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Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 18:52:05.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/01	23:16:10.3	47.670N	158.030E	33.0N	5.2			SZGRF
2000/11/01	23:16:24.5	50.363N	155.596E	33N	5.3	3.8		NEIC

East of Kuril Islands, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 23:28:08.7	75.4	22.6			5.2		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/02	03:39:37.7	30.800N	58.890E	33.0N	4.5			SZGRF
2000/11/02	03:39:35.9	31.769N	59.882E	33N	4.8			NEIC

Northern and central Iran

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 03:47:10.7	40.1	97.8			4.5		
	e PcP	Z 03:49:13.8							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/02	17:08:48.1	10.890N	96.040E	33.0N	5.1			SZGRF

Andaman Islands, India, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 17:20:45.7	78.4	86.8			5.1		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/03	08:40:19.4	17.121S	173.966W	66D	4.8			NEIC

Tonga Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i PKPbc	- Z 08:59:51.2			1.5	31			
	e pPKPbc	Z 09:00:10.6							
GRA1	i PKPpdf	- Z 08:59:57.5	147.2	9.2					
	e pPKPpdf	Z 09:00:17.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
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2000/11/03 09:40:48.3 52.220N 170.170W 33.0N 5.2 4.3 SZGRF  
2000/11/03 09:40:49.3 52.495N 170.667W 66 4.9 NEIC  
Fox Islands, Aleutian Islands, United States

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i P	- Z 09:52:44.2	77.8	1.2	1.2	21	5.2		
	e L	Z 10:33:38.1			19.5	147		4.3	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/03	21:16:39.5			N				SZGRF
2000/11/03	21:19:03.0	28.935N	32.770E	33N	4.3			NEIC

Ethiopia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 21:24:38.8	26.4	133.8					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/04	02:37:37.6							SZGRF
2000/11/04	02:37:30.5	44.382N	148.948E	33N	4.6			NEIC

East of Kuril Islands, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 02:49:36.8	79.0	29.3					
	e (pP)	Z 02:49:45.9							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/04	09:07:35.1	43.490N	147.140E	60.4	4.8			SZGRF
2000/11/04	09:07:29.3	43.883N	147.247E	33N	4.9	4.2		NEIC

Kuril Islands, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i P	+ Z 09:19:33.5	78.9	30.7	1.2	16	4.8		
	e pP	Z 09:19:49.2							
	e sP	Z 09:19:58.8							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/04	12:38:29.8	5.747N	125.555E	33N	5.5	4.8		NEIC

Mindanao, Philippine Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 12:52:17.5	100.9	67.4					

e (pP)	Z	12:52:45.4								
e L	Z	13:40:34.3		21.0	299					4.8

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/04	17:49:33.0	58.920N	138.150W	27.0	5.4	4.1		SZGRF
2000/11/04	17:49:27.2	58.747N	139.037W	24D	4.9	4.1		NEIC

Southeastern Alaska, United States

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i P	+ Z 18:00:33.6	68.9	344.0	2.0	47	5.4		
	e pP	Z 18:00:41.2							
	e L	Z 18:32:52.0			20.0	116			4.1

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/05	01:53:32.8	36.510N	141.980E	38.5	5.5	5.1		SZGRF
2000/11/05	01:53:26.9	36.287N	142.250E	33D	5.3	5.0		NEIC

Near east coast of eastern Honshu, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i P	- Z 02:05:56.6	83.7	37.7	1.1	33	5.5		
	e pP	Z 02:06:07.7							
	e S	N 02:16:16.4							
	e L	Z 02:49:25.0			21.4	823			5.1

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/05	04:46:24.1	0.160N	96.770E	65.5		5.3		SZGRF
2000/11/05	04:45:34.7	5.914S	102.803E	33N	5.2	5.6		NEIC

Off west coast of northern Sumatra, Indonesia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 04:59:06.5	95.5	92.6					
	e pP	Z 04:59:24.7							
	e PP	Z 05:03:00.7							
	e SKS	Z 05:09:58.1							
	e L	Z 05:49:38.0			21.8	1471			5.3

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/05	12:47: 2.1	9.920N	94.270E	37.2	5.3	5.0		SZGRF
2000/11/05	12:47:04.1	9.875N	92.969E	33N	5.2	5.4		NEIC

Nicobar Islands, India, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 12:58:56.8	77.2	89.8	1.4	38	5.3		
	e pP	Z 12:59:07.5							
	e S	Z 13:08:43.9							
	e S	N 13:08:44.8							
	e L	Z 13:38:36.6			21.2	725		5.0	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/06	11:40:30.6	56.170N	154.750W	26.0	5.8	5.7	ML	SZGRF
2000/11/06	11:40:28.8	56.304N	153.348W	33N	5.5	5.7		NEIC

Kodiak Island, Alaska, United States, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 11:52:01.4	73.2	351.1	2.2	224	5.8		
	e pP	Z 11:52:08.8							
	e PP	Z 11:54:47.1							
	e S	Z 12:01:36.7							
	e L	Z 12:31:00.5			18.8	4190		5.7	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/06	18:46:06.3	9.806N	92.955E	33N	4.9		ML	NEIC

Nicobar Islands, India, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 18:57:59.0	77.2	89.9			4.8		
	e pP	Z 18:58:12.4							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/06	19:34:53.7	17.720S	172.840W	33N			ML	NEIC

Tonga Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 19:54:38.3	147.9	7.3					
	e (pPKPdf)	Z 19:54:48.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/07	00:18:06.1	55.176S	28.736W	33N	5.9	6.7	ML	NEIC

Southern Mid-Atlantic Ridge

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BFO	e Pdiff	Z 00:32:33.9	108.1	201.2					

	e PP	Z	00:36:50.4						
FUR	e Pdiff	Z	00:32:36.0	108.7	202.8				
	e PP	Z	00:36:52.8						
STU	e Pdiff	Z	00:32:36.1	108.7	201.8				
	e PP	Z	00:36:52.6						
TNS	e Pdiff	Z	00:32:42.0	109.9	201.5				
	e PP	Z	00:37:04.6						
WET	e Pdiff	Z	00:32:40.5	110.0	203.8				
	e PP	Z	00:36:59.7						
GRFO	e PP	Z	00:37:07.8	110.0	203.0				
GRA1	e Pdiff	Z	00:32:44.1	110.1	203.0				
	e PP	Z	00:36:54.6						
	e SKS	E	00:43:16.2						
	e PS	E	00:46:45.8						
	e SS	E	00:52:59.3						
	e L	E	01:17:50.0			21.8	25982		6.8
BUG	e Pdiff	Z	00:32:47.0	110.7	201.0				
	e PP	Z	00:37:16.4						
MOX	e Pdiff	Z	00:32:48.8	111.0	203.3				
	e PP	Z	00:37:16.3						
IBBN	e Pdiff	Z	00:32:51.0	111.6	201.4				
	e PP	Z	00:37:19.4						
CLZ	e Pdiff	Z	00:32:53.2	111.8	202.8				
	e PP	Z	00:37:20.5						
BRG	e Pdiff	Z	00:32:51.7	111.8	204.6				
	e PP	Z	00:37:19.2						
CLL	e Pdiff	Z	00:32:50.1	112.0	204.2				
	e PP	Z	00:37:23.8						
	e SKSac	N	00:43:15.1						
	e Sdiff	N	00:44:28.4						
	e PS	E	00:47:00.0						
	e PPS	N	00:48:12.5						
	e SS	N	00:53:14.6						
	e LV	Z	01:11:35.4						
	e L	Z	01:21:58.8			18.0	30784		6.9
RUE	e Pdiff	Z	00:32:58.3	113.2	204.8				
	e PP	Z	00:37:32.4						
BSEG	e Pdiff	Z	00:33:00.7	113.7	203.1				
	e PP	Z	00:37:34.9						
RGN	e Pdiff	Z	00:33:02.6	115.0	205.0				
	e PP	Z	00:37:41.9						

