ 1↓

88/411
JAN 30 2307 40.2s 39.12S 175.10E 194km M=3.5
0.4 0.01 0.07 4
Rsd 0.2s 15ph/13stn Dmin 40km Az.gap 217°
Corr. -0.363 13M/13stn Msd 0.2 3↑ 3↓

88/425
FEB 01 0057 51.0s 39.10S 174.64E 200km M=3.7
1.0 0.09 0.10 R
Rsd 0.4s 10ph/8stn Dmin 183km Az.gap 329°
Corr. 0.467 7M/7stn Msd 0.2 5↑ 2↓

88/429
FEB 01 0505 55.2s 38.77S 175.84E 161km M=3.6
0.6 0.03 0.07 4
Rsd 0.2s 14ph/12stn Dmin 50km Az.gap 202°
Corr. 0.194 11M/11stn Msd 0.4 3↑ 2↓

88/431
FEB 01 0534 10.2s 36.96S 177.64E 173km M=4.0
0.3 0.03 0.02 3
Rsd 0.2s 12ph/11stn Dmin 92km Az.gap 262°
Corr. 0.022 17M/17stn Msd 0.2 3↑ 1↓

88/432
FEB 01 0658 12.6s 37.32S 177.18E 168km M=3.6
0.9 0.05 0.08 9
Rsd 0.3s 6ph/4stn Dmin 75km Az.gap 266°
Corr. -0.471 4M/4stn Msd 0.4 1↓

88/437
FEB 01 1129 04.0s 38.44S 176.56E 179km M=3.7
0.5 0.03 0.14 5
Rsd 0.1s 11ph/10stn Dmin 58km Az.gap 318°
Corr. -0.742 5M/5stn Msd 0.3 1↑ 1↓

88/440
FEB 01 2108 48.0s 35.76S 178.96W 339km M=4.1
1.8 0.15 0.17 28
Rsd 0.4s 8ph/5stn Dmin 318km Az.gap 337°
Corr. -0.379 4M/4stn Msd 0.3

88/442
FEB 02 0049 16.8s 38.40S 176.41E 201km M=3.7
0.4 0.02 0.03 4
Rsd 0.1s 14ph/13stn Dmin 76km Az.gap 203°
Corr. -0.836 13M/12stn Msd 0.4 3↑ 2↓

88/445
FEB 02 0448 01.4s 38.32S 176.33E 139km M=4.4
0.5 0.02 0.02 4
Rsd 0.3s 26ph/24stn Dmin 18km Az.gap 76°
Corr. -0.124 18M/17stn Msd 0.2 18↑ 15↓

88/446
FEB 02 0840 47.1s 41.38S 172.95E 107km M=4.2
0.4 0.02 0.02 4
Rsd 0.3s 23ph/20stn Dmin 37km Az.gap 105°
Corr. -0.350 12M/10stn Msd 0.2 9↑ 3↓

88/450
FEB 02 1248 46.9s 31.37S 179.20W 290km M=4.8
0.6 0.15 0.38 26
Rsd 0.1s 10ph/9stn Dmin 728km Az.gap 351°
Corr. -0.930 14M/13stn Msd 0.2

88/451
FEB 02 1421 38.0s 35.84S 178.43E 281km M=3.8
0.7 0.06 0.08 5
Rsd 0.3s 11ph/9stn Dmin 196km Az.gap 316°
Corr. -0.289 7M/7stn Msd 0.2 1↑

88/457
FEB 02 1901 32.7s 37.80S 177.49E 43km M=4.6
0.3 0.02 0.01 9
Rsd 0.2s 20ph/20stn Dmin 49km Az.gap 119°
Corr. -0.414 15M/13stn Msd 0.3 12↑ 10↓
Felt S Bay of Plenty, max MM5 at Ohope and Ruatuna Rd (35).

88/460
FEB 03 0022 47.9s 39.65S 174.24E 193km M=4.2
0.3 0.01 0.02 2
Rsd 0.2s 32ph/28stn Dmin 44km Az.gap 126°
Corr. -0.307 21M/19stn Msd 0.2 7↑ 3↓

88/461
FEB 03 0126 10.4s 39.50S 173.50E 12km M=2.5
0.2 R R R
Rsd 0.2s 2ph/2stn Dmin 57km Az.gap 360°
Corr. 0.000 1M/1stn Msd 0.0 1↓
Felt New Plymouth (47).

88/465
FEB 03 0329 50.1s 39.50S 173.50E 12km M=2.5
0.0 R R R
Rsd 0.0s 1ph/1stn Dmin 57km Az.gap 360°
Corr. 0.000 1M/1stn Msd 0.0 1↑
Felt New Plymouth (47).

88/482
FEB 03 2101 16.9s 37.92S 176.18E 150km M=3.6
0.6 0.04 0.13 R
Rsd 0.2s 6ph/5stn Dmin 305km Az.gap 350°
Corr. -0.234 6M/6stn Msd 0.3 1↓

88/490
FEB 04 0326 21.7s 33.50S 178.35W 364km M=4.4
0.5 0.03 0.06 4
Rsd 0.0s 12ph/12stn Dmin 547km Az.gap 344°
Corr. 0.527 7M/7stn Msd 0.1

88/496
FEB 04 1634 11.5s 37.78S 175.93E 241km M=4.2
2.8 0.08 0.06 22
Rsd 0.1s 14ph/14stn Dmin 38km Az.gap 264°
Corr. -0.836 14M/14stn Msd 0.3 7↑ 2↓

88/503
FEB 05 0246 01.5s 39.43S 175.23E 114km M=3.9
0.2 0.01 0.03 2
Rsd 0.1s 22ph/20stn Dmin 33km Az.gap 141°
Corr. -0.547 9M/9stn Msd 0.1 12↑ 2↓

88/504
FEB 05 0246 44.2s 39.43S 175.28E 118km M=3.6
0.2 0.01 0.05 2
Rsd 0.1s 21ph/20stn Dmin 30km Az.gap 139°
Corr. -0.498 8M/8stn Msd 0.3 1↑ 1↓

88/509
FEB 05 0724 03.4s 37.95S 175.90E 257km M=3.9
0.7 0.03 0.04 5
Rsd 0.0s 13ph/12stn Dmin 151km Az.gap 315°
Corr. -0.543 7M/7stn Msd 0.1 1↑

88/515
FEB 05 1802 29.0s 37.93S 176.53E 196km M=3.6
0.7 0.03 0.05 5
Rsd 0.2s 9ph/9stn Dmin 40km Az.gap 189°
Corr. 0.244 7M/7stn Msd 0.2 2↑ 1↓

88/521
FEB 06 1331 01.3s 40.48S 173.72E 130km M=4.6
0.3 0.01 0.02 4
Rsd 0.3s 30ph/27stn Dmin 94km Az.gap 144°
Corr. -0.075 14M/13stn Msd 0.5 23↑ 10↓
Felt New Plymouth (47).

88/536
FEB 07 1815 21.3s 32.50S 178.18W 364km M=5.6
0.6 0.08 0.08 24
Rsd 0.1s 10ph/10stn Dmin 650km Az.gap 344°
Corr. -0.301 18M/17stn Msd 0.3

88/544
FEB 08 1008 10.8s 36.85S 176.95E 274km M=4.2
0.4 0.02 0.03 3
Rsd 0.2s 10ph/7stn Dmin 126km Az.gap 259°
Corr. -0.219 12M/12stn Msd 0.2 2↑ 1↓

88/545
FEB 08 1214 38.8s 39.29S 177.60E 50km M=3.7
0.9 0.04 0.06 12
Rsd 0.5s 20ph/18stn Dmin 42km Az.gap 191°
Corr. -0.621 16M/16stn Msd 0.3 2↑ 4↓

88/565
FEB 09 1707 16.1s 44.01S 169.47E 5km M=3.6
0.4 0.01 0.02 3
Rsd 0.1s 7ph/7stn Dmin 62km Az.gap 162°
Corr. -0.754 6M/6stn Msd 0.2 1↑

88/573
FEB 10 0800 43.5s 37.71S 178.97E 23km M=3.8
0.6 0.04 0.05 3
Rsd 0.2s 13ph/12stn Dmin 60km Az.gap 293°
Corr. -0.039 18M/18stn Msd 0.2 5↑ 1↓

88/581
FEB 10 1752 30.2s 37.70S 176.49E 256km M=3.6
2.6 0.49 0.13 103
Rsd 0.1s 9ph/8stn Dmin 394km Az.gap 347°
Corr. -0.451 6M/6stn Msd 0.1

88/591
FEB 11 0508 12.1s 40.91S 175.28E 18km M=3.8
0.1 0.01 0.01 2
Rsd 0.2s 23ph/18stn Dmin 28km Az.gap 62°
Corr. -0.459 9M/8stn Msd 0.2 7↑ 3↓
Felt Paekakariki (65).

88/595
FEB 11 0553 19.6s 37.88S 178.57E 8km M=3.6
0.5 0.05 0.07 9
Rsd 0.3s 10ph/10stn Dmin 39km Az.gap 251°
Corr. 0.828 11M/11stn Msd 0.1 1↑

88/631
FEB 12 1829 50.8s 38.99S 174.85E 212km M=4.6
0.6 0.03 0.04 4
Rsd 0.3s 18ph/17stn Dmin 68km Az.gap 143°
Corr. -0.117 15M/15stn Msd 0.2 15↑ 5↓

88/636
FEB 12 1945 19.5s 37.47S 176.75E 337km M=3.7
1.5 0.23 0.40 22
Rsd 0.7s 10ph/8stn Dmin 138km Az.gap 258°
Corr. -0.945 12M/12stn Msd 0.2

88/642
FEB 13 1013 52.0s 36.99S 177.48E 158km M=3.6
0.6 0.04 0.05 4
Rsd 0.2s 12ph/9stn Dmin 99km Az.gap 289°
Corr. -0.162 13M/13stn Msd 0.2 1↑

88/652
FEB 13 2236 25.3s 35.59S 178.51E 205km M=3.9
0.2 0.02 0.03 3
Rsd 0.1s 5ph/4stn Dmin 224km Az.gap 338°
Corr. -0.206 2M/2stn Msd 0.1

88/653
FEB 13 2241 30.2s 37.01S 177.13E 217km M=3.8
0.7 0.08 0.08 4
Rsd 0.3s 11ph/10stn Dmin 108km Az.gap 275°
Corr. -0.766 15M/15stn Msd 0.2 1↑

88/659
FEB 14 0345 12.2s 37.26S 176.34E 223km M=3.8
0.7 0.03 0.06 6
Rsd 0.2s 10ph/9stn Dmin 98km Az.gap 266°
Corr. -0.719 16M/16stn Msd 0.2 1↑

88/663
FEB 14 0552 59.5s 36.18S 178.41E 176km M=4.0
1.3 0.12 0.15 9
Rsd 0.5s 9ph/6stn Dmin 158km Az.gap 331°
Corr. -0.277 13M/13stn Msd 0.1

88/681
FEB 15 1136 39.1s 44.99S 167.73E 101km M=3.7
0.9 0.05 0.09 4
Rsd 0.2s 14ph/11stn Dmin 38km Az.gap 210°
Corr. -0.582 6M/6stn Msd 0.6 1↑ 3↓

88/693
FEB 15 2136 12.8s 38.96S 176.29E 154km M=3.5
1.5 0.09 0.14 16
Rsd 0.6s 8ph/7stn Dmin 64km Az.gap 301°
Corr. 0.214 6M/6stn Msd 0.2 1↓

88/703
FEB 16 0755 53.2s 36.29S 178.32E 274km M=4.0
0.7 0.09 0.17 7
Rsd 0.3s 12ph/11stn Dmin 145km Az.gap 328°
Corr. -0.563 16M/16stn Msd 0.2

88/716
FEB 17 1349 20.2s 37.18S 177.60E 170km M=4.2
1.2 0.03 0.06 12
Rsd 0.3s 11ph/10stn Dmin 77km Az.gap 210°
Corr. 0.633 13M/12stn Msd 0.1 1↑ 2↓

88/725
FEB 18 0400 32.7s 38.05S 176.49E 144km M=4.1
0.6 0.03 0.03 6
Rsd 0.4s 10ph/9stn Dmin 44km Az.gap 97°
Corr. -0.256 15M/15stn Msd 0.2 1↓

88/727
FEB 18 0812 42.1s 36.12S 179.67E 123km M=4.4
1.0 0.16 0.10 50
Rsd 0.4s 11ph/9stn Dmin 205km Az.gap 327°
Corr. 0.065 10M/10stn Msd 0.6 1↓

88/737
FEB 19 0921 02.0s 45.27S 167.10E 12km M=4.2
0.5 0.01 0.04 R
Rsd 0.2s 14ph/14stn Dmin 67km Az.gap 250°
Corr. -0.287 5M/5stn Msd 0.1 1↑

88/738
FEB 19 1005 04.4s 34.35S 179.92W 352km M=4.7
1.2 0.17 0.16 25
Rsd 0.3s 11ph/10stn Dmin 394km Az.gap 336°
Corr. -0.373 17M/17stn Msd 0.2

88/742
FEB 19 1326 59.5s 34.66S 179.53E 408km M=3.8
0.3 0.17 0.29 14
Rsd 0.1s 6ph/5stn Dmin 462km Az.gap 348°
Corr. -0.965 6M/6stn Msd 0.2

88/748
FEB 19 1948 11.2s 37.30S 177.00E 208km M=4.5
0.8 0.07 0.04 5
Rsd 0.2s 12ph/11stn Dmin 76km Az.gap 226°
Corr. -0.181 17M/16stn Msd 0.2 1↑

88/755
FEB 20 1033 12.0s 45.54S 166.48E 2km M=4.5
0.6 0.02 0.03 3
Rsd 0.2s 10ph/7stn Dmin 87km Az.gap 285°
Corr. 0.165 6M/6stn Msd 0.2 1↓

88/756
FEB 20 1126 31.1s 36.24S 175.86E 161km M=4.2
0.9 0.16 0.34 62
Rsd 0.5s 11ph/10stn Dmin 218km Az.gap 291°
Corr. -0.914 10M/10stn Msd 0.2 1↓

88/758
FEB 20 1500 12.9s 35.61S 177.63E 243km M=4.2
2.8 0.35 0.48 34
Rsd 0.4s 6ph/6stn Dmin 229km Az.gap 327°
Corr. -0.813 1M/1stn Msd N.D.

88/760
FEB 20 2203 00.8s 39.32S 174.92E 200km M=3.5
0.5 0.05 0.04 R
Rsd 0.1s 9ph/9stn Dmin 172km Az.gap 333°
Corr. 0.019 2M/2stn Msd 0.1 2↑ 2↓

88/766
FEB 21 1427 50.9s 38.63S 176.21E 214km M=3.7
0.2 0.02 0.03 1
Rsd 0.0s 11ph/9stn Dmin 115km Az.gap 304°
Corr. -0.641 2M/2stn Msd 0.0

88/775
FEB 22 0902 08.5s 38.02S 176.24E 191km M=3.6
0.7 0.06 0.07 8
Rsd 0.2s 11ph/8stn Dmin 66km Az.gap 236°
Corr. -0.625 9M/9stn Msd 0.2 1↑ 1↓

88/778
FEB 22 1753 13.2s 39.13S 177.25E 44km M=3.9
0.5 0.02 0.04 7
Rsd 0.5s 21ph/17stn Dmin 9km Az.gap 149°
Corr. -0.371 16M/15stn Msd 0.2 4↑ 4↓
Felt Wairoa (53).

88/780
FEB 22 1850 10.4s 38.01S 177.52E 62km M=3.7
0.4 0.02 0.03 6
Rsd 0.3s 10ph/8stn Dmin 47km Az.gap 142°
Corr. -0.496 13M/13stn Msd 0.2 1↓

88/782
FEB 23 0211 20.1s 33.71S 178.49W 33km M=4.7
1.2 0.08 0.13 R
Rsd 0.5s 10ph/8stn Dmin 520km Az.gap 327°
Corr. -0.369 5M/5stn Msd 0.3

88/783
FEB 23 0427 11.5s 37.73S 176.84E 167km M=4.2
1.1 0.06 0.06 10
Rsd 0.4s 11ph/9stn Dmin 117km Az.gap 185°
Corr. -0.336 17M/16stn Msd 0.3 1↑ 1↓

88/786
FEB 23 1019 00.1s 36.51S 178.14E 120km M=4.4
0.5 0.05 0.07 6
Rsd 0.2s 10ph/9stn Dmin 121km Az.gap 321°
Corr. -0.547 7M/6stn Msd 0.3

88/787
FEB 23 1055 02.9s 37.57S 179.97E 12km M=3.8
0.8 0.06 0.06 R
Rsd 0.3s 7ph/7stn Dmin 147km Az.gap 326°
Corr. 0.287 3M/3stn Msd 0.2

88/789
FEB 23 1133 38.2s 45.75S 167.13E 104km M=3.6
0.2 0.01 0.02 1
Rsd 0.1s 10ph/9stn Dmin 32km Az.gap 238°
Corr. -0.539 7M/6stn Msd 0.1 1↑

88/797
FEB 24 1250 36.9s 37.00S 177.22E 302km M=3.8
0.3 0.05 0.11 5
Rsd 0.1s 7ph/6stn Dmin 117km Az.gap 285°
Corr. -0.902 4M/4stn Msd 0.3

88/803
FEB 25 0621 46.2s 38.28S 178.63E 33km M=3.6
0.5 0.02 0.06 R
Rsd 0.3s 10ph/8stn Dmin 66km Az.gap 248°
Corr. -0.656 4M/4stn Msd 0.2 1↓

88/804
FEB 25 0642 24.9s 45.28S 167.52E 135km M=5.3
0.3 0.02 0.03 2
Rsd 0.1s 19ph/18stn Dmin 56km Az.gap 225°
Corr. -0.656 6M/6stn Msd 0.2 7↑ 1↓

88/807
FEB 25 0842 15.8s 36.52S 177.43E 173km M=4.1
0.3 0.03 0.06 5
Rsd 0.1s 10ph/9stn Dmin 142km Az.gap 303°
Corr. -0.340 11M/11stn Msd 0.2 1↓

88/817
FEB 26 0101 28.1s 38.81S 175.72E 197km M=3.7
0.2 0.02 0.05 2
Rsd 0.1s 14ph/12stn Dmin 150km Az.gap 295°
Corr. 0.813 9M/9stn Msd 0.2 1↓

88/821
FEB 26 0737 06.9s 34.78S 178.70W 141km M=4.8
1.4 0.12 0.13 82
Rsd 0.4s 10ph/8stn Dmin 413km Az.gap 321°
Corr. 0.252 2M/1stn Msd 0.0 1↑ 1↓

88/822
FEB 26 0755 38.9s 41.68S 172.36E 1km M=3.5
0.1 0.01 0.01 R
Rsd 0.1s 15ph/14stn Dmin 43km Az.gap 166°
Corr. 0.157 11M/11stn Msd 0.2 1↓

88/826
FEB 26 1053 19.2s 45.09S 167.47E 1km M=3.6
0.4 0.02 0.03 R
Rsd 0.1s 12ph/11stn Dmin 76km Az.gap 253°
Corr. -0.801 9M/9stn Msd 0.2 1↓

88/828
FEB 26 1229 13.4s 34.95S 179.57W 301km M=4.2
0.9 0.12 0.13 25
Rsd 0.1s 5ph/3stn Dmin 350km Az.gap 345°
Corr. 0.334 2M/2stn Msd 0.2

88/844
FEB 27 1335 03.3s 38.74S 175.92E 137km M=3.6
1.0 0.03 0.04 12
Rsd 0.5s 15ph/13stn Dmin 97km Az.gap 107°
Corr. -0.254 9M/9stn Msd 0.3 3↑ 3↓

88/846
FEB 27 1404 11.7s 38.12S 176.19E 158km M=3.8
0.6 0.02 0.03 5
Rsd 0.2s 15ph/14stn Dmin 61km Az.gap 143°
Corr. 0.332 14M/14stn Msd 0.3 5↑ 1↓

88/847
FEB 27 1819 00.4s 39.01S 175.38E 244km M=3.6
0.2 0.03 0.03 2
Rsd 0.1s 11ph/10stn Dmin 179km Az.gap 336°
Corr. -0.439 6M/6stn Msd 0.2 1↓

88/853
FEB 28 0530 59.2s 38.48S 175.08E 246km M=3.6
0.4 0.02 0.07 4
Rsd 0.1s 10ph/7stn Dmin 73km Az.gap 200°
Corr. -0.441 3M/3stn Msd 0.0 1↓

88/861
FEB 28 1431 20.9s 35.23S 178.72W 33km M=4.4
2.7 0.13 0.22 R
Rsd 0.4s 9ph/7stn Dmin 375km Az.gap 319°
Corr. 0.447 8M/8stn Msd 0.2

88/862
FEB 28 1433 27.8s 35.13S 178.77W 33km M=4.3
1.8 0.11 0.15 R
Rsd 0.4s 8ph/7stn Dmin 380km Az.gap 320°
Corr. 0.083 8M/8stn Msd 0.2

88/867
FEB 28 2353 47.6s 33.57S 179.92W 33km M=4.7
0.6 0.05 0.10 R
Rsd 0.5s 10ph/9stn Dmin 475km Az.gap 176°
Corr. -0.570 19M/19stn Msd 0.1 1↑

88/880
MAR 01 0546 36.4s 33.61S 179.80W 138km M=4.6
2.0 0.12 0.14 57
Rsd 0.3s 10ph/9stn Dmin 474km Az.gap 324°
Corr. 0.676 19M/19stn Msd 0.2 1↑

88/881
MAR 01 0755 24.8s 40.30S 175.03E 5km M=3.0
0.4 0.02 0.01 5
Rsd 0.2s 14ph/10stn Dmin 52km Az.gap 124°
Corr. 0.277 12M/12stn Msd 0.2 3↑ 2↓
Felt Stokes Valley (68) MM4.

88/882
MAR 01 0840 35.3s 38.07S 175.92E 185km M=5.6
1.1 0.03 0.04 10
Rsd 0.3s 16ph/15stn Dmin 37km Az.gap 88°
Corr. 0.617 6M/4stn Msd 0.2 18↑ 14↓
Felt from Opotiki (35) to Wellington (68) MM4.

88/885
MAR 01 1106 51.9s 35.02S 179.44E 237km M=5.1
1.7 0.09 0.11 13
Rsd 0.2s 16ph/14stn Dmin 303km Az.gap 308°
Corr. 0.891 19M/17stn Msd 0.2 3↑ 2↓

88/894
MAR 02 0542 09.3s 39.92S 174.32E 189km M=3.6
0.3 0.04 0.04 4
Rsd 0.2s 17ph/14stn Dmin 117km Az.gap 264°
Corr. -0.496 11M/11stn Msd 0.3 7↑ 1↓

88/902
MAR 02 1202 51.4s 37.41S 177.62E 95km M=3.6
0.4 0.04 0.02 3
Rsd 0.2s 12ph/12stn Dmin 64km Az.gap 217°
Corr. -0.750 14M/14stn Msd 0.1 1↓

88/904
MAR 02 1615 13.6s 36.42S 177.58E 299km M=3.8
0.6 0.05 0.13 6
Rsd 0.1s 17ph/15stn Dmin 146km Az.gap 307°
Corr. -0.934 5M/5stn Msd 0.2

88/908
MAR 02 2055 04.1s 37.41S 177.35E 161km M=3.6
1.1 0.05 0.03 9
Rsd 0.2s 11ph/9stn Dmin 86km Az.gap 215°
Corr. -0.069 14M/14stn Msd 0.2 1↓

88/922
MAR 03 0830 48.5s 38.00S 176.30E 164km M=3.6
1.6 0.04 0.06 14
Rsd 0.3s 9ph/9stn Dmin 32km Az.gap 160°
Corr. -0.418 15M/15stn Msd 0.2 2↑ 2↓

88/929
MAR 03 1753 48.7s 40.32S 176.24E 38km M=3.9
0.1 0.01 0.02 5
Rsd 0.2s 24ph/22stn Dmin 64km Az.gap 150°
Corr. -0.816 14M/14stn Msd 0.2 5↑ 16↓
Felt Dannevirke (63).

88/938
MAR 04 1123 42.1s 33.72S 179.97W 281km M=5.0
1.3 0.22 0.17 34
Rsd 0.2s 14ph/11stn Dmin 458km Az.gap 339°
Corr. -0.547 18M/18stn Msd 0.2

88/939
MAR 04 1228 31.2s 40.42S 176.54E 33km M=3.6
0.1 0.01 0.02 R
Rsd 0.2s 27ph/23stn Dmin 60km Az.gap 186°
Corr. -0.836 22M/20stn Msd 0.2 3↑ 7↓

88/942
MAR 04 1513 28.5s 36.95S 176.81E 285km M=3.8
3.6 0.15 0.27 27
Rsd 0.4s 10ph/9stn Dmin 116km Az.gap 275°
Corr. 0.015 8M/8stn Msd 0.2

88/943
MAR 04 1630 27.0s 38.52S 175.87E 115km M=3.8
1.1 0.02 0.04 11
Rsd 0.3s 6ph/6stn Dmin 71km Az.gap 169°
Corr. 0.268 11M/11stn Msd 0.4 5↑ 4↓

88/946
MAR 04 1722 42.7s 41.48S 174.15E 33km M=4.0
0.1 0.01 0.01 R
Rsd 0.2s 28ph/21stn Dmin 31km Az.gap 108°
Corr. -0.469 10M/9stn Msd 0.2 12↑ 9↓

88/954
MAR 05 0729 46.0s 34.35S 178.50W 72km M=5.0
0.8 0.04 0.11 97
Rsd 0.2s 14ph/12stn Dmin 462km Az.gap 324°
Corr. 0.271 20M/18stn Msd 0.2 1↑
T-wave on HBZ at 0735.

88/963
MAR 05 2305 59.3s 39.15S 174.97E 213km M=3.8
0.5 0.02 0.03 5
Rsd 0.2s 18ph/14stn Dmin 77km Az.gap 190°
Corr. -0.629 12M/12stn Msd 0.2 5↑ 2↓

88/971
MAR 06 0823 42.0s 34.33S 178.09W 33km M=4.9
2.0 0.15 0.39 R
Rsd 0.4s 11ph/8stn Dmin 487km Az.gap 212°
Corr. -0.980 11M/11stn Msd 0.1
T-Wave on HBZ.

88/977
MAR 06 1731 01.6s 37.80S 177.58E 49km M=4.8
1.0 0.05 0.03 23
Rsd 0.4s 15ph/13stn Dmin 56km Az.gap 126°
Corr. -0.221 15M/13stn Msd 0.3 4↑ 5↓
Felt Ruatuna Rd (35) MM4, and Whakatane (27) to Opotiki (35).

88/981
MAR 06 2110 23.5s 37.16S 177.34E 12km M=3.7
1.8 0.12 0.07 R
Rsd 0.5s 7ph/7stn Dmin 98km Az.gap 269°
Corr. -0.633 1M/1stn Msd N.D. 1↑

88/987
MAR 07 2118 29.9s 38.28S 175.98E 165km M=4.3
0.8 0.04 0.08 7
Rsd 0.3s 14ph/12stn Dmin 55km Az.gap 190°
Corr. 0.531 12M/12stn Msd 0.2 1↑ 3↓

88/989
MAR 08 0153 44.3s 38.19S 175.87E 182km M=4.9
1.4 0.06 0.10 11
Rsd 0.4s 16ph/15stn Dmin 28km Az.gap 119°
Corr. 0.404 11M/9stn Msd 0.4 4↑ 7↓

88/993
MAR 08 1030 14.2s 37.29S 177.40E 89km M=4.1
1.9 0.07 0.08 30
Rsd 0.6s 11ph/11stn Dmin 85km Az.gap 170°
Corr. -0.160 6M/6stn Msd 0.2 2↑ 1↓

88/997
MAR 08 1829 51.8s 38.10S 176.38E 155km M=4.3
1.0 0.04 0.05 8
Rsd 0.3s 15ph/13stn Dmin 18km Az.gap 147°
Corr. -0.166 14M/14stn Msd 0.3 3↑ 5↓

88/999
MAR 08 1931 05.2s 41.20S 171.79E 162km M=3.9
0.2 0.03 0.02 2
Rsd 0.1s 13ph/11stn Dmin 80km Az.gap 310°
Corr. 0.246 7M/7stn Msd 0.3 7↑ 2↓

88/1002
MAR 08 2130 57.0s 39.26S 176.39E 82km M=4.9
0.4 0.02 0.03 4
Rsd 0.2s 24ph/22stn Dmin 33km Az.gap 66°
Corr. 0.256 6M/4stn Msd 0.2 14↑ 6↓
Felt Patoka (52) MM5 and from Ruatuna Rd (35) to Napier (52).

88/1010
MAR 09 1237 13.8s 38.86S 175.85E 115km M=3.7
0.5 0.03 0.03 4
Rsd 0.3s 15ph/13stn Dmin 33km Az.gap 211°
Corr. -0.299 9M/9stn Msd 0.3 6↑ 2↓

88/1011
MAR 09 1323 43.9s 37.28S 178.12E 96km M=4.3
1.0 0.04 0.08 9
Rsd 0.1s 15ph/14stn Dmin 39km Az.gap 220°
Corr. 0.165 13M/11stn Msd 0.1 4↑ 3↓

88/1013
MAR 09 1809 51.7s 39.71S 174.37E 173km M=3.9
0.3 0.02 0.03 3
Rsd 0.1s 19ph/18stn Dmin 54km Az.gap 163°
Corr. 0.484 11M/11stn Msd 0.2 10↑ 4↓

88/1017
MAR 10 0034 04.2s 38.06S 176.41E 146km M=4.2
0.6 0.02 0.03 5
Rsd 0.3s 17ph/16stn Dmin 51km Az.gap 154°
Corr. -0.123 18M/18stn Msd 0.3 3↑ 3↓

88/1018
MAR 10 0217 44.7s 40.02S 174.41E 119km M=3.7
0.3 0.03 0.05 6
Rsd 0.2s 18ph/15stn Dmin 103km Az.gap 220°
Corr. -0.688 13M/11stn Msd 0.3 6↑ 3↓

88/1029
MAR 11 0132 28.2s 38.48S 175.85E 151km M=4.5
0.8 0.03 0.06 7
Rsd 0.3s 13ph/11stn Dmin 45km Az.gap 163°
Corr. 0.207 16M/15stn Msd 0.3 16↑ 4↓

88/1030
MAR 11 0212 12.3s 38.67S 178.49E 54km M=3.6
0.3 0.02 0.04 4
Rsd 0.2s 13ph/10stn Dmin 41km Az.gap 232°
Corr. -0.824 8M/8stn Msd 0.3 1↑ 2↓

88/1042
MAR 11 2208 48.7s 37.59S 179.34E 17km M=4.2
0.6 0.04 0.04 3
Rsd 0.1s 14ph/12stn Dmin 92km Az.gap 285°
Corr. 0.453 19M/17stn Msd 0.2 1↑ 1↓

88/1044
MAR 12 0228 15.8s 40.16S 174.85E 12km M=3.8
0.1 0.01 0.02 R
Rsd 0.2s 19ph/17stn Dmin 74km Az.gap 88°
Corr. 0.395 12M/10stn Msd 0.2 2↑ 1↓

88/1050
MAR 12 1515 31.3s 38.68S 178.26E 76km M=3.7
0.3 0.02 0.03 4
Rsd 0.1s 11ph/9stn Dmin 121km Az.gap 217°
Corr. -0.867 13M/13stn Msd 0.1 1↓

88/1051
MAR 12 1556 07.2s 38.81S 175.18E 211km M=3.6
0.4 0.02 0.08 4
Rsd 0.2s 14ph/12stn Dmin 103km Az.gap 182°
Corr. -0.241 8M/8stn Msd 0.2 1↓

88/1054
MAR 12 2232 09.8s 40.98S 174.37E 53km M=3.7
0.3 0.02 0.03 3
Rsd 0.3s 20ph/15stn Dmin 27km Az.gap 156°
Corr. -0.598 9M/8stn Msd 0.2 8↑ 5↓
Felt Titahi Bay (68).

88/1055
MAR 13 0248 35.1s 38.24S 175.85E 162km M=3.6
1.1 0.04 0.07 10
Rsd 0.3s 12ph/11stn Dmin 44km Az.gap 162°
Corr. -0.305 8M/8stn Msd 0.1 1↓

88/1061
MAR 13 1557 27.4s 38.35S 176.27E 174km M=3.7
0.3 0.05 0.08 7
Rsd 0.1s 14ph/13stn Dmin 197km Az.gap 218°
Corr. -0.961 12M/12stn Msd 0.2 2↑ 2↓

88/1063
MAR 13 1814 36.8s 38.06S 176.78E 5km
0.4 R R R
Rsd 0.5s 2ph/2stn Dmin 32km Az.gap 360°
Corr. 0.000 0M/0stn Msd 0.0
Felt Kawerau (34). Position fixed to that of felt event at 1835 on following day.

88/1070
MAR 14 0715 14.7s 40.57S 174.57E 52km M=3.6
0.2 0.01 0.01 4
Rsd 0.1s 15ph/12stn Dmin 44km Az.gap 95°
Corr. -0.428 11M/9stn Msd 0.2 5↑ 4↓

88/1077
MAR 14 1408 16.4s 36.06S 178.97E 259km M=3.8
1.4 0.12 0.23 9
Rsd 0.3s 7ph/5stn Dmin 181km Az.gap 337°
Corr. -0.492 4M/4stn Msd 0.1

88/1078
MAR 14 1430 07.4s 36.36S 178.07E 194km M=4.5
0.5 0.03 0.03 4
Rsd 0.2s 15ph/14stn Dmin 139km Az.gap 259°
Corr. 0.451 13M/13stn Msd 0.2 3↑ 1↓

88/1079
MAR 14 1430 38.7s 39.50S 177.19E 46km M=3.6
0.1 0.01 0.01 1
Rsd 0.0s 7ph/5stn Dmin 26km Az.gap 267°
Corr. -0.395 9M/9stn Msd 0.3 1↓

88/1081
MAR 14 1629 10.7s 37.13S 177.96E 94km M=3.8
1.1 0.06 0.06 10
Rsd 0.3s 10ph/9stn Dmin 60km Az.gap 263°
Corr. 0.566 6M/6stn Msd 0.2 1↑

88/1083
MAR 14 1834 22.8s 38.40S 176.01E 181km M=3.7
0.3 0.01 0.02 3
Rsd 0.1s 13ph/11stn Dmin 67km Az.gap 137°
Corr. -0.313 4M/4stn Msd 0.2 1↓

88/1084
MAR 14 1835 18.5s 38.06S 176.78E 5km M=3.1
0.3 0.03 0.02 R
Rsd 0.6s 7ph/6stn Dmin 20km Az.gap 149°
Corr. -0.145 1M/1stn Msd 0.0
Felt Awaiti Rd South (27) MM3, also Edgecumbe (27) and Kawerau (34).

88/1085
MAR 14 1846 10.7s 41.32S 173.45E 129km M=4.8
1.5 0.06 0.10 14
Rsd 0.3s 15ph/15stn Dmin 65km Az.gap 81°
Corr. -0.816 5M/4stn Msd 0.3 4↑ 8↓
Felt Blenheim (77).

88/1087
MAR 15 0005 00.9s 37.82S 175.99E 258km M=4.4
1.4 0.07 0.12 13
Rsd 0.4s 9ph/8stn Dmin 42km Az.gap 190°
Corr. 0.309 17M/15stn Msd 0.2 1↑ 1↓

88/1099
MAR 16 0924 08.8s 38.01S 176.53E 5km M=2.4
0.4 0.02 0.02 R
Rsd 0.2s 5ph/5stn Dmin 25km Az.gap 208°
Corr. -0.750 2M/2stn Msd 0.1
Felt Mourea (33) MM3.

88/1101
MAR 16 1442 22.3s 38.03S 176.55E 2km M=3.4
0.4 0.01 0.01 1
Rsd 0.2s 12ph/12stn Dmin 22km Az.gap 99°
Corr. -0.496 8M/8stn Msd 0.2 1↑
Felt Mourea (33) MM4 and from Oropi (26) to Rotoma (34).

88/1104
MAR 16 2144 17.5s 39.64S 174.23E 250km M=3.5
0.3 0.04 0.06 R
Rsd 0.1s 10ph/10stn Dmin 147km Az.gap 329°
Corr. -0.142 1M/1stn Msd N.D.

88/1107
MAR 17 1351 23.4s 38.17S 176.24E 153km M=3.8
1.4 0.08 0.06 12
Rsd 0.4s 9ph/8stn Dmin 4km Az.gap 140°
Corr. 0.395 9M/9stn Msd 0.2 1↓

88/1113
MAR 18 0017 06.5s 45.45S 167.08E 75km M=3.8
0.2 0.01 0.02 1
Rsd 0.0s 12ph/9stn Dmin 51km Az.gap 269°
Corr. -0.809 5M/5stn Msd 0.1 1↓

88/1115
MAR 18 0144 30.6s 38.47S 175.78E 157km M=4.1
1.2 0.04 0.08 10
Rsd 0.5s 11ph/11stn Dmin 64km Az.gap 138°
Corr. 0.475 16M/16stn Msd 0.2 1↑3↓

88/1116
MAR 18 0340 56.2s 38.04S 176.55E 4km M=2.1
0.2 0.01 0.01 2
Rsd 0.2s 5ph/4stn Dmin 22km Az.gap 164°
Corr. -0.570 2M/2stn Msd 0.0
Felt Mourea (33) MM4.

88/1134
MAR 19 1247 28.2s 35.55S 179.72E 269km M=3.9
0.6 0.05 0.12 3
Rsd 0.2s 10ph/10stn Dmin 261km Az.gap 348°
Corr. -0.482 4M/4stn Msd 0.3

88/1136
MAR 19 1459 30.2s 41.03S 173.38E 151km M=3.6
0.2 0.02 0.02 3
Rsd 0.1s 17ph/13stn Dmin 78km Az.gap 303°
Corr. -0.523 11M/9stn Msd 0.2 4↑1↓

88/1138
MAR 19 1538 11.9s 35.38S 179.36W 5km M=4.1
0.3 0.02 0.03 R
Rsd 0.1s 9ph/7stn Dmin 323km Az.gap 335°
Corr. -0.432 4M/4stn Msd 0.5

88/1145
MAR 19 2243 43.2s 39.21S 175.06E 180km M=4.1
0.3 0.01 0.01 2
Rsd 0.1s 23ph/22stn Dmin 72km Az.gap 111°
Corr. -0.266 16M/14stn Msd 0.2 9↑3↓

88/1148
MAR 20 0116 10.8s 37.59S 176.55E 237km M=4.8
1.0 0.05 0.05 8
Rsd 0.3s 16ph/15stn Dmin 71km Az.gap 204°
Corr. -0.215 14M/12stn Msd 0.2 8↑3↓

88/1149
MAR 20 0122 30.5s 38.15S 176.13E 179km M=4.3
1.1 0.05 0.06 10
Rsd 0.4s 11ph/9stn Dmin 58km Az.gap 138°
Corr. 0.309 15M/15stn Msd 0.4 3↑2↓

88/1152
MAR 20 0858 39.2s 38.11S 176.71E 5km M=3.3
0.2 0.01 0.01 R
Rsd 0.3s 16ph/16stn Dmin 22km Az.gap 147°
Corr. 0.142 11M/11stn Msd 0.1 2↑4↓
Felt Kawerau and Lake Rotoma (34) MM5, also felt Mourea (33).

88/1159
MAR 20 1541 55.1s 38.44S 175.33E 245km M=4.0
1.0 0.05 0.07 8
Rsd 0.3s 16ph/14stn Dmin 60km Az.gap 182°
Corr. 0.314 12M/12stn Msd 0.2 1↑

88/1167
MAR 20 2314 12.0s 38.05S 176.60E 18km M=2.7
0.4 0.07 0.03 19
Rsd 0.5s 7ph/4stn Dmin 22km Az.gap 161°
Corr. -0.350 2M/2stn Msd 0.3
Felt Mourea (33) MM4.

88/1170
MAR 21 0210 15.5s 45.04S 167.57E 90km M=4.9
0.7 0.04 0.06 11
Rsd 0.3s 10ph/9stn Dmin 83km Az.gap 224°
Corr. -0.781 5M/5stn Msd 0.1 1↓
Felt Clyde Dam and Cromwell (133) and Riverton (149) MM4.

88/1176
MAR 21 1115 18.1s 40.32S 176.29E 87km M=3.9
0.2 0.01 0.02 3
Rsd 0.2s 28ph/25stn Dmin 65km Az.gap 155°
Corr. -0.820 16M/14stn Msd 0.2 2↑2↓
Felt Dannevirke (63).

88/1180
MAR 21 1530 36.7s 36.95S 175.13E 5km M=3.0
0.1 0.01 0.01 R
Rsd 0.2s 9ph/9stn Dmin 33km Az.gap 122°
Corr. 0.186 4M/4stn Msd 0.3 1↓
Felt Orapiu (17) MM4.

88/1182
MAR 21 1619 51.3s 37.10S 176.61E 314km M=3.7
0.3 0.02 0.03 3
Rsd 0.1s 12ph/11stn Dmin 103km Az.gap 268°
Corr. -0.629 4M/4stn Msd 0.2

88/1184
MAR 21 2247 53.2s 38.13S 176.42E 153km M=4.4
0.4 0.02 0.02 4
Rsd 0.2s 23ph/21stn Dmin 14km Az.gap 145°
Corr. 0.104 16M/16stn Msd 0.2 11↑9↓

88/1186
MAR 22 0356 10.0s 36.90S 175.14E 5km M=2.7
0.2 0.01 0.02 R
Rsd 0.3s 5ph/4stn Dmin 33km Az.gap 141°
Corr. 0.027 3M/3stn Msd 0.2
Felt Orapiu (17) MM4.

88/1200
MAR 23 0022 48.3s 39.23S 174.81E 22km M=3.6
0.1 0.01 0.01 1
Rsd 0.1s 21ph/18stn Dmin 62km Az.gap 118°
Corr. -0.318 11M/11stn Msd 0.1 1↑

88/1207
MAR 23 0701 38.0s 39.72S 175.52E 63km M=3.7
0.1 0.01 0.02 3
Rsd 0.2s 24ph/23stn Dmin 49km Az.gap 119°
Corr. -0.453 15M/13stn Msd 0.2 2↑ 1↓

88/1211
MAR 23 1052 37.3s 38.15S 175.31E 157km M=3.6
2.3 0.13 0.11 17
Rsd 0.2s 15ph/14stn Dmin 132km Az.gap 295°
Corr. -0.500 10M/10stn Msd 0.2

88/1216
MAR 23 1822 55.9s 37.84S 176.42E 172km M=4.0
0.7 0.03 0.03 6
Rsd 0.2s 15ph/13stn Dmin 44km Az.gap 178°
Corr. -0.402 15M/15stn Msd 0.2 2↑ 2↓

88/1226
MAR 24 0554 20.8s 37.73S 177.27E 76km M=3.6
0.3 0.02 0.01 5
Rsd 0.1s 10ph/9stn Dmin 38km Az.gap 180°
Corr. -0.393 9M/9stn Msd 0.2 1↓

88/1243
MAR 25 0907 01.7s 37.77S 176.24E 191km M=3.8
0.9 0.04 0.03 9
Rsd 0.2s 16ph/13stn Dmin 64km Az.gap 191°
Corr. 0.097 14M/14stn Msd 0.1

88/1247
MAR 25 1801 41.3s 41.15S 174.53E 32km M=4.2
0.1 0.01 0.01 1
Rsd 0.3s 25ph/23stn Dmin 18km Az.gap 78°
Corr. -0.330 9M/8stn Msd 0.3 8↑ 11↓
Felt Wellington region (68) max MM4.

88/1248
MAR 25 1907 05.9s 41.28S 172.57E 342km M=3.5
0.5 0.09 0.18 5
Rsd 0.1s 12ph/12stn Dmin 144km Az.gap 339°
Corr. -0.590 6M/6stn Msd 0.2

88/1249
MAR 25 2136 10.3s 38.01S 175.99E 196km M=4.1
1.1 0.03 0.05 10
Rsd 0.3s 22ph/20stn Dmin 25km Az.gap 154°
Corr. 0.099 22M/20stn Msd 0.1 5↑ 8↓

88/1274
MAR 27 0527 43.3s 47.12S 166.27E 12km M=3.8
0.9 0.04 0.07 R
Rsd 0.4s 12ph/9stn Dmin 142km Az.gap 305°
Corr. 0.498 9M/8stn Msd 0.1 1↑ 2↓

88/1278
MAR 27 0756 16.2s 37.21S 176.76E 219km M=3.9
1.5 0.08 0.07 13
Rsd 0.5s 10ph/8stn Dmin 88km Az.gap 235°
Corr. -0.084 8M/8stn Msd 0.3

88/1287
MAR 28 0139 03.1s 37.97S 176.56E 158km M=4.1
0.6 0.02 0.02 5
Rsd 0.3s 22ph/18stn Dmin 29km Az.gap 163°
Corr. -0.140 17M/17stn Msd 0.2 10↑ 11↓

88/1308
MAR 29 0023 40.6s 41.38S 172.85E 132km M=3.7
0.5 0.04 0.03 5
Rsd 0.2s 17ph/15stn Dmin 34km Az.gap 120°
Corr. -0.033 11M/9stn Msd 0.2 3↑ 1↓

88/1311
MAR 29 0414 44.2s 39.20S 174.00E 5km M=3.1
0.3 R R R
Rsd 0.4s 3ph/3stn Dmin 12km Az.gap 270°
Corr. 0.000 1M/1stn Msd 0.0
Felt Pukeiti (46) MM4.

88/1316
MAR 29 1029 56.6s 44.14S 168.74E 12km M=3.9
0.1 0.01 0.01 R
Rsd 0.1s 16ph/15stn Dmin 88km Az.gap 234°
Corr. -0.453 8M/8stn Msd 0.1 1↓
Felt Mount Aspiring Station (113) MM4.

88/1317
MAR 29 1045 34.4s 38.20S 176.29E 0km M=2.1
0.8 0.43 0.14 R
Rsd 0.5s 5ph/4stn Dmin 9km Az.gap 185°
Corr. 0.988 1M/1stn Msd 0.0 1↓
Felt Rotorua (33).

88/1319
MAR 29 1349 56.0s 38.21S 176.27E 0km M=2.1
1.3 0.20 0.11 R
Rsd 0.6s 4ph/4stn Dmin 8km Az.gap 200°
Corr. 0.910 1M/1stn Msd 0.0
Felt Rotorua (33).

88/1327
MAR 30 0220 16.1s 38.21S 175.78E 154km M=3.5
1.4 0.04 0.07 12
Rsd 0.4s 14ph/11stn Dmin 38km Az.gap 165°
Corr. -0.174 8M/8stn Msd 0.2 3↑ 2↓

88/1343
MAR 31 1133 46.9s 38.21S 176.13E 178km M=3.7
0.6 0.03 0.04 5
Rsd 0.3s 16ph/14stn Dmin 61km Az.gap 130°
Corr. 0.069 12M/12stn Msd 0.1 1↑ 4↓

88/1346
MAR 31 1619 29.5s 37.55S 179.51W 98km M=4.5
0.8 0.07 0.07 15
Rsd 0.3s 11ph/8stn Dmin 193km Az.gap 320°
Corr. -0.138 6M/5stn Msd 0.3 1↑ 1↓

88/1348
MAR 31 2258 13.1s 33.94S 177.77W 33km M=4.9
2.4 0.15 0.25 R
Rsd 0.6s 10ph/8stn Dmin 539km Az.gap 329°
Corr. -0.260 7M/7stn Msd 0.3
T wave on HBZ and WTZ at 2304.

88/1349
MAR 31 2342 20.4s 35.98S 179.17E 130km M=4.6
0.8 0.09 0.07 13
Rsd 0.3s 11ph/10stn Dmin 196km Az.gap 324°
Corr. -0.202 17M/15stn Msd 0.2 1↑

88/1352
APR 01 0306 38.6s 37.52S 177.05E 5km M=3.9
0.3 0.02 0.02 R
Rsd 0.3s 11ph/9stn Dmin 51km Az.gap 139°
Corr. -0.044 5M/5stn Msd 0.2 1↑

88/1354
APR 01 0740 44.0s 38.92S 174.89E 218km M=4.4
0.5 0.03 0.05 5
Rsd 0.3s 28ph/18stn Dmin 57km Az.gap 196°
Corr. 0.179 16M/16stn Msd 0.2 10↑ 3↓

88/1359
APR 01 1210 45.1s 39.52S 174.53E 194km M=4.1
0.5 0.02 0.05 5
Rsd 0.3s 20ph/16stn Dmin 46km Az.gap 120°
Corr. -0.096 13M/11stn Msd 0.2 7↑ 3↓

88/1360
APR 01 1505 22.3s 36.97S 177.93E 127km M=4.3
0.5 0.03 0.03 5
Rsd 0.2s 17ph/12stn Dmin 78km Az.gap 272°
Corr. 0.043 17M/15stn Msd 0.4 3↑ 1↓

88/1365
APR 02 0139 30.6s 39.38S 177.21E 33km M=3.7
0.5 0.02 0.05 R
Rsd 0.5s 22ph/16stn Dmin 28km Az.gap 185°
Corr. -0.617 5M/4stn Msd 0.3 1↑ 6↓

88/1367
APR 02 0452 09.6s 33.87S 178.91W 12km M=4.7
1.4 0.07 0.12 R
Rsd 0.4s 13ph/10stn Dmin 484km Az.gap 326°
Corr. 0.270 13M/13stn Msd 0.3

88/1368
APR 02 0630 29.4s 33.98S 178.94W 75km M=4.8
1.2 0.05 0.10 R
Rsd 0.2s 11ph/10stn Dmin 473km Az.gap 325°
Corr. 0.563 14M/12stn Msd 0.2

88/1369
APR 02 0717 14.1s 38.55S 175.85E 147km M=6.0
0.5 0.02 0.02 5
Rsd 0.2s 27ph/17stn Dmin 23km Az.gap 91°
Corr. 0.281 3M/2stn Msd 0.6 26↑ 8↓
Felt Southern half of North Island, max MM5 at Palmerston North (62).

88/1378
APR 03 1012 22.3s 38.23S 175.98E 187km M=4.2
0.6 0.03 0.04 5
Rsd 0.3s 22ph/19stn Dmin 20km Az.gap 121°
Corr. 0.161 19M/17stn Msd 0.1 8↑ 5↓

88/1379
APR 03 1228 38.4s 37.19S 177.73E 128km M=3.9
0.7 0.06 0.04 8
Rsd 0.3s 10ph/9stn Dmin 68km Az.gap 246°
Corr. 0.015 14M/12stn Msd 0.2

88/1382
APR 03 1710 54.3s 38.44S 176.20E 5km M=1.9
0.1 0.00 0.01 R
Rsd 0.1s 6ph/6stn Dmin 12km Az.gap 197°
Corr. -0.490 4M/4stn Msd 0.2
Felt Te Kopia Rd (33).

88/1388
APR 03 1922 53.5s 38.44S 176.24E 5km M=2.5
0.1 0.01 0.01 R
Rsd 0.2s 17ph/17stn Dmin 10km Az.gap 91°
Corr. -0.496 9M/9stn Msd 0.1
Felt Te Kopia Rd (33).

88/1389
APR 03 1926 28.5s 38.44S 176.20E 5km M=2.2
0.1 0.01 0.01 R
Rsd 0.2s 7ph/7stn Dmin 12km Az.gap 100°
Corr. -0.402 7M/7stn Msd 0.1
Felt Te Kopia Rd (33).

88/1391
APR 03 1937 02.5s 38.42S 176.20E 5km M=2.4
0.1 0.01 0.01 R
Rsd 0.2s 11ph/11stn Dmin 14km Az.gap 87°
Corr. -0.178 3M/3stn Msd 0.0 1↓
Felt Te Kopia Rd (33).

88/1393
APR 03 2012 39.9s 38.44S 176.19E 5km M=2.0
0.2 0.01 0.02 R
Rsd 0.3s 7ph/7stn Dmin 13km Az.gap 104°
Corr. -0.166 7M/7stn Msd 0.1
Felt Te Kopia Rd (33).

88/1398
APR 03 2029 18.9s 38.43S 176.20E 2km M=3.2
0.3 0.00 0.01 1
Rsd 0.2s 19ph/17stn Dmin 13km Az.gap 83°
Corr. -0.151 15M/15stn Msd 0.3 1↑ 6↓
Felt Te Kopia Rd (33).

88/1402
APR 03 2056 21.4s 38.42S 176.19E 5km M=2.8
0.1 0.01 0.01 R
Rsd 0.3s 17ph/16stn Dmin 14km Az.gap 85°
Corr. -0.158 14M/14stn Msd 0.2 1↓
Felt Te Kopia Rd (33).

88/1413
APR 04 1044 09.4s 37.45S 179.38E 33km M=4.0
3.1 0.11 0.29 R
Rsd 0.7s 9ph/8stn Dmin 97km Az.gap 321°
Corr. 0.270 6M/5stn Msd 0.3 1↓

88/1417
APR 04 1355 12.5s 36.29S 178.56E 113km M=4.0
0.7 0.06 0.06 11
Rsd 0.3s 12ph/9stn Dmin 147km Az.gap 314°
Corr. -0.159 8M/8stn Msd 0.3 1↑

88/1424
APR 05 0226 23.2s 38.52S 175.76E 149km M=3.6
0.2 0.01 0.01 2
Rsd 0.1s 15ph/10stn Dmin 69km Az.gap 141°
Corr. -0.424 9M/9stn Msd 0.2 1↑ 1↓

88/1425
APR 05 0258 14.9s 38.17S 176.16E 164km M=4.3
0.7 0.03 0.04 6
Rsd 0.3s 22ph/18stn Dmin 31km Az.gap 136°
Corr. 0.072 18M/16stn Msd 0.4 13↑ 10↓

88/1431
APR 05 0638 23.8s 36.82S 177.14E 249km M=4.7
1.7 0.08 0.07 14
Rsd 0.3s 17ph/15stn Dmin 130km Az.gap 261°
Corr. 0.202 14M/12stn Msd 0.2 1↑

88/1440
APR 05 2302 53.3s 38.16S 175.84E 169km M=3.8
1.1 0.06 0.05 8
Rsd 0.2s 13ph/13stn Dmin 79km Az.gap 234°
Corr. -0.305 16M/16stn Msd 0.2 4↑ 2↓

88/1455
APR 06 2033 52.1s 39.62S 174.62E 198km M=3.6
0.9 0.02 0.03 8
Rsd 0.2s 10ph/9stn Dmin 59km Az.gap 122°
Corr. -0.432 8M/8stn Msd 0.3 1↓

88/1462
APR 07 1835 11.5s 37.89S 176.83E 2km M=3.4
0.2 0.02 0.02 R
Rsd 0.3s 17ph/16stn Dmin 17km Az.gap 168°
Corr. -0.318 10M/10stn Msd 0.2 1↓
Felt Ruatuna Rd (35) MM4.

88/1468
APR 07 2348 22.9s 38.46S 175.97E 180km M=3.9
1.3 0.07 0.06 11
Rsd 0.4s 9ph/8stn Dmin 53km Az.gap 92°
Corr. -0.291 11M/11stn Msd 0.4 4↑ 3↓

88/1472
APR 08 0743 43.1s 34.89S 179.99W 241km M=4.7
0.6 0.07 0.07 13
Rsd 0.2s 10ph/8stn Dmin 338km Az.gap 333°
Corr. -0.103 11M/11stn Msd 0.2

88/1476
APR 08 2031 16.9s 40.09S 174.74E 12km M=3.9
0.2 0.01 0.03 R
Rsd 0.3s 21ph/16stn Dmin 87km Az.gap 140°
Corr. -0.660 10M/8stn Msd 0.3 3↑ 3↓
Felt Wanganui (57).

88/1481
APR 09 1428 30.6s 36.70S 176.75E 230km M=3.8
1.3 0.12 0.13 16
Rsd 0.2s 5ph/4stn Dmin 144km Az.gap 328°
Corr. 0.018 4M/4stn Msd 0.3

88/1483
APR 09 1917 16.5s 45.27S 167.42E 93km M=3.7
0.5 0.02 0.03 5
Rsd 0.2s 8ph/7stn Dmin 57km Az.gap 219°
Corr. -0.222 5M/5stn Msd 0.1 1↓

88/1487
APR 10 1122 51.4s 40.41S 173.56E 206km M=3.9
0.7 0.13 0.06 9
Rsd 0.3s 12ph/9stn Dmin 102km Az.gap 252°
Corr. 0.240 7M/7stn Msd 0.3 2↑ 2↓

88/1490
APR 10 2014 17.7s 39.98S 173.60E 0km M=3.5
0.8 0.02 0.04 8
Rsd 0.3s 17ph/15stn Dmin 90km Az.gap 178°
Corr. -0.520 12M/10stn Msd 0.2 1↑

88/1493
APR 11 0500 19.8s 38.60S 175.85E 129km M=3.6
1.2 0.07 0.09 10
Rsd 0.4s 10ph/10stn Dmin 62km Az.gap 283°
Corr. -0.313 10M/10stn Msd 0.2 1↑ 1↓

88/1495
APR 11 0743 06.5s 39.41S 174.93E 128km M=3.8
0.3 0.01 0.02 3
Rsd 0.0s 13ph/12stn Dmin 74km Az.gap 245°
Corr. 0.314 8M/8stn Msd 0.2 5↑ 1↓

88/1497
APR 11 1052 57.7s 41.58S 173.33E 64km M=4.0
0.7 0.03 0.04 10
Rsd 0.3s 16ph/16stn Dmin 48km Az.gap 79°
Corr. -0.473 9M/7stn Msd 0.2 3↑ 8↓

88/1500
APR 11 1231 25.4s 40.50S 173.45E 148km M=4.0
0.4 0.02 0.02 4
Rsd 0.2s 20ph/17stn Dmin 89km Az.gap 160°
Corr. -0.024 11M/9stn Msd 0.2 6↑ 2↓

88/1501
APR 11 1237 27.4s 37.30S 176.68E 224km M=4.1
0.8 0.04 0.06 9
Rsd 0.3s 15ph/13stn Dmin 122km Az.gap 228°
Corr. -0.348 11M/11stn Msd 0.3

88/1515
APR 12 0503 44.9s 39.14S 178.82E 33km M=5.4
0.7 0.04 0.08 6
Rsd 0.2s 26ph/25stn Dmin 89km Az.gap 161°
Corr. -0.867 17M/15stn Msd 0.2 6↑ 12↓
Felt (35,44,45,53), max MM4 at Ormond (44) and Wairoa (53).

88/1516
APR 12 0649 25.5s 39.13S 178.74E 27km M=4.3
0.4 0.02 0.03 3
Rsd 0.1s 14ph/14stn Dmin 82km Az.gap 240°
Corr. -0.668 18M/16stn Msd 0.5 1↑

88/1525
APR 12 2349 09.1s 38.02S 175.90E 234km M=3.9
0.4 0.02 0.03 4
Rsd 0.1s 17ph/16stn Dmin 34km Az.gap 150°
Corr. -0.197 13M/13stn Msd 0.1

88/1533
APR 13 1808 09.7s 38.41S 175.50E 215km M=3.8
0.6 0.04 0.07 5
Rsd 0.3s 16ph/14stn Dmin 54km Az.gap 166°
Corr. 0.422 10M/10stn Msd 0.2 5↑ 2↓

88/1545
APR 14 1123 42.4s 38.76S 175.81E 5km M=3.6
0.4 0.04 0.03 R
Rsd 0.1s 12ph/11stn Dmin 192km Az.gap 242°
Corr. -0.914 9M/9stn Msd 0.3 1↓

88/1550
APR 14 1723 11.6s 38.78S 177.43E 52km M=4.0
0.4 0.01 0.02 7
Rsd 0.2s 21ph/21stn Dmin 54km Az.gap 136°
Corr. -0.375 12M/10stn Msd 0.1 6↑ 5↓

88/1552
APR 14 1816 38.5s 39.11S 174.79E 213km M=4.0
0.8 0.02 0.05 8
Rsd 0.3s 23ph/19stn Dmin 96km Az.gap 169°
Corr. -0.680 11M/11stn Msd 0.2 4↑ 5↓

88/1563
APR 15 0334 24.7s 38.04S 176.01E 215km M=3.8
0.9 0.04 0.04 8
Rsd 0.2s 15ph/14stn Dmin 43km Az.gap 150°
Corr. -0.183 13M/13stn Msd 0.1 1↑ 1↓

88/1564
APR 15 0427 22.3s 38.78S 177.45E 67km M=4.2
0.3 0.01 0.02 4
Rsd 0.2s 22ph/21stn Dmin 52km Az.gap 137°
Corr. -0.309 13M/11stn Msd 0.2 5↑ 5↓

88/1568
APR 15 0929 49.0s 35.21S 179.30E 205km M=4.8
0.3 0.04 0.04 7
Rsd 0.1s 14ph/13stn Dmin 280km Az.gap 329°
Corr. 0.146 15M/13stn Msd 0.2 1↑ 1↓

88/1570
APR 15 1018 50.7s 45.12S 167.62E 134km M=3.9
0.2 0.03 0.02 2
Rsd 0.1s 16ph/15stn Dmin 55km Az.gap 274°
Corr. 0.824 9M/9stn Msd 0.2 9↑ 1↓

88/1576
APR 16 0018 01.5s 38.38S 175.91E 175km M=4.1
0.7 0.04 0.04 6
Rsd 0.3s 17ph/15stn Dmin 39km Az.gap 99°
Corr. 0.459 16M/16stn Msd 0.3 6↑ 5↓

88/1579
APR 16 0152 45.2s 38.65S 175.74E 154km M=4.6
0.7 0.03 0.03 5
Rsd 0.3s 20ph/18stn Dmin 7km Az.gap 143°
Corr. 0.309 13M/11stn Msd 0.2 3↑ 7↓

88/1580
APR 16 0232 32.0s 46.38S 166.60E 18km M=4.9
0.8 0.05 0.07 7
Rsd 0.2s 10ph/9stn Dmin 99km Az.gap 308°
Corr. 0.656 18M/16stn Msd 0.2 2↑ 1↓
Felt Riverton (149) MM4.

