

## MONTHLY BULLETIN of REGIONAL and TELESEISMIC EVENTS RECORDED with GRF- and GRNS-STATIONS in GERMANY

=====

(produced by SZGRF/BGR - ERLANGEN and partly by CLL - Observatory)

DECEMBER 2001      UPDATED 16.January.2002

Please note that local events recorded in Germany are part of the "LOCAL BULLETIN".

(Format description at the end of the bulletin)

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2001/12/01												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GRA1	e PKPab	Z 01:40:00.6									
Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2001/12/01	01:54:41.7	41.287N	20.471E	10G	4.6			NEIC				
Albania												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GEC2	e Pn	Z 01:56:54.1	8.9	145.2							
		e L	Z 02:00:44.9			17.4	404		3.2			
	WET	e Pn	Z 01:57:02.5	9.5	143.0							
		e L	Z 02:01:05.4			18.6	378		3.2			
	BRG	e Pn	Z 01:57:19.6	10.6	152.3							
		e L	Z 02:01:53.3			14.7	575		3.6			
	GRA1	e Pn	Z 01:57:15.5	10.6	139.0							
		e L	Z 02:01:52.4			17.6	369		3.3			
	BFO	e Pn	Z 01:57:22.4	11.1	124.9							
	MOX	e Pn	Z 01:57:27.5	11.2	143.4							
		e L	Z 02:02:16.8			15.4	478		3.5			
	CLL	e Pn	Z 01:57:31.7	11.3	150.0							
		e L	Z 02:02:15.8			14.0	709		3.7			
Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2001/12/01	02:28:39.1			N				SZGRF				

## Ascension Island region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 02:38:43.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/01								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e (PKPab)	Z 03:01:31.0							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/01								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPab	Z 03:09:00.9							
	e (pPKPab)	Z 03:09:12.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/01	05:09:00.0	4.824S	101.859E	33N	5.2	5.4		NEIC

Southern Sumatera, Indonesia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 05:22:18.2	94.1	92.6					
	e L	Z 06:14:18.7			21.5	571		5.0	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/01	12:25:24.4	36.130N	95.000E	33.0N	5.1	4.1		SZGRF
2001/12/01	12:25:19.0	35.596N	93.945E	10G	5.1	4.3		NEIC

Qinghai, China

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i P	- Z 12:35:25.2	59.3	69.7			5.1		
	e L	Z 13:02:50.6			19.4	151		4.1	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/01	15:49:25.2	1.470S	15.500W	35.9	5.2	4.2		SZGRF
2001/12/01	15:49:09.2	4.322S	12.275W	10G	4.8			NEIC

North of Ascension Island

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 15:59:01.0	57.7	208.1			5.2		
	e (pP)	Z 15:59:10.9							
	e L	Z 16:24:12.2			21.5	201		4.2	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/01	15:55:59.0			N				SZGRF
North of Ascension Island								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z 16:05:53.8							
CLL	e P	Z 16:05:53.0							
GEC2	e P	Z 16:05:41.1							
GRA1	e P	Z 16:05:40.4							
MOX	e P	Z 16:05:47.1							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/01	16:39:31.6	45.020N	11.160E	10.0			4.3	SZGRF
2001/12/01	16:39:28.2	44.989N	11.181E	33N				NEIC
Northern Italy								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
FUR	e Pn	Z 16:40:21.3	3.2	181.2					4.4
	e Pg	Z 16:40:30.4							
STU	e Pn	Z 16:40:27.5	4.0	159.5					4.5
	e Pg	Z 16:40:45.1							
	e Sn	N 16:41:15.4							
GEC2	e Pn	Z 16:40:31.5	4.2	205.0					4.0
	e Sn	E 16:41:21.0							
WET	e Pn	Z 16:40:32.7	4.3	196.2					4.3
	e Pg	N 16:40:49.4							
	e Sn	E 16:41:22.8							
GRA1	e Pn	Z 16:40:37.5	4.7	180.4					4.5
	e Pg	N 16:40:57.0							
	e Sn	N 16:41:31.6							
	e Sg	N 16:41:58.2							
TNS	e Pn	Z 16:40:50.6	5.5	159.6					4.2
MOX	e Pn	Z 16:40:50.5	5.7	183.1					4.2
	e Pg	Z 16:41:15.2							
	e Sn	E 16:41:53.0							
	e Sg	E 16:42:27.8							
BRG	e Pn	Z 16:40:58.9	6.2	198.5					4.3
CLL	e Pn	Z 16:41:01.7	6.4	191.6					4.6
	e Sg	E 16:42:54.3							

CLZ	e Pn	Z	16:41:06.6	6.9	175.2							4.5
-----	------	---	------------	-----	-------	--	--	--	--	--	--	-----

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/01	16:28: 8.3	44.590N	150.320E	33.0N	5.0			SZGRF
2001/12/01	16:28:07.5	43.654N	147.430E	55D	4.9			NEIC

East of Kuril Islands, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i P	+ Z 16:40:10.5	79.1	30.7			5.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/01	20:52:19.1	0.640S	15.980W	20.8	5.1	4.2		SZGRF
2001/12/01	20:52:01.0	4.360S	12.207W	10G	4.8	4.3		NEIC

North of Ascension Island

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 21:01:52.6	57.7	208.0			5.1		
	e (pP)	Z 21:01:58.3							
	e S	Z 21:10:02.5							
	e L	Z 21:25:13.0			21.0	196		4.2	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/02	00:11:43.6	53.310N	163.720W	33.0N	4.7			SZGRF
2001/12/02	00:11:38.0	53.010N	166.930W	33N	4.8			NEIC

Unimak Island, Alaska, United States, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 00:23:33.1	77.3	358.9			4.7		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/02	02:47:56.2	12.733S	166.684E	100D	5.6			NEIC

Santa Cruz Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e (PKPbc)	Z 03:06:53.9							
	i PKPdf	+ Z 03:07:07.4			0.8	36			
	i pPKPdf	Z 03:07:33.2							
	e PP	Z 03:09:45.7							
	e SKPab	Z 03:10:32.7							
	e PKSab	Z 03:10:38.6							
	e	03:22:12.9							

	e SS	Z	03:27:24.2								
	e LR	Z	03:51:40.2								
	e L	Z	04:01:12.7			22.0		682		5.3	
GRA1	e (PKPbc)	Z	03:07:01.6	137.9	37.2						
	i PKPdf	+ Z	03:07:13.5								
	e pPKPdf	Z	03:07:39.3								
	e sPKPdf	Z	03:07:48.0								
	e PP	Z	03:09:59.8								
	e SKPab	Z	03:10:39.4								
	e		03:22:05.8								
	e SS	Z	03:27:57.4								
	e L	Z	04:09:27.0			20.4		280		5.0	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/02	04:12:11.8	39.560N	40.740E	33.0N	4.6			SZGRF
2001/12/02	04:11:48.2	38.397N	43.320E	33N	4.6			NEIC

Turkey

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i P	+ Z 04:17:15.5	25.4	104.1			4.6		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/02	10:53:16.7	0.570S	14.550W	23.3	4.9	3.7		SZGRF

North of Ascension Island

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 11:02:45.8	54.9	212.1			4.9		
	e (pP)	Z 11:02:51.8							
	e (sP)	Z 11:02:55.7							
	e L	Z 11:23:23.6			18.8	64		3.7	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/02	12:23:50.7	49.620N	155.750E	44.8	4.9			SZGRF
2001/12/02	12:23:36.1	47.751N	155.025E	33N	4.9			NEIC