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/07	01:01:49.2	5.482S	151.521E	33N	5.6	6.0		NEIC

New Britain, Papua New Guinea, region

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Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i PKPdf	- Z	01:20:48.2	124.6	50.6					
	e pPKPdf	Z	01:20:56.6							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/07	01:22:50.9	5.302S	151.713E	33N	5.3			NEIC

New Britain, Papua New Guinea, region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z	01:41:47.4	124.6	50.3					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/07	07:29:31.5	18.161S	168.239E	33N	5.2			NEIC

Vanuatu Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z	07:49:01.0	143.5	38.6					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/07								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z	08:09:03.5							
	e L	Z	09:00:49.8			21.7	708			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/08	07:00:14.6	8.390N	75.940W	33.0N	6.5	6.4		SZGRF
2000/11/08	06:59:59.0	7.052N	77.885W	17G	5.8	6.3		NEIC

Northern Colombia

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BUG	e P	Z	07:12:16.3	81.5	270.6					
IBBN	e P	Z	07:12:18.2	81.8	270.9					
BFO	e P	Z	07:12:20.2	82.2	271.9					
TNS	e P	Z	07:12:20.9	82.2	271.7					
STU	e P	Z	07:12:23.5	82.8	272.5					
BSEG	e P	Z	07:12:26.0	83.2	272.7					
CLZ	e P	Z	07:12:27.0	83.4	273.0					
GRA1	i P	+ Z	07:12:30.6	84.1	273.9	2.2	942	6.5		
	e (pP)	Z	07:12:51.3							



	e PP	Z	07:15:39.9								
	e S	N	07:23:00.2								
	e L	E	07:46:31.3			21.5	16138		6.4		
FUR	e P	Z	07:12:31.2	84.2	274.1						
MOX	e P	Z	07:12:31.3	84.2	274.1						
RGN	e P	Z	07:12:35.3	85.0	275.1						
CLL	i P	+ Z	07:12:35.6	85.1	275.1	1.0	188		6.3		
	e		07:12:57.4								
	e PP	Z	07:15:46.8								
	e S	N	07:23:03.4								
	e SS	N	07:28:35.2								
	e L	Z	07:46:39.9			20.0	21213		6.5		
WET	e P	Z	07:12:36.4	85.2	275.2						
RUE	e P	Z	07:12:37.1	85.4	275.6						
BRG	e P	Z	07:12:38.7	85.7	275.9						
GEC2	e P	Z	07:12:38.9	85.7	275.8						

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/08	18:36:29.0	23.774N	124.049E	52D	5.6			NEIC
Southwestern Ryukyu Islands, Japan								

	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
	RUE	e P	Z 18:48:50.4	82.7	59.9					
	BRG	e P	Z 18:48:53.8	83.4	59.9					
	CLL	i P	+ Z 18:48:54.8	83.7	59.2					
		e PP	Z 18:52:13.8							
		e S	E 18:59:19.8							
		e sS	E 18:59:46.6							
		e	19:00:15.0							
		e L	Z 19:31:37.5			18.0	6109		6.0	
BSEG	e P	Z	18:48:55.7	83.7	57.4					
MOX	e P	Z	18:49:00.7	84.8	58.1					
CLZ	e P	Z	18:49:01.3	84.8	57.3					
WET	e P	Z	18:49:01.4	84.9	59.0					
GRA1	e P	Z	18:49:04.9	85.5	57.8	1.8	197	6.0		
	e pP	Z	18:49:19.9							
	e PP	Z	18:52:22.6							
	e L	Z	19:38:22.3			20.4	2380		5.6	
IBBN	e P	Z	18:49:06.2	85.9	55.3					
FUR	e P	Z	18:49:08.5	86.3	57.7					
BUG	e P	Z	18:49:09.7	86.7	54.9					
TNS	e P	Z	18:49:10.4	86.7	55.8					
STU	e P	Z	18:49:12.1	87.2	56.2					
BFO	e P	Z	18:49:15.2	87.9	55.6					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/09	02:42:36.1	47.570N	154.910E	33.0N	4.8			SZGRF
2000/11/09	02:42:33.7	47.574N	154.271E	33N	4.6			NEIC

Kuril Islands, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i P	+ Z 02:54:30.6	77.6	24.5	1.1	9	4.8		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/09	03:01: 3.9	44.250N	15.690E	10.0G		3.4	4.7	SZGRF
2000/11/09	03:01:01.3	44.379N	16.104E	10G				NEIC

Northwestern Balkan Peninsula

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e Pn	Z 03:02:15.6	4.8	158.8					4.2
	e Sn	E 03:03:09.4							
	e L	Z 03:04:27.2			16.7	643		3.0	
FUR	e Pn	Z 03:02:18.9	5.0	136.8					4.9
	e L	Z 03:04:33.9			13.8	1292		3.4	
WET	e Pn	Z 03:02:22.1	5.3	153.9					4.3
	e Sn	E 03:03:21.3							
	e L	Z 03:04:50.4			17.3	912		3.2	
GRC1	e Pn	Z 03:02:25.8	5.6	144.1					4.7
	e L	Z 03:05:00.2			15.0	1024		3.4	
GRA1	e Pn	Z 03:02:36.1	6.3	146.1					4.9
	e L	Z 03:05:22.4			13.2	1338		3.6	
STU	e Pn	Z 03:02:36.8	6.5	130.2					5.1
	e L	Z 03:05:27.1			14.2	827		3.4	
BRG	e Pn	Z 03:02:41.0	6.7	166.6					4.4
	e Sn	N 03:03:56.1							
	e L	Z 03:05:34.5			15.1	947		3.5	
BFO	e Pn	Z 03:02:39.0	6.7	123.5					4.8
	e Sn	E 03:03:50.2							
	e L	Z 03:05:33.1			13.6	615		3.3	
MOX	e Pn	Z 03:02:45.2	7.0	152.5					4.7
	e Sn	E 03:04:01.4							
	e L	Z 03:05:52.8			17.3	692		3.3	
CLL	e Pn	Z 03:02:49.0	7.2	162.1					4.9
	e Sn	N 03:04:09.1							
	e L	Z 03:06:02.3			16.7	636		3.3	
TNS	e Pn	Z 03:02:55.4	7.8	135.5					4.7
	e Sn	N 03:04:20.5							
	e L	Z 03:06:20.8			14.6	759		3.5	
CLZ	e Pn	Z 03:03:04.9	8.4	150.7					4.9
	e L	Z 03:06:39.4			16.0	771		3.5	



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12

2000/11/09 15:26:16.9

4.7 4.5

SZGRF

2000/11/09 15:27:03.1

12.880N

44.700W

10G

4.9 4.4

NEIC

North Atlantic Ocean

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	+ Z 15:37:02.2	58.4	251.4			4.7		
	e (pP)	Z 15:37:07.8							
	e L	Z 15:57:20.2			21.3	290		4.5	