88/1583
APR 16 0834 06.2s 39.05S 178.72E 27km M=3.6
0.2 0.01 0.02 2
Rsd 0.1s 14ph/13stn Dmin 75km Az.gap 239°
Corr. -0.762 14M/14stn Msd 0.2

88/1586
APR 16 1918 03.7s 37.55S 177.75E 116km M=4.0
0.4 0.02 0.02 3
Rsd 0.1s 14ph/13stn Dmin 49km Az.gap 199°
Corr. 0.254 12M/12stn Msd 0.1 1↑ 2↓

88/1597
APR 17 1554 57.4s 37.26S 178.75E 61km M=3.7
1.5 0.12 0.21 19
Rsd 0.4s 5ph/4stn Dmin 55km Az.gap 321°
Corr. -0.746 2M/2stn Msd 0.2

88/1598
APR 17 1824 20.3s 37.75S 176.29E 311km M=4.9
0.6 0.04 0.04 4
Rsd 0.2s 18ph/16stn Dmin 48km Az.gap 108°
Corr. 0.147 16M/14stn Msd 0.3 12↑ 3↓

88/1599
APR 17 1827 39.4s 38.25S 176.04E 186km M=3.8
0.5 0.02 0.02 5
Rsd 0.2s 18ph/16stn Dmin 57km Az.gap 122°
Corr. -0.277 12M/12stn Msd 0.2 1↑

88/1600
APR 17 1956 00.4s 38.23S 175.67E 195km M=4.0
0.1 0.01 0.13 R
Rsd 0.1s 13ph/13stn Dmin 36km Az.gap 191°
Corr. -0.068 9M/9stn Msd 0.3 1↑

88/1601
APR 17 1958 55.4s 38.25S 178.90E 17km M=4.4
0.6 0.02 0.05 3
Rsd 0.2s 17ph/15stn Dmin 88km Az.gap 273°
Corr. 0.193 17M/15stn Msd 0.4 1↓

88/1605
APR 18 0315 22.9s 39.18S 177.21E 29km M=3.6
0.2 0.01 0.02 2
Rsd 0.3s 19ph/17stn Dmin 41km Az.gap 168°
Corr. -0.326 13M/13stn Msd 0.2 1↑ 3↓

88/1607
APR 18 0555 31.3s 38.22S 176.14E 167km M=4.4
0.8 0.03 0.04 6
Rsd 0.3s 19ph/16stn Dmin 6km Az.gap 105°
Corr. -0.102 15M/13stn Msd 0.3 8↑ 4↓

88/1608
APR 18 0850 01.3s 38.39S 175.93E 150km M=3.6
0.4 0.04 0.06 R
Rsd 0.2s 14ph/11stn Dmin 226km Az.gap 224°
Corr. -0.930 8M/8stn Msd 0.2 3↑ 1↓

88/1614
APR 18 1913 35.9s 40.22S 175.02E 12km M=4.0
0.1 0.01 0.02 R
Rsd 0.3s 27ph/24stn Dmin 72km Az.gap 94°
Corr. -0.383 10M/9stn Msd 0.2 2↑ 5↓
Felt Titahi Bay (68).

88/1627
APR 20 0518 02.5s 45.17S 167.50E 83km M=4.1
0.1 0.01 0.01 2
Rsd 0.0s 15ph/14stn Dmin 65km Az.gap 225°
Corr. -0.022 9M/9stn Msd 0.2 3↑ 2↓

88/1642
APR 21 0700 04.7s 37.94S 176.86E 5km M=3.1
0.4 0.03 0.02 R
Rsd 0.4s 9ph/8stn Dmin 12km Az.gap 201°
Corr. 0.139 5M/5stn Msd 0.2
Felt Awaiti Rd South (27) MM5 and McKracken Rd (27).

88/1644
APR 21 1110 12.6s 38.20S 176.71E 5km M=2.4
0.3 0.04 0.02 R
Rsd 0.1s 4ph/3stn Dmin 18km Az.gap 215°
Corr. -0.980 2M/2stn Msd 0.1
Felt Edgecumbe (27).

88/1645
APR 21 1325 52.7s 38.43S 175.89E 184km M=4.4
0.7 0.03 0.05 6
Rsd 0.3s 15ph/14stn Dmin 39km Az.gap 93°
Corr. 0.336 15M/13stn Msd 0.3 7↑ 2↓

88/1649
APR 22 0108 26.2s 45.24S 167.50E 120km M=4.8
0.2 0.01 0.01 2
Rsd 0.1s 17ph/15stn Dmin 60km Az.gap 211°
Corr. -0.475 8M/8stn Msd 0.6 5↑ 2↓
Felt Riverton (149) MM4.

88/1657
APR 22 1856 09.5s 38.46S 176.76E 60km M=3.9
0.4 0.02 0.03 5
Rsd 0.4s 25ph/22stn Dmin 33km Az.gap 95°
Corr. -0.432 12M/12stn Msd 0.3 9↑ 4↓

88/1666
APR 23 0717 05.0s 37.53S 177.29E 139km M=4.2
0.3 0.02 0.01 3
Rsd 0.1s 12ph/11stn Dmin 57km Az.gap 201°
Corr. -0.332 12M/12stn Msd 0.2 5↑ 3↓

88/1667
APR 23 0740 08.1s 37.81S 179.50E 14km M=3.7
1.1 0.07 0.08 9
Rsd 0.4s 9ph/8stn Dmin 108km Az.gap 298°
Corr. 0.285 15M/15stn Msd 0.2 1↑

88/1684
APR 24 1223 38.9s 40.72S 173.32E 140km M=3.5
0.5 0.05 0.03 5
Rsd 0.3s 14ph/12stn Dmin 64km Az.gap 227°
Corr. 0.141 8M/8stn Msd 0.2 2↑ 1↓

88/1690
APR 24 2009 25.7s 40.46S 176.52E 84km M=4.5
0.3 0.01 0.03 3
Rsd 0.2s 33ph/30stn Dmin 55km Az.gap 181°
Corr. -0.711 7M/5stn Msd 0.1 6↑ 5↓
Felt Palmerston North (68) MM5 and in Wairarapa (58,67).

88/1691
APR 24 2235 15.5s 37.17S 176.71E 241km M=4.1
1.1 0.09 0.12 12
Rsd 0.4s 8ph/7stn Dmin 149km Az.gap 263°
Corr. -0.656 12M/12stn Msd 0.1 1↑ 2↓

88/1693
APR 24 2300 11.2s 36.86S 177.57E 260km M=4.1
0.5 0.06 0.06 3
Rsd 0.2s 11ph/11stn Dmin 105km Az.gap 282°
Corr. -0.664 13M/13stn Msd 0.1 1↓

88/1702
APR 25 1004 27.6s 36.99S 177.71E 154km M=3.7
1.3 0.13 0.11 8
Rsd 0.4s 9ph/9stn Dmin 85km Az.gap 282°
Corr. -0.719 13M/13stn Msd 0.2 1↑

88/1703
APR 25 1037 08.5s 36.23S 178.75E 156km M=4.2
1.2 0.11 0.18 8
Rsd 0.3s 9ph/8stn Dmin 158km Az.gap 333°
Corr. -0.416 12M/12stn Msd 0.2 1↓

88/1708
APR 25 1646 21.8s 38.10S 176.80E 5km M=2.2
0.4 R R R
Rsd 0.7s 3ph/2stn Dmin 21km Az.gap 188°
Corr. 0.000 1M/1stn Msd 0.0 1↑
Felt Kawerau (34).

88/1724
APR 26 1611 16.7s 35.79S 179.38E 159km M=4.5
1.3 0.09 0.12 14
Rsd 0.3s 12ph/9stn Dmin 223km Az.gap 326°
Corr. -0.063 12M/12stn Msd 0.2 1↑

88/1727
APR 26 1749 07.7s 37.02S 177.60E 184km M=3.8
1.1 0.06 0.05 10
Rsd 0.3s 8ph/5stn Dmin 89km Az.gap 255°
Corr. 0.316 10M/10stn Msd 0.0 2↑ 2↓

88/1745
APR 27 2203 12.3s 37.80S 176.19E 211km M=5.0
0.5 0.03 0.03 4
Rsd 0.2s 31ph/28stn Dmin 42km Az.gap 104°
Corr. 0.013 8M/8stn Msd 0.1 9↑ 11↓

88/1751
APR 28 0821 54.8s 38.18S 176.24E 2km M=1.9
0.3 0.04 0.02 R
Rsd 0.4s 6ph/5stn Dmin 5km Az.gap 153°
Corr. 0.084 2M/2stn Msd 0.1 1↓
Felt Rotorua (33) MM4.

88/1760
APR 28 2032 34.0s 39.03S 177.90E 50km M=4.3
0.3 0.01 0.02 4
Rsd 0.1s 16ph/14stn Dmin 44km Az.gap 128°
Corr. -0.660 12M/12stn Msd 0.2 2↑ 1↓
Felt Mahia Beach (54).

88/1761
APR 28 2238 34.6s 38.69S 175.99E 127km M=3.9
0.8 0.04 0.03 7
Rsd 0.3s 7ph/7stn Dmin 52km Az.gap 107°
Corr. -0.129 9M/9stn Msd 0.3 3↑ 1↓

88/1766
APR 29 0516 31.4s 40.43S 173.82E 129km M=5.5
0.4 0.02 0.02 5
Rsd 0.2s 20ph/18stn Dmin 117km Az.gap 139°
Corr. -0.301 5M/4stn Msd 0.3 13↑ 15↓
Felt from Taranaki to Marlborough Sounds, max MM5 at Ohau (65).

88/1772
APR 30 0848 09.4s 36.90S 176.94E 279km M=4.2
1.6 0.10 0.15 16
Rsd 0.5s 10ph/9stn Dmin 121km Az.gap 283°
Corr. -0.410 7M/7stn Msd 0.2 1↑

88/1774
APR 30 1125 33.9s 37.49S 175.90E 5km M=3.6
0.2 0.02 0.02 R
Rsd 0.3s 12ph/11stn Dmin 58km Az.gap 109°
Corr. 0.715 10M/10stn Msd 0.3
Felt Waihi district (21), max MM4. First of a series felt between April 30 11h 20m and May 02 12h 00m.

88/1775
APR 30 1215 15.6s 37.56S 175.82E 5km M=3.1
0.2 0.01 0.02 R
Rsd 0.2s 14ph/14stn Dmin 76km Az.gap 127°
Corr. 0.555 7M/7stn Msd 0.3
Felt Katikati (25) and Tauranga (26).

88/1777
APR 30 1526 11.0s 37.44S 175.78E 5km M=3.3
0.5 0.03 0.03 R
Rsd 0.2s 6ph/5stn Dmin 58km Az.gap 279°
Corr. 0.065 1M/1stn Msd N.D.
Felt Waihi (21).

88/1778
APR 30 1529 58.4s 37.57S 175.80E 5km M=3.3
0.3 0.02 0.03 R
Rsd 0.3s 11ph/10stn Dmin 45km Az.gap 125°
Corr. 0.398 8M/8stn Msd 0.4
Felt Waihi (21) MM VI.

88/1783
APR 30 2007 51.7s 39.34S 175.59E 116km M=5.0
0.6 0.02 0.03 5
Rsd 0.3s 29ph/26stn Dmin 7km Az.gap 72°
Corr. -0.044 5M/4stn Msd 0.4 10↑ 7↓
Felt central and lower North Island, max MM5 at Moawhango (58).

88/1785
APR 30 2146 34.0s 37.10S 177.82E 69km M=4.5
0.6 0.05 0.02 5
Rsd 0.1s 14ph/14stn Dmin 70km Az.gap 209°
Corr. 0.242 15M/13stn Msd 0.1 8↑ 3↓
Felt Ohope and Ruatuna Rd (35) MM4.

88/1786
MAY 01 0029 09.6s 39.37S 178.52E 47km M=3.8
0.4 0.03 0.05 23
Rsd 0.2s 12ph/10stn Dmin 91km Az.gap 234°
Corr. -0.859 14M/14stn Msd 0.2 4↑ 1↓

88/1789
MAY 01 0210 22.5s 40.24S 173.88E 172km M=3.6
0.2 0.02 0.03 3
Rsd 0.1s 13ph/11stn Dmin 112km Az.gap 305°
Corr. -0.463 8M/8stn Msd 0.3 3↑ 2↓

88/1794
MAY 01 0804 59.9s 33.24S 178.62W 33km M=4.9
0.6 0.03 0.05 R
Rsd 0.2s 12ph/8stn Dmin 558km Az.gap 329°
Corr. 0.187 21M/19stn Msd 0.2 2↑ 2↓
T waves at 0811.

88/1798
MAY 01 1230 52.6s 38.45S 175.81E 170km M=4.1
0.7 0.05 0.07 8
Rsd 0.3s 22ph/19stn Dmin 77km Az.gap 224°
Corr. -0.785 14M/14stn Msd 0.3 3↑ 2↓

88/1799
MAY 01 1250 12.7s 34.20S 179.39E 349km M=4.2
0.8 0.22 0.39 15
Rsd 0.1s 12ph/10stn Dmin 389km Az.gap 345°
Corr. -0.988 8M/8stn Msd 0.1

88/1811
MAY 02 0923 56.0s 34.06S 179.55E 103km M=5.0
0.6 0.03 0.05 20
Rsd 0.2s 15ph/14stn Dmin 409km Az.gap 319°
Corr. 0.617 8M/8stn Msd 0.1 1↑

88/1813
MAY 02 1238 16.6s 38.29S 178.66E 33km M=3.6
0.7 0.02 0.07 R
Rsd 0.3s 11ph/10stn Dmin 69km Az.gap 258°
Corr. -0.703 4M/4stn Msd 0.1 1↓

88/1816
MAY 02 1541 10.4s 41.01S 174.59E 65km M=4.0
0.1 0.01 0.01 2
Rsd 0.1s 14ph/12stn Dmin 34km Az.gap 93°
Corr. -0.520 9M/7stn Msd 0.2 5↑ 3↓

88/1822
MAY 03 0609 43.1s 41.73S 173.23E 58km M=3.5
0.3 0.01 0.02 4
Rsd 0.3s 21ph/20stn Dmin 34km Az.gap 87°
Corr. 0.172 13M/11stn Msd 0.2 3↑ 4↓

88/1828
MAY 03 1331 52.0s 39.07S 173.98E 12km M=3.1
0.3 0.01 0.03 R
Rsd 0.2s 14ph/12stn Dmin 24km Az.gap 202°
Corr. -0.512 8M/8stn Msd 0.2 1↑
Felt New Plymouth (47).

88/1837
MAY 04 0100 10.8s 33.34S 178.67W 33km M=4.6
0.8 0.04 0.08 R
Rsd 0.2s 8ph/8stn Dmin 547km Az.gap 331°
Corr. 0.289 17M/17stn Msd 0.3 1↓

88/1845
MAY 04 0645 02.2s 38.08S 176.08E 169km M=3.7
0.6 0.02 0.10 8
Rsd 0.1s 15ph/14stn Dmin 81km Az.gap 240°
Corr. -0.738 14M/14stn Msd 0.2 1↑ 1↓

88/1848
MAY 04 0914 53.1s 32.49S 178.57W 556km M=4.9
1.3 0.26 0.22 30
Rsd 0.1s 10ph/10stn Dmin 634km Az.gap 346°
Corr. -0.379 7M/7stn Msd 0.3 1↑

88/1856
MAY 04 1949 14.8s 36.97S 176.87E 254km M=5.1
0.6 0.03 0.03 5
Rsd 0.2s 17ph/16stn Dmin 113km Az.gap 176°
Corr. 0.218 13M/11stn Msd 0.1 7↑ 6↓

88/1861
MAY 05 0432 13.2s 38.20S 175.99E 162km M=3.6
0.5 0.03 0.03 14
Rsd 0.0s 7ph/6stn Dmin 272km Az.gap 344°
Corr. -0.371 7M/7stn Msd 0.1 1↓

88/1865
MAY 05 0630 19.2s 35.47S 178.86E 272km M=4.2
1.2 0.09 0.23 9
Rsd 0.3s 5ph/4stn Dmin 241km Az.gap 342°
Corr. -0.645 4M/4stn Msd 0.3 1↓

88/1867
MAY 05 1047 33.7s 37.65S 176.52E 194km M=4.1
0.7 0.03 0.03 6
Rsd 0.2s 12ph/9stn Dmin 55km Az.gap 197°
Corr. -0.108 13M/13stn Msd 0.1 1↑

88/1868
MAY 05 1615 06.7s 37.55S 177.07E 12km M=3.9
0.3 0.03 0.02 R
Rsd 0.3s 7ph/7stn Dmin 10km Az.gap 186°
Corr. -0.396 8M/8stn Msd 0.1

88/1869
MAY 05 1615 18.7s 37.40S 177.05E 12km M=3.9
0.1 0.01 0.01 R
Rsd 0.2s 10ph/10stn Dmin 19km Az.gap 149°
Corr. -0.015 2M/2stn Msd 0.1
For TPN digital traces, see previous event.

88/1876
MAY 06 0554 43.7s 40.00S 173.66E 130km M=3.6
0.4 0.03 0.02 6
Rsd 0.2s 21ph/18stn Dmin 143km Az.gap 199°
Corr. -0.271 10M/10stn Msd 0.2 3↑ 1↓

88/1889
MAY 07 0459 36.9s 37.64S 176.77E 151km M=3.9
0.4 0.03 0.02 3
Rsd 0.3s 17ph/15stn Dmin 43km Az.gap 196°
Corr. -0.169 13M/13stn Msd 0.1 1↑

88/1898
MAY 07 1704 36.8s 33.69S 177.31W 5km M=4.6
0.7 0.04 0.06 R
Rsd 0.1s 10ph/9stn Dmin 588km Az.gap 330°
Corr. 0.451 12M/12stn Msd 0.1

88/1910
MAY 08 1627 08.0s 38.11S 176.04E 193km M=4.1
0.6 0.03 0.04 5
Rsd 0.3s 14ph/13stn Dmin 49km Az.gap 141°
Corr. 0.097 14M/14stn Msd 0.1 3↑ 1↓

88/1918
MAY 09 0237 42.3s 38.44S 175.81E 156km M=4.0
0.6 0.04 0.07 5
Rsd 0.3s 14ph/10stn Dmin 30km Az.gap 134°
Corr. 0.574 13M/13stn Msd 0.1 1↑ 1↓

88/1938
MAY 10 1815 44.5s 41.03S 174.48E 53km M=3.5
0.2 0.02 0.01 3
Rsd 0.3s 23ph/19stn Dmin 27km Az.gap 83°
Corr. -0.243 7M/7stn Msd 0.3 3↑ 6↓
Felt Central Wellington (68).

88/1941
MAY 10 1952 45.4s 36.40S 179.93E 84km M=5.0
1.0 0.06 0.06 15
Rsd 0.1s 14ph/13stn Dmin 197km Az.gap 302°
Corr. 0.629 15M/13stn Msd 0.1

88/1946
MAY 11 0350 07.7s 43.08S 171.33E 12km M=2.6
1.2 0.05 0.13 R
Rsd 0.2s 4ph/4stn Dmin 62km Az.gap 247°
Corr. 0.969 2M/2stn Msd 0.1
Felt Arthur's Pass (93) MM4.

88/1957
MAY 11 2239 00.3s 38.58S 175.60E 172km M=3.7
1.2 0.04 0.09 9
Rsd 0.4s 12ph/9stn Dmin 67km Az.gap 243°
Corr. -0.668 15M/15stn Msd 0.1 1↑ 1↓

88/1964
MAY 12 1153 22.6s 39.89S 174.65E 115km M=3.8
0.2 0.01 0.01 2
Rsd 0.2s 22ph/19stn Dmin 84km Az.gap 102°
Corr. 0.173 10M/8stn Msd 0.2 6↑ 4↓

88/1966
MAY 12 2208 32.3s 38.79S 175.64E 130km M=3.5
0.7 0.04 0.04 5
Rsd 0.3s 14ph/13stn Dmin 25km Az.gap 251°
Corr. -0.159 13M/13stn Msd 0.2 1↑

88/1974
MAY 14 0440 06.3s 38.74S 175.59E 119km M=4.2
0.6 0.02 0.04 5
Rsd 0.4s 26ph/22stn Dmin 16km Az.gap 135°
Corr. 0.123 17M/17stn Msd 0.2 5↑ 7↓

88/1975
MAY 14 1115 10.4s 37.14S 177.11E 188km M=3.8
0.8 0.04 0.06 6
Rsd 0.2s 10ph/8stn Dmin 94km Az.gap 268°
Corr. -0.824 11M/11stn Msd 0.2

88/1990
MAY 15 1826 17.6s 44.01S 168.57E 10km M=4.9
2.2 0.03 0.05 19
Rsd 0.2s 11ph/11stn Dmin 90km Az.gap 182°
Corr. -0.205 18M/17stn Msd 0.7 1↓
Felt southwestern South Island, max MM7 Jackson Bay (113).

88/1993
MAY 15 1843 34.3s 44.22S 168.71E 12km M=2.3
0.1 0.01 0.01 R
Rsd 0.1s 9ph/6stn Dmin 81km Az.gap 225°
Corr. -0.373 3M/3stn Msd 0.1
Felt Mount Aspiring Station (113).

88/1999
MAY 15 1918 28.6s 44.05S 168.37E 24km M=4.2
0.4 0.02 0.03 4
Rsd 0.1s 13ph/13stn Dmin 78km Az.gap 202°
Corr. -0.383 4M/4stn Msd 0.4 1↑
Felt Mahitahi (104) MM3 and Mount Aspiring (113).

88/2001
MAY 15 1927 47.0s 44.01S 168.51E 5km M=3.7
0.2 0.02 0.01 R
Rsd 0.1s 13ph/11stn Dmin 87km Az.gap 195°
Corr. -0.641 9M/9stn Msd 0.1

88/2003
MAY 15 1956 41.5s 44.06S 168.49E 4km M=3.8
0.1 0.01 0.00 R
Rsd 0.0s 12ph/10stn Dmin 82km Az.gap 288°
Corr. -0.044 7M/7stn Msd 0.1 1↓
Poor solution.

88/2006
MAY 15 2035 26.3s 44.01S 168.53E 12km M=3.8
0.5 0.03 0.02 R
Rsd 0.3s 10ph/10stn Dmin 88km Az.gap 251°
Corr. -0.490 7M/7stn Msd 0.2 1↑

88/2017
MAY 16 0649 33.9s 38.20S 175.62E 169km M=3.6
0.8 0.04 0.10 7
Rsd 0.2s 13ph/12stn Dmin 108km Az.gap 296°
Corr. -0.773 7M/7stn Msd 0.3 2↑3↓

88/2019
MAY 16 0848 54.2s 40.17S 173.55E 135km M=3.6
0.5 0.05 0.02 6
Rsd 0.2s 17ph/12stn Dmin 123km Az.gap 253°
Corr. -0.453 8M/8stn Msd 0.2 5↑2↓

88/2021
MAY 16 0955 38.4s 44.44S 168.12E 12km M=4.3
0.3 0.02 0.02 R
Rsd 0.1s 12ph/12stn Dmin 30km Az.gap 195°
Corr. -0.539 12M/12stn Msd 0.3 1↑6↓
Felt Mahitahi (104) MM3.

88/2029
MAY 16 1144 38.2s 41.25S 172.89E 147km M=3.9
0.2 0.03 0.01 2
Rsd 0.1s 18ph/15stn Dmin 22km Az.gap 111°
Corr. 0.342 10M/10stn Msd 0.2 6↑3↓

88/2031
MAY 16 1340 27.3s 38.59S 175.66E 177km M=4.1
0.3 0.03 0.05 R
Rsd 0.3s 24ph/19stn Dmin 79km Az.gap 223°
Corr. -0.449 14M/14stn Msd 0.4 4↑3↓

88/2034
MAY 16 2331 45.4s 37.87S 177.55E 38km M=3.6
0.2 0.02 0.02 14
Rsd 0.3s 11ph/9stn Dmin 51km Az.gap 157°
Corr. -0.344 11M/11stn Msd 0.1 1↑

88/2042
MAY 17 1817 54.6s 44.06S 168.50E 12km M=3.5
0.3 0.02 0.01 R
Rsd 0.1s 13ph/13stn Dmin 82km Az.gap 249°
Corr. -0.625 7M/7stn Msd 0.1

88/2049
MAY 18 0102 04.9s 38.63S 175.79E 204km M=3.6
0.2 0.03 0.06 3
Rsd 0.0s 13ph/11stn Dmin 100km Az.gap 281°
Corr. -0.922 7M/7stn Msd 0.1 1↓

88/2051
MAY 18 0320 50.2s 38.97S 178.35E 33km M=4.0
0.8 0.03 0.08 R
Rsd 0.3s 17ph/15stn Dmin 139km Az.gap 224°
Corr. -0.479 14M/14stn Msd 0.4 3↑1↓
HBN Ps inconsistent.

88/2057
MAY 18 1019 04.7s 36.22S 179.26E 302km M=4.4
2.1 0.14 0.35 24
Rsd 0.3s 10ph/9stn Dmin 175km Az.gap 342°
Corr. -0.699 13M/13stn Msd 0.1

88/2059
MAY 18 1336 56.7s 39.74S 174.02E 150km M=3.9
0.5 0.02 0.03 5
Rsd 0.3s 21ph/20stn Dmin 52km Az.gap 152°
Corr. -0.371 10M/10stn Msd 0.1 3↑1↓

88/2062
MAY 18 2150 08.8s 44.04S 168.52E 12km M=4.1
0.1 0.01 0.01 R
Rsd 0.1s 13ph/11stn Dmin 85km Az.gap 249°
Corr. -0.539 3M/3stn Msd 0.1 2↑2↓

88/2063
MAY 18 2307 23.9s 38.57S 175.77E 150km M=4.1
0.1 0.02 0.04 R
Rsd 0.2s 29ph/27stn Dmin 15km Az.gap 113°
Corr. 0.555 11M/10stn Msd 0.9 16↑15↓
Felt from Wellington (68) MM4 to Gisborne (45).

88/2068
MAY 19 1853 42.5s 41.80S 174.38E 28km M=3.6
0.2 0.02 0.01 3
Rsd 0.3s 18ph/16stn Dmin 14km Az.gap 156°
Corr. -0.181 12M/10stn Msd 0.2 5↑7↓

88/2070
MAY 19 2136 58.3s 38.48S 175.83E 156km M=3.9
1.2 0.04 0.09 10
Rsd 0.3s 10ph/8stn Dmin 26km Az.gap 151°
Corr. 0.385 9M/9stn Msd 0.3 6↑3↓

88/2071
MAY 19 2215 28.2s 32.89S 179.94W 459km M=4.9
0.6 0.06 0.05 6
Rsd 0.1s 14ph/14stn Dmin 546km Az.gap 342°
Corr. 0.095 9M/9stn Msd 0.2

88/2073
MAY 20 0335 22.8s 39.99S 176.67E 29km M=5.1
0.1 0.01 0.02 1
Rsd 0.2s 39ph/37stn Dmin 12km Az.gap 70°
Corr. -0.273 12M/10stn Msd 0.2 3↑ 3↓
Felt (58) to (68), max MM6 at Hastings (60) and Aramoana (63).

88/2078
MAY 20 0434 02.4s 40.07S 177.14E 39km M=3.6
0.2 0.01 0.03 4
Rsd 0.1s 17ph/16stn Dmin 63km Az.gap 229°
Corr. -0.844 16M/14stn Msd 0.3
Felt Patoka (52) MM4.

88/2086
MAY 20 1036 12.5s 37.45S 176.52E 188km M=3.7
0.3 0.02 0.04 3
Rsd 0.1s 11ph/11stn Dmin 72km Az.gap 256°
Corr. -0.523 10M/10stn Msd 0.2

88/2094
MAY 20 2223 10.0s 38.56S 176.14E 100km M=3.7
0.4 0.02 0.02 4
Rsd 0.3s 25ph/23stn Dmin 7km Az.gap 78°
Corr. -0.082 17M/17stn Msd 0.2 6↑ 7↓

88/2096
MAY 21 0048 03.6s 38.07S 180.00E 33km M=3.5
2.2 0.06 0.21 R
Rsd 0.6s 8ph/7stn Dmin 158km Az.gap 301°
Corr. 0.236 10M/10stn Msd 0.1

88/2105
MAY 21 0640 15.9s 44.06S 168.59E 12km M=3.7
0.1 0.00 0.00 R
Rsd 0.0s 11ph/10stn Dmin 86km Az.gap 200°
Corr. -0.555 14M/14stn Msd 0.2

88/2106
MAY 21 0803 38.3s 41.08S 176.99E 42km M=3.8
0.6 0.03 0.04 7
Rsd 0.2s 19ph/16stn Dmin 67km Az.gap 251°
Corr. -0.621 14M/12stn Msd 0.2 8↑ 4↓

88/2107
MAY 21 1649 14.2s 38.20S 175.98E 163km M=3.7
0.9 0.03 0.06 8
Rsd 0.2s 13ph/12stn Dmin 49km Az.gap 200°
Corr. -0.408 7M/7stn Msd 0.3 1↓

88/2109
MAY 21 1912 17.8s 41.85S 174.14E 33km M=3.6
0.2 0.02 0.02 R
Rsd 0.2s 19ph/16stn Dmin 12km Az.gap 207°
Corr. -0.445 10M/9stn Msd 0.1 6↑ 12↓

88/2125
MAY 22 1954 39.3s 40.48S 174.60E 53km M=3.5
0.3 0.01 0.03 7
Rsd 0.3s 16ph/13stn Dmin 50km Az.gap 143°
Corr. -0.218 11M/9stn Msd 0.2 1↑

88/2126
MAY 23 0157 51.5s 38.10S 176.27E 1km M=2.7
0.6 0.04 0.03 R
Rsd 0.6s 5ph/5stn Dmin 11km Az.gap 198°
Corr. 0.209 1M/0stn Msd 0.0
Felt Rotorua (33), max MM4 at Forest Research Institute.

88/2133
MAY 23 1716 59.2s 37.32S 177.41E 145km M=3.9
1.7 0.08 0.06 18
Rsd 0.6s 7ph/5stn Dmin 85km Az.gap 166°
Corr. -0.200 9M/9stn Msd 0.1 1↑

88/2134
MAY 23 1751 27.8s 46.78S 166.49E 12km M=3.7
1.0 0.04 0.11 R
Rsd 0.3s 7ph/7stn Dmin 259km Az.gap 313°
Corr. 0.320 4M/4stn Msd 0.1

88/2137
MAY 24 0211 41.2s 40.08S 177.02E 43km M=3.8
0.2 0.01 0.03 3
Rsd 0.2s 22ph/20stn Dmin 20km Az.gap 200°
Corr. -0.652 15M/13stn Msd 0.2 1↑ 1↓
Felt Hastings (60).

88/2146
MAY 24 0914 53.3s 38.59S 176.03E 120km M=3.5
0.9 0.03 0.06 8
Rsd 0.4s 12ph/11stn Dmin 26km Az.gap 136°
Corr. -0.149 14M/14stn Msd 0.1 1↑

88/2154
MAY 24 1522 10.0s 37.60S 177.40E 124km M=4.3
0.5 0.02 0.01 5
Rsd 0.1s 21ph/20stn Dmin 56km Az.gap 139°
Corr. -0.283 16M/14stn Msd 0.5 1↑

88/2160
MAY 24 1917 29.8s 38.58S 175.89E 151km M=3.6
0.9 0.04 0.06 8
Rsd 0.5s 10ph/8stn Dmin 56km Az.gap 124°
Corr. 0.112 9M/9stn Msd 0.2 3↑ 2↓

88/2162
MAY 24 2042 35.0s 36.97S 177.65E 139km M=3.9
0.3 0.03 0.01 3
Rsd 0.1s 11ph/10stn Dmin 91km Az.gap 261°
Corr. -0.428 10M/10stn Msd 0.1 1↑

88/2164
MAY 24 2204 54.8s 41.11S 176.87E 29km M=3.7
0.4 0.01 0.02 3
Rsd 0.1s 22ph/21stn Dmin 59km Az.gap 247°
Corr. -0.855 18M/16stn Msd 0.2 10↑ 2↓

88/2170
MAY 25 0611 32.1s 37.35S 177.31E 166km M=3.7
0.9 0.06 0.07 6
Rsd 0.3s 7ph/6stn Dmin 75km Az.gap 220°
Corr. -0.379 10M/10stn Msd 0.2

88/2189
MAY 26 1004 03.0s 38.55S 176.03E 117km M=3.6
0.9 0.03 0.06 9
Rsd 0.4s 11ph/9stn Dmin 43km Az.gap 159°
Corr. -0.075 10M/10stn Msd 0.2 1↑ 2↓
Clear converted phases at TAH.

88/2192
MAY 26 1554 12.3s 38.98S 178.01E 76km M=3.6
1.0 0.03 0.12 10
Rsd 0.4s 10ph/7stn Dmin 37km Az.gap 237°
Corr. -0.361 4M/4stn Msd 0.1 1↓

88/2194
MAY 26 2214 52.2s 41.17S 176.92E 26km M=3.7
0.3 0.01 0.02 2
Rsd 0.1s 17ph/16stn Dmin 66km Az.gap 257°
Corr. -0.668 18M/16stn Msd 0.1 7↑ 3↓

88/2201
MAY 27 0341 02.4s 38.03S 176.77E 5km M=3.2
0.2 0.01 0.01 R
Rsd 0.3s 18ph/18stn Dmin 20km Az.gap 155°
Corr. -0.260 9M/9stn Msd 0.4 1↓
Felt Whakatane (27) and Kawerau (34).

88/2207
MAY 27 0628 04.8s 37.27S 179.93W 12km M=3.9
0.6 0.08 0.06 R
Rsd 0.2s 8ph/8stn Dmin 161km Az.gap 331°
Corr. -0.777 4M/4stn Msd 0.1

88/2211
MAY 27 1036 27.1s 40.92S 176.10E 33km M=3.8
0.1 0.02 0.01 R
Rsd 0.2s 17ph/15stn Dmin 10km Az.gap 145°
Corr. -0.381 9M/7stn Msd 0.1 4↑ 3↓

88/2212
MAY 27 1151 58.3s 33.69S 179.39W 132km M=4.7
0.7 0.05 0.08 29
Rsd 0.2s 9ph/8stn Dmin 481km Az.gap 327°
Corr. -0.293 14M/12stn Msd 0.2

88/2215
MAY 27 1551 08.0s 37.28S 179.96W 5km M=3.9
0.5 0.06 0.05 R
Rsd 0.2s 10ph/8stn Dmin 158km Az.gap 295°
Corr. -0.734 10M/10stn Msd 0.3

88/2219
MAY 28 0213 48.3s 36.91S 179.90E 5km M=4.0
0.3 0.14 0.10 R
Rsd 0.1s 5ph/4stn Dmin 162km Az.gap 357°
Corr. -0.969 3M/3stn Msd 0.2

88/2220
MAY 28 0746 24.6s 38.40S 175.34E 200km M=3.6
0.4 0.03 0.09 R
Rsd 0.1s 9ph/7stn Dmin 276km Az.gap 348°
Corr. -0.322 6M/6stn Msd 0.1 1↑ 1↓

88/2225
MAY 28 1333 21.1s 42.02S 174.10E 16km M=3.6
0.8 0.05 0.04 9
Rsd 0.6s 15ph/13stn Dmin 31km Az.gap 224°
Corr. -0.625 9M/8stn Msd 0.2 4↑ 5↓
Felt Blue Mountain (83) MM6.

88/2228
MAY 28 1640 06.3s 40.07S 176.69E 50km M=3.7
0.3 0.01 0.03 7
Rsd 0.3s 27ph/24stn Dmin 60km Az.gap 200°
Corr. -0.324 12M/11stn Msd 0.1 3↑ 3↓

88/2230
MAY 28 1814 23.9s 40.10S 173.87E 167km M=3.7
0.4 0.01 0.03 3
Rsd 0.1s 15ph/13stn Dmin 93km Az.gap 201°
Corr. 0.486 9M/9stn Msd 0.4 8↑ 2↓

88/2240
MAY 29 0530 50.5s 38.60S 175.28E 224km M=4.0
0.9 0.04 0.05 7
Rsd 0.3s 14ph/12stn Dmin 50km Az.gap 143°
Corr. 0.083 16M/16stn Msd 0.2 1↑

88/2242
MAY 29 0917 43.6s 38.44S 175.77E 178km M=3.8
1.0 0.05 0.09 8
Rsd 0.4s 11ph/9stn Dmin 30km Az.gap 159°
Corr. 0.602 14M/14stn Msd 0.2 1↑

88/2244
MAY 29 1142 59.6s 38.48S 175.87E 177km M=3.6
0.4 0.01 0.03 3
Rsd 0.0s 16ph/14stn Dmin 69km Az.gap 168°
Corr. 0.918 9M/9stn Msd 0.3 1↑ 1↓

88/2251
MAY 30 0012 10.3s 44.75S 167.83E 67km M=3.5
0.3 0.01 0.02 3
Rsd 0.1s 13ph/11stn Dmin 11km Az.gap 209°
Corr. -0.574 11M/11stn Msd 0.1 1↑

88/2254
MAY 30 0435 15.4s 41.19S 172.67E 195km M=3.9
0.2 0.03 0.02 2
Rsd 0.1s 16ph/14stn Dmin 12km Az.gap 268°
Corr. 0.299 11M/9stn Msd 0.3

88/2258
MAY 30 0830 31.0s 32.29S 178.88W 566km M=5.2
1.0 0.56 0.46 74
Rsd 0.3s 10ph/8stn Dmin 643km Az.gap 343°
Corr. -0.895 3M/3stn Msd 0.1

88/2265
MAY 30 2012 30.7s 40.41S 176.82E 76km M=3.5
0.4 0.01 0.03 7
Rsd 0.1s 14ph/13stn Dmin 96km Az.gap 226°
Corr. -0.801 10M/10stn Msd 0.1 1↑

88/2269
MAY 31 0302 25.9s 45.16S 167.56E 94km M=3.7
1.5 0.05 0.13 12
Rsd 0.5s 7ph/5stn Dmin 61km Az.gap 207°
Corr. -0.625 4M/4stn Msd 0.2
CYN did not record this.

88/2274
MAY 31 0545 48.5s 40.44S 174.16E 87km M=5.3
0.2 0.01 0.02 3
Rsd 0.2s 33ph/29stn Dmin 79km Az.gap 133°
Corr. 0.031 4M/3stn Msd 0.2 1↑ 2↓
Felt Waihi (21) to Westport (79), max MM5 in (46, 62, 65, 71 & 73).

88/2275
MAY 31 0612 35.4s 40.39S 174.10E 74km M=2.6
1.3 0.11 0.09 14
Rsd 0.3s 7ph/7stn Dmin 86km Az.gap 316°
Corr. -0.691 6M/6stn Msd 0.2
Felt Okato (46) MM5.

88/2281
MAY 31 1422 32.4s 44.06S 168.57E 5km M=4.4
0.2 0.02 0.01 R
Rsd 0.1s 16ph/14stn Dmin 85km Az.gap 224°
Corr. -0.621 5M/5stn Msd 0.1 1↓
Felt Mahitahi (104) MM5.

88/2286
MAY 31 1631 40.1s 44.08S 168.58E 12km M=3.8
0.2 0.01 0.01 R
Rsd 0.1s 18ph/13stn Dmin 85km Az.gap 244°
Corr. -0.551 10M/10stn Msd 0.1 2↑ 2↓

88/2305
JUN 01 0732 44.2s 37.16S 179.36E 12km M=3.9
0.4 0.05 0.04 R
Rsd 0.2s 11ph/9stn Dmin 105km Az.gap 288°
Corr. -0.555 18M/18stn Msd 0.2 1↓

88/2309
JUN 01 1448 18.2s 38.06S 176.01E 33km M=3.7
0.6 0.05 0.12 R
Rsd 0.1s 8ph/7stn Dmin 288km Az.gap 344°
Corr. -0.695 7M/7stn Msd 0.2 1↓

88/2313
JUN 01 2044 30.6s 37.96S 176.53E 150km M=3.9
0.2 0.03 0.03 R
Rsd 0.3s 14ph/13stn Dmin 40km Az.gap 164°
Corr. -0.260 15M/15stn Msd 0.1 1↑ 2↓

88/2324
JUN 02 1158 47.1s 36.40S 180.00W 33km M=5.6
1.1 0.06 0.07 R
Rsd 0.1s 18ph/17stn Dmin 202km Az.gap 251°
Corr. 0.801 21M/19stn Msd 0.2 2↑ 2↓

88/2325
JUN 02 1204 32.5s 36.51S 179.99E 33km M=3.9
1.3 0.07 0.14 R
Rsd 0.5s 6ph/6stn Dmin 192km Az.gap 303°
Corr. -0.396 3M/3stn Msd 0.1
Aftershock of event at 1158 ?

88/2341
JUN 03 0557 54.7s 37.73S 176.49E 190km M=3.9
1.4 0.04 0.04 12
Rsd 0.2s 12ph/12stn Dmin 52km Az.gap 190°
Corr. -0.270 15M/15stn Msd 0.1 2↑ 3↓

88/2354
JUN 03 2327 34.5s 45.12S 167.29E 73km M=5.7
0.2 0.01 0.02 R
Rsd 0.1s 13ph/13stn Dmin 70km Az.gap 232°
Corr. -0.498 2M/2stn Msd 0.4 17↑ 4↓
Felt widely in South Island, max MM9 at Queenstown (132) & Manapouri (139). Also felt Wellington (68).

88/2355
JUN 03 2333 05.1s 45.51S 167.80E 92km M=4.0
0.2 0.16 0.48 49
Rsd 0.0s 8ph/7stn Dmin 122km Az.gap 258°
Corr. -0.996 1M/1stn Msd N.D.
Obscured by 2327 event.

88/2356
JUN 03 2334 27.4s 45.45S 167.48E 30km M=3.9
0.3 0.24 0.09 R
Rsd 0.1s 7ph/7stn Dmin 145km Az.gap 357°
Corr. -0.953 3M/3stn Msd 0.2

88/2357
JUN 03 2338 49.2s 45.05S 167.72E 110km M=3.5
0.1 0.05 0.29 28
Rsd 0.0s 12ph/11stn Dmin 123km Az.gap 354°
Corr. 0.013 3M/3stn Msd 0.1

88/2358
JUN 03 2339 05.2s 36.99S 174.99E 60km M=3.7
0.4 0.01 0.03 4
Rsd 0.1s 6ph/3stn Dmin 24km Az.gap 153°
Corr. -0.216 1M/1stn Msd N.D. 1↓

88/2359
JUN 03 2339 09.0s 45.20S 167.67E 109km M=4.2
0.1 0.03 0.07 7
Rsd 0.0s 18ph/10stn Dmin 66km Az.gap 254°
Corr. -0.754 11M/11stn Msd 0.3

88/2360
JUN 03 2343 09.4s 45.11S 167.44E 69km M=3.5
0.1 0.01 0.01 1
Rsd 0.1s 15ph/14stn Dmin 62km Az.gap 224°
Corr. -0.099 9M/9stn Msd 0.1

88/2361
JUN 03 2343 41.1s 45.00S 167.37E 56km M=3.6
0.4 0.02 0.03 6
Rsd 0.1s 15ph/14stn Dmin 57km Az.gap 236°
Corr. -0.523 7M/7stn Msd 0.3 1↑

88/2362
JUN 03 2344 42.7s 45.00S 167.47E 79km M=4.0
0.2 0.06 0.04 5
Rsd 0.1s 13ph/12stn Dmin 51km Az.gap 291°
Corr. 0.930 4M/4stn Msd 0.0

88/2365
JUN 03 2348 17.8s 44.98S 167.39E 60km M=3.6
0.2 0.01 0.01 2
Rsd 0.0s 14ph/14stn Dmin 54km Az.gap 234°
Corr. -0.222 10M/10stn Msd 0.0

88/2366
JUN 03 2350 26.6s 45.06S 167.33E 70km M=3.7
0.2 0.02 0.02 4
Rsd 0.1s 16ph/15stn Dmin 64km Az.gap 239°
Corr. -0.371 10M/10stn Msd 0.3 1↓

88/2367
JUN 03 2353 21.3s 45.09S 167.46E 64km M=3.9
0.3 0.01 0.02 3
Rsd 0.1s 15ph/13stn Dmin 59km Az.gap 223°
Corr. -0.250 8M/8stn Msd 0.4

88/2368
JUN 03 2353 34.1s 44.29S 168.42E 126km M=4.3
0.8 0.07 0.09 6
Rsd 0.2s 10ph/9stn Dmin 110km Az.gap 307°
Corr. -0.383 6M/6stn Msd 0.2
Obscured by previous event.

88/2370
JUN 03 2359 08.9s 45.01S 167.27E 32km M=3.6
0.2 0.08 0.13 14
Rsd 0.1s 14ph/11stn Dmin 64km Az.gap 266°
Corr. -0.992 12M/12stn Msd 0.2

88/2372
JUN 04 0002 17.7s 45.01S 167.41E 33km M=4.3
0.2 0.02 0.02 R
Rsd 0.0s 14ph/14stn Dmin 87km Az.gap 234°
Corr. -0.494 14M/13stn Msd 0.3 1↑

88/2373
JUN 04 0011 30.3s 45.02S 167.49E 16km M=4.0
0.3 0.01 0.04 6
Rsd 0.1s 21ph/16stn Dmin 51km Az.gap 253°
Corr. -0.230 15M/15stn Msd 0.2 2↑ 2↓

88/2379
JUN 04 0021 09.0s 45.11S 167.46E 63km M=3.6
0.1 0.01 0.01 2
Rsd 0.1s 21ph/18stn Dmin 61km Az.gap 222°
Corr. 0.036 13M/13stn Msd 0.2 2↑ 5↓

88/2385
JUN 04 0031 07.8s 45.10S 167.39E 60km M=3.3
0.2 0.00 0.01 2
Rsd 0.1s 17ph/15stn Dmin 63km Az.gap 231°
Corr. -0.029 13M/13stn Msd 0.1 1↑
Felt Milford Sound (120) MM5.

88/2394
JUN 04 0041 30.6s 45.13S 167.38E 67km M=4.2
0.3 0.01 0.03 3
Rsd 0.1s 18ph/17stn Dmin 67km Az.gap 230°
Corr. -0.018 8M/8stn Msd 0.3 2↓

88/2398
JUN 04 0045 54.4s 45.12S 167.43E 63km M=3.7
0.2 0.01 0.02 2
Rsd 0.1s 17ph/16stn Dmin 63km Az.gap 224°
Corr. 0.047 12M/12stn Msd 0.2 1↑ 4↓
Felt Te Anau (130) MM3.

88/2399
JUN 04 0047 34.1s 45.12S 167.39E 55km M=4.0
0.4 0.01 0.03 5
Rsd 0.1s 14ph/12stn Dmin 66km Az.gap 229°
Corr. -0.512 7M/7stn Msd 0.3 2↑ 9↓

88/2405
JUN 04 0059 42.2s 45.11S 167.44E 63km M=3.6
0.3 0.01 0.02 2
Rsd 0.1s 19ph/15stn Dmin 62km Az.gap 224°
Corr. -0.215 11M/11stn Msd 0.2 1↑

88/2411
JUN 04 0112 20.1s 45.09S 167.57E 61km M=3.6
0.7 0.02 0.07 8
Rsd 0.3s 10ph/7stn Dmin 54km Az.gap 208°
Corr. -0.617 6M/6stn Msd 0.1

88/2418
JUN 04 0150 02.2s 45.20S 167.86E 6km M=4.2
0.3 0.02 0.05 R
Rsd 0.5s 10ph/8stn Dmin 59km Az.gap 162°
Corr. -0.239 10M/10stn Msd 0.3 1↑

88/2431
JUN 04 0254 19.4s 38.38S 177.49E 53km M=4.0
0.2 0.01 0.01 5
Rsd 0.2s 21ph/18stn Dmin 55km Az.gap 85°
Corr. -0.164 19M/17stn Msd 0.2 6↑5↓

88/2432
JUN 04 0258 22.4s 45.13S 167.55E 76km M=3.6
0.5 0.01 0.04 4
Rsd 0.2s 10ph/7stn Dmin 58km Az.gap 209°
Corr. -0.479 7M/6stn Msd 0.1 2↑1↓
Felt Lake Ohau (115).

88/2433
JUN 04 0303 57.1s 45.11S 167.51E 63km M=3.6
0.4 0.01 0.04 4
Rsd 0.2s 9ph/6stn Dmin 58km Az.gap 216°
Corr. -0.344 6M/5stn Msd 0.1 1↑3↓

88/2434
JUN 04 0309 32.7s 45.13S 167.52E 66km M=3.6
0.8 0.02 0.07 9
Rsd 0.4s 11ph/7stn Dmin 60km Az.gap 213°
Corr. -0.256 7M/6stn Msd 0.1 1↑

88/2438
JUN 04 0326 41.7s 45.10S 167.48E 64km M=3.5
0.6 0.02 0.05 6
Rsd 0.2s 9ph/6stn Dmin 59km Az.gap 219°
Corr. -0.484 7M/6stn Msd 0.1 1↑1↓

88/2452
JUN 04 0557 59.9s 45.14S 167.45E 71km M=3.6
0.7 0.02 0.06 7
Rsd 0.3s 9ph/6stn Dmin 64km Az.gap 222°
Corr. -0.410 6M/5stn Msd 0.1 2↑1↓

88/2453
JUN 04 0619 23.2s 45.13S 167.45E 73km M=3.7
0.5 0.02 0.05 5
Rsd 0.2s 10ph/7stn Dmin 63km Az.gap 222°
Corr. -0.566 5M/4stn Msd 0.1 2↑1↓

88/2459
JUN 04 0714 53.5s 45.15S 167.38E 71km M=3.6
0.8 0.02 0.07 8
Rsd 0.4s 8ph/4stn Dmin 68km Az.gap 229°
Corr. -0.320 5M/4stn Msd 0.2 1↑2↓

88/2478
JUN 04 1003 40.4s 45.28S 167.12E 52km M=4.0
0.5 0.01 0.05 6
Rsd 0.2s 8ph/5stn Dmin 65km Az.gap 253°
Corr. 0.051 7M/7stn Msd 0.2 1↓

88/2481
JUN 04 1047 43.5s 45.15S 167.49E 74km M=3.5
0.6 0.02 0.06 6
Rsd 0.3s 10ph/7stn Dmin 63km Az.gap 215°
Corr. -0.443 7M/6stn Msd 0.2 1↓

88/2493
JUN 04 1330 00.8s 40.13S 178.04E 12km M=3.6
0.4 0.02 0.05 R
Rsd 0.2s 14ph/12stn Dmin 121km Az.gap 235°
Corr. -0.676 20M/18stn Msd 0.3
In coda of another event on some stations. Solution is doubtful.

88/2494
JUN 04 1330 01.4s 39.46S 177.86E 66km M=3.7
0.7 0.04 0.06 8
Rsd 0.3s 9ph/8stn Dmin 84km Az.gap 249°
Corr. -0.809 3M/3stn Msd 0.3 1↓

88/2497
JUN 04 1350 23.5s 45.12S 167.49E 75km M=3.5
0.3 0.01 0.03 3
Rsd 0.1s 8ph/6stn Dmin 61km Az.gap 217°
Corr. -0.248 7M/6stn Msd 0.1 1↑1↓

88/2502
JUN 04 1538 22.0s 45.14S 167.51E 64km M=3.6
0.5 0.01 0.04 4
Rsd 0.2s 10ph/7stn Dmin 61km Az.gap 214°
Corr. -0.328 7M/6stn Msd 0.1 1↑

88/2505
JUN 04 1711 57.7s 37.94S 176.51E 153km M=3.7
0.8 0.03 0.04 7
Rsd 0.3s 12ph/11stn Dmin 42km Az.gap 166°
Corr. -0.283 13M/13stn Msd 0.1 2↑2↓

88/2514
JUN 04 2141 18.2s 45.15S 167.53E 72km M=4.3
0.7 0.02 0.05 7
Rsd 0.3s 9ph/7stn Dmin 61km Az.gap 210°
Corr. -0.264 7M/7stn Msd 0.2 3↑2↓
Felt Te Anau area (130) max MM5 at Te Anau Downs (130).

88/2524
JUN 05 0220 29.5s 37.82S 176.52E 165km M=3.6
0.7 0.05 0.05 6
Rsd 0.3s 11ph/9stn Dmin 87km Az.gap 223°
Corr. 0.688 17M/17stn Msd 0.3 1↑

88/2546
JUN 05 1934 22.4s 45.10S 167.34E 68km M=3.8
0.6 0.02 0.05 6
Rsd 0.2s 8ph/6stn Dmin 66km Az.gap 236°
Corr. -0.389 6M/5stn Msd 0.2 1↑2↓

88/2547
JUN 05 2003 54.8s 45.11S 167.40E 70km M=3.5
0.3 0.01 0.03 2
Rsd 0.1s 10ph/6stn Dmin 63km Az.gap 228°
Corr. -0.602 7M/6stn Msd 0.2 1↑

88/2569
JUN 06 1012 26.3s 37.65S 177.17E 144km M=3.9
0.4 0.02 0.02 4
Rsd 0.2s 15ph/11stn Dmin 40km Az.gap 189°
Corr. -0.172 9M/8stn Msd 0.2 1↑ 3↓

88/2582
JUN 06 1458 29.7s 40.64S 176.15E 41km M=3.7
0.2 0.02 0.03 4
Rsd 0.3s 21ph/17stn Dmin 31km Az.gap 141°
Corr. -0.578 16M/14stn Msd 0.2 9↑ 2↓

88/2590
JUN 06 1813 14.1s 45.27S 168.21E 63km M=3.6
0.4 0.03 0.11 5
Rsd 0.2s 9ph/4stn Dmin 31km Az.gap 241°
Corr. -0.863 4M/4stn Msd 0.0 3↑ 1↓
Very late arrivals on TMP, DNZ and OMZ. Poor solution.

88/2597
JUN 06 1955 35.9s 40.12S 173.79E 124km M=3.5
0.4 0.04 0.03 6
Rsd 0.2s 14ph/12stn Dmin 126km Az.gap 251°
Corr. -0.461 12M/10stn Msd 0.2 1↑

88/2600
JUN 06 2116 34.8s 38.59S 176.43E 151km M=3.7
0.8 0.08 0.22 6
Rsd 0.3s 11ph/7stn Dmin 33km Az.gap 177°
Corr. -0.906 11M/11stn Msd 0.4 1↑

88/2626
JUN 07 1245 38.1s 44.79S 167.15E 3km M=3.6
0.5 0.02 0.04 2
Rsd 0.2s 17ph/11stn Dmin 63km Az.gap 273°
Corr. -0.357 11M/10stn Msd 0.2 1↓

88/2642
JUN 07 2025 58.1s 45.12S 167.41E 58km M=3.9
0.2 0.01 0.02 2
Rsd 0.1s 21ph/14stn Dmin 34km Az.gap 227°
Corr. -0.383 9M/8stn Msd 0.1 3↑ 8↓

88/2652
JUN 08 0007 41.1s 46.78S 167.12E 9km M=4.0
1.3 0.13 0.14 21
Rsd 0.3s 14ph/12stn Dmin 77km Az.gap 274°
Corr. 0.859 14M/13stn Msd 0.3 1↑

88/2654
JUN 08 0023 10.5s 45.02S 167.25E 43km M=3.7
0.2 0.01 0.02 2
Rsd 0.1s 16ph/13stn Dmin 49km Az.gap 243°
Corr. -0.393 10M/9stn Msd 0.2 2↑ 9↓

88/2717
JUN 08 1834 03.5s 45.02S 167.33E 47km M=3.7
0.1 0.01 0.01 1
Rsd 0.1s 13ph/9stn Dmin 44km Az.gap 238°
Corr. -0.520 9M/8stn Msd 0.5 2↑ 8↓

88/2720
JUN 08 1855 10.4s 38.95S 177.15E 31km M=3.7
0.3 0.09 0.02 13
Rsd 0.0s 14ph/11stn Dmin 57km Az.gap 290°
Corr. 0.459 10M/8stn Msd 0.2

88/2728
JUN 08 2257 12.4s 40.74S 175.25E 30km M=3.5
0.1 0.01 0.01 1
Rsd 0.2s 23ph/17stn Dmin 23km Az.gap 100°
Corr. -0.531 18M/16stn Msd 0.3 10↑ 6↓

88/2736
JUN 09 0250 36.1s 37.97S 176.78E 5km M=3.6
0.2 0.02 0.02 R
Rsd 0.3s 14ph/12stn Dmin 18km Az.gap 125°
Corr. -0.049 9M/9stn Msd 0.2 2↑ 3↓

88/2751
JUN 09 0847 10.6s 44.64S 167.57E 4km M=3.9
0.5 0.01 0.03 2
Rsd 0.2s 15ph/12stn Dmin 28km Az.gap 260°
Corr. -0.730 8M/7stn Msd 0.2 2↑ 8↓

88/2754
JUN 09 0959 54.6s 37.97S 176.57E 146km M=3.7
0.5 0.02 0.02 4
Rsd 0.2s 15ph/10stn Dmin 37km Az.gap 128°
Corr. 0.055 14M/12stn Msd 0.2 3↑ 2↓

88/2766
JUN 09 1210 05.0s 45.04S 167.23E 47km M=4.5
0.3 0.02 0.03 2
Rsd 0.1s 16ph/15stn Dmin 49km Az.gap 234°
Corr. -0.598 8M/7stn Msd 0.3 7↑ 11↓
Felt Fiordland and Otago (121,133,138) MM4.

88/2778
JUN 09 1521 38.3s 45.03S 167.15E 29km M=3.9
0.1 0.00 0.01 1
Rsd 0.1s 15ph/14stn Dmin 56km Az.gap 248°
Corr. -0.535 12M/11stn Msd 0.2 3↑ 2↓

88/2800
JUN 09 2319 40.9s 38.09S 176.27E 172km M=4.5
0.7 0.04 0.05 6
Rsd 0.4s 20ph/14stn Dmin 62km Az.gap 148°
Corr. -0.082 17M/15stn Msd 0.3 8↑ 5↓

88/2851
JUN 10 1451 44.0s 45.09S 167.36E 46km M=3.7
0.2 0.01 0.03 2
Rsd 0.1s 17ph/14stn Dmin 38km Az.gap 234°
Corr. -0.344 12M/11stn Msd 0.1 10↑ 1↓

88/2856
JUN 10 1548 27.9s 45.06S 167.31E 62km M=3.5
0.1 0.01 0.02 1
Rsd 0.1s 18ph/15stn Dmin 43km Az.gap 241°
Corr. -0.512 12M/11stn Msd 0.1 4↑4↓

88/2867
JUN 10 2016 18.8s 45.06S 167.32E 49km M=4.3
0.3 0.01 0.04 2
Rsd 0.2s 14ph/12stn Dmin 43km Az.gap 235°
Corr. -0.173 8M/7stn Msd 0.4 2↑10↓
Felt Earnslaw Station (121) and Te Anau (130) MM4, Mahitahi (104) MM3.

88/2871
JUN 10 2210 14.0s 38.50S 175.73E 160km M=3.6
1.2 0.07 0.11 10
Rsd 0.4s 12ph/9stn Dmin 58km Az.gap 143°
Corr. 0.734 14M/14stn Msd 0.2 3↑3↓

88/2894
JUN 11 0220 19.5s 36.80S 179.48E 49km M=4.4
1.5 0.12 0.13 48
Rsd 0.3s 8ph/7stn Dmin 137km Az.gap 339°
Corr. 0.184 1M/1stn Msd N.D. 1↑

88/2898
JUN 11 0245 29.5s 38.20S 177.63E 108km M=3.7
0.4 0.03 0.03 5
Rsd 0.1s 6ph/5stn Dmin 61km Az.gap 190°
Corr. -0.859 2M/2stn Msd 0.0 1↓

88/2899
JUN 11 0258 49.8s 45.07S 167.16E 28km M=3.6
0.1 0.00 0.01 1
Rsd 0.1s 17ph/14stn Dmin 54km Az.gap 253°
Corr. -0.520 14M/13stn Msd 0.1 3↑8↓

88/2915
JUN 11 1007 17.2s 38.37S 175.84E 228km M=3.7
0.2 0.01 0.01 2
Rsd 0.1s 19ph/14stn Dmin 57km Az.gap 129°
Corr. -0.246 10M/10stn Msd 0.2 1↓

88/2930
JUN 12 0032 59.6s 45.03S 167.30E 64km M=3.7
0.4 0.01 0.04 3
Rsd 0.1s 16ph/11stn Dmin 63km Az.gap 243°
Corr. -0.633 9M/8stn Msd 0.1 2↑6↓

88/2947
JUN 12 1701 27.8s 39.36S 174.71E 43km M=4.2
0.3 0.01 0.03 11
Rsd 0.3s 36ph/27stn Dmin 54km Az.gap 81°
Corr. -0.289 15M/12stn Msd 0.5 12↑5↓
Felt central North Island max MM5 at Urenui (47).