Kuril Islands, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 12:35:34.1	77.7	24.0			4.9		
	e pP	Z 12:35:47.0							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
------	-------------	-----	------	-------	----	----	----	--------

2001/12/02 13:02: 4.4 41.640N 142.920E 124.9 6.3 5.7 SZGRF  
 2001/12/02 13:01:53.8 39.438N 141.088E 124D 6.1 NEIC  
 Hokkaido, Japan, region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML	
RGN	i P	- Z	13:13:30.2	75.9	39.0	0.9	583	6.6			
	e L	Z	13:46:15.1			21.5	3684				5.6
RUE	i P	- Z	13:13:38.3	77.4	39.0	1.1	558	6.6			
	e L	Z	13:50:59.1			19.3	3652				5.7
BSEG	i P	- Z	13:13:38.9	77.5	36.8	1.0	481	6.6			
	e L	Z	13:55:36.2			18.7	3676				5.7
BRG	i P	- Z	13:13:44.6	78.6	38.9	1.1	271	6.3			
	e L	Z	13:51:50.8			18.2	4054				5.8
CLL	i P	- Z	13:13:44.4			1.5	640	6.4			
	e pP	Z	13:14:16.5								
	e sP	Z	13:14:28.3								
	e PP	Z	13:16:47.1								
	e PPP	Z	13:18:34.9								
	e S	T	13:23:31.2								
	e sS	T	13:24:26.4								
	e SS	T	13:28:40.3								
	e SSS	T	13:32:06.4								
	e PKKPbc	Z	13:32:35.7								
	e LQ	T	13:37:17.5								
	e LR	Z	13:39:51.6								
	e P'P'	Z	13:40:38.9								
	e L	Z	13:51:33.4			18.0	3391				5.7
	CLZ	i P	- Z			13:13:48.2	79.1				36.6
e L		Z	13:55:44.7	18.8	4124	5.8					
MOX	i P	- Z	13:13:50.6	79.6	37.3	1.1	261	6.2			
	e L	Z	13:52:58.9			19.1	3163				5.7
IBBN	i P	- Z	13:13:50.8	79.7	34.8	0.9	454	6.5			
	e L	Z	13:56:06.0			18.9	5186				5.9
GEC2	i P	- Z	13:13:53.8	80.2	38.5	1.2	122	5.8			
	e L	Z	13:50:58.9			18.8	3758				5.8
WET	i P	- Z	13:13:54.5	80.3	38.0	1.3	329	6.2			
	e L	Z	13:51:01.1			20.5	3913				5.7
GRA1	i P	- Z	13:13:56.3	80.6	36.9	1.2	520	6.4			
	e pP	Z	13:14:28.4								
	e sP	Z	13:14:40.4								
	e S	Z	13:23:50.1								
	e PKKP	Z	13:32:31.7								
	e PKPPKP	Z	13:40:31.5								
	e		13:43:40.1								
	e L	Z	13:58:21.8			21.6	2743				5.6
BUG	i P	- Z	13:13:55.2	80.6	34.4	1.1	208	6.0			
	e L	Z	13:55:39.4			19.8	3316				5.7
TNS	i P	- Z	13:13:58.7	81.2	35.1	0.9	132	5.9			
	e L	Z	13:49:31.7			19.7	2947				5.6

./2001/bul0112.txt

Thu Apr 23 08:38:25 2020

7

FUR	i P	- Z	13:14:05.0	81.8	36.8	1.6	1226	6.7	
	e L	Z	13:57:02.1			18.8	3471	5.7	
STU	i P	- Z	13:14:03.6	82.1	35.5	0.8	274	6.3	
	e L	Z	13:58:50.8			18.3	3582	5.8	
WLF	i P	- Z	13:14:05.6	82.5	33.5	1.9	385	6.1	
	e L	Z	13:51:58.3			20.2	2318	5.5	
BFO	i P	- Z	13:14:06.9	82.8	34.9	1.6	664	6.5	
	e L	Z	13:57:56.8			18.2	3553	5.8	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/02								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 17:00:09.7							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/02	17:06:1.3	39.500N	40.410E	33.0N	4.3	3.4		SZGRF
2001/12/02	17:05:24.7	37.445N	44.188E	33N	4.3	3.4		NEIC

Turkey

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 17:11:03.3	26.5	104.9			4.3		
	e L	Z 17:23:06.4			20.3	131		3.4	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/02	22:41:15.7	27.670N	89.270E	33.0N	5.2	4.3		SZGRF
2001/12/02	22:41:13.7	27.110N	88.106E	33N	5.1	4.2		NEIC

Bhutan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i P	+ Z 22:51:31.5	61.4	80.8			5.2		
	e L	Z 23:19:25.0			21.3	240		4.3	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/03	11:32:33.0	16.604S	177.520W	33N	5.6	6.1		NEIC

Fiji Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKPdf	Z 11:52:06.9			1.5	112			
	e PP	Z 11:55:09.6							
	e PPP	Z 11:58:39.7							

e PPS	R	12:07:52.9										
e SS	T	12:14:03.0										
e SSS	T	12:19:38.2										
e LQ	T	12:31:54.9										
e LR	Z	12:40:37.0										
e L	Z	12:51:31.1						20.0	6166		6.4	
GRA1 e PKPdf	Z	11:52:11.8	146.2	15.2								
e L	Z	13:05:48.8						19.8	4704		6.3	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/03								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 18:19:07.8					4.5		
BEAM		18:19:07.8			1.1	6			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/04	05:57:18.1	15.317S	72.533W	33N	5.5	5.5		NEIC
Southern Peru								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e Pdiff	Z 06:10:51.9	97.7	255.3					
	e L	Z 06:51:07.3			21.5	1683		5.5	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/04	07:19:25.2	3.754N	97.861E	139D	5.1			NEIC
Northern Sumatera, Indonesia								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i P	+ Z 07:31:40.5			1.0	23	5.3		
	e pP	Z 07:32:16.9							
GRA1	e P	Z 07:31:47.6	85.0	90.1			5.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/04	09:40:48.6			N	4.5			SZGRF
2001/12/04	09:40:31.6	38.386N	43.175E	33N	4.3			NEIC
Eastern Mediterranean Sea								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 09:45:59.2	25.3	104.3			4.5		



Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/04	18:09:35.4	19.930N	119.480E	39.9	5.3	5.0		SZGRF
2001/12/04	18:09:26.4	19.004N	120.223E	33N	5.4	5.2		NEIC

Philippine Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i P	Z 18:22:03.1			1.4	66	5.6		
	e pP	Z 18:22:14.0							
	e sP	Z 18:22:21.1							
	e PP	Z 18:25:26.0							
	e S	Z 18:32:33.2							
	e SP	Z 18:33:30.0							
	e SS	Z 18:38:07.4							
	e SSS	Z 18:42:04.1							
	e LR	Z 18:50:14.2							
	e L	Z 19:03:31.4			18.0	1567		5.4	
GRA1	e P	Z 18:22:11.9	87.2	63.5			5.3		
	e pP	Z 18:22:22.4							
	e (sP)	Z 18:22:29.7							
	e PP	Z 18:25:23.1							
	e S	Z 18:32:47.4							
	e SS	Z 18:38:42.6							
	e L	Z 19:02:22.0			21.3	595		5.0	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/05	07:46:38.0	52.561S	18.370E	10G	5.4	5.5		NEIC