Date Origin Time

Lat Long

Depth

mb Ms

ML

Source

2000/11/09 21:30:33.5

44.560N

10.750E

10.0G

3.3

3.3

SZGRF

Northern Italy

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
FUR	e Pn	Z 21:31:30.5	3.6	185.9					3.6
	e Sn	N 21:32:11.6							
BFO	e Pn	Z 21:31:36.4	4.1	155.3					3.3
	e Sn	N 21:32:23.4							
GEC2	e Pn	Z 21:31:44.1	4.7	206.4					3.2
	e Sn	N 21:32:37.7							
WET	e Pn	Z 21:31:45.4	4.8	198.4					3.2
	e Sn	N 21:32:40.0							
MOX	e Pn	Z 21:32:04.1	6.1	185.8					
	e Sn	E 21:33:10.5							
BRG	e Pn	Z 21:32:10.3	6.7	200.0					
	e Sn	N 21:33:25.5							
CLL	e Pn	Z 21:32:13.9	6.9	193.5					

Date Origin Time

Lat Long

Depth

mb Ms

ML

Source

2000/11/10 10:48:11.2

5.588S

103.003E

33N

5.0 4.5

NEIC

Southern Sumatera, Indonesia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e Pdiff	Z 11:01:35.5	95.4	92.3					
	e L	Z 11:47:56.6			21.7	94		4.2	

Date Origin Time

Lat Long

Depth

mb Ms

ML

Source

2000/11/10 17:48:02.2

6.162S

128.586E

356D

5.2

NEIC

Banda Sea

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 18:05:58.4	112.2	72.5					
	e pPKPdf	Z 18:06:53.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/10	20:10:56.9	36.611N	4.836E	33N	5.8	5.5		NEIC
Northern Algeria								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRC1	e L	E 20:18:05.4	13.3	204.0	20.4	16145		5.1	
GRA1	e P	Z 20:14:12.0	13.9	201.9					
	e	20:14:16.6							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/10	22:08:55.3			N				SZGRF
2000/11/10	22:09:22.0	36.740N	4.713E	10G				NEIC
Northern Algeria								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 22:12:38.9	13.8	202.4					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/10	23:16: 4.2			N				SZGRF
Northern Algeria								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 23:19:55.9							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/11	02:01:22.3	73.850N	10.630E	28.8	3.9			SZGRF
Norwegian Sea								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 02:06:36.4	24.2	359.6			3.9		
	e (pP)	Z 02:06:43.7							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source	
2000/11/11									
Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e (PKPdf)	Z 06:32:11.5							
	e (PKPab)	Z 06:32:15.0							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2000/11/11												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GRA1	e PKP	Z 08:40:40.6									
		e (pPP)	Z 08:40:44.8									
2000/11/12	01:15:33.1	4.410S	68.360E	23.8	5.4			SZGRF				
Chagos Archipelago region												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GRA1	i P	- Z 01:27:01.7	73.1	118.9	1.3	40	5.4				
		e pP	Z 01:27:07.6									
		e sP	Z 01:27:12.5									
2000/11/12												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GRA1	e PKPdf	Z 07:54:17.7									
2000/11/12	11:49:15.9	45.137S	166.959E	33N	4.8	4.7		NEIC				
South Island, New Zealand												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GRA1	e PKPab	Z 12:10:06.0	163.0	83.7							
		e pPKPab	Z 12:10:15.7									
		e L	Z 13:33:07.3			21.4	111		4.7			
2000/11/12	19:33:50.6				4.9			SZGRF				
2000/11/12	19:34:32.5	7.600N	93.250E	88D	4.5			NEIC				
Northern Sumatera, Indonesia												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GRA1	e P	Z 19:46:29.5	79.1	91.1			4.9				

e (pP) Z 19:46:52.8

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/12								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPab	Z 23:33:12.8							
	e pPKPab	Z 23:33:25.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/12	23:36:21.3	48.093N	7.734E	12				NEIC

France

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BFO	e Pg	Z 23:36:29.6	0.5	239.4					2.1
	e Sg	N 23:36:35.5							
STU	e Pn	Z 23:36:41.6	1.2	235.6					2.8
	e Sg	E 23:36:58.7							
TNS	e Pn	Z 23:36:56.5	2.2	192.6					2.9
	e Sg	N 23:37:29.8							
MOX	e Pn	Z 23:37:23.2	3.6	226.2					
	e Sg	N 23:38:13.8							
CLL	e Pn	Z 23:37:34.4	4.7	228.7					
	e Sg	E 23:38:48.6							
BRG	e Pn	Z 23:37:51.0	4.9	237.8					
	e Sg	Z 23:38:54.2							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/13	06:03:03.8	5.322S	154.154E	84D	5.1			NEIC

Bougainville - Solomon Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 06:21:56.8	125.8	47.7					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/13	06:46:11.2	8.164S	79.911W	33N	5.3	5.3		NEIC

Off coast of northern Peru

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e Pdiff	- Z 06:59:40.6	96.9	265.6					
	e pPdiff	Z 06:59:52.8							

GRA2	e L	Z	07:43:22.1	97.0	265.7	19.3	1066	5.3
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Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/13	08:56:56.4			N		4.4		SZGRF
2000/11/13	08:56:48.9	21.739N	92.920E	33N	4.8	4.5		NEIC

Myanmar-India border region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 09:07:51.4	68.3	81.5					
	e L	Z 09:40:37.4			21.0	265		4.4	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/13	15:57:29.3	43.390N	145.260E	38.4		6.2		SZGRF
2000/11/13	15:57:21.8	42.542N	144.758E	33N	6.1	5.6		NEIC

Hokkaido, Japan, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RGN	e P	Z 16:09:00.6	74.5	35.0	1.1	489			
BSEG	e P	Z 16:09:08.8	75.9	32.8	1.1	296			
RUE	e P	Z 16:09:09.1	76.0	35.0	1.4	584			
CLL	i P	+ Z 16:09:15.5	77.2	34.3	1.1	310	6.4		
	e pP	Z 16:09:26.5							
	e PP	Z 16:12:11.1							
	e PPP	Z 16:14:03.7							
	e S	E 16:18:59.0							
	e sS	E 16:19:22.6							
	e	16:25:00.9							
	e L	Z 16:46:56.5			18.0	12613		6.3	
BRG	e P	Z 16:09:16.0	77.3	34.9	1.3	197			
CLZ	e P	Z 16:09:18.9	77.7	32.6	1.4	496			
IBBN	e P	Z 16:09:20.8	78.1	30.9	1.3	424			
MOX	e P	Z 16:09:21.8	78.3	33.3	1.3	222			
GEC2	e P	Z 16:09:25.9	79.0	34.5	1.3	113			
BUG	e P	Z 16:09:25.6	79.0	30.5	1.2	231			
WET	e P	Z 16:09:26.7	79.1	34.0	1.2	281			
GRA1	e P	Z 16:09:27.5	79.2	32.9	1.2	405			
	e pP	Z 16:09:38.6							
	e PP	Z 16:12:29.2							
	e S	Z 16:19:38.0							
	e L	E 16:43:58.7			18.6	11308		6.2	
TNS	e P	Z 16:09:29.4	79.7	31.1	1.2	159			
FUR	e P	Z 16:09:33.9	80.5	32.8	1.1	373			
STU	e P	Z 16:09:34.8	80.7	31.5	1.0	197			
BFO	e P	Z 16:09:38.3	81.4	30.9	1.7	365			