88/2952
JUN 12 2203 25.3s 37.90S 176.36E 168km M=4.7
0.6 0.03 0.04 5
Rsd 0.3s 23ph/16stn Dmin 56km Az.gap 103°
Corr. 0.086 15M/13stn Msd 0.5 8↑6↓

88/2958
JUN 13 0520 38.8s 38.68S 175.66E 171km M=4.3
0.8 0.05 0.07 6
Rsd 0.3s 12ph/9stn Dmin 38km Az.gap 131°
Corr. 0.062 15M/13stn Msd 0.3 3↑5↓

88/2974
JUN 14 0725 03.1s 36.30S 179.84E 84km M=3.9
0.7 0.05 0.07 15
Rsd 0.2s 7ph/7stn Dmin 198km Az.gap 327°
Corr. 0.168 3M/3stn Msd 0.6 1↑

88/2988
JUN 14 1314 26.9s 38.24S 175.91E 161km M=3.6
0.9 0.08 0.10 8
Rsd 0.3s 15ph/12stn Dmin 87km Az.gap 235°
Corr. -0.746 7M/7stn Msd 0.2 2↑2↓

88/2989
JUN 14 1426 16.6s 41.04S 175.29E 7km M=3.9
0.2 0.01 0.01 3
Rsd 0.2s 28ph/21stn Dmin 20km Az.gap 55°
Corr. 0.095 16M/13stn Msd 0.4 8↑7↓
Felt Ohau (65) MM5.

88/2990
JUN 14 1543 11.5s 44.76S 167.12E 106km M=5.2
1.6 0.05 0.13 9
Rsd 0.2s 9ph/9stn Dmin 64km Az.gap 300°
Corr. 0.217 5M/5stn Msd 0.5 1↑4↓
Felt Mount Aspiring (113) and Earnslaw (121) stations MM5. Also felt Arthurs Point (122), Queenstown and Fernhill (132).

88/2994
JUN 14 1940 09.4s 39.71S 175.78E 280km M=3.9
0.7 0.04 0.09 7
Rsd 0.1s 13ph/9stn Dmin 111km Az.gap 154°
Corr. -0.527 11M/10stn Msd 0.1 1↓

88/3017
JUN 15 0927 52.3s 37.89S 176.56E 160km M=3.9
0.9 0.05 0.05 6
Rsd 0.3s 12ph/8stn Dmin 39km Az.gap 172°
Corr. -0.322 14M/12stn Msd 0.2 2↑2↓

88/3025
JUN 16 0153 47.9s 39.25S 175.20E 27km M=3.2
0.2 0.02 0.02 2
Rsd 0.3s 27ph/21stn Dmin 30km Az.gap 103°
Corr. -0.117 15M/15stn Msd 0.2 1↑1↓
Felt Ohakune (49) MM3.

88/3028
JUN 16 0351 11.4s 41.42S 176.73E 33km M=3.8
0.3 0.02 0.04 6
Rsd 0.1s 19ph/16stn Dmin 72km Az.gap 235°
Corr. 0.266 16M/14stn Msd 0.2 6↑ 1↓

88/3029
JUN 16 0424 34.1s 37.98S 176.20E 165km M=3.7
0.7 0.04 0.06 5
Rsd 0.3s 18ph/13stn Dmin 59km Az.gap 162°
Corr. 0.316 14M/14stn Msd 0.2 1↓

88/3038
JUN 16 1329 59.7s 44.92S 170.78E 20km M=3.8
0.1 0.01 0.02 3
Rsd 0.1s 20ph/17stn Dmin 19km Az.gap 136°
Corr. 0.738 5M/5stn Msd 0.2 2↑ 8↓
Smaller event located in tail of coda.

88/3043
JUN 16 1616 30.3s 41.26S 176.57E 55km M=3.8
0.6 0.07 0.06 10
Rsd 0.3s 15ph/12stn Dmin 49km Az.gap 226°
Corr. -0.426 13M/11stn Msd 0.2
Emerges from coda of previous event.

88/3045
JUN 16 1626 01.8s 41.40S 176.52E 22km M=3.7
0.7 0.03 0.06 3
Rsd 0.2s 17ph/15stn Dmin 60km Az.gap 231°
Corr. -0.613 14M/14stn Msd 0.2 1↑

88/3052
JUN 17 0116 33.9s 44.94S 167.44E 79km M=3.7
0.3 0.02 0.03 3
Rsd 0.1s 14ph/11stn Dmin 48km Az.gap 245°
Corr. -0.422 10M/10stn Msd 0.1 2↑ 4↓

88/3053
JUN 17 0143 53.6s 41.43S 176.73E 25km M=4.5
0.3 0.02 0.03 2
Rsd 0.1s 24ph/19stn Dmin 73km Az.gap 205°
Corr. -0.711 17M/15stn Msd 0.1 8↑ 6↓

88/3069
JUN 17 0836 06.9s 45.18S 167.26E 12km M=3.7
0.6 0.02 0.05 R
Rsd 0.2s 12ph/8stn Dmin 77km Az.gap 295°
Corr. 0.136 8M/8stn Msd 0.4 1↑

88/3070
JUN 17 0857 20.7s 35.63S 178.52E 101km M=4.1
1.6 0.12 0.23 32
Rsd 0.3s 6ph/5stn Dmin 219km Az.gap 338°
Corr. -0.241 3M/3stn Msd 0.1

88/3077
JUN 17 1202 18.8s 41.32S 176.58E 28km M=3.9
0.4 0.02 0.03 2
Rsd 0.2s 20ph/16stn Dmin 55km Az.gap 241°
Corr. -0.467 21M/19stn Msd 0.3

88/3082
JUN 17 1309 09.9s 38.32S 176.39E 5km M=2.8
0.3 0.02 0.03 R
Rsd 0.3s 8ph/7stn Dmin 22km Az.gap 196°
Corr. -0.672 7M/7stn Msd 0.1 1↓
Felt Ngapouri Rd (33) MM5.

88/3085
JUN 17 1337 19.2s 38.05S 175.96E 196km M=3.6
1.0 0.05 0.07 10
Rsd 0.3s 15ph/13stn Dmin 75km Az.gap 235°
Corr. -0.214 15M/15stn Msd 0.2 1↓

88/3087
JUN 17 1447 06.9s 44.57S 168.22E 67km M=3.9
0.5 0.02 0.03 6
Rsd 0.2s 14ph/13stn Dmin 27km Az.gap 160°
Corr. -0.074 7M/7stn Msd 0.6 1↑ 7↓

88/3089
JUN 17 1731 30.0s 41.45S 176.61E 24km M=3.5
0.5 0.02 0.04 2
Rsd 0.2s 17ph/14stn Dmin 69km Az.gap 238°
Corr. -0.486 17M/15stn Msd 0.1 5↑ 2↓

88/3095
JUN 17 2214 15.1s 36.00S 176.50E 130km M=3.9
0.7 0.03 0.06 16
Rsd 0.2s 9ph/9stn Dmin 224km Az.gap 318°
Corr. -0.574 9M/9stn Msd 0.2

88/3103
JUN 18 0910 28.3s 40.43S 174.38E 12km M=3.7
0.3 0.02 0.02 R
Rsd 0.3s 22ph/18stn Dmin 66km Az.gap 107°
Corr. 0.126 11M/9stn Msd 0.1 4↑ 2↓

88/3107
JUN 18 1611 41.8s 38.76S 175.35E 200km M=3.6
0.3 0.03 0.04 R
Rsd 0.1s 12ph/10stn Dmin 237km Az.gap 339°
Corr. -0.119 6M/6stn Msd 0.3

88/3108
JUN 18 1905 51.1s 40.31S 173.51E 170km M=3.8
0.7 0.07 0.03 7
Rsd 0.2s 15ph/13stn Dmin 108km Az.gap 201°
Corr. 0.132 9M/9stn Msd 0.1 2↑ 1↓

88/3112
JUN 19 0101 24.4s 38.54S 175.76E 150km M=4.0
0.6 0.03 0.06 5
Rsd 0.3s 13ph/11stn Dmin 68km Az.gap 141°
Corr. 0.416 17M/17stn Msd 0.3 1↑

88/3113
JUN 19 0240 25.1s 43.96S 168.36E 33km M=3.7
1.6 0.13 0.08 R
Rsd 0.5s 9ph/8stn Dmin 87km Az.gap 262°
Corr. -0.742 9M/9stn Msd 0.7 1↑ 4↓

88/3132
JUN 20 0122 28.1s 38.56S 175.94E 191km M=3.9
0.2 0.02 0.04 1
Rsd 0.0s 14ph/12stn Dmin 60km Az.gap 282°
Corr. -0.863 8M/8stn Msd 0.3

88/3147
JUN 20 1907 01.5s 40.65S 176.13E 78km M=5.1
0.2 0.01 0.02 2
Rsd 0.2s 32ph/26stn Dmin 30km Az.gap 94°
Corr. -0.758 4M/2stn Msd 0.1 18↑ 8↓
Felt widely in southern North Island.

88/3150
JUN 20 2108 55.5s 48.13S 166.15E 12km M=3.9
1.8 0.12 0.28 R
Rsd 0.4s 4ph/3stn Dmin 408km Az.gap 343°
Corr. -0.363 3M/3stn Msd 0.0

88/3158
JUN 21 0550 38.0s 47.54S 165.39E 33km M=4.9
0.7 0.06 0.08 R
Rsd 0.3s 14ph/13stn Dmin 374km Az.gap 325°
Corr. -0.482 9M/8stn Msd 0.2 1↓
U.S.G.S. origin 47.141S 165.588E 33km.

88/3160
JUN 21 0923 05.5s 35.63S 179.81E 111km M=3.8
1.5 0.17 0.11 31
Rsd 0.2s 6ph/6stn Dmin 257km Az.gap 342°
Corr. -0.225 3M/3stn Msd 0.2

88/3164
JUN 21 1746 07.3s 36.24S 178.04E 185km M=4.1
0.8 0.06 0.06 9
Rsd 0.3s 9ph/6stn Dmin 153km Az.gap 302°
Corr. 0.090 13M/13stn Msd 0.1 1↓

88/3166
JUN 21 1944 55.4s 41.62S 174.22E 9km M=3.9
0.2 0.02 0.02 3
Rsd 0.2s 20ph/17stn Dmin 14km Az.gap 104°
Corr. -0.447 14M/13stn Msd 0.3 10↑ 2↓

88/3180
JUN 22 0232 52.2s 45.03S 167.41E 68km M=4.3
0.2 0.04 0.03 4
Rsd 0.1s 15ph/14stn Dmin 57km Az.gap 291°
Corr. 0.836 5M/5stn Msd 0.2 1↓

88/3184
JUN 22 0512 40.0s 37.35S 179.94E 58km M=3.8
2.0 0.07 0.17 12
Rsd 0.1s 10ph/10stn Dmin 147km Az.gap 320°
Corr. 0.816 11M/11stn Msd 0.2

88/3216
JUN 23 1008 33.6s 38.18S 175.88E 185km M=3.7
0.6 0.03 0.05 5
Rsd 0.3s 11ph/9stn Dmin 41km Az.gap 121°
Corr. 0.322 16M/16stn Msd 0.1 4↑ 1↓
Early unidentified phase at TEH.

88/3217
JUN 23 1141 42.4s 38.45S 175.69E 165km M=4.1
0.6 0.03 0.05 5
Rsd 0.4s 23ph/19stn Dmin 29km Az.gap 111°
Corr. 0.307 17M/15stn Msd 0.2 15↑ 10↓

88/3221
JUN 23 1225 18.7s 45.06S 167.32E 51km M=3.8
0.2 0.01 0.02 2
Rsd 0.1s 15ph/14stn Dmin 64km Az.gap 239°
Corr. -0.504 10M/10stn Msd 0.1 2↑ 7↓

88/3225
JUN 23 1844 46.6s 38.31S 176.02E 171km M=3.6
1.5 0.04 0.07 13
Rsd 0.3s 11ph/9stn Dmin 60km Az.gap 112°
Corr. -0.598 10M/10stn Msd 0.3 1↑ 1↓

88/3227
JUN 23 2149 25.3s 38.38S 175.92E 233km M=3.7
1.0 0.03 0.02 8
Rsd 0.0s 11ph/11stn Dmin 61km Az.gap 123°
Corr. 0.684 6M/6stn Msd 0.1 1↑

88/3229
JUN 23 2217 54.6s 44.72S 167.55E 12km M=3.6
0.2 0.01 0.01 R
Rsd 0.1s 20ph/17stn Dmin 30km Az.gap 259°
Corr. -0.844 11M/10stn Msd 0.2 1↓

88/3230
JUN 23 2228 55.1s 45.19S 167.54E 118km M=3.7
0.3 0.02 0.02 3
Rsd 0.2s 19ph/17stn Dmin 65km Az.gap 207°
Corr. -0.324 11M/10stn Msd 0.1 1↑ 8↓

88/3231
JUN 24 0115 50.8s 39.69S 174.24E 200km M=3.7
0.4 0.05 0.03 R
Rsd 0.1s 13ph/11stn Dmin 142km Az.gap 316°
Corr. 0.112 7M/7stn Msd 0.1 2↑ 5↓

88/3232
JUN 24 0232 55.4s 39.94S 174.16E 123km M=3.8
0.3 0.02 0.04 6
Rsd 0.2s 20ph/16stn Dmin 121km Az.gap 227°
Corr. -0.645 14M/12stn Msd 0.2 9↑ 5↓

88/3238
JUN 24 0603 32.6s 37.08S 177.54E 184km M=3.8
0.7 0.03 0.04 6
Rsd 0.3s 10ph/8stn Dmin 88km Az.gap 249°
Corr. -0.058 12M/12stn Msd 0.1

88/3240
JUN 24 0854 28.7s 38.15S 176.12E 179km M=3.8
1.2 0.04 0.10 10
Rsd 0.3s 17ph/15stn Dmin 57km Az.gap 222°
Corr. 0.141 9M/9stn Msd 0.3 1↑

88/3249
JUN 24 1937 23.3s 38.62S 175.62E 144km M=4.0
2.2 0.05 0.11 18
Rsd 0.4s 13ph/10stn Dmin 16km Az.gap 226°
Corr. -0.398 13M/11stn Msd 0.2 2↑ 5↓

88/3255
JUN 25 0507 36.5s 37.02S 176.89E 262km M=3.9
2.6 0.13 0.13 20
Rsd 0.5s 11ph/10stn Dmin 107km Az.gap 303°
Corr. 0.195 13M/13stn Msd 0.1 3↑ 2↓

88/3261
JUN 25 1149 07.6s 38.08S 175.73E 249km M=3.8
0.9 0.03 0.05 8
Rsd 0.3s 14ph/10stn Dmin 24km Az.gap 129°
Corr. -0.260 9M/9stn Msd 0.1

88/3265
JUN 25 1615 00.2s 37.96S 176.12E 182km M=4.2
0.5 0.03 0.03 3
Rsd 0.2s 16ph/13stn Dmin 25km Az.gap 165°
Corr. -0.051 18M/16stn Msd 0.4 2↑ 1↓

88/3268
JUN 25 2101 00.5s 45.11S 167.63E 33km M=3.8
0.8 0.04 0.07 R
Rsd 0.5s 7ph/4stn Dmin 54km Az.gap 274°
Corr. 0.516 2M/2stn Msd 0.2
Foreshock to event at 2355.

88/3269
JUN 25 2207 40.4s 45.15S 167.20E 33km M=3.7
1.7 0.10 0.15 R
Rsd 0.7s 5ph/3stn Dmin 78km Az.gap 318°
Corr. 0.175 2M/2stn Msd 0.0
Foreshock to event at 2355.

88/3271
JUN 25 2355 43.1s 45.09S 167.83E 33km M=4.8
1.2 0.07 0.11 R
Rsd 0.8s 7ph/7stn Dmin 47km Az.gap 256°
Corr. 0.664 4M/4stn Msd 0.2 1↓
Felt from Te Anau Downs (130) to Riverton (149), max MM5 at Riverton.

88/3272
JUN 25 2358 54.6s 37.38S 177.99E 33km M=3.7
1.5 0.14 0.05 R
Rsd 0.9s 6ph/5stn Dmin 37km Az.gap 238°
Corr. 0.320 2M/2stn Msd 0.2 1↑ 1↓

88/3284
JUN 27 0045 04.1s 38.68S 175.72E 128km M=3.7
0.9 0.04 0.06 8
Rsd 0.5s 12ph/11stn Dmin 5km Az.gap 219°
Corr. -0.080 15M/13stn Msd 0.2 4↑ 5↓

88/3286
JUN 27 0733 55.1s 45.11S 167.56E 61km M=3.8
1.2 0.08 0.10 14
Rsd 0.7s 8ph/5stn Dmin 57km Az.gap 279°
Corr. 0.144 2M/2stn Msd 0.1 1↑ 1↓

88/3292
JUN 27 1757 53.3s 37.58S 177.86E 91km M=3.6
0.3 0.01 0.03 4
Rsd 0.1s 7ph/7stn Dmin 39km Az.gap 195°
Corr. -0.116 2M/2stn Msd 0.1

88/3293
JUN 27 2139 28.9s 39.21S 176.34E 81km M=4.6
0.2 0.01 0.01 2
Rsd 0.2s 38ph/33stn Dmin 35km Az.gap 51°
Corr. 0.156 11M/9stn Msd 0.1 14↑ 16↓
Felt Patoka (52) MM5.

88/3295
JUN 27 2320 52.1s 38.29S 176.38E 183km M=3.9
0.6 0.03 0.08 5
Rsd 0.2s 15ph/12stn Dmin 63km Az.gap 189°
Corr. -0.719 10M/10stn Msd 0.2 1↓

88/3296
JUN 28 0039 22.6s 41.05S 174.80E 54km M=4.0
0.2 0.01 0.02 2
Rsd 0.2s 24ph/19stn Dmin 22km Az.gap 96°
Corr. -0.516 6M/4stn Msd 0.3 6↑ 7↓
Felt Wellington (68) MM 4.

88/3298
JUN 28 0141 46.2s 37.85S 175.65E 135km M=3.7
2.3 0.16 0.31 31
Rsd 0.4s 11ph/9stn Dmin 136km Az.gap 247°
Corr. -0.945 5M/5stn Msd 0.3 1↑ 1↓

88/3304
JUN 28 0745 51.8s 38.01S 176.94E 5km M=2.8
0.4 0.05 0.04 R
Rsd 0.6s 6ph/5stn Dmin 5km Az.gap 181°
Corr. -0.691 2M/2stn Msd 0.3
Felt Taneatua (35).

88/3311
JUN 28 1641 28.1s 38.72S 176.14E 199km M=3.6
0.5 0.12 0.06 12
Rsd 0.1s 8ph/7stn Dmin 219km Az.gap 348°
Corr. 0.023 5M/5stn Msd 0.3 1↓

88/3314
JUN 28 1921 18.3s 34.28S 179.38E 273km M=4.4
0.3 0.06 0.06 7
Rsd 0.1s 6ph/6stn Dmin 381km Az.gap 343°
Corr. -0.902 13M/13stn Msd 0.3

88/3320
JUN 29 0716 31.3s 37.21S 177.70E 12km M=3.9
0.6 0.05 0.05 R
Rsd 0.5s 8ph/8stn Dmin 68km Az.gap 191°
Corr. 0.436 7M/6stn Msd 0.3 1↓

88/3321
JUN 29 0730 51.3s 37.22S 177.59E 12km M=3.9
1.1 0.08 0.06 R
Rsd 0.4s 7ph/7stn Dmin 76km Az.gap 184°
Corr. 0.395 6M/5stn Msd 0.3 1↑1↓

88/3325
JUN 29 1557 50.3s 45.01S 167.26E 55km M=3.7
0.3 0.02 0.02 3
Rsd 0.1s 13ph/10stn Dmin 65km Az.gap 302°
Corr. 0.504 5M/5stn Msd 0.1 1↑

88/3337
JUN 30 0619 53.0s 45.05S 167.29E 57km M=3.7
0.2 0.01 0.01 2
Rsd 0.1s 17ph/15stn Dmin 65km Az.gap 243°
Corr. -0.531 13M/12stn Msd 0.1 2↑6↓

88/3338
JUN 30 0640 14.4s 38.28S 175.95E 183km M=4.4
1.0 0.04 0.08 7
Rsd 0.3s 12ph/9stn Dmin 24km Az.gap 113°
Corr. 0.250 17M/15stn Msd 0.3 7↑3↓

88/3351
JUL 01 0626 05.6s 38.17S 176.26E 1km M=2.0
0.2 0.04 0.01 R
Rsd 0.2s 5ph/5stn Dmin 6km Az.gap 175°
Corr. 0.391 1M/1stn Msd 0.0 1↓
Felt Rotorua (33) MM4.

88/3356
JUL 01 1036 49.6s 45.03S 167.29E 54km M=3.7
0.2 0.01 0.01 2
Rsd 0.1s 18ph/15stn Dmin 64km Az.gap 244°
Corr. -0.570 7M/7stn Msd 0.1 1↑2↓

88/3360
JUL 01 1445 35.5s 38.33S 176.16E 189km M=3.7
0.4 0.02 0.22 6
Rsd 0.1s 10ph/9stn Dmin 70km Az.gap 241°
Corr. -0.547 6M/6stn Msd 0.3 1↓

88/3363
JUL 01 2249 23.8s 39.71S 175.32E 85km M=3.6
0.4 0.02 0.04 6
Rsd 0.4s 20ph/17stn Dmin 53km Az.gap 86°
Corr. -0.363 13M/13stn Msd 0.2 1↑2↓

88/3375
JUL 02 1131 17.5s 41.37S 175.80E 24km M=3.7
0.3 0.01 0.02 1
Rsd 0.2s 18ph/14stn Dmin 27km Az.gap 270°
Corr. -0.578 5M/3stn Msd 0.2 3↑2↓

88/3406
JUL 03 1157 10.0s 37.31S 176.77E 250km M=4.0
0.4 0.01 0.01 3
Rsd 0.1s 17ph/15stn Dmin 78km Az.gap 227°
Corr. -0.543 10M/10stn Msd 0.2

88/3417
JUL 04 1407 18.7s 44.93S 167.37E 83km M=4.8
0.5 0.02 0.05 7
Rsd 0.1s 13ph/12stn Dmin 52km Az.gap 290°
Corr. -0.375 4M/4stn Msd 0.1 2↑1↓
Felt Te Anau Downs Homestead (130) MM5 and Manapouri (139) MM4.

88/3419
JUL 04 1930 46.0s 44.90S 167.31E 78km M=3.7
0.4 0.10 0.05 9
Rsd 0.1s 13ph/11stn Dmin 54km Az.gap 308°
Corr. 0.895 4M/4stn Msd 0.7 1↓
Felt Manapouri (139) MM4.

88/3420
JUL 04 2050 40.9s 38.14S 176.46E 155km M=3.7
0.4 0.02 0.03 4
Rsd 0.1s 16ph/14stn Dmin 50km Az.gap 143°
Corr. -0.801 8M/8stn Msd 0.1 1↑

88/3423
JUL 04 2343 04.0s 41.17S 174.66E 32km M=4.7
0.1 0.01 0.01 1
Rsd 0.2s 21ph/19stn Dmin 8km Az.gap 86°
Corr. -0.449 20M/18stn Msd 0.5 6↑9↓
Felt Palmerston North (62) to Blenheim (77), max MM5 in Wellington (68).

88/3426
JUL 04 2345 43.8s 41.50S 174.83E 33km M=4.5
0.9 0.07 0.09 R
Rsd 0.5s 10ph/7stn Dmin 24km Az.gap 240°
Corr. -0.844 3M/3stn Msd 0.4
Felt widely in Wellington area (68,69) max MM4. In coda of previous quake. Late CAZ prob. second unidentified arrival.

88/3469
JUL 05 0104 26.6s 38.40S 175.72E 188km M=3.6
0.4 0.01 0.18 3
Rsd 0.1s 13ph/10stn Dmin 55km Az.gap 200°
Corr. -0.408 7M/7stn Msd 0.1

88/3499
JUL 05 0811 04.7s 41.14S 174.65E 32km M=3.3
0.1 0.01 0.01 0
Rsd 0.1s 18ph/15stn Dmin 11km Az.gap 139°
Corr. -0.138 10M/8stn Msd 0.2 7↑ 7↓
Felt Tawa (68) MM4.

88/3510
JUL 05 1526 20.4s 38.22S 176.23E 1km M=2.3
0.2 0.02 0.01 R
Rsd 0.2s 6ph/6stn Dmin 6km Az.gap 205°
Corr. 0.848 2M/2stn Msd 0.2 1↓
Felt Rotorua (33) MM4.

88/3525
JUL 05 2316 00.9s 39.51S 174.33E 200km M=3.9
0.3 0.01 0.02 2
Rsd 0.1s 19ph/16stn Dmin 33km Az.gap 141°
Corr. 0.107 12M/12stn Msd 0.3 3↑ 1↓

88/3544
JUL 06 0839 33.5s 41.40S 176.86E 33km M=3.6
0.8 0.05 0.07 R
Rsd 0.3s 12ph/11stn Dmin 76km Az.gap 269°
Corr. -0.578 15M/13stn Msd 0.2 1↑

88/3553
JUL 06 1553 03.9s 38.42S 176.56E 70km M=3.6
0.2 0.02 0.02 3
Rsd 0.1s 14ph/13stn Dmin 21km Az.gap 93°
Corr. 0.336 10M/10stn Msd 0.1

88/3565
JUL 06 2058 42.9s 38.25S 175.40E 265km M=4.0
0.4 0.05 0.14 7
Rsd 0.1s 12ph/9stn Dmin 142km Az.gap 242°
Corr. -0.969 7M/7stn Msd 0.1 1↓

88/3574
JUL 07 0316 58.4s 39.18S 175.04E 5km M=3.6
0.2 0.01 0.02 R
Rsd 0.2s 22ph/20stn Dmin 44km Az.gap 116°
Corr. -0.086 17M/15stn Msd 0.2 1↑ 4↓

88/3585
JUL 07 1209 36.7s 38.95S 174.84E 215km M=4.1
1.1 0.03 0.11 8
Rsd 0.3s 18ph/16stn Dmin 61km Az.gap 197°
Corr. -0.113 16M/14stn Msd 0.3 8↑ 4↓

88/3594
JUL 07 1801 47.4s 45.34S 167.23E 100km M=4.1
0.3 0.03 0.03 R
Rsd 0.1s 12ph/10stn Dmin 92km Az.gap 311°
Corr. 0.590 6M/6stn Msd 0.1 1↓

88/3603
JUL 08 0156 01.9s 40.57S 174.34E 83km M=3.5
0.2 0.01 0.02 3
Rsd 0.2s 18ph/15stn Dmin 58km Az.gap 168°
Corr. -0.234 12M/10stn Msd 0.2 6↑ 2↓

88/3613
JUL 08 1109 56.5s 38.26S 175.67E 217km M=3.7
2.0 0.06 0.13 17
Rsd 0.3s 14ph/12stn Dmin 100km Az.gap 285°
Corr. -0.668 12M/12stn Msd 0.1 2↑ 1↓

88/3620
JUL 08 1633 12.2s 38.62S 176.13E 105km M=3.8
0.4 0.02 0.02 4
Rsd 0.3s 20ph/17stn Dmin 30km Az.gap 79°
Corr. -0.092 15M/15stn Msd 0.2 5↑ 5↓

88/3625
JUL 08 2039 58.2s 41.46S 173.09E 123km M=4.2
0.5 0.06 0.04 5
Rsd 0.3s 21ph/16stn Dmin 44km Az.gap 151°
Corr. -0.793 14M/13stn Msd 0.2 5↑ 1↓

88/3628
JUL 08 2116 32.8s 41.12S 172.56E 213km M=4.2
0.4 0.07 0.05 5
Rsd 0.1s 17ph/14stn Dmin 144km Az.gap 204°
Corr. -0.910 14M/13stn Msd 0.2 11↑ 4↓

88/3634
JUL 09 0016 40.5s 38.91S 176.09E 5km M=3.8
0.1 0.01 0.01 2
Rsd 0.3s 27ph/24stn Dmin 2km Az.gap 54°
Corr. -0.190 30M/28stn Msd 0.2 9↑ 12↓
Felt in and near Taupo (41), max MM5 at Acacia Bay and Wairakei (41).

88/3645
JUL 09 0612 58.3s 41.08S 174.89E 30km M=3.6
0.1 0.00 0.01 1
Rsd 0.1s 21ph/18stn Dmin 15km Az.gap 87°
Corr. -0.285 10M/9stn Msd 0.3 7↑ 5↓
Felt Wellington area (65,68), max MM4 at Eastbourne and Tawa (68).

88/3663
JUL 09 1730 08.2s 39.89S 174.00E 171km M=4.9
0.3 0.01 0.03 3
Rsd 0.2s 31ph/25stn Dmin 69km Az.gap 151°
Corr. -0.135 9M/9stn Msd 0.2 17↑ 6↓

88/3669
JUL 09 2258 29.9s 38.90S 176.08E 6km M=3.6
0.2 0.01 0.01 3
Rsd 0.5s 31ph/29stn Dmin 1km Az.gap 51°
Corr. -0.228 30M/28stn Msd 0.2 11↑ 10↓
Felt Turangi (40) and Acacia Bay (41) MM4.

88/3679
JUL 10 1112 07.1s 38.29S 176.21E 112km M=3.7
0.5 0.02 0.02 5
Rsd 0.2s 10ph/7stn Dmin 71km Az.gap 124°
Corr. -0.222 16M/16stn Msd 0.2

88/3682
JUL 10 1332 36.5s 36.50S 177.77E 259km M=4.8
0.9 0.05 0.06 9
Rsd 0.2s 16ph/14stn Dmin 131km Az.gap 288°
Corr. -0.186 15M/15stn Msd 0.1

88/3683
JUL 10 1341 46.0s 40.71S 175.48E 28km M=3.7
0.1 0.01 0.02 2
Rsd 0.3s 18ph/15stn Dmin 10km Az.gap 112°
Corr. -0.196 9M/8stn Msd 0.2 5↑ 2↓

88/3690
JUL 11 0411 15.0s 44.93S 167.90E 138km M=4.1
0.3 0.06 0.11 9
Rsd 0.1s 19ph/17stn Dmin 110km Az.gap 312°
Corr. -0.906 6M/6stn Msd 0.1 1↑

88/3698
JUL 11 1822 03.5s 38.71S 175.75E 153km M=3.8
0.6 0.02 0.03 6
Rsd 0.2s 20ph/17stn Dmin 49km Az.gap 144°
Corr. -0.367 12M/12stn Msd 0.2 2↑ 2↓

88/3701
JUL 12 0144 15.4s 36.23S 178.86E 106km M=4.5
1.9 0.24 0.17 31
Rsd 0.5s 10ph/9stn Dmin 160km Az.gap 318°
Corr. -0.340 17M/17stn Msd 0.2

88/3702
JUL 12 0214 04.1s 38.85S 177.29E 26km M=3.5
0.1 0.01 0.01 2
Rsd 0.2s 19ph/15stn Dmin 20km Az.gap 134°
Corr. -0.469 16M/16stn Msd 0.2 2↑ 1↓
Earlier earthquake on MNG and WAH only (3 secs earlier on WAH.)

88/3715
JUL 12 1213 22.1s 37.20S 177.26E 177km M=3.5
1.8 0.09 0.10 16
Rsd 0.4s 6ph/5stn Dmin 90km Az.gap 234°
Corr. 0.132 3M/3stn Msd 0.0

88/3725
JUL 12 2320 42.5s 45.02S 167.27E 33km M=3.8
0.1 0.00 0.01 R
Rsd 0.0s 14ph/13stn Dmin 64km Az.gap 302°
Corr. 0.145 9M/9stn Msd 0.1 1↓

88/3726
JUL 12 2349 40.7s 45.35S 167.04E 33km M=4.1
0.1 0.01 0.01 R
Rsd 0.0s 14ph/13stn Dmin 103km Az.gap 300°
Corr. 0.707 6M/6stn Msd 0.3 1↑

88/3731
JUL 13 0442 08.2s 40.85S 172.06E 5km M=4.4
0.3 0.02 0.03 R
Rsd 0.3s 25ph/22stn Dmin 125km Az.gap 199°
Corr. -0.422 19M/18stn Msd 0.2 1↑
Felt Paturau (71) and Bainham (72), max MM5 at Paturau. Preceded by noise on RTY?

88/3733
JUL 13 0943 31.8s 43.85S 169.31E 5km M=3.7
0.3 0.02 0.01 R
Rsd 0.1s 12ph/10stn Dmin 83km Az.gap 259°
Corr. 0.334 11M/11stn Msd 0.2 1↑
Felt Paringa (103) and Mahitahi (104) MM4.

88/3736
JUL 13 1220 38.0s 36.31S 178.08E 311km M=3.9
3.0 0.25 0.23 26
Rsd 0.9s 7ph/5stn Dmin 144km Az.gap 301°
Corr. -0.141 4M/4stn Msd 0.1

88/3745
JUL 13 2312 51.7s 45.07S 167.21E 33km M=3.7
0.2 0.01 0.02 R
Rsd 0.1s 15ph/12stn Dmin 72km Az.gap 317°
Corr. 0.029 10M/10stn Msd 0.2 1↑ 4↓

88/3751
JUL 14 0821 27.9s 41.81S 174.08E 64km M=3.9
0.3 0.02 0.02 2
Rsd 0.1s 15ph/10stn Dmin 13km Az.gap 156°
Corr. 0.373 10M/8stn Msd 0.3 8↑ 2↓
Felt at Tawa (68) MM3.

88/3755
JUL 14 1308 44.1s 38.27S 175.74E 151km M=4.0
0.2 0.01 0.02 2
Rsd 0.1s 19ph/17stn Dmin 114km Az.gap 231°
Corr. -0.844 15M/15stn Msd 0.4 3↑ 2↓

88/3760
JUL 14 1852 47.4s 41.20S 173.49E 97km M=3.9
0.3 0.04 0.03 4
Rsd 0.2s 22ph/17stn Dmin 66km Az.gap 145°
Corr. -0.785 10M/9stn Msd 0.2 10↑ 3↓

88/3762
JUL 14 2143 13.1s 37.65S 179.86E 71km M=4.4
0.7 0.06 0.07 15
Rsd 0.3s 12ph/11stn Dmin 138km Az.gap 309°
Corr. -0.281 15M/15stn Msd 0.1 1↓
Early TEH not understood. Strong converted phase on HBZ?

88/3773
JUL 15 0414 49.0s 37.48S 176.48E 220km M=4.5
0.6 0.04 0.04 5
Rsd 0.2s 17ph/14stn Dmin 71km Az.gap 216°
Corr. -0.083 14M/14stn Msd 0.1 4↑1↓

88/3793
JUL 16 0534 07.0s 45.16S 167.30E 84km M=3.5
0.2 0.08 0.05 10
Rsd 0.1s 13ph/11stn Dmin 73km Az.gap 293°
Corr. 0.969 9M/9stn Msd 0.2 1↑6↓

88/3804
JUL 16 1625 08.9s 43.02S 170.77E 12km M=4.2
0.2 0.02 0.03 R
Rsd 0.2s 18ph/15stn Dmin 76km Az.gap 165°
Corr. -0.785 20M/18stn Msd 0.2 5↑3↓
Felt Westland: max MM5 at Greymouth (85) and Hokitika (91).

88/3805
JUL 16 1717 31.6s 45.33S 167.06E 31km M=3.9
0.3 0.02 0.08 7
Rsd 0.1s 14ph/11stn Dmin 99km Az.gap 299°
Corr. 0.852 9M/9stn Msd 0.1 3↑3↓

88/3809
JUL 16 2057 15.6s 45.17S 167.31E 28km M=3.6
0.2 0.03 0.06 7
Rsd 0.0s 14ph/11stn Dmin 73km Az.gap 310°
Corr. -0.961 8M/8stn Msd 0.1 3↑2↓

88/3812
JUL 17 0344 39.7s 40.03S 176.90E 53km M=3.7
0.2 0.01 0.02 3
Rsd 0.1s 31ph/25stn Dmin 55km Az.gap 217°
Corr. -0.602 13M/13stn Msd 0.2 2↑4↓

88/3816
JUL 17 1031 32.5s 45.58S 166.83E 33km M=3.6
0.2 0.01 0.02 R
Rsd 0.1s 13ph/10stn Dmin 132km Az.gap 303°
Corr. 0.375 8M/8stn Msd 0.1 1↓

88/3817
JUL 17 1225 47.4s 44.03S 168.51E 12km M=3.6
0.2 0.01 0.01 R
Rsd 0.1s 13ph/11stn Dmin 86km Az.gap 202°
Corr. -0.523 8M/8stn Msd 0.1 1↑2↓

88/3819
JUL 17 1418 06.2s 41.15S 174.65E 32km M=3.5
0.1 0.01 0.01 1
Rsd 0.2s 16ph/14stn Dmin 11km Az.gap 139°
Corr. -0.070 6M/5stn Msd 0.1 7↑6↓
Felt Tawa and Whitby (68).

88/3822
JUL 17 1953 44.0s 38.19S 176.76E 157km M=3.7
0.3 0.07 0.20 2
Rsd 0.1s 16ph/12stn Dmin 30km Az.gap 189°
Corr. -0.984 9M/9stn Msd 0.1

88/3828
JUL 17 2125 29.9s 37.76S 175.67E 188km M=3.9
1.0 0.07 0.15 14
Rsd 0.2s 17ph/15stn Dmin 144km Az.gap 312°
Corr. -0.805 11M/11stn Msd 0.2 1↓

88/3842
JUL 18 1758 20.9s 38.95S 175.41E 203km M=4.1
0.8 0.03 0.05 7
Rsd 0.2s 14ph/12stn Dmin 13km Az.gap 161°
Corr. -0.289 10M/10stn Msd 0.3 6↑4↓

88/3845
JUL 19 0258 16.3s 44.97S 167.48E 137km M=5.7
0.5 0.01 0.03 3
Rsd 0.0s 12ph/11stn Dmin 48km Az.gap 289°
Corr. 0.359 4M/4stn Msd 0.3 4↑7↓
Felt Southern South Island, max MM5 at Orepuki School (148).

88/3868
JUL 20 0657 30.7s 37.60S 176.63E 189km M=3.9
1.5 0.08 0.07 11
Rsd 0.3s 12ph/12stn Dmin 54km Az.gap 202°
Corr. -0.582 15M/15stn Msd 0.2 5↑3↓

88/3869
JUL 20 0828 04.2s 39.20S 173.90E 10km M=3.4
0.6 0.03 0.04 2
Rsd 0.2s 18ph/15stn Dmin 19km Az.gap 260°
Corr. -0.248 11M/10stn Msd 0.2 2↑1↓
Felt Pukeiti (46).

88/3873
JUL 20 1248 12.2s 35.98S 178.93E 260km M=4.0
0.4 0.02 0.06 2
Rsd 0.1s 13ph/11stn Dmin 189km Az.gap 322°
Corr. -0.239 11M/11stn Msd 0.1

88/3877
JUL 20 1958 08.4s 40.75S 174.75E 35km M=3.5
0.1 0.01 0.01 4
Rsd 0.2s 19ph/14stn Dmin 18km Az.gap 84°
Corr. -0.512 8M/8stn Msd 0.1 8↑7↓

88/3885
JUL 21 0227 31.8s 37.85S 178.93E 61km M=4.0
0.5 0.04 0.04 7
Rsd 0.2s 14ph/11stn Dmin 62km Az.gap 280°
Corr. -0.244 15M/15stn Msd 0.2 4↑ 2↓

88/3893
JUL 21 0944 23.5s 38.08S 176.28E 174km M=3.7
1.1 0.05 0.06 10
Rsd 0.3s 11ph/10stn Dmin 63km Az.gap 222°
Corr. -0.559 16M/16stn Msd 0.4 1↑

88/3901
JUL 21 1536 11.1s 39.19S 173.88E 11km M=3.5
0.4 0.01 0.02 2
Rsd 0.1s 23ph/21stn Dmin 21km Az.gap 202°
Corr. -0.177 13M/13stn Msd 0.2 1↑

88/3902
JUL 21 1921 04.9s 40.51S 174.26E 87km M=4.2
0.3 0.02 0.02 4
Rsd 0.2s 24ph/19stn Dmin 68km Az.gap 111°
Corr. -0.219 8M/6stn Msd 0.2 8↑ 7↓

88/3903
JUL 21 2128 53.1s 37.01S 177.86E 201km M=3.7
0.3 0.02 0.04 3
Rsd 0.1s 14ph/13stn Dmin 76km Az.gap 294°
Corr. -0.742 12M/12stn Msd 0.1

88/3914
JUL 22 1413 59.6s 37.93S 175.81E 169km M=3.7
0.5 0.03 0.07 6
Rsd 0.2s 13ph/11stn Dmin 122km Az.gap 318°
Corr. -0.703 5M/5stn Msd 0.4 2↑ 4↓

88/3920
JUL 23 0035 15.0s 38.62S 175.88E 200km M=3.6
0.3 0.02 0.09 R
Rsd 0.1s 9ph/7stn Dmin 225km Az.gap 347°
Corr. -0.250 5M/5stn Msd 0.2 1↓

88/3922
JUL 23 0222 08.7s 41.13S 174.67E 31km M=3.7
0.1 0.01 0.01 1
Rsd 0.2s 17ph/15stn Dmin 12km Az.gap 124°
Corr. -0.150 6M/4stn Msd 0.2 7↑ 4↓

88/3924
JUL 23 0256 35.2s 35.64S 178.46E 258km M=4.2
0.3 0.07 0.13 4
Rsd 0.1s 13ph/11stn Dmin 218km Az.gap 335°
Corr. -0.977 9M/9stn Msd 0.2 1↓

88/3929
JUL 23 0736 47.8s 38.21S 176.10E 249km M=3.7
0.3 0.07 0.05 7
Rsd 0.1s 12ph/10stn Dmin 272km Az.gap 343°
Corr. 0.055 6M/6stn Msd 0.1

88/3930
JUL 23 1320 27.1s 39.34S 175.55E 98km M=3.7
0.4 0.01 0.03 3
Rsd 0.1s 17ph/15stn Dmin 15km Az.gap 152°
Corr. -0.475 12M/12stn Msd 0.3 4↑ 2↓

88/3937
JUL 23 1849 45.9s 38.69S 175.87E 189km M=3.9
0.2 0.04 0.06 5
Rsd 0.1s 14ph/12stn Dmin 217km Az.gap 216°
Corr. -0.945 13M/13stn Msd 0.2 3↑ 2↓

88/3943
JUL 24 0212 36.3s 39.78S 174.35E 197km M=3.7
0.4 0.02 0.03 3
Rsd 0.2s 18ph/16stn Dmin 60km Az.gap 157°
Corr. -0.408 13M/13stn Msd 0.2 1↑

88/3949
JUL 24 1639 05.8s 48.41S 165.18E 12km M=4.2
0.6 0.05 0.07 R
Rsd 0.2s 14ph/14stn Dmin 466km Az.gap 331°
Corr. -0.498 10M/10stn Msd 0.1

88/3952
JUL 24 2013 00.0s 42.18S 173.92E 20km M=3.9
0.3 0.02 0.02 3
Rsd 0.2s 22ph/16stn Dmin 54km Az.gap 157°
Corr. -0.221 15M/15stn Msd 0.2 4↑ 9↓
Felt Clarence Bridge (90).

88/3963
JUL 25 0909 33.7s 42.12S 173.93E 20km M=3.8
0.3 0.02 0.02 3
Rsd 0.2s 19ph/17stn Dmin 48km Az.gap 154°
Corr. -0.473 18M/16stn Msd 0.3 4↑ 5↓

88/3964
JUL 25 0916 49.2s 42.11S 173.92E 20km M=3.8
0.3 0.02 0.01 3
Rsd 0.2s 20ph/17stn Dmin 47km Az.gap 154°
Corr. -0.482 16M/14stn Msd 0.2 3↑ 7↓

88/3970
JUL 25 1441 19.8s 38.06S 176.22E 170km M=3.5
0.9 0.03 0.05 9
Rsd 0.2s 17ph/14stn Dmin 62km Az.gap 151°
Corr. -0.582 10M/10stn Msd 0.1 1↑

88/3978
JUL 26 1036 13.7s 38.85S 175.90E 112km M=3.6
0.2 0.01 0.03 2
Rsd 0.1s 13ph/13stn Dmin 34km Az.gap 131°
Corr. -0.326 10M/10stn Msd 0.2 1↑ 1↓

88/3981
JUL 26 1529 08.9s 36.71S 177.88E 268km M=3.9
0.3 0.02 0.06 2
Rsd 0.0s 13ph/13stn Dmin 105km Az.gap 308°
Corr. -0.695 3M/3stn Msd 0.2 1↑

88/3982
JUL 26 1702 23.2s 38.84S 175.97E 192km M=3.9
0.4 0.10 0.04 10
Rsd 0.1s 13ph/11stn Dmin 202km Az.gap 341°
Corr. 0.171 6M/6stn Msd 0.2 1↑1↓

88/3984
JUL 26 1903 06.5s 39.10S 174.82E 220km M=4.2
0.5 0.02 0.11 6
Rsd 0.3s 21ph/18stn Dmin 64km Az.gap 168°
Corr. -0.492 13M/13stn Msd 0.1 7↑1↓

88/3986
JUL 26 2347 23.0s 47.32S 164.39E 33km M=4.1
0.5 0.05 0.04 R
Rsd 0.1s 14ph/14stn Dmin 402km Az.gap 331°
Corr. -0.350 9M/9stn Msd 0.1

88/3996
JUL 27 0647 39.4s 38.46S 176.35E 90km M=4.0
0.5 0.02 0.02 4
Rsd 0.2s 22ph/20stn Dmin 29km Az.gap 78°
Corr. 0.082 15M/15stn Msd 0.2 4↑3↓

88/4001
JUL 27 1127 33.5s 37.95S 178.77E 62km M=4.2
0.2 0.04 0.02 5
Rsd 0.1s 11ph/8stn Dmin 57km Az.gap 263°
Corr. -0.691 11M/11stn Msd 0.2 1↑1↓

88/4026
JUL 29 0124 48.2s 37.33S 176.75E 225km M=3.7
3.8 0.15 0.18 28
Rsd 0.3s 10ph/10stn Dmin 76km Az.gap 257°
Corr. 0.750 3M/3stn Msd 0.0 1↑

88/4027
JUL 29 0306 42.9s 38.36S 176.05E 158km M=3.6
0.5 0.03 0.05 4
Rsd 0.2s 14ph/14stn Dmin 65km Az.gap 175°
Corr. 0.498 13M/13stn Msd 0.3 4↑3↓

88/4037
JUL 29 1811 39.5s 38.55S 175.60E 162km M=3.7
0.7 0.04 0.07 6
Rsd 0.3s 16ph/14stn Dmin 50km Az.gap 274°
Corr. -0.355 11M/11stn Msd 0.2 4↑4↓

88/4041
JUL 29 2102 31.1s 37.50S 177.37E 162km M=3.7
0.4 0.03 0.03 3
Rsd 0.1s 18ph/18stn Dmin 63km Az.gap 246°
Corr. -0.652 13M/13stn Msd 0.2 1↑1↓

88/4042
JUL 29 2312 30.9s 38.11S 175.80E 172km M=3.5
1.3 0.14 0.31 21
Rsd 0.4s 5ph/3stn Dmin 124km Az.gap 246°
Corr. -0.824 2M/2stn Msd 0.2

88/4044
JUL 30 0229 28.2s 40.61S 173.44E 175km M=3.8
0.2 0.03 0.03 3
Rsd 0.1s 21ph/14stn Dmin 79km Az.gap 223°
Corr. -0.559 10M/10stn Msd 0.2 1↑

88/4051
JUL 30 2015 44.4s 37.45S 176.69E 239km M=3.9
0.3 0.02 0.03 3
Rsd 0.1s 15ph/11stn Dmin 66km Az.gap 251°
Corr. -0.883 8M/8stn Msd 0.1 2↑1↓

88/4052
JUL 30 2307 24.3s 36.98S 176.94E 258km M=5.3
0.7 0.04 0.04 6
Rsd 0.1s 20ph/17stn Dmin 112km Az.gap 178°
Corr. 0.217 11M/11stn Msd 0.2 15↑10↓

88/4074
AUG 01 1915 38.0s 38.11S 176.17E 183km M=3.8
0.2 0.02 0.02 2
Rsd 0.1s 18ph/15stn Dmin 60km Az.gap 144°
Corr. -0.363 12M/12stn Msd 0.3 1↑

88/4081
AUG 02 0751 02.7s 39.10S 177.93E 71km M=3.6
0.5 0.02 0.03 6
Rsd 0.2s 16ph/13stn Dmin 51km Az.gap 210°
Corr. -0.146 17M/17stn Msd 0.2 1↑2↓

88/4085
AUG 02 1024 57.3s 40.68S 173.54E 154km M=3.7
0.3 0.04 0.03 4
Rsd 0.2s 17ph/13stn Dmin 86km Az.gap 202°
Corr. -0.758 9M/9stn Msd 0.2 7↑3↓

88/4090
AUG 02 1543 14.3s 38.41S 175.89E 161km M=3.7
0.8 0.03 0.02 7
Rsd 0.1s 7ph/6stn Dmin 35km Az.gap 125°
Corr. 0.011 9M/9stn Msd 0.2 3↑5↓

88/4091
AUG 02 1607 35.7s 36.81S 177.60E 177km M=3.8
0.7 0.06 0.05 7
Rsd 0.3s 11ph/9stn Dmin 108km Az.gap 270°
Corr. 0.049 5M/5stn Msd 0.2

88/4092
AUG 02 1925 51.1s 41.45S 172.98E 146km M=3.8
0.2 0.03 0.02 2
Rsd 0.1s 19ph/14stn Dmin 41km Az.gap 207°
Corr. -0.715 12M/10stn Msd 0.2 3↑1↓

88/4095
AUG 03 0046 12.7s 41.78S 173.14E 85km M=4.5
0.3 0.06 0.04 4
Rsd 0.2s 18ph/13stn Dmin 25km Az.gap 140°
Corr. -0.887 12M/10stn Msd 0.1 2↑5↓
Felt Nelson (76).

88/4104
AUG 03 0658 20.5s 40.24S 174.31E 108km M=4.4
0.3 0.01 0.02 4
Rsd 0.3s 34ph/30stn Dmin 86km Az.gap 127°
Corr. -0.051 12M/10stn Msd 0.2 12↑ 5↓
Felt Pukeiti (46). Small earthquake magnitude approximately 4.5 on KRP between P & S.

88/4107
AUG 03 0953 47.8s 41.21S 172.87E 153km M=3.9
0.2 0.05 0.02 3
Rsd 0.1s 20ph/14stn Dmin 67km Az.gap 173°
Corr. -0.816 8M/8stn Msd 0.2 1↑ 1↓

88/4112
AUG 03 2030 01.5s 37.86S 176.84E 129km M=4.3
0.8 0.05 0.03 5
Rsd 0.3s 15ph/12stn Dmin 19km Az.gap 112°
Corr. 0.047 16M/14stn Msd 0.1 7↑ 1↓
Felt Ruatuna Rd (35) MM4.

88/4113
AUG 03 2201 13.5s 37.88S 175.79E 286km M=4.2
0.9 0.05 0.07 8
Rsd 0.2s 15ph/14stn Dmin 23km Az.gap 186°
Corr. 0.181 19M/18stn Msd 0.2

88/4133
AUG 04 0836 06.4s 38.68S 176.15E 93km M=5.1
0.6 0.02 0.03 5
Rsd 0.4s 37ph/33stn Dmin 7km Az.gap 39°
Corr. 0.081 6M/4stn Msd 0.2 13↑ 11↓
Felt Ruatuna Rd (35) MM4 and Hastings (60).

88/4150
AUG 04 2338 13.4s 38.87S 175.93E 5km M=3.5
0.1 0.00 0.01 R
Rsd 0.2s 23ph/23stn Dmin 13km Az.gap 59°
Corr. -0.275 25M/25stn Msd 0.3 4↑ 5↓
Felt Motuoapa (40) MM4.

88/4173
AUG 05 1349 50.0s 38.74S 176.62E 60km M=3.8
0.2 0.01 0.01 3
Rsd 0.3s 30ph/23stn Dmin 19km Az.gap 49°
Corr. 0.000 16M/16stn Msd 0.2 2↑ 8↓

88/4174
AUG 05 1445 22.7s 35.81S 178.26E 196km M=4.1
1.0 0.08 0.10 12
Rsd 0.3s 9ph/6stn Dmin 199km Az.gap 314°
Corr. 0.076 8M/8stn Msd 0.2 1↓

88/4176
AUG 05 1537 38.3s 36.43S 178.12E 186km M=3.7
0.9 0.05 0.07 9
Rsd 0.3s 5ph/3stn Dmin 131km Az.gap 323°
Corr. -0.110 3M/3stn Msd 0.1

88/4184
AUG 05 2026 04.0s 37.05S 177.54E 12km M=3.5
1.0 0.08 0.04 R
Rsd 0.6s 8ph/8stn Dmin 61km Az.gap 196°
Corr. 0.283 4M/4stn Msd 0.3

88/4185
AUG 05 2138 09.6s 38.03S 176.60E 253km M=3.5
0.4 0.09 0.14 9
Rsd 0.1s 14ph/11stn Dmin 142km Az.gap 270°
Corr. -0.973 8M/8stn Msd 0.1 1↑

88/4195
AUG 06 0626 29.6s 38.78S 175.46E 170km M=3.8
0.5 0.02 0.03 4
Rsd 0.2s 20ph/16stn Dmin 25km Az.gap 119°
Corr. 0.124 20M/18stn Msd 0.2 5↑ 4↓

88/4200
AUG 06 1048 44.9s 42.26S 172.79E 12km M=4.4
0.2 0.02 0.02 R
Rsd 0.2s 16ph/15stn Dmin 51km Az.gap 118°
Corr. -0.516 28M/25stn Msd 0.2 4↑ 1↓
Felt Howard Valley (81) and Maruia (87) MM4.

88/4221
AUG 07 1253 05.4s 37.93S 176.94E 5km M=3.2
0.3 0.03 0.02 R
Rsd 0.3s 9ph/8stn Dmin 8km Az.gap 163°
Corr. -0.184 7M/7stn Msd 0.2 1↓
Felt Ruatuna Rd (35) MM4. WTZ S-P from small aftershock at 1257.

88/4237
AUG 08 0540 02.2s 41.78S 171.93E 12km M=3.6
0.5 0.04 0.05 R
Rsd 0.3s 18ph/17stn Dmin 76km Az.gap 187°
Corr. -0.887 14M/12stn Msd 0.1 1↓
Felt Ngakawau (79).

88/4239
AUG 08 1100 47.1s 35.73S 179.61E 203km M=4.4
2.8 0.15 0.17 22
Rsd 0.3s 9ph/7stn Dmin 238km Az.gap 328°
Corr. 0.477 9M/8stn Msd 0.3

88/4244
AUG 08 2056 42.4s 37.18S 177.41E 153km M=4.2
0.4 0.02 0.02 3
Rsd 0.1s 16ph/15stn Dmin 91km Az.gap 238°
Corr. 0.277 15M/13stn Msd 0.2 1↓

88/4249
AUG 09 0237 44.2s 41.35S 172.73E 205km M=3.7
0.5 0.04 0.07 5
Rsd 0.1s 15ph/12stn Dmin 131km Az.gap 322°
Corr. -0.320 10M/10stn Msd 0.3 3↑ 1↓

88/4250

AUG 09 0237 51.0s 38.33S 176.30E 5km
0.3 R R R
Rsd 0.5s 3ph/3stn Dmin 19km Az.gap 272°
Corr. 0.000 0M/0stn Msd 0.0 1↑
Felt Ngapouri Rd (33) MM4 and Waikite Valley (33).

88/4251

AUG 09 0321 36.3s 38.33S 176.30E 5km
0.4 R R R
Rsd 0.7s 3ph/3stn Dmin 19km Az.gap 272°
Corr. 0.000 0M/0stn Msd 0.0
Felt Waikite Valley (33) MM5 and Ngapouri Rd (33) MM4.

88/4257

AUG 09 0937 30.0s 37.18S 177.68E 177km M=3.6
0.2 0.01 0.02 1
Rsd 0.1s 13ph/10stn Dmin 108km Az.gap 316°
Corr. 0.258 6M/6stn Msd 0.1

88/4258

AUG 09 1008 28.2s 37.96S 178.94E 68km M=4.1
0.6 0.03 0.05 6
Rsd 0.2s 17ph/14stn Dmin 69km Az.gap 271°
Corr. 0.144 17M/15stn Msd 0.2 4↑2↓

88/4263

AUG 10 0211 08.9s 37.11S 177.77E 240km M=3.7
2.1 0.09 0.19 7
Rsd 0.1s 8ph/8stn Dmin 171km Az.gap 288°
Corr. 0.988 2M/2stn Msd 0.0

88/4264

AUG 10 0241 36.4s 38.33S 176.30E 5km M=2.4
0.3 0.01 0.03 R
Rsd 0.2s 7ph/7stn Dmin 19km Az.gap 118°
Corr. 0.375 3M/3stn Msd 0.1
Felt Ngapouri Rd (33) MM V, Waikite Valley (33) MM4.

88/4272

AUG 10 1037 06.7s 38.61S 176.05E 9km M=2.3
0.1 0.01 0.01 2
Rsd 0.1s 8ph/8stn Dmin 0km Az.gap 128°
Corr. -0.287 6M/6stn Msd 0.2 2↑3↓
Felt Acacia Bay (41) MM3.

88/4273

AUG 10 1137 22.6s 38.63S 176.04E 5km M=3.1
0.0 0.00 0.01 1
Rsd 0.1s 16ph/15stn Dmin 1km Az.gap 81°
Corr. -0.224 11M/11stn Msd 0.3 6↑5↓
Felt Link Rd (40) and Acacia Bay (41) MM5 and Wairakei (41) MM4.

88/4275

AUG 10 1218 27.3s 44.33S 167.75E 5km M=3.6
0.4 0.02 0.03 R
Rsd 0.2s 16ph/14stn Dmin 40km Az.gap 264°
Corr. -0.373 11M/11stn Msd 0.1 1↓

88/4278

AUG 10 1311 20.1s 38.14S 176.34E 171km M=4.8
0.4 0.02 0.02 3
Rsd 0.2s 30ph/26stn Dmin 13km Az.gap 91°
Corr. -0.005 13M/13stn Msd 0.3 4↑5↓

88/4285

AUG 10 2056 20.4s 41.79S 173.30E 86km M=4.2
0.2 0.03 0.02 3
Rsd 0.1s 23ph/17stn Dmin 38km Az.gap 135°
Corr. -0.855 9M/7stn Msd 0.3 4↑4↓

88/4288

AUG 11 0008 58.7s 40.59S 173.46E 176km M=4.2
0.3 0.03 0.03 4
Rsd 0.2s 25ph/17stn Dmin 98km Az.gap 188°
Corr. -0.703 11M/11stn Msd 0.2 4↑3↓

88/4299

AUG 11 1823 08.3s 38.20S 176.20E 5km
0.9 R R R
Rsd 1.5s 3ph/3stn Dmin 3km Az.gap 247°
Corr. 0.000 0M/0stn Msd 0.0 1↓
Felt Ngapouri Rd (33) MM5.

88/4300

AUG 11 1825 36.6s 38.20S 176.20E 5km
0.7 R R R
Rsd 1.2s 3ph/3stn Dmin 3km Az.gap 247°
Corr. 0.000 0M/0stn Msd 0.0
Felt Ngapouri Rd (33) MM4.

88/4303

AUG 11 1931 37.8s 38.33S 176.30E 5km
0.0 R R R
Rsd 0.0s 2ph/2stn Dmin 19km Az.gap 272°
Corr. 0.000 0M/0stn Msd 0.0 1↑
Felt Waikite Valley (33).

88/4309

AUG 12 0041 04.9s 38.38S 176.24E 212km M=3.7
0.6 0.02 0.04 5
Rsd 0.1s 15ph/13stn Dmin 92km Az.gap 204°
Corr. -0.676 8M/8stn Msd 0.2 1↓

88/4325

AUG 12 2336 34.5s 41.09S 174.40E 44km M=2.7
0.2 0.01 0.01 1
Rsd 0.1s 18ph/12stn Dmin 17km Az.gap 202°
Corr. 0.009 11M/9stn Msd 0.1 4↑3↓
Felt Fighting Bay (78) MM3.

88/4343

AUG 13 1951 54.7s 38.62S 176.09E 5km M=2.2
0.1 0.02 0.03 R
Rsd 0.1s 5ph/5stn Dmin 1km Az.gap 161°
Corr. 0.161 2M/2stn Msd 0.1 1↓
Felt Wairakei Village (41) MM4.

88/4345
AUG 13 1953 00.9s 38.64S 176.11E 5km
0.3 0.01 0.03 R
Rsd 0.1s 5ph/5stn Dmin 1km Az.gap 286°
Corr. -0.727 0M/0stn Msd 0.0 1↑
Felt Wairakei Village (41) MM4.

88/4346
AUG 13 1953 37.1s 38.62S 176.12E 5km M=0.2
0.6 0.02 0.06 R
Rsd 0.1s 5ph/5stn Dmin 2km Az.gap 301°
Corr. -0.254 1M/1stn Msd N.D.
Felt Wairakei Village (41) MM4.

88/4347
AUG 13 1955 03.7s 38.60S 176.14E 5km M=1.2
2.0 0.06 0.15 R
Rsd 0.4s 5ph/5stn Dmin 4km Az.gap 332°
Corr. 0.373 3M/3stn Msd 0.1 1↓
Felt Wairakei Village (41) MM4.

88/4348
AUG 13 1957 43.6s 38.62S 176.12E 5km M=0.9
1.6 0.05 0.14 R
Rsd 0.4s 5ph/5stn Dmin 2km Az.gap 319°
Corr. 0.482 3M/3stn Msd 0.1 1↓
Felt Wairakei Village (41) MM4.

88/4349
AUG 13 2014 42.6s 38.62S 176.12E 5km
1.3 0.07 0.18 R
Rsd 0.5s 4ph/3stn Dmin 3km Az.gap 319°
Corr. -0.336 0M/0stn Msd 0.0
Felt Wairakei Village (41) MM4.

