

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

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

OCTOBER 2000

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				
2000/10/01												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GRA1	e PKP	Z 00:18:46.3									
2000/10/01	02:37:59.4	17.032S	173.933W	33N	4.7			NEIC				
Tonga Islands												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GRA1	e PKP	Z 02:57:41.3	147.1	9.1							
2000/10/01	12:38:56.0	16.094S	172.766W	33N	4.9	5.0		NEIC				
Samoa Islands region												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GRA1	e PKP	Z 12:58:34.3	146.2	6.9							
2000/10/01	15:05:26.6	69.100N	16.260W	33.0N	5.0	3.7		SZGRF				
2000/10/01	15:05:24.5	68.885N	16.497W	10G	4.8	4.0		NEIC				
Jan Mayen Island region												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GRA1	e P	Z 15:10:33.9	23.4	335.1	1.6	81	5.0				

e L Z 15:18:54.9 21.6 316 3.7

Date Origin Time Lat Long Depth mb Ms ML Source  
 2000/10/01 19:11:23.4 N SZGRF  
 Myanmar-China border region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PP	Z 19:22:18.3							
	e SKKSac	E 19:29:18.6							
	e Sdiff	N 19:29:54.9							
	e PPS	E 19:32:49.0							
	e SS	E 19:37:39.0							
	e SSS	N 19:41:50.1							
	e L	Z 20:10:53.1			22.0	914		5.3	
GRA1	e (P)	Z 19:22:25.4							

Date Origin Time Lat Long Depth mb Ms ML Source  
 2000/10/02 02:25:38.2 6.400S 32.260E 33.0N 6.4 6.1 SZGRF  
 2000/10/02 02:25:27.5 7.999S 30.518E 10G 6.1 6.7 NEIC  
 Tanzania

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
FUR	i P	Z 02:35:25.3	58.7	157.5	1.5	1003	6.6		
WET	i P	Z 02:35:28.6	59.2	159.6	1.5	535	6.4		
BFO	i P	Z 02:35:31.7	59.6	154.3					
STU	i P	Z 02:35:33.2	59.8	155.4					
GRA1	i P	Z 02:35:35.1	60.1	157.8	1.8	1683	6.8		
	e PP	Z 02:37:50.7							
	e S	N 02:43:42.7							
	e L	Z 03:05:07.5			19.5	15433		6.1	
BRG	i P	Z 02:35:37.8	60.6	161.1	1.6	369	6.2		
MOX	i P	Z 02:35:40.4	60.9	158.5	1.4	502	6.3		
CLL	i P	Z 02:35:42.1	61.2	160.1	1.5	395	6.2		
TNS	i P	Z 02:35:43.5	61.3	154.9	1.4	533	6.4		
WLF	i P	Z 02:35:44.9	61.5	152.3					
RUE	i P	Z 02:35:48.5	62.1	161.2	1.5	837	6.3		
CLZ	i P	Z 02:35:49.9	62.3	157.3	1.7	708	6.2		
BUG	i P	Z 02:35:53.4	62.7	153.9	1.3	511	6.2		
IBBN	i P	Z 02:35:57.9	63.4	154.6					
BSEG	i P	Z 02:36:03.1	64.2	157.7	1.3	670	6.6		

Date Origin Time Lat Long Depth mb Ms ML Source

./2000/bul0010.txt

Thu Apr 23 08:38:25 2020

3

2000/10/02 04:01:51.2 17.377S 173.708W 33N 4.7 NEIC  
Tonga Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 04:21:34.2	147.4	8.8					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/02	05:21:40.1	28.390N	128.790E	33.0N	5.4			SZGRF
2000/10/02	05:21:42.9	29.415N	129.476E	55*	5.0			NEIC

Ryukyu Islands, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 05:34:09.1	83.8	50.5	1.3	37	5.4		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/02	05:41:24.7	33.860N	81.450E	33.0N	4.8			SZGRF