Date Origin Time  
2000/11/13 20:21:13.1  
Yunnan, China

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source			
2000/11/13	20:21:13.1			N	4.7			SZGRF			
		Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
		GRA1	e P	Z 20:32:22.2					4.7		
		BEAM		Z 20:32:22.2			1.2	7			

Date Origin Time  
2000/11/13 21:24:09.9  
Arctic Ocean

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source			
2000/11/13	21:24:09.9	81.117N	116.415W	10G	5.2	4.4		NEIC			
		Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
		GRA1	i P	+ Z 21:32:38.9	46.2	350.2	1.1	44	5.5		
			e L	Z 21:50:49.6			21.7	252		4.1	

Date Origin Time  
2000/11/13

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source			
2000/11/13											
		Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
		GRA1	e PKPdf	Z 21:47:45.2							

Date Origin Time  
2000/11/13 23:17:27.9  
Fiji Islands region

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source			
2000/11/13	23:17:27.9	21.067S	179.290W	622D	5.1			NEIC			
		Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
		GRA1	e PKPdf	Z 23:36:04.5	150.2	20.0					
			e PKPbc	Z 23:36:11.3							
			e PKPab	Z 23:36:20.4							
			e pPKPbc	Z 23:38:36.2							

Date Origin Time  
2000/11/14 03:52:58.7  
2000/11/14 03:52:59.3  
Off southeast coast of Hokkaido, Japan

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/14	03:52:58.7	42.370N	146.450E	33.0N	5.7	5.5		SZGRF
2000/11/14	03:52:59.3	42.552N	144.806E	33N	5.5	5.1		NEIC

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i P	+ Z 04:04:53.0			0.9	84	5.9		
	e pP	Z 04:05:04.0							
	e PP	Z 04:07:42.9							
	e PPP	Z 04:09:34.3							
	e S	E 04:14:31.8							
	e	04:20:36.3							
	e L	Z 04:42:41.1			18.0	2896		5.7	
GRA1	i P	+ Z 04:05:04.9	79.2	32.9	1.0	95	5.7		
	e S	E 04:15:11.9							
	e L	Z 04:43:30.1			19.5	2334		5.5	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/15								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 03:17:55.2							
	e PKPbc	Z 03:17:56.6							
	e PKPab	Z 03:18:03.4							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/15								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 03:47:14.4							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/15	05:08: 2.7			N		4.4		SZGRF
Off east coast of Honshu, Japan								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 05:20:12.4							
	e L	Z 05:58:20.8			20.1	164		4.4	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/15	09:23:38.2	17.296N	119.822E	33N	5.4	5.0		NEIC
Philippine Islands region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i P	- Z 09:36:20.2			1.3	14	5.0		
	i	09:36:28.0							



Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 19:36:13.9							
ALIGN		19:36:13.9			1.0	6			
GRA1	e (pP)	Z 19:36:20.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/15	19:27:14.4	14.583S	166.690E	33N	5.2	5.5		NEIC

Vanuatu Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 19:46:41.9	139.6	38.3					
	e PP	Z 19:49:42.2							
	e L	Z 20:50:37.0			21.0	1040		5.6	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/15								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 21:54:31.5							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/15								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e (PKP)	Z 23:19:02.1							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/16	03:17:05.6	14.535S	166.565E	33N	5.2	4.6		NEIC

Vanuatu Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 03:36:31.4	139.5	38.5					
	e (pPKPdf)	Z 03:36:38.4							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/16	03:40:10.4	48.948N	142.118E	10G	5.2	4.8		NEIC

Sakhalin Island, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i P	+ Z 03:51:42.8	72.7	31.3	1.2	67	5.6		
	e (pP)	Z 03:51:59.2							
	e (sP)	Z 03:52:07.1							
	e L	Z 04:40:26.5			19.9	271		4.5	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/16	04:07:42.7	14.568S	166.573E	33N	5.1	4.6		NEIC

Vanuatu Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 04:27:09.5	139.5	38.5					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/16								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 04:30:53.5							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/16	04:54:56.1	3.958S	152.268E	33N	5.8	8.1		NEIC

New Britain, Papua New Guinea, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BFO	e Pdiff	Z 05:11:13.9							
BRG	e Pdiff	Z 05:10:46.9			1.4	24			
BSEG	e Pdiff	Z 05:10:45.0							
CLL	e Pdiff	Z 05:10:53.0			1.3	36			
	e PP	Z 05:16:06.0							
	e	05:17:26.4							
	e SKS	E 05:21:03.7							
	e SKKSac	Z 05:22:56.6							
	i PKKPab	Z 05:24:09.4			1.6	189			
	e PS	Z 05:25:52.9							
	e SKKP	Z 05:28:02.4			2.6	734			
	e	05:28:40.0							
	e SS	Z 05:32:22.8							
	e LV	Z 05:54:52.9							
	e L	Z 06:12:14.4			20.0	254301		7.9	
CLZ	e Pdiff	Z 05:10:55.4			1.4	23			
GRA1	e Pdiff	Z 05:11:02.3	123.7	48.9					
	e	05:11:57.7							
	i	05:12:14.2							

	e		05:13:12.4						
	e PKPdf	Z	05:13:59.1						
	e L	Z	06:13:40.8	21.6	258662			7.9	
FUR	e Pdiff	Z	05:11:06.2						
GEC2	e Pdiff	Z	05:11:02.5						
MOX	e Pdiff	Z	05:10:56.1	1.5	24				
RUE	e Pdiff	Z	05:10:38.0						
STU	e Pdiff	Z	05:11:11.2						
TNS	e Pdiff	Z	05:11:05.3						
WERN	e Pdiff	Z	05:10:55.5	1.8	69				
WET	e Pdiff	Z	05:11:03.0						

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/16	05:16:34.6	14.240S	166.700E	33N	5.7			NEIC
Vanuatu Islands								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 05:35:59.5	139.3	38.1					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/16	05:18:15.2	14.670S	166.860E	33N	5.7			NEIC
Vanuatu Islands								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i PKPdf	+ Z 05:37:35.4	139.7	38.1					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/16	05:21:23.1	4.990S	153.197E	33N	5.9			NEIC
New Ireland, Papua New Guinea, region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 05:40:22.6	125.0	48.5					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/16	05:47:33.9	5.057S	153.393E	33N	5.6			NEIC
New Ireland, Papua New Guinea, region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i PKPdf	- Z 06:06:34.1	125.2	48.4					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2000/11/16												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GRA1	i PKPdf	+ Z 06:40:23.5									
2000/11/16												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GRA1	e PKPdf	Z 06:41:12.7									
2000/11/16	06:40:55.0	13.525S	167.119E	191D	5.2							
Vanuatu Islands												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GRA1	e PKPdf	Z 06:59:53.0	138.8	37.1							
2000/11/16	07:36:39.1	4.810S	153.380E	33N	5.5							
New Ireland, Papua New Guinea, region												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GRA1	e PKPdf	Z 07:55:38.6	125.0	48.2							
2000/11/16												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	CLL	e PKPdf	Z 08:01:13.1			2.3	896					
		e	08:01:29.0			0.9	338					
		e PP	Z 08:02:58.2									
		e SKKKS	E 08:10:24.9									
		e PKKPab	Z 08:11:20.9			1.4	52					
		e PS	Z 08:12:54.1									
		e PPS	Z 08:14:20.2									
		e PSPS	Z 08:20:18.6									
		e SSS	N 08:24:35.0									
		e L	Z 08:57:50.1			20.0	500742			8.2		
	GRFO	e PKPdf	Z 08:01:18.6			1.6	335					