88/4350
AUG 13 2031 15.7s 38.63S 176.11E 5km M=1.6
0.3 0.01 0.03 R
Rsd 0.1s 5ph/5stn Dmin 1km Az.gap 280°
Corr. -0.020 3M/3stn Msd 0.2 1↑
Felt Wairakei Village (41) MM4.

88/4353
AUG 13 2325 27.1s 40.90S 173.92E 90km M=3.9
0.2 0.01 0.02 2
Rsd 0.2s 24ph/17stn Dmin 46km Az.gap 144°
Corr. -0.488 12M/11stn Msd 0.2 3↑ 3↓

88/4374
AUG 14 2035 13.8s 38.17S 176.07E 167km M=4.3
1.0 0.04 0.04 8
Rsd 0.4s 23ph/20stn Dmin 54km Az.gap 133°
Corr. 0.032 20M/18stn Msd 0.2 7↑ 5↓

88/4376
AUG 14 2206 01.9s 45.06S 167.22E 72km M=4.6
0.2 0.01 0.02 2
Rsd 0.0s 15ph/14stn Dmin 70km Az.gap 241°
Corr. -0.582 4M/4stn Msd 0.4 2↑ 10↓
Felt Te Anau Downs Homestead (130) MM5 and Manapouri (139) MM4.

88/4386
AUG 15 1315 25.3s 37.87S 174.83E 119km M=3.6
1.4 0.08 0.12 15
Rsd 0.4s 13ph/11stn Dmin 62km Az.gap 273°
Corr. 0.320 12M/12stn Msd 0.2

88/4388
AUG 15 1505 18.8s 38.50S 175.89E 159km M=4.2
0.5 0.02 0.03 4
Rsd 0.2s 24ph/20stn Dmin 44km Az.gap 94°
Corr. 0.412 21M/19stn Msd 0.4 8↑ 4↓

88/4389
AUG 15 1512 55.4s 38.62S 175.93E 156km M=3.6
0.6 0.02 0.26 6
Rsd 0.2s 15ph/12stn Dmin 72km Az.gap 211°
Corr. -0.412 8M/8stn Msd 0.3 1↑ 1↓

88/4395
AUG 15 2004 33.1s 37.79S 176.69E 286km M=3.9
0.3 0.12 0.05 12
Rsd 0.1s 12ph/10stn Dmin 331km Az.gap 347°
Corr. 0.072 6M/6stn Msd 0.2 1↑ 2↓

88/4399
AUG 16 0024 12.1s 38.29S 177.68E 123km M=3.6
0.6 0.04 0.04 6
Rsd 0.3s 11ph/10stn Dmin 49km Az.gap 108°
Corr. -0.551 6M/6stn Msd 0.1 2↑ 1↓

88/4402
AUG 16 0415 30.2s 42.41S 173.73E 30km M=3.8
0.2 0.02 0.01 R
Rsd 0.1s 23ph/17stn Dmin 83km Az.gap 260°
Corr. -0.062 11M/11stn Msd 0.2 7↑ 4↓

88/4405
AUG 16 0517 01.0s 38.34S 176.39E 141km M=3.8
0.1 0.02 0.03 R
Rsd 0.2s 11ph/9stn Dmin 61km Az.gap 112°
Corr. 0.114 12M/12stn Msd 0.4 2↑ 4↓

88/4413
AUG 16 1322 19.4s 37.43S 176.24E 192km M=3.7
0.6 0.02 0.03 5
Rsd 0.1s 12ph/9stn Dmin 83km Az.gap 229°
Corr. -0.719 3M/3stn Msd 0.1 1↑ 1↓

88/4417
AUG 17 0644 25.5s 39.24S 174.08E 10km M=3.3
0.2 0.01 0.02 R
Rsd 0.1s 25ph/21stn Dmin 4km Az.gap 192°
Corr. -0.167 12M/12stn Msd 0.1 1↓
Felt Felt Pukeiti (46).

88/4421
AUG 17 1853 53.4s 38.57S 176.14E 200km M=3.5
0.2 0.01 0.03 R
Rsd 0.0s 10ph/8stn Dmin 235km Az.gap 345°
Corr. -0.049 5M/5stn Msd 0.3 1↓

88/4423
AUG 17 2100 42.6s 34.52S 179.57W 115km M=4.6
0.7 0.03 0.06 R
Rsd 0.1s 10ph/8stn Dmin 392km Az.gap 319°
Corr. 0.432 13M/13stn Msd 0.2

88/4425
AUG 18 0542 28.3s 40.09S 173.86E 205km M=3.7
0.2 0.04 0.04 4
Rsd 0.1s 14ph/12stn Dmin 124km Az.gap 310°
Corr. -0.758 7M/7stn Msd 0.2 1↑

88/4432
AUG 19 0128 16.4s 41.15S 174.01E 67km M=3.7
0.2 0.02 0.01 4
Rsd 0.2s 24ph/17stn Dmin 23km Az.gap 119°
Corr. -0.311 8M/8stn Msd 0.2 3↑ 4↓

88/4433
AUG 19 0134 17.3s 44.47S 167.97E 12km M=4.3
0.1 0.00 0.01 R
Rsd 0.0s 21ph/19stn Dmin 23km Az.gap 223°
Corr. 0.141 2M/2stn Msd 0.1 1↓

88/4435
AUG 19 0300 55.2s 40.44S 176.76E 23km M=3.7
0.2 0.01 0.02 R
Rsd 0.2s 32ph/26stn Dmin 50km Az.gap 213°
Corr. -0.723 15M/15stn Msd 0.2 4↑ 2↓

88/4442
AUG 19 0836 47.7s 38.03S 176.09E 172km M=4.0
0.4 0.05 0.07 R
Rsd 0.2s 12ph/9stn Dmin 50km Az.gap 154°
Corr. -0.108 15M/15stn Msd 0.3 2↑ 2↓

88/4448
AUG 19 1433 14.8s 40.58S 174.10E 77km M=3.5
0.2 0.01 0.01 3
Rsd 0.1s 24ph/20stn Dmin 72km Az.gap 117°
Corr. -0.200 10M/10stn Msd 0.1 1↑

88/4449
AUG 19 1451 06.7s 38.75S 175.61E 189km M=3.6
0.2 0.01 0.05 2
Rsd 0.0s 14ph/12stn Dmin 50km Az.gap 340°
Corr. -0.410 10M/10stn Msd 0.2 2↑ 1↓

88/4450
AUG 19 1601 00.1s 39.78S 174.17E 217km M=4.3
0.3 0.01 0.02 3
Rsd 0.1s 29ph/24stn Dmin 56km Az.gap 134°
Corr. -0.162 16M/16stn Msd 0.2 4↑ 3↓

88/4451
AUG 19 1618 48.6s 37.55S 177.29E 118km M=4.3
0.2 0.02 0.01 R
Rsd 0.2s 16ph/12stn Dmin 55km Az.gap 200°
Corr. -0.097 15M/15stn Msd 0.3 1↑ 1↓

88/4454
AUG 19 1726 09.6s 43.31S 171.03E 33km M=3.7
0.1 0.01 0.03 R
Rsd 0.1s 16ph/13stn Dmin 92km Az.gap 166°
Corr. -0.816 13M/13stn Msd 0.2 1↑
Felt Lake Coleridge (100) MM4.

88/4456
AUG 19 1826 34.5s 37.84S 176.00E 250km M=3.7
0.3 0.03 0.08 R
Rsd 0.1s 12ph/10stn Dmin 312km Az.gap 346°
Corr. -0.322 6M/6stn Msd 0.1

88/4460
AUG 19 1932 56.6s 37.20S 177.33E 33km M=4.0
0.2 0.02 0.01 R
Rsd 0.1s 16ph/12stn Dmin 38km Az.gap 174°
Corr. 0.105 9M/9stn Msd 0.6

88/4464
AUG 19 2020 33.6s 45.11S 167.37E 33km M=3.1
0.1 0.01 0.01 R
Rsd 0.0s 8ph/7stn Dmin 65km Az.gap 309°
Corr. 0.578 4M/4stn Msd 0.2
Felt Te Anau Downs Homestead (130) MM4.

88/4467
AUG 19 2139 45.6s 45.36S 167.24E 100km M=3.7
0.3 0.02 0.03 R
Rsd 0.1s 11ph/10stn Dmin 162km Az.gap 340°
Corr. -0.108 7M/7stn Msd 0.0 1↓

88/4478
AUG 20 0756 18.3s 43.58S 170.59E 33km M=4.1
0.1 0.01 0.02 R
Rsd 0.1s 16ph/15stn Dmin 90km Az.gap 150°
Corr. -0.680 14M/14stn Msd 0.2 1↑
Felt Erewhon Station (107) MM5 and Whataroa (97) MM4.

88/4479
AUG 20 0801 23.9s 43.58S 170.49E 33km M=3.1
0.5 0.04 0.08 R
Rsd 0.2s 14ph/11stn Dmin 87km Az.gap 154°
Corr. -0.563 9M/9stn Msd 0.1
Felt Erewhon Station (107).

88/4496
AUG 21 0725 12.0s 38.34S 175.94E 190km M=3.9
1.0 0.06 0.09 7
Rsd 0.2s 21ph/18stn Dmin 100km Az.gap 223°
Corr. -0.945 11M/11stn Msd 0.2 1↑

88/4497
AUG 21 0752 13.3s 39.64S 174.78E 103km M=3.9
0.3 0.01 0.02 4
Rsd 0.2s 33ph/24stn Dmin 72km Az.gap 78°
Corr. -0.395 15M/15stn Msd 0.3 1↑ 4↓

88/4512
AUG 22 0816 56.1s 43.60S 170.62E 10km M=3.8
0.0 0.00 0.01 R
Rsd 0.0s 22ph/21stn Dmin 90km Az.gap 149°
Corr. -0.648 11M/11stn Msd 0.1 1↑
Felt Erewhon Station (107) MM4.

88/4517
AUG 22 2133 02.2s 40.02S 174.74E 87km M=4.1
0.2 0.01 0.01 3
Rsd 0.2s 29ph/26stn Dmin 92km Az.gap 130°
Corr. -0.416 15M/15stn Msd 0.2 3↑1↓

88/4521
AUG 23 0319 57.4s 45.04S 167.43E 63km M=4.0
0.1 0.01 0.01 R
Rsd 0.0s 19ph/15stn Dmin 56km Az.gap 306°
Corr. 0.742 5M/5stn Msd 0.1 1↓

88/4526
AUG 24 0017 55.1s 37.92S 176.89E 217km M=4.1
1.1 0.04 0.05 10
Rsd 0.3s 14ph/13stn Dmin 11km Az.gap 167°
Corr. -0.516 18M/18stn Msd 0.2 1↓

88/4527
AUG 24 0154 16.3s 39.25S 175.42E 89km M=4.3
0.4 0.01 0.02 4
Rsd 0.3s 31ph/26stn Dmin 12km Az.gap 96°
Corr. -0.313 5M/5stn Msd 0.2 11↑9↓

88/4528
AUG 24 0154 44.4s 39.29S 175.00E 127km M=5.0
0.1 0.01 0.02 R
Rsd 0.3s 42ph/32stn Dmin 48km Az.gap 106°
Corr. -0.179 5M/5stn Msd 0.1 11↑7↓
Felt Palmerston North (62) MM4, Waipukurau (60) and Pongaroa (67) MM3.

88/4534
AUG 24 1159 08.8s 45.20S 167.64E 143km M=4.3
0.3 0.02 0.04 4
Rsd 0.1s 11ph/7stn Dmin 129km Az.gap 295°
Corr. -0.146 5M/5stn Msd 0.5 1↑

88/4535
AUG 24 1222 41.7s 32.82S 179.36E 222km M=4.6
1.5 0.04 0.36 R
Rsd 0.1s 14ph/13stn Dmin 539km Az.gap 346°
Corr. 0.149 11M/11stn Msd 0.1

88/4539
AUG 24 2259 28.8s 39.65S 176.17E 33km M=3.7
0.1 0.01 0.02 R
Rsd 0.3s 33ph/32stn Dmin 17km Az.gap 73°
Corr. 0.004 17M/17stn Msd 0.3 2↑1↓

88/4544
AUG 25 0117 43.6s 38.80S 175.41E 124km M=3.9
0.5 0.05 0.08 R
Rsd 0.7s 13ph/13stn Dmin 54km Az.gap 122°
Corr. 0.102 14M/14stn Msd 0.3 2↑3↓

88/4546
AUG 25 0703 44.8s 37.08S 177.95E 199km M=3.8
0.1 0.01 0.01 R
Rsd 0.0s 17ph/15stn Dmin 65km Az.gap 288°
Corr. -0.393 9M/9stn Msd 0.1

88/4548
AUG 25 0825 53.8s 37.84S 176.42E 189km M=4.0
0.2 0.04 0.03 R
Rsd 0.3s 9ph/5stn Dmin 52km Az.gap 178°
Corr. -0.167 13M/13stn Msd 0.1 1↓

88/4562
AUG 26 0306 02.1s 37.45S 175.99E 164km M=3.6
0.6 0.05 0.07 R
Rsd 0.2s 14ph/10stn Dmin 106km Az.gap 261°
Corr. -0.766 13M/13stn Msd 0.1 1↑

88/4569
AUG 26 1203 10.9s 38.16S 176.23E 190km M=3.5
0.4 0.04 0.04 R
Rsd 0.1s 9ph/8stn Dmin 165km Az.gap 268°
Corr. -0.479 4M/4stn Msd 0.2

88/4570
AUG 26 1250 45.3s 37.83S 177.94E 70km M=3.6
0.2 0.02 0.02 R
Rsd 0.3s 11ph/9stn Dmin 41km Az.gap 154°
Corr. -0.234 8M/8stn Msd 0.1

88/4581
AUG 26 2322 10.5s 48.01S 166.51E 12km M=3.8
0.5 0.03 0.06 R
Rsd 0.2s 11ph/7stn Dmin 382km Az.gap 341°
Corr. -0.180 7M/7stn Msd 0.1

88/4588
AUG 27 0524 31.1s 34.88S 179.63W 181km M=5.4
0.8 0.05 0.07 R
Rsd 0.2s 20ph/17stn Dmin 354km Az.gap 316°
Corr. 0.789 14M/14stn Msd 0.2 1↑
Felt Ohakune (49) MM4.

88/4589
AUG 27 0723 03.7s 39.28S 175.35E 32km M=3.6
0.1 0.01 0.01 R
Rsd 0.2s 32ph/27stn Dmin 19km Az.gap 96°
Corr. -0.223 18M/18stn Msd 0.2 1↑1↓
Felt Kakahi (39) MM4.

88/4611
AUG 28 1131 20.8s 42.36S 174.01E 17km M=4.3
0.1 0.01 0.01 R
Rsd 0.1s 21ph/19stn Dmin 27km Az.gap 171°
Corr. -0.520 12M/12stn Msd 0.3 5↑ 1↓
Felt Kaikoura and Clarence (90).

88/4630
AUG 28 1640 00.2s 40.38S 178.26E 23km M=4.0
0.3 0.02 0.03 R
Rsd 0.3s 36ph/28stn Dmin 130km Az.gap 243°
Corr. -0.691 17M/17stn Msd 0.1 1↑

88/4631
AUG 28 1642 07.1s 37.28S 177.83E 103km M=4.0
0.5 0.03 0.03 4
Rsd 0.2s 7ph/7stn Dmin 54km Az.gap 262°
Corr. 0.093 2M/2stn Msd 0.1

88/4640
AUG 28 2254 51.2s 40.98S 172.98E 201km M=4.3
0.3 0.03 0.05 R
Rsd 0.2s 22ph/19stn Dmin 112km Az.gap 227°
Corr. -0.520 14M/14stn Msd 0.3 10↑ 1↓

88/4643
AUG 29 0451 57.2s 40.60S 176.02E 12km M=4.1
0.1 0.01 0.01 R
Rsd 0.3s 22ph/20stn Dmin 45km Az.gap 163°
Corr. -0.605 7M/7stn Msd 0.4 11↑ 3↓

88/4644
AUG 29 0506 48.1s 41.32S 172.73E 203km M=3.9
0.1 0.02 0.03 2
Rsd 0.0s 15ph/11stn Dmin 130km Az.gap 338°
Corr. 0.081 10M/10stn Msd 0.2 4↑ 2↓

88/4646
AUG 29 0632 31.5s 43.77S 172.73E 90km M=4.2
0.4 0.02 0.02 10
Rsd 0.0s 8ph/7stn Dmin 176km Az.gap 281°
Corr. -0.283 1M/1stn Msd N.D.

88/4647
AUG 29 0723 13.5s 35.39S 179.69W 209km M=4.6
2.1 0.12 0.16 R
Rsd 0.3s 11ph/9stn Dmin 367km Az.gap 335°
Corr. 0.715 14M/14stn Msd 0.3

88/4651
AUG 29 1721 27.7s 38.87S 178.25E 59km M=4.2
0.8 0.02 0.08 16
Rsd 0.2s 10ph/9stn Dmin 100km Az.gap 269°
Corr. -0.320 15M/15stn Msd 0.2 1↑ 2↓

88/4654
AUG 30 0204 50.1s 37.69S 176.19E 264km M=4.8
0.6 0.04 0.05 5
Rsd 0.2s 19ph/17stn Dmin 64km Az.gap 203°
Corr. -0.013 18M/18stn Msd 0.1 2↑ 1↓

88/4657
AUG 30 0607 22.8s 35.88S 179.30E 246km M=4.1
0.4 0.04 0.04 3
Rsd 0.1s 12ph/10stn Dmin 211km Az.gap 344°
Corr. -0.563 3M/3stn Msd 0.2

88/4660
AUG 30 0747 53.9s 36.31S 177.86E 217km M=4.3
0.3 0.03 0.03 R
Rsd 0.1s 14ph/10stn Dmin 149km Az.gap 297°
Corr. 0.021 14M/14stn Msd 0.2 1↑

88/4665
AUG 30 1222 17.3s 39.51S 174.57E 200km M=3.7
0.1 0.02 0.04 R
Rsd 0.2s 16ph/13stn Dmin 49km Az.gap 125°
Corr. 0.122 10M/10stn Msd 0.2 2↑ 1↓

88/4673
AUG 31 0234 07.1s 39.59S 174.53E 131km M=3.6
0.2 0.01 0.02 2
Rsd 0.1s 18ph/14stn Dmin 51km Az.gap 126°
Corr. 0.350 9M/9stn Msd 0.2 8↑ 2↓

88/4690
SEP 01 1502 49.5s 39.76S 174.67E 94km M=3.6
0.3 0.01 0.06 7
Rsd 0.2s 14ph/13stn Dmin 93km Az.gap 210°
Corr. -0.520 11M/9stn Msd 0.2 3↑ 2↓

88/4696
SEP 02 0116 02.4s 44.52S 168.23E 5km M=3.7
0.4 0.03 0.03 R
Rsd 0.5s 10ph/6stn Dmin 30km Az.gap 205°
Corr. -0.625 4M/3stn Msd 0.1 1↑

88/4697
SEP 02 0528 03.3s 41.71S 172.63E 200km M=3.7
0.5 0.07 0.10 R
Rsd 0.1s 12ph/9stn Dmin 132km Az.gap 333°
Corr. -0.605 6M/6stn Msd 0.2 1↑

88/4698
SEP 02 0617 39.0s 37.45S 179.33E 12km M=4.1
0.2 0.02 0.02 R
Rsd 0.1s 10ph/6stn Dmin 93km Az.gap 287°
Corr. -0.156 8M/8stn Msd 0.3 1↑ 1↓

88/4704
SEP 02 2307 05.0s 37.55S 178.21E 87km M=3.8
0.2 0.02 0.01 2
Rsd 0.1s 12ph/12stn Dmin 10km Az.gap 236°
Corr. -0.336 6M/6stn Msd 0.3 1↑

88/4714
SEP 03 1729 42.8s 34.63S 177.89W 33km M=4.5
0.5 0.06 0.08 R
Rsd 0.2s 9ph/7stn Dmin 475km Az.gap 324°
Corr. -0.770 13M/13stn Msd 0.2
T waves on HBZ at 1735.

88/4715
SEP 03 1811 50.4s 33.88S 179.36W 387km M=4.9
0.4 0.06 0.08 7
Rsd 0.1s 10ph/7stn Dmin 464km Az.gap 347°
Corr. -0.652 15M/15stn Msd 0.2

88/4718
SEP 04 0050 06.5s 36.88S 177.89E 114km M=3.6
1.0 0.06 0.07 9
Rsd 0.3s 7ph/4stn Dmin 87km Az.gap 302°
Corr. -0.021 5M/5stn Msd 0.1

88/4729
SEP 04 1540 48.8s 38.48S 175.29E 269km M=3.9
1.3 0.09 0.08 11
Rsd 0.4s 13ph/7stn Dmin 61km Az.gap 234°
Corr. -0.361 15M/15stn Msd 0.2 1↑ 1↓

88/4733
SEP 04 1953 09.5s 38.18S 176.26E 214km M=3.7
0.2 0.02 0.02 3
Rsd 0.1s 21ph/16stn Dmin 129km Az.gap 223°
Corr. -0.797 11M/11stn Msd 0.1

88/4748
SEP 05 1455 44.1s 38.28S 176.27E 164km M=3.6
1.6 0.05 0.08 15
Rsd 0.4s 13ph/10stn Dmin 71km Az.gap 212°
Corr. -0.543 6M/6stn Msd 0.2 1↓

88/4753
SEP 05 1845 18.0s 44.43S 167.29E 12km M=3.7
0.2 0.01 0.01 R
Rsd 0.1s 16ph/14stn Dmin 152km Az.gap 275°
Corr. -0.660 10M/9stn Msd 0.2 1↓

88/4758
SEP 06 0236 26.7s 39.14S 174.91E 189km M=4.0
0.7 0.02 0.03 6
Rsd 0.2s 24ph/18stn Dmin 56km Az.gap 182°
Corr. 0.044 14M/13stn Msd 0.2 1↓

88/4762
SEP 06 0554 01.3s 40.41S 176.81E 64km M=5.1
0.1 0.01 0.01 3
Rsd 0.1s 35ph/31stn Dmin 74km Az.gap 100°
Corr. -0.734 4M/2stn Msd 0.0 3↑ 4↓
Felt from Napier (52) to Dannevirke (63) max MM5 in (60,62,63). Many stations have large P arrival.

88/4766
SEP 06 0846 27.5s 38.04S 176.46E 135km M=3.7
1.6 0.09 0.11 15
Rsd 0.5s 11ph/9stn Dmin 82km Az.gap 155°
Corr. -0.789 4M/4stn Msd 0.2
Codas of two events mixed here.

88/4775
SEP 06 1927 40.5s 45.15S 167.70E 107km M=3.7
0.2 0.04 0.08 8
Rsd 0.1s 15ph/13stn Dmin 124km Az.gap 254°
Corr. -0.773 8M/8stn Msd 0.1 1↓

88/4776
SEP 06 2002 02.5s 38.21S 176.41E 200km M=3.7
0.4 0.03 0.06 R
Rsd 0.1s 8ph/7stn Dmin 279km Az.gap 347°
Corr. -0.130 2M/2stn Msd 0.3

88/4779
SEP 07 0140 06.1s 37.57S 177.20E 5km M=3.7
0.3 0.02 0.02 R
Rsd 0.4s 7ph/7stn Dmin 4km Az.gap 103°
Corr. 0.239 1M/1stn Msd N.D. 1↑
One of a swarm near White Island.

88/4784
SEP 07 0644 23.2s 37.47S 179.21E 14km M=4.2
0.6 0.03 0.04 3
Rsd 0.2s 10ph/9stn Dmin 82km Az.gap 284°
Corr. -0.254 11M/11stn Msd 0.2 1↑

88/4785
SEP 07 0653 43.2s 37.50S 177.10E 5km M=3.6
0.8 0.05 0.04 R
Rsd 0.4s 6ph/6stn Dmin 9km Az.gap 205°
Corr. -0.605 3M/3stn Msd 0.2
One of a swarm near White Island.

88/4787
SEP 07 0758 28.1s 34.76S 179.35W 118km M=4.8
1.6 0.09 0.16 61
Rsd 0.4s 12ph/9stn Dmin 379km Az.gap 319°
Corr. 0.400 11M/10stn Msd 0.2

88/4792
SEP 07 1135 21.4s 41.99S 173.80E 3km M=3.3
1.0 0.04 0.05 4
Rsd 0.2s 11ph/10stn Dmin 44km Az.gap 321°
Corr. 0.398 8M/8stn Msd 0.1 4↑ 1↓
Felt Blue Mountain (83) MM5.

88/4806
SEP 08 1242 15.8s 45.17S 167.41E 115km M=3.6
0.2 0.01 0.02 2
Rsd 0.1s 22ph/19stn Dmin 68km Az.gap 224°
Corr. -0.375 10M/10stn Msd 0.2 1↑ 1↓

88/4807
SEP 08 1359 32.9s 37.96S 176.07E 194km M=3.7
0.6 0.03 0.04 6
Rsd 0.1s 12ph/11stn Dmin 81km Az.gap 249°
Corr. 0.115 6M/6stn Msd 0.2 1↓

88/4808
SEP 08 1426 54.1s 37.68S 178.65E 33km M=4.4
0.6 0.03 0.05 R
Rsd 0.2s 20ph/20stn Dmin 32km Az.gap 268°
Corr. 0.734 21M/19stn Msd 0.3 4↑1↓

88/4810
SEP 08 2227 40.7s 35.39S 179.07W 131km M=5.4
0.4 0.04 0.03 12
Rsd 0.1s 21ph/21stn Dmin 339km Az.gap 316°
Corr. 0.011 19M/17stn Msd 0.1
T waves on WIZ at 2232.

88/4811
SEP 08 2354 24.9s 38.43S 177.71E 98km M=3.9
0.8 0.03 0.04 8
Rsd 0.3s 13ph/13stn Dmin 36km Az.gap 182°
Corr. 0.149 18M/18stn Msd 0.2 3↑4↓

88/4812
SEP 09 0144 36.2s 38.83S 174.23E 200km M=3.5
0.6 0.06 0.05 R
Rsd 0.1s 10ph/9stn Dmin 226km Az.gap 333°
Corr. 0.762 7M/7stn Msd 0.1

88/4838
SEP 10 2009 37.9s 37.32S 177.33E 108km M=3.8
0.6 0.04 0.05 5
Rsd 0.2s 12ph/8stn Dmin 80km Az.gap 263°
Corr. -0.463 4M/4stn Msd 0.1

88/4839
SEP 11 0018 07.7s 37.18S 176.75E 224km M=4.2
0.8 0.04 0.07 8
Rsd 0.2s 11ph/10stn Dmin 92km Az.gap 264°
Corr. -0.359 17M/17stn Msd 0.2

88/4845
SEP 11 1128 54.0s 37.56S 178.77E 33km M=4.0
0.6 0.04 0.04 R
Rsd 0.2s 9ph/7stn Dmin 42km Az.gap 297°
Corr. 0.543 8M/8stn Msd 0.3 1↑1↓

88/4847
SEP 11 1508 07.5s 40.36S 178.34E 12km M=4.4
0.5 0.02 0.06 R
Rsd 0.4s 35ph/30stn Dmin 157km Az.gap 245°
Corr. -0.727 21M/19stn Msd 0.1 3↑5↓
Long period Pg on many records.

88/4852
SEP 11 1858 19.7s 38.19S 176.24E 5km M=1.7
0.7 0.42 0.15 R
Rsd 0.2s 4ph/3stn Dmin 5km Az.gap 188°
Corr. 0.996 1M/1stn Msd 0.0
Felt Rotorua (33) MM4.

88/4855
SEP 11 2154 08.7s 38.67S 176.45E 213km M=3.6
0.9 0.04 0.07 11
Rsd 0.1s 12ph/11stn Dmin 202km Az.gap 201°
Corr. -0.766 6M/6stn Msd 0.2

88/4860
SEP 12 0431 17.1s 39.92S 173.09E 12km M=3.6
0.3 0.01 0.03 R
Rsd 0.2s 18ph/14stn Dmin 112km Az.gap 217°
Corr. -0.777 11M/11stn Msd 0.2 1↓

88/4863
SEP 12 0829 53.9s 38.56S 175.58E 168km M=4.2
0.5 0.03 0.04 4
Rsd 0.2s 18ph/18stn Dmin 23km Az.gap 157°
Corr. -0.114 18M/18stn Msd 0.2 5↑5↓

88/4868
SEP 12 2304 14.0s 40.46S 174.50E 20km
1.0 0.05 0.09 12
Rsd 0.4s 8ph/7stn Dmin 57km Az.gap 310°
Corr. -0.344 0M/0stn Msd 0.0 1↓
Felt Karori (68).

88/4870
SEP 13 0243 57.6s 37.51S 179.40W 61km M=4.1
1.5 0.08 0.15 43
Rsd 0.3s 9ph/9stn Dmin 203km Az.gap 322°
Corr. 0.222 6M/6stn Msd 0.2 1↑1↓

88/4875
SEP 13 1107 57.3s 41.03S 174.15E 59km M=3.9
0.3 0.02 0.01 5
Rsd 0.3s 18ph/15stn Dmin 22km Az.gap 112°
Corr. -0.184 9M/7stn Msd 0.1 3↑3↓

88/4878
SEP 13 1419 30.6s 41.11S 174.51E 38km M=3.8
0.1 0.01 0.01 2
Rsd 0.3s 19ph/15stn Dmin 21km Az.gap 141°
Corr. -0.077 6M/5stn Msd 0.2 6↑4↓
Felt in Wellington (68), max MM5 in Karori.

88/4879
SEP 13 1523 50.5s 41.10S 174.52E 34km M=3.5
0.1 0.01 0.01 1
Rsd 0.3s 18ph/14stn Dmin 21km Az.gap 141°
Corr. -0.174 9M/8stn Msd 0.1 7↑4↓
Felt Karori (68) MM4.

88/4900
SEP 14 1418 01.2s 35.51S 178.68E 216km M=4.3
0.4 0.06 0.14 5
Rsd 0.1s 6ph/5stn Dmin 235km Az.gap 338°
Corr. -0.443 5M/5stn Msd 0.3

88/4901
SEP 14 1449 12.9s 37.36S 177.66E 152km M=3.6
0.6 0.04 0.05 5
Rsd 0.2s 11ph/11stn Dmin 62km Az.gap 254°
Corr. -0.176 4M/4stn Msd 0.1
GNZ P lost in coda of small event (S-P 60 sec).

88/4902
SEP 14 1515 04.3s 37.19S 176.81E 171km M=3.8
0.4 0.03 0.05 5
Rsd 0.1s 14ph/14stn Dmin 89km Az.gap 264°
Corr. -0.711 12M/12stn Msd 0.2

88/4907
SEP 14 2230 52.6s 38.63S 175.71E 129km M=3.7
0.8 0.03 0.04 7
Rsd 0.4s 18ph/17stn Dmin 10km Az.gap 176°
Corr. -0.064 13M/13stn Msd 0.2 10↑ 3↓

88/4909
SEP 14 2344 05.1s 42.40S 173.88E 27km M=3.8
0.2 0.02 0.01 2
Rsd 0.1s 17ph/15stn Dmin 16km Az.gap 211°
Corr. 0.072 16M/14stn Msd 0.2 7↑ 3↓

88/4914
SEP 15 0913 14.2s 40.59S 175.99E 23km M=3.8
0.2 0.01 0.02 2
Rsd 0.3s 26ph/25stn Dmin 24km Az.gap 116°
Corr. -0.676 21M/19stn Msd 0.2 9↑ 8↓

88/4917
SEP 15 1321 43.4s 39.33S 176.91E 29km M=3.4
0.1 0.01 0.02 1
Rsd 0.3s 31ph/29stn Dmin 19km Az.gap 133°
Corr. -0.020 19M/19stn Msd 0.2 10↑ 6↓
Felt Patoka (52) MM4.

88/4919
SEP 15 1548 31.0s 38.83S 175.26E 271km M=3.8
0.5 0.03 0.05 4
Rsd 0.2s 16ph/14stn Dmin 103km Az.gap 131°
Corr. -0.075 12M/12stn Msd 0.2 2↑ 2↓

88/4923
SEP 15 2028 55.3s 38.33S 176.55E 200km M=3.5
0.3 0.03 0.05 R
Rsd 0.1s 11ph/10stn Dmin 270km Az.gap 344°
Corr. -0.146 4M/4stn Msd 0.1 1↑

88/4926
SEP 15 2358 49.2s 38.28S 176.16E 5km M=1.9
0.0 0.00 0.00 R
Rsd 0.0s 4ph/3stn Dmin 12km Az.gap 295°
Corr. 0.777 1M/1stn Msd 0.0
Felt Rotorua (33) MM4.

88/4968
SEP 17 2351 01.6s 45.08S 167.48E 117km M=3.7
0.1 0.03 0.02 2
Rsd 0.0s 17ph/15stn Dmin 58km Az.gap 286°
Corr. 0.898 8M/8stn Msd 0.1 1↓

88/4988
SEP 18 1608 53.5s 37.62S 176.89E 159km M=4.1
1.1 0.05 0.05 9
Rsd 0.3s 13ph/12stn Dmin 42km Az.gap 241°
Corr. -0.613 17M/17stn Msd 0.2 2↑ 2↓

88/4990
SEP 18 1822 40.8s 37.45S 175.99E 193km M=3.9
0.3 0.03 0.04 3
Rsd 0.1s 15ph/13stn Dmin 107km Az.gap 236°
Corr. -0.758 17M/17stn Msd 0.2 1↑ 4↓

88/5002
SEP 19 0432 25.2s 36.45S 177.07E 230km M=4.0
0.8 0.09 0.11 R
Rsd 0.3s 6ph/5stn Dmin 169km Az.gap 296°
Corr. -0.598 13M/13stn Msd 0.1

88/5008
SEP 19 1255 19.0s 38.38S 175.59E 168km M=3.7
0.6 0.03 0.07 6
Rsd 0.2s 16ph/15stn Dmin 97km Az.gap 287°
Corr. -0.395 14M/14stn Msd 0.2 2↑ 4↓

88/5019
SEP 19 2258 22.4s 43.80S 169.62E 5km M=3.6
0.5 0.03 0.02 R
Rsd 0.2s 15ph/14stn Dmin 71km Az.gap 313°
Corr. 0.122 8M/8stn Msd 0.3 1↑

88/5022
SEP 20 0459 29.9s 37.58S 176.46E 207km M=4.6
0.6 0.05 0.04 5
Rsd 0.3s 20ph/18stn Dmin 65km Az.gap 224°
Corr. -0.660 18M/18stn Msd 0.1 6↑ 2↓

88/5036
SEP 20 2008 15.3s 39.39S 174.96E 217km M=3.8
0.5 0.04 0.05 4
Rsd 0.1s 13ph/12stn Dmin 143km Az.gap 244°
Corr. -0.508 14M/14stn Msd 0.2 7↑ 1↓

88/5046
SEP 21 0535 54.3s 37.11S 176.85E 282km M=4.1
0.6 0.05 0.07 6
Rsd 0.2s 12ph/9stn Dmin 98km Az.gap 269°
Corr. -0.777 15M/15stn Msd 0.1

88/5057
SEP 21 1429 14.1s 33.52S 177.78W 335km M=4.7
0.2 0.10 0.15 10
Rsd 0.1s 13ph/11stn Dmin 575km Az.gap 350°
Corr. -0.941 9M/9stn Msd 0.2

88/5064
SEP 21 1909 36.9s 37.84S 176.28E 23km M=3.5
0.5 0.02 0.05 2
Rsd 0.3s 11ph/11stn Dmin 48km Az.gap 256°
Corr. -0.668 7M/7stn Msd 0.2

88/5071
SEP 22 0602 14.1s 37.72S 176.46E 144km M=3.9
0.4 0.03 0.03 2
Rsd 0.1s 11ph/10stn Dmin 55km Az.gap 241°
Corr. -0.871 18M/18stn Msd 0.1 1↑

88/5076
SEP 22 0911 13.9s 37.73S 175.65E 294km M=4.5
0.7 0.06 0.09 6
Rsd 0.4s 16ph/15stn Dmin 121km Az.gap 250°
Corr. -0.711 13M/13stn Msd 0.1 2↑ 2↓

88/5088
SEP 22 2250 24.6s 38.75S 175.39E 166km M=4.0
0.4 0.06 0.09 11
Rsd 0.3s 22ph/19stn Dmin 125km Az.gap 225°
Corr. -0.961 16M/16stn Msd 0.3 7↑ 2↓

88/5091
SEP 23 0836 24.9s 37.41S 177.67E 78km M=3.5
0.6 0.04 0.02 5
Rsd 0.2s 8ph/7stn Dmin 60km Az.gap 243°
Corr. -0.443 2M/2stn Msd 0.0

88/5106
SEP 24 0513 15.3s 40.91S 177.02E 68km M=3.8
0.4 0.03 0.05 6
Rsd 0.2s 18ph/16stn Dmin 67km Az.gap 248°
Corr. -0.813 16M/16stn Msd 0.2 2↑ 8↓

88/5112
SEP 24 1052 27.5s 37.01S 177.47E 210km M=4.0
0.9 0.07 0.10 6
Rsd 0.3s 12ph/10stn Dmin 98km Az.gap 282°
Corr. -0.297 18M/18stn Msd 0.2 1↑

88/5113
SEP 24 1129 30.7s 37.52S 177.39E 155km M=3.6
0.5 0.03 0.03 4
Rsd 0.2s 14ph/12stn Dmin 63km Az.gap 232°
Corr. -0.220 17M/17stn Msd 0.2 1↑

88/5120
SEP 24 1615 44.6s 37.51S 176.85E 194km M=3.7
0.5 0.04 0.05 4
Rsd 0.2s 14ph/14stn Dmin 54km Az.gap 247°
Corr. -0.213 11M/11stn Msd 0.2

88/5123
SEP 24 1852 43.6s 37.62S 177.50E 85km M=4.4
0.2 0.01 0.01 2
Rsd 0.1s 24ph/18stn Dmin 29km Az.gap 159°
Corr. -0.252 16M/16stn Msd 0.3 4↑ 1↓

88/5146
SEP 26 0323 21.1s 37.05S 177.61E 145km M=4.2
0.7 0.05 0.05 6
Rsd 0.4s 13ph/10stn Dmin 87km Az.gap 279°
Corr. -0.324 18M/18stn Msd 0.2 1↑

88/5154
SEP 26 0809 01.0s 39.87S 176.59E 19km M=3.9
0.2 0.01 0.02 3
Rsd 0.4s 45ph/41stn Dmin 23km Az.gap 82°
Corr. -0.373 17M/17stn Msd 0.2 6↑ 7↓
Felt Mount Vernon (60) MM4.

88/5165
SEP 27 0111 52.2s 37.68S 176.20E 157km M=3.8
0.4 0.04 0.11 15
Rsd 0.2s 15ph/13stn Dmin 185km Az.gap 246°
Corr. -0.910 10M/10stn Msd 0.3

88/5186
SEP 28 0240 39.0s 41.10S 172.68E 211km M=3.7
0.3 0.05 0.02 2
Rsd 0.1s 17ph/13stn Dmin 4km Az.gap 316°
Corr. 0.246 8M/8stn Msd 0.4 6↑ 1↓

88/5194
SEP 28 0834 15.9s 37.73S 176.71E 162km M=3.9
0.8 0.04 0.06 6
Rsd 0.4s 12ph/8stn Dmin 38km Az.gap 247°
Corr. -0.303 17M/17stn Msd 0.3 2↑ 2↓

88/5204
SEP 28 2058 41.8s 36.72S 176.90E 267km M=3.9
1.3 0.07 0.11 12
Rsd 0.4s 10ph/9stn Dmin 158km Az.gap 284°
Corr. -0.334 12M/12stn Msd 0.1 1↑

88/5217
SEP 29 1534 42.3s 45.38S 167.59E 111km M=3.5
0.1 0.01 0.01 1
Rsd 0.1s 20ph/16stn Dmin 45km Az.gap 235°
Corr. -0.723 11M/11stn Msd 0.1 1↓

88/5218
SEP 29 1735 46.0s 38.94S 175.86E 134km M=3.5
0.2 0.02 0.02 2
Rsd 0.2s 20ph/16stn Dmin 24km Az.gap 185°
Corr. -0.256 16M/16stn Msd 0.2 5↑ 3↓

88/5224
SEP 29 2147 59.9s 40.30S 173.66E 175km M=3.8
0.2 0.02 0.03 3
Rsd 0.1s 16ph/13stn Dmin 114km Az.gap 296°
Corr. -0.602 11M/11stn Msd 0.2 4↑ 2↓

88/5230
SEP 30 0656 02.7s 38.29S 176.43E 217km M=3.8
0.1 0.04 0.03 5
Rsd 0.0s 10ph/8stn Dmin 272km Az.gap 344°
Corr. 0.123 3M/3stn Msd 0.1

88/5232
SEP 30 0821 41.1s 41.51S 174.59E 54km M=4.5
0.1 0.01 0.01 1
Rsd 0.1s 19ph/16stn Dmin 26km Az.gap 149°
Corr. -0.432 10M/10stn Msd 0.3 7↑7↓
Felt South Makara MM5, Eastbourne, Khandallah, Tawa (68).

88/5236
SEP 30 1444 47.3s 39.28S 174.77E 201km M=3.9
0.4 0.02 0.03 3
Rsd 0.1s 16ph/13stn Dmin 58km Az.gap 247°
Corr. 0.432 11M/11stn Msd 0.2 1↑3↓

88/5239
SEP 30 1535 50.3s 40.67S 175.91E 38km M=3.8
0.1 0.01 0.01 2
Rsd 0.2s 22ph/19stn Dmin 32km Az.gap 71°
Corr. 0.206 11M/11stn Msd 0.3 4↑4↓

88/5244
SEP 30 1750 27.6s 36.52S 176.70E 268km M=4.0
0.9 0.08 0.19 16
Rsd 0.3s 14ph/11stn Dmin 186km Az.gap 289°
Corr. -0.730 7M/7stn Msd 0.3

88/5246
SEP 30 1957 04.3s 38.74S 175.54E 199km M=3.6
0.2 0.06 0.03 6
Rsd 0.1s 13ph/11stn Dmin 209km Az.gap 322°
Corr. -0.570 8M/8stn Msd 0.1 2↑1↓

88/5248
SEP 30 2329 15.9s 49.65S 167.67E 12km M=4.4
0.3 0.02 0.16 R
Rsd 0.1s 17ph/12stn Dmin 307km Az.gap 339°
Corr. -0.527 8M/8stn Msd 0.1

88/5252
OCT 01 0731 18.2s 42.65S 171.94E 5km M=3.6
0.2 0.01 0.02 R
Rsd 0.2s 18ph/14stn Dmin 46km Az.gap 112°
Corr. -0.072 20M/18stn Msd 0.2 1↓

88/5282
OCT 02 2255 01.4s 35.96S 178.52E 219km M=4.8
2.7 0.09 0.13 20
Rsd 0.2s 18ph/18stn Dmin 182km Az.gap 283°
Corr. 0.785 17M/17stn Msd 0.2 1↑2↓

88/5291
OCT 03 1221 33.2s 37.86S 176.87E 66km M=3.6
0.7 0.12 0.11 3
Rsd 0.3s 8ph/7stn Dmin 17km Az.gap 221°
Corr. -0.969 8M/8stn Msd 0.1 1↓

88/5292
OCT 03 1738 05.1s 45.08S 167.31E 47km M=3.6
0.2 0.02 0.02 8
Rsd 0.1s 21ph/19stn Dmin 80km Az.gap 240°
Corr. -0.824 11M/11stn Msd 0.1 2↑1↓
Possible P to S conversion at TMP.

88/5300
OCT 04 0441 25.5s 37.66S 177.87E 165km M=3.6
0.0 0.00 0.00 0
Rsd 0.0s 4ph/4stn Dmin 39km Az.gap 195°
Corr. -0.520 2M/2stn Msd 0.2 1↓

88/5301
OCT 04 0934 56.7s 40.98S 176.94E 33km M=3.7
0.3 0.02 0.04 4
Rsd 0.1s 22ph/15stn Dmin 61km Az.gap 275°
Corr. 0.268 13M/11stn Msd 0.2 1↑4↓

88/5304
OCT 04 1359 07.8s 45.04S 167.33E 15km M=3.5
0.4 0.01 0.05 4
Rsd 0.1s 15ph/15stn Dmin 84km Az.gap 262°
Corr. -0.203 11M/11stn Msd 0.1 3↑1↓

88/5317
OCT 05 1217 35.9s 40.83S 177.10W 33km M=4.3
0.7 0.07 0.08 R
Rsd 0.1s 5ph/4stn Dmin 483km Az.gap 348°
Corr. 0.523 3M/3stn Msd 0.3

88/5320
OCT 05 1427 23.5s 43.50S 172.61E 33km M=3.4
0.3 0.03 0.04 R
Rsd 0.4s 7ph/7stn Dmin 10km Az.gap 130°
Corr. -0.480 4M/4stn Msd 0.3 1↓
Felt Avonhead (110) MM3, Christchurch (110). KKZ record suggests double banger.

88/5321
OCT 06 0604 13.1s 41.59S 173.63E 70km M=4.4
0.4 0.01 0.02 6
Rsd 0.2s 18ph/17stn Dmin 52km Az.gap 67°
Corr. 0.138 5M/5stn Msd 0.1 7↑9↓
Felt Blenheim (77) and Fighting Bay (78) MM4.

88/5329
OCT 06 1723 15.4s 45.27S 167.71E 143km M=5.0
0.2 0.03 0.09 6
Rsd 0.1s 20ph/19stn Dmin 124km Az.gap 233°
Corr. -0.898 8M/8stn Msd 0.5 8↑1↓

88/5337
OCT 07 0008 09.3s 37.79S 176.00E 215km M=3.5
1.6 0.08 0.14 14
Rsd 0.3s 13ph/12stn Dmin 129km Az.gap 244°
Corr. -0.906 14M/14stn Msd 0.4 1↓

88/5345
OCT 07 0734 20.7s 37.36S 177.39E 199km M=3.9
1.6 0.10 0.15 12
Rsd 0.5s 8ph/6stn Dmin 78km Az.gap 251°
Corr. -0.730 5M/5stn Msd 0.2 1↑1↓

88/5360
OCT 08 1216 06.6s 38.78S 176.64E 53km M=3.6
0.3 0.01 0.01 4
Rsd 0.3s 16ph/16stn Dmin 17km Az.gap 64°
Corr. 0.153 17M/15stn Msd 0.1 3↑6↓

88/5370
OCT 08 2309 38.7s 33.93S 179.49W 228km M=4.4
1.3 0.18 0.30 79
Rsd 0.2s 6ph/4stn Dmin 454km Az.gap 348°
Corr. 0.385 2M/2stn Msd 0.1

88/5384
OCT 09 1902 14.4s 35.98S 178.51E 33km M=4.5
1.3 0.09 0.05 R
Rsd 0.1s 9ph/8stn Dmin 181km Az.gap 333°
Corr. 0.026 20M/18stn Msd 0.1 1↑2↓

88/5387
OCT 10 0239 25.6s 37.86S 176.33E 168km M=4.0
0.7 0.03 0.05 5
Rsd 0.2s 10ph/9stn Dmin 59km Az.gap 236°
Corr. -0.555 15M/15stn Msd 0.1 1↑2↓

88/5396
OCT 10 2037 10.7s 37.31S 177.43E 188km M=3.7
0.8 0.05 0.18 13
Rsd 0.1s 11ph/11stn Dmin 84km Az.gap 262°
Corr. -0.840 4M/4stn Msd 0.1

88/5398
OCT 10 2340 48.2s 36.83S 177.76E 217km M=3.8
1.2 0.07 0.19 13
Rsd 0.2s 10ph/8stn Dmin 98km Az.gap 300°
Corr. -0.594 6M/6stn Msd 0.2

88/5406
OCT 11 1402 59.7s 35.82S 178.57E 219km M=4.5
2.1 0.15 0.14 14
Rsd 0.2s 9ph/8stn Dmin 199km Az.gap 333°
Corr. -0.066 15M/15stn Msd 0.2 1↑

88/5408
OCT 11 1519 24.2s 39.80S 173.10E 33km M=4.3
0.5 0.02 0.05 R
Rsd 0.5s 23ph/19stn Dmin 104km Az.gap 231°
Corr. -0.320 13M/13stn Msd 0.2 1↓

88/5416
OCT 11 2341 25.3s 38.59S 176.05E 1km M=2.4
0.6 0.02 0.01 R
Rsd 0.2s 6ph/5stn Dmin 3km Az.gap 287°
Corr. -0.271 2M/2stn Msd 0.0 1↓
Felt Wairakei (41) MM4.

88/5423
OCT 12 0412 03.7s 44.56S 167.78E 12km M=3.8
0.3 0.02 0.02 R
Rsd 0.1s 17ph/17stn Dmin 131km Az.gap 220°
Corr. -0.688 5M/5stn Msd 0.2 1↑

88/5428
OCT 12 1408 53.5s 37.64S 176.94E 159km M=3.8
0.3 0.02 0.03 2
Rsd 0.2s 11ph/11stn Dmin 39km Az.gap 239°
Corr. -0.385 9M/9stn Msd 0.2 1↑

88/5434
OCT 13 0314 14.7s 43.68S 169.71E 12km M=3.7
0.6 0.04 0.03 R
Rsd 0.2s 10ph/10stn Dmin 78km Az.gap 323°
Corr. 0.535 10M/10stn Msd 0.3 1↓

88/5436
OCT 13 0316 34.9s 43.52S 169.87E 12km M=3.5
0.4 0.03 0.02 R
Rsd 0.1s 10ph/9stn Dmin 91km Az.gap 332°
Corr. 0.363 7M/7stn Msd 0.1 1↑1↓
Felt Mahitahi (104) MM4.

88/5440
OCT 13 1110 38.0s 38.83S 174.85E 175km M=4.0
0.9 0.03 0.08 8
Rsd 0.1s 15ph/13stn Dmin 143km Az.gap 241°
Corr. -0.648 17M/17stn Msd 0.2 1↑

88/5442
OCT 13 1239 13.6s 38.06S 176.17E 190km M=5.1
0.9 0.03 0.03 8
Rsd 0.3s 32ph/30stn Dmin 13km Az.gap 202°
Corr. -0.385 7M/7stn Msd 0.3 9↑12↓

88/5443
OCT 13 1923 26.2s 38.92S 175.77E 189km M=3.7
0.4 0.08 0.05 8
Rsd 0.1s 11ph/9stn Dmin 191km Az.gap 346°
Corr. 0.297 4M/4stn Msd 0.3

88/5445
OCT 13 2346 42.5s 46.33S 166.41E 5km M=4.1
0.4 0.01 0.04 R
Rsd 0.1s 13ph/12stn Dmin 107km Az.gap 297°
Corr. 0.295 10M/10stn Msd 0.1 1↑

88/5447
OCT 14 0116 19.1s 39.37S 175.10E 221km M=3.9
0.3 0.04 0.05 3
Rsd 0.1s 9ph/7stn Dmin 143km Az.gap 328°
Corr. -0.235 4M/4stn Msd 0.2 1↑1↓

88/5448
OCT 14 0238 57.0s 40.09S 176.87E 53km M=3.6
0.4 0.01 0.05 5
Rsd 0.2s 21ph/19stn Dmin 12km Az.gap 189°
Corr. -0.711 15M/15stn Msd 0.1 5↑4↓

88/5450
OCT 14 0827 58.0s 38.51S 176.15E 171km M=3.8
1.0 0.05 0.06 9
Rsd 0.2s 11ph/10stn Dmin 93km Az.gap 208°
Corr. -0.582 11M/11stn Msd 0.4 2↑ 2↓

88/5463
OCT 15 2222 36.4s 44.90S 167.56E 85km M=4.1
0.2 0.04 0.03 6
Rsd 0.1s 18ph/16stn Dmin 97km Az.gap 252°
Corr. -0.926 2M/2stn Msd 0.4 1↑ 6↓

88/5464
OCT 16 0010 22.0s 37.36S 177.52E 161km M=3.9
0.7 0.05 0.04 3
Rsd 0.2s 9ph/9stn Dmin 84km Az.gap 309°
Corr. 0.002 6M/6stn Msd 0.1

88/5465
OCT 16 0204 29.1s 38.82S 175.75E 5km M=2.5
0.2 0.01 0.02 R
Rsd 0.2s 7ph/6stn Dmin 6km Az.gap 171°
Corr. 0.148 4M/4stn Msd 0.6 1↑
Felt Kuratau Junction (40) MM4.

88/5466
OCT 16 0237 19.2s 38.83S 175.72E 10km M=2.7
0.1 0.01 0.02 2
Rsd 0.2s 11ph/11stn Dmin 6km Az.gap 184°
Corr. -0.539 4M/4stn Msd 0.4 1↑ 2↓
Felt Kuratau Junction (40) MM4.

88/5472
OCT 16 0933 46.7s 40.18S 173.70E 169km M=3.9
0.3 0.02 0.04 5
Rsd 0.2s 23ph/18stn Dmin 125km Az.gap 242°
Corr. -0.605 13M/11stn Msd 0.2 5↑ 1↓

88/5475
OCT 16 1648 33.4s 35.93S 178.97E 150km M=4.1
1.8 0.12 0.23 R
Rsd 0.5s 4ph/3stn Dmin 195km Az.gap 338°
Corr. 0.071 3M/3stn Msd 0.2

88/5476
OCT 16 1811 58.5s 46.34S 166.34E 12km M=3.5
0.5 0.01 0.05 R
Rsd 0.2s 9ph/8stn Dmin 112km Az.gap 302°
Corr. 0.204 9M/8stn Msd 0.2

88/5483
OCT 17 0340 35.2s 43.01S 171.43E 4km M=4.0
0.3 0.01 0.01 3
Rsd 0.2s 10ph/10stn Dmin 14km Az.gap 142°
Corr. -0.273 18M/16stn Msd 0.2
Felt Greymouth (85) and Arthur's Pass (93) MM5 and Hokitika (91).

88/5490
OCT 17 0914 34.1s 39.91S 175.10E 13km M=3.8
0.1 0.00 0.01 2
Rsd 0.2s 29ph/25stn Dmin 81km Az.gap 73°
Corr. -0.488 14M/12stn Msd 0.3 1↑
Felt Okoia (57) MM4 and New Plymouth (47) to Masterton (66).

88/5492
OCT 17 1410 21.9s 37.78S 178.53E 32km M=3.6
0.4 0.02 0.04 2
Rsd 0.2s 11ph/10stn Dmin 28km Az.gap 249°
Corr. 0.342 17M/17stn Msd 0.2 1↑

88/5501
OCT 18 0503 24.3s 36.83S 177.61E 33km M=3.6
0.3 0.04 0.09 R
Rsd 0.1s 8ph/7stn Dmin 505km Az.gap 350°
Corr. -0.809 2M/2stn Msd 0.1

88/5503
OCT 18 0636 22.0s 37.79S 177.43E 57km M=3.8
0.3 0.02 0.02 4
Rsd 0.2s 12ph/11stn Dmin 44km Az.gap 187°
Corr. -0.395 15M/15stn Msd 0.1

88/5504
OCT 18 0932 40.5s 38.21S 175.66E 187km M=3.7
0.6 0.06 0.10 13
Rsd 0.2s 17ph/14stn Dmin 212km Az.gap 236°
Corr. -0.938 11M/11stn Msd 0.2 1↑ 1↓

88/5507
OCT 18 1604 54.1s 37.95S 176.09E 185km M=3.9
0.4 0.03 0.05 4
Rsd 0.1s 14ph/13stn Dmin 79km Az.gap 236°
Corr. -0.898 10M/10stn Msd 0.4 3↑ 1↓

88/5518
OCT 19 0415 14.0s 38.57S 176.10E 101km M=3.6
0.8 0.02 0.06 8
Rsd 0.3s 13ph/11stn Dmin 44km Az.gap 177°
Corr. -0.486 7M/7stn Msd 0.1 1↑ 1↓

88/5521
OCT 19 1026 30.8s 38.25S 176.14E 141km M=3.6
0.5 0.11 0.07 24
Rsd 0.1s 9ph/8stn Dmin 269km Az.gap 344°
Corr. -0.629 4M/4stn Msd 0.4 1↓

88/5523
OCT 19 1150 05.7s 38.79S 176.24E 10km M=3.0
0.1 0.01 0.01 2
Rsd 0.3s 20ph/19stn Dmin 17km Az.gap 94°
Corr. -0.093 17M/17stn Msd 0.2 1↑ 4↓
Felt Taupo MM3.

88/5524
OCT 19 2340 26.2s 38.82S 175.75E 7km M=2.9
0.1 0.01 0.01 3
Rsd 0.2s 9ph/9stn Dmin 6km Az.gap 146°
Corr. -0.320 6M/6stn Msd 0.5 2↑1↓
Felt Kuratau (40) MM4.

88/5537
OCT 20 1000 09.5s 39.09S 174.99E 225km M=4.3
0.2 0.01 0.02 2
Rsd 0.1s 25ph/17stn Dmin 49km Az.gap 183°
Corr. 0.059 14M/12stn Msd 0.1 9↑2↓

88/5547
OCT 21 0229 47.3s 44.47S 168.44E 33km M=3.7
0.3 0.02 0.02 R
Rsd 0.1s 17ph/15stn Dmin 94km Az.gap 237°
Corr. -0.734 9M/8stn Msd 0.1 1↓

88/5564
OCT 21 2259 18.8s 36.90S 177.79E 178km M=3.7
1.5 0.09 0.11 11
Rsd 0.4s 10ph/9stn Dmin 90km Az.gap 300°
Corr. 0.134 5M/5stn Msd 0.3

88/5571
OCT 22 1158 46.3s 37.42S 177.54E 104km M=3.5
0.5 0.03 0.03 5
Rsd 0.2s 9ph/7stn Dmin 70km Az.gap 242°
Corr. -0.191 4M/4stn Msd 0.1

88/5576
OCT 22 1708 43.9s 38.62S 176.28E 81km M=4.3
0.4 0.02 0.02 4
Rsd 0.3s 30ph/29stn Dmin 8km Az.gap 81°
Corr. -0.299 16M/14stn Msd 0.2 6↑2↓

88/5578
OCT 23 0018 04.1s 38.76S 176.16E 15km M=4.2
0.1 0.01 0.01 2
Rsd 0.3s 36ph/31stn Dmin 15km Az.gap 37°
Corr. -0.063 28M/28stn Msd 0.2 9↑9↓
Felt Wairakei (41) MM4.

88/5583
OCT 23 1004 38.0s 40.08S 174.32E 94km M=3.6
0.2 0.01 0.02 3
Rsd 0.2s 21ph/16stn Dmin 92km Az.gap 165°
Corr. -0.071 10M/10stn Msd 0.2 2↑2↓

88/5585
OCT 23 1356 48.4s 38.60S 178.08E 52km M=3.7
1.8 0.10 0.11 13
Rsd 0.6s 6ph/5stn Dmin 7km Az.gap 217°
Corr. -0.766 2M/2stn Msd 0.2

88/5593
OCT 24 1213 59.4s 39.16S 176.91E 62km M=3.7
0.1 0.01 0.01 2
Rsd 0.2s 29ph/25stn Dmin 15km Az.gap 102°
Corr. -0.132 17M/17stn Msd 0.2 2↑3↓

88/5599
OCT 24 2023 42.1s 39.78S 179.67E 33km M=3.6
0.5 0.02 0.04 R
Rsd 0.1s 10ph/10stn Dmin 356km Az.gap 323°
Corr. 0.570 5M/5stn Msd 0.2

88/5609
OCT 25 1311 06.7s 38.89S 175.85E 5km M=3.2
0.2 0.01 0.01 5
Rsd 0.2s 11ph/10stn Dmin 7km Az.gap 90°
Corr. -0.375 5M/5stn Msd 0.2 4↑1↓
Felt Omori (41) MM4.

88/5610
OCT 25 1319 14.1s 37.68S 176.54E 139km M=3.8
1.1 0.06 0.05 12
Rsd 0.3s 12ph/11stn Dmin 52km Az.gap 238°
Corr. -0.484 15M/15stn Msd 0.1 1↓

88/5632
OCT 26 0849 05.3s 38.34S 176.19E 190km M=3.5
0.3 0.05 0.17 4
Rsd 0.1s 14ph/11stn Dmin 80km Az.gap 214°
Corr. -0.984 4M/4stn Msd 0.1 1↑

88/5633
OCT 26 0901 24.3s 38.05S 176.50E 222km M=3.7
0.6 0.06 0.09 8
Rsd 0.1s 12ph/10stn Dmin 148km Az.gap 269°
Corr. -0.785 4M/4stn Msd 0.1

88/5642
OCT 26 1903 15.1s 44.43S 167.87E 5km M=3.9
0.2 0.01 0.02 R
Rsd 0.1s 17ph/16stn Dmin 27km Az.gap 257°
Corr. -0.730 8M/8stn Msd 0.2 1↓

88/5655
OCT 28 0649 04.0s 38.70S 176.10E 206km M=3.7
0.2 0.04 0.02 4
Rsd 0.0s 10ph/9stn Dmin 220km Az.gap 341°
Corr. 0.222 6M/6stn Msd 0.3 1↓

88/5660
OCT 28 1037 05.3s 40.24S 174.68E 20km M=3.6
0.2 0.01 0.02 3
Rsd 0.3s 27ph/23stn Dmin 72km Az.gap 138°
Corr. -0.037 17M/15stn Msd 0.2 6↑4↓

88/5670
OCT 28 1842 40.3s 37.02S 176.75E 270km M=4.4
0.9 0.14 0.12 8
Rsd 0.3s 15ph/14stn Dmin 109km Az.gap 270°
Corr. -0.482 18M/18stn Msd 0.1 1↑

88/5672
OCT 28 1858 29.3s 37.81S 176.36E 148km M=3.7
0.2 0.01 0.01 3
Rsd 0.1s 7ph/6stn Dmin 59km Az.gap 235°
Corr. -0.637 14M/14stn Msd 0.3

88/5674
OCT 28 2036 49.9s 37.07S 176.94E 188km M=3.6
0.6 0.07 0.16 18
Rsd 0.1s 9ph/8stn Dmin 199km Az.gap 312°
Corr. -0.879 3M/3stn Msd 0.1

88/5675
OCT 28 2109 57.1s 38.84S 176.52E 59km M=3.9
0.2 0.01 0.01 3
Rsd 0.3s 26ph/25stn Dmin 5km Az.gap 44°
Corr. -0.092 18M/16stn Msd 0.2 6↑ 8↓
Surface wave of teleseism in coda.