Xizang

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 05:50:36.0	52.7	79.4			4.8		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/02	07:29:40.0	29.470N	131.390E	33.0N	5.8			SZGRF
2000/10/02	07:29:43.2	29.450N	129.423E	33N	5.5	4.7		NEIC

Southeast of Ryukyu Islands, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e P	Z 07:41:55.4	80.8	52.7					
BSEG	e P	Z 07:41:59.2	81.5	50.3					
CLL	e P	Z 07:42:01.0	81.9	52.0	1.3	54	5.6		
CLZ	e P	Z 07:42:06.2	82.8	50.1	1.5	144	6.0		
MOX	e P	Z 07:42:06.9	83.0	50.9	1.7	89	5.7		
WET	e P	Z 07:42:09.0	83.3	51.7	1.8	72	5.6		
IBBN	e P	Z 07:42:09.9	83.7	48.2	1.9	305	6.2		
GRA1	e P	Z 07:42:11.1	83.8	50.5	1.4	129	6.0		
	e PP	Z 07:45:27.0							
BUG	e P	Z 07:42:14.5	84.5	47.8	1.4	100	5.8		
FUR	e P	Z 07:42:15.7	84.7	50.5	1.7	230	6.0		
TNS	e P	Z 07:42:16.4	84.8	48.6					
STU	e P	Z 07:42:18.4	85.4	49.0					
WLF	e P	Z 07:42:23.4	86.2	46.9	1.5	83	5.6		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/02	07:44:12.0	29.180N	129.550E	33.0N	5.9	5.7		SZGRF
2000/10/02	07:44:10.7	29.545N	129.372E	33N	5.6	5.2		NEIC

Ryukyu Islands, Japan

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e P	Z	07:56:23.5	80.7	52.7	1.5	128	5.7		
BSEG	e P	Z	07:56:27.4	81.4	50.3	1.8	109	5.7		
BRG	e P	Z	07:56:27.7	81.6	52.6	1.5	45	5.4		
CLL	e P	Z	07:56:28.4	81.8	52.0	2.0	209	5.9		
CLZ	e P	Z	07:56:34.4	82.7	50.1	1.4	229	6.2		
MOX	e P	Z	07:56:34.8	82.9	50.9	1.5	117	5.9		
WET	e P	Z	07:56:36.3	83.2	51.6	1.8	104	5.8		
IBBN	e P	Z	07:56:38.4	83.6	48.2	1.3	207	6.2		
GRA1	e P	Z	07:56:39.7	83.7	50.5	2.1	545	6.4		
	e PP	Z	07:59:58.0							
	e L	Z	08:36:53.2			19.4	3428		5.7	
BUG	e P	Z	07:56:42.5	84.4	47.8	1.4	128	6.0		
FUR	e P	Z	07:56:43.9	84.6	50.4	1.6	323	6.3		
TNS	e P	Z	07:56:44.2	84.7	48.6	1.6	128	5.9		
STU	e P	Z	07:56:46.7	85.3	49.0	1.5	90	5.7		
BFO	e P	Z	07:56:50.2	86.0	48.3	1.8	88	5.6		
WLF	e P	Z	07:56:51.6	86.1	46.8	1.5	107	5.8		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/03	01:12:35.7	44.300N	10.530E	10.0G			4.3	SZGRF
2000/10/03	01:12:34.3	44.274N	10.826E	10G				NEIC

Northern Italy

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
FUR	e Pn	Z	01:13:36.2	3.9	184.7					4.7
	e Sn	E	01:14:22.0							
BFO	e Pn	Z	01:13:41.7	4.4	156.1					4.1
	e Sn	N	01:14:29.9							
STU	e Pn	Z	01:13:45.7	4.6	165.4					4.2
	e Sn	N	01:14:35.2							
GEC2	e Sn	E	01:14:47.3	5.0	204.4					4.1
WET	e Pn	Z	01:13:51.7	5.1	196.9					4.3
	e Sn	E	01:14:48.8							
GRA1	e Pn	Z	01:13:54.9	5.4	183.0					
TNS	e Pn	Z	01:14:05.9	6.2	163.9					
WLF	e Pn	Z	01:14:04.8	6.3	147.7					
MOX	e Pn	Z	01:14:07.7	6.4	185.1					4.2
	e Sn	E	01:15:19.2							
BRG	e Pn	Z	01:14:16.7	6.9	198.8					
CLL	e Pn	Z	01:14:20.3	7.2	192.6					