Southwest of Africa

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PP	Z 08:04:45.5	102.4	175.6					
	e PS	Z 08:14:00.4							
	e (SS)	Z 08:19:17.9							
	e L	Z 08:51:08.2			19.8	1252		5.4	
CLL	e PP	Z 08:04:56.9							
	e SKSac	R 08:11:18.2							
	e (Sdiff)	T 08:12:34.8							
	e PS	R 08:14:07.8							
	e SS	R 08:19:47.2							
	e LQ	T 08:29:41.4							
	e LR	Z 08:36:14.5							
	e L	Z 08:51:27.9			20.0	1853		5.6	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
------	-------------	-----	------	-------	----	----	----	--------

./2001/bul0112.txt

Thu Apr 23 08:38:25 2020

10

2001/12/05 11:52:04.4 73.390N 6.677E 10G 4.9 NEIC  
Greenland Sea

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 11:57:18.5	23.8	356.8			4.7		
	e L	Z 12:05:37.6			21.2	245		3.7	

Date Origin Time Lat Long Depth mb Ms ML Source  
2001/12/05 15:35:26.0 36.349N 70.783E 199 5.1 NEIC  
Hindu Kush, Afghanistan, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i P	+ Z 15:43:07.3			1.0	8	4.4		
	e ScP	Z 15:48:23.8			1.1	10			
GRA1	e P	Z 15:43:19.6	44.3	84.1					
	e pP	Z 15:44:02.8							
	e (sP)	Z 15:44:15.0							
	e PP	Z 15:44:59.9							
	e ScP	Z 15:48:30.0							

Date Origin Time Lat Long Depth mb Ms ML Source  
2001/12/05 17:40:20.4 5.006S 151.927E 116? 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 17:59:08.1	124.4	49.9					
	e L	Z 18:53:17.3			19.4	143		4.6	

Date Origin Time Lat Long Depth mb Ms ML Source  
2001/12/06 17:44:52.2 44.070N 11.070E 10.0G 3.8 SZGRF  
2001/12/06 17:44:51.5 44.135N 11.229E 10G NEIC  
Northern Italy

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BFO	e Pn	Z 17:46:02.7	4.6	153.4					4.0
	e Sn	E 17:46:54.5							
GRC1	e Pn	Z 17:46:05.3	4.9	182.5					3.7
GEC2	e Pn	Z 17:46:07.9	5.0	200.8					
	e Sn	E 17:47:05.5							
WET	e Pn	Z 17:46:09.2	5.1	193.3					3.6
	e Sg	E 17:47:38.7							
GRA1	e Pn	N 17:46:17.0	5.6	179.9					
	e Sn	E 17:47:17.4							3.9

TNS	e Pn	Z	17:46:26.6	6.4	161.7
MOX	e Pn	Z	17:46:27.6	6.5	182.4
	e Sn	E	17:47:40.2		
BRG	e Pn	Z	17:46:35.1	7.0	196.2
CLL	e Pn	Z	17:46:38.3	7.3	190.1

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/07								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 04:51:25.8							
	e L	Z 05:39:57.5			21.6	871			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/07								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e (PKPab)	Z 05:34:15.6							
	e (pPKPab)	Z 05:34:27.6							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/07	16:00: 5.1	19.110N	61.680W	78.0	5.1	4.3		SZGRF
2001/12/07	15:59:48.1	16.668N	61.151W	33N	4.7			NEIC

Leeward Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i P	+ Z 16:10:34.0	66.0	267.8			5.1		
	e pP	Z 16:10:54.8							
	e (sP)	Z 16:11:02.3							
	e S	Z 16:19:20.3							
	e SS	Z 16:23:47.6							
	e L	Z 16:32:45.1			21.0	185		4.3	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/07								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 19:19:55.9							
	e (PP)	Z 19:23:33.4							



./2001/bul0112.txt

Thu Apr 23 08:38:25 2020

13

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e P	Z 23:48:49.2			1.5	53	5.4		
	e PP	Z 23:52:03.3							
	e S	Z 23:59:20.5							
	e SS	Z 00:04:55.0							
	e	00:09:22.2							
GRA1	e L	Z 00:26:39.3			18.0	3718		5.8	
	i P	- Z 23:48:51.1	85.4	316.6			5.4		
	e (pP)	Z 23:48:57.8							
	e S	Z 23:59:31.9							
	e SS	Z 00:05:04.9							
	e L	Z 00:25:04.8			19.4	4601		5.9	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/08	04:12:58.2	36.710N	92.890E	33.0N		4.6		SZGRF
2001/12/08	04:12:47.5	35.640N	92.570E	10G	4.9			NEIC

Qinghai, China

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 04:22:47.5	58.4	70.6					
	e	04:22:51.0							
	e PcP	Z 04:23:37.3							
	e PP	Z 04:24:57.2							
	e S	Z 04:30:55.6							
	e SS	Z 04:34:55.4							
	e L	Z 04:49:41.1			19.5	468		4.6	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/08	04:17:48.0	11.160S	68.900W	28.8	5.0	5.3		SZGRF
2001/12/08	04:17:20.4	15.282S	72.335W	33N	5.4	5.3		NEIC

Peru-Bolivia border region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 04:30:55.5	97.5	255.2			5.0		
	e pP	Z 04:31:03.9							
	e L	Z 05:11:21.4			21.9	1283		5.3	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/08	06:45: 5.0	76.730N	6.050E	27.1	4.8	4.1		SZGRF
2001/12/08	06:44:21.1	80.710N	0.870E	10G	5.3	4.8		NEIC

Svalbard, Norway, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
-----	-------	------	------	-----	------	-------	----	----	----

./2001/bul0112.txt

Thu Apr 23 08:38:25 2020

14

GRA1	i P	+ Z	06:50:46.1	31.2	356.8				4.8
	e (pP)	Z	06:50:53.0						
	e (PcP)	Z	06:53:38.5						
	e L	Z	07:02:57.9			18.3	524		4.1

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/08								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 17:43:10.8					4.3		
BEAM		17:43:10.8			0.9	3			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/08								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 18:20:55.1							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/08								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i PKPdf	- Z 19:45:04.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/08	20:29:52.0	31.060N	129.560E	53.1	5.8	6.1		SZGRF
2001/12/08	20:29:37.8	29.137N	129.563E	33N	5.6	5.7		NEIC

Kyushu, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i P	Z 20:41:57.5			0.8	56	5.8		
	e pP	Z 20:42:11.0							
	e PP	Z 20:45:14.6							
	e PPPP	Z 20:48:27.0							
	e S	T 20:52:11.9							
	e SS	T 20:57:39.5							
	e SSSS	T 21:03:53.3							
	e LQ	T 21:06:45.5							
	e LR	Z 21:12:39.0							
	e L	Z 21:22:56.9			18.0	9975		6.2	
GRA1	e P	Z 20:42:09.0	84.1	50.6			5.8		

e (pP)	Z	20:42:24.2							
e (S)	Z	20:52:26.4							
e (SKS)	Z	20:52:35.3							
e L	Z	21:24:29.3			18.3		7180		6.1

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/09	04:06:51.9	37.050N	136.810E	33.0N	4.6			SZGRF
2001/12/09	04:06:32.0	34.092N	138.540E	33N	4.7			NEIC

Near west coast of eastern Honshu, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 04:19:03.0	84.1	41.5			4.6		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/09	08:47: 7.6	34.220N	79.000E	33.0N	4.5	4.1		SZGRF
2001/12/09	08:47:58.7	37.993N	72.794E	100G	4.7			NEIC