88/5680
OCT 29 0048 25.3s 35.41S 179.28E 301km M=4.0
1.0 0.07 0.17 9
Rsd 0.3s 11ph/9stn Dmin 258km Az.gap 342°
Corr. -0.473 7M/7stn Msd 0.1

88/5684
OCT 29 0344 31.6s 37.78S 176.67E 142km M=3.6
0.3 0.02 0.02 2
Rsd 0.1s 12ph/11stn Dmin 36km Az.gap 231°
Corr. -0.473 15M/15stn Msd 0.2 1↑ 3↓

88/5696
OCT 30 0203 23.0s 40.32S 174.26E 84km M=3.8
0.2 0.01 0.02 4
Rsd 0.2s 28ph/22stn Dmin 82km Az.gap 138°
Corr. 0.031 15M/13stn Msd 0.2 1↑

88/5712
OCT 30 1328 08.7s 38.35S 177.77E 33km M=4.1
0.2 0.01 0.02 R
Rsd 0.2s 23ph/21stn Dmin 39km Az.gap 117°
Corr. -0.570 19M/17stn Msd 0.3 2↑ 1↓

88/5713
OCT 30 1402 54.7s 38.37S 177.79E 44km M=3.6
0.2 0.01 0.02 7
Rsd 0.2s 14ph/12stn Dmin 37km Az.gap 118°
Corr. -0.085 12M/12stn Msd 0.2 1↓

88/5730
OCT 31 1144 23.8s 37.84S 177.55E 49km M=3.5
0.2 0.02 0.01 4
Rsd 0.2s 14ph/12stn Dmin 52km Az.gap 176°
Corr. -0.480 8M/8stn Msd 0.2 1↑

88/5748
NOV 01 1158 34.8s 36.93S 177.47E 12km M=3.6
4.2 0.36 0.14 25
Rsd 0.8s 5ph/4stn Dmin 70km Az.gap 294°
Corr. -0.754 2M/2stn Msd 0.4 1↓

88/5750
NOV 01 1227 12.3s 33.93S 178.58E 378km M=4.1
1.8 0.10 0.39 13
Rsd 0.2s 9ph/8stn Dmin 472km Az.gap 341°
Corr. -0.082 5M/5stn Msd 0.2

88/5767
NOV 02 0722 42.0s 41.55S 176.65E 33km M=3.7
0.4 0.02 0.04 R
Rsd 0.2s 24ph/16stn Dmin 100km Az.gap 243°
Corr. -0.512 22M/20stn Msd 0.2 3↑ 2↓

88/5770
NOV 02 1611 53.4s 38.31S 175.95E 169km M=4.1
0.5 0.03 0.04 4
Rsd 0.3s 23ph/13stn Dmin 80km Az.gap 208°
Corr. -0.200 18M/18stn Msd 0.3 4↑ 7↓

88/5776
NOV 03 1512 35.2s 37.62S 176.46E 227km M=4.7
0.6 0.02 0.02 6
Rsd 0.2s 23ph/19stn Dmin 62km Az.gap 120°
Corr. -0.177 19M/17stn Msd 0.2 7↑ 3↓

88/5778
NOV 03 1735 01.3s 37.20S 177.06E 171km M=4.2
0.8 0.05 0.05 6
Rsd 0.3s 12ph/9stn Dmin 87km Az.gap 262°
Corr. -0.285 16M/16stn Msd 0.3 4↑ 1↓

88/5796
NOV 05 0315 32.4s 36.13S 178.18E 190km M=4.4
0.6 0.02 0.04 6
Rsd 0.1s 23ph/21stn Dmin 164km Az.gap 269°
Corr. 0.645 16M/16stn Msd 0.1 1↑

88/5803
NOV 05 0605 35.2s 37.52S 176.93E 141km M=3.9
0.5 0.02 0.02 7
Rsd 0.1s 20ph/17stn Dmin 88km Az.gap 137°
Corr. -0.083 15M/15stn Msd 0.2 1↑

88/5807
NOV 05 0926 57.1s 40.12S 173.81E 216km M=3.8
0.2 0.02 0.04 3
Rsd 0.1s 19ph/14stn Dmin 124km Az.gap 246°
Corr. -0.684 12M/12stn Msd 0.2 3↑ 3↓

88/5822
NOV 06 0900 29.7s 37.06S 177.18E 5km M=4.1
0.3 0.02 0.03 R
Rsd 0.4s 7ph/5stn Dmin 52km Az.gap 180°
Corr. 0.477 2M/2stn Msd 0.1 1↑

88/5825
NOV 06 1027 36.5s 37.04S 177.19E 5km M=3.6
0.4 0.04 0.04 R
Rsd 0.4s 7ph/5stn Dmin 55km Az.gap 183°
Corr. 0.582 4M/4stn Msd 0.0

88/5829
NOV 06 1638 35.4s 37.91S 176.55E 108km M=4.4
0.6 0.03 0.03 6
Rsd 0.3s 20ph/17stn Dmin 36km Az.gap 105°
Corr. -0.594 15M/13stn Msd 0.1 4↑4↓

88/5838
NOV 07 0730 09.6s 38.55S 177.94E 13km M=3.8
0.2 0.01 0.02 4
Rsd 0.2s 17ph/16stn Dmin 12km Az.gap 129°
Corr. -0.246 17M/16stn Msd 0.3 1↓
Felt Ormond (44) MM4.

88/5842
NOV 07 1451 32.3s 45.45S 167.07E 72km M=4.0
0.2 0.01 0.02 2
Rsd 0.1s 19ph/12stn Dmin 52km Az.gap 244°
Corr. -0.279 8M/8stn Msd 0.2 3↑4↓

88/5847
NOV 07 2008 57.0s 40.28S 176.31E 61km M=3.1
0.2 0.01 0.02 2
Rsd 0.2s 25ph/15stn Dmin 38km Az.gap 203°
Corr. -0.155 9M/9stn Msd 0.2 3↑1↓
Felt Waipukurau (60) MM4.

88/5848
NOV 07 2116 35.8s 38.97S 175.16E 204km M=4.0
0.3 0.02 0.02 2
Rsd 0.2s 31ph/23stn Dmin 33km Az.gap 166°
Corr. 0.043 21M/19stn Msd 0.2 8↑1↓

88/5858
NOV 08 0757 55.5s 40.35S 179.12E 33km M=3.8
1.0 0.05 0.09 R
Rsd 0.5s 25ph/20stn Dmin 201km Az.gap 262°
Corr. -0.641 22M/20stn Msd 0.2

88/5871
NOV 08 2209 46.8s 37.24S 177.57E 137km M=4.0
0.6 0.03 0.03 6
Rsd 0.2s 12ph/10stn Dmin 76km Az.gap 253°
Corr. -0.162 18M/18stn Msd 0.1 1↑1↓

88/5879
NOV 09 0940 31.1s 37.57S 176.76E 159km M=3.6
1.0 0.05 0.04 9
Rsd 0.2s 13ph/11stn Dmin 51km Az.gap 236°
Corr. -0.330 15M/15stn Msd 0.1

88/5884
NOV 09 1422 02.6s 34.54S 178.77E 318km M=4.0
0.4 0.06 0.11 7
Rsd 0.1s 10ph/9stn Dmin 414km Az.gap 341°
Corr. -0.684 4M/4stn Msd 0.2

88/5903
NOV 10 0246 55.7s 38.72S 175.69E 185km M=3.7
0.5 0.03 0.04 4
Rsd 0.1s 19ph/15stn Dmin 50km Az.gap 280°
Corr. 0.406 10M/10stn Msd 0.2 1↑

88/5904
NOV 10 0324 30.9s 38.58S 176.10E 100km M=4.6
0.4 0.02 0.02 4
Rsd 0.3s 37ph/33stn Dmin 4km Az.gap 127°
Corr. -0.320 17M/15stn Msd 0.1 23↑8↓

88/5917
NOV 10 1725 16.0s 38.54S 176.15E 93km M=3.9
0.7 0.02 0.04 7
Rsd 0.4s 26ph/22stn Dmin 13km Az.gap 125°
Corr. -0.475 21M/19stn Msd 0.2 4↑1↓

88/5922
NOV 10 2119 41.3s 40.00S 175.29E 21km M=3.8
0.1 0.01 0.02 2
Rsd 0.3s 25ph/20stn Dmin 71km Az.gap 68°
Corr. -0.299 22M/20stn Msd 0.2 1↑1↓
Felt Wanganui (57) MM4.

88/5930
NOV 11 0935 57.1s 38.59S 175.82E 189km M=3.6
0.6 0.03 0.04 5
Rsd 0.1s 17ph/15stn Dmin 68km Az.gap 230°
Corr. -0.469 11M/11stn Msd 0.1 3↑1↓

88/5936
NOV 11 1422 35.8s 37.17S 177.02E 149km M=3.6
1.4 0.09 0.11 11
Rsd 0.4s 8ph/5stn Dmin 91km Az.gap 266°
Corr. -0.273 5M/5stn Msd 0.2 1↓

88/5937
NOV 11 1525 21.3s 38.59S 175.77E 151km M=3.7
1.0 0.04 0.05 8
Rsd 0.4s 19ph/16stn Dmin 14km Az.gap 157°
Corr. -0.104 17M/17stn Msd 0.2 1↑

88/5958
NOV 12 1417 40.8s 37.05S 176.81E 201km M=3.7
0.4 0.02 0.03 4
Rsd 0.1s 12ph/10stn Dmin 105km Az.gap 270°
Corr. -0.150 9M/9stn Msd 0.2

88/5977
NOV 13 0802 53.1s 40.93S 173.14E 222km M=3.6
0.2 0.03 0.03 2
Rsd 0.1s 16ph/11stn Dmin 101km Az.gap 195°
Corr. -0.281 12M/12stn Msd 0.2 10↑ 1↓

88/5992
NOV 14 0436 06.0s 38.64S 178.12E 52km M=4.0
1.0 0.05 0.05 8
Rsd 0.4s 6ph/4stn Dmin 8km Az.gap 261°
Corr. -0.488 2M/2stn Msd 0.2 1↓

88/6000
NOV 14 1052 33.1s 37.24S 178.98E 12km M=3.8
0.6 0.02 0.06 R
Rsd 0.2s 10ph/7stn Dmin 72km Az.gap 279°
Corr. 0.117 4M/4stn Msd 0.3 1↓

88/6005
NOV 14 1524 57.3s 39.63S 174.37E 224km M=3.5
0.6 0.02 0.07 5
Rsd 0.1s 16ph/12stn Dmin 112km Az.gap 242°
Corr. -0.707 9M/9stn Msd 0.3 1↑

88/6006
NOV 14 1552 29.9s 37.48S 176.06E 269km M=3.9
0.1 0.01 0.03 1
Rsd 0.0s 11ph/8stn Dmin 99km Az.gap 285°
Corr. -0.014 16M/16stn Msd 0.2

88/6008
NOV 14 1755 22.0s 41.07S 174.10E 68km M=3.8
0.2 0.02 0.02 4
Rsd 0.2s 22ph/17stn Dmin 22km Az.gap 92°
Corr. -0.520 13M/11stn Msd 0.2 4↑ 4↓

88/6015
NOV 15 0118 13.9s 39.65S 178.76E 150km M=3.6
0.4 0.08 0.08 17
Rsd 0.1s 8ph/5stn Dmin 231km Az.gap 289°
Corr. -0.957 2M/2stn Msd 0.2

88/6017
NOV 15 0517 31.2s 37.90S 177.29E 58km M=4.2
0.3 0.02 0.02 3
Rsd 0.2s 26ph/24stn Dmin 29km Az.gap 115°
Corr. -0.078 19M/17stn Msd 0.1 2↑ 4↓

88/6018
NOV 15 0524 22.5s 35.61S 179.16E 106km M=5.4
1.3 0.06 0.09 14
Rsd 0.2s 19ph/18stn Dmin 233km Az.gap 301°
Corr. 0.738 14M/14stn Msd 0.2 4↑ 5↓

88/6020
NOV 15 0703 19.9s 38.38S 175.76E 195km M=4.0
0.7 0.05 0.06 5
Rsd 0.2s 18ph/17stn Dmin 36km Az.gap 283°
Corr. 0.439 17M/17stn Msd 0.3 4↑ 2↓

88/6021
NOV 15 1023 35.8s 35.78S 178.90E 90km M=4.2
2.4 0.12 0.17 17
Rsd 0.3s 10ph/9stn Dmin 209km Az.gap 295°
Corr. 0.832 13M/13stn Msd 0.2 1↓

88/6025
NOV 15 1704 28.5s 39.27S 175.09E 30km M=4.1
0.3 0.02 0.03 2
Rsd 0.3s 30ph/26stn Dmin 41km Az.gap 129°
Corr. -0.264 28M/26stn Msd 0.2 3↑ 5↓
Felt Central North Island, max MM4 at Moawhango (58).

88/6035
NOV 16 0720 23.1s 41.50S 178.31E 38km M=5.4
0.4 0.02 0.04 59
Rsd 0.3s 52ph/41stn Dmin 187km Az.gap 230°
Corr. -0.730 5M/5stn Msd 0.3 5↑ 5↓
Felt Wellington (68) MM3.

88/6080
NOV 17 1926 05.7s 38.73S 178.01E 81km M=3.8
0.5 0.02 0.04 6
Rsd 0.3s 18ph/14stn Dmin 10km Az.gap 203°
Corr. -0.602 15M/15stn Msd 0.3

88/6083
NOV 17 2059 54.8s 39.29S 177.73E 61km M=4.4
0.2 0.01 0.02 2
Rsd 0.1s 29ph/23stn Dmin 53km Az.gap 204°
Corr. -0.479 14M/14stn Msd 0.1 5↑ 13↓

88/6089
NOV 18 0539 37.0s 37.96S 177.31E 175km M=4.0
0.6 0.04 0.05 4
Rsd 0.2s 8ph/6stn Dmin 29km Az.gap 162°
Corr. -0.719 13M/13stn Msd 0.2

88/6112
NOV 19 1102 38.3s 37.53S 177.49E 164km M=3.5
0.3 0.03 0.09 2
Rsd 0.0s 11ph/8stn Dmin 68km Az.gap 341°
Corr. -0.848 4M/4stn Msd 0.1

88/6113
NOV 19 1158 39.7s 37.97S 178.34E 83km M=4.6
0.9 0.03 0.05 9
Rsd 0.2s 25ph/24stn Dmin 41km Az.gap 215°
Corr. 0.122 14M/14stn Msd 0.2 5↑ 1↓

88/6123
NOV 19 2203 15.0s 39.54S 174.46E 203km M=3.9
0.2 0.01 0.02 2
Rsd 0.1s 20ph/14stn Dmin 43km Az.gap 129°
Corr. 0.268 11M/11stn Msd 0.2 1↑

88/6129
NOV 20 0803 18.7s 32.91S 179.28W 235km M=4.9
0.2 0.01 0.02 4
Rsd 0.1s 10ph/7stn Dmin 565km Az.gap 331°
Corr. 0.211 13M/13stn Msd 0.2

88/6130
NOV 20 0815 20.6s 37.92S 175.91E 171km M=3.6
0.7 0.04 0.07 6
Rsd 0.2s 13ph/12stn Dmin 119km Az.gap 314°
Corr. -0.543 7M/7stn Msd 0.1 1↑ 5↓

88/6132
NOV 20 0953 25.8s 38.96S 175.75E 224km M=3.6
0.2 0.05 0.03 3
Rsd 0.1s 12ph/10stn Dmin 186km Az.gap 321°
Corr. -0.730 7M/7stn Msd 0.1

88/6139
NOV 20 1611 48.8s 39.02S 175.36E 118km M=5.5
0.4 0.01 0.02 4
Rsd 0.3s 45ph/34stn Dmin 25km Az.gap 93°
Corr. -0.194 4M/4stn Msd 0.4 25↑ 13↓
Felt Central North Island, max MM5 at Moawhango (58).

88/6142
NOV 20 1938 35.7s 38.84S 175.47E 192km M=3.6
0.3 0.03 0.03 3
Rsd 0.1s 22ph/15stn Dmin 114km Az.gap 266°
Corr. -0.676 15M/15stn Msd 0.3 4↑ 4↓

88/6146
NOV 21 0018 15.6s 36.45S 177.77E 262km M=3.7
1.1 0.35 0.17 78
Rsd 0.1s 10ph/8stn Dmin 504km Az.gap 351°
Corr. -0.069 7M/7stn Msd 0.1

88/6160
NOV 21 1346 26.9s 37.81S 176.13E 285km M=4.9
1.2 0.07 0.09 9
Rsd 0.4s 17ph/13stn Dmin 42km Az.gap 188°
Corr. -0.003 18M/18stn Msd 0.3 5↑ 5↓

88/6163
NOV 21 1949 35.8s 36.03S 178.02E 245km M=5.0
0.5 0.04 0.04 5
Rsd 0.2s 28ph/20stn Dmin 176km Az.gap 306°
Corr. -0.030 17M/17stn Msd 0.1 3↑ 5↓

88/6170
NOV 22 0046 49.1s 38.62S 175.95E 194km M=3.5
0.3 0.05 0.04 7
Rsd 0.1s 13ph/11stn Dmin 223km Az.gap 327°
Corr. -0.715 9M/9stn Msd 0.1

88/6183
NOV 22 0755 09.3s 34.80S 178.18W 256km M=5.3
4.6 0.20 0.36 20
Rsd 0.2s 15ph/15stn Dmin 443km Az.gap 322°
Corr. 0.969 18M/18stn Msd 0.2

88/6189
NOV 22 1120 59.3s 35.67S 178.52E 203km M=4.7
0.7 0.05 0.06 8
Rsd 0.3s 19ph/16stn Dmin 215km Az.gap 288°
Corr. 0.629 17M/17stn Msd 0.1

88/6191
NOV 22 1149 55.6s 37.71S 176.15E 303km M=4.4
0.6 0.05 0.06 5
Rsd 0.3s 19ph/14stn Dmin 52km Az.gap 201°
Corr. 0.012 19M/19stn Msd 0.1 4↑ 3↓

88/6202
NOV 22 2143 33.9s 41.51S 173.84E 45km M=3.7
0.1 0.01 0.01 2
Rsd 0.2s 21ph/16stn Dmin 41km Az.gap 109°
Corr. -0.081 10M/10stn Msd 0.3 4↑ 2↓

88/6203
NOV 22 2215 02.1s 36.35S 177.81E 259km M=3.9
0.3 0.11 0.16 13
Rsd 0.1s 12ph/10stn Dmin 256km Az.gap 327°
Corr. -0.977 5M/5stn Msd 0.3

88/6205
NOV 22 2353 44.5s 37.44S 177.37E 157km M=3.9
0.8 0.04 0.05 7
Rsd 0.3s 11ph/9stn Dmin 84km Az.gap 241°
Corr. -0.124 18M/18stn Msd 0.2 1↑

88/6221
NOV 23 1454 37.5s 37.82S 176.42E 184km M=3.6
0.7 0.05 0.06 6
Rsd 0.3s 15ph/10stn Dmin 118km Az.gap 279°
Corr. -0.428 16M/16stn Msd 0.2 4↑ 2↓

88/6233
NOV 23 2311 18.3s 49.05S 164.95E 12km M=3.7
0.5 0.05 0.11 R
Rsd 0.2s 13ph/8stn Dmin 413km Az.gap 347°
Corr. -0.652 7M/7stn Msd 0.1

88/6243
NOV 24 1037 17.2s 42.64S 172.98E 33km M=3.6
0.1 0.01 0.01 R
Rsd 0.1s 25ph/16stn Dmin 64km Az.gap 127°
Corr. -0.289 16M/16stn Msd 0.2 1↓

88/6244
NOV 24 1046 13.6s 45.13S 167.68E 12km M=3.5
0.1 0.01 0.01 R
Rsd 0.2s 22ph/12stn Dmin 54km Az.gap 191°
Corr. -0.430 12M/12stn Msd 0.2 1↑

88/6245
NOV 24 1116 23.2s 37.73S 176.46E 193km M=3.7
2.5 0.11 0.13 21
Rsd 0.6s 9ph/8stn Dmin 55km Az.gap 277°
Corr. -0.005 13M/13stn Msd 0.2

88/6277
NOV 25 2228 12.9s 38.24S 175.82E 152km M=3.9
0.5 0.04 0.04 4
Rsd 0.2s 10ph/8stn Dmin 93km Az.gap 282°
Corr. -0.206 17M/17stn Msd 0.3 3↑ 3↓

88/6283
NOV 26 0126 03.3s 33.83S 177.41E 200km M=4.4
0.5 0.04 0.03 R
Rsd 0.1s 11ph/10stn Dmin 426km Az.gap 331°
Corr. -0.013 10M/10stn Msd 0.2

88/6285
NOV 26 0629 33.8s 37.67S 178.14E 75km M=3.8
0.2 0.02 0.02 2
Rsd 0.1s 18ph/16stn Dmin 16km Az.gap 159°
Corr. -0.234 15M/15stn Msd 0.2 1↑

88/6288
NOV 26 1049 26.2s 38.82S 175.21E 232km M=4.1
0.9 0.05 0.04 8
Rsd 0.3s 20ph/15stn Dmin 51km Az.gap 210°
Corr. -0.200 17M/17stn Msd 0.2 11↑ 6↓

88/6301
NOV 27 0204 08.1s 39.14S 167.13E 33km M=4.5
0.8 0.05 0.11 R
Rsd 0.3s 14ph/10stn Dmin 618km Az.gap 342°
Corr. -0.168 9M/9stn Msd 0.2

88/6302
NOV 27 0241 35.4s 38.71S 176.22E 14km M=3.6
0.1 0.01 0.01 2
Rsd 0.3s 31ph/27stn Dmin 14km Az.gap 63°
Corr. 0.230 21M/21stn Msd 0.2 6↑ 4↓

88/6313
NOV 27 0813 12.0s 37.70S 176.44E 172km M=3.7
1.3 0.08 0.13 11
Rsd 0.4s 11ph/10stn Dmin 132km Az.gap 242°
Corr. -0.887 15M/15stn Msd 0.2 1↑

88/6326
NOV 27 1811 17.5s 44.65S 168.13E 12km M=3.5
0.1 0.01 0.01 R
Rsd 0.1s 18ph/11stn Dmin 17km Az.gap 174°
Corr. -0.203 9M/9stn Msd 0.2 1↓

88/6328
NOV 27 2025 48.2s 37.08S 176.91E 305km M=3.6
0.2 0.08 0.06 10
Rsd 0.0s 12ph/9stn Dmin 412km Az.gap 349°
Corr. -0.516 6M/6stn Msd 0.1

88/6332
NOV 27 2231 11.7s 38.38S 175.86E 160km M=4.9
0.4 0.02 0.04 4
Rsd 0.3s 29ph/24stn Dmin 32km Az.gap 98°
Corr. 0.516 10M/10stn Msd 0.3 16↑ 11↓

88/6334
NOV 27 2359 56.8s 34.22S 177.43W 125km M=5.5
0.8 0.07 0.14 50
Rsd 0.1s 10ph/8stn Dmin 538km Az.gap 341°
Corr. -0.715 17M/17stn Msd 0.2

88/6336
NOV 28 0058 53.7s 38.68S 175.67E 157km M=3.6
0.2 0.01 0.04 1
Rsd 0.1s 17ph/12stn Dmin 54km Az.gap 323°
Corr. -0.385 10M/10stn Msd 0.2 1↓

88/6343
NOV 28 0800 26.1s 44.76S 167.21E 33km M=4.0
0.2 0.01 0.02 R
Rsd 0.1s 16ph/10stn Dmin 116km Az.gap 272°
Corr. -0.750 8M/8stn Msd 0.1

88/6352
NOV 28 1512 04.7s 38.15S 175.82E 276km M=3.7
0.4 0.05 0.09 6
Rsd 0.1s 16ph/13stn Dmin 178km Az.gap 310°
Corr. -0.914 8M/8stn Msd 0.1

88/6357
NOV 28 1958 46.0s 36.99S 176.40E 281km M=3.9
2.5 0.13 0.09 16
Rsd 0.1s 14ph/13stn Dmin 215km Az.gap 324°
Corr. -0.164 10M/10stn Msd 0.4

88/6359
NOV 28 2233 14.5s 45.17S 167.50E 130km M=3.7
0.1 0.01 0.01 1
Rsd 0.1s 19ph/10stn Dmin 68km Az.gap 249°
Corr. -0.789 9M/9stn Msd 0.2 1↑

88/6361
NOV 29 0016 38.8s 38.13S 176.17E 203km M=3.9
1.2 0.06 0.11 9
Rsd 0.4s 12ph/10stn Dmin 88km Az.gap 228°
Corr. -0.844 17M/17stn Msd 0.1 1↑ 1↓

88/6364
NOV 29 0052 18.2s 40.34S 174.20E 86km M=3.8
0.3 0.01 0.01 4
Rsd 0.2s 25ph/16stn Dmin 84km Az.gap 120°
Corr. -0.008 9M/9stn Msd 0.1 8↑ 1↓

88/6365
NOV 29 0123 55.0s 41.38S 173.01E 103km M=3.7
0.4 0.04 0.03 4
Rsd 0.2s 19ph/13stn Dmin 40km Az.gap 211°
Corr. 0.256 11M/11stn Msd 0.2 1↑

88/6366
NOV 29 0225 20.8s 37.99S 175.93E 224km M=4.0
0.5 0.05 0.07 6
Rsd 0.3s 13ph/10stn Dmin 111km Az.gap 238°
Corr. -0.766 18M/18stn Msd 0.2

88/6369
NOV 29 0358 18.5s 44.60S 168.29E 12km M=3.8
0.2 0.01 0.01 R
Rsd 0.1s 17ph/11stn Dmin 94km Az.gap 235°
Corr. -0.652 7M/7stn Msd 0.1 1↓

88/6375
NOV 29 0727 14.9s 35.15S 178.36E 342km M=3.7
1.3 0.35 0.20 78
Rsd 0.1s 10ph/8stn Dmin 658km Az.gap 353°
Corr. -0.629 1M/1stn Msd N.D.

88/6381
NOV 29 1205 22.7s 38.66S 177.42E 78km M=4.1
0.3 0.01 0.01 3
Rsd 0.2s 31ph/22stn Dmin 53km Az.gap 111°
Corr. -0.398 16M/16stn Msd 0.2 5↑7↓

88/6396
NOV 30 0541 58.3s 36.89S 176.20E 337km M=4.2
0.8 0.05 0.11 8
Rsd 0.2s 11ph/10stn Dmin 141km Az.gap 262°
Corr. -0.656 15M/15stn Msd 0.2 1↓

88/6405
NOV 30 1430 43.9s 35.83S 177.73E 33km M=4.4
0.2 0.01 0.01 R
Rsd 0.0s 11ph/7stn Dmin 203km Az.gap 311°
Corr. -0.287 10M/10stn Msd 0.1

88/6412
NOV 30 2058 06.7s 40.41S 176.91E 40km M=4.1
0.1 0.01 0.01 4
Rsd 0.1s 32ph/23stn Dmin 48km Az.gap 202°
Corr. -0.586 17M/17stn Msd 0.2 8↑2↓

88/6421
DEC 01 0318 52.4s 37.36S 179.30E 12km M=3.8
0.4 0.04 0.02 R
Rsd 0.1s 11ph/9stn Dmin 92km Az.gap 286°
Corr. -0.264 8M/8stn Msd 0.2 1↑

88/6440
DEC 01 2343 27.3s 35.76S 178.62E 12km M=4.1
2.0 0.09 0.16 R
Rsd 0.4s 8ph/6stn Dmin 206km Az.gap 289°
Corr. 0.887 11M/11stn Msd 0.2

88/6441
DEC 02 0046 02.6s 35.89S 179.00E 100km M=4.9
0.8 0.06 0.07 11
Rsd 0.2s 17ph/15stn Dmin 200km Az.gap 294°
Corr. 0.457 18M/16stn Msd 0.2 1↑2↓

88/6464
DEC 02 1811 39.5s 39.16S 174.78E 267km M=4.1
0.6 0.03 0.07 5
Rsd 0.3s 28ph/22stn Dmin 60km Az.gap 128°
Corr. 0.029 16M/16stn Msd 0.3 4↑3↓

88/6470
DEC 03 0016 17.5s 38.65S 175.62E 180km M=3.8
0.4 0.03 0.04 4
Rsd 0.2s 15ph/10stn Dmin 28km Az.gap 289°
Corr. 0.434 14M/14stn Msd 0.2 1↑1↓

88/6487
DEC 03 1030 34.2s 39.20S 174.97E 221km M=3.5
0.4 0.02 0.04 3
Rsd 0.2s 21ph/15stn Dmin 55km Az.gap 148°
Corr. -0.277 11M/11stn Msd 0.2 3↑1↓

88/6488
DEC 03 1107 34.3s 37.18S 176.99E 254km M=3.9
0.8 0.05 0.09 9
Rsd 0.2s 8ph/7stn Dmin 89km Az.gap 265°
Corr. -0.648 15M/15stn Msd 0.1

88/6508
DEC 04 0057 22.6s 36.46S 177.97E 168km M=3.9
1.5 0.07 0.13 17
Rsd 0.3s 6ph/5stn Dmin 130km Az.gap 313°
Corr. -0.326 10M/10stn Msd 0.1

88/6512
DEC 04 0533 45.1s 39.96S 173.22E 5km M=3.6
0.4 0.02 0.03 R
Rsd 0.1s 16ph/13stn Dmin 166km Az.gap 271°
Corr. -0.271 13M/11stn Msd 0.1

88/6522
DEC 04 1424 15.4s 38.19S 176.27E 2km
0.6 0.27 0.09 R
Rsd 0.6s 4ph/3stn Dmin 7km Az.gap 182°
Corr. 0.949 0M/0stn Msd 0.0 1↑
Felt Rotorua (33) MM4.

88/6532
DEC 04 2233 03.3s 37.40S 179.01W 111km M=4.2
0.7 0.05 0.08 14
Rsd 0.2s 9ph/6stn Dmin 239km Az.gap 321°
Corr. -0.645 15M/15stn Msd 0.1

88/6537
DEC 04 2332 47.9s 34.93S 179.06E 319km M=4.2
0.9 0.07 0.11 10
Rsd 0.2s 10ph/7stn Dmin 304km Az.gap 344°
Corr. -0.797 16M/16stn Msd 0.4

88/6538
DEC 05 0219 26.1s 36.60S 177.57E 212km M=4.0
0.4 0.03 0.06 4
Rsd 0.1s 11ph/9stn Dmin 129km Az.gap 302°
Corr. -0.355 18M/18stn Msd 0.2

88/6557
DEC 05 1416 22.3s 38.18S 176.19E 33km
0.0 ND ND R
Rsd 0.0s 2ph/1stn Dmin 0km Az.gap 257°
Corr. 0.000 0M/0stn Msd 0.0 1↑
Felt Rotorua (33) MM4.

88/6559
DEC 05 1446 50.8s 37.61S 176.64E 201km M=3.9
1.0 0.04 0.07 9
Rsd 0.4s 10ph/8stn Dmin 52km Az.gap 244°
Corr. -0.316 13M/13stn Msd 0.1 1↑

88/6562
DEC 05 1615 42.2s 38.58S 175.70E 181km M=3.8
0.3 0.01 0.05 3
Rsd 0.1s 18ph/15stn Dmin 49km Az.gap 326°
Corr. -0.083 10M/10stn Msd 0.2 2↑ 2↓

88/6563
DEC 05 1701 57.2s 38.91S 175.20E 215km M=3.6
0.2 0.01 0.04 2
Rsd 0.1s 18ph/13stn Dmin 44km Az.gap 294°
Corr. -0.047 9M/9stn Msd 0.2 1↑ 2↓

88/6569
DEC 05 2114 28.5s 42.05S 173.44E 55km M=3.8
0.2 0.02 0.02 4
Rsd 0.2s 20ph/16stn Dmin 46km Az.gap 86°
Corr. 0.181 9M/9stn Msd 0.1 6↑ 3↓

88/6582
DEC 06 1246 02.2s 35.30S 179.09E 270km M=4.6
0.6 0.05 0.06 6
Rsd 0.2s 17ph/15stn Dmin 265km Az.gap 328°
Corr. 0.096 17M/17stn Msd 0.2

88/6589
DEC 07 0124 02.4s 37.81S 176.29E 187km M=4.2
1.0 0.04 0.05 8
Rsd 0.2s 14ph/13stn Dmin 120km Az.gap 239°
Corr. -0.758 16M/16stn Msd 0.2 2↑ 3↓

88/6591
DEC 07 0511 39.6s 40.74S 175.56E 30km M=3.5
0.1 0.01 0.01 1
Rsd 0.2s 21ph/15stn Dmin 15km Az.gap 108°
Corr. -0.523 10M/9stn Msd 0.3 4↑ 5↓

88/6595
DEC 07 0942 10.1s 39.29S 179.46E 33km M=3.8
0.9 0.03 0.09 R
Rsd 0.3s 16ph/12stn Dmin 144km Az.gap 263°
Corr. -0.504 16M/16stn Msd 0.2

88/6631
DEC 08 1843 27.7s 36.96S 177.48E 212km M=3.5
0.6 0.06 0.09 8
Rsd 0.1s 13ph/11stn Dmin 122km Az.gap 317°
Corr. -0.730 7M/7stn Msd 0.2

88/6634
DEC 08 2013 33.2s 36.59S 177.11E 272km M=4.3
1.0 0.06 0.05 9
Rsd 0.2s 14ph/12stn Dmin 154km Az.gap 274°
Corr. 0.393 18M/18stn Msd 0.1

88/6635
DEC 08 2050 32.6s 38.18S 175.74E 179km M=3.6
0.3 0.01 0.03 3
Rsd 0.1s 14ph/10stn Dmin 112km Az.gap 235°
Corr. -0.719 14M/14stn Msd 0.2

88/6654
DEC 09 1620 11.4s 39.07S 173.85E 5km M=3.7
0.4 0.02 0.03 R
Rsd 0.1s 15ph/10stn Dmin 31km Az.gap 276°
Corr. -0.170 12M/12stn Msd 0.1

88/6659
DEC 10 0007 52.4s 36.23S 177.31E 169km M=3.8
0.7 0.11 0.20 17
Rsd 0.2s 12ph/9stn Dmin 176km Az.gap 309°
Corr. -0.953 4M/4stn Msd 0.2

88/6675
DEC 10 2345 32.2s 40.96S 177.05E 61km M=4.2
0.2 0.02 0.02 6
Rsd 0.2s 23ph/15stn Dmin 76km Az.gap 258°
Corr. -0.816 10M/9stn Msd 0.2 4↑ 6↓

88/6688
DEC 12 0228 36.8s 38.13S 176.26E 5km
0.2 0.02 0.01 R
Rsd 0.2s 5ph/3stn Dmin 8km Az.gap 190°
Corr. 0.184 0M/0stn Msd 0.0
Felt Rotorua (33) MM4.

88/6691
DEC 12 0507 19.8s 45.41S 167.17E 90km M=3.6
0.1 0.00 0.01 1
Rsd 0.0s 22ph/12stn Dmin 50km Az.gap 239°
Corr. -0.332 11M/10stn Msd 0.2 1↓

88/6694
DEC 12 0933 08.8s 38.91S 175.49E 119km M=4.2
0.4 0.02 0.03 4
Rsd 0.3s 20ph/16stn Dmin 11km Az.gap 111°
Corr. -0.412 12M/10stn Msd 0.1 6↑ 3↓

88/6696
DEC 12 1100 26.3s 37.43S 177.54E 265km M=3.8
0.3 0.02 0.03 2
Rsd 0.0s 13ph/10stn Dmin 70km Az.gap 245°
Corr. -0.883 6M/6stn Msd 0.1 1↓

88/6699
DEC 12 1513 04.6s 40.19S 173.67E 180km M=4.5
0.3 0.01 0.03 4
Rsd 0.2s 28ph/23stn Dmin 109km Az.gap 168°
Corr. -0.043 8M/7stn Msd 0.1 7↑ 19↓

88/6702
DEC 12 2038 13.6s 36.85S 177.35E 252km M=4.3
6.4 0.27 0.10 48
Rsd 0.3s 10ph/8stn Dmin 118km Az.gap 262°
Corr. 0.270 10M/10stn Msd 0.1

88/6721
DEC 14 0640 11.1s 41.18S 172.71E 208km M=3.7
0.3 0.04 0.05 4
Rsd 0.1s 13ph/11stn Dmin 131km Az.gap 225°
Corr. -0.941 9M/9stn Msd 0.2 5↑ 1↓

88/6737
DEC 14 2216 07.6s 37.38S 177.50E 279km M=3.7
0.3 0.06 0.11 4
Rsd 0.1s 9ph/7stn Dmin 75km Az.gap 257°
Corr. -0.977 7M/7stn Msd 0.3

88/6740
DEC 15 0519 56.3s 36.79S 178.27E 33km M=3.6
2.6 0.17 0.19 R
Rsd 0.8s 5ph/3stn Dmin 90km Az.gap 297°
Corr. 0.738 1M/1stn Msd N.D. 1↑

88/6745
DEC 15 1428 47.2s 36.28S 177.39E 176km M=3.8
0.5 0.04 0.08 9
Rsd 0.1s 13ph/10stn Dmin 168km Az.gap 306°
Corr. -0.887 7M/7stn Msd 0.2

88/6754
DEC 16 0007 47.1s 38.06S 176.18E 12km
2.1 0.12 0.10 R
Rsd 0.4s 4ph/3stn Dmin 13km Az.gap 308°
Corr. -0.816 0M/0stn Msd 0.0
Felt Rotorua (33) MM4.

88/6755
DEC 16 0105 27.3s 38.04S 176.02E 0km M=3.9
0.3 0.02 0.07 R
Rsd 0.1s 8ph/5stn Dmin 291km Az.gap 350°
Corr. -0.473 7M/7stn Msd 0.2

88/6766
DEC 16 1227 54.7s 36.68S 177.06E 176km M=3.8
1.7 0.12 0.21 21
Rsd 0.3s 11ph/8stn Dmin 145km Az.gap 288°
Corr. -0.664 15M/15stn Msd 0.2 1↑

88/6775
DEC 16 1927 37.8s 43.10S 172.08E 19km M=3.7
0.2 0.01 0.02 2
Rsd 0.2s 20ph/17stn Dmin 71km Az.gap 79°
Corr. -0.208 23M/23stn Msd 0.2 3↑ 1↓
Prominent crustal phases on visuals.

88/6795
DEC 17 2021 36.2s 36.01S 178.07E 236km M=5.6
0.4 0.02 0.02 3
Rsd 0.1s 30ph/25stn Dmin 178km Az.gap 270°
Corr. 0.225 10M/8stn Msd 0.3 15↑ 9↓
Felt Ruatuna Road (35) and Te Karaka (36) MM4.

88/6797
DEC 17 2349 48.0s 38.51S 175.84E 190km M=3.6
0.6 0.02 0.04 6
Rsd 0.1s 16ph/14stn Dmin 77km Az.gap 300°
Corr. -0.270 8M/8stn Msd 0.3 2↑ 3↓

88/6800
DEC 18 0335 57.0s 38.72S 175.72E 129km M=4.0
0.3 0.01 0.02 3
Rsd 0.2s 25ph/21stn Dmin 5km Az.gap 104°
Corr. -0.045 15M/15stn Msd 0.2 13↑ 8↓

88/6803
DEC 18 0917 11.5s 38.58S 178.68E 33km M=3.3
0.4 0.02 0.03 R
Rsd 0.1s 4ph/3stn Dmin 114km Az.gap 298°
Corr. -0.676 1M/1stn Msd 0.0 1↑
Felt Whakatane (27).

88/6812
DEC 18 1809 41.4s 37.92S 176.19E 195km M=3.6
1.3 0.11 0.20 19
Rsd 0.3s 14ph/12stn Dmin 188km Az.gap 236°
Corr. -0.906 12M/12stn Msd 0.1 1↑ 1↓

88/6846
DEC 20 0308 00.3s 38.43S 178.14E 33km M=3.8
1.5 0.10 0.15 R
Rsd 0.7s 16ph/16stn Dmin 25km Az.gap 195°
Corr. -0.004 16M/16stn Msd 0.2 3↑ 2↓

88/6847
DEC 20 0530 40.1s 37.70S 176.06E 294km M=3.8
0.3 0.12 0.11 13
Rsd 0.1s 17ph/14stn Dmin 325km Az.gap 335°
Corr. -0.902 9M/9stn Msd 0.2 1↓

88/6853
DEC 20 0833 09.4s 37.99S 178.91E 33km M=4.4
0.6 0.01 0.05 R
Rsd 0.1s 24ph/23stn Dmin 69km Az.gap 268°
Corr. 0.262 19M/19stn Msd 0.2 4↑ 9↓

88/6854
DEC 20 0901 40.7s 34.76S 179.48E 257km M=3.6
0.5 0.08 0.15 5
Rsd 0.1s 8ph/7stn Dmin 332km Az.gap 347°
Corr. -0.852 4M/4stn Msd 0.2

88/6858
DEC 20 1416 56.3s 39.15S 174.91E 213km M=3.6
0.5 0.02 0.04 4
Rsd 0.2s 17ph/14stn Dmin 55km Az.gap 155°
Corr. 0.110 14M/14stn Msd 0.2 1↓

88/6869
DEC 21 0916 14.1s 38.73S 178.28E 23km M=3.1
0.4 0.02 0.03 3
Rsd 0.2s 12ph/10stn Dmin 24km Az.gap 221°
Corr. -0.754 7M/7stn Msd 0.4 1↑
Felt Ormond (44) MM4. Unstable Solution.

88/6877
DEC 21 2227 45.3s 41.30S 173.92E 63km M=3.5
0.2 0.01 0.01 3
Rsd 0.2s 20ph/14stn Dmin 32km Az.gap 137°
Corr. -0.350 8M/8stn Msd 0.1 1↑ 4↓

88/6886
DEC 22 1950 28.3s 37.96S 176.23E 204km M=4.2
0.8 0.04 0.05 7
Rsd 0.3s 15ph/12stn Dmin 47km Az.gap 165°
Corr. -0.013 17M/17stn Msd 0.2 5↑ 3↓

88/6913
DEC 25 0019 40.7s 41.09S 173.00E 217km M=3.9
0.3 0.05 0.07 5
Rsd 0.1s 19ph/13stn Dmin 108km Az.gap 241°
Corr. -0.871 15M/15stn Msd 0.2 7↑ 1↓

88/6914
DEC 25 0027 27.0s 40.08S 176.76E 59km M=3.8
0.2 0.01 0.02 3 ,
Rsd 0.3s 38ph/29stn Dmin 11km Az.gap 192°
Corr. -0.621 14M/14stn Msd 0.1 10↑ 5↓

88/6930
DEC 25 1931 57.3s 38.46S 175.74E 192km M=4.1
0.5 0.04 0.04 4
Rsd 0.3s 25ph/22stn Dmin 28km Az.gap 114°
Corr. 0.199 19M/19stn Msd 0.2 10↑ 8↓

88/6939
DEC 26 0409 43.3s 38.17S 176.00E 168km M=3.8
0.7 0.04 0.04 6
Rsd 0.3s 19ph/13stn Dmin 32km Az.gap 268°
Corr. 0.371 9M/9stn Msd 0.2 2↑ 3↓

88/6942
DEC 26 0615 34.4s 38.13S 176.21E 8km
0.1 0.01 0.01 6
Rsd 0.0s 7ph/4stn Dmin 6km Az.gap 183°
Corr. -0.891 0M/0stn Msd 0.0 1↑ 1↓
Felt Rotorua (33).

88/6945
DEC 26 0836 17.9s 39.09S 175.65E 2km M=3.9
0.2 0.01 0.02 R
Rsd 0.6s 24ph/22stn Dmin 1km Az.gap 55°
Corr. -0.249 17M/17stn Msd 0.3 9↑ 8↓

88/6953
DEC 26 1545 15.6s 38.36S 176.00E 173km M=4.3
0.5 0.03 0.03 4
Rsd 0.3s 27ph/21stn Dmin 22km Az.gap 108°
Corr. 0.233 10M/10stn Msd 0.3 8↑ 4↓

88/6956
DEC 26 2040 15.1s 36.25S 178.11E 224km M=4.4
0.7 0.06 0.05 6
Rsd 0.2s 14ph/12stn Dmin 151km Az.gap 303°
Corr. 0.480 9M/9stn Msd 0.1 3↑ 3↓

88/6959
DEC 27 0344 31.4s 37.78S 176.45E 189km M=3.5
0.7 0.05 0.11 6
Rsd 0.2s 11ph/7stn Dmin 122km Az.gap 312°
Corr. -0.287 11M/11stn Msd 0.1

88/6962
DEC 27 0602 13.2s 39.57S 174.82E 129km M=4.1
0.2 0.01 0.01 2
Rsd 0.2s 30ph/27stn Dmin 70km Az.gap 108°
Corr. -0.348 18M/18stn Msd 0.2 17↑ 5↓

88/6965
DEC 27 1018 22.6s 38.34S 175.77E 180km M=3.6
0.4 0.05 0.07 5
Rsd 0.1s 17ph/12stn Dmin 122km Az.gap 295°
Corr. -0.855 8M/8stn Msd 0.2 2↑ 2↓

88/6970
DEC 27 1852 24.3s 38.62S 175.49E 181km M=4.5
0.6 0.03 0.03 5
Rsd 0.3s 24ph/18stn Dmin 43km Az.gap 125°
Corr. 0.289 19M/19stn Msd 0.2 13↑ 7↓

88/6971
DEC 27 1953 28.6s 37.09S 177.98E 95km M=3.7
1.1 0.05 0.09 11
Rsd 0.3s 13ph/11stn Dmin 63km Az.gap 268°
Corr. 0.555 12M/12stn Msd 0.2 1↑ 2↓

88/7001
DEC 30 1831 28.7s 37.65S 176.45E 193km M=4.1
0.7 0.03 0.03 6
Rsd 0.2s 19ph/16stn Dmin 61km Az.gap 200°
Corr. 0.173 18M/18stn Msd 0.1 4↑ 2↓

88/7003
DEC 30 2050 46.9s 37.81S 176.23E 166km M=3.7
1.8 0.11 0.12 21
Rsd 0.4s 10ph/9stn Dmin 121km Az.gap 240°
Corr. -0.563 17M/17stn Msd 0.2 3↑ 1↓

88/7007
DEC 31 0537 36.1s 45.01S 167.53E 89km M=4.1
0.2 0.01 0.01 2
Rsd 0.1s 21ph/13stn Dmin 49km Az.gap 221°
Corr. -0.404 3M/3stn Msd 0.2 2↑ 10↓

88/7008
DEC 31 0540 59.9s 39.12S 174.96E 245km M=4.4
0.4 0.02 0.03 3
Rsd 0.3s 38ph/26stn Dmin 51km Az.gap 157°
Corr. -0.151 21M/19stn Msd 0.2 11↑ 7↓

88/7012
DEC 31 0831 00.5s 40.92S 176.07E 33km M=3.6
0.1 0.01 0.01 R
Rsd 0.2s 22ph/16stn Dmin 38km Az.gap 198°
Corr. -0.504 10M/8stn Msd 0.3 4↑ 3↓

88/7013
DEC 31 0833 09.7s 40.92S 176.07E 33km M=3.7
0.1 0.01 0.02 R
Rsd 0.2s 20ph/14stn Dmin 38km Az.gap 198°
Corr. -0.348 9M/7stn Msd 0.1 2↑ 5↓

88/7014
DEC 31 1124 54.6s 37.64S 177.23E 196km M=3.7
0.6 0.03 0.03 4
Rsd 0.1s 14ph/11stn Dmin 95km Az.gap 224°
Corr. -0.111 12M/12stn Msd 0.2 1↑

88/7016
DEC 31 1805 22.7s 37.83S 176.36E 204km M=4.6
1.1 0.04 0.03 9
Rsd 0.2s 13ph/10stn Dmin 62km Az.gap 181°
Corr. -0.566 12M/12stn Msd 0.2 6↑ 3↓

LISTS OF ORIGINS AND MAGNITUDE DETERMINATIONS

HIGHER MAGNITUDE EARTHQUAKES

A chronological list of 1988 New Zealand earthquakes of $M_L \geq 5.0$ follows. A reference number at the beginning of each entry identifies the origin with the instrumental data summary, and also with the listing of non-instrumental data (if there is any) that appears in a later section.

The letter "R" following a depth indicates that the depth was restricted to some likely value because the data did not provide sufficient constraint for the depth to be determined by calculation. Choice of the depth of restriction is usually made on the basis of the crustal phases observed or the predominant depth of shallow earthquakes in the epicentral area. (For sub-crustal earthquakes, depth restriction is seldom necessary.)

The letter "G" after a depth shows that the depth was restricted on the basis of information that could not be used by the location program, such as macroseismic information, overseas PKP observations etc.

The letter "F" following a magnitude indicates that at least one report of the earthquake being felt has been received by the Observatory.

In the following table, Rsd is as defined on page 31 and NP phases from NS recording stations have been used to determine the origins.

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
014	JAN 01	2103 4.4	34.68S	179.27W	12R	5.3	0.2	18	7
038	JAN 04	0430 59.2	34.98S	179.89E	147	5.5	0.6	10	10
043	JAN 04	1409 29.3	37.71S	176.19E	324	6.1 F	0.3	21	19
081	JAN 07	0729 56.5	34.77S	179.61W	126	5.0	0.1	12	11
198	JAN 18	0429 29.5	33.39S	179.09W	33R	5.0	0.2	11	10
206	JAN 18	0953 30.0	32.65S	178.43W	33R	5.5	0.3	10	10
317	JAN 26	0610 3.3	33.09S	179.51W	539	5.2	0.3	13	13
324	JAN 26	1624 24.4	36.81S	177.22E	297	5.0	0.3	27	24
536	FEB 07	1815 21.3	32.50S	178.18W	364	5.6	0.1	10	10
804	FEB 25	0642 24.9	45.28S	167.52E	135	5.3	0.1	19	18
882	MAR 01	0840 35.3	38.07S	175.92E	185	5.6 F	0.3	16	15
885	MAR 01	1106 51.9	35.02S	179.44E	237	5.1	0.2	16	14
938	MAR 04	1123 42.1	33.72S	179.97W	281	5.0	0.2	14	11
954	MAR 05	0729 46.0	34.35S	178.50W	72	5.0	0.2	14	12
1369	APR 02	0717 14.1	38.55S	175.85E	147	6.0 F	0.2	27	17
1515	APR 12	0503 44.9	39.14S	178.82E	33	5.4 F	0.2	26	25
1745	APR 27	2203 12.3	37.80S	176.19E	211	5.0	0.2	31	28
1766	APR 29	0516 31.4	40.43S	173.82E	129	5.5 F	0.2	20	18
1783	APR 30	2007 51.7	39.34S	175.59E	116	5.0 F	0.3	29	26
1811	MAY 02	0923 56.0	34.06S	179.55E	103	5.0	0.2	15	14
1856	MAY 04	1949 14.8	36.97S	176.87E	254	5.1	0.2	17	16
1941	MAY 10	1952 45.4	36.40S	179.93E	84	5.0	0.1	14	13
2073	MAY 20	0335 22.8	39.99S	176.67E	29	5.1 F	0.2	39	37
2258	MAY 30	0830 31.0	32.29S	178.88W	566	5.2	0.3	10	8
2274	MAY 31	0545 48.5	40.44S	174.16E	87	5.3 F	0.2	33	29
2324	JUN 02	1158 47.1	36.40S	180.00W	33R	5.6	0.1	18	17
2354	JUN 03	2327 38.5	45.12S	167.29E	73	5.7 F	0.1	13	13
2990	JUN 14	1543 11.5	44.76S	167.12E	106	5.2 F	0.2	9	9
3147	JUN 20	1907 1.5	40.65S	176.13E	78	5.1 F	0.2	32	26
3845	JUL 19	0258 16.3	44.97S	167.48E	137	5.7 F	0.0	12	11
4052	JUL 30	2307 24.3	36.98S	176.94E	258	5.3	0.1	20	17
4133	AUG 04	0836 6.4	38.68S	176.15E	93	5.1 F	0.4	37	33
4528	AUG 24	0154 44.4	39.29S	175.00E	127R	5.0 F	0.3	42	32
4588	AUG 27	0524 31.1	34.88S	179.63W	181R	5.4 F	0.2	20	17
4762	SEP 06	0554 1.3	40.41S	176.81E	64	5.1 F	0.1	35	31
4810	SEP 08	2227 40.7	35.39S	179.07W	131	5.4	0.1	21	21
5329	OCT 06	1723 15.4	45.27S	167.71E	143	5.0	0.1	20	19
5442	OCT 13	1239 13.6	38.06S	176.17E	190	5.1	0.3	32	30
6018	NOV 15	0524 22.5	35.61S	179.16E	106	5.4	0.2	19	18
6035	NOV 16	0720 23.1	41.50S	178.31E	38	5.4 F	0.3	52	41
6139	NOV 20	1611 48.8	39.02S	175.36E	118	5.5 F	0.3	45	34
6163	NOV 21	1949 35.8	36.03S	178.02E	245	5.0	0.2	28	20
6183	NOV 22	0755 9.3	34.80S	178.18W	256	5.3	0.2	15	15
6334	NOV 27	2359 56.8	34.22S	177.43W	125	5.5	0.1	10	8
6795	DEC 17	2021 36.2	36.01S	178.07E	236	5.6 F	0.1	30	25

WELLINGTON AREA SEISMICITY

Because of its close station spacing and the relative ease with which stations can be reached when repairs or adjustments are necessary, the Wellington Network can be relied on to furnish enough data for determination of earthquake origins in its neighbourhood from smaller events than those needed to achieve the same accuracy in other parts of the country. The following list includes all earthquakes of magnitude (M_L) 2.0 or more in the area surrounding Wellington, and includes the earthquakes of magnitude 3.5 or more, which were listed on earlier pages.

The location of earthquakes in the neighbourhood of Wellington is no longer performed separately from the location of regional earthquakes as was done in the past. The old practice sometimes resulted in earthquakes having two listed origins, one arrived at from use of National Network data and a regional velocity model, and the other from Wellington Network data and a local model. In current practice the local model is merged into the regional model. A map of these epicentres and a cross-section showing their distribution in depth appears in the final section of this Report.

In the following table, Rsd is as defined on page 31 and NP phases from NS recording stations have been used to determine the origins.

The regional velocity model and its boundaries are listed in the table on page 26.