e			08:01:32.2				1.0	327			
e	PP	Z	08:03:12.1								
e	SKKKS	E	08:10:33.4								
e	PS	Z	08:13:01.9								
e	PPS	Z	08:14:39.2								
e	PSPS	Z	08:20:46.9								
e	SSS	N	08:25:06.5								
e	L	Z	09:01:13.8				20.0	262202		7.9	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/16								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i PKPdf	Z 08:17:31.3			0.9	45			
GRFO	i PKPdf	Z 08:17:35.6			1.7	100			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/16	09:23:13.2	4.947S	153.350E	33N	5.3			NEIC
New Ireland, Papua New Guinea, region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i PKPdf	- Z 09:42:12.4	125.1	48.4					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/16	09:31:41.2	37.510N	143.180E	33.0N	5.5			SZGRF
2000/11/16	09:31:44.7	37.943N	141.326E	48D	5.0			NEIC
Off east coast of Honshu, Japan								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 09:44:03.7	81.9	37.5			5.5		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/16	11:05:40.8	5.253S	152.911E	33N	5.8	6.2		NEIC
New Britain, Papua New Guinea, region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 11:24:42.1	125.1	49.0					
	e PP	Z 11:26:32.8							



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Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/16	11:12:33.6	5.056S	153.547E	33N	5.5			NEIC

New Ireland, Papua New Guinea, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 11:31:34.4	125.3	48.2					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/16	11:33:09.2	36.570N	4.696E	10G	5.1			NEIC

Western Mediterranean Sea

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 11:36:27.8	13.9	202.3					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/16	12:14:24.5	5.186S	152.639E	33N	5.4	5.3		NEIC

New Britain, Papua New Guinea, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 12:33:21.7	124.9	49.2					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/16	13:04:43.3	5.004S	153.304E	33N	5.3			NEIC

New Ireland, Papua New Guinea, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 13:23:43.2	125.1	48.4					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/16	15:23:43.2	6.124S	153.609E	33N	5.5	5.1		NEIC

New Britain, Papua New Guinea, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 15:42:45.0	126.2	48.8					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/16	15:55:03.7	14.684S	166.746E	33N	5.3	5.0		NEIC

Vanuatu Islands

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Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 16:14:29.6	139.7	38.3					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/16								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 16:18:06.9							
	e (pPKPdf)	Z 16:18:16.7							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/16	17:06:31.9	14.699S	166.708E	33N	5.2	5.1		NEIC

Vanuatu Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 17:25:57.8	139.7	38.4					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/16	18:03:44.8	4.344S	152.732E	33N	5.1	5.3		NEIC

New Britain, Papua New Guinea, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 18:22:42.1	124.2	48.6					
	e PP	Z 18:24:36.6							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/16								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 19:57:10.6							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/16								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 20:43:09.2							

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Date Origin Time Lat Long Depth mb Ms ML Source  
2000/11/16

Sta Phase Time Dist BAz T[s] A[nm] mb MS ML  
GRA1 e PKPdf Z 20:58:31.6

Date Origin Time Lat Long Depth mb Ms ML Source  
2000/11/16 21:13:28.8  
Iraq SZGRF

Sta Phase Time Dist BAz T[s] A[nm] mb MS ML  
GRA1 e P Z 21:19:14.8  
e (pP) Z 21:19:21.1

Date Origin Time Lat Long Depth mb Ms ML Source  
2000/11/16 23:04:05.1 5.336S 153.163E 33N 5.3 4.9  
New Ireland, Papua New Guinea, region NEIC

Sta Phase Time Dist BAz T[s] A[nm] mb MS ML  
GRA1 e PKPdf Z 23:23:05.2 125.3 48.8

Date Origin Time Lat Long Depth mb Ms ML Source  
2000/11/17 00:28:14.6  
Eastern Mediterranean Sea N SZGRF

Sta Phase Time Dist BAz T[s] A[nm] mb MS ML  
GRA1 e P Z 00:33:26.4  
e 00:33:32.8

Date Origin Time Lat Long Depth mb Ms ML Source  
2000/11/17

Sta Phase Time Dist BAz T[s] A[nm] mb MS ML  
GRA1 e PKPdf Z 00:46:34.0

Date Origin Time Lat Long Depth mb Ms ML Source  
2000/11/17 01:37:03.9 5.096S 152.911E 33N 5.6 5.8  
New Britain, Papua New Guinea, region NEIC

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i PKPdf	+ Z 01:56:03.4	125.0	48.9					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/17								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i PKPdf	Z 02:10:55.1							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/17	01:54:02.7	5.057S	153.165E	33N	5.5	4.7		NEIC
New Ireland, Papua New Guinea, region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 02:13:02.2	125.1	48.6					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/17								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 03:27:52.1							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/17	04:22:55.5	6.272S	153.371E	33N	5.5	5.5		NEIC
New Britain, Papua New Guinea, region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 04:41:57.4	126.2	49.1					
	e (pPKPdf)	Z 04:42:15.7							
	e PP	Z 04:43:53.1							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/17	20:14:30.7	20.518S	178.378W	514?	4.7			NEIC
Fiji Islands region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKPdf	Z 20:33:12.7			3.0	75			

	i	PKPbc	- Z	20:33:17.7				0.7	70
	i	PKPbab	+ Z	20:33:22.2				0.7	23
	i	pPKPbc	Z	20:35:27.2				1.1	12
GRA1	e	(PKPdf)	Z	20:33:19.6	149.8	18.1			
	i	PKPbc	- Z	20:33:22.4					
	e	PKPab	Z	20:33:30.8					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/17	21:01:56.3	5.453S	151.685E	33N	6.2	8.0		NEIC

New Britain, Papua New Guinea, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e Pdiff	+ Z 21:17:28.5							
	e	21:18:33.2							
	e PKPdf	Z 21:20:50.8			1.1	72			
	e PP	Z 21:22:36.3			32.8	38495			
	e PPP	Z 21:25:16.2							
	e SKS	E 21:28:03.5							
	e PS	E 21:32:20.8							
	e PPS	E 21:34:03.8							
	e PSPS	E 21:40:10.6							
	e SSS	N 21:44:00.2							
	e LV	Z 22:01:27.5							
	e L	Z 22:14:20.3			22.0	177834		7.7	
GRA1	i PKPdf	+ Z 21:20:55.0	124.7	50.4					
	e L	Z 22:18:38.8			21.8	134594		7.6	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/17								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e (PKPdf)	Z 22:04:50.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/18	23:05:39.3	5.402S	153.490E	33N	5.7	6.0		NEIC

New Ireland, Papua New Guinea, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKPdf	Z 23:24:31.1			21.9	89			

	e PP	Z	23:26:20.5									
	e PPP	Z	23:28:48.4									
	e PS	Z	23:36:07.1									
	e PPS	Z	23:37:33.6									
	e PSPS	E	23:43:40.9									
	e SSS	E	23:47:43.5									
	e L	Z	00:21:50.3			18.0		5699		6.3		
GRA1	e PKPdf	Z	23:24:40.0	125.5	48.5							
	e L	Z	00:23:33.0			21.0		3202		6.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2000/11/18												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GRA1	i PKPdf	+ Z 00:35:57.6									
		e (pPKPdf)	Z 00:36:03.5									