CLZ e Pn Z 01:14:24.5 7.6 177.5

Date Origin Time Lat Long Depth mb Ms ML Source  
 2000/10/03 01:44: 5.3 N SZGRF  
 Queen Elizabeth Islands, Canada

Sta Phase Time Dist BAz T[s] A[nm] mb MS ML  
 GRA1 e P Z 01:51:36.6

Date Origin Time Lat Long Depth mb Ms ML Source  
 2000/10/03 02:39:21.1 12.170S 64.750E 26.4 5.1 SZGRF  
 Mid-Indian Ridge

Sta Phase Time Dist BAz T[s] A[nm] mb MS ML  
 GRA1 e P Z 02:51:14.3 77.6 126.4 1.3 20 5.1  
 e pP Z 02:51:21.8

Date Origin Time Lat Long Depth mb Ms ML Source  
 2000/10/03 02:47: 1.9 7.760S 67.380E 33.0N 5.4 SZGRF  
 2000/10/03 02:46:58.6 7.195S 67.975E 10G 5.3 4.9 NEIC  
 Mid-Indian Ridge

Sta Phase Time Dist BAz T[s] A[nm] mb MS ML  
 WET e P Z 02:58:33.7 73.9 122.1 1.7 21 4.9  
 BRG e P Z 02:58:37.8 74.3 123.5 1.7 47 5.2  
 FUR e P Z 02:58:37.6 74.3 120.5 1.5 136 5.7  
 CLL e P Z 02:58:42.1 75.0 122.8 1.6 50 5.3  
 GRA1 e P Z 02:58:42.1 75.1 120.9 1.8 106 5.6  
 RUE e P Z 02:58:43.4 75.3 123.7 1.6 84 5.5  
 MOX e P Z 02:58:45.0 75.4 121.4 1.9 68 5.3  
 STU e P Z 02:58:46.3 75.8 118.9 1.4 28 5.2  
 BFO e P Z 02:58:47.4 76.1 118.1 2.6 139 5.6  
 CLZ e P Z 02:58:51.2 76.7 120.6 1.9 85 5.6  
 TNS e P Z 02:58:52.8 77.0 118.6 1.7 46 5.3  
 BSEG e P Z 02:58:56.9 77.8 121.0 1.8 46 5.3

Date Origin Time Lat Long Depth mb Ms ML Source  
 2000/10/03 03:07:33.1 41.130N 83.920E 33.0N 5.3 SZGRF  
 2000/10/03 03:07:28.6 41.999N 84.889E 33N 5.2 4.3 NEIC  
 Southern Xinjiang, China

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RGN	e P	Z	03:16:01.1	47.1	74.4	0.8	84	5.9		
RUE	e P	Z	03:16:03.0	47.4	72.9	1.3	60	5.6		
BRG	e P	Z	03:16:05.8	47.8	71.6	1.2	24	5.2		
CLL	e P	Z	03:16:09.2	48.2	71.4	0.8	44	5.6		
BSEG	e P	Z	03:16:15.6	48.9	71.9	1.1	35	5.3		
WET	e P	Z	03:16:15.8	49.0	69.5	1.1	19	5.0		
MOX	e P	Z	03:16:17.3	49.2	70.0	1.1	22	5.1		
CLZ	e P	Z	03:16:19.7	49.6	70.2	0.9	16	4.9		
GRA1	i P	Z	03:16:22.4	49.8	69.0	0.9	55	5.5		
	e pP	Z	03:16:35.1							
FUR	e P	Z	03:16:26.2	50.3	67.9	0.9	61	5.5		
IBBN	e P	Z	03:16:30.0	50.9	69.0	0.7	36	5.4		
TNS	e P	Z	03:16:32.9	51.3	67.8	0.9	12	4.8		
STU	e P	Z	03:16:33.8	51.4	67.2	0.9	28	5.2		
BUG	e P	Z	03:16:35.0	51.5	68.1	0.9	20	5.0		
BFO	e P	Z	03:16:38.4	52.1	66.4	1.1	20	5.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/03	03:09:17.7	28.100N	131.770E	33.0N	5.0			SZGRF