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
002	JAN 01	0257 55.4	40.90S	174.81E	50	2.1	0.1	11	11
003	JAN 01	0306 26.3	41.23S	174.20E	45	2.7	0.2	12	11
013	JAN 01	2045 33.7	41.26S	174.84E	29	2.0	0.1	12	11
016	JAN 02	0305 39.2	41.10S	173.58E	94	4.2	0.2	23	20
025	JAN 02	2355 17.2	41.50S	174.59E	18	2.4	0.1	12	12
027	JAN 03	0419 22.1	41.11S	174.19E	57	2.3	0.0	7	7
032	JAN 03	1332 46.0	41.05S	174.00E	53	2.6	0.1	10	9
033	JAN 03	1448 26.1	41.11S	173.94E	79	2.5	0.1	11	9
035	JAN 03	1951 2.9	41.68S	173.95E	33R	3.5	0.3	16	12
036	JAN 03	2042 3.0	41.01S	175.60E	29	3.0	0.2	15	12
042	JAN 04	1043 38.6	41.12S	173.93E	68	2.5	0.1	7	7
045	JAN 04	2007 58.3	40.68S	174.32E	50	2.1	0.2	8	7
046	JAN 04	2022 48.4	41.61S	174.63E	32	2.0	0.1	10	9
048	JAN 04	2259 49.9	40.61S	174.50E	80	2.8	0.2	10	10
051	JAN 05	0626 35.6	40.88S	175.01E	59	2.2	0.1	9	8
058	JAN 05	1840 42.9	41.05S	175.43E	26	2.0	0.1	9	8
061	JAN 05	2348 42.5	41.04S	174.76E	31	2.4	0.1	12	11
066	JAN 06	1309 22.8	41.45S	174.99E	18	3.1	0.3	18	14
069	JAN 06	1618 21.9	41.48S	174.96E	27	2.5	0.1	9	8
071	JAN 06	1753 27.9	41.08S	174.28E	43	2.2	0.1	10	8
074	JAN 06	1920 32.0	41.45S	174.98E	23	2.6	0.1	11	9
075	JAN 06	2048 9.8	41.61S	174.58E	21	2.1	0.1	9	8
076	JAN 07	0158 55.0	41.50S	173.78E	46	2.4	0.2	8	8
078	JAN 07	0251 6.7	41.10S	175.46E	25	2.1	0.1	8	7
079	JAN 07	0322 0.4	40.67S	174.91E	0	2.0	0.3	6	5

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
091	JAN 08	0717 33.3	41.48S	174.67E	27	2.3	0.1	9	8
095	JAN 08	2154 36.1	41.59S	174.92E	43	2.1	0.7	10	9
108	JAN 09	1357 53.0	41.03S	174.98E	28	2.1	0.1	8	7
109	JAN 09	2002 38.0	41.59S	174.39E	17	2.7	0.3	15	12
110	JAN 09	2051 30.9	41.61S	174.41E	1	2.1	0.2	8	7
122	JAN 10	2204 9.5	41.17S	175.16E	20	3.9 F	0.1	25	21
126	JAN 11	0518 8.4	41.06S	174.64E	56	3.0	0.1	16	14
129	JAN 11	1111 27.4	41.00S	175.34E	23	2.3	0.1	10	8
133	JAN 11	1933 6.5	41.35S	175.13E	29	2.2	0.1	8	7
137	JAN 11	2240 6.1	41.17S	174.52E	34	2.3	0.1	12	10
146	JAN 12	1922 23.2	41.58S	173.74E	28	2.6	0.8	13	11
150	JAN 13	0339 25.9	41.21S	174.67E	34	2.1	0.0	9	8
152	JAN 13	0804 34.1	40.71S	175.76E	28	2.9	0.4	15	14
157	JAN 14	0139 10.8	41.06S	175.35E	27	2.4	0.1	9	8
159	JAN 14	0322 22.2	41.11S	175.05E	11	2.2	0.1	8	8
160	JAN 14	0903 37.9	41.35S	175.00E	26	2.0	0.1	9	8
163	JAN 14	2107 29.2	41.38S	174.81E	14	2.1	0.1	10	9
165	JAN 14	2354 7.5	41.42S	174.30E	61	2.4	0.1	10	9
169	JAN 15	1618 16.0	40.77S	175.18E	31	2.4	0.1	10	9
174	JAN 16	0109 22.5	40.70S	173.99E	104	2.9	0.1	11	10
175	JAN 16	0315 30.9	41.01S	173.80E	88	2.4	0.1	5	5
176	JAN 16	0442 12.4	41.01S	174.65E	55	2.6	0.1	10	9
185	JAN 16	1906 56.5	41.03S	174.62E	63	2.1	0.0	8	6
186	JAN 16	1918 1.3	40.86S	174.17E	50	2.1	0.3	8	7
188	JAN 17	0431 52.9	41.61S	173.86E	13	2.1	0.4	6	6
196	JAN 18	0052 42.8	40.62S	174.55E	32	2.3	0.2	9	8
201	JAN 18	0609 41.6	40.85S	174.35E	23	2.6	0.1	11	10
212	JAN 19	0323 31.3	41.88S	174.57E	18	3.0	0.3	12	11
213	JAN 19	1058 26.2	40.57S	173.82E	64	2.9	0.4	7	4
215	JAN 19	2227 6.0	40.82S	175.86E	31	2.1	0.2	7	7
216	JAN 20	0138 10.0	40.87S	173.95E	82	2.4	0.1	7	6
221	JAN 20	1154 38.7	41.09S	175.25E	15	2.7	0.2	13	11
222	JAN 20	1508 19.3	41.02S	174.47E	66	3.2	0.1	15	14
223	JAN 20	2025 4.5	41.02S	174.55E	39	2.0	0.2	6	6
224	JAN 20	2101 45.9	41.01S	174.48E	66	2.3	0.0	7	7
226	JAN 20	2218 56.2	41.09S	175.25E	14	2.1	0.3	13	11
233	JAN 21	1034 31.5	41.13S	174.48E	42	4.7 F	0.1	21	19
234	JAN 21	1058 51.0	41.14S	174.48E	40	3.2	0.1	15	14
235	JAN 21	1210 35.8	41.13S	174.48E	38	3.0	0.1	13	12
236	JAN 21	1338 56.1	41.12S	174.47E	39	2.4	0.1	9	8
239	JAN 21	1708 58.0	40.96S	174.49E	8	3.0	0.1	13	12
240	JAN 21	1807 53.6	41.63S	174.40E	16	2.1	0.1	11	10
241	JAN 21	1831 13.9	41.62S	174.42E	11	2.0	0.2	10	9
243	JAN 21	1911 26.5	41.12S	174.49E	34	2.0	0.1	8	7
250	JAN 22	0128 1.1	40.54S	174.61E	51	2.3	0.2	8	7

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
258	JAN 22	0733 25.3	41.13S	175.49E	28	2.5	0.1	15	11
259	JAN 22	0804 1.7	41.04S	175.21E	31	2.4	0.1	14	12
261	JAN 22	1027 21.5	40.54S	174.08E	47	2.4	0.3	8	7
267	JAN 22	1915 26.8	40.79S	175.05E	43	2.9	0.2	13	11
268	JAN 22	2130 11.4	41.09S	175.26E	15	2.6	0.2	14	12
272	JAN 23	0117 0.6	41.73S	174.19E	16	2.3	0.1	10	9
273	JAN 23	0225 36.6	40.71S	174.36E	69	3.6	0.2	17	12
275	JAN 23	0648 48.8	40.54S	174.27E	84	3.5	0.2	23	18
278	JAN 23	0937 34.8	41.82S	173.95E	43	2.6	0.1	11	10
279	JAN 23	0946 33.2	41.28S	175.25E	29	2.1	0.1	7	6
282	JAN 23	1326 23.7	41.21S	174.49E	36	2.8	0.1	17	14
283	JAN 23	1606 22.5	41.42S	174.98E	30	2.0	0.2	9	9
289	JAN 24	0831 38.5	41.20S	174.56E	33	2.5	0.1	10	9
291	JAN 24	1209 14.1	41.59S	174.39E	14	2.0	0.2	11	11
298	JAN 25	0016 17.2	41.98S	174.18E	12	2.2	0.2	10	10
301	JAN 25	0127 35.9	41.11S	174.79E	35	2.0	0.1	12	11
308	JAN 25	1606 26.2	40.71S	174.37E	68	2.4	0.1	12	11
310	JAN 25	1744 44.4	40.51S	173.62E	124	3.0	0.2	12	10
311	JAN 25	2238 21.8	40.96S	174.58E	51	2.6	0.1	14	13
316	JAN 26	0511 59.2	40.89S	173.99E	60	2.4	0.1	7	6
325	JAN 26	1744 27.8	40.97S	173.90E	75	3.5	0.3	20	17
328	JAN 26	2030 16.9	41.09S	175.26E	14	2.0	0.3	13	12
333	JAN 27	0905 2.4	40.74S	175.00E	12	3.1	0.5	15	14
336	JAN 27	1118 47.2	41.55S	174.54E	18	2.1	0.2	15	13
338	JAN 27	1257 13.8	41.63S	174.22E	8	2.0	0.3	11	11
341	JAN 27	1620 47.7	41.17S	173.69E	60	2.2	0.1	8	6
342	JAN 27	1701 50.0	41.58S	174.03E	35	3.7	0.3	17	16
352	JAN 28	0317 26.5	41.23S	175.23E	26	2.0	0.1	13	11
354	JAN 28	0454 32.9	41.76S	174.42E	30	2.4	0.1	12	11
355	JAN 28	0511 51.4	41.63S	174.19E	9	2.5	0.3	13	12
356	JAN 28	0556 37.6	41.63S	174.19E	10	2.7	0.3	13	12
364	JAN 28	1203 40.0	40.88S	175.72E	28	2.6	0.1	9	7
365	JAN 28	1239 4.3	41.59S	174.10E	3	2.5	0.2	12	11
368	JAN 28	2046 16.5	41.62S	174.15E	9	2.2	0.2	11	11
374	JAN 29	1000 25.8	40.89S	175.82E	31	2.3	0.1	11	10
378	JAN 29	1210 50.7	40.98S	174.07E	66	3.2	0.1	12	11
379	JAN 29	1228 26.7	40.60S	175.93E	17	3.1	0.4	20	19
380	JAN 29	1230 42.2	41.79S	174.50E	33	2.0	0.2	10	9
381	JAN 29	1232 56.8	40.91S	173.92E	47	2.0	0.0	5	5
392	JAN 30	0342 25.1	40.97S	174.71E	47	2.3	0.1	13	10
394	JAN 30	0724 36.4	41.95S	174.51E	23	2.1	0.1	9	8
401	JAN 30	1326 29.1	40.84S	175.80E	34	2.0	0.1	6	5
406	JAN 30	1720 41.5	41.62S	174.23E	18	2.0	0.1	10	10
410	JAN 30	1944 14.7	40.63S	174.21E	82	2.5	0.3	7	5
413	JAN 31	0554 1.0	40.86S	174.72E	11	2.5	0.2	13	11

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
421	JAN 31	1702 38.7	41.79S	174.33E	32	2.0	0.1	6	6
430	FEB 01	0516 26.8	40.55S	173.65E	208	3.0	0.0	4	3
434	FEB 01	0854 20.7	41.85S	174.81E	32	2.3	0.2	8	7
448	FEB 02	0929 55.0	40.53S	174.25E	83	2.7	0.3	16	14
449	FEB 02	1106 32.2	41.89S	174.17E	20	2.4	0.3	12	12
462	FEB 03	0216 10.7	41.09S	174.03E	58	2.6	0.2	11	11
464	FEB 03	0245 40.3	40.54S	174.19E	44	2.1	0.0	5	5
483	FEB 03	2232 41.3	41.61S	174.37E	52	2.6	0.1	17	14
486	FEB 03	2344 15.5	40.68S	174.29E	79	2.9	0.2	15	12
492	FEB 04	0725 9.9	40.67S	175.98E	33	2.1	0.2	7	7
494	FEB 04	0820 25.6	41.82S	174.93E	33	2.8	0.1	10	8
498	FEB 04	1902 38.7	41.19S	174.16E	49	2.1	0.1	7	6
499	FEB 04	1932 1.6	40.80S	174.88E	49	2.7	0.0	9	8
500	FEB 04	2209 32.6	41.40S	174.81E	29	2.3	0.1	8	6
502	FEB 05	0122 8.5	40.67S	174.37E	75	3.5	0.1	14	11
514	FEB 05	1657 46.0	41.02S	174.45E	62	2.0	0.0	6	5
518	FEB 06	0357 36.5	41.28S	175.15E	24	2.3	0.1	12	11
519	FEB 06	0359 29.8	41.57S	173.82E	18	2.5	0.3	12	12
523	FEB 06	1614 57.9	41.16S	174.57E	58	2.1	0.1	13	11
530	FEB 07	0309 31.9	41.63S	174.61E	31	2.2	0.1	11	10
531	FEB 07	0453 43.2	40.87S	174.72E	14	2.0	0.2	9	9
538	FEB 08	0151 16.0	41.04S	175.48E	12	3.1	0.2	16	15
551	FEB 08	1800 18.4	41.65S	173.68E	11	2.7	0.2	15	15
552	FEB 08	1949 48.6	40.52S	174.42E	81	2.2	0.1	8	8
558	FEB 09	0949 8.7	41.09S	174.43E	60	2.6	0.1	10	10
572	FEB 10	0735 49.8	41.66S	174.50E	34	2.1	0.2	11	10
574	FEB 10	0811 10.1	40.98S	174.06E	77	3.3	0.3	17	15
579	FEB 10	1650 28.5	41.68S	174.89E	59	3.1	1.2	14	12
583	FEB 10	1932 25.8	40.62S	175.25E	33R	2.4	0.2	12	10
584	FEB 10	2152 24.1	41.26S	174.60E	29	2.2	0.1	12	11
586	FEB 11	0016 35.5	41.42S	174.52E	30	2.3	0.2	12	11
589	FEB 11	0322 17.2	41.41S	174.52E	30	2.6	0.1	13	12
591	FEB 11	0508 12.1	40.91S	175.28E	18	3.8 F	0.2	23	18
592	FEB 11	0509 8.5	40.88S	175.29E	26	3.0	0.1	7	6
596	FEB 11	0557 3.3	40.90S	175.23E	8	2.7	0.3	14	13
597	FEB 11	0620 34.6	40.89S	175.29E	26	2.4	0.1	12	10
601	FEB 11	1326 45.4	40.89S	175.29E	25	2.2	0.2	12	9
603	FEB 11	1616 3.9	41.68S	174.25E	10	2.6	0.3	17	15
604	FEB 11	1830 19.5	41.47S	173.70E	70	3.1	0.1	13	12
613	FEB 12	0420 5.2	40.89S	175.29E	25	2.9	0.3	15	13
618	FEB 12	0905 49.9	40.59S	173.88E	131	3.1	0.1	11	10
622	FEB 12	1035 49.3	41.96S	173.73E	5	2.7	0.3	13	13
625	FEB 12	1511 57.2	40.61S	174.59E	77	2.4	0.1	13	11
632	FEB 12	1830 9.5	41.69S	174.27E	11	2.3	0.1	6	4
639	FEB 13	0257 20.2	41.10S	174.61E	35	2.0	0.1	9	8

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
648	FEB 13	2004 53.3	41.26S	174.52E	56	2.9	0.1	19	13
656	FEB 14	0054 16.8	41.50S	174.51E	32	3.0	0.3	14	12
658	FEB 14	0241 40.8	41.55S	174.00E	81	2.5	0.8	13	12
664	FEB 14	0705 8.9	40.83S	174.51E	42	2.1	0.1	10	8
676	FEB 15	0711 58.9	40.65S	175.54E	29	2.3	0.1	11	8
680	FEB 15	1117 4.3	41.50S	175.63E	33R	2.6	0.2	14	12
692	FEB 15	2102 45.9	40.87S	175.20E	30	2.6	0.2	10	9
694	FEB 15	2244 8.8	41.51S	174.13E	33	2.2	0.1	9	8
697	FEB 16	0127 51.2	40.57S	174.21E	89	3.2	0.4	20	17
698	FEB 16	0200 9.4	41.56S	174.53E	18	2.4	0.2	15	12
699	FEB 16	0242 46.7	40.53S	174.57E	75	2.4	0.1	12	10
711	FEB 16	2119 7.4	41.23S	173.53E	92	2.4	0.1	11	10
713	FEB 17	0131 50.0	40.68S	174.89E	39	2.3	0.1	7	6
714	FEB 17	1056 25.9	41.43S	174.22E	64	2.7	0.1	14	13
715	FEB 17	1320 47.5	41.52S	174.04E	16	2.2	0.1	8	6
717	FEB 17	1540 13.9	40.75S	174.92E	58	3.4	0.1	15	14
718	FEB 17	1819 49.7	40.61S	174.29E	39	2.4	0.1	5	5
719	FEB 17	2007 57.6	41.52S	174.53E	56	2.7	0.1	10	10
720	FEB 17	2008 53.0	40.98S	174.86E	60	2.1	0.0	7	7
723	FEB 17	2359 28.8	40.58S	174.87E	35	2.2	0.0	6	5
724	FEB 18	0126 45.3	40.61S	174.08E	69	2.7	0.1	8	8
730	FEB 18	1428 27.4	41.35S	174.21E	68	2.5	0.0	10	9
732	FEB 18	1655 33.3	41.57S	174.19E	0	2.1	0.2	6	6
735	FEB 19	0255 52.0	40.53S	174.05E	91	2.7	0.1	9	8
744	FEB 19	1455 30.1	41.68S	174.28E	10	2.6	0.3	16	14
746	FEB 19	1702 43.9	41.01S	174.03E	83	2.4	0.2	7	7
749	FEB 19	2032 37.9	40.61S	174.85E	30	2.4	0.1	8	7
752	FEB 20	0935 0.5	41.51S	173.65E	89	2.8	0.1	11	11
753	FEB 20	0944 6.7	40.96S	174.51E	65	2.6	0.1	9	8
765	FEB 21	1205 53.4	40.86S	173.60E	85	3.4	0.3	16	13
773	FEB 22	0709 54.9	41.12S	174.91E	15	2.1	0.3	11	10
784	FEB 23	0904 6.5	40.89S	175.53E	24	3.2	0.2	17	14
785	FEB 23	0925 54.5	40.88S	175.56E	27	2.5	0.1	10	9
791	FEB 23	2156 8.7	40.74S	173.71E	134	3.0	0.1	9	9
796	FEB 24	1043 0.7	41.51S	173.50E	75	2.9	0.1	12	11
798	FEB 24	1423 1.4	40.96S	174.46E	65	2.4	0.1	6	6
809	FEB 25	1428 7.7	40.81S	173.80E	102	2.7	0.2	8	7
811	FEB 25	1602 43.7	41.02S	173.76E	76	2.3	0.1	6	6
812	FEB 25	1812 36.0	40.90S	175.74E	28	2.2	0.2	8	6
814	FEB 25	2057 41.2	40.86S	175.19E	25	2.1	0.3	10	8
818	FEB 26	0148 54.1	41.38S	174.24E	19	2.9	0.2	14	11
820	FEB 26	0636 36.9	40.77S	175.34E	29	2.6	0.1	11	10
827	FEB 26	1146 57.5	40.71S	175.32E	32	2.5	0.1	12	11
832	FEB 26	1810 17.4	40.96S	175.44E	26	2.0	0.1	10	9
833	FEB 26	1947 48.6	40.96S	175.63E	24	3.3	0.2	16	13

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
834	FEB 26	1953 50.5	40.96S	175.64E	22	2.1	0.1	9	7
836	FEB 26	2137 38.2	40.96S	175.71E	32	2.1	0.2	8	6
840	FEB 27	0607 16.6	40.91S	175.28E	27	2.0	0.0	6	5
841	FEB 27	0723 39.0	40.87S	175.83E	29	2.3	0.2	10	8
845	FEB 27	1348 50.9	41.07S	174.12E	49	2.5	0.1	11	9
851	FEB 28	0021 12.2	41.35S	173.81E	59	2.6	0.1	9	9
852	FEB 28	0419 54.6	41.87S	174.23E	13	2.3	0.1	9	8
854	FEB 28	0554 44.5	41.32S	174.93E	24	2.3	0.1	12	11
855	FEB 28	0558 44.9	41.31S	174.93E	28	2.3	0.2	15	11
858	FEB 28	1124 16.9	41.48S	174.50E	22	2.0	0.1	13	11
865	FEB 28	1812 55.7	40.82S	175.29E	31	2.2	0.1	10	9
873	FEB 29	1137 58.6	41.15S	174.98E	30	2.1	0.1	10	8
876	FEB 29	1732 39.8	40.96S	174.77E	33	2.4	0.1	13	11
877	FEB 29	1801 14.4	41.32S	174.92E	27	2.5	0.2	13	10
878	MAR 01	0006 22.2	41.02S	175.26E	43	2.0	0.1	6	6
883	MAR 01	0927 42.7	41.58S	173.87E	15R	2.3	0.2	10	10
886	MAR 01	1203 34.3	41.37S	175.12E	29	2.5	0.1	16	12
889	MAR 01	1530 4.3	41.07S	174.29E	49	3.0	0.2	16	14
895	MAR 02	0546 53.9	40.91S	175.71E	28	2.0	0.2	10	9
899	MAR 02	1005 30.9	40.53S	175.91E	19	2.7	0.3	12	11
900	MAR 02	1006 58.4	41.10S	175.86E	32	2.6	0.1	14	11
907	MAR 02	2032 15.7	40.78S	174.45E	49	2.2	0.2	10	9
914	MAR 03	0409 15.9	40.54S	175.40E	31	2.2	0.2	10	9
915	MAR 03	0417 1.6	40.59S	173.50E	236	3.1	0.1	12	11
916	MAR 03	0422 14.2	41.92S	173.90E	42	2.6	0.1	13	12
927	MAR 03	1308 8.6	40.67S	175.10E	34	2.4	0.2	14	12
940	MAR 04	1243 18.1	40.90S	175.53E	24	2.9	0.1	17	12
945	MAR 04	1657 28.9	41.48S	174.15E	34	2.8	0.2	14	12
946	MAR 04	1722 42.7	41.48S	174.15E	33R	4.0	0.2	28	21
949	MAR 04	2246 48.5	41.33S	174.22E	37	3.0	0.2	13	12
952	MAR 05	0239 54.7	40.80S	175.06E	31	2.3	0.1	7	5
955	MAR 05	0814 41.6	41.36S	173.65E	108	2.7	0.3	13	12
959	MAR 05	1839 47.6	40.82S	174.65E	55	2.3	0.1	9	9
965	MAR 06	0111 34.6	41.48S	174.17E	34	2.9	0.2	14	13
966	MAR 06	0207 56.5	41.49S	174.12E	36	2.7	0.2	14	12
969	MAR 06	0414 22.0	40.79S	174.65E	34	2.3	0.1	12	11
970	MAR 06	0811 46.0	41.90S	174.11E	22	2.2	0.2	10	9
974	MAR 06	1445 14.8	40.71S	175.93E	17	2.2	0.1	8	7
978	MAR 06	1849 53.1	40.61S	174.08E	92	2.6	0.1	8	7
979	MAR 06	1905 16.9	41.47S	174.17E	33R	3.2	0.2	14	12
980	MAR 06	1925 39.5	40.55S	175.50E	31	2.1	0.1	6	4
982	MAR 07	0150 21.6	41.39S	173.64E	54	3.0	0.1	6	6
983	MAR 07	0656 53.1	41.61S	174.26E	12R	3.2	0.2	14	13
984	MAR 07	0837 59.1	40.60S	175.74E	30	2.8	0.2	10	8
985	MAR 07	1128 44.8	40.89S	174.94E	61	3.2	0.1	14	12

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
991	MAR 08	0711 24.3	40.76S	174.55E	68	2.8	0.0	6	5
992	MAR 08	0915 18.4	41.09S	174.56E	40	2.2	0.2	8	7
994	MAR 08	1424 13.0	41.32S	175.16E	20	2.1	0.1	15	12
1004	MAR 08	2338 31.1	41.34S	174.87E	28	2.4	0.2	15	12
1006	MAR 09	0532 9.1	41.33S	175.16E	23	2.7	0.1	15	12
1007	MAR 09	0552 38.8	41.68S	174.35E	28	2.2	0.1	10	8
1014	MAR 09	2205 48.6	41.70S	174.22E	12R	2.5	0.3	13	13
1015	MAR 09	2224 13.4	40.63S	173.88E	109	2.8	0.0	9	7
1023	MAR 10	1009 12.5	41.34S	173.68E	76	2.9	0.3	17	15
1024	MAR 10	1410 40.5	41.75S	174.16E	18	2.2	0.2	12	11
1025	MAR 10	1510 58.2	41.03S	175.64E	39	2.6	0.1	11	9
1026	MAR 10	2018 26.4	40.64S	174.44E	73	2.7	0.2	10	9
1027	MAR 10	2155 51.5	41.76S	174.18E	18	2.3	0.1	12	12
1035	MAR 11	1035 51.3	40.83S	174.70E	39	2.2	0.2	8	7
1036	MAR 11	1048 11.7	41.10S	174.11E	34	2.3	0.1	9	7
1048	MAR 12	0932 35.5	41.12S	174.74E	58	2.8	0.0	11	10
1049	MAR 12	1107 56.7	41.03S	174.55E	63	2.7	0.1	12	11
1052	MAR 12	1648 53.6	41.60S	173.97E	13	2.8	0.3	14	13
1054	MAR 12	2232 9.8	40.98S	174.37E	53	3.7 F	0.3	20	15
1058	MAR 13	0852 3.9	41.17S	175.01E	25	2.1	0.2	14	13
1060	MAR 13	1523 35.8	40.51S	174.56E	78	2.3	0.1	9	8
1066	MAR 13	2325 21.8	40.96S	175.36E	22	2.2	0.2	12	9
1067	MAR 13	2346 21.1	40.96S	175.38E	28	2.0	0.2	8	6
1070	MAR 14	0715 14.7	40.57S	174.57E	52	3.6	0.1	15	12
1080	MAR 14	1604 40.5	40.93S	174.71E	63	2.7	0.1	9	9
1082	MAR 14	1637 19.1	40.98S	175.60E	29	2.3	0.1	12	10
1092	MAR 15	1239 33.3	40.93S	175.86E	33	2.0	0.1	8	7
1093	MAR 15	1554 30.2	41.81S	173.50E	61	2.4	0.2	8	7
1094	MAR 15	1619 10.1	41.80S	174.45E	33R	2.2	0.1	12	11
1095	MAR 15	2237 18.6	40.66S	174.72E	38	2.7	0.1	11	10
1100	MAR 16	1144 28.8	40.88S	175.55E	27	2.2	0.1	7	6
1102	MAR 16	1743 31.4	41.37S	174.53E	28	2.2	0.1	8	8
1105	MAR 17	0738 0.8	41.31S	174.08E	47	2.9	0.2	9	7
1111	MAR 17	2246 35.4	41.13S	175.57E	22	2.2	0.3	10	10
1119	MAR 18	0855 17.2	41.60S	173.62E	63	2.5	0.1	7	6
1120	MAR 18	1059 33.3	41.48S	174.20E	32	2.6	0.3	15	13
1126	MAR 18	2144 50.6	40.95S	173.94E	79	3.2	0.2	12	9
1127	MAR 18	2207 27.6	40.67S	175.43E	23	2.3	0.2	11	8
1128	MAR 18	2309 30.9	40.91S	174.95E	35	2.6	0.1	9	7
1129	MAR 19	0152 0.2	40.76S	174.16E	94	2.8	0.0	7	6
1131	MAR 19	0358 31.1	41.23S	174.27E	36	2.5	0.2	11	10
1137	MAR 19	1515 23.9	41.67S	174.30E	20	2.1	0.1	7	7
1142	MAR 19	1807 20.7	41.29S	175.24E	28	2.0	0.1	11	9
1144	MAR 19	1912 38.4	40.59S	173.88E	105	2.6	0.1	9	8
1151	MAR 20	0757 50.4	41.01S	175.57E	28	2.3	0.1	8	7

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
1160	MAR 20	1545 20.5	41.02S	174.15E	52	2.1	0.1	7	7
1162	MAR 20	1705 2.8	40.91S	175.44E	24	2.3	0.2	10	9
1163	MAR 20	1937 11.5	41.16S	174.49E	35	2.0	0.1	8	7
1171	MAR 21	0427 9.1	41.22S	174.65E	34	2.0	0.1	11	10
1175	MAR 21	1052 3.7	41.33S	174.17E	41	2.5	0.2	10	9
1178	MAR 21	1317 14.3	41.62S	173.80E	19	2.8	0.3	12	11
1179	MAR 21	1417 16.1	41.46S	173.99E	36	2.2	0.1	9	8
1188	MAR 22	0523 49.0	41.33S	174.45E	18	2.0	0.2	12	11
1189	MAR 22	0530 13.9	41.58S	174.65E	32	2.0	0.2	12	11
1193	MAR 22	1126 23.8	41.52S	174.17E	39	2.0	0.2	11	10
1198	MAR 22	1707 45.0	40.91S	175.01E	44	2.5	0.1	12	9
1204	MAR 23	0441 46.9	41.15S	174.05E	58	2.5	0.3	10	9
1206	MAR 23	0556 8.2	40.72S	175.99E	64	3.5	0.3	17	15
1209	MAR 23	0938 3.2	41.12S	174.59E	32	2.2	0.1	12	11
1210	MAR 23	1034 37.2	41.05S	175.81E	44	2.3	0.1	9	8
1214	MAR 23	1656 7.2	40.62S	175.55E	27	2.0	0.2	9	7
1215	MAR 23	1700 20.6	40.60S	175.56E	27	2.1	0.3	8	6
1220	MAR 23	2136 8.4	40.92S	175.51E	22	2.0	0.2	10	8
1230	MAR 24	1350 27.1	41.14S	174.30E	44	2.5	0.1	9	8
1235	MAR 24	2107 0.5	40.68S	173.76E	97	3.2	0.2	14	14
1246	MAR 25	1353 23.8	40.89S	174.21E	60	2.3	0.2	9	8
1247	MAR 25	1801 41.3	41.15S	174.53E	32	4.2 F	0.3	25	23
1250	MAR 25	2210 26.9	40.54S	174.04E	97	2.7	0.2	8	7
1251	MAR 25	2214 38.3	41.13S	174.48E	34	2.1	0.1	10	9
1253	MAR 25	2300 8.4	41.31S	174.56E	32	3.1	0.3	19	14
1254	MAR 26	0444 2.2	40.50S	174.72E	83	2.2	0.0	8	6
1256	MAR 26	0818 22.7	41.07S	174.55E	60	3.0	0.1	14	13
1257	MAR 26	0908 14.4	40.88S	176.00E	22	2.7	0.2	12	10
1258	MAR 26	1043 23.7	40.88S	176.00E	20	2.5	0.1	15	10
1260	MAR 26	1159 45.1	40.86S	175.86E	35	2.0	0.3	10	7
1270	MAR 27	0151 47.1	40.56S	173.98E	87	2.7	0.2	10	8
1271	MAR 27	0406 14.2	40.90S	174.08E	50	2.6	0.2	8	8
1273	MAR 27	0514 26.3	41.14S	174.49E	31	2.1	0.2	12	10
1276	MAR 27	0631 45.8	40.96S	175.61E	28	2.0	0.1	8	7
1280	MAR 27	1236 38.9	41.49S	174.49E	21	2.5	0.2	16	14
1284	MAR 27	2215 15.7	40.69S	174.86E	23	2.2	0.2	11	9
1288	MAR 28	0257 29.2	40.96S	175.51E	23	2.5	0.2	14	13
1296	MAR 28	0757 9.1	40.75S	174.89E	36	2.0	0.2	7	7
1298	MAR 28	0903 54.0	41.15S	174.52E	42	2.7	0.1	14	10
1299	MAR 28	0911 22.6	41.09S	174.85E	28	2.1	0.1	7	7
1304	MAR 28	2302 31.9	40.71S	174.29E	63	2.9	0.4	14	10
1310	MAR 29	0410 30.5	40.88S	175.93E	22	3.3	0.3	16	13
1320	MAR 29	1431 9.4	41.65S	174.36E	6	2.3	0.3	10	9
1321	MAR 29	1456 59.8	40.58S	173.73E	153	3.2	0.0	11	8
1322	MAR 29	1858 30.6	40.74S	175.31E	27	2.2	0.1	10	9

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
1325	MAR 29	2320 43.4	40.65S	173.71E	101	2.9	0.3	14	11
1332	MAR 30	0846 45.9	40.91S	174.67E	47	2.0	0.1	7	7
1336	MAR 30	1332 50.5	41.61S	174.31E	10	2.1	0.3	12	11
1338	MAR 30	2315 59.0	41.67S	174.31E	13	2.4	0.2	13	12
1339	MAR 31	0151 41.4	40.91S	174.97E	52	3.1	0.1	15	11
1344	MAR 31	1535 23.9	41.84S	175.71E	28	2.6	0.8	10	9
1353	APR 01	0638 49.6	41.15S	175.13E	26	2.7	0.2	17	11
1358	APR 01	1022 59.6	40.77S	175.81E	33R	2.9	0.3	16	11
1363	APR 01	1819 32.2	41.00S	175.90E	21	2.3	0.2	10	9
1377	APR 03	0712 56.4	41.34S	174.96E	29	3.2	0.1	17	12
1387	APR 03	1848 49.3	41.20S	174.04E	51	2.3	0.1	12	10
1403	APR 03	2105 28.1	41.57S	174.16E	14	2.1	0.2	11	9
1406	APR 04	0332 54.4	41.10S	175.39E	21	2.1	0.1	12	10
1408	APR 04	0505 15.3	40.53S	174.97E	24	2.4	0.2	11	9
1420	APR 04	1639 8.2	40.86S	174.59E	43	2.3	0.2	17	11
1423	APR 05	0145 25.7	40.74S	174.11E	77	2.5	0.2	9	7
1433	APR 05	1141 29.1	40.51S	174.00E	117	3.1	0.0	16	13
1434	APR 05	1236 35.2	41.52S	174.53E	57	2.3	0.1	11	10
1438	APR 05	2136 20.7	41.08S	174.73E	34	2.4	0.1	12	11
1447	APR 06	0803 46.3	41.16S	173.91E	52	2.5	0.1	13	10
1448	APR 06	0914 9.8	40.69S	174.09E	81	2.8	0.2	10	8
1454	APR 06	2010 15.0	41.38S	174.46E	61	2.5	0.1	9	9
1456	APR 06	2239 14.9	40.80S	174.52E	67	3.1	0.1	15	12
1457	APR 07	0124 44.5	40.84S	174.73E	66	3.1	0.1	14	10
1459	APR 07	1556 30.9	41.04S	174.84E	27	2.3	0.1	11	9
1460	APR 07	1705 34.3	41.33S	174.06E	46	2.7	0.1	14	9
1474	APR 08	1549 15.7	40.78S	174.72E	43	2.5	0.1	10	9
1477	APR 08	2136 32.9	40.98S	175.55E	28	2.2	0.1	10	9
1486	APR 10	0101 8.6	40.92S	174.86E	35	2.5	0.1	8	7
1488	APR 10	1600 30.2	40.59S	174.61E	1	2.2	0.3	8	6
1489	APR 10	1643 13.1	40.90S	175.79E	31	2.5	0.2	8	6
1491	APR 11	0224 25.3	41.08S	175.41E	32	2.0	0.3	8	7
1492	APR 11	0251 52.3	40.82S	174.61E	45	2.7	0.1	11	9
1510	APR 12	0217 21.1	40.99S	175.61E	26	3.1	0.1	14	12
1514	APR 12	0454 11.5	40.82S	175.86E	33	2.3	0.1	9	8
1519	APR 12	1050 1.8	40.59S	174.58E	61	2.4	0.2	6	6
1521	APR 12	1258 21.3	40.87S	175.59E	27	2.0	0.1	11	9
1528	APR 13	0611 26.8	40.74S	173.91E	27	2.4	0.3	9	6
1537	APR 14	0010 49.6	41.83S	174.50E	36	2.4	0.2	9	8
1540	APR 14	0559 57.2	41.17S	174.58E	20	2.2	0.2	11	9
1541	APR 14	0706 19.5	41.16S	174.77E	34	2.3	0.1	12	10
1544	APR 14	0913 33.7	40.75S	175.55E	50	2.3	0.3	6	6
1554	APR 14	1948 10.4	40.64S	174.23E	88	2.2	0.1	5	4
1555	APR 14	2324 51.4	41.29S	173.72E	92	2.5	0.1	7	6
1557	APR 15	0003 4.2	40.85S	175.21E	42	3.2	0.6	13	11

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
1562	APR 15	0331 41.2	41.40S	174.86E	12	2.7	0.2	15	13
1571	APR 15	1201 25.6	41.43S	173.99E	45	2.4	0.2	14	11
1573	APR 15	1407 59.5	41.41S	173.68E	97	2.4	0.0	9	8
1577	APR 16	0025 59.0	40.86S	175.93E	41	2.5	0.2	8	8
1587	APR 16	2012 3.9	41.21S	173.74E	104	3.1	0.1	14	12
1589	APR 17	0530 49.0	41.73S	174.49E	53	3.0	0.1	13	12
1591	APR 17	0829 13.2	41.76S	173.88E	44	2.5	0.3	13	11
1595	APR 17	1441 51.9	40.65S	174.55E	73	3.1	0.2	15	14
1596	APR 17	1524 32.0	41.91S	174.14E	19	2.1	0.2	11	10
1602	APR 17	2300 8.4	40.93S	174.17E	52	2.2	0.3	8	7
1604	APR 18	0044 23.6	40.99S	174.51E	11	2.1	0.1	9	7
1609	APR 18	1136 41.4	40.76S	173.56E	127	3.2	0.3	14	11
1615	APR 18	1926 1.8	41.02S	174.17E	60	3.0	0.2	10	8
1618	APR 19	0315 32.3	41.18S	174.65E	33	2.2	0.1	11	8
1620	APR 19	1125 27.3	41.08S	175.39E	28	2.0	0.2	6	6
1621	APR 19	1658 28.3	40.57S	173.82E	87	3.0	0.3	12	10
1623	APR 19	2112 5.4	40.72S	174.29E	76	3.4	0.2	13	11
1626	APR 20	0511 5.2	40.59S	173.97E	15	2.3	0.1	8	7
1628	APR 20	0543 53.0	41.71S	174.27E	18	2.1	0.1	11	10
1629	APR 20	0716 30.0	40.69S	175.91E	52	2.5	0.0	6	5
1636	APR 20	1620 18.2	41.15S	174.31E	39	2.2	0.1	8	7
1637	APR 20	1859 0.0	41.30S	175.31E	28	2.5	0.1	10	9
1640	APR 21	0112 4.0	40.66S	175.83E	29	2.6	0.3	9	8
1647	APR 21	1933 50.4	40.58S	174.68E	6	2.2	0.1	7	7
1648	APR 21	2123 46.3	41.15S	175.14E	26	2.0	0.1	8	7
1653	APR 22	1504 3.6	40.82S	174.93E	54	3.0	0.8	13	9
1654	APR 22	1513 40.2	40.72S	174.68E	32	2.7	0.2	13	9
1663	APR 23	0023 5.6	41.30S	173.86E	64	3.2	0.2	14	13
1682	APR 24	0811 3.1	41.16S	175.07E	24	2.2	0.1	11	9
1683	APR 24	1008 14.5	40.59S	174.14E	92	2.5	0.1	9	8
1687	APR 24	1510 27.3	40.67S	174.45E	57	2.3	0.1	9	7
1694	APR 24	2330 16.2	41.26S	174.42E	61	2.2	0.0	10	9
1697	APR 25	0302 3.7	40.59S	174.46E	75	2.3	0.1	11	10
1701	APR 25	0933 25.2	41.50S	174.02E	38	2.6	0.3	14	12
1704	APR 25	1115 34.2	40.97S	175.15E	31	2.3	0.1	10	10
1721	APR 26	1357 57.5	40.83S	174.88E	42	3.3	0.3	17	13
1723	APR 26	1408 2.0	40.99S	174.73E	35	2.1	0.1	12	9
1731	APR 27	0246 19.1	40.85S	175.91E	33	3.0	0.1	12	10
1734	APR 27	0421 48.4	40.97S	175.51E	29	2.0	0.1	6	6
1735	APR 27	0430 6.7	40.87S	174.71E	13	2.1	0.1	11	10
1737	APR 27	0636 36.5	40.52S	174.20E	85	2.6	0.1	11	10
1738	APR 27	0800 27.2	41.42S	173.87E	61	2.2	0.0	8	7
1757	APR 28	1441 4.0	40.99S	174.51E	12	2.9	0.1	13	11
1787	MAY 01	0055 55.1	40.89S	175.09E	33	2.0	0.2	8	7
1803	MAY 01	1929 58.0	41.23S	174.54E	32	2.0	0.0	7	6

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1816	MAY 02	1541 10.4	41.01S	174.59E	65	4.0	0.1	14	12
1820	MAY 03	0313 57.7	40.73S	173.90E	90	3.2	0.2	15	12
1823	MAY 03	0823 10.9	40.52S	174.74E	31	2.8	0.2	16	14
1825	MAY 03	1109 43.4	41.06S	175.62E	11	2.8	0.2	15	12
1829	MAY 03	1348 34.5	40.77S	174.76E	46	2.2	0.1	8	7
1831	MAY 03	1622 47.9	40.63S	175.89E	31	2.1	0.2	6	5
1833	MAY 03	2208 2.4	41.60S	174.43E	11	2.7	0.2	14	13
1836	MAY 04	0044 46.5	41.71S	174.20E	13	2.3	0.1	11	10
1846	MAY 04	0706 52.1	40.98S	174.52E	7	2.0	0.2	12	9
1850	MAY 04	1328 26.1	40.83S	175.29E	29	2.2	0.1	9	8
1853	MAY 04	1738 13.2	40.82S	175.72E	29	3.2	0.3	17	14
1854	MAY 04	1743 54.3	41.45S	174.98E	34	2.4	0.3	12	10
1855	MAY 04	1810 52.6	40.90S	175.73E	28	2.7	0.1	13	11
1872	MAY 05	2211 29.3	40.84S	175.22E	29	2.1	0.0	5	4
1874	MAY 06	0011 54.0	40.91S	175.81E	30	2.3	0.2	9	8
1878	MAY 06	0806 8.9	40.78S	175.25E	32	2.4	0.1	9	8
1879	MAY 06	0933 45.5	40.97S	174.65E	61	2.5	0.0	12	11
1881	MAY 06	0941 59.2	40.78S	174.75E	35	2.2	0.1	9	7
1884	MAY 06	1410 12.4	41.12S	175.02E	19	2.4	0.2	12	11
1885	MAY 06	1702 58.7	41.13S	173.57E	89	2.8	0.1	12	11
1886	MAY 06	2339 36.6	41.59S	174.62E	28	2.1	0.1	7	7
1887	MAY 06	2339 40.5	41.62S	174.64E	30	2.9	0.1	17	13
1892	MAY 07	0918 39.6	40.87S	175.10E	33R	2.3	0.2	12	10
1900	MAY 07	2201 32.2	40.64S	174.37E	51	2.4	0.1	11	9
1901	MAY 07	2342 42.4	41.00S	173.93E	64	2.1	0.1	6	6
1903	MAY 08	0552 16.6	40.95S	174.82E	35	3.3	0.1	18	14
1907	MAY 08	1135 34.6	41.55S	174.12E	31	2.1	0.1	8	7
1911	MAY 08	1646 25.8	41.55S	174.17E	24	2.0	0.1	8	7
1912	MAY 08	1744 23.7	40.71S	174.62E	39	2.1	0.1	7	7
1916	MAY 09	0021 14.9	41.04S	174.90E	27	2.2	0.1	10	10
1919	MAY 09	0502 6.3	40.61S	174.56E	32	2.4	0.3	11	8
1924	MAY 09	1613 27.9	40.76S	175.00E	66	2.7	0.2	10	9
1925	MAY 09	1814 3.3	41.47S	173.64E	74	2.6	0.1	8	7
1926	MAY 09	1926 18.8	41.69S	173.83E	13	2.1	0.4	8	7
1933	MAY 10	0351 44.9	40.65S	173.67E	168	2.9	0.1	7	7
1938	MAY 10	1815 44.5	41.03S	174.48E	53	3.5 F	0.3	23	19
1939	MAY 10	1912 41.1	41.13S	174.69E	32	2.1	0.2	12	11
1940	MAY 10	1915 35.7	41.04S	175.45E	29	2.3	0.2	12	11
1945	MAY 11	0221 24.3	41.30S	174.73E	28	2.1	0.1	13	10
1952	MAY 11	1022 25.3	40.95S	174.62E	57	2.0	0.1	6	6
1954	MAY 11	1501 1.6	41.30S	175.28E	27	2.4	0.1	13	11
1956	MAY 11	2052 11.1	41.07S	174.19E	57	2.8	0.4	12	10
1960	MAY 12	0107 6.2	40.95S	175.68E	24	2.0	0.1	6	6
1962	MAY 12	0552 34.2	40.88S	175.10E	33	2.5	0.2	13	10
1965	MAY 12	2112 55.9	41.56S	174.81E	27	2.1	0.1	10	8

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1976	MAY 14	2128 53.7	40.97S	174.54E	64	3.0	0.1	13	10
1978	MAY 14	2203 31.0	40.96S	175.53E	21	2.5	0.2	11	9
1980	MAY 15	0144 58.1	40.98S	174.52E	9	2.2	0.2	11	8
1986	MAY 15	1313 34.9	40.72S	175.80E	29	2.8	0.3	9	8
2023	MAY 16	1035 15.2	41.64S	174.56E	34	2.2	0.1	12	10
2027	MAY 16	1129 56.9	41.18S	174.55E	34	2.1	0.1	12	10
2033	MAY 16	2030 35.0	40.63S	174.94E	33	2.3	0.0	7	5
2035	MAY 17	0124 8.6	41.14S	174.54E	56	3.1	0.1	14	11
2038	MAY 17	0947 56.0	41.11S	175.78E	27	2.3	0.1	8	7
2052	MAY 18	0330 3.8	41.09S	175.81E	31	2.9	0.1	15	13
2061	MAY 18	2015 1.1	40.85S	173.72E	136	3.1	0.2	8	8
2067	MAY 19	0643 48.3	41.40S	174.66E	21	2.1	0.1	9	7
2068	MAY 19	1853 42.5	41.80S	174.38E	28	3.6	0.3	18	16
2082	MAY 20	0834 49.7	41.09S	174.57E	58	2.4	0.1	12	10
2090	MAY 20	1808 18.6	41.53S	173.65E	84	2.8	0.2	8	7
2108	MAY 21	1737 45.9	40.84S	174.79E	35	2.2	0.1	9	7
2109	MAY 21	1912 17.8	41.85S	174.14E	33R	3.6	0.2	19	16
2119	MAY 22	1117 17.9	40.79S	174.70E	15	2.0	0.3	10	9
2120	MAY 22	1232 39.4	41.40S	173.74E	33R	2.3	0.4	10	10
2147	MAY 24	0949 39.3	40.56S	174.50E	78	2.4	0.1	11	9
2151	MAY 24	1407 36.5	40.97S	174.64E	54	2.4	0.1	11	9
2165	MAY 24	2216 58.9	40.89S	174.12E	49	2.2	0.3	8	6
2171	MAY 25	0630 52.3	41.21S	173.60E	107	2.7	0.0	11	10
2174	MAY 25	0838 30.4	41.64S	174.31E	13	2.3	0.2	12	10
2175	MAY 25	1401 18.7	41.91S	174.07E	20	2.4	0.2	12	11
2176	MAY 25	1804 7.9	40.88S	175.75E	43	3.3	0.4	17	15
2185	MAY 26	0713 45.1	40.97S	175.99E	20	2.2	0.3	9	8
2187	MAY 26	0832 46.2	41.67S	174.99E	28	2.1	0.1	11	7
2188	MAY 26	0940 11.4	40.87S	175.56E	22	2.2	0.2	8	7
2193	MAY 26	1703 8.9	41.02S	175.85E	10	2.1	0.4	7	7
2205	MAY 27	0606 2.0	41.47S	173.55E	101	2.7	0.1	8	8
2210	MAY 27	1023 58.3	41.00S	175.96E	21	2.4	0.2	9	8
2218	MAY 27	2103 15.6	41.62S	173.73E	45	2.5	0.2	12	11
2234	MAY 28	2329 21.5	41.58S	174.11E	12R	2.8	0.3	14	12
2236	MAY 29	0024 1.5	40.73S	174.23E	29	2.3	0.4	10	9
2239	MAY 29	0517 55.9	40.57S	174.31E	77	2.2	0.1	8	7
2257	MAY 30	0613 11.2	40.68S	174.54E	77	2.8	0.1	12	11
2291	MAY 31	2028 53.0	41.76S	174.48E	31	2.6	0.2	16	12
2292	MAY 31	2101 9.5	40.75S	174.29E	2	2.1	0.2	6	6
2296	JUN 01	0330 51.5	41.72S	174.12E	31	2.2	0.1	9	9
2300	JUN 01	0518 17.7	41.92S	173.97E	52	2.5	0.0	7	5
2301	JUN 01	0608 39.4	41.24S	174.45E	35	2.2	0.1	10	9
2303	JUN 01	0633 16.4	41.04S	174.88E	49	2.2	0.1	12	10
2312	JUN 01	2018 55.0	40.53S	173.81E	87	3.0	0.3	12	9
2318	JUN 02	0342 18.9	40.88S	175.66E	27	2.3	0.1	11	9

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2327	JUN 02	1316 56.7	41.76S	174.47E	34	2.3	0.1	11	10
2328	JUN 02	1331 54.5	40.50S	173.57E	180	2.7	0.1	6	5
2335	JUN 03	0324 19.0	41.12S	174.65E	31	2.3	0.2	18	12
2336	JUN 03	0339 31.3	40.86S	174.04E	64	2.7	0.3	10	9
2353	JUN 03	2215 5.6	41.78S	174.23E	28	2.7	0.3	15	13
2403	JUN 04	0052 54.2	40.96S	173.72E	94	3.3	0.2	27	16
2482	JUN 04	1101 55.7	41.23S	175.24E	20	2.0	0.0	6	6
2491	JUN 04	1232 50.2	40.62S	175.91E	29	3.1	0.3	16	15
2499	JUN 04	1423 20.4	40.58S	175.97E	30	2.3	0.3	8	7
2527	JUN 05	0416 49.4	40.99S	175.46E	26	2.3	0.1	14	12
2548	JUN 05	2138 17.7	41.86S	174.33E	21	2.1	0.1	6	5
2552	JUN 05	2305 57.4	41.49S	174.56E	37	2.2	0.1	12	11
2553	JUN 06	0011 53.4	41.36S	174.11E	41	2.8	0.2	14	12
2564	JUN 06	0800 10.7	40.51S	174.33E	31	2.1	0.1	8	6
2576	JUN 06	1237 39.6	40.60S	174.41E	38	2.5	0.2	9	7
2599	JUN 06	2025 18.6	40.68S	174.64E	35	2.9	0.2	12	12
2623	JUN 07	1151 51.4	41.01S	173.92E	63	3.0	0.2	19	12
2644	JUN 07	2038 59.8	41.37S	174.35E	60	2.1	0.1	8	8
2664	JUN 08	0247 29.1	41.83S	174.45E	25R	2.2	0.1	10	9
2702	JUN 08	1331 26.2	41.29S	174.83E	28	2.1	0.1	14	10
2715	JUN 08	1811 59.9	40.53S	174.69E	19	2.6	0.2	14	12
2728	JUN 08	2257 12.4	40.74S	175.25E	30	3.5	0.2	23	17
2732	JUN 09	0134 17.9	40.86S	174.39E	51	2.7	0.5	15	11
2734	JUN 09	0246 53.5	41.22S	174.84E	0R	2.0	0.2	10	10
2737	JUN 09	0253 49.0	40.87S	174.62E	53	3.1	0.2	16	11
2743	JUN 09	0527 15.0	41.77S	174.51E	51	2.9	0.1	16	14
2744	JUN 09	0603 3.0	40.91S	175.72E	29	2.4	0.1	10	8
2782	JUN 09	1605 46.9	41.17S	174.77E	33	2.4	0.1	13	11
2804	JUN 09	2354 19.7	40.52S	174.18E	107	2.6	0.1	9	9
2847	JUN 10	1419 56.1	41.78S	174.39E	29	2.0	0.1	9	7
2881	JUN 10	2325 59.1	41.10S	174.71E	54	2.0	0.1	10	10
2895	JUN 11	0233 18.5	40.60S	175.50E	34	2.0	0.0	7	5
2897	JUN 11	0245 13.9	41.12S	173.59E	118	3.1	0.1	13	10
2912	JUN 11	0508 58.8	40.70S	175.44E	29	2.7	0.2	16	12
2913	JUN 11	0627 5.9	41.23S	175.23E	24	2.4	0.2	15	12
2916	JUN 11	1143 9.8	41.30S	174.72E	30	2.4	0.1	14	11
2919	JUN 11	1442 8.7	40.53S	175.96E	33	2.1	0.3	8	6
2926	JUN 11	2212 0.4	41.67S	174.30E	15	2.4	0.2	14	12
2933	JUN 12	0445 6.9	41.26S	175.03E	21	2.0	0.1	13	10
2938	JUN 12	0907 57.9	41.56S	174.09E	16	2.6	0.3	13	12
2941	JUN 12	1151 27.2	40.65S	175.40E	33R	2.1	0.3	9	9
2955	JUN 13	0453 9.3	40.97S	174.81E	48	2.2	0.1	6	5
2959	JUN 13	0716 29.9	40.51S	174.35E	50	2.8	0.2	11	10
2969	JUN 14	0458 5.4	41.38S	174.58E	24	3.1	0.2	18	13
2978	JUN 14	0847 8.1	41.29S	175.21E	21	2.1	0.1	10	9

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2989	JUN 14	1426 16.6	41.04S	175.29E	7	3.9 F	0.2	28	21
2991	JUN 14	1602 3.8	41.17S	174.83E	49	2.1	0.1	12	9
3002	JUN 15	0138 31.7	40.50S	174.29E	28	2.3	0.1	8	6
3007	JUN 15	0407 46.5	41.99S	174.05E	5R	2.6	0.3	13	10
3013	JUN 15	0724 53.3	41.42S	175.00E	25	2.0	0.1	12	10
3014	JUN 15	0816 9.7	41.72S	174.23E	15	2.6	0.3	15	12
3020	JUN 15	2237 12.3	40.81S	175.09E	31	2.9	0.2	14	12
3024	JUN 16	0138 17.1	41.28S	175.37E	22	2.1	0.1	12	11
3033	JUN 16	0919 55.8	41.15S	174.14E	55	2.2	0.1	6	5
3048	JUN 16	2116 51.9	41.00S	174.55E	49	3.3	0.1	14	12
3050	JUN 16	2134 38.9	40.87S	174.71E	15	2.1	0.2	10	8
3094	JUN 17	2122 3.4	41.37S	175.11E	28	2.2	0.1	15	11
3100	JUN 18	0750 6.2	40.82S	175.90E	40	2.7	0.3	10	9
3102	JUN 18	0840 2.2	41.43S	174.67E	57	2.1	0.1	10	8
3104	JUN 18	1015 15.2	40.82S	174.16E	95	2.8	0.1	10	10
3105	JUN 18	1403 24.2	41.58S	174.87E	27	2.3	0.1	13	11
3106	JUN 18	1428 10.0	40.77S	174.71E	46	2.4	0.2	11	9
3120	JUN 19	0804 43.3	40.97S	175.71E	31	2.6	0.2	11	10
3128	JUN 19	1631 50.9	41.38S	174.64E	28	2.0	0.3	11	9
3130	JUN 19	1745 51.2	40.93S	174.61E	60	2.5	0.1	8	7
3139	JUN 20	0725 34.7	41.06S	175.34E	28	2.1	0.1	9	7
3142	JUN 20	1011 17.0	40.92S	175.04E	32	2.3	0.1	14	11
3151	JUN 20	2227 56.6	41.21S	175.42E	24	2.2	0.2	17	12
3152	JUN 20	2259 39.7	41.06S	174.70E	33	3.1	0.3	23	16
3154	JUN 21	0258 38.2	41.58S	173.90E	7	2.1	0.3	10	9
3161	JUN 21	1322 46.2	40.98S	175.36E	12	2.7	0.2	17	15
3165	JUN 21	1922 9.4	41.64S	174.16E	12	2.3	0.4	14	12
3166	JUN 21	1944 55.4	41.62S	174.22E	9	3.9	0.2	20	17
3167	JUN 21	2012 36.0	41.66S	174.14E	15	2.0	0.2	11	10
3172	JUN 21	2140 56.7	41.61S	174.25E	9	3.0	0.2	19	16
3182	JUN 22	0416 56.0	41.63S	174.21E	8	2.7	0.3	17	14
3185	JUN 22	0636 5.9	40.97S	175.37E	13	2.1	0.2	13	12
3189	JUN 22	0924 14.2	41.62S	174.21E	5	2.8	0.3	17	15
3197	JUN 22	1359 54.6	40.99S	175.08E	41	2.6	0.1	18	12
3205	JUN 23	0710 6.7	41.15S	175.69E	21	2.4	0.1	12	10
3206	JUN 23	0721 21.5	41.17S	175.65E	23	2.5	0.1	14	12
3207	JUN 23	0746 41.1	41.67S	173.85E	11	2.4	0.3	13	11
3218	JUN 23	1159 42.0	40.61S	174.34E	29	2.0	0.5	8	7
3219	JUN 23	1201 0.3	40.76S	174.46E	71	2.7	0.2	13	10
3224	JUN 23	1756 16.9	41.09S	175.42E	26	2.0	0.1	9	8
3244	JUN 24	1522 35.9	41.39S	175.66E	30	2.0	0.2	8	7
3248	JUN 24	1700 19.8	40.89S	175.45E	23	2.1	0.2	14	11
3250	JUN 24	2056 56.7	40.79S	175.14E	43	3.1	0.2	16	11
3260	JUN 25	1136 2.8	41.44S	175.31E	15	2.0	0.1	11	10
3262	JUN 25	1423 12.6	40.82S	174.51E	40	2.1	0.1	8	8

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3266	JUN 25	1828 57.3	40.68S	174.50E	74	3.0	0.1	14	11
3267	JUN 25	1922 27.9	40.78S	174.15E	94	2.7	0.1	7	7
3270	JUN 25	2240 49.8	41.04S	175.50E	37	3.1	0.1	14	11
3273	JUN 26	0008 2.0	40.55S	175.77E	32	2.1	0.3	6	4
3274	JUN 26	0603 44.4	40.60S	175.83E	30	2.6	0.3	11	9
3275	JUN 26	0709 33.8	40.85S	175.10E	30	2.4	0.2	9	8
3278	JUN 26	1628 43.0	41.16S	175.71E	27	2.3	0.2	12	9
3287	JUN 27	0921 36.6	40.54S	174.30E	82	2.9	0.1	15	9
3288	JUN 27	1207 11.5	41.65S	174.12E	17	2.3	0.2	11	9
3290	JUN 27	1621 5.4	40.69S	174.56E	58	3.2	0.3	17	11
3296	JUN 28	0039 22.6	41.05S	174.80E	54	4.0 F	0.2	24	19
3299	JUN 28	0416 28.8	41.55S	175.52E	28	2.2	0.1	10	10
3300	JUN 28	0424 12.5	41.09S	173.76E	64	2.8	0.2	8	7
3306	JUN 28	1202 19.4	41.35S	175.09E	38	2.6	0.1	15	12
3309	JUN 28	1605 6.2	41.18S	174.58E	34	2.3	0.1	11	9
3310	JUN 28	1606 16.6	41.19S	174.58E	34	2.3	0.1	12	9
3315	JUN 28	1959 27.3	41.28S	174.44E	34	2.6	0.1	10	10
3318	JUN 29	0255 53.3	41.76S	174.13E	12R	2.0	0.3	7	7
3319	JUN 29	0511 7.6	41.67S	174.21E	24	2.7	0.2	12	11
3322	JUN 29	1231 37.9	40.97S	175.21E	31	2.6	0.3	12	11
3329	JUN 29	1936 47.8	41.08S	175.52E	28	2.1	0.1	13	10
3330	JUN 29	2208 57.3	40.69S	175.88E	32	2.9	0.2	14	12
3339	JUN 30	0916 18.2	41.03S	175.49E	13	2.4	0.2	12	10
3357	JUL 01	1043 6.1	41.33S	174.34E	35	2.0	0.1	11	9
3364	JUL 02	0100 27.8	41.36S	175.76E	22	3.1	0.1	17	13
3365	JUL 02	0328 39.4	40.84S	174.73E	15	2.2	0.3	13	9
3366	JUL 02	0334 18.0	41.57S	174.16E	13	2.5	0.3	11	10
3370	JUL 02	0500 22.9	41.35S	175.78E	17	2.3	0.1	9	9
3375	JUL 02	1131 17.5	41.37S	175.80E	24	3.7	0.2	18	14
3378	JUL 02	1219 6.5	41.35S	175.77E	16	2.1	0.1	15	11
3379	JUL 02	1229 49.0	41.35S	175.81E	19	2.1	0.1	10	8
3380	JUL 02	1314 6.6	41.35S	175.76E	15	2.4	0.1	13	11
3381	JUL 02	1428 15.8	41.09S	173.93E	73	2.4	0.1	8	8
3382	JUL 02	1431 36.5	41.35S	175.73E	15	2.7	0.2	15	12
3384	JUL 02	1522 39.1	41.34S	175.75E	17	2.3	0.1	9	8
3387	JUL 02	1841 53.1	41.29S	175.21E	19	2.0	0.1	12	9
3388	JUL 02	1850 29.7	41.36S	175.76E	15	2.6	0.1	13	11
3389	JUL 02	1912 21.5	41.44S	174.21E	34	2.3	0.2	10	8
3391	JUL 02	2240 36.0	41.36S	175.76E	23	2.8	0.1	18	13
3392	JUL 02	2334 27.8	41.34S	175.73E	20R	2.5	0.1	17	12
3395	JUL 03	0032 18.5	41.37S	175.85E	13	2.2	0.1	6	6
3398	JUL 03	0231 1.9	41.66S	174.12E	20R	2.2	0.4	11	9
3399	JUL 03	0255 50.6	41.35S	175.81E	22	2.2	0.2	10	9
3403	JUL 03	1001 27.2	40.66S	175.55E	29	3.2	0.2	22	17
3408	JUL 03	1528 41.5	41.15S	173.90E	70	3.0	0.1	12	9

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
3409	JUL 03	1542 7.7	40.87S	175.62E	21	2.3	0.1	13	11
3414	JUL 04	0832 41.7	40.80S	175.07E	34	3.4	0.2	17	13
3415	JUL 04	1000 0.1	40.80S	175.06E	33	2.2	0.1	8	7
3423	JUL 04	2343 4.0	41.17S	174.66E	32	4.7 F	0.2	21	19
3424	JUL 04	2345 8.1	41.15S	174.65E	32	3.0	0.2	16	13
3425	JUL 04	2345 24.1	41.13S	174.63E	33	2.9	0.1	9	7
3426	JUL 04	2345 43.8	41.50S	174.83E	33R	4.5 F	0.5	10	7
3427	JUL 04	2348 24.8	41.14S	174.64E	31	2.1	0.1	12	10
3428	JUL 04	2348 47.9	41.15S	174.65E	32	2.9	0.2	16	13
3429	JUL 04	2349 32.8	41.14S	174.63E	31	2.6	0.1	15	12
3430	JUL 04	2350 17.2	41.15S	174.64E	31	2.7	0.2	16	13
3431	JUL 04	2351 14.3	41.16S	174.64E	32	3.2	0.2	17	13
3432	JUL 04	2352 55.8	41.14S	174.66E	30R	2.0	0.1	10	9
3433	JUL 04	2353 4.9	41.14S	174.64E	32	2.1	0.1	7	7
3434	JUL 04	2354 19.8	41.15S	174.64E	31	2.5	0.2	16	13
3435	JUL 04	2354 52.3	41.15S	174.64E	32	2.9	0.2	16	13
3436	JUL 04	2355 29.6	41.13S	174.64E	31	2.5	0.1	15	12
3437	JUL 04	2357 56.6	41.15S	174.64E	33	2.1	0.1	10	9
3438	JUL 04	2359 24.7	41.14S	174.64E	32	2.0	0.1	10	10
3439	JUL 05	0000 57.7	41.14S	174.64E	32	2.1	0.0	10	9
3440	JUL 05	0003 15.0	41.14S	174.64E	31	2.5	0.1	16	13
3441	JUL 05	0006 7.1	41.15S	174.64E	32	2.8	0.2	17	13
3442	JUL 05	0008 45.7	41.13S	174.64E	31	2.2	0.1	15	12
3443	JUL 05	0009 15.7	41.13S	174.65E	30R	2.0	0.1	11	11
3444	JUL 05	0010 13.1	41.14S	174.64E	32	2.2	0.1	14	12
3446	JUL 05	0013 48.9	41.14S	174.64E	32	2.4	0.1	13	11
3447	JUL 05	0016 36.7	41.14S	174.65E	32	3.0	0.2	16	13
3448	JUL 05	0017 39.8	41.14S	174.65E	31	3.4	0.1	19	15
3449	JUL 05	0018 56.1	41.15S	174.65E	32	2.7	0.2	16	13
3450	JUL 05	0020 6.2	41.13S	174.65E	33	2.0	0.1	10	10
3451	JUL 05	0020 40.6	41.15S	174.65E	32	2.7	0.2	16	13
3452	JUL 05	0023 21.0	41.15S	174.64E	32	2.5	0.2	16	13
3454	JUL 05	0026 1.5	41.14S	174.65E	32	3.2	0.1	17	14
3456	JUL 05	0031 30.2	41.15S	174.64E	31	3.1	0.2	15	12
3457	JUL 05	0034 32.7	41.13S	174.63E	33	2.0	0.1	7	7
3459	JUL 05	0035 10.4	41.14S	174.65E	31	2.1	0.1	12	10
3461	JUL 05	0042 46.6	41.13S	174.65E	33	2.2	0.0	8	7
3463	JUL 05	0046 27.1	41.14S	174.65E	33	2.8	0.2	15	12
3464	JUL 05	0050 3.1	41.13S	174.64E	31	2.1	0.0	8	8
3465	JUL 05	0050 16.4	41.14S	174.65E	32	2.0	0.0	8	7
3467	JUL 05	0055 16.3	41.16S	174.66E	32	2.5	0.2	14	11
3468	JUL 05	0056 28.2	41.10S	174.59E	34	2.0	0.3	8	7
3470	JUL 05	0114 11.6	41.13S	174.64E	33	2.2	0.0	14	10
3471	JUL 05	0121 1.8	41.13S	174.65E	31	2.1	0.1	12	10
3472	JUL 05	0128 20.3	41.15S	174.65E	33	2.4	0.1	15	12