Kashmir-Xizang border region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 08:56:05.5	44.6	80.8			4.5		
	e L	Z 09:13:51.5			20.5	170		4.1	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/09								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 14:47:25.1							
	e L	Z 15:43:36.7			20.6	176			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/09	18:15:02.4	0.014S	122.834E	156D	5.7			NEIC

Minahassa Peninsula, Sulawesi, Indonesia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e Pdiff	Z 18:28:41.5			2.4	61			
	e pPdiff	Z 18:29:24.8							
	e PP	Z 18:32:51.3							
	e pPP	Z 18:33:31.7							
	e pPPP	Z 18:35:32.5							
	e SKSac	R 18:39:05.1							
	e SP	R 18:41:42.8							

	e			18:42:44.4								
	e	PKKPbc	Z	18:44:43.9			1.2		13			
	e	PKKPab	Z	18:45:06.9								
	e	SS	R	18:47:18.9								
	e	SSS	T	18:51:11.4								
	e	LQ	T	19:03:59.8								
	e	LR	Z	19:04:22.8								
	e	L	Z	19:22:53.8			18.0		1218		5.5	
GRA1	e	pPdiff	Z	18:29:27.6	103.8	73.2						
	e	PP	Z	18:33:05.6								
	e	pPP	Z	18:33:42.2								
	e			18:36:01.0								
	e	SKSac	E	18:39:14.0								
	e	SP	Z	18:41:59.0								
	e			18:43:07.3								
	e	PKKPbc	Z	18:44:40.0								
	e	PKKPdf	Z	18:45:00.1								
	e			18:45:32.7								
	e	SS	E	18:47:45.7								
	e	SSS	Z	18:51:19.2								
	e	L	Z	19:24:23.2			19.1		1237		5.5	

Date 2001/12/09 Origin Time 19:19:51.3 Lat 28.005N Long 139.164E Depth 503D mb 4.7 Ms ML Source NEIC  
 Bonin Islands, Japan, region

	Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
	GRA1	e P	Z	19:31:57.7	89.6	44.1					

Date 2001/12/10 Origin Time Lat Long Depth mb Ms ML Source

	Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
	GRA1	e P	Z	04:23:17.8					4.7		
	BEAM			04:23:17.8			1.4	8			

Date 2001/12/10 Origin Time 04:19:15.6 Lat 49.143N Long 156.264E Depth 22\* mb 5.1 Ms 4.4 ML Source NEIC  
 East of Kuril Islands, Russia

	Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
	GRA1	i P	+ Z	04:31:08.6	76.7	22.7			5.4		
	GRFO	e L	Z	05:10:31.1	76.7	22.7	20.0	158		4.3	



Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/10	07:35:27.3	42.739N	146.345E	45D	4.7			NEIC

Off southeast coast of Hokkaido, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 07:47:42.1	79.6	31.8			4.3		
	e pP	Z 07:47:47.7							
	e sP	Z 07:47:51.2							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/10	07:58:40.3	45.840N	11.800E	10.0			3.5	SZGRF
2001/12/10	07:58:40.3	45.742N	11.719E	10G				NEIC

Northern Italy

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
FUR	e Pn	Z 07:59:20.0	2.4	172.7					3.4
	e Sg	E 07:59:55.2							
GEC2	e Pn	Z 07:59:30.9	3.4	204.2					
	e Sn	N 08:00:10.0							
BFO	e Pn	Z 07:59:34.0	3.5	137.0					
WET	e Sn	N 08:00:13.8	3.5	193.4					3.2
GRA1	e Sg	E 08:00:42.9	4.0	175.0					3.7
MOX	e Pn	Z 07:59:51.8	4.9	179.2					
	e Sn	E 08:00:45.4							
CLL	e Sg	N 08:01:36.0	5.6	189.2					3.6

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/10								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e (PKPab)	Z 17:31:25.0							
	e (pPKPab)	Z 17:31:35.2							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/10	18:36:30.8	49.740N	155.890E	37.2	5.4	4.6		SZGRF
2001/12/10	18:36:23.7	49.282N	156.197E	33N	5.0	4.6		NEIC

Kuril Islands, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i P	+ Z 18:48:14.9	76.6	22.6			5.4		

	e pP	Z	18:48:25.5								
	e sP	Z	18:48:30.0								
GRFO	e L	Z	19:29:33.9	76.6	22.6	18.6	255	4.6			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/10	19:50:08.6	37.304N	24.621E	178	4.6			NEIC
Southern Greece								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 19:53:41.5	15.7	137.1					
	e P1	Z 19:53:44.6							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/10								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 20:01:47.6							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/10	20:23:29.4			N				SZGRF
Off east coast of Kamchatka Peninsula, Russia								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 20:35:01.8							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/11	09:40:30.6	42.724N	144.621E	61D	4.7			NEIC
Hokkaido, Japan, region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 09:52:31.6	79.0	32.9			4.7		
	e	09:52:36.2							
	e pP	Z 09:52:48.4							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/11	16:34:05.1	39.010N	24.279E	33N	4.5			NEIC
Aegean Sea								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
-----	-------	------	------	-----	------	-------	----	----	----

./2001/bul0112.txt

Thu Apr 23 08:38:25 2020

19

GRA1	e P	Z	16:37:33.8	14.1	134.1							
	e L	Z	16:45:08.3			14.1		583		3.8		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/11	17:56:29.1	31.541N	137.431E	26D	5.2	4.5		NEIC

Southeast of Shikoku, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 18:09:09.4	85.8	43.6			5.2		
	e (pP)	Z 18:09:17.1							
	e L	Z 18:51:10.0			18.2	214		4.6	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/11	22:59:30.6	54.470N	162.270E	33.0N	5.2	3.8		SZGRF
2001/12/11	22:59:28.4	53.830N	160.639E	66*	4.8			NEIC

Near east coast of Kamchatka Peninsula, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i P	+ Z 23:10:57.7	73.3	18.3			5.2		
	e L	Z 23:42:09.5			21.7	54		3.8	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/12	02:12:58.7				4.8	4.2		SZGRF

Bahama Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 02:23:47.2					4.8		
BEAM		02:23:47.2			1.0	6			
GRA1	e pP	Z 02:23:54.8							
	e L	Z 02:36:07.7			21.7	171		4.2	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/12	11:04:32.8	19.070S	73.610E	17.5	5.1			SZGRF
2001/12/12	11:04:21.8	23.863S	69.686E	10G	4.9			NEIC

South Indian Ocean

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 11:17:22.4	89.9	128.8			5.1		
	e pP	Z 11:17:27.5							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/12	12:53:19.4	17.203S	167.701E	43D	5.8	6.0		NEIC

Vanuatu Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML	
CLL	e (PKPbc)	Z	13:12:37.6								
	e PKPdf	Z	13:12:45.5			1.5	94				
	e PP	Z	13:15:40.7								
	i SKPbc	Z	13:16:20.8			1.5	78				
	e SKKSac	N	13:22:33.2								
	e SKKPbc	Z	13:24:49.7								
	e PPS	Z	13:27:52.0								
	e SS	E	13:34:09.2								
	e SSS	N	13:39:44.3								
	e L	Z	14:14:33.4			22.0	3714		6.1		
	GRA1	i PKPdf	+ Z	13:12:44.6	142.4	38.7					
		e pPKPdf	Z	13:13:00.3							
		e PP	Z	13:15:56.4							
		e L	Z	14:16:06.7			21.9	2261		5.9	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/12	14:02:35.0	42.848S	124.652E	10G	6.4	6.7		NEIC