Southeast of Ryukyu Islands, Japan

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z	03:21:55.3	86.0	49.6	1.5	20	5.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/03	04:13:34.8	40.680N	143.340E	33.0N	5.8	6.2		SZGRF
2000/10/03	04:13:29.9	40.290N	142.977E	33N	5.4	5.7		NEIC

Off east coast of Honshu, Japan

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RGN	e P	Z	04:25:16.3	75.9	37.3	1.3	231	6.1		
RUE	e P	Z	04:25:25.6	77.3	37.3	1.3	179	6.0		
BSEG	e P	Z	04:25:25.7	77.4	35.1	1.2	138	6.0		
BRG	e P	Z	04:25:32.3	78.6	37.2	1.3	63	5.5		
CLL	e P	Z	04:25:31.4	78.6	36.6	1.1	107	5.8		
	e pP	Z	04:25:36.0							
	e PP	Z	04:28:28.5							
	e PPP	Z	04:30:23.0							
	e S	E	04:35:28.3							
	e PS	Z	04:36:17.1							
	e L	Z	05:06:06.8			18.0	20781		6.5	
CLZ	e P	Z	04:25:34.4	79.1	34.9	1.4	172	5.9		
IBBN	e P	Z	04:25:37.6	79.6	33.1	1.3	160	5.8		

./2000/bul0010.txt

Thu Apr 23 08:38:25 2020

7

MOX	e P	Z	04:25:37.5	79.6	35.6	1.3	78	5.5
WET	e P	Z	04:25:41.7	80.3	36.3	1.3	107	5.6
BUG	e P	Z	04:25:42.1	80.5	32.7	1.4	113	5.7
GRA1	e P	Z	04:25:43.0	80.5	35.2	1.2	191	6.0
	e PP	Z	04:28:45.8					
	e S	E	04:35:52.2					
	e L	Z	05:04:51.1			19.3	10675	6.2
TNS	e P	Z	04:25:45.5	81.1	33.4	1.4	95	5.6
FUR	e P	Z	04:25:48.9	81.8	35.1	1.0	132	6.0
STU	e P	Z	04:25:49.6	82.0	33.8	1.0	94	5.9
WLF	e P	Z	04:25:53.0	82.4	31.8	1.9	85	5.5
BFO	e P	Z	04:25:53.8	82.7	33.2	1.6	151	6.0

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/03	05:30:16.5	51.170N	176.620W	33.0N				SZGRF
2000/10/03	05:30:17.9	51.511N	177.314W	53	5.1			NEIC

Andreanof Islands, Aleutian Islands, United States

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 05:42:17.1	78.5	5.4					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/03	18:04:22.8	10.790S	66.210E	30.8	5.5			SZGRF
2000/10/03	18:04:31.4	6.998S	67.857E	10G	4.9			NEIC

Mid-Indian Ridge

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 18:16:14.1	74.9	120.8	1.4	51	5.5		
	e pP	Z 18:16:22.6							
	e sP	Z 18:16:27.0							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/03	19:27:11.1	5.080S	70.830E	27.5	4.6			SZGRF