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
3473	JUL 05	0134 44.7	41.14S	174.64E	33	2.2	0.1	15	12
3474	JUL 05	0142 3.9	41.15S	174.65E	32	3.0	0.2	15	13
3475	JUL 05	0156 49.6	41.15S	174.64E	34	2.0	0.1	10	8
3477	JUL 05	0214 24.1	41.15S	174.64E	34	2.4	0.1	13	11
3478	JUL 05	0228 2.7	41.15S	174.65E	33	2.5	0.1	17	13
3479	JUL 05	0244 22.6	41.14S	174.64E	31	2.6	0.1	14	12
3480	JUL 05	0258 38.6	41.14S	174.64E	33	2.3	0.1	15	11
3482	JUL 05	0343 16.3	41.14S	174.64E	32	2.2	0.1	11	10
3483	JUL 05	0350 46.7	41.14S	174.64E	32	2.9	0.1	15	13
3484	JUL 05	0408 18.1	41.14S	174.64E	33	2.4	0.1	13	11
3485	JUL 05	0430 38.3	41.13S	174.65E	31	2.9	0.1	16	13
3486	JUL 05	0447 2.6	41.15S	174.65E	32	2.1	0.0	9	8
3487	JUL 05	0449 15.1	41.14S	174.64E	32	2.0	0.1	12	10
3491	JUL 05	0528 12.6	41.13S	174.64E	32	2.2	0.0	11	10
3492	JUL 05	0545 25.6	41.14S	174.65E	31	2.9	0.1	16	13
3496	JUL 05	0652 46.4	41.14S	174.64E	32	2.4	0.1	14	12
3497	JUL 05	0715 36.8	41.14S	174.65E	33	2.6	0.1	17	14
3499	JUL 05	0811 4.7	41.14S	174.65E	32	3.3 F	0.1	18	15
3500	JUL 05	0830 25.7	41.14S	174.65E	32	2.5	0.1	16	13
3501	JUL 05	0839 43.8	41.15S	174.65E	34	2.4	0.1	14	12
3502	JUL 05	0900 4.6	41.13S	174.65E	33	2.5	0.1	14	12
3505	JUL 05	1014 42.8	41.02S	174.16E	51	2.3	0.2	7	7
3508	JUL 05	1231 25.1	41.15S	174.64E	30	2.3	0.1	11	10
3509	JUL 05	1252 39.2	41.14S	174.64E	33	2.2	0.1	10	8
3511	JUL 05	1527 52.6	41.14S	174.65E	34	2.2	0.1	13	11
3514	JUL 05	1702 57.8	41.14S	174.65E	31	3.0	0.1	17	14
3515	JUL 05	1717 3.2	41.14S	174.63E	32	2.0	0.0	10	8
3518	JUL 05	1817 32.0	41.13S	174.65E	32	2.0	0.1	13	11
3527	JUL 06	0021 6.7	41.13S	174.64E	32	2.0	0.1	8	7
3530	JUL 06	0052 49.4	41.14S	174.64E	32	2.1	0.1	10	9
3535	JUL 06	0352 39.4	40.88S	175.44E	25	2.5	0.1	10	8
3538	JUL 06	0519 25.5	41.08S	174.59E	34	2.0	0.2	7	7
3542	JUL 06	0803 53.8	41.13S	174.65E	31	2.6	0.1	12	10
3547	JUL 06	0956 16.6	41.13S	174.65E	33	2.3	0.1	11	9
3548	JUL 06	1041 44.8	41.14S	174.64E	32	2.1	0.1	12	10
3550	JUL 06	1302 54.3	41.14S	174.64E	30	2.0	0.1	8	7
3551	JUL 06	1320 9.7	41.13S	174.65E	32	2.2	0.1	9	8
3554	JUL 06	1650 12.0	41.77S	173.53E	72	2.8	0.1	6	6
3558	JUL 06	1810 0.9	40.87S	174.74E	13	2.0	0.2	7	6
3560	JUL 06	1859 9.9	41.02S	174.84E	30	2.5	0.1	14	11
3562	JUL 06	1905 41.7	41.04S	174.84E	28	2.2	0.1	8	8
3564	JUL 06	2042 12.1	41.06S	175.54E	24	2.0	0.1	11	9
3566	JUL 06	2328 49.8	40.85S	175.81E	26	2.1	0.1	6	4
3569	JUL 07	0038 11.9	41.14S	174.65E	34	2.1	0.1	13	11
3575	JUL 07	0324 23.5	40.78S	175.22E	31	2.5	0.1	11	10

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
3577	JUL 07	0439 18.0	41.15S	174.63E	33	2.2	0.1	10	9
3578	JUL 07	0440 54.4	41.01S	174.51E	34	2.2	0.1	8	7
3581	JUL 07	0545 10.4	41.12S	174.65E	32	2.6	0.1	15	11
3583	JUL 07	0954 49.5	41.14S	174.65E	32	2.9	0.1	16	12
3584	JUL 07	1149 12.7	41.26S	173.94E	52	2.4	0.1	6	6
3588	JUL 07	1302 42.7	41.59S	174.32E	28	2.9	0.1	15	13
3590	JUL 07	1441 45.0	41.14S	174.65E	33	2.1	0.1	12	10
3598	JUL 07	2213 46.2	40.63S	174.81E	10	2.6	0.2	10	9
3603	JUL 08	0156 1.9	40.57S	174.34E	83	3.5	0.2	18	15
3607	JUL 08	0453 59.7	41.22S	174.47E	39	2.0	0.1	11	10
3630	JUL 08	2221 36.8	40.95S	174.12E	47	3.1	0.3	12	9
3631	JUL 08	2307 18.0	41.66S	174.53E	30	2.2	0.2	10	7
3633	JUL 08	2352 7.7	41.26S	174.56E	35	2.1	0.1	12	10
3639	JUL 09	0157 38.5	41.39S	174.18E	43	2.4	0.2	8	8
3641	JUL 09	0210 36.4	41.15S	174.65E	32	3.0	0.1	14	12
3645	JUL 09	0612 58.3	41.08S	174.89E	30	3.6 F	0.1	21	18
3646	JUL 09	0615 16.7	41.15S	174.65E	32	2.8	0.2	15	12
3647	JUL 09	0616 30.7	41.16S	174.64E	32	2.4	0.2	14	11
3649	JUL 09	0622 49.5	41.13S	174.64E	31	2.1	0.1	12	10
3650	JUL 09	0643 12.0	41.75S	174.32E	32	2.2	0.2	12	10
3652	JUL 09	0803 17.8	41.30S	173.74E	95	2.7	0.0	12	9
3653	JUL 09	0849 23.8	41.14S	174.65E	32	2.9	0.2	16	12
3655	JUL 09	1246 58.3	41.13S	174.64E	32	2.1	0.0	11	9
3660	JUL 09	1629 30.2	40.92S	175.22E	31	2.6	0.2	16	13
3662	JUL 09	1651 34.3	41.48S	174.99E	45	2.7	0.1	18	12
3667	JUL 09	2216 23.3	41.13S	174.65E	32	2.4	0.1	12	11
3675	JUL 10	0511 9.8	40.88S	175.05E	35	2.7	0.2	14	12
3678	JUL 10	0754 11.5	41.03S	174.58E	39	2.2	0.2	11	10
3681	JUL 10	1331 20.4	41.14S	174.65E	34	2.2	0.1	11	9
3683	JUL 10	1341 46.0	40.71S	175.48E	28	3.7	0.3	18	15
3687	JUL 11	0143 53.1	40.91S	175.02E	46	2.2	0.1	6	5
3689	JUL 11	0304 4.6	40.85S	175.86E	33	2.7	0.2	10	9
3692	JUL 11	0545 55.1	41.27S	174.99E	30	2.1	0.1	12	10
3693	JUL 11	1301 10.4	41.13S	174.65E	32	3.1	0.1	15	13
3697	JUL 11	1559 48.1	41.06S	174.68E	59	2.4	0.1	13	11
3700	JUL 12	0119 11.7	41.36S	175.78E	18	2.0	0.1	9	9
3711	JUL 12	0924 58.5	40.78S	174.32E	63	2.5	0.1	12	10
3720	JUL 12	2043 5.2	41.66S	174.20E	14	2.6	0.2	11	9
3721	JUL 12	2101 27.6	40.94S	175.36E	30	2.0	0.1	9	7
3729	JUL 13	0213 40.8	41.55S	174.32E	53	2.4	0.1	10	10
3730	JUL 13	0245 2.7	41.03S	174.14E	63	3.3	0.3	19	15
3738	JUL 13	1426 35.4	40.83S	175.48E	18	2.0	0.2	10	9
3751	JUL 14	0821 27.9	41.81S	174.08E	64	3.9 F	0.1	15	10
3761	JUL 14	2058 7.8	41.52S	174.44E	18	2.2	0.1	10	9
3763	JUL 14	2153 45.8	41.19S	174.66E	33	2.1	0.2	14	12

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
3764	JUL 14	2153 49.0	41.18S	174.66E	33	2.9	0.1	14	12
3766	JUL 14	2257 16.5	41.67S	174.24E	14	2.6	0.1	14	13
3774	JUL 15	0923 54.2	40.50S	174.28E	28	2.7	0.2	14	11
3778	JUL 15	1205 26.0	41.26S	174.51E	50	2.1	0.1	10	6
3782	JUL 15	1639 23.2	41.73S	173.62E	16	2.2	0.6	8	7
3784	JUL 15	1722 59.0	41.14S	174.64E	32	2.1	0.1	13	10
3790	JUL 16	0222 14.5	41.14S	174.65E	33	2.0	0.1	14	10
3796	JUL 16	0632 48.7	40.99S	174.73E	32	2.6	0.1	17	13
3797	JUL 16	0636 24.1	41.73S	173.57E	70	3.3	0.1	15	14
3798	JUL 16	0649 10.2	41.15S	174.64E	31	2.3	0.1	13	11
3799	JUL 16	0721 13.0	41.21S	173.98E	82	2.9	0.1	13	11
3803	JUL 16	1551 52.7	41.14S	174.65E	32	2.1	0.2	13	11
3819	JUL 17	1418 6.2	41.15S	174.65E	32	3.5 F	0.2	16	14
3821	JUL 17	1925 25.6	41.13S	174.63E	33	2.0	0.1	10	9
3825	JUL 17	2054 53.1	41.57S	175.32E	20	2.8	0.2	13	11
3830	JUL 17	2325 6.0	41.14S	174.65E	32	2.5	0.1	14	12
3832	JUL 18	0139 4.4	40.96S	174.22E	83	3.2	0.0	12	11
3840	JUL 18	0916 12.2	40.54S	173.62E	149	3.1	0.2	10	8
3841	JUL 18	1006 37.1	40.86S	175.34E	29	2.6	0.1	11	9
3846	JUL 19	0307 15.8	40.89S	174.65E	41	3.0	0.2	17	14
3847	JUL 19	0326 19.2	40.83S	175.72E	23	2.4	0.2	12	9
3848	JUL 19	0327 8.7	40.82S	175.70E	25	2.0	0.1	8	6
3849	JUL 19	0335 4.7	41.35S	173.64E	98	2.7	0.0	8	7
3850	JUL 19	0505 57.7	40.54S	175.97E	29	2.2	0.2	8	6
3858	JUL 19	1330 45.5	41.28S	175.30E	29	2.0	0.1	12	10
3861	JUL 19	2320 28.2	40.64S	174.63E	10	2.5	0.1	11	9
3862	JUL 19	2323 54.3	40.73S	174.39E	63	2.4	0.2	9	7
3877	JUL 20	1958 8.4	40.75S	174.75E	35	3.5	0.2	19	14
3879	JUL 20	2150 12.5	41.08S	174.16E	51	2.4	0.1	13	11
3883	JUL 21	0110 3.8	40.92S	174.48E	58	2.7	0.1	14	12
3897	JUL 21	1147 6.2	41.09S	174.61E	56	2.2	0.1	10	9
3902	JUL 21	1921 4.9	40.51S	174.26E	87	4.2	0.2	24	19
3909	JUL 22	1043 49.8	41.81S	174.53E	32	2.8	0.1	17	14
3915	JUL 22	1435 30.3	41.06S	174.89E	27	2.2	0.1	12	10
3918	JUL 22	2321 43.3	41.13S	174.65E	32	2.8	0.1	15	13
3919	JUL 22	2329 0.0	40.62S	173.74E	25	2.4	0.1	7	7
3922	JUL 23	0222 8.7	41.13S	174.67E	31	3.7	0.2	17	15
3926	JUL 23	0313 2.1	41.15S	174.63E	33	2.7	0.1	14	11
3932	JUL 23	1545 22.3	41.09S	175.99E	57	2.6	0.2	7	7
3934	JUL 23	1809 23.6	41.33S	173.71E	89	2.8	0.1	12	11
3951	JUL 24	1909 17.6	41.16S	174.64E	32	2.7	0.2	18	12
3954	JUL 24	2352 44.3	41.61S	174.38E	15	2.2	0.2	16	12
3956	JUL 25	0245 27.9	41.67S	173.79E	0	2.1	0.3	10	10
3961	JUL 25	0827 38.8	41.60S	174.52E	53	2.6	0.1	14	10
3965	JUL 25	1023 44.0	41.14S	174.65E	32	2.1	0.1	13	11

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
3974	JUL 25	2117 30.2	41.13S	174.64E	32	2.0	0.1	9	8
3975	JUL 26	0250 22.7	40.98S	173.98E	67	2.5	0.2	8	8
3980	JUL 26	1438 38.2	40.94S	174.47E	40	2.4	0.1	12	10
3983	JUL 26	1754 56.6	40.99S	174.52E	63	2.8	0.1	9	7
3987	JUL 26	2355 28.4	41.18S	174.56E	32	2.0	0.1	9	9
3989	JUL 27	0259 59.4	40.90S	174.10E	66	2.9	0.1	13	11
3991	JUL 27	0423 56.5	40.52S	175.70E	37	3.4	0.2	22	20
3994	JUL 27	0603 23.7	40.86S	175.60E	23	2.1	0.1	10	9
4005	JUL 27	1624 21.5	41.34S	174.50E	35	2.1	0.1	13	9
4007	JUL 27	1804 56.6	40.51S	174.55E	32	3.1	0.3	18	12
4011	JUL 28	0101 20.8	41.36S	174.98E	26	2.8	0.1	13	11
4013	JUL 28	0409 47.4	40.90S	175.56E	18	2.0	0.1	11	10
4017	JUL 28	1019 22.7	41.20S	174.36E	46	2.0	0.1	8	7
4018	JUL 28	1021 24.2	41.05S	175.30E	9	3.3	0.3	21	18
4019	JUL 28	1414 59.0	41.22S	174.62E	34	2.0	0.1	11	10
4022	JUL 28	1908 26.4	41.43S	174.02E	46	2.5	0.2	9	9
4028	JUL 29	0417 39.1	41.04S	175.36E	29	2.1	0.1	6	6
4029	JUL 29	0557 20.3	40.72S	175.51E	27	2.0	0.1	5	4
4030	JUL 29	1024 1.4	40.62S	174.08E	89	2.6	0.3	8	8
4031	JUL 29	1119 12.2	40.78S	174.59E	62	2.1	0.0	8	6
4035	JUL 29	1628 42.8	41.70S	174.42E	17	2.2	0.2	12	12
4039	JUL 29	2012 4.5	41.18S	175.28E	30	2.1	0.1	12	11
4040	JUL 29	2057 54.6	41.67S	174.55E	36	2.3	0.1	14	11
4045	JUL 30	0427 32.6	40.53S	174.30E	30	2.3	0.1	10	8
4047	JUL 30	1353 36.2	40.63S	175.88E	29	3.4	0.3	20	19
4050	JUL 30	2012 2.0	41.14S	174.64E	33	2.0	0.1	11	10
4056	JUL 31	0853 8.2	41.47S	174.44E	41	3.3	0.1	19	13
4058	JUL 31	1337 27.1	41.27S	175.24E	29	2.1	0.1	14	10
4060	JUL 31	1418 7.2	41.14S	174.64E	31	2.1	0.2	15	11
4061	JUL 31	1555 24.5	41.75S	173.93E	19	2.6	0.2	14	12
4062	JUL 31	2119 10.9	41.14S	174.65E	34	2.4	0.1	13	11
4063	JUL 31	2134 53.8	40.51S	174.28E	41	3.1	0.2	15	13
4065	AUG 01	0105 21.1	41.44S	174.54E	28	2.4	0.1	12	10
4066	AUG 01	0134 12.7	40.83S	174.04E	103	2.6	0.1	7	7
4068	AUG 01	0545 39.6	40.67S	174.02E	73	2.7	0.2	11	9
4085	AUG 02	1024 57.3	40.68S	173.54E	154	3.7	0.2	17	13
4086	AUG 02	1151 6.6	41.07S	174.68E	53	2.2	0.1	10	8
4089	AUG 02	1441 28.9	41.28S	174.98E	21	2.0	0.1	15	11
4105	AUG 03	0831 47.8	41.34S	175.14E	30	2.8	0.1	16	10
4106	AUG 03	0849 38.1	41.35S	175.13E	28	2.1	0.1	13	9
4108	AUG 03	1325 43.4	41.75S	174.49E	34	2.1	0.1	13	9
4109	AUG 03	1547 37.3	40.50S	173.65E	148	2.9	0.0	10	9
4111	AUG 03	1936 6.7	41.36S	174.99E	30	2.4	0.1	14	10
4122	AUG 04	0231 2.0	40.97S	175.62E	30	2.0	0.1	10	8
4123	AUG 04	0318 58.7	40.53S	174.20E	90	2.6	0.1	11	9

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4131	AUG 04	0747 27.8	40.95S	174.53E	44	2.9	0.2	14	12
4134	AUG 04	1122 17.2	41.17S	173.89E	79	2.2	0.1	9	9
4135	AUG 04	1152 49.8	41.29S	175.29E	29	2.1	0.1	15	11
4136	AUG 04	1200 47.3	41.94S	173.93E	17	2.1	0.2	12	12
4137	AUG 04	1318 16.4	41.19S	173.81E	80	2.1	0.2	7	7
4144	AUG 04	2006 3.9	40.56S	173.95E	99	2.2	0.0	6	5
4146	AUG 04	2021 44.9	41.09S	175.55E	14	2.6	0.1	13	12
4151	AUG 05	0006 20.3	40.83S	174.43E	30	2.0	0.1	9	6
4155	AUG 05	0152 38.7	40.86S	175.88E	31	2.0	0.0	6	6
4156	AUG 05	0206 29.4	41.41S	175.03E	28	2.3	0.1	13	10
4165	AUG 05	0903 23.8	40.91S	174.74E	44	2.0	0.1	8	8
4168	AUG 05	0949 27.4	41.14S	174.65E	31	2.2	0.1	15	11
4177	AUG 05	1632 51.5	40.77S	173.84E	124	2.6	0.1	7	7
4178	AUG 05	1646 4.3	40.98S	173.73E	78	2.6	0.2	8	7
4211	AUG 06	2343 39.7	40.57S	175.40E	33	2.0	0.3	6	4
4212	AUG 07	0027 11.2	40.53S	173.90E	113	2.8	0.1	12	12
4213	AUG 07	0038 41.3	41.05S	175.47E	16	2.2	0.1	13	11
4231	AUG 08	0153 11.1	40.54S	174.51E	95	2.7	0.3	6	5
4232	AUG 08	0248 31.7	40.90S	174.12E	59	2.7	0.1	8	7
4238	AUG 08	0840 20.3	41.05S	174.44E	56	2.1	0.1	8	7
4240	AUG 08	1142 21.1	41.06S	174.75E	54	2.1	0.1	13	11
4268	AUG 10	0748 2.8	40.64S	175.47E	30	2.3	0.1	7	6
4269	AUG 10	0759 3.0	41.80S	174.48E	35	2.5	0.2	9	7
4280	AUG 10	1801 49.4	41.89S	174.13E	15	2.4	0.2	10	10
4281	AUG 10	1936 48.6	41.14S	173.88E	67	2.8	0.1	12	8
4291	AUG 11	0523 41.6	40.59S	174.60E	41	2.2	0.2	6	6
4297	AUG 11	1706 39.1	41.74S	173.76E	43	2.5	0.1	10	10
4304	AUG 11	2039 57.6	40.94S	175.01E	57	2.2	0.0	6	5
4305	AUG 11	2143 49.7	40.64S	174.69E	36	2.9	0.1	14	10
4308	AUG 11	2329 42.6	40.67S	174.38E	53	2.5	0.3	6	6
4315	AUG 12	0946 32.9	40.63S	174.17E	65	2.5	0.1	9	7
4317	AUG 12	1430 51.5	41.00S	174.75E	33	2.6	0.1	14	10
4324	AUG 12	2316 20.6	40.58S	173.96E	104	2.5	0.1	8	7
4325	AUG 12	2336 34.5	41.09S	174.40E	44	2.7 F	0.1	18	12
4334	AUG 13	0922 46.0	41.32S	174.52E	42	2.5	0.1	13	10
4342	AUG 13	1934 19.4	41.42S	174.92E	18	2.0	0.2	13	11
4353	AUG 13	2325 27.1	40.90S	173.92E	90	3.9	0.2	24	17
4355	AUG 14	0108 46.0	40.63S	174.40E	5	2.1	0.2	12	8
4357	AUG 14	0459 18.1	41.03S	174.25E	44	2.1	0.2	10	9
4359	AUG 14	0512 47.5	40.73S	174.34E	52	2.2	0.2	11	8
4362	AUG 14	0846 41.5	41.79S	174.52E	33	2.2	0.1	11	9
4373	AUG 14	1910 3.9	41.63S	174.48E	26	2.3	0.2	11	9
4384	AUG 15	1111 52.1	40.90S	175.55E	23	2.6	0.2	12	10
4391	AUG 15	1624 7.6	40.55S	174.77E	33	2.3	0.2	10	8
4396	AUG 15	2052 8.0	40.78S	174.61E	62	2.4	0.0	8	7

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4400	AUG 16	0043 33.9	41.15S	174.65E	33	2.2	0.2	14	11
4401	AUG 16	0100 11.6	41.33S	175.62E	21	2.1	0.1	15	12
4403	AUG 16	0426 45.9	41.07S	174.66E	34	2.2	0.0	9	7
4407	AUG 16	0747 38.8	41.47S	174.25E	62	2.0	0.1	6	6
4409	AUG 16	0843 23.8	40.66S	174.46E	77	2.7	0.2	12	10
4419	AUG 17	1756 44.6	40.83S	174.10E	69	2.4	0.2	6	6
4426	AUG 18	1114 54.6	41.21S	175.34E	16	2.7	0.1	15	12
4430	AUG 18	2348 45.0	40.91S	175.79E	32	2.4	0.2	13	9
4431	AUG 19	0003 32.4	41.06S	174.24E	53	2.3	0.1	8	6
4432	AUG 19	0128 16.4	41.15S	174.01E	67	3.7	0.2	24	17
4446	AUG 19	1208 5.9	40.58S	174.02E	100	2.5	0.2	7	7
4448	AUG 19	1433 14.8	40.58S	174.10E	77	3.5	0.1	24	20
4452	AUG 19	1630 25.7	40.92S	175.80E	32	2.3	0.2	13	10
4455	AUG 19	1805 44.5	41.28S	175.30E	31	3.2	0.1	20	16
4463	AUG 19	2011 1.8	41.60S	173.86E	15	2.3	0.2	10	9
4469	AUG 19	2335 43.0	40.61S	174.34E	28	3.2	0.1	22	15
4474	AUG 20	0413 32.2	40.69S	173.65E	135	2.8	0.1	10	8
4475	AUG 20	0435 59.1	41.37S	174.21E	59	2.2	0.1	7	6
4476	AUG 20	0527 41.6	40.76S	175.87E	33R	2.7	0.2	14	11
4482	AUG 20	1609 43.2	40.91S	174.94E	35	2.7	0.1	15	12
4483	AUG 20	1616 56.1	40.87S	175.02E	42	2.0	0.2	10	7
4484	AUG 20	1659 30.7	40.58S	174.53E	9	2.1	0.1	9	8
4488	AUG 20	2106 11.2	41.10S	173.90E	55	2.9	0.1	12	9
4494	AUG 21	0525 15.8	41.96S	173.88E	4	2.5	0.2	13	9
4503	AUG 21	2118 2.8	40.78S	174.50E	71	2.3	0.1	7	7
4506	AUG 22	0205 34.4	41.07S	174.48E	42	2.6	0.2	19	14
4507	AUG 22	0216 22.1	41.08S	174.81E	65	3.3	0.1	19	14
4514	AUG 22	1714 27.6	40.93S	174.94E	34	2.1	0.1	17	12
4515	AUG 22	1834 41.8	40.75S	175.02E	32	2.1	0.2	18	12
4520	AUG 23	0257 32.0	41.01S	175.17E	22	2.2	0.2	8	8
4522	AUG 23	1008 6.8	40.59S	175.24E	38	2.6	0.4	8	6
4525	AUG 24	0011 13.2	40.87S	175.83E	33	2.1	0.2	8	6
4537	AUG 24	1639 5.7	41.61S	174.66E	32	2.4	0.1	11	9
4543	AUG 25	0116 7.0	40.60S	174.58E	90	2.7	0.1	9	9
4552	AUG 25	1129 26.2	40.67S	173.71E	131	3.1	0.1	10	8
4556	AUG 25	1951 10.7	40.57S	173.92E	59	2.3	0.3	5	5
4557	AUG 25	2041 12.1	40.93S	175.68E	27	2.0	0.2	10	8
4558	AUG 25	2106 2.1	40.94S	175.14E	33R	2.0	0.2	4	3
4566	AUG 26	0540 17.8	41.25S	174.41E	61	2.2	0.1	10	9
4575	AUG 26	1821 31.1	40.56S	173.96E	95	3.3	0.4	19	16
4576	AUG 26	1848 59.7	41.89S	174.22E	20	2.7	0.2	13	11
4578	AUG 26	2224 34.9	40.70S	174.01E	105	2.6	0.0	9	9
4579	AUG 26	2237 0.7	40.53S	175.20E	34	2.0	0.2	6	5
4591	AUG 27	1016 23.0	40.51S	174.48E	17	2.0	0.3	8	7
4602	AUG 27	1938 22.1	41.14S	174.64E	32	3.0	0.2	15	11

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4603	AUG 28	0132 19.1	41.18S	173.73E	115	3.2	0.1	11	10
4607	AUG 28	0626 39.5	40.71S	174.12E	96	2.7	0.2	10	7
4608	AUG 28	0644 23.5	41.00S	173.86E	71	2.2	0.2	7	7
4615	AUG 28	1201 51.4	41.92S	174.21E	56	3.1	0.5	9	9
4625	AUG 28	1423 27.5	40.50S	174.32E	91	2.4	0.1	7	6
4636	AUG 28	1806 32.2	40.73S	174.79E	26	2.0	0.3	11	9
4641	AUG 29	0111 47.1	40.97S	175.65E	24	2.1	0.1	9	8
4648	AUG 29	1414 7.3	41.03S	175.61E	23	2.5	0.1	17	13
4652	AUG 29	2009 36.3	40.54S	175.44E	51	2.4	0.0	9	7
4653	AUG 29	2124 47.8	41.65S	173.64E	80	2.4	0.1	10	9
4655	AUG 30	0510 55.9	41.72S	174.17E	21	3.0	0.2	14	13
4658	AUG 30	0652 44.4	41.83S	173.97E	9	2.2	0.3	9	9
4659	AUG 30	0654 13.7	41.79S	174.03E	8	2.2	0.2	7	7
4666	AUG 30	1227 56.5	40.68S	174.59E	71	2.5	0.1	9	8
4669	AUG 30	1639 55.3	41.34S	175.13E	26	2.1	0.1	11	10
4676	AUG 31	0803 29.3	41.14S	174.65E	33	2.4	0.1	13	11
4678	AUG 31	1048 25.5	40.67S	174.50E	45	2.4	0.2	10	8
4686	SEP 01	0606 47.7	40.53S	174.05E	99	3.4	0.1	14	10
4687	SEP 01	0758 40.8	40.93S	174.97E	34	2.0	0.1	10	10
4693	SEP 01	2045 36.4	41.85S	174.02E	14	2.9	0.2	13	11
4694	SEP 01	2132 24.8	41.41S	174.62E	22	2.4	0.2	11	9
4695	SEP 01	2212 22.5	41.79S	173.82E	19	2.9	0.2	7	7
4699	SEP 02	0736 4.1	41.38S	174.63E	18	2.0	0.3	10	9
4701	SEP 02	2015 36.3	40.68S	174.45E	72	3.1	0.1	13	10
4710	SEP 03	0452 23.0	40.55S	175.51E	30	2.3	0.3	10	8
4720	SEP 04	0308 3.2	40.91S	175.05E	35	2.0	0.1	9	9
4721	SEP 04	0342 9.6	41.78S	174.51E	32	2.0	0.1	8	7
4723	SEP 04	0403 32.2	40.51S	174.29E	23	2.1	0.2	5	5
4726	SEP 04	1018 21.4	41.04S	174.63E	59	2.1	0.1	11	9
4727	SEP 04	1219 9.4	41.27S	173.75E	82	2.7	0.1	13	10
4732	SEP 04	1904 38.0	41.37S	174.82E	28	2.5	0.1	18	15
4734	SEP 04	2338 18.9	40.87S	174.16E	51	2.3	0.2	5	5
4741	SEP 05	0528 30.4	41.02S	174.18E	50	2.3	0.2	5	5
4747	SEP 05	1434 34.2	40.91S	174.69E	35	3.2	0.2	16	12
4749	SEP 05	1616 46.6	40.73S	173.51E	200R	3.0	0.1	9	7
4754	SEP 05	1953 13.3	41.32S	174.40E	61	2.4	0.1	11	11
4755	SEP 05	2017 29.5	41.00S	175.38E	15	2.1	0.2	11	9
4757	SEP 05	2322 43.2	40.62S	174.37E	56	2.5	0.1	5	5
4769	SEP 06	1138 51.8	41.07S	174.36E	57	2.5	0.1	8	8
4770	SEP 06	1156 44.2	40.61S	174.97E	8	2.5	0.2	11	9
4771	SEP 06	1212 53.0	41.20S	174.33E	38	3.0	0.3	11	9
4777	SEP 06	2145 54.7	41.60S	173.74E	45	2.5	0.3	12	11
4790	SEP 07	1029 24.2	41.13S	174.64E	31	2.0	0.1	10	9
4792	SEP 07	1135 21.4	41.99S	173.80E	3	3.3 F	0.2	11	10
4795	SEP 07	2116 17.4	40.51S	173.77E	144	2.8	0.1	10	10

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4802	SEP 08	0255 4.1	40.98S	174.47E	66	2.6	0.0	6	6
4804	SEP 08	0530 55.3	40.79S	175.83E	35	3.4	0.3	12	11
4813	SEP 09	0318 24.4	40.72S	174.93E	35	3.1	0.1	15	12
4817	SEP 09	0413 0.5	40.69S	173.53E	169	3.3	0.1	10	9
4818	SEP 09	0426 19.2	40.63S	174.97E	5R	2.6	0.3	12	11
4826	SEP 09	1418 59.4	40.75S	174.43E	54	2.4	0.2	12	9
4829	SEP 10	0105 56.6	40.50S	175.81E	30R	2.4	0.2	7	5
4831	SEP 10	0254 35.7	41.41S	175.03E	29	2.3	0.1	10	10
4834	SEP 10	1128 46.2	40.71S	174.61E	52	3.2	0.3	12	10
4836	SEP 10	1401 43.2	40.72S	175.11E	32	2.8	0.2	11	10
4837	SEP 10	1741 12.8	41.34S	174.45E	18	2.3	0.2	9	7
4840	SEP 11	0331 57.9	40.97S	175.66E	29	2.1	0.2	9	8
4842	SEP 11	0737 28.8	40.72S	174.42E	76	2.3	0.2	6	6
4846	SEP 11	1132 17.0	40.97S	175.13E	28	2.1	0.1	7	6
4851	SEP 11	1838 8.9	40.57S	173.95E	27	2.0	0.1	6	6
4853	SEP 11	1931 12.5	41.07S	175.42E	28	2.3	0.1	9	8
4858	SEP 12	0227 52.6	41.05S	174.53E	61	2.3	0.0	9	9
4862	SEP 12	0601 6.6	40.83S	175.20E	31	2.1	0.1	7	7
4865	SEP 12	1131 33.7	41.32S	174.59E	77	2.6	0.2	6	3
4869	SEP 13	0041 22.7	40.88S	174.72E	12	2.0	0.1	10	9
4871	SEP 13	0330 58.5	41.27S	175.23E	26	2.0	0.0	9	8
4873	SEP 13	0754 5.1	40.88S	175.22E	31	2.1	0.2	10	9
4874	SEP 13	0948 9.4	40.74S	174.28E	97	2.1	0.2	9	8
4875	SEP 13	1107 57.3	41.03S	174.15E	59	3.9	0.3	18	15
4878	SEP 13	1419 30.6	41.11S	174.51E	38	3.8 F	0.3	19	15
4879	SEP 13	1523 50.5	41.10S	174.52E	34	3.5 F	0.3	18	14
4880	SEP 13	1751 36.3	41.09S	174.47E	40	2.3	0.1	11	9
4887	SEP 14	0120 16.8	41.15S	174.65E	31	2.7	0.2	13	11
4893	SEP 14	0713 9.2	41.41S	174.44E	36	2.8	0.2	14	13
4895	SEP 14	0849 6.9	40.77S	175.53E	29	2.3	0.1	7	5
4897	SEP 14	1238 55.5	40.99S	175.79E	8	2.0	0.3	12	10
4899	SEP 14	1406 33.0	40.52S	175.78E	31	3.4	0.4	21	19
4903	SEP 14	1640 40.3	41.46S	173.93E	44	2.3	0.3	9	8
4906	SEP 14	2134 19.5	40.95S	174.41E	49	2.2	0.1	7	7
4912	SEP 15	0443 6.1	40.89S	175.79E	28	2.2	0.1	8	7
4914	SEP 15	0913 14.2	40.59S	175.99E	23	3.8	0.3	26	25
4915	SEP 15	0917 44.4	40.62S	175.95E	24	3.1	0.3	19	14
4918	SEP 15	1452 7.0	41.14S	174.65E	33	2.4	0.1	10	9
4920	SEP 15	1754 36.3	40.65S	174.69E	41	2.0	0.1	6	6
4924	SEP 15	2135 43.7	41.04S	174.03E	86	2.8	0.1	11	11
4932	SEP 16	1540 55.5	41.90S	174.18E	18	2.4	0.2	16	13
4936	SEP 16	1726 3.7	40.92S	173.96E	66	2.8	0.1	9	7
4937	SEP 16	1957 30.5	40.58S	175.49E	32	2.2	0.1	8	7
4950	SEP 17	0458 45.2	40.97S	175.60E	30	2.6	0.1	12	10
4951	SEP 17	0514 58.9	41.31S	173.78E	90	2.3	0.0	8	7

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
4954	SEP 17	0823 37.3	40.87S	175.55E	26	2.0	0.1	15	11
4957	SEP 17	1026 19.1	41.29S	173.83E	57	2.0	0.1	6	6
4958	SEP 17	1119 53.4	41.97S	174.15E	18	2.5	0.2	12	9
4966	SEP 17	2054 31.5	41.83S	173.95E	16	2.1	0.3	14	10
4973	SEP 18	0101 46.9	40.64S	174.73E	33	2.5	0.1	13	11
4978	SEP 18	0524 12.9	41.29S	175.27E	24	2.0	0.1	11	9
4980	SEP 18	0618 58.6	40.50S	173.94E	20	2.0	0.3	6	6
4994	SEP 18	2156 46.0	40.79S	174.70E	44	2.3	0.1	9	9
5003	SEP 19	0555 0.2	40.65S	175.96E	19	2.2	0.3	7	6
5015	SEP 19	1937 42.8	41.80S	173.96E	33R	2.1	0.2	13	10
5018	SEP 19	2254 55.2	41.11S	174.55E	33	2.1	0.2	11	10
5029	SEP 20	1119 41.0	41.36S	175.01E	28	2.3	0.1	18	14
5031	SEP 20	1305 14.4	41.01S	175.88E	29	2.8	0.2	21	17
5037	SEP 20	2149 11.4	40.96S	174.80E	46	2.3	0.1	10	9
5041	SEP 20	2345 34.1	41.24S	174.50E	17	2.2	0.2	12	11
5043	SEP 21	0453 1.0	40.81S	174.14E	102	2.2	0.2	7	6
5047	SEP 21	0550 23.4	40.61S	174.73E	36	2.4	0.2	11	10
5052	SEP 21	0917 4.4	41.35S	175.09E	39	3.0	0.0	15	11
5054	SEP 21	1127 18.9	41.78S	173.66E	41	2.7	0.1	9	8
5065	SEP 21	2018 57.6	40.97S	174.48E	64	2.4	0.0	9	9
5066	SEP 21	2025 31.0	41.59S	173.52E	93	2.5	0.1	9	9
5067	SEP 21	2046 16.1	41.75S	173.69E	55	2.4	0.1	8	7
5068	SEP 21	2139 36.6	40.61S	175.65E	27	2.9	0.2	16	14
5075	SEP 22	0854 51.8	41.31S	174.37E	64	2.5	0.1	12	11
5078	SEP 22	1332 31.9	40.70S	174.60E	78	2.4	0.1	7	7
5079	SEP 22	1336 35.0	41.06S	174.78E	58	2.3	0.1	12	9
5082	SEP 22	1442 3.0	40.93S	175.28E	49	2.9	0.1	15	11
5083	SEP 22	1550 56.3	40.68S	174.41E	56	2.5	0.2	9	7
5084	SEP 22	1706 27.0	41.19S	173.55E	80	2.5	0.1	7	6
5085	SEP 22	1829 22.5	40.57S	174.55E	44	2.3	0.1	9	7
5090	SEP 23	0825 24.3	40.81S	174.73E	5R	3.0	0.4	19	15
5093	SEP 23	1041 50.1	41.29S	175.29E	29	2.0	0.1	12	12
5111	SEP 24	0846 5.4	41.43S	173.70E	96	2.4	0.1	10	10
5115	SEP 24	1258 58.8	41.26S	175.23E	29	2.1	0.1	21	17
5127	SEP 24	2320 48.3	40.86S	174.75E	18	2.0	0.1	9	7
5131	SEP 25	0657 23.4	40.93S	175.70E	22	2.4	0.2	14	10
5134	SEP 25	0902 24.2	40.61S	175.53E	35	2.1	0.4	8	6
5145	SEP 26	0315 58.2	40.72S	175.11E	33	2.9	0.1	13	11
5153	SEP 26	0806 3.9	40.76S	175.36E	29	2.2	0.1	11	10
5157	SEP 26	1048 2.2	41.18S	174.80E	53	2.3	0.1	12	10
5160	SEP 26	1621 26.4	40.89S	175.29E	27	2.1	0.1	12	10
5161	SEP 26	2058 7.4	40.62S	173.57E	185	3.1	0.1	12	9
5162	SEP 26	2138 15.3	41.79S	174.51E	33	2.5	0.1	13	11
5167	SEP 27	0419 13.6	41.52S	173.66E	91	2.6	0.0	8	7
5170	SEP 27	0935 45.4	41.75S	174.51E	32	2.4	0.1	18	15

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
5175	SEP 27	1346 27.5	41.23S	173.97E	56	2.8	0.2	20	15
5176	SEP 27	1403 41.7	41.26S	174.84E	29	2.3	0.1	16	12
5180	SEP 27	1752 32.8	41.77S	175.01E	31	2.1	0.2	12	8
5183	SEP 27	2028 10.0	40.88S	175.81E	2R	2.3	0.8	8	4
5185	SEP 28	0148 37.7	40.62S	175.24E	31	2.1	0.2	16	13
5187	SEP 28	0304 35.0	41.17S	174.33E	34	2.0	0.2	9	9
5188	SEP 28	0347 31.2	41.40S	174.95E	28	2.0	0.1	11	9
5190	SEP 28	0523 38.1	41.57S	173.63E	91	2.8	0.1	11	10
5197	SEP 28	1109 18.9	40.99S	173.56E	193	3.0	0.5	9	8
5207	SEP 29	0530 45.2	40.56S	174.45E	81	2.3	0.1	8	7
5213	SEP 29	1104 9.6	41.21S	173.98E	56	2.4	0.2	8	8
5221	SEP 29	1928 4.0	41.51S	173.51E	76	2.3	0.2	13	11
5222	SEP 29	2053 36.2	41.10S	174.51E	34	2.5	0.3	16	13
5225	SEP 29	2239 26.7	40.71S	174.26E	48	2.0	0.2	6	5
5232	SEP 30	0821 41.1	41.51S	174.59E	54	4.5 F	0.1	19	16
5234	SEP 30	0940 41.6	40.81S	175.11E	34	2.1	0.1	10	9
5235	SEP 30	1211 27.4	40.60S	173.55E	119	3.1	0.2	12	10
5239	SEP 30	1535 50.3	40.67S	175.91E	38	3.8	0.2	22	19
5240	SEP 30	1558 16.2	40.86S	175.13E	31	2.6	0.2	15	12
5241	SEP 30	1656 3.9	40.86S	175.13E	29	2.1	0.2	14	11
5245	SEP 30	1835 11.2	40.96S	174.31E	55	2.5	0.2	10	8
5249	OCT 01	0236 13.1	40.79S	175.73E	31	2.3	0.2	11	9
5251	OCT 01	0528 10.5	41.25S	175.37E	22	2.1	0.0	9	9
5256	OCT 01	1557 55.6	40.74S	174.90E	34	2.3	0.1	11	9
5258	OCT 01	1654 4.1	41.77S	173.92E	41	2.7	0.1	9	8
5262	OCT 02	0418 59.1	40.61S	173.54E	157	2.8	0.1	8	8
5263	OCT 02	0432 22.5	41.59S	174.84E	29	2.0	0.1	10	8
5265	OCT 02	0626 54.0	40.79S	175.74E	29	2.1	0.2	10	8
5266	OCT 02	0657 57.4	41.13S	175.42E	26	2.0	0.1	12	10
5267	OCT 02	0912 27.3	41.11S	175.55E	28	2.1	0.1	8	7
5268	OCT 02	0924 29.2	41.69S	174.24E	32	2.4	0.1	10	9
5286	OCT 03	0557 14.6	41.47S	174.50E	30	2.0	0.2	15	13
5293	OCT 03	1930 17.8	41.94S	174.48E	24	2.1	0.3	7	6
5296	OCT 03	1957 57.7	41.67S	174.56E	28	2.5	0.1	19	17
5297	OCT 03	2314 44.0	41.30S	174.31E	14	2.2	0.3	14	12
5298	OCT 04	0235 4.4	41.13S	174.64E	33	2.5	0.1	15	12
5302	OCT 04	1019 38.4	40.57S	173.58E	160	3.4	0.1	19	15
5306	OCT 04	1620 41.5	40.78S	174.70E	34	2.8	0.1	8	8
5308	OCT 04	1915 11.2	41.09S	174.70E	32	2.4	0.1	8	7
5312	OCT 05	0157 54.8	41.07S	175.38E	21	2.1	0.1	7	6
5318	OCT 05	1346 59.8	41.17S	175.07E	26	2.2	0.2	11	10
5321	OCT 06	0604 13.1	41.59S	173.63E	70	4.4 F	0.2	18	17
5326	OCT 06	1147 3.5	41.15S	174.54E	59	2.1	0.0	10	8
5331	OCT 06	1900 32.8	40.83S	174.66E	5R	2.1	0.2	7	7
5344	OCT 07	0633 42.3	41.66S	174.59E	30	2.0	0.1	12	12

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
5349	OCT 07	1253 47.7	41.24S	174.41E	36	2.1	0.1	11	9
5351	OCT 07	1538 40.6	41.50S	174.67E	28	2.1	0.1	11	10
5352	OCT 07	1700 22.6	41.74S	173.83E	14	2.1	0.1	9	8
5353	OCT 07	1830 33.9	40.83S	175.21E	33	2.1	0.1	7	7
5369	OCT 08	2045 39.9	41.56S	175.21E	21	2.4	0.2	14	11
5374	OCT 09	0249 49.5	40.90S	176.00E	30	2.1	0.3	8	7
5386	OCT 09	2201 34.5	41.30S	174.82E	54	2.7	0.1	10	10
5388	OCT 10	0437 40.5	41.25S	174.45E	18	2.1	0.1	7	6
391	OCT 10	1307 18.1	41.25S	173.99E	56	2.5	0.1	12	10
5407	OCT 11	1435 44.2	40.68S	174.91E	38	2.6	0.1	7	7
5414	OCT 11	2329 24.1	41.04S	175.57E	26	2.7	0.2	21	17
5422	OCT 12	0340 32.5	41.39S	174.21E	39	2.6	0.1	8	7
5446	OCT 13	2350 39.8	41.23S	175.27E	26	2.1	0.1	9	8
5449	OCT 14	0338 5.8	41.03S	174.54E	53	2.7	0.0	10	7
5456	OCT 15	0101 29.3	40.95S	175.47E	23	2.3	0.1	15	11
5457	OCT 15	0137 52.6	40.54S	173.91E	114	2.8	0.1	7	6
5460	OCT 15	1911 41.3	40.63S	174.28E	79	3.2	0.1	15	10
5462	OCT 15	2220 14.2	40.66S	174.51E	55	2.5	0.1	11	10
5478	OCT 16	1920 11.5	41.79S	173.82E	68	3.1	0.1	12	10
5480	OCT 16	2211 33.0	41.15S	174.98E	30	2.1	0.1	11	9
5485	OCT 17	0648 44.7	41.81S	174.37E	51	2.7	0.1	15	10
5491	OCT 17	1112 44.2	41.36S	174.64E	21	2.6	0.2	14	11
5509	OCT 18	1750 26.9	41.11S	174.39E	61	3.2	0.1	20	16
5519	OCT 19	0905 5.8	41.22S	174.16E	51	2.9	0.2	14	10
5527	OCT 20	0256 6.3	41.76S	174.51E	34	2.5	0.1	13	11
5528	OCT 20	0341 29.4	41.08S	175.48E	26	2.9	0.1	15	11
5529	OCT 20	0349 44.4	41.10S	174.72E	35	2.0	0.1	11	8
5531	OCT 20	0501 45.2	41.14S	174.64E	32	2.3	0.1	15	12
5533	OCT 20	0558 48.8	40.75S	174.43E	73	2.0	0.1	6	6
5534	OCT 20	0716 52.2	41.04S	173.68E	64	3.3	0.4	16	13
5540	OCT 20	1530 38.7	40.97S	175.36E	11	2.9	0.3	15	13
5546	OCT 21	0148 15.9	40.82S	174.66E	40	2.4	0.1	8	6
5548	OCT 21	0332 53.4	40.52S	174.05E	131	3.0	0.1	7	6
5554	OCT 21	1152 17.1	41.23S	175.19E	23	2.1	0.1	13	10
5555	OCT 21	1212 7.5	40.80S	174.63E	34	2.1	0.1	10	8
5556	OCT 21	1315 0.9	40.85S	174.74E	41	2.4	0.1	12	9
5557	OCT 21	1326 30.5	40.78S	175.05E	36	2.0	0.1	7	6
5558	OCT 21	1519 55.8	41.12S	174.12E	53	2.3	0.1	8	7
5559	OCT 21	1600 50.9	41.23S	175.19E	23	2.2	0.1	14	10
5561	OCT 21	1816 13.7	40.94S	175.42E	20	2.0	0.2	10	8
5562	OCT 21	1908 7.4	40.86S	175.14E	32	2.9	0.2	14	13
5565	OCT 21	2320 25.9	40.72S	174.93E	11	2.0	0.1	5	4
5566	OCT 22	0242 0.6	41.01S	174.53E	58	2.5	0.1	12	8
5570	OCT 22	0932 42.4	40.56S	173.72E	172	3.5	0.1	12	8
5572	OCT 22	1220 26.6	41.96S	173.94E	12R	2.3	0.3	9	7

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5575	OCT 22	1601 1.0	40.83S	175.12E	33	2.2	0.1	7	7
5582	OCT 23	0949 5.7	40.97S	175.58E	28	2.2	0.1	9	8
5586	OCT 23	1450 2.4	41.54S	174.00E	34	2.2	0.3	10	9
5591	OCT 24	0922 42.6	40.57S	175.84E	28	2.1	0.3	7	5
5592	OCT 24	1145 34.0	41.15S	174.16E	46	2.5	0.1	11	7
5594	OCT 24	1302 9.2	40.54S	174.49E	30	3.0	0.2	14	10
5597	OCT 24	1737 17.8	40.73S	174.13E	78	2.7	0.2	5	5
5598	OCT 24	2009 14.8	40.74S	174.08E	29	2.2	0.2	7	6
5607	OCT 25	0959 21.0	40.55S	175.69E	28	2.2	0.2	8	6
5608	OCT 25	1000 17.4	40.54S	175.67E	29	2.4	0.1	11	10
5619	OCT 25	1656 18.6	41.05S	174.64E	64	2.2	0.1	9	7
5623	OCT 25	1908 21.0	41.95S	174.02E	16	2.5	0.1	12	8
5629	OCT 26	0021 13.1	41.60S	173.81E	39	2.7	0.2	9	8
5631	OCT 26	0636 41.5	41.31S	175.74E	17	2.0	0.1	9	8
5637	OCT 26	1245 29.9	41.56S	175.52E	30	2.4	0.1	14	10
5638	OCT 26	1309 36.0	40.87S	174.81E	42	2.8	0.1	16	11
5639	OCT 26	1433 41.5	41.73S	174.22E	22	2.4	0.5	12	10
5640	OCT 26	1600 23.8	41.78S	174.21E	16	2.3	0.2	10	8
5647	OCT 27	0215 52.1	41.07S	174.09E	61	2.0	0.1	5	4
5648	OCT 27	1204 24.9	40.55S	175.46E	30	2.4	0.0	9	8
5652	OCT 28	0159 29.2	40.74S	174.82E	36	2.3	0.1	10	7
5653	OCT 28	0509 30.5	41.16S	173.93E	71	3.0	0.2	10	8
5658	OCT 28	1008 17.1	40.63S	174.62E	45	3.1	0.3	16	12
5666	OCT 28	1458 47.0	40.62S	175.71E	31	2.2	0.1	9	7
5667	OCT 28	1508 58.1	41.09S	175.08E	23	2.0	0.2	11	9
5676	OCT 28	2327 24.2	41.18S	174.79E	30	2.0	0.1	13	10
5677	OCT 28	2342 15.6	41.23S	174.90E	29	2.0	0.1	13	9
5678	OCT 29	0031 46.7	40.80S	175.83E	30	2.2	0.2	11	8
5679	OCT 29	0044 25.8	41.18S	174.79E	29	2.1	0.1	12	11
5681	OCT 29	0052 26.6	40.53S	174.32E	89	2.6	0.1	9	7
5686	OCT 29	0533 21.0	41.09S	174.58E	35	2.1	0.1	10	9
5688	OCT 29	1303 26.8	40.86S	174.72E	16	2.0	0.1	7	5
5692	OCT 29	2052 42.6	40.94S	175.12E	23	2.0	0.2	7	6
5693	OCT 29	2100 1.2	41.38S	174.29E	35	2.2	0.2	9	8
5694	OCT 29	2128 38.8	40.97S	175.35E	22	2.1	0.2	10	9
5695	OCT 29	2202 14.1	41.33S	174.30E	39	2.3	0.2	12	10
5700	OCT 30	0636 48.7	41.36S	174.97E	28	2.0	0.0	12	9
5701	OCT 30	0753 57.5	41.17S	173.75E	99	3.5	0.2	17	13
5702	OCT 30	0819 31.2	40.52S	174.16E	58	2.3	0.3	8	7
5706	OCT 30	0938 27.1	41.66S	173.69E	74	2.6	0.0	7	7
5722	OCT 31	0201 24.3	41.16S	174.00E	63	3.5	0.2	17	13
5724	OCT 31	0746 59.1	40.90S	175.83E	32	2.1	0.2	10	7
5729	OCT 31	1137 51.5	40.75S	175.33E	35	2.0	0.2	9	7
5735	OCT 31	1257 33.0	40.50S	174.89E	45	2.1	0.3	8	6
5737	OCT 31	1719 34.3	41.17S	174.29E	37	2.1	0.3	14	9

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
5739	OCT 31	1814 12.8	41.37S	174.57E	33	2.0	0.1	18	14
5741	NOV 01	0358 22.4	40.51S	174.39E	33R	2.0	0.1	5	4
5742	NOV 01	0544 24.3	41.70S	175.14E	33R	2.1	0.1	7	5
5745	NOV 01	0934 11.2	41.32S	174.59E	36	2.2	0.1	10	7
5747	NOV 01	1155 36.8	41.55S	175.13E	36	2.3	0.8	12	8
5752	NOV 01	1348 13.6	40.99S	173.94E	79	2.4	0.2	7	5
5754	NOV 01	1559 26.4	40.81S	175.89E	23	3.0	0.5	17	13
5756	NOV 01	2306 24.4	40.54S	175.94E	28	2.6	0.3	7	5
5758	NOV 01	2343 4.8	40.98S	174.63E	46	2.5	0.1	8	6
5763	NOV 02	0417 0.4	40.50S	174.50E	5R	2.4	0.3	16	11
5766	NOV 02	0712 40.6	41.39S	174.63E	31	2.8	0.2	20	13
5768	NOV 02	0906 23.7	41.71S	174.30E	21	2.2	0.3	14	8
5780	NOV 03	1839 58.8	41.01S	175.75E	45	2.9	0.2	12	11
5784	NOV 03	2329 31.2	41.06S	175.58E	28	2.3	0.2	11	10
5790	NOV 04	1157 5.1	40.93S	174.66E	57	2.3	0.1	8	7
5793	NOV 04	2018 39.3	41.32S	174.40E	35	2.0	0.1	11	6
5797	NOV 05	0323 59.3	40.59S	174.37E	79	2.4	0.2	9	6
5800	NOV 05	0428 55.2	40.50S	174.45E	77	2.9	0.1	21	14
5806	NOV 05	0832 41.2	41.37S	174.50E	59	2.3	0.1	13	9
5808	NOV 05	1336 17.2	40.72S	175.09E	33	2.1	0.1	13	10
5817	NOV 06	0234 46.4	40.73S	175.76E	26	2.8	0.3	16	12
5819	NOV 06	0611 28.0	40.77S	174.38E	69	3.0	0.3	18	12
5823	NOV 06	1012 30.5	40.55S	174.92E	25	3.0	0.2	15	10
5827	NOV 06	1621 48.7	40.88S	174.72E	14	2.3	0.1	16	8
5830	NOV 06	1812 4.4	40.70S	175.71E	22	2.4	0.3	14	10
5832	NOV 06	2138 39.0	40.64S	175.70E	29	2.4	0.2	11	9
5834	NOV 07	0215 14.6	41.93S	173.90E	6	2.2	0.1	6	5
5837	NOV 07	0711 53.1	41.92S	173.90E	6	2.2	0.1	7	6
5839	NOV 07	0733 10.3	41.94S	173.89E	6	2.1	0.1	7	6
5851	NOV 08	0100 17.9	41.09S	174.17E	61	2.5	0.1	10	9
5853	NOV 08	0337 38.7	40.60S	174.10E	42	2.2	0.2	6	4
5864	NOV 08	1625 28.7	40.99S	174.65E	51	2.5	0.0	16	10
5866	NOV 08	1850 35.2	40.73S	174.49E	74	2.4	0.0	15	9
5869	NOV 08	2056 9.5	41.66S	174.20E	12R	2.1	0.2	11	9
5872	NOV 08	2231 32.1	41.51S	175.12E	45	3.0	0.1	18	12
5877	NOV 09	0556 55.0	41.88S	174.04E	46	2.2	0.3	9	8
5892	NOV 09	1949 50.0	41.89S	174.07E	35	2.5	0.2	13	10
5896	NOV 09	2141 19.6	41.96S	173.92E	12	2.5	0.2	11	9
5898	NOV 09	2243 30.6	41.86S	174.37E	41	2.2	0.1	11	8
5902	NOV 10	0226 22.8	40.69S	174.01E	104	2.2	0.1	9	6
5905	NOV 10	0529 56.0	41.14S	173.97E	62	2.3	0.1	10	7
5909	NOV 10	0741 26.9	40.92S	173.66E	84	3.2	0.2	12	9
5914	NOV 10	1011 59.3	40.91S	175.55E	5R	3.0	0.2	20	17
5919	NOV 10	1808 36.6	40.86S	174.71E	15	2.2	0.1	14	10
5928	NOV 11	0635 8.7	41.15S	174.43E	69	2.1	0.3	10	7

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
5932	NOV 11	1114 43.6	40.53S	175.65E	13	2.1	0.1	10	8
5938	NOV 11	1538 23.8	40.78S	175.86E	30	2.4	0.2	14	11
5939	NOV 11	1659 20.9	41.33S	175.14E	24	2.0	0.0	13	9
5941	NOV 11	2301 50.3	41.61S	174.63E	34	2.6	0.2	9	7
5944	NOV 12	0219 8.4	40.83S	175.63E	26	2.4	0.3	12	10
5945	NOV 12	0421 45.2	41.55S	173.71E	91	3.2	0.1	11	8
5947	NOV 12	0704 50.9	41.39S	173.70E	82	3.1	0.3	10	9
5948	NOV 12	0719 15.1	41.79S	174.46E	30	2.0	0.1	11	8
5949	NOV 12	0952 53.9	40.77S	175.73E	29	2.1	0.1	10	6
5957	NOV 12	1413 19.1	40.72S	175.08E	33	2.5	0.1	14	10
5959	NOV 12	1503 54.1	40.68S	176.00E	42	2.1	0.1	7	6
5961	NOV 12	1620 40.6	40.68S	173.79E	119	2.6	0.1	10	7
5963	NOV 12	1731 26.0	40.56S	175.87E	33R	2.1	0.1	7	6
5969	NOV 12	2000 53.6	41.02S	174.62E	38	2.2	0.1	14	9
5970	NOV 12	2205 14.6	40.63S	175.04E	37	2.1	0.3	10	6
5976	NOV 13	0722 40.7	41.03S	173.91E	92	2.3	0.0	11	7
5983	NOV 13	1558 12.3	40.68S	173.51E	148	2.6	0.1	11	8
5987	NOV 13	2030 52.2	40.73S	174.70E	13	2.2	0.1	11	9
5988	NOV 14	0033 50.2	40.55S	175.09E	26	2.0	0.4	8	7
5990	NOV 14	0119 57.5	41.04S	174.81E	54	2.3	0.1	11	9
6004	NOV 14	1341 18.7	40.69S	173.76E	97	3.0	0.2	20	13
6007	NOV 14	1639 40.9	41.32S	174.50E	59	2.3	0.1	15	9
6008	NOV 14	1755 22.0	41.07S	174.10E	68	3.8	0.2	22	17
6019	NOV 15	0626 38.9	40.60S	174.17E	80	2.3	0.1	6	5
6023	NOV 15	1518 34.3	41.07S	175.50E	28	2.5	0.1	16	11
6027	NOV 15	1953 43.0	41.97S	173.88E	12R	2.5	0.2	11	10
6028	NOV 16	0101 39.7	41.51S	174.29E	5R	2.5	0.3	14	12
6032	NOV 16	0247 39.7	40.51S	174.19E	69	2.5	0.1	7	4
6036	NOV 16	0739 39.8	41.92S	174.82E	38	2.2	0.1	13	8
6043	NOV 16	2219 46.9	40.79S	174.63E	34	2.1	0.1	9	6
6044	NOV 16	2310 52.4	40.57S	174.28E	89	3.1	0.1	15	12
6059	NOV 17	1002 42.5	41.02S	175.49E	27	2.2	0.2	16	10
6079	NOV 17	1854 58.8	40.59S	174.39E	67	2.6	0.2	8	6
6084	NOV 17	2142 35.6	41.94S	174.38E	33	2.7	0.2	18	11
6095	NOV 18	1424 2.4	40.88S	175.07E	31	2.3	0.1	13	10
6096	NOV 18	1619 38.1	41.27S	174.09E	51	2.9	0.1	14	9
6097	NOV 18	1712 55.6	41.12S	173.91E	60	2.5	0.1	12	8
6101	NOV 19	0038 53.4	41.66S	174.49E	51	3.1	0.2	18	11
6102	NOV 19	0044 1.2	41.32S	174.63E	28	2.7	0.1	14	10
6104	NOV 19	0213 59.2	41.07S	175.36E	31	2.1	0.1	14	10
6109	NOV 19	0832 40.2	41.76S	174.51E	34	2.3	0.1	15	11
6110	NOV 19	0858 17.8	41.37S	174.64E	30	2.1	0.1	14	10
6114	NOV 19	1252 3.2	40.99S	175.33E	22	2.2	0.1	10	8
6119	NOV 19	1950 20.6	40.85S	175.48E	19	3.2	0.3	21	15
6120	NOV 19	2011 39.8	40.81S	175.55E	28	2.0	0.3	5	5

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
6122	NOV 19	2137 3.8	40.87S	174.73E	14	2.0	0.2	12	9
6124	NOV 19	2204 43.6	40.83S	175.52E	25	2.0	0.0	5	3
6125	NOV 19	2324 15.8	40.87S	175.48E	27	2.0	0.1	9	7
6127	NOV 20	0240 59.1	41.26S	174.64E	34	2.4	0.2	12	9
6135	NOV 20	1227 25.2	40.89S	175.14E	30	2.0	0.1	10	8
6137	NOV 20	1403 29.2	41.77S	174.32E	29	2.0	0.2	9	6
6140	NOV 20	1721 10.9	40.84S	175.50E	23	2.1	0.2	14	9
6141	NOV 20	1843 25.4	40.50S	173.98E	107	2.8	0.1	16	10
6143	NOV 20	2037 5.7	41.24S	173.70E	104	2.5	0.0	9	6
6148	NOV 21	0225 48.9	40.97S	174.46E	44	2.0	0.1	11	9
6150	NOV 21	0315 24.8	40.58S	173.60E	160	2.7	0.2	8	7
6153	NOV 21	0740 30.4	41.25S	174.63E	50	2.6	0.1	13	9
6161	NOV 21	1559 17.1	40.55S	174.35E	43	2.2	0.2	9	7
6165	NOV 21	2240 14.5	40.61S	173.99E	98	2.3	0.1	8	6
6166	NOV 21	2311 45.8	41.81S	174.10E	33R	2.6	0.4	16	12
6181	NOV 22	0710 41.3	40.61S	173.64E	145	3.0	0.0	15	10
6185	NOV 22	0836 58.1	40.57S	174.77E	34	2.0	0.1	9	7
6186	NOV 22	0838 55.9	40.59S	174.49E	21	2.2	0.2	15	8
6202	NOV 22	2143 33.9	41.51S	173.84E	45	3.7	0.2	21	16
6204	NOV 22	2224 0.1	41.07S	175.53E	28	2.7	0.2	18	12
6209	NOV 23	0401 11.0	40.61S	174.43E	46	2.2	0.1	7	5
6210	NOV 23	0456 53.4	41.81S	173.59E	39	2.4	0.1	9	7
6213	NOV 23	0838 16.9	40.85S	175.83E	29	2.9	0.3	26	16
6214	NOV 23	1022 13.7	40.88S	175.71E	28	2.3	0.1	14	9
6219	NOV 23	1412 1.5	41.71S	175.37E	26	3.0	0.2	20	13
6225	NOV 23	1800 39.8	41.42S	174.25E	34	2.4	0.1	14	9
6236	NOV 24	0216 35.0	40.73S	174.49E	72	2.6	0.2	15	10
6242	NOV 24	1014 30.3	40.73S	173.56E	150	2.7	0.1	16	10
6250	NOV 24	1941 32.9	40.99S	174.77E	33	2.8	0.1	17	11
6258	NOV 25	0526 46.9	40.93S	174.67E	37	2.0	0.0	7	5
6259	NOV 25	0741 8.2	41.34S	174.67E	31	2.1	0.1	18	11
6265	NOV 25	1428 30.6	40.91S	175.20E	28	2.0	0.1	14	9
6267	NOV 25	1532 0.1	41.32S	175.17E	21	2.7	0.1	18	12
6275	NOV 25	2141 34.8	41.93S	173.94E	11	2.2	0.1	8	7
6279	NOV 25	2338 39.4	40.90S	175.47E	25	2.3	0.1	15	11
6280	NOV 26	0035 26.6	40.62S	173.88E	65	2.8	0.2	12	8
6286	NOV 26	0732 29.8	40.56S	174.45E	82	2.7	0.1	16	11
6306	NOV 27	0404 51.8	41.79S	173.82E	66	2.5	0.1	9	8
6356	NOV 28	1733 50.6	40.62S	174.29E	54	2.2	0.2	10	7
6368	NOV 29	0254 42.2	41.21S	175.40E	48	2.1	0.3	6	4
6372	NOV 29	0514 38.0	41.95S	175.02E	34	2.4	0.1	12	7
6395	NOV 30	0523 26.7	41.02S	174.90E	56	2.4	0.1	13	9
6397	NOV 30	0637 27.5	41.14S	174.64E	31	2.1	0.1	18	11
6399	NOV 30	0728 56.4	40.62S	175.05E	53	2.2	0.1	12	8
6400	NOV 30	0751 25.7	41.28S	173.62E	103	2.6	0.0	8	6