South of Australia

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML	
CLL	e (PKPbc)	Z	14:21:43.6								
	e PKPdf	Z	14:21:57.0			2.0	599				
	e PP	Z	14:24:30.9								
	e PKS	Z	14:25:31.1								
	e PPP	Z	14:27:28.8								
	e SKSac	R	14:29:10.8								
	e SKKSac	R	14:31:15.0								
	e PS	Z	14:34:31.5								
	e PPS	Z	14:36:27.0								
	e SS	T	14:42:16.7								
	e PSPS	E	14:42:56.8								
	e SSS	E	14:47:24.1								
	e LQ	T	14:57:44.3								
	e LR	Z	15:06:03.5								
	GRA1	e PKPdf	Z	14:21:51.2	135.0	107.9					
		e PP	Z	14:24:35.6							
		e		14:25:25.3							
	e L	Z	15:29:00.6			20.8	10027		6.5		

./2001/bul0112.txt

Thu Apr 23 08:38:25 2020

21

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
------	-------------	-----	------	-------	----	----	----	--------

2001/12/12

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e (PKP)	Z 16:35:59.8							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
------	-------------	-----	------	-------	----	----	----	--------

2001/12/12

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e (P)	Z 17:20:41.4							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
------	-------------	-----	------	-------	----	----	----	--------

2001/12/12

19:44:21.0

73.250N

13.160E

33.0N

4.2

3.8

SZGRF

2001/12/12 19:44:18.9

73.024N

5.663E

10G

4.7

4.1

NEIC

Norwegian Sea

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 19:49:29.1	23.5	355.9			4.2		
	e L	Z 19:57:44.5			21.6	368		3.8	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
------	-------------	-----	------	-------	----	----	----	--------

2001/12/12

21:18:14.7

33.020N

26.180E

33.0N

SZGRF

2001/12/12 21:18:21.9

33.611N

25.000E

10G

NEIC

Eastern Mediterranean Sea

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 21:22:45.3	19.0	142.5					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
------	-------------	-----	------	-------	----	----	----	--------

2001/12/13

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e (PKP)	Z 03:18:54.2							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
------	-------------	-----	------	-------	----	----	----	--------

2001/12/13

06:52:32.8

18.749S

177.716W

367D

4.6

NEIC

Fiji Islands region



./2001/bul0112.txt

Thu Apr 23 08:38:25 2020

23

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 22:59:03.9							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/14	05:16:32.1			N	4.2			SZGRF

Turkey

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 05:21:32.2					4.2		
BEAM		05:21:32.2			1.0	7			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/14	23:14:36.7	46.720N	151.740E	33.0N	4.6			SZGRF

Kuril Islands, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 23:26:30.6	77.7	26.5			4.6		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/15	02:00:3.0	53.900N	158.630E	77.7	5.2	3.8		SZGRF
2001/12/15	01:59:53.4	52.859N	158.633E	77D	4.8			NEIC

Near east coast of Kamchatka Peninsula, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 02:11:23.4	73.8	19.8			5.2		
	e (pP)	Z 02:11:43.9							
	e L	Z 02:51:36.5			20.6	57		3.8	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/15	04:31:59.9	40.080N	42.390E	33.0N	4.5			SZGRF
2001/12/15	04:31:50.9	38.756N	42.203E	33N	4.5			NEIC

Turkey

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 04:37:11.0	24.5	104.6			4.5		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/15	14:18:38.3	28.072N	56.415E	33N	4.7	4.0		NEIC

Southern Iran

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 14:26:23.7	40.4	105.2			4.2		
	e L	Z 14:48:09.3			18.9	163		3.9	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/15	17:34:16.7	24.528S	176.019W	33N	5.1	4.9		NEIC

South of Tonga Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKPdf	Z 17:54:03.9							
	i PKPbc	+ Z 17:54:10.7			1.1	29			
	i PKPab	Z 17:54:21.4			1.3	23			
GRA1	e (PKPbc)	Z 17:54:15.7	154.2	15.3					
	e PKPab	Z 17:54:29.0							
	e L	Z 19:24:22.5			21.7	225		4.9	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/15								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 18:17:47.6					4.2		
BEAM		18:17:47.6			1.5	5			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/15	23:42:10.1	32.560N	48.620E	33.0N	4.3			SZGRF
2001/12/15	23:41:21.0	28.294N	52.674E	33N	4.8			NEIC

Western Iran

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 23:48:37.9	38.0	108.6			4.3		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/16	23:51:22.7	8.420S	61.010E	42.2	4.8			SZGRF

South Indian Ocean

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 00:02:45.0	72.5	127.6			4.8		
	e pP	Z 00:02:57.0							



Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/17								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e (PKPab)	Z 01:19:56.9							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/17								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 04:30:54.6							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/17	21:56: 7.3			N	4.9			SZGRF
2001/12/17	21:56:36.0	16.924N	94.204W	102D	4.8			NEIC

Off west coast of Baja California, Mexico

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 22:09:14.1	86.7	292.5			4.9		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/18	04:02:58.1	23.917N	122.774E	14G	6.4	7.3		NEIC

Northeast of Taiwan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RGN	e P	Z 04:15:15.7	81.2	60.7	1.9	655	6.4		
	e L	Z 04:54:22.0			19.5	335246		7.7	
RUE	e P	Z 04:15:19.6	81.9	60.8	2.7	2650	7.0		
	e L	Z 04:55:16.4			18.8	376633		7.8	
BRG	e P	Z 04:15:23.1	82.6	60.7	2.4	1130	6.7		
	e L	Z 04:56:56.4			18.0	266382		7.7	
CLL	i P	- Z 04:15:24.4			1.5	335	6.4		
	e pP	Z 04:15:34.3							
	e PP	Z 04:18:42.9							
	e PPP	Z 04:20:33.9							
	e SKSac	R 04:25:35.6							
	e S	T 04:25:44.5							
	e SS	T 04:31:07.1							
	e PKKPbc	Z 04:33:51.3							
	e LQ	T 04:39:16.7							
	e P'P'df	Z 04:41:53.3							
	e LR	Z 04:42:44.4							

	e L	Z	04:57:04.0			18.0	242278		7.6
BSEG	e P	Z	04:15:25.2	83.0	58.3	2.7	1842	6.8	
	e L	Z	04:55:18.7			21.2	267626		7.6
GEC2	e P	Z	04:15:29.4	83.8	60.4	2.6	1178	6.6	
MOX	e P	Z	04:15:30.3	84.0	59.0	2.4	1566	6.8	
	e L	Z	04:57:34.3			20.0	173301		7.4
CLZ	e P	Z	04:15:30.8	84.1	58.2	2.5	3161	7.1	
	e L	Z	04:56:27.9			20.4	286011		7.6
WET	e P	Z	04:15:30.9	84.1	59.8	2.4	1669	6.8	
	e SKS	N	04:25:50.0						
	e L	Z	04:57:04.3			21.6	192568		7.4
GRA1	e P	Z	04:15:34.6	84.7	58.6	2.4	3542	7.1	
	e (pP)	Z	04:15:46.9						
	e		04:15:59.3						
	e		04:16:10.9						
	e		04:16:36.6						
	e		04:16:57.3						
	e PP	Z	04:19:01.4						
	e PKKP	Z	04:33:42.7						
	e PKPPKP	Z	04:41:50.2						
	e L	Z	04:57:51.8			20.1	167738		7.4
IBBN	e P	Z	04:15:36.4	85.2	56.2	2.5	4226	7.1	
FUR	e P	Z	04:15:38.1	85.5	58.6	2.3	5106	7.2	
	e L	Z	04:58:18.9			18.1	177861		7.5
BUG	e P	Z	04:15:39.7	85.9	55.8	2.7	2809	6.9	
	e L	Z	04:57:01.2			20.4	291918		7.7
TNS	e P	Z	04:15:40.2	85.9	56.6	2.6	2321	6.9	
	e L	Z	04:57:37.8			20.4	211218		7.5
STU	e P	Z	04:15:41.8	86.3	57.1	0.4	56	6.0	
	e L	Z	04:59:06.6			19.3	246312		7.6
BFO	e P	Z	04:15:45.1	87.1	56.4	2.3	1575	6.9	
WLF	e P	Z	04:15:48.0	87.5	54.9	2.7	2281	7.0	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/18	04:57:45.8	23.943N	122.832E	10	4.9			NEIC