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2000/11/18												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GRA1	e PKPdf	Z 01:00:09.3									

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2000/11/18												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GRA1	e PKPdf	Z 01:46:55.8									

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2000/11/18	01:54:29.0	5.363S	151.503E	33N	5.3							
New Britain, Papua New Guinea, region												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GRA1	e PKPdf	Z 02:13:26.6	124.5	50.5							
		e (pPKPdf)	Z 02:13:29.6									

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
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2000/11/18 02:05:48.6 5.092S 153.049E 33N 5.7 6.7 NEIC  
 New Ireland, Papua New Guinea, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML	
CLL	i PKPdf	Z 02:24:44.4			0.9	63				
	e pPKPdf	Z 02:24:51.4								
	e sPKPdf	Z 02:24:54.7								
	e PP	Z 02:26:24.0								
	e	02:27:52.4								
	e PPP	Z 02:29:00.7								
	e PS	E 02:36:17.6								
	e PPS	Z 02:37:43.0								
	e PSPS	E 02:43:47.7								
	e L	Z 03:21:20.8			20.0	19019		6.7		
	GRA1	e PKPdf	Z 02:24:48.5	125.0	48.8					
		e L	Z 03:25:00.2			19.9	12784		6.6	

Date Origin Time Lat Long Depth mb Ms ML Source  
 2000/11/18

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i PKPdf	- Z 02:32:53.2							

Date Origin Time Lat Long Depth mb Ms ML Source  
 2000/11/18

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 02:38:52.1							

Date Origin Time Lat Long Depth mb Ms ML Source  
 2000/11/18

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 03:34:09.9							

Date Origin Time Lat Long Depth mb Ms ML Source  
 2000/11/18

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 03:36:08.4							
	e	03:36:12.5							





Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i PKPdf	- Z 05:41:36.4							
	e (pPKPdf)	Z 05:41:45.5							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/18	06:54:58.9	5.138S	151.731E	33N	6.2	6.6		NEIC

New Britain, Papua New Guinea, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i PKPdf	+ Z 07:13:52.1			0.8	32			
	e pPKPdf	Z 07:13:56.8							
	e PP	Z 07:15:23.4							
	e PKKPab	Z 07:23:46.6			1.7	48			
	e PS	Z 07:25:12.2							
	e PPS	Z 07:27:09.7							
	e SKKPbc	Z 07:27:44.8							
	e SKKPdf	Z 07:28:00.6							
	e PSPS	N 07:32:57.9							
	e SSS	E 07:37:13.3							
	e L	Z 08:07:24.1			22.0	27343		6.8	
GRA1	i PKPdf	+ Z 07:13:55.9	124.4	50.2					
	e L	Z 08:11:10.8			21.5	19465		6.7	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/18								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 09:24:46.7							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/18								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	+ Z 14:06:27.0							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/18	14:59:28.6	4.474S	152.955E	33N	5.1	5.3		NEIC

New Ireland, Papua New Guinea, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
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Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 21:41:58.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/18								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 22:05:51.7							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/18								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 22:07:44.2							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/18								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 23:31:25.0							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/19	00:38:36.4	4.678S	153.052E	33N	5.3	5.6		NEIC
New Ireland, Papua New Guinea, region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 00:57:35.8	124.7	48.5					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/19								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 02:07:10.8							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/19	02:45:27.4	5.118S	151.648E	54D	5.9			NEIC

New Britain, Papua New Guinea, region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i PKPdf	+ Z	03:04:17.6			1.0	44			
	e pPKPdf	Z	03:04:35.3							
	e PP	Z	03:05:59.2							
	e PKKP2	Z	03:14:13.0							
	e pPKKP2	Z	03:14:29.3							
	e PS	Z	03:15:45.3							
	e PPS	Z	03:17:26.9							
	e SSS	Z	03:27:33.6							
	e L	Z	03:57:18.4			20.0	1446		5.6	
	GRA1	i PKPdf	+ Z	03:04:21.9	124.4	50.2				
e pPKPdf		Z	03:04:38.4							
e PP		Z	03:06:09.6							
e L		Z	03:58:32.1			22.0	1280		5.5	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/19								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z	03:25:58.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/19	04:07:24.0	24.191N	126.231E	33N	4.5			NEIC
Southeast of Ryukyu Islands, Japan								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z	04:20:06.5	86.4	55.9			4.8		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/19	05:29:22.0	4.821S	153.069E	33N	5.3			NEIC
New Ireland, Papua New Guinea, region								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i PKPdf	+ Z	05:48:20.7	124.8	48.6					
	e L	Z	06:51:39.8			19.4	2255		5.8	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/19	05:35:19.0	5.657S	151.763E	33N	5.4	5.9		NEIC
New Britain, Papua New Guinea, region								



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2000/11/20 08:49:33.8 5.059S 152.844E 33N 5.5 5.3 NEIC  
New Britain, Papua New Guinea, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i PKPdf	+ Z 09:08:33.4	124.9	49.0					
	e (PP)	Z 09:10:48.8							
	e L	Z 10:10:04.3			19.0	331		5.0	

Date Origin Time Lat Long Depth mb Ms ML Source  
2000/11/20 21:18:43.6 4.500S 153.390E 33N 4.7 NEIC  
New Ireland, Papua New Guinea, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 21:37:44.4	124.7	48.0					

Date Origin Time Lat Long Depth mb Ms ML Source  
2000/11/20 21:56:58.3 27.370N 131.510E 14.4 4.8 4.6 SZGRF  
Southeast of Ryukyu Islands, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	+ Z 22:09:41.0	86.5	50.2			4.8		
	e (pP)	Z 22:09:45.2							
	e L	Z 22:51:13.3			19.2	255		4.6	

Date Origin Time Lat Long Depth mb Ms ML Source  
2000/11/21

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i PKPdf	- Z 03:32:12.1							

Date Origin Time Lat Long Depth mb Ms ML Source  
2000/11/21 04:44:18.2 4.432S 152.911E 33N 5.3 5.5 NEIC  
New Ireland, Papua New Guinea, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 05:03:16.2	124.4	48.5					
	e pPKPdf	Z 05:03:23.8							
	e L	Z 05:58:35.3			21.1	1076		5.5	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/21	07:43:58.9	54.736N	160.588E	87D	5.2			NEIC

Komandorsky Islands, Russia, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i P	- Z 07:55:20.0	72.5	18.0	0.7	22	5.4		
	e	07:55:26.1							
	e pP	Z 07:55:35.7							
	e sP	Z 07:55:44.7							
	e L	Z 08:29:42.8			20.2	109		4.1	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/21	17:33:05.6	4.832S	152.941E	33N	5.2	6.1		NEIC

New Britain, Papua New Guinea, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e Pdiff	Z 17:48:58.8							
	e (PKPdf)	Z 17:52:28.2							
	e PP	Z 17:54:10.0							
	e PS	Z 18:03:48.3							
	e PPS	Z 18:05:20.9							
	e PSPS	Z 18:11:31.3							
	e SSS	E 18:15:25.5							
	e LV	Z 18:33:00.8							
	e L	Z 18:48:15.3			18.0	3765		6.1	
GRA1	e PKPdf	Z 17:52:03.6	124.8	48.7					
	e	17:52:34.9							
	e L	Z 18:46:38.9			21.6	2521		5.8	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/21	20:03:48.7	3.575S	150.870E	33N	5.5	5.6		NEIC