Chagago Archipelago region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 19:38:50.5	75.0	117.2			4.6		
	e pP	Z 19:38:57.3							
	e sP	Z 19:39:03.2							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
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WLF	e P	Z	14:48:31.7	67.9	260.8	1.2	60	5.7			
BUG	e P	Z	14:48:37.3	68.9	261.0	1.2	130	6.0			
IBBN	e P	Z	14:48:40.6	69.3	261.1	0.9	191	6.3			
TNS	e P	Z	14:48:41.2	69.4	262.5	0.9	83	6.0			
STU	e P	Z	14:48:42.8	69.7	263.6	0.6	74	6.1			
CLZ	e P	Z	14:48:50.0	70.8	263.4	1.1	98	5.8			
BSEG	e P	Z	14:48:51.8	71.1	262.7	1.3	110	5.8			
GRA1	e P	Z	14:48:52.0	71.1	264.8	1.4	76	5.6			
	e pP	Z	14:49:20.6								
	e S	N	14:57:59.6								
	e L	Z	15:20:21.6			19.8	1652			5.3	
WET	e P	Z	14:48:57.6	72.2	266.3	1.4	78	5.6			
CLL	e P	Z	14:48:59.7	72.4	265.7	1.1	72	5.7			
	e pP	Z	14:49:28.5								
	e sP	Z	14:49:40.9								
	e PP	Z	14:51:40.3								
	e pPP	Z	14:52:09.8								
	e S	N	14:58:10.5								
	e SP	Z	14:58:40.0								
	e sS	N	14:59:00.6								
	e SS	E	15:03:19.7								
	e LmV	Z	15:11:50.0								
	e L	Z	15:16:09.9			20.0	1850			5.3	
RGN	e P	Z	14:49:02.5	72.9	265.0	1.2	117	5.9			
BRG	e P	Z	14:49:02.9	73.0	266.6	1.0	68	5.7			
RUE	e P	Z	14:49:03.3	73.0	266.0	1.0	95	5.9			

Date  
2000/10/04

Origin Time

Lat

Long

Depth

mb

Ms

ML

Source

Sta  
GRA1

Phase  
e PKP

Time  
Z 15:16:43.1

Dist

BAz

T[s]

A[nm]

mb

MS

ML

Date  
2000/10/04  
Tonga Islands

Origin Time  
15:39:27.6

Lat  
17.775S

Long  
173.152W

Depth  
33N

mb  
5.1

Ms  
4.8

ML

Source  
NEIC

Sta  
GRA1

Phase  
e PKP

Time  
Z 15:59:09.3

Dist  
147.9

BAz  
7.9

T[s]

A[nm]

mb

MS

ML

Date  
2000/10/04

Origin Time  
16:58:45.6

Lat  
15.402S

Long  
166.863E

Depth  
33N

mb  
6.0

Ms  
6.9

ML

Source  
NEIC

Vanuatu Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML	
CLL	e PKPbc	Z 17:18:04.1								
	e PKPdf	Z 17:18:07.6			1.3	96				
	e PP	Z 17:20:59.9								
	i SKP	Z 17:21:54.0			1.3	92				
	e SKSac	N 17:25:12.3								
	e SKKSac	E 17:27:55.4								
	e PPS	Z 17:33:18.8								
	e SKKSdf	N 17:34:51.6								
	e SS	E 17:39:21.3								
	e PSPS	N 17:40:32.3								
	e L	Z 18:21:20.9			20.0	30812		7.0		
	GRA1	e PKP	Z 17:18:09.4	140.4	38.6					
		e PP	Z 17:21:13.3							
		e L	Z 18:23:26.2			21.4	38929		7.1	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/04								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 17:29:51.8							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/04	17:47:54.4	69.400N	15.370W	33.0N	4.6			SZGRF
Jan Mayen Island region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 17:53:01.5	23.5	336.7	1.2	25	4.6		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/04	20:48:24.5	15.594S	167.003E	10G	5.3	5.2		NEIC
Vanuatu Islands								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 21:07:59.6	140.6	38.5					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/05	13:39: 8.1	30.690N	41.490W	33.0N	5.5	5.7		SZGRF

./2000/bul0010.txt

Thu Apr 23 08:38:25 2020

11

2000/10/05 13:39:11.9 31.741N 40.975W 10G 5.4 6.1 NEIC  
Northern Mid-Atlantic Ridge