Taiwan region

GRA1 e P Z 05:10:23.0

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/18	05:13:37.7	24.230N	124.600E	46.9	5.2			SZGRF
2001/12/18	05:13:33.7	24.024N	123.030E	10G	5.2			NEIC

Southwestern Ryukyu Islands, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i P	- Z 05:26:10.6	84.8	58.4			5.2		
	e (pP)	Z 05:26:24.2							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/18	10:27:20.1			N				SZGRF
2001/12/18	10:26:45.1	33.994N	24.428E	10G	4.1			NEIC

Dodecanese Islands, Greece

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 10:31:07.0	18.5	143.3					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/18	12:07:54.2	23.798N	142.742E	33N	5.0	4.9		NEIC

Volcano Islands, Japan, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 12:21:16.3	94.9	43.4					
	e pP	Z 12:21:27.2							
	e L	Z 13:07:41.3			20.2	203		4.6	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/18								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 12:36:07.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/18	21:47:32.4	61.680N	39.640W	33.0N	4.7	4.0		SZGRF
2001/12/18	21:48:08.5	59.316N	30.339W	10G	4.6	3.9		NEIC

North Atlantic Ocean

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 21:53:39.5	25.5	308.1			4.7		
	e L	Z 22:03:10.4			19.6	377		4.0	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/18	22:42:52.2			N				SZGRF

./2001/bul0112.txt

Thu Apr 23 08:38:25 2020

28

2001/12/18 22:41:15.9 23.831N 122.968E 10G 4.8 NEIC  
Southeastern China

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 22:53:59.8	84.9	58.5					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/19	02:54:12.9			N	4.8			SZGRF

Off east coast of Honshu, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 03:06:49.1					4.8		
ALIGN		03:06:49.1			1.0	9			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/19	10:26:24.0	20.870N	93.340W	190.7	5.3			SZGRF
2001/12/19	10:26:06.5	17.492N	93.764W	190D	4.9			NEIC

Bay of Campeche

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 10:38:28.5	86.0	292.5			5.3		
	e pP	Z 10:39:15.1							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/19								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e (PKP)	Z 18:49:00.6							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/19	22:18:44.0	49.820N	18.330E	1.0G			3.5	SZGRF
2001/12/19	22:18:42.5	49.785N	18.485E	5G				NEIC

Czech and Slovak Republics

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e Pn	Z 22:19:32.0	3.1	108.8					3.3
	e Sg	N 22:20:19.1							
GEC2	e Pn	Z 22:19:35.8	3.3	71.4					3.4
	e Sg	E 22:20:24.7							
WET	e Pn	Z 22:19:40.3	3.7	77.9					3.5
	e Sg	N 22:20:38.8							

./2001/bul0112.txt

Thu Apr 23 08:38:25 2020

29

CLL	e Pn	Z	22:19:42.6	3.8	111.5							3.5
	e Sg	N	22:20:41.8									
MOX	e Pn	Z	22:19:51.3	4.5	98.4							3.4
	e Sg	N	22:21:04.1									
GRA1	e Sg	E	22:21:09.6	4.7	86.1							3.8
BFO	e Sg	N	22:22:18.7	6.8	73.9							3.9

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/20								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 00:45:06.2							
	e L	Z 01:27:21.5			19.3	115		3.5	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/20	01:54:42.7	44.390N	12.410E	10.0G			3.3	SZGRF
2001/12/20	01:54:08.7	41.945N	13.038E	10G				NEIC

Northern Italy

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e Pn	Z 01:55:50.9	6.9	184.1					3.2
	e Sg	E 01:57:07.5							
BFO	e Pn	Z 01:55:55.4	7.2	150.8					3.3
	e Sg	N 01:57:16.7							
WET	e Pn	Z 01:55:54.4	7.2	179.1					3.3
	e Sg	E 01:57:13.6							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/20								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 03:02:26.0					4.9		
ALIGN		03:02:26.0			1.0	7			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/20	11:13:58.0	54.970N	162.630W	33.0N	6.2	4.8		SZGRF
2001/12/20	11:13:52.6	54.415N	162.572W	56	5.4	5.2		NEIC

Alaska Peninsula, United States

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i P	+ Z 11:25:27.7			1.1	135	5.9		

e S	Z	11:34:56.5									
e SS	Z	11:39:57.2									
e LQ	T	11:46:51.3									
e LR	Z	11:49:47.0									
e L	Z	11:53:50.2				22.0	845		5.0		
GRA1	i P	+ Z 11:25:37.7	75.8	356.3				6.2			
e L	Z	12:06:58.0				20.0	516		4.8		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/20	15:54:34.7	49.400N	156.050E	33.0N	5.6	4.7		SZGRF
2001/12/20	15:54:30.1	49.382N	156.109E	33N	4.7			NEIC

Kuril Islands, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i P	+ Z 16:06:21.4	76.4	22.7			5.6		
e L	Z	16:45:55.0			18.2	313		4.7	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/20	16:17:02.0	22.578S	179.628W	600G	4.4			NEIC

Tonga Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i PKPbc	Z 16:35:44.9			0.8	6			
	i PKPab	Z 16:35:52.3							
	e pPKPbc	Z 16:37:58.8							
GRA1	e PKPab	Z 16:36:00.7	151.6	21.4					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/20	21:22:27.0	51.240N	159.830W	33.0N	4.2			SZGRF

South of Alaska

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 21:34:26.8	78.8	354.3			4.2		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/21								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 02:12:13.8							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/21	10:38:29.8	6.306S	154.387E	60D	5.4	5.1		NEIC

Bougainville - Solomon Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 10:57:28.4	126.8	48.1					
	e L	Z 11:56:44.9			20.1	121		4.6	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/21								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 14:29:35.2					4.2		
BEAM		14:29:35.2			2.2	46			
GRA1	e S	Z 14:32:58.9							
	e L	Z 14:38:38.8			14.7	452		3.9	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/21	20:51:52.4	8.166N	70.964W	33N	5.6	5.1		NEIC

Venezuela

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 21:03:53.4	78.7	269.4			4.7		
	e S	Z 21:13:56.8							
	e L	Z 21:36:11.7			21.3	440		4.8	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/22	00:39:59.6	10.815S	165.869E	33N	5.5	5.4		NEIC

Santa Cruz Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i PKPdf	Z 00:59:15.9			0.9	26			
	e pPKPdf	Z 00:59:34.8							
	e PP	Z 01:01:50.6							
	e PPP	Z 01:04:31.7							
	e SP	Z 01:11:50.5							
	e PPS	Z 01:13:43.7							
	e LQ	T 01:37:33.2							
	e LR	Z 01:43:13.6							
	e L	Z 01:57:08.0			20.0	1626		5.7	
GRA1	e PKPdf	Z 00:59:19.5	135.8	37.1					
	e pPKPdf	Z 00:59:40.2							

e PP	Z	01:01:59.4									
e L	Z	02:00:21.6			21.7		880			5.5	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source			
2001/12/22											
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML	
	GRA1	e P	Z 08:18:49.8	15.0	288.2						
		e L	Z 08:27:21.0			21.1	116				