New Ireland, Papua New Guinea, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 20:22:42.8	122.7	50.1					
	e PP	Z 20:23:13.3							
	e L	Z 21:16:40.3			21.9	1618		5.6	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/21	21:21:07.1	4.935S	152.764E	33N	5.6	6.2		NEIC

New Britain, Papua New Guinea, region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i PKPdf	+ Z	21:40:03.7			1.1	51			
	e PP	Z	21:41:49.3							
	e PKKPab	Z	21:49:53.6			1.4	16			
	e PS	Z	21:51:26.7							
	e PPS	Z	21:53:03.7							
	e PSPS	N	21:59:16.8							
	e SSS	E	22:03:19.6							
	e LV	Z	22:19:50.9							
	e L	Z	22:34:57.8			18.0	4193		6.1	
GRA1	e PKPdf	Z	21:40:06.0	124.8	49.0					
	e (PP)	Z	21:41:53.3							
	e L	Z	22:36:11.4			19.5	3289		6.0	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/21	22:13:47.2	4.970S	152.680E	33N	5.1			NEIC

New Britain, Papua New Guinea, region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z	22:32:46.8	124.8	49.1					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/22								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z	00:25:15.8							
	e L	Z	01:11:21.1			21.1	512			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/22	00:48:59.7	5.243S	152.925E	33N	5.0			NEIC

New Britain, Papua New Guinea, region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z	01:07:59.6	125.1	49.0					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/22	06:27:14.0	6.333S	153.352E	33N	5.6	5.2		NEIC

New Britain, Papua New Guinea, region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i PKPdf	- Z	06:46:15.6	126.3	49.2					



e PP	Z	06:48:04.9										
e L	Z	07:42:57.0			21.6		255				4.9	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/22	11:30:19.9	5.025S	152.777E	33N	5.2	5.0		NEIC

New Britain, Papua New Guinea, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	+ Z 11:49:18.5	124.9	49.0					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/22	13:50:26.4	5.131S	152.899E	33N	5.2	5.1		NEIC

New Britain, Papua New Guinea, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 14:09:26.5	125.0	48.9					
	e (pPKPdf)	Z 14:09:35.2							
	e L	Z 15:09:27.1			18.3	278		5.0	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/22								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 21:18:12.7							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/22	23:35:04.6	15.016S	166.842E	33N	5.4	5.5		NEIC

Vanuatu Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 23:54:26.2	140.1	38.4					
	e PP	Z 23:57:33.4							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/23	23:10:35.9	4.569S	153.028E	33N	5.5	5.7		NEIC

New Ireland, Papua New Guinea, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 23:29:33.4	124.6	48.5					

e L Z 00:30:54.7 21.6 723

Date Origin Time Lat Long Depth mb Ms ML Source  
 2000/11/23 00:13:01.3 5.416S 152.698E 33N 5.3 5.5  
 New Britain, Papua New Guinea, region

Sta Phase Time Dist BAz T[s] A[nm] mb MS ML  
 GRA1 e PKPdf Z 00:32:02.0 125.2 49.3  
 e L Z 01:28:32.3 19.1 1024 5.5

Date Origin Time Lat Long Depth mb Ms ML Source  
 2000/11/23 04:44:45.4 5.272S 152.983E 33N 5.1  
 New Britain, Papua New Guinea, region

Sta Phase Time Dist BAz T[s] A[nm] mb MS ML  
 GRA1 e PKPdf Z 05:03:45.9 125.2 48.9

Date Origin Time Lat Long Depth mb Ms ML Source  
 2000/11/23 04:56:38.9 5.057S 152.609E 33N 5.7 5.5  
 New Britain, Papua New Guinea, region

Sta Phase Time Dist BAz T[s] A[nm] mb MS ML  
 GRA1 i PKPdf + Z 05:15:36.9 124.8 49.2  
 e L Z 06:15:18.9 19.6 615 5.3

Date Origin Time Lat Long Depth mb Ms ML Source  
 2000/11/23 05:47:27.7 44.210N 153.220E 29.2 5.2 SZGRF  
 2000/11/23 05:47:35.9 46.545N 153.212E 33N 5.0 NEIC  
 East of Kuril Islands, Russia

Sta Phase Time Dist BAz T[s] A[nm] mb MS ML  
 GRA1 i P + Z 05:59:37.0 78.3 25.6 0.8 19 5.2  
 e 05:59:40.8  
 e pP Z 05:59:45.2  
 e (sP) Z 05:59:49.1

Date Origin Time Lat Long Depth mb Ms ML Source  
 2000/11/23

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i PKPbc	+ Z 06:56:00.8			0.8	26			
	e PKPab	Z 06:56:11.0							
	e pPKPbc	Z 06:58:06.2							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/23								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 09:47:25.7							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/23	17:20:25.4			N		4.7		SZGRF
East of Kuril Islands, Russia								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PP	Z 17:30:44.1							
	e L	Z 18:15:45.1			21.3	890		4.7	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/23	18:43:15.4	4.602S	153.077E	33N	5.7	6.4		NEIC
New Britain, Papua New Guinea, region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 19:02:13.1	124.6	48.4					
	e PP	Z 19:04:00.9							
	e L	Z 20:02:21.2			21.8	4940		6.1	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/23								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 19:35:59.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/23	21:11:10.3			N	4.6			SZGRF
2000/11/23	21:12:01.9	44.783N	138.841E	221*	4.8			NEIC
East of Kuril Islands, Russia								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 21:23:23.7	75.1	35.6			4.6		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/23								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 22:44:21.5							
	e (pPKPdf)	Z 22:44:34.9							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/24	00:39:58.2	4.498S	153.195E	33N	5.3	5.0		NEIC
New Ireland, Papua New Guinea, region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	- Z 00:58:56.7	124.6	48.3					
	e PP	Z 01:00:17.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/24								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 08:46:30.8							
	e pPKPdf	Z 08:46:37.9							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/24								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 10:30:49.4							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/24	11:29:35.5	1.299S	77.624W	227*	4.9			NEIC
Ecuador								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i P	+ Z 11:42:12.0	90.2	268.3			5.3		



Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/25								
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb MS ML
	GRA1	e PKPdf	Z 15:05:02.9					
		i PKPbc	- Z 15:05:04.6					
		e PKPab	Z 15:05:13.4					
2000/11/25								
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb MS ML
	GRA1	e PKPdf	Z 16:12:28.3					
2000/11/25								
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb MS ML
	GRA1	e PKPdf	Z 16:28:59.7					
2000/11/25	16:46:58.9	5.300S	153.720E	33N	5.1	5.5		NEIC
New Ireland,	Papua New Guinea, region							
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb MS ML
	GRA1	e PKPdf	Z 17:05:59.4	125.6	48.2			
2000/11/25								
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb MS ML
	GRA1	e PKPdf	Z 18:00:11.5					
2000/11/25	18:09: 9.6	40.840N	50.780E	33.0N	5.4			SZGRF
2000/11/25	18:09:06.5	40.332N	49.958E	10G	5.8			NEIC
Caspian Sea								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i P	- Z 18:15:05.3	28.6	94.2			5.4		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/25	18:10:46.8	40.040N	50.480E	33.0N	6.1	6.1		SZGRF
2000/11/25	18:10:43.8	40.108N	49.959E	10G	6.3	6.3		NEIC