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
6409	NOV 30	1558 27.9	40.58S	175.97E	30	2.5	0.2	12	9
6411	NOV 30	1757 24.2	40.80S	175.31E	28	2.0	0.1	15	11
6415	NOV 30	2355 19.1	40.96S	175.61E	29	3.0	0.1	18	13
6427	DEC 01	1116 18.6	41.00S	173.86E	72	2.6	0.1	9	6
6428	DEC 01	1313 18.7	41.46S	174.22E	67	3.2	0.1	17	13
6429	DEC 01	1339 35.4	41.46S	174.25E	64	2.7	0.1	14	11
6436	DEC 01	1800 34.8	40.68S	174.91E	35	2.0	0.1	9	7
6449	DEC 02	1136 21.3	40.79S	174.92E	37	2.0	0.2	16	10
6450	DEC 02	1152 35.4	40.78S	175.69E	27	2.0	0.2	15	10
6454	DEC 02	1443 23.1	41.07S	175.27E	23	2.3	0.2	15	11
6458	DEC 02	1632 24.1	41.93S	173.94E	23	2.6	0.3	13	11
6460	DEC 02	1715 46.4	40.66S	173.98E	108	2.5	0.1	11	8
6462	DEC 02	1734 59.9	40.77S	175.72E	29	2.4	0.2	13	11
6463	DEC 02	1740 27.6	40.77S	175.72E	29	2.0	0.2	12	10
6477	DEC 03	0239 17.3	40.90S	175.50E	29	2.3	0.1	13	10
6482	DEC 03	0607 40.1	41.46S	174.01E	77	2.2	0.1	8	6
6484	DEC 03	0634 30.1	41.76S	174.50E	32	2.0	0.1	12	8
6489	DEC 03	1204 27.6	41.84S	174.81E	42	2.2	0.1	11	8
6490	DEC 03	1332 47.6	40.62S	174.60E	42	2.0	0.2	11	7
6495	DEC 03	1504 8.5	40.54S	174.03E	60	2.4	0.2	8	5
6499	DEC 03	1645 24.0	41.78S	174.54E	32	3.2	0.1	17	13
6500	DEC 03	1829 15.2	40.65S	174.15E	84	2.2	0.1	11	7
6502	DEC 03	2040 25.1	40.92S	175.78E	32	2.0	0.1	11	8
6503	DEC 03	2042 54.4	40.61S	174.58E	34	2.0	0.1	10	5
6510	DEC 04	0309 8.1	40.81S	174.54E	66	2.9	0.1	18	12
6511	DEC 04	0459 51.9	41.46S	173.99E	42	3.2	0.2	16	12
6535	DEC 04	2320 48.9	40.81S	174.45E	42	2.2	0.1	11	9
6560	DEC 05	1511 6.4	40.87S	175.69E	29	2.1	0.1	11	8
6561	DEC 05	1515 50.6	41.23S	175.19E	21	2.0	0.1	14	10
6566	DEC 05	1744 5.5	41.36S	174.83E	30	2.0	0.1	12	9
6567	DEC 05	1744 8.3	41.37S	174.83E	30	2.0	0.1	12	8
6577	DEC 06	0041 29.4	40.60S	175.40E	4	2.1	0.4	10	8
6584	DEC 06	1610 58.0	40.58S	173.82E	124	3.1	0.1	11	9
6588	DEC 06	2258 39.2	40.75S	175.09E	32	2.6	0.1	14	9
6591	DEC 07	0511 39.6	40.74S	175.56E	30	3.5	0.2	21	15
6596	DEC 07	1213 48.6	41.74S	174.50E	33	2.1	0.2	15	10
6599	DEC 07	1339 32.5	41.01S	174.16E	57	3.2	0.2	18	12
6600	DEC 07	1617 8.5	40.96S	175.25E	25	2.0	0.2	8	6
6601	DEC 07	1641 43.4	40.70S	174.29E	72	2.9	0.1	16	10
6610	DEC 07	2341 1.8	41.02S	174.07E	54	2.5	0.2	13	10
6611	DEC 08	0059 45.9	41.27S	175.30E	27	2.0	0.1	10	7
6622	DEC 08	0726 47.1	40.54S	175.86E	29	2.1	0.3	9	7
6624	DEC 08	1047 5.7	41.21S	174.62E	21	2.3	0.2	16	11
6625	DEC 08	1104 3.9	41.84S	174.11E	12R	2.4	0.5	17	10
6629	DEC 08	1721 17.1	40.80S	175.34E	28	2.0	0.1	15	10

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
6636	DEC 08	2125 46.5	40.75S	175.09E	31	2.1	0.1	10	7
6643	DEC 09	0447 12.4	40.70S	175.85E	34	2.6	0.1	12	8
6646	DEC 09	0738 44.5	41.22S	173.94E	70	2.9	0.2	10	9
6657	DEC 09	1755 41.4	41.53S	174.83E	27	2.0	0.1	13	10
6661	DEC 10	0515 6.6	41.50S	174.75E	32	2.2	0.2	11	9
6672	DEC 10	1844 22.5	41.34S	173.84E	58	2.5	0.1	10	7
6674	DEC 10	2022 27.5	41.11S	175.38E	27	2.1	0.1	12	9
6676	DEC 11	0130 50.5	41.62S	174.40E	7	2.2	0.2	11	8
6677	DEC 11	0201 6.0	41.05S	175.25E	15	2.2	0.2	11	8
6695	DEC 12	1037 38.9	41.18S	174.46E	35	2.3	0.1	13	8
6703	DEC 13	0042 5.9	41.22S	175.75E	22	2.1	0.2	10	7
6716	DEC 13	1530 34.3	41.06S	173.74E	67	2.6	0.1	10	7
6720	DEC 14	0210 4.8	40.68S	174.41E	81	2.4	0.1	10	7
6731	DEC 14	1534 45.6	41.53S	173.82E	58	3.3	0.2	16	12
6735	DEC 14	1900 57.2	41.65S	174.31E	26	2.1	0.2	11	7
6741	DEC 15	0751 9.5	41.85S	173.78E	50	2.7	0.2	14	10
6748	DEC 15	2017 11.4	40.57S	174.15E	67	2.8	0.2	16	12
6749	DEC 15	2114 23.2	40.91S	174.71E	35	2.2	0.2	14	10
6759	DEC 16	0339 0.6	41.73S	174.49E	30	2.2	0.2	9	7
6760	DEC 16	0422 29.0	41.11S	175.90E	32	2.9	0.1	18	12
6763	DEC 16	0852 22.7	41.27S	173.85E	53	2.0	0.1	8	5
6771	DEC 16	1422 54.4	40.76S	174.19E	73	2.3	0.1	10	8
6772	DEC 16	1532 25.0	41.93S	173.93E	20	2.1	0.1	11	7
6774	DEC 16	1834 1.7	40.86S	175.72E	29	2.2	0.1	12	8
6780	DEC 16	2216 57.2	40.69S	173.77E	133	3.1	0.2	16	11
6784	DEC 17	0138 36.8	41.04S	174.61E	33	2.1	0.1	15	11
6787	DEC 17	0613 23.6	41.18S	174.26E	45	2.0	0.1	7	5
6788	DEC 17	0702 48.2	40.66S	174.50E	56	2.1	0.1	9	7
6798	DEC 18	0025 40.0	41.52S	173.68E	66	2.9	0.2	20	14
6802	DEC 18	0513 38.2	40.52S	175.18E	34	2.1	0.1	9	7
6807	DEC 18	1351 13.3	41.16S	174.65E	33	2.2	0.2	17	11
6808	DEC 18	1517 12.2	41.03S	174.92E	31	2.1	0.1	12	8
6811	DEC 18	1635 58.8	40.60S	175.68E	30	2.0	0.1	8	7
6815	DEC 18	2233 9.9	40.88S	173.80E	58	2.3	0.3	9	6
6823	DEC 19	0504 38.5	40.74S	174.58E	41	2.1	0.2	10	8
6824	DEC 19	0612 39.1	41.07S	175.21E	26	2.5	0.2	16	11
6825	DEC 19	0646 53.5	41.46S	175.03E	23	2.0	0.1	16	11
6826	DEC 19	0649 42.2	41.45S	175.02E	23	2.3	0.1	17	11
6831	DEC 19	1259 0.3	40.93S	173.65E	139	2.9	0.2	18	12
6833	DEC 19	1545 0.6	41.61S	173.64E	54	2.0	0.0	6	4
6836	DEC 19	1828 49.9	40.66S	173.64E	133	2.5	0.1	9	7
6843	DEC 20	0246 35.7	41.05S	173.70E	64	2.4	0.1	7	4
6852	DEC 20	0803 55.4	40.80S	174.80E	15	2.1	0.2	17	10
6856	DEC 20	1126 9.2	40.85S	174.75E	20	2.2	0.3	16	9
6863	DEC 20	1753 25.5	40.65S	174.22E	12R	2.0	0.4	7	5

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
6864	DEC 20	1855 42.3	40.50S	175.35E	33	2.0	0.3	10	8
6868	DEC 21	0627 15.3	40.78S	174.77E	35	2.1	0.1	14	10
6870	DEC 21	0959 19.5	41.13S	174.34E	34	2.2	0.2	14	8
6874	DEC 21	1742 0.7	41.61S	174.66E	32	2.0	0.1	13	9
6877	DEC 21	2227 45.3	41.30S	173.92E	63	3.5	0.2	20	14
6878	DEC 21	2352 12.9	41.30S	174.90E	29	2.1	0.1	17	11
6887	DEC 23	0129 50.1	40.66S	175.53E	29	2.1	0.1	13	9
6891	DEC 23	1124 25.7	40.81S	174.79E	34	3.0	0.2	15	13
6905	DEC 24	0935 48.3	40.52S	174.16E	55	2.3	0.2	11	7
6907	DEC 24	1001 10.4	41.57S	174.69E	29	2.0	0.1	12	8
6908	DEC 24	1002 47.2	40.91S	175.39E	30	3.0	0.1	17	14
6912	DEC 24	2231 41.1	40.67S	174.44E	51	2.0	0.1	8	7
6916	DEC 25	0439 7.5	40.61S	174.39E	33	2.1	0.2	13	9
6922	DEC 25	1109 33.5	40.89S	175.80E	31	2.3	0.2	14	11
6929	DEC 25	1922 21.2	41.04S	174.66E	57	2.0	0.0	8	7
6931	DEC 25	2038 47.5	40.62S	174.67E	79	2.8	0.1	13	9
6954	DEC 26	1942 42.9	41.07S	174.64E	63	3.4	0.2	25	19
6961	DEC 27	0515 56.7	40.50S	175.10E	46	2.2	0.2	11	7
6964	DEC 27	1011 34.6	41.45S	174.08E	40	2.7	0.2	14	12
6966	DEC 27	1021 6.6	40.60S	174.41E	83	2.5	0.1	12	9
6977	DEC 28	0317 52.8	40.89S	175.23E	31	2.4	0.1	14	11
6983	DEC 28	1755 46.9	41.09S	174.61E	57	2.6	0.1	16	10
6984	DEC 28	1831 9.0	41.79S	174.00E	49	2.8	0.4	12	10
6990	DEC 29	0446 48.8	41.70S	174.44E	12	2.5	0.4	17	13
6993	DEC 29	1918 27.3	41.50S	173.68E	127	2.8	0.3	16	12
6997	DEC 30	1203 34.3	40.53S	175.06E	35	2.0	0.1	11	9
6998	DEC 30	1606 18.4	40.94S	174.81E	64	2.6	0.1	16	10
7000	DEC 30	1735 52.9	41.06S	174.43E	68	2.0	0.1	10	6
7009	DEC 31	0625 41.5	41.59S	174.29E	29	2.6	0.1	17	12
7017	DEC 31	2012 57.7	40.91S	174.70E	59	2.9	0.1	17	11

TUAMOTU ARCHIPELAGO NUCLEAR EXPLOSIONS

Nuclear explosions at the French nuclear test sites in the Tuamotu Archipelago are often recorded at Rarotonga (RAR). The P-wave is usually not recorded but the T-waves have a rather distinctive signature with a very emergent onset, followed after a few seconds by a more prominent burst of energy which reaches its maximum and decays before the arrival of a smaller "echo" trailing the main energy by some 110 seconds. Although other teleseismic readings from the New Zealand instrumental networks are published by the International Seismological Centre, these T-wave observations are not.

Because the emergent first arrival cannot always be seen clearly when the explosions are relatively small, the instant of arrival is not recorded here. Instead, an inferred origin time is listed, based on the estimated travel time from the test site to Rarotonga, and indications that it is common practice to detonate tests exactly on the minute.

A means of estimating the magnitudes of these explosions has been devised, based on a comparison of maximum amplitudes of T-waves recorded at Rarotonga with magnitude estimates from the United States National Earthquake Information Service. (W.D. Smith, 1987: Underground nuclear explosions recorded at Rarotonga: estimation of m_b from T-phase amplitude. Geophys. J. R. astr. Soc. 90: 35-42). These magnitudes are given, together with the N.E.I.S. and I.S.C. estimates where these are available. The maximum recorded trace amplitude at Rarotonga (in millimetres) is also listed. An 'F ' after the time of a test indicates that it is believed to have been sited at Fangataufa, while all others are thought to have been on Mururoa.

DATE	TIME h m	AMPLITUDE millimetres	m_b (T-wave)	m_b (N.E.I.S.)	m_b (I.S.C.)
May 11	17 00	6.4	5.28	5.5	5.4
May 25	17 01	21.0	5.79	5.6	5.6
Jun 16	17 15	2.0	4.77	--	--
Jun 23	17 31	9.0	5.42	5.3	5.3
Oct 25	17 00	0.8	4.37	--	--
Nov 5	16 30	13.2	5.59	5.4	5.5
Nov 23	17 01	12.5	5.57	5.4	5.4
Nov 30	17 55 F	25.0	5.87	5.5	5.5

NON-INSTRUMENTAL DATA

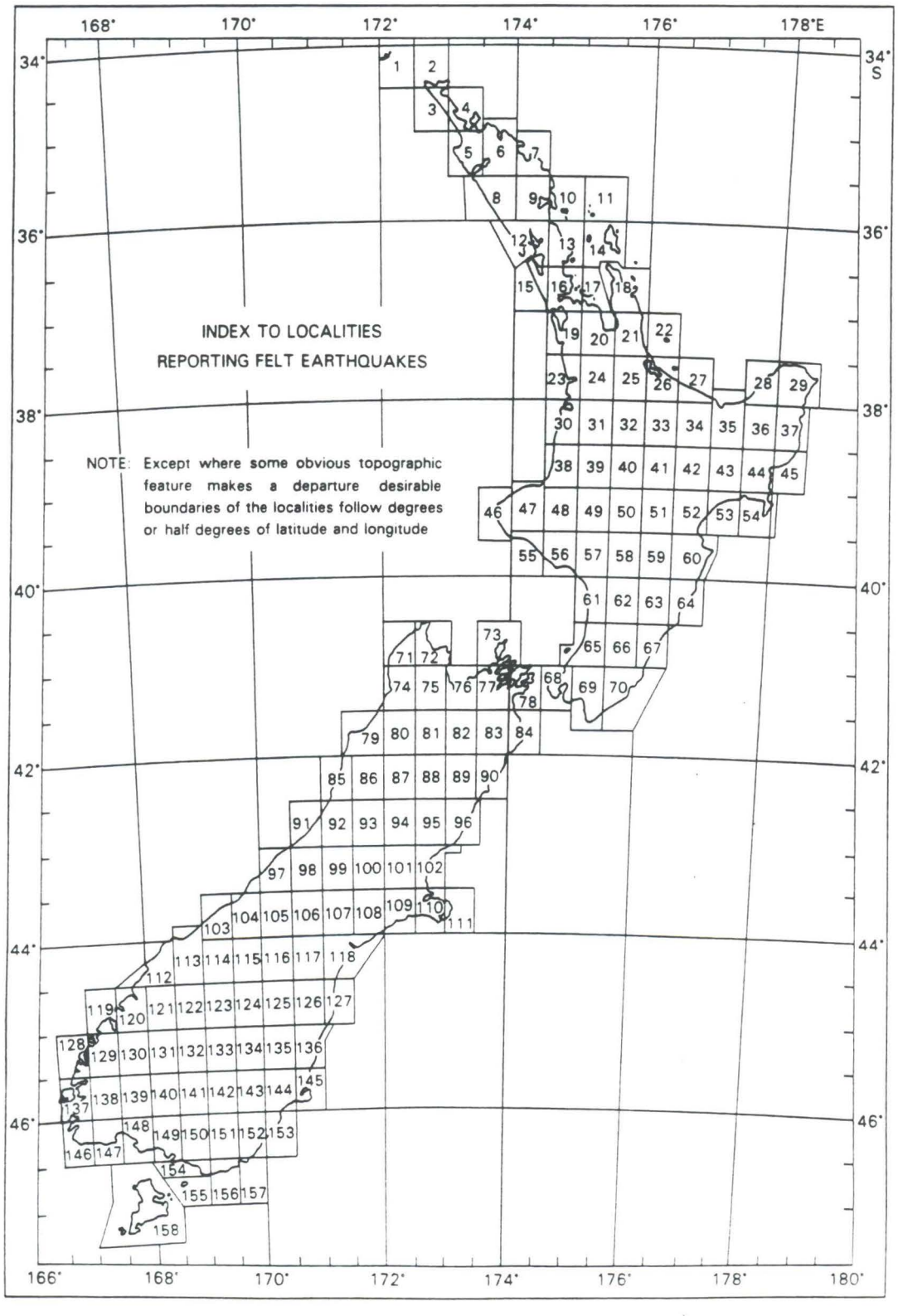
THE FELT REPORTING SYSTEM

The Observatory has recruited a network of about 600 voluntary observers spread throughout the country, who use a standard form to describe the effects of any earthquake they feel. The Observatory also collects casual reports from newspapers, meteorological observers, postmasters and members of the local public. For large earthquakes, or ones with features of special interest, questionnaires are issued and assessed.

Several difficulties arise in assessing the distribution of felt intensity. The population of the country is very unevenly spread, and the observers' personal circumstances may prevent them from feeling a shock that has been noticed by others. These problems also affect lists of earthquakes felt in particular localities. It may reasonably be assumed that a strong earthquake reported from one township was felt in another nearby, even though the Observatory has received no report. However, an index of this kind must summarise data and not deductions, so the following scheme is used.

The land area of New Zealand has been divided into 'localities', mostly bounded by half-degree lines of latitude and longitude, but varied as necessary to avoid splitting obvious geographic or structural units (see map opposite). Each locality has a number and a name, usually that of the principal population centre within it. The names are listed overleaf. In most localities there are at least two well-separated reporters, but there are still some sparsely populated parts of the country without observers, notably in Southland. Felt information is summarised in information lines following the instrumental data in the main list of earthquakes. Modified Mercalli intensities quoted there have been assessed by the Observatory from replies to standard questionnaires. Assessments based on less formal descriptions of intensity are included in the following list, in which the localities which have reported shocks during the year are presented in alphabetical order, each followed by the reference numbers of the shocks felt and their respective maximum reported intensities within that locality. By comparing the reports from neighbouring localities, it is possible to form a truer estimate of the incidence of the felt effects than would be possible from a simple list of places reporting each shock.

A further list records reports received from places in the south-west Pacific.



Standard Reporting Localities

STANDARD REPORTING LOCALITIES

1	Three Kings	41	Taupo	81	Glenhope	121	Glenorchy
2	Te Reinga	42	Te Whaiti	82	Wairau	122	Arrowtown
3	Ninety Mile Beach	43	Tuai	83	Awatere	123	Wanaka
4	Doubtless Bay	44	Whakapunaki	84	Cape Campbell	124	St Bathans
5	Kaitaia	45	Gisborne	85	Greymouth	125	Kurow
6	Kaikohe	46	Cape Egmont	86	Reefton	126	Duntroon
7	Bay of Islands	47	New Plymouth	87	Maruia	127	Waimate
8	Dargaville	48	Whangamomona	88	Hanmer	128	Secretary Is.
9	Whangarei	49	Ohakune	89	Clarence	129	Doubtful Sound
10	Bream Head	50	Chateau	90	Kaikoura	130	Te Anau
11	Moko Hinau	51	Kaweka	91	Hokitika	131	Livingstone Mts
12	Kaipara	52	Napier	92	Kumara	132	Kingston
13	Warkworth	53	Wairoa	93	Arthur's Pass	133	Alexandra
14	Barrier Islands	54	Mahia	94	Lake Sumner	134	Poolburn
15	Helensville	55	Hawera	95	Culverden	135	Ranfurly
16	Auckland	56	Waverley	96	Cheviot	136	Oamaru
17	Waiheke	57	Wanganui	97	Franz Josef	137	Resolution Island
18	Coromandel	58	Taihape	98	Hari Hari	138	Pillans Pass
19	Pukekohe	59	Ruahine	99	Whitcombe Pass	139	Monowai
20	Mercer	60	Hastings	100	Lake Coleridge	140	Mossburn
21	Thames	61	Bulls	101	Oxford	141	Waikaia
22	Mayor Is.	62	Palmerston North	102	Rangiora	142	Roxburgh
23	Raglan	63	Dannevirke	103	Haast	143	Lawrence
24	Hamilton	64	Porangahau	104	Bruce Bay	144	Outram
25	Matamata	65	Otaki	105	Mount Cook	145	Dunedin
26	Tauranga	66	Masterton	106	Tekapo	146	Puysegur Point
27	Whakatane	67	Castlepoint	107	Mount Somers	147	Poteretere
28	Te Kaha	68	Wellington	108	Ashburton	148	Tuatapere
29	East Cape	69	Featherston	109	Rakaia	149	Invercargill
30	Kawhia	70	Martinborough	110	Christchurch	150	Gore
31	Te Kuiti	71	Mount Stevens	111	Akaroa	151	Clinton
32	Tokoroa	72	Takaka	112	Big Bay	152	Balclutha
33	Rotorua	73	D'Urville Island	113	Jackson's Bay	153	Waihola
34	Murupara	74	Karamea	114	Makarora	154	Bluff
35	Opotiki	75	Motueka	115	Lake Ohau	155	Ruapuke
36	Motu	76	Nelson	116	Pukaki	156	Tahakopa
37	Tolaga Bay	77	Blenheim	117	Fairlie	157	Owaka
38	Mokau	78	Picton	118	Timaru	158	Stewart Is.
39	Taumarunui	79	Westport	119	George Sound	159	Chatham Islands
40	Tokaanu	80	Murchison	120	Milford		

EARTHQUAKES FELT IN STANDARD LOCALITIES

Localities within which earthquakes were felt are listed in alphabetical order, each preceded by its number on the locality map. The figure following the name of the locality is the number of the epicentre, followed by the maximum intensity (in brackets) reported within the district covered by the locality name. An asterisk (*) indicates that the particular intensity was not evaluated from the standard questionnaire. The location of the earthquake and the instrumental magnitude may be found in the Summary of Origin and Magnitude Determinations.

133	Alexandra	1170 (4), 1990 (4), 2354 (8), 2766 (4).
122	Arrowtown	2354 (4*), 2990 (4).
93	Arthur's Pass	1946 (4), 2354 (4), 5483 (5).
83	Awatere	2225 (6), 4792 (5).
152	Balclutha	2354 (4*).
77	Blenheim	233 (4), 1085 (4*), 2274 (4), 3423 (4), 5321 (4).
154	Bluff	2354 (6).
104	Bruce Bay	1990 (5), 1999 (3), 2021 (3), 2281 (5), 2867 (3), 3733 (4), 5436 (4).
61	Bulls	1766 (4), 2274 (4), 3147 (4), 6139 (3).
46	Cape Egmont	1311 (4), 2274 (5), 2275 (5), 3869 (4*), 4104 (4*), 4417 (4*).
67	Castlepoint	1369 (4), 1690 (4), 3147 (4*), 4528 (3).
50	Chateau	6024 (5*), 6139 (3*).
110	Christchurch	2354 (3), 5320 (3).
63	Dannevirke	882 (4), 929 (4*), 1176 (4*), 2073 (6), 3147 (4*), 4762 (5), 6139 (4).
129	Doubtful Sound	2354 (4*).
145	Dunedin	2354 (6).
126	Duntroon	2354 (4*), 3039 (5*).
73	D'Urville Island	1766 (3), 2274 (5).
117	Fairlie	2354 (5).
69	Featherston	122 (4*), 233 (4), 2063 (4*), 3423 (4*), 3426 (4*).
97	Franz Josef	1990 (5), 2354 (5), 3804 (4), 4478 (4).

45	Gisborne	1515 (4*), 2063 (4*).
81	Glenhope	4200 (4).
121	Glenorchy	1990 (4), 2354 (8), 2766 (4), 2867 (4), 2990 (5).
150	Gore	1990 (4), 2354 (5).
85	Greymouth	1990 (5), 2354 (3), 3804 (5), 5483 (5).
103	Haast	2354 (5), 3733 (4).
60	Hastings	1369 (3), 2063 (4*), 2073 (6), 2137 (4*), 3147 (4), 4133 (4*), 4528 (3), 4762 (5), 5154 (4), 5847 (4).
91	Hokitika	1990 (5), 2354 (5), 3804 (5), 5483 (3*).
149	Invercargill	1170 (4), 1580 (4), 1649 (4), 2354 (6), 3271 (5), 3845 (4*).
113	Jackson's Bay	1316 (4), 1990 (**), 1993 (3*), 1999 (3*), 2990 (5).
90	Kaikoura	3952 (5*), 4611 (5*).
132	Kingston	1170 (4*), 1990 (4*), 2354 (9), 2990 (4), 3845 (5*).
92	Kumara	2354 (5).
100	Lake Coleridge	2354 (4), 4454 (4).
115	Lake Ohau	1990 (4), 2354 (5), 2432 (4*).
131	Livingstone Mts	2354 (8).
54	Mahia	1760 (4*).
87	Maruia	4200 (4).
66	Masterton	2989 (4*), 3423 (4*), 5490 (4*).
25	Matamata	1775 (4*).
120	Milford	2354 (8), 2385 (5).
38	Mokau	2947 (4).
139	Monowai	2354 (9), 2766 (3), 3417 (4), 3419 (4), 4376 (4).
140	Mossburn	2354 (6).
36	Motu	6794 (4).
105	Mount Cook	2354 (5).
107	Mount Somers	2354 (4), 4478 (5), 4479 (3*), 4512 (4).
71	Mount Stevens	2274 (5), 3731 (5).

34	Murupara	1063 (4*), 1084 (4*), 1101 (4*), 1152 (5), 1708 (4*), 2201 (4*).
52	Napier	43 (4), 97 (5), 882 (4), 1002 (5), 2063 (3), 2078 (4), 3293 (5), 4762 (4*), 4917 (4), 6139 (4).
76	Nelson	2274 (4), 4095 (4*).
47	New Plymouth	461 (4*), 465 (4*), 521 (4*), 1766 (4*), 1828 (4*), 2947 (5), 5490 (4*).
136	Oamaru	2354 (4*).
49	Ohakune	2274 (3), 2947 (4), 3025 (3), 4588 (4).
35	Opotiki	121 (4), 457 (5), 882 (4), 977 (4), 1002 (4), 1462 (4), 1515 (4*), 1785 (4), 3304 (5*), 4112 (4), 4133 (4), 4221 (4), 6795 (4).
65	Otaki	233 (4), 591 (4*), 882 (4), 1247 (4*), 1369 (4), 1766 (5), 2274 (5), 2989 (5), 3147 (4), 3423 (4*), 3645 (4*).
144	Outram	2354 (5).
62	Palmerston North	43 (4), 233 (?), 882 (4), 1369 (5), 1690 (5), 1766 (4*), 2063 (3), 2073 (3), 2274 (5), 3147 (4), 3423 (4), 4528 (4), 4762 (5), 6139 (4*).
78	Picton	233 (4), 1766 (4*), 4325 (3), 5321 (4).
138	Pillans Pass	2354 (5), 2766 (4), 3271 (3).
64	Porangahau	3147 (4).
135	Ranfurly	2354 (4*).
33	Rotorua	315 (4), 1099 (3), 1101 (4), 1116 (4), 1152 (3), 1167 (4), 1317 (4*), 1319 (4*), 1382 (4*), 1388 (4*), 1389 (4*), 1391 (4*), 1393 (4*), 1398 (4*), 1402 (4*), 1751 (4), 2126 (4), 3082 (5), 3351 (4), 3510 (4), 4250 (4), 4251 (5), 4264 (5), 4299 (5), 4300 (4), 4303 (4*), 4852 (4), 4926 (4), 6522 (4), 6557 (4), 6688 (4), 6754 (4), 6942 (4*).
124	St Bathans	1990 (4), 2354 (4).
156	Tahakopa	2354 (5), 3845 (4).
58	Taihape	43 (4), 1369 (4), 1690 (4), 1783 (5), 2073 (4), 2274 (4), 3147 (4), 4762 (4), 6025 (4), 6139 (5).
72	Takaka	3731 (4*).
39	Taumarunui	1369 (4*), 2274 (4), 4589 (4), 6025 (4*).

41	Taupo	1002 (4), 1369 (4*), 2063 (?), 3634 (5), 3669 (4), 4272 (3), 4273 (5), 4343 (4), 4345 (4), 4346 (4), 4347 (4), 4348 (4), 4349 (4), 4350 (4), 5416 (4), 5523 (3), 5578 (4), 5609 (4).
26	Tauranga	1101 (4*), 1775 (4*).
130	Te Anau	1990 (5), 2354 (8), 2398 (3), 2514 (5), 2867 (4), 3417 (5), 3845 (4), 4376 (5), 4468 (4).
21	Thames	1774 (6), 1777 (6), 1778 (5), 1780 (6), 2274 (4).
118	Timaru	2354 (6).
40	Tokaanu	1369 (3), 2063 (?), 3669 (4), 4150 (4), 4273 (5), 5465 (3), 5466 (4), 5524 (4).
43	Tuai	457 (4).
148	Tuatapere	2354 (5), 3845 (5).
17	Waiheke	1180 (4), 1186 (4).
127	Waimate	3039 (4*).
53	Wairoa	778 (4*), 1369 (4), 1515 (4), 2063 (4*).
123	Wanaka	1990 (5), 2354 (6).
57	Wanganui	370 (4*), 1369 (4*), 1476 (4*), 2063 (5*), 2274 (4), 2947 (4), 3147 (4*), 5490 (4), 5922 (4).
68	Wellington	43 (4), 122 (5), 233 (5), 881 (4), 882 (4), 1054 (4*), 1247 (4), 1369 (4), 1614 (4*), 1766 (4), 1783 (3), 1938 (4*), 2063 (4), 2073 (4*), 2274 (4), 2354 (4), 3147 (4), 3296 (4), 3423 (5), 3426 (4), 3499 (4), 3645 (4), 3751 (3), 3819 (4*), 4868 (3*), 4878 (5), 4879 (4), 5232 (5), 603- (3).
79	Westport	2274 (4), 2354 (5), 4237 (4*).
44	Whakapunaki	1515 (4), 5838 (4), 6869 (4).
27	Whakatane	457 (4*), 977 (4*), 1084 (3), 1101 (4*), 1642 (5), 1644 (4*), 2201 (4*), 6803 (4*).
48	Whangamomona	1766 (4), 2274 (4).

REPORTS FROM OUTSIDE NEW ZEALAND

The Observatory sometimes receives reports of earthquakes felt on islands of the south-west Pacific and other places beyond the limits of its systematic reporting network. Where Modified Mercalli scale intensities in the list below are shown in quotes, they have been estimated by the reporters, not the Observatory.

DATE	TIME	INTENSITY	PLACE
Jan 12	07h 29m	'felt'	Raoul Island
Jan 12	17h 40m	'felt'	Raoul Island
Jan 18	21h 37m	'felt'	Raoul Island
Jan 20	03h 58m	'felt'	Raoul Island
Feb 18	12h 57m	'felt'	Raoul Island
Feb 25	19h 04m	'MM 2'	Raoul Island
May 09	12h 22m	'MM 6'	Raoul Island
June 03	11h 46m	'felt'	Raoul Island
June 05	05h 29m	'felt'	Raoul Island
June 11	12h 17m	'MM 4'	Apia, W. Samoa
July 09	15h 11m	'felt'	Raoul Island
Aug 15	15h 42m	'MM 4'	Raoul Island
Aug 18	13h 30m	'felt'	Raoul Island
Aug 26	07h 33m	'MM 3'	Apia, W. Samoa
Aug 26	09h 36m	'MM 3'	Apia, W. Samoa
Aug 27	16h 30m	'MM 3'	Apia, W. Samoa
Oct 08	04h 47m	'MM 4'	Throughout Samoa & at Raoul Island.
Oct 10	18h 21m	'strongly'	Raoul Island
Oct 28	14h 50m	'MM 3'	Apia, W. Samoa
Nov 07	17h 25m	'felt'	Raoul Island
Nov 28	05h 11m	'slight'	Raoul Island
Dec 04	16h approx.	MM 4	Apia, W. Samoa

PUBLICATIONS BY STAFF MEMBERS

The following papers by members of the Seismological Observatory staff were published in 1988.

S-311 Eiby, G.A.: Documenting New Zealand earthquakes. Historical Seismograms and Earthquakes of the World. W. Lee et al. (editors); Academic Press: 232-240.

The record of even large earthquakes in New Zealand is likely to be seriously incomplete until 1840, but accounts of over 300 earlier shocks exist. The systematic reporting of felt earthquakes began in 1868. This reporting still continues in a greatly expanded way.

The archives of the Seismological Observatory, Wellington contain seismograms dating from 1900, and stored seismograms now cover about 140 square metres of floor-space.

Several earthquake catalogues have been prepared, the most comprehensive being a list of 24,000 shocks stored on magnetic tape. Fully referenced historical material forms the basis of a "Descriptive Catalogue" of which two sections, up to the year 1854, are published.

Origins and magnitudes based upon instrumental data recorded before 1964 are being recalculated using improved knowledge of crustal structure, etc, and are being published. Several monographs dealing with the more important events revealed by these studies have appeared.

S-312 Eiby, G.A.: Seismograms made before 1963 at stations in the Southwest Pacific. Historical Seismograms and Earthquakes of the World. W. Lee et al. (editors); Academic Press: 455-461.

This paper outlines the history of seismograph stations in the southwest Pacific and neighbouring parts of Antarctica and gives particulars of the present custody and condition of the records.

S-313 Reyners, M.E.: Reservoir-induced seismicity at Lake Pukaki, New Zealand. Geophys. J.R. Astr. Soc. 93: 127-135.

The Pukaki microearthquake network was installed in 1975 to monitor possible changes in seismicity accompanying the raising of the water level of Lake Pukaki for hydroelectric power generation. During the period 1976-79, the depth of the lake was increased by 37 m, thereby adding 4.9 x 10^9 m^3 to its volume. Analysis of $8\frac{1}{2}$ years of data has revealed widespread changes in seismicity which correlate with groundwater changes. During the period when groundwater level was higher than any previous maximum, there was both an increase in seismicity rate within 15 km of the lake and a decrease in the background (i.e. 15-50 km from the lake). The largest earthquake of the sample, the M_L = 4.6 event of 1978 December located 10 km northwest of the Pukaki High Dam, occurred during this period.

The increased seismicity near the lake during the period when groundwater level was rising clusters around the periphery of the lake, rather than directly beneath it. The close correspondence in time of the period of rising groundwater and the period of increased seismicity near the lake, and the fact that they both lag the period of rising lake level by approximately one year, indicate that pore-pressure diffusion plays an important role in inducing seismicity near the lake. However, it is difficult to explain seismicity changes in the background in terms of pore pressure changes.

S-314 Haines, A.J.: Multi-source, multi-receiver synthetic seismograms for laterally heterogeneous media using F-K domain propagators. Geophys. J. 95: 237-260.

A practical method for computing coupled wavenumber 'super-propagators' has been developed. By allowing for a depth of penetration for each wavenumber the inherent numerical instability of the classical propagator method for seismic waves is avoided. Allowance is made for surface topography by introducing conformal transformations that map the Earth into a flat half-space.

Efficient algorithms have been developed to construct numerical solutions. Many sources, each with multiple receivers, can be considered in the same calculation. An example involving stratified media is presented which illustrates how much distortion in the input model is acceptable before the approach ceases to be viable.

----- Eiby, G.A.: 1855 - observation and inference. Geophysics Division, DSIR, Workshop on the active deformation of the Wellington region. *Also* Bull. N.Z. Nat. Soc. for Earthq. Eng. 22(1989): 10-11.

An abstract in a collection of abstracts, diagrams and references.

----- Lowry, M.A.: Edgecumbe. DSIR Extension Information "Alpha" series 60.

A popular account of what happened in the Edgecumbe earthquake of 2 March 1987.

----- Robinson, R.: Implications of seismicity for the tectonics of the Wellington region.

Geophysics Division, DSIR, Workshop on the active deformation of the Wellington region. *Also* Bull. N.Z. Nat. Soc. for Earthq. Eng. 22(1989): 25-26.

An abstract in a collection of abstracts, diagrams and references.

----- Sherburn, S. and Hurst, A.W.: Two and three hertz volcanic tremor, Mt. Ruapehu, New Zealand.

Kagoshima International conference on volcanoes, proceedings, NIRA, Tokyo: 59-62.

Report of experience with an automatic tremor recording system on Ruapehu volcano in New Zealand's Tongariro Volcanic Centre.

----- Sherburn, S. and Scott, B.J.: A short-term micro-earthquake survey on White Island volcano.

Geophysics Division, DSIR, Report 215.

----- Smith, E.G.C.: What is the relationship between the faults in the Wellington Region?

Geophysics Division, DSIR, Workshop on the active deformation of the Wellington region. *Also* Bull. N.Z. Nat. Soc. for Earthq. Eng. 22(1989): 34-35.

An abstract in a collection of abstracts, diagrams and references.

----- Smith, W.D.: Principal New Zealand earthquakes in 1987.

A review of significant earthquakes of the year.

----- Webb, T.H.: The 1942 Wairarapa Earthquakes.

Geophysics Division, DSIR, Workshop on the active deformation in the Wellington Region. *Also* Bull. N.Z. Nat. Soc. Earthq. Eng. 22(1989): 33.

An abstract in a collection of abstracts, diagrams and references.

OBSERVATORY SERVICES

PUBLICATIONS

The Seismological Observatory issues the following series of publications:

1. E-bulletins. These consist of the 'New Zealand Seismological Reports' containing summaries of the data used for each origin determination, lists of origins, felt intensity data, and brief accounts of the principal earthquakes of the year. They also provide details of the instruments used to record earthquakes and descriptions of Observatory practices.

2. S-bulletins. These are mostly reprints of papers by members of the Observatory staff, but occasionally they have included other material not published elsewhere, such as the Eiby-Muir near-earthquake tables. Their automatic circulation is not now as widespread as it was in the past, but they are usually available from the Observatory on request.

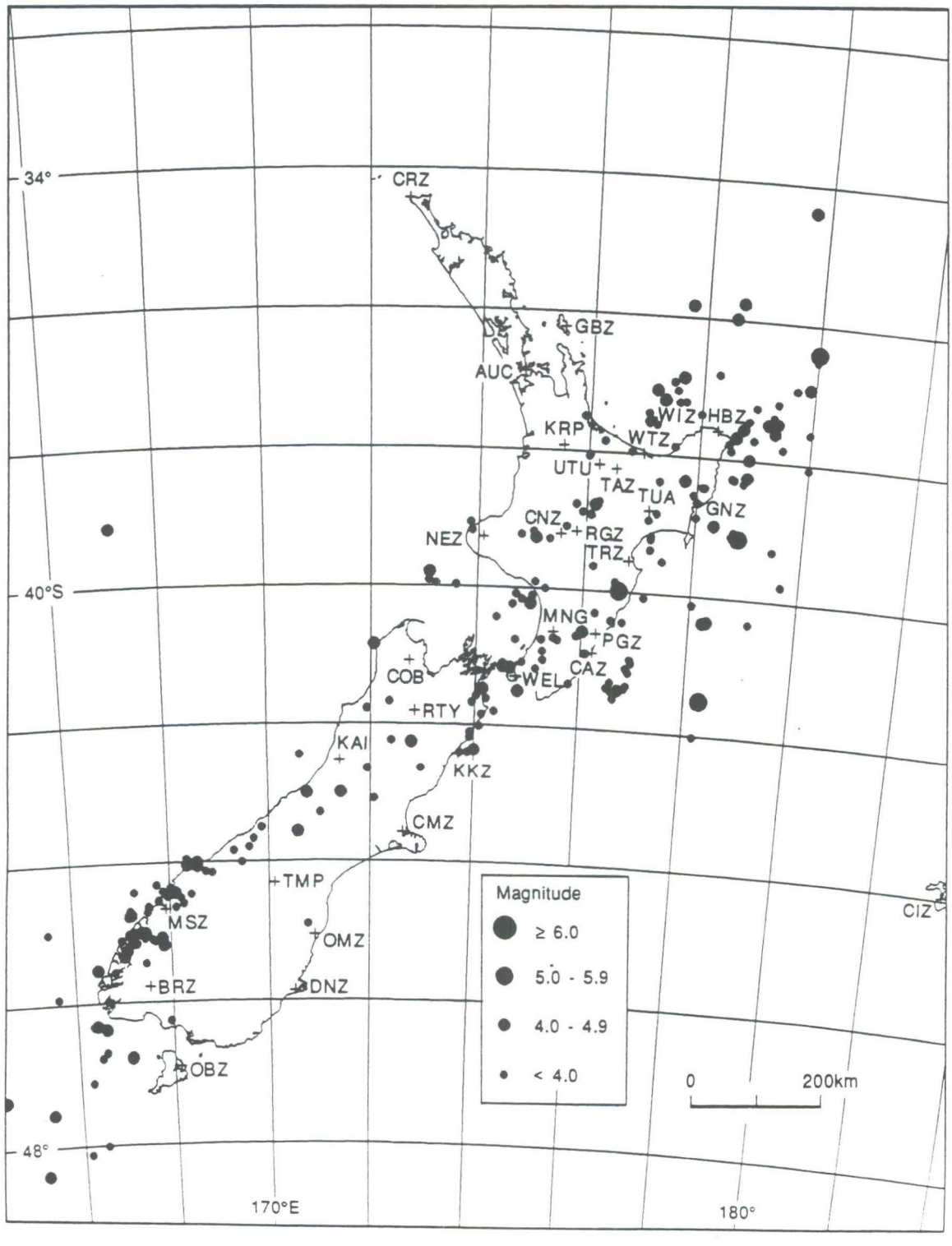
Copies of this material may be purchased from the Observatory. In suitable cases the Observatory may be able to enter into agreements for a free exchange of publications on a continuing basis.

EARTHQUAKE CATALOGUE

The Observatory has a master file of some 40,000 earthquake origins and associated information stored on magnetic tape. From this, lists of earthquakes within particular geographical areas of New Zealand, or in categories defined in other ways, can be made available to researchers. Full details have been published elsewhere (W.D. Smith, 1976: 'A Computer File of New Zealand Earthquakes'; Bull. N.Z. Natl. Soc. Earthq. Eng., Vol. 9, No. 2, pp.136-7, or N.Z. J. Geol. Geophys., Vol. 19, No. 3, pp.393-4). Criteria that may be specified are dates, magnitudes, focal depths, intensities and regions bounded in a number of different ways. It is also possible to search for earthquakes likely to have produced intensities above a specified minimum at a particular place and to list reports of a given minimum intensity that have originated in a chosen reporting locality. Because of the dangers inherent in the use of incompletely assessed data, it is recommended that users should discuss their search criteria with the Observatory.

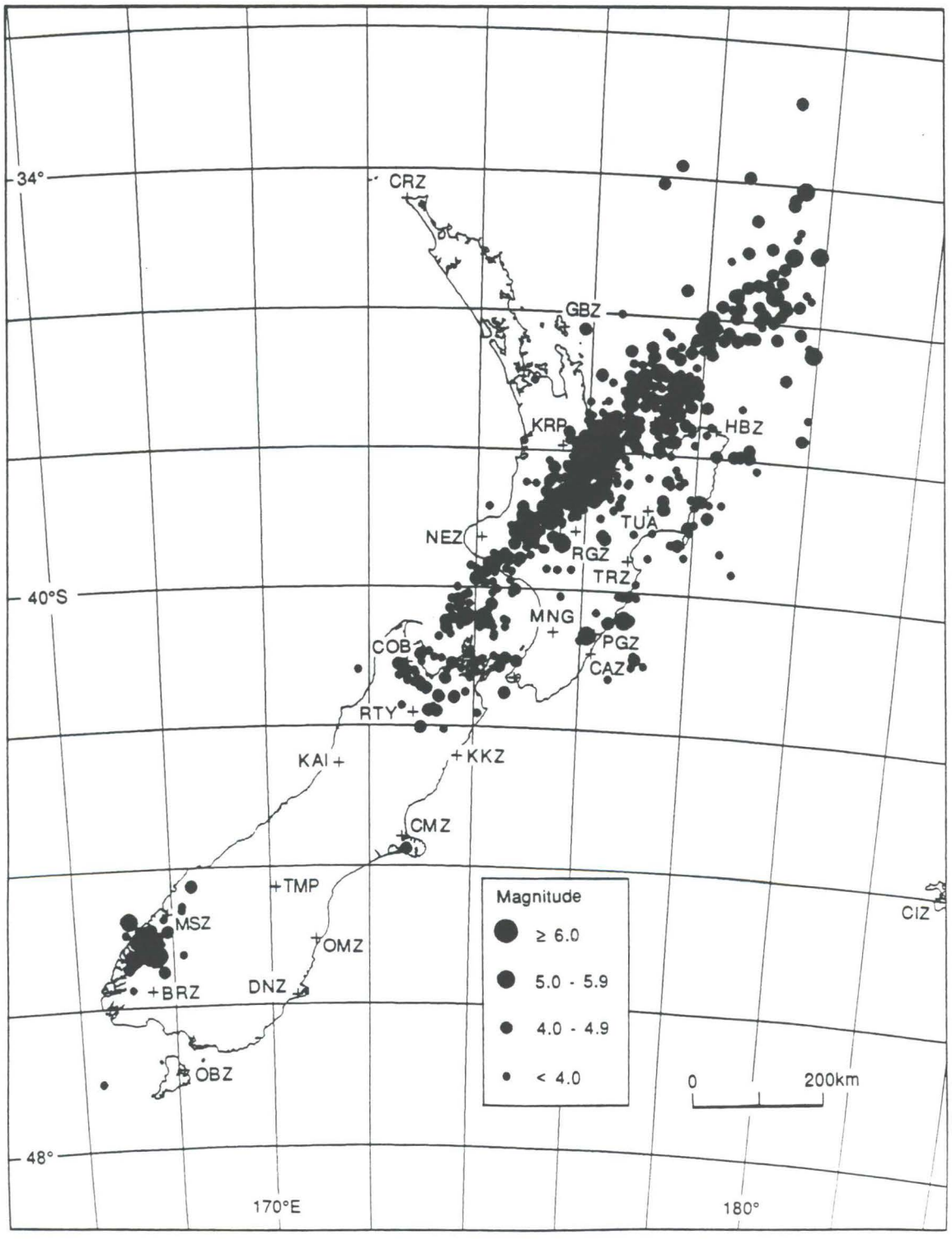
EPICENTRE AND ISOSEISMAL MAPS 1988

REGIONAL SHALLOW EARTHQUAKES



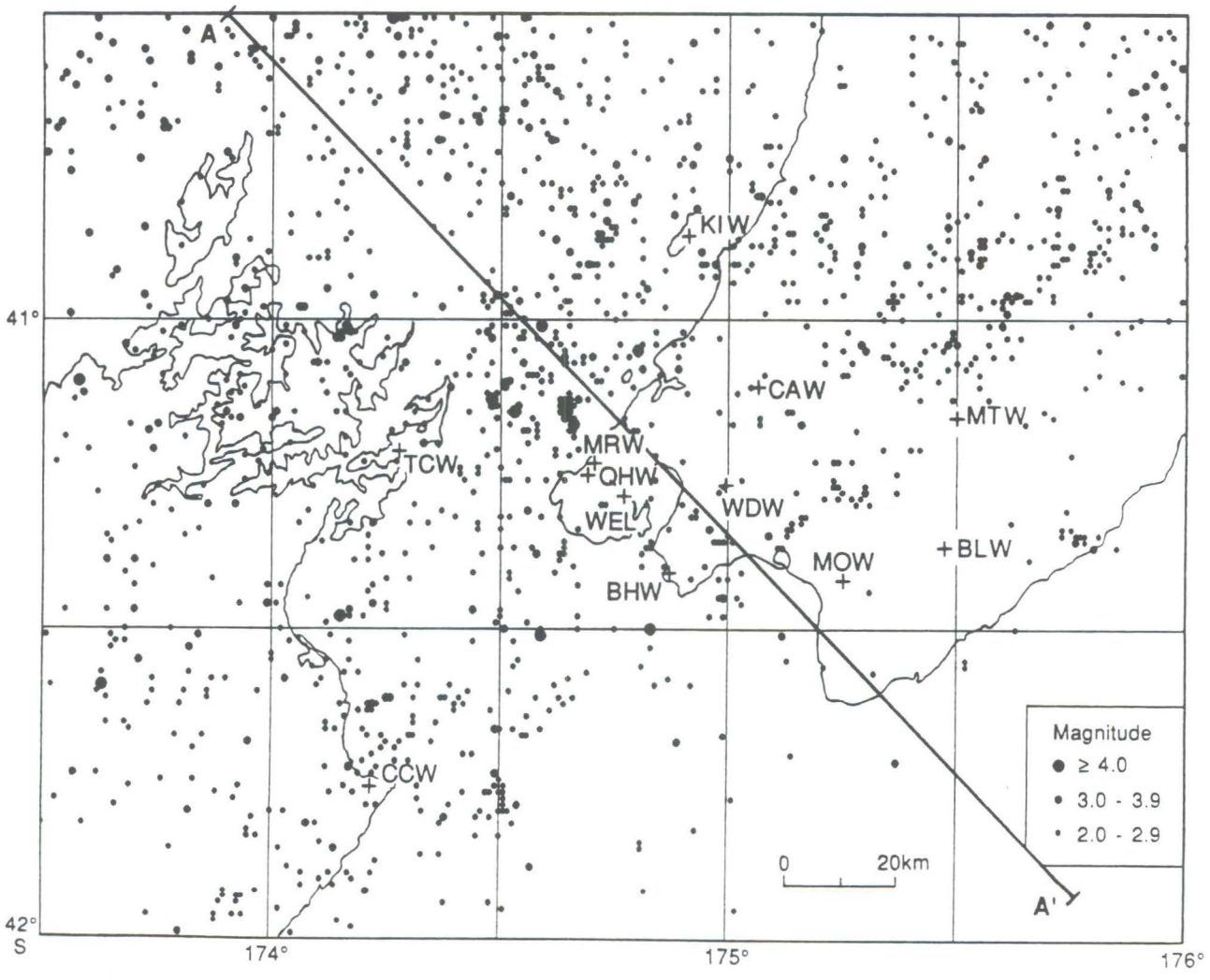
Epicentres of all earthquakes of $M_L \geq 3.5$ with focal depths less than 40 km. When several shocks have the same epicentres, the largest is shown.

REGIONAL DEEP EARTHQUAKES



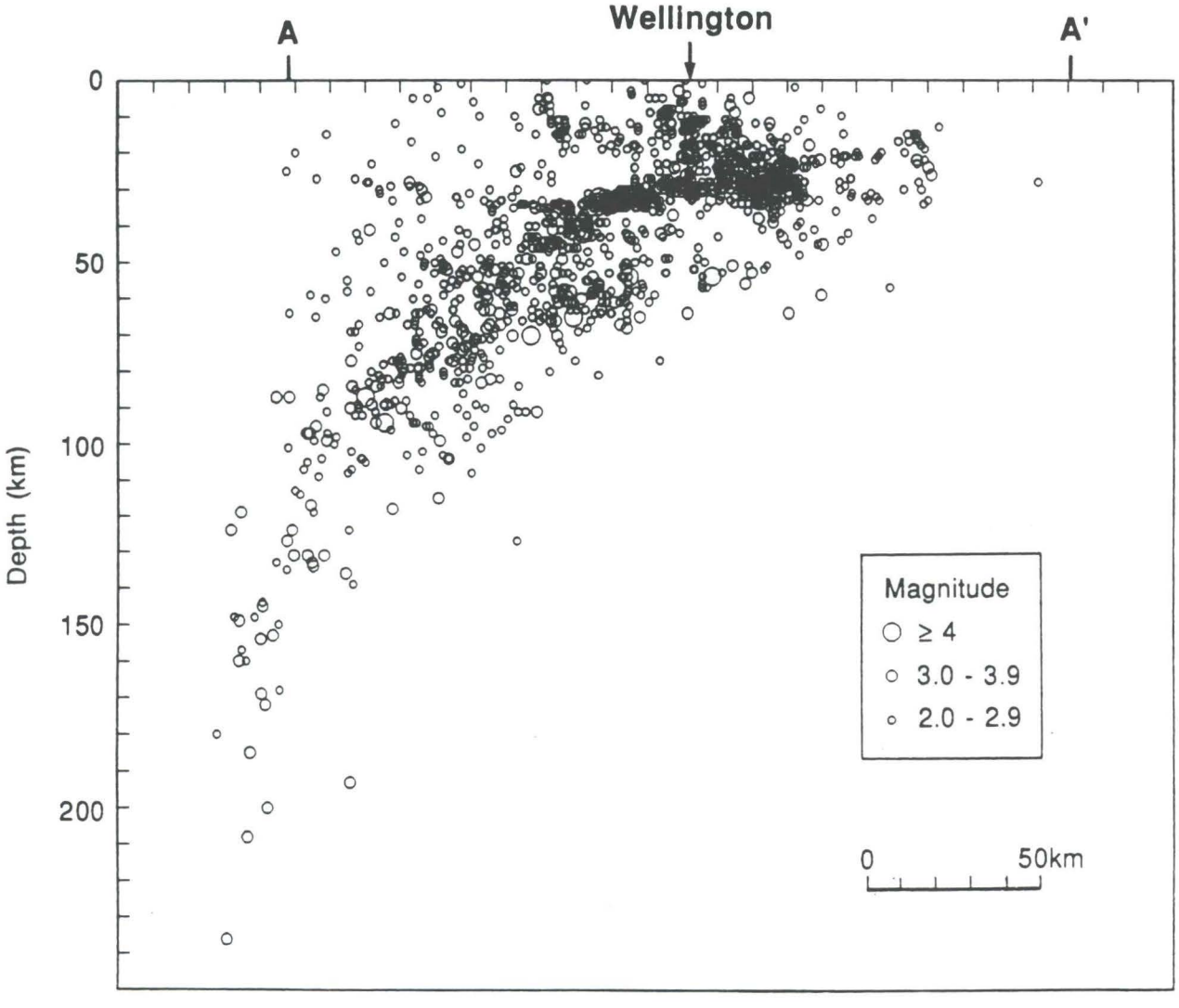
Epicentres of all earthquakes of $M_L \geq 3.5$ with focal depths of 40 km or more. When several shocks have the same epicentre, the largest is shown.

WELLINGTON AREA EPICENTRES



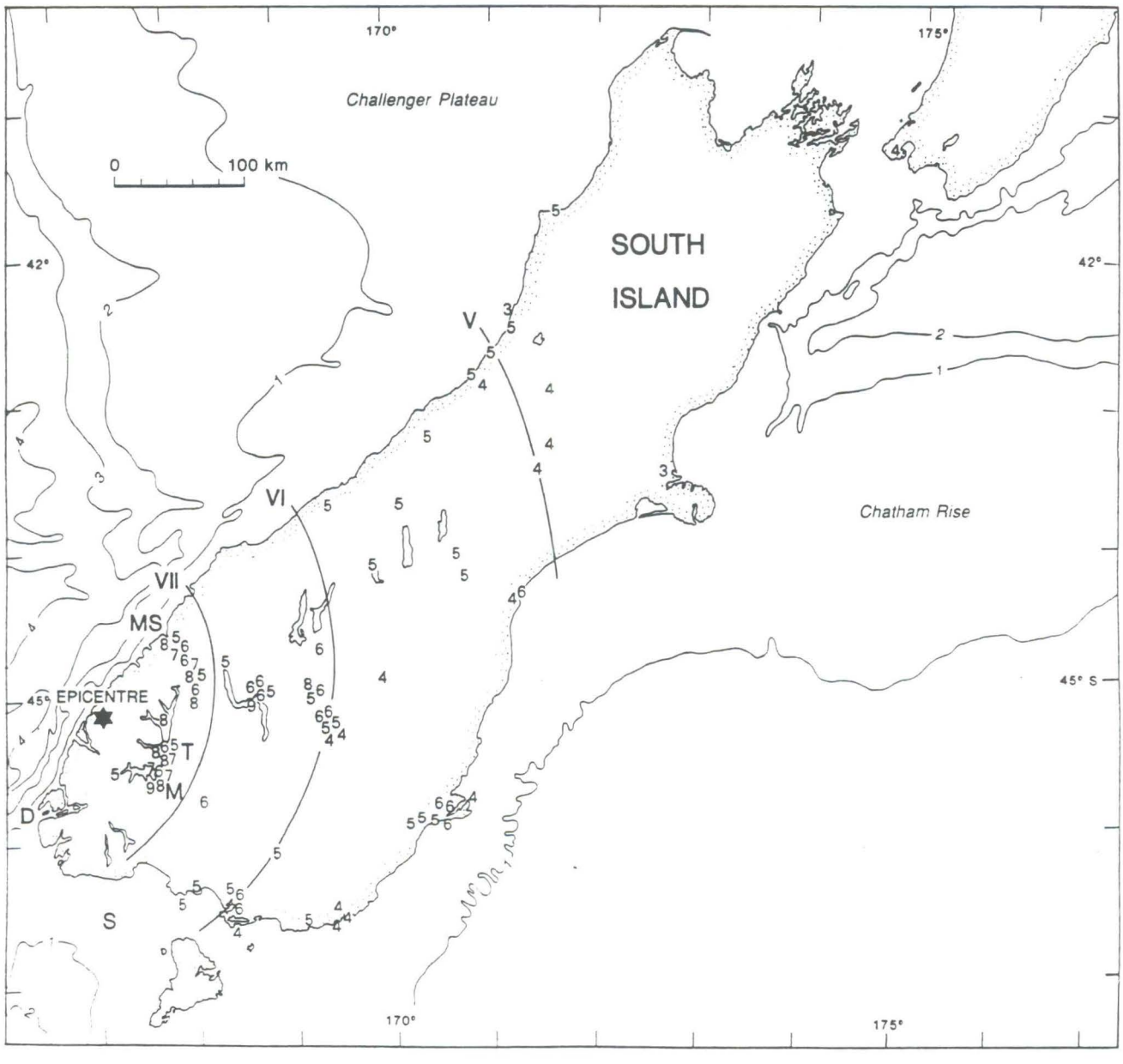
Epicentres of all earthquakes of $M_L \geq 2.0$ in the Wellington area. The distribution of these earthquakes in depth is shown on the next page, where the hypocentres have been projected onto a vertical plane passing through the line A-A'.

WELLINGTON HYPOCENTRE DEPTHS



In this diagram, the hypocentres of all the shocks mapped on the previous page have been projected onto a vertical plane passing through the line A-A', which is roughly normal to the Pacific/Australian plate boundary.

TE ANAU MAIN SHOCK INTENSITIES



Modified Mercalli intensity distribution for the 1988 Te Anau earthquake. (88/2354). Localities indicated are Dusky Sound - D; Manapouri - M; Milford Sound - MS; Solander Islands - S; Te Anau - T. Bathymetry is in kilometres.

From Reyners et al. 1991: Geophys. J. Int. 104: 105-115.