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source			
2001/12/22											
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML	
	GRA1	e (P)	Z 17:53:14.9								

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source			
2001/12/22	21:40:53.2	28.210N	120.950E	33.0N	4.4	4.5		SZGRF			
2001/12/22	21:40:26.6	24.110N	122.868E	10G	5.6	4.8		NEIC			
Southeastern China											
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML	
	GRA1	e P	Z 21:53:01.5	84.6	58.4			4.4			
		e L	Z 22:28:56.9			20.1	243		4.5		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source			
2001/12/23											
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML	
	BFO	e Pn	Z 01:32:59.0								
		e Sg	E 01:33:58.5								
	GEC2	e Pn	Z 01:32:57.4								
		e Sg	N 01:33:57.9								
	WET	e Pn	Z 01:32:59.6								
		e Sg	E 01:34:02.1								

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source			
2001/12/23	09:32:32.3	15.120S	69.770W	30.8	5.2	5.0		SZGRF			
2001/12/23	09:32:14.3	16.580S	73.744W	33N	5.2	5.0		NEIC			



Peru-Bolivia border region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 09:45:55.8	99.4	255.4			5.2		
	e pP	Z 09:46:04.9							
	e L	Z 10:34:46.5			19.0	541		5.0	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/23	10:21:28.2	27.886N	141.740E	35D	5.7	5.6		NEIC

Bonin Islands, Japan, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i P	+ Z 10:34:21.4			1.3	144	6.1		
	e pP	Z 10:34:32.7							
	e PP	Z 10:37:51.6							
	e S	T 10:45:09.5							
	e PS	E 10:46:07.5							
	e SS	T 10:51:01.3							
	e LQ	T 11:01:19.4							
	e LR	Z 11:04:37.9							
	e L	Z 11:18:18.5			18.0	2704		5.7	
GRA1	i P	+ Z 10:34:31.4	90.8	42.2			6.2		
	e pP	Z 10:34:43.2							
	e	10:37:37.9							
	e	10:37:51.1							
	e PP	Z 10:38:10.0							
	e (pPP)	Z 10:38:30.2							
	e (SKS)	Z 10:44:13.4							
	e L	Z 11:19:16.4			19.1	1474		5.4	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/23	11:58:20.7	50.730N	166.290W	33.0N	4.3			SZGRF

South of Aleutian Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 12:10:24.7	79.6	358.4			4.3		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/23	12:32:30.7	34.750N	45.370E	22.5	4.4			SZGRF

Iran-Iraq border region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 12:38:29.3	29.0	108.0			4.4		

e pP Z 12:38:35.1

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/23	15:50:10.3							SZGRF
Chihuahua, Mexico								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 16:02:34.2							
BEAM		16:02:34.2			2.0	22			
GRA1	e pP	Z 16:03:07.1							
	e (sP)	Z 16:03:19.3							
	e PP	Z 16:05:56.0							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/23	22:52:56.9	9.651S	159.529E	33N	6.3	7.0		NEIC
Bougainville - Solomon Islands region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e Pdiff	Z 23:08:53.6							
	i PKPdf	Z 23:12:04.8			1.9	160			
	i	23:12:37.1							
	e PP	Z 23:14:21.6							
	e PKS	Z 23:15:28.2							
	e SKSac	R 23:19:08.7							
	e SKKSac	R 23:21:25.9							
	e Sdiff	T 23:22:27.4							
	e PS	Z 23:24:23.3							
	e PPS	Z 23:26:12.1							
	e SS	T 23:31:44.2							
	e SKSSKSac	N 23:34:06.4							
	e SSS	E 23:36:21.3							
	e LQ	T 23:50:32.5							
	e LR	Z 23:55:18.8							
	e L	Z 00:10:45.6			20.0	47328		7.2	
GRA1	e PKPdf	+ Z 23:12:08.9	132.1	44.3					
	e PP	Z 23:14:37.1							
	e	23:15:14.8							
	e	23:15:35.1							
	e L	Z 00:12:19.3			20.2	29783		7.0	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/23	23:34:34.3	36.350N	44.310E	21.8	4.8			SZGRF
2001/12/23	23:33:38.4	31.709N	49.282E	33N	5.0			NEIC

Iran-Iraq border region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 23:40:17.8	33.5	108.0			4.8		
	e pP	Z 23:40:23.4							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/24	00:24:23.0	33.230N	47.400E	33.0N	4.3			SZGRF

Western Iran

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 00:30:40.3	31.3	108.0			4.3		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/24								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e (PKPab)	Z 05:41:32.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/24								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 06:00:36.8							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/24								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 06:11:38.5							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/24								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 20:58:50.0							
	e L	Z 21:05:08.8			15.1	211			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/24								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 21:17:58.8							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/25	04:22:55.8	30.636S	178.180W	58D	5.5			NEIC
Kermadec Islands, New Zealand								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i PKPdf	Z 04:42:45.9			1.5	24			
	i PKPbc	Z 04:42:57.5			1.0	21			
	i PKPab	Z 04:43:18.2			1.0	30			
	e	04:43:21.9							
GRA1	e PKPdf	Z 04:42:48.4	159.7	23.9					
	e PKPab	Z 04:43:26.9							
	e L	Z 05:42:10.5			18.2	183		5.0	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/25	07:22:05.9	19.990S	169.089E	33N				NEIC
Vanuatu Islands								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i PKPab	+ Z 07:41:44.7	145.5	38.7					
	e (pPKPab)	Z 07:41:58.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/25	23:00:46.4	30.303S	177.906W	57D	5.2			NEIC
Kermadec Islands, New Zealand								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKPdf	Z 23:20:35.1							
	e PKPbc	Z 23:20:50.7							
	e PKPab	Z 23:21:07.3			0.9	44			
	e PP	Z 23:24:46.0							
	e PPP	Z 23:28:26.8							
	e PPS	Z 23:38:01.5							
	e LR	Z 00:16:06.7							
	e L	Z 00:30:26.2			22.0	1305		5.7	
GRA1	e PKPdf	Z 23:20:37.1	159.4	22.9					
	e PKPab	Z 23:21:16.0							

e (pPKPab)	Z	23:21:24.7									
e PP	Z	23:24:55.9									
e L	Z	00:27:16.5			21.1		695			5.5	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/26								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 00:41:53.7							
	e PKPab	Z 00:42:09.2							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/26	01:22:48.7	42.660N	27.540W	22.6	5.0	4.3		SZGRF
2001/12/26	01:22:25.2	40.646N	29.387W	10G	5.0	4.7		NEIC

Azores Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 01:28:33.1	29.6	267.9			5.0		
	e pP	Z 01:28:38.9							
	e	01:28:46.2							
	e L	Z 01:38:36.2			19.6	788		4.3	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/26	01:38: 3.2	40.550N	32.970W	18.0	4.5	4.1		SZGRF
2001/12/26	01:38:20.4	40.606N	29.409W	10G	4.6	4.2		NEIC

Azores Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 01:44:28.6	29.7	267.9			4.5		
	e pP	Z 01:44:33.3							
	e L	Z 01:55:00.6			18.7	417		4.1	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/26								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPab	Z 03:56:03.6							
	e (pPKPab)	Z 03:56:13.5							