Caspian Sea

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e P	Z 18:16:37.0			0.8	371	6.3		
	e PPP	Z 18:17:32.6							
	e	18:20:30.9							
	e S	E 18:21:10.8							
	e L	Z 18:28:54.2			22.0	52779		6.1	
GRA1	i P	- Z 18:16:44.5	28.7	94.6			6.1		
	e L	Z 18:30:28.4			18.7	47867		6.1	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/26	02:01:49.5	35.874N	90.471E	33N	5.1	4.8		NEIC

Qinghai, China

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i P	- Z 02:11:36.7	57.0	71.7			4.9		
	e	02:11:39.5							
	e L	Z 02:37:54.5			19.7	432		4.6	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/26	05:23:11.4	6.455S	153.442E	33N	5.5	5.1		NEIC

New Britain, Papua New Guinea, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 05:42:13.5	126.4	49.2					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/26	08:41:54.7			N				SZGRF

New Britain, Papua New Guinea, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 08:53:51.6							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2000/11/26												
	Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML	
	GRA1	e (PKPdf)	Z	21:06:26.8								
		i PKPbc	- Z	21:06:29.2								
		e PKPab	Z	21:06:37.7								

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2000/11/26	21:10:58.1			N	3.7			SZGRF				
2000/11/26	21:11:36.2	37.030N	23.090E	5				NEIC				
Central Mediterranean Sea												
	Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML	
	GRA1	e P	- Z	21:15:17.1	15.3	141.5			3.7			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2000/11/27	00:09:56.4	34.740N	73.910E	33.0N	4.8			SZGRF				
2000/11/27	00:10:33.0	36.971N	71.568E	210?	4.1			NEIC				
Pakistan												
	Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML	
	GRA1	e P	Z	00:18:26.8	44.4	82.8			4.8			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2000/11/27												
	Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML	
	GRA1	e PKPdf	Z	01:15:02.0								

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2000/11/28	01:03:45.2	34.540N	140.260E	33.0N	5.0			SZGRF				
Near east coast of eastern Honshu, Japan												
	Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML	
	GRA1	i P	- Z	01:16:14.9	84.4	40.0			5.0			



Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/28								
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb MS ML
	BRG	e Pg	Z 02:22:17.8					1.9
		e Sg	E 02:22:37.4					
	CLL	e Pg	Z 02:22:25.3					2.1
		e Sg	N 02:22:53.4					
	MOX	e Pg	Z 02:22:43.6					2.6
		e Sg	N 02:23:23.5					
	WET	e Pg	Z 02:22:45.9					
		e Sg	E 02:23:27.7					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/28								
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb MS ML
	GRA1	e PKPdf	Z 05:35:42.2					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/28	11:04:53.4	4.150S	153.039E	33N	4.9			NEIC
New Ireland, Papua New Guinea, region								
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb MS ML
	GRA1	e PKPdf	Z 11:23:50.3	124.2	48.2			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/28								
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb MS ML
	GRA1	e (PKPdf)	Z 19:22:52.9					
		i PKPbc	- Z 19:22:53.9					
		e PKPab	Z 19:22:58.1					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/28								
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb MS ML
	GRA1	e PKPdf	Z 22:25:25.9					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/28	23:24:56.5	4.600S	153.170E	33N	4.9	4.5		NEIC

New Ireland, Papua New Guinea, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i PKPdf	- Z 23:43:54.7	124.7	48.3					
	e (pPKPdf)	Z 23:44:07.8							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/29	00:30:48.4			N	3.8	3.2		SZGRF
2000/11/29	00:30:52.3	34.160N	25.090E	33N	3.7			NEIC

Eastern Mediterranean Sea

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 00:35:07.9	18.6	141.5			3.8		
	e L	Z 00:43:52.6			18.9	125		3.2	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/29	01:48:53.3	14.215N	120.588E	178D	5.2			NEIC

Mindoro, Philippine Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e Pdiff	Z 02:01:40.2	91.2	66.2					
	e	02:01:41.8							
	e pPdiff	Z 02:02:16.4							
	e	02:02:23.1							
	e PP	Z 02:05:18.6							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/29	10:25:14.1	24.504S	70.549W	58D	5.8			NEIC

Near coast of northern Chile

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e Pdiff	Z 10:39:17.0	103.4	247.8					
	e PP	Z 10:43:28.5							
	e L	Z 11:25:35.4			20.7	2982		5.8	
CLL	e Pdiff	Z 10:39:34.3			19.3	432			
	e PP	Z 10:43:40.8							
	e SKSac	E 10:49:57.9							
	e Sdiff	R 10:51:06.5							
	e Sdiff	N 10:51:07.2							

e PS	Z	10:52:51.0									
e SS	E	10:58:29.5									
e L	Z	11:25:21.5			20.0		5542		6.1		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/29	10:35:46.0	63.900N	150.330W	10G	5.5	5.5		NEIC

Central Alaska, United States

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 10:46:33.4	65.5	351.2					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/29	23:42:49.3	21.218S	178.421W	600G	4.5			NEIC

Tonga Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e (PKPdf)	Z 00:01:34.1	150.5	18.5					
	i PKPbc	- Z 00:01:35.6							
	e PKPab	Z 00:01:44.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/11/30	12:46:05.4	15.493S	177.650W	339?	4.9			NEIC

Fiji Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 13:05:03.4	145.0	15.0					

#### Format description

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(K. Klinge Email:klinge@szgrf.bgr.de and A. Schick)

In general all regional and teleseismic events clearly recorded with GRF-Array stations and stronger events recorded with stations of the German Regional Seismological Network (GRSN) are included in this bulletin. Additionally, some selected events are analysed more comprehensive at CLL-station and included in the bulletin (ISOP-analysis)

Each event is reported by several EPICENTER LINES with possible COMMENT LINES, a REGION LINE and a block of PHASE LINES.

## EPICENTER LINES:

The epicenter locations of several authorities can be reported. The epicenter location with the highest priority (i.e. the most reliable one) is written in the undermost EPICENTER LINE. The REGION LINE and all origin related parameter in the PHASE LINES (i.e. Def, Dist, EvAz) are determined regarding this epicenter location with the highest priority.

Date	Date of the event
Origin Time	Origin time of the event
Lat	Geographic latitude (N/S) of epicenter in degree
Long	Geographic longitude (E/W) of epicenter in degree
Depth	Depth of the hypocenter beneath the surface in kilometer
	Appended flag indicates the method by which the depth was determined:
	BLANK - free
	N - preset depth of 33 kilometer
	G - geophysicist preset depth
mb, Ms, ML	Magnitudes of the event and magnitude type
Source	Abbreviations for the authority (e.g. SZGRF, NEIC, PIDC, SED)

## COMMENT LINE:

Each EPICENTER LINE can be followed by a COMMENT LINE about interesting topics submitted by the preceding authority.

## REGION LINE:

The region name of the epicenter location with the highest priority (undermost EPICENTER LINE).

## PHASE LINE:

Sta	Station code of the reported phase
Phase	Preceded flag for the sharpness of the onset of the phase
	e - emergent
	i - impulsive
	w - weak
	ISC phase code
	Flag for the direction of the first motion
	'+' - compression
	'-' - dilatation
	Component where the phase was picked
Time	Arrival time of the reported phase
Dist	Distance from the epicenter location with the highest priority to the station in kilometer
BAz	Backazimuth from the epicenter location with the highest priority to the station in degree
T[s]	Phase Period
A[nm]	Phase Amplitude
mb	Body wave magnitude
MS	Surface wave magnitude
ML	Local Richter magnitude