./2001/bul0112.txt

Thu Apr 23 08:38:25 2020

38

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/26	07:07:27.8	51.047N	178.461E	33N	4.6			NEIC

South of Aleutian Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 07:19:34.2	78.7	8.1			4.6		
	e (pP)	Z 07:19:49.9							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/27								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e (PKPab)	Z 01:29:04.2							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/27	10:54:51.5	14.683S	167.235E	153D	5.6	5.5		NEIC

Vanuatu Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e (PKPbc)	Z 11:13:51.0							
	e PKPdf	Z 11:14:01.4			1.2	204			
	e pPKPdf	Z 11:14:34.2							
	e PP	Z 11:16:52.2							
	e SKPbc	Z 11:17:22.4							
	e pPP	Z 11:17:26.0							
	e (SSS)	T 11:39:26.0							
	e LR	Z 11:59:32.2							
	e L	Z 12:17:37.7			20.0	820		5.5	
GRA1	e PKPdf	Z 11:13:57.4	139.9	37.6					
	e pPKPdf	Z 11:14:37.4							
	e PP	Z 11:16:53.7							
	e pPP	Z 11:17:28.5							
	e SKKS	Z 11:29:49.0							
	e SS	Z 11:35:12.1							
	e L	Z 12:12:49.0			21.8	444		5.2	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/27								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i PKPbc	- Z 23:48:08.9			0.9	28			
	i PKPab	Z 23:48:20.1			1.0	19			
	e	Z 23:48:35.3							

	e pPKPbc	Z	23:50:10.0
GRA1	e PKPdf	Z	23:48:29.3

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/28	00:41:35.7	24.460N	128.740E	84.8	5.4	4.8		SZGRF
2001/12/28	00:41:44.4	24.142N	122.779E	52*	5.0	4.9		NEIC

Southeast of Ryukyu Islands, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 00:54:13.9	84.5	58.5			5.4		
	e (pP)	Z 00:54:36.6							
	e L	Z 01:35:41.8			19.4	364		4.8	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/28								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPab	Z 11:59:32.7							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/28	21:42: 8.3			N		4.9		SZGRF

Windward Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 21:53:18.9							
	e L	Z 22:38:30.2			26.3	890		4.9	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/28	22:09:27.6	8.357S	74.178W	162D	5.4			NEIC

Peru-Brazil border region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	+ Z 22:22:26.5	93.4	261.1			6.2		
	e	22:23:45.8							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/28	23:55:19.7	16.241S	173.807W	33N	4.7			NEIC

Tonga Islands

./2001/bul0112.txt

Thu Apr 23 08:38:25 2020

40

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i PKPdf	- Z 00:14:59.2	146.3	8.7					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/29	00:09:38.7	17.738S	178.819W	563D	5.3			NEIC

Fiji Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i PKPbc	+ Z 00:28:14.8			0.8	155			
	e pPKPbc	Z 00:30:28.3							
GRA1	e PKPdf	Z 00:28:17.6	147.0	17.8					
	i PKPbc	+ Z 00:28:20.7							
	e PKPab	Z 00:28:23.9							
	e pPKPbc	Z 00:30:36.1							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/29								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e (P)	Z 07:34:55.8							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/29	14:32:21.8	6.081S	102.694E	33N	5.6	5.7		NEIC

Southwest of Sumatera, Indonesia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 14:45:46.7	95.6	92.8			5.5		
	e PP	Z 14:49:34.0							
	e L	Z 15:38:40.7			19.1	1532		5.5	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/29								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e (PKP)	Z 21:16:46.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/29								



./2001/bul0112.txt

Thu Apr 23 08:38:25 2020

41

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 23:16:36.1							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/30	04:06:28.0	34.779N	27.375E	33N	5.0			NEIC

Eastern Mediterranean Sea

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 04:10:48.6	19.0	135.5			4.3		
	e (S)	Z 04:13:49.8							
	e L	Z 04:18:23.8			33.0	247		3.3	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/30	12:01:38.8			N	4.8			SZGRF
2001/12/30	12:01:09.3	24.015N	126.904E	38D	5.0	4.4		NEIC

Near coast of southeastern China

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i P	+ Z 12:13:43.6			0.9	18	5.3		
	e pP	Z 12:13:54.8							
	e PP	Z 12:16:48.0							
	e SS	T 12:29:40.1							
	e LR	Z 12:42:25.6							
	e L	Z 12:56:42.4			18.0	579		5.0	
GRA1	e P	Z 12:13:54.0	86.9	55.5			4.8		
	e L	Z 12:50:24.6			18.6	147			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/30	14:21:59.3	41.310N	25.490W	33.0N	4.9	3.8		SZGRF
2001/12/30	14:19:54.8	36.167N	34.107W	10G	4.4			NEIC

Azores Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 14:27:36.4	35.2	264.9			4.9		
	e L	Z 14:39:17.6			21.2	255		3.8	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/30								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 20:23:30.4							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/31	05:55:34.4			N	4.8			SZGRF
2001/12/31	05:55:25.7	4.641N	94.432E	33N	4.8			NEIC

Nicobar Islands, India, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 06:07:45.9	82.1	92.2			4.8		
	e (pP)	Z 06:07:52.6							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/31	15:30:10.5	45.030N	15.120E	10.0G			4.4	SZGRF
2001/12/31	15:30:08.2	44.926N	15.158E	10G				NEIC

Northwestern Balkan Peninsula

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e Pn	Z 15:31:11.8	4.0	165.2					4.1
	e Sn	E 15:31:56.9							
FUR	e Pn	Z 15:31:13.5	4.2	139.1					4.7
	e Pg	Z 15:31:26.4							
WET	e Pn	Z 15:31:17.3	4.5	158.9					4.0
	e Sn	E 15:32:07.6							
GRA1	e Pn	Z 15:31:31.4	5.5	149.3					4.6
	e Sn	E 15:32:27.3							
STU	e Pn	Z 15:31:31.8	5.6	131.1					4.7
	e Sn	N 15:32:32.2							
	e Sg	E 15:33:07.5							
BFO	e Pn	Z 15:31:34.2	5.8	123.5					4.4
	e Sn	E 15:32:33.8							
	e Sg	E 15:33:16.3							
BRG	e Pn	Z 15:31:38.0	6.0	171.7					
	e Sn	N 15:32:42.5							
MOX	e Pn	Z 15:31:40.0	6.2	156.1					4.3
	e Sn	N 15:32:47.6							
CLL	e Pn	Z 15:31:45.2	6.5	166.5					4.5
	e Sn	N 15:32:54.2							
TNS	e Pn	Z 15:31:50.4	7.0	137.0					4.6
	e Sn	E 15:33:04.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/31	19:08:33.1	37.780N	32.150W	19.8		3.9		SZGRF
2001/12/31	19:08:09.0	36.132N	34.139W	10G	4.7			NEIC

Azores Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 19:15:07.0	35.2	264.9					
	e (pP)	Z 19:15:12.1							
	e L	Z 19:26:48.8			20.3	244		3.9	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2001/12/31	19:14:25.3			N	5.0	4.7		SZGRF
2001/12/31	19:14:09.9	17.389S	72.470W	31D	5.1	5.0		NEIC

Central Bolivia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 19:27:52.5	99.2	253.9			5.0		
	e L	Z 20:10:04.5			19.1	246		4.7	

## Format description

=====

(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 comprehensively at CLL-station and included in the bulletin (ISOP-analyses).

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