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i P	- Z 13:47:18.4			1.3	104	5.4		
	e PP	Z 13:49:08.0							
	e S	E 13:53:54.6							
	e SS	N 13:57:06.2							
	e L	Z 14:01:48.0			22.0	15019		5.9	
GRA1	e P	Z 13:47:08.1	42.4	265.1	1.1	102	5.5		
	e S	E 13:53:35.1							
	e L	Z 14:01:45.1			20.4	9113		5.7	

Date Origin Time Lat Long Depth mb Ms ML Source  
2000/10/05 13:50:31.0 N SZGRF  
Northern Mid-Atlantic Ridge

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 13:58:47.7							

Date Origin Time Lat Long Depth mb Ms ML Source  
2000/10/05

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 14:27:59.8							

Date Origin Time Lat Long Depth mb Ms ML Source  
2000/10/05

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 14:37:36.0							

Date Origin Time Lat Long Depth mb Ms ML Source  
2000/10/05 20:06:17.0 7.010N 124.100E 33.0N 5.7 5.7 SZGRF  
2000/10/05 20:06:07.7 6.739N 127.096E 33N 5.4 5.5 NEIC

Mindanao, Philippine Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RGN	e P	Z 20:19:42.2	97.9	66.6	1.2	28	5.7		
RUE	e P	Z 20:19:43.5	98.4	67.2	0.9	18	5.7		
BRG	e P	Z 20:19:45.7	98.9	67.6	1.4	41	5.9		

./2000/bul0010.txt

Thu Apr 23 08:38:25 2020

12

CLL	e P	Z	20:19:47.2	99.3	66.7						
WET	e P	Z	20:19:52.1	100.2	67.0	1.4	15	5.5			
MOX	e P	Z	20:19:52.4	100.4	65.7	1.5	15	5.5			
CLZ	e P	Z	20:19:53.6	100.6	64.5	1.5	32	5.8			
GRA1	e P	Z	20:19:54.5	101.0	65.5	2.2	76	6.0			
	e PP	Z	20:23:56.7								
	e L	Z	21:08:55.9			22.0	2462			5.7	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/05	21:31:19.7	34.850N	28.840E	33.0N	4.0			SZGRF

Eastern Mediterranean Sea

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 21:35:46.3	19.7	132.4	1.1	12	4.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/05	23:08:31.8	9.410S	26.000E	33.0N	5.0			SZGRF

Zaire

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i P	- Z 23:18:39.0	60.5	163.2	0.8	15	5.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/06	04:30:28.0	36.590N	133.810E	33.0N	5.9	7.3		SZGRF
2000/10/06	04:30:18.9	35.389N	133.119E	10G	5.9	6.7		NEIC

Sea of Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RGN	i P	Z 04:42:10.4	76.3	46.7	1.4	149	5.9		
RUE	i P	Z 04:42:17.3	77.5	46.7	1.3	211	6.1		
BSEG	i P	Z 04:42:20.5	78.0	44.5	1.1	99	5.8		
BRG	i P	Z 04:42:22.6	78.6	46.6	1.8	171	5.9		
CLL	i P	Z 04:42:23.2	78.7	46.0	1.4	185	6.0		
	e (PPPP)	Z 04:48:19.4							
	e S	E 04:52:22.3							
	e SS	N 04:57:32.2							
	e L	Z 05:19:25.3			18.0	111280			7.3
CLZ	i P	Z 04:42:26.6	79.5	44.2	1.2	151	5.9		
MOX	i P	Z 04:42:29.3	79.8	44.9	1.7	139	5.7		
IBBN	i P	Z 04:42:32.2	80.2	42.4	1.5	155	5.7		
WET	i P	Z 04:42:32.9	80.2	45.6	1.7	118	5.5		
GRA1	i P	Z 04:42:34.2	80.6	44.5	1.4	340	6.1		

	e PP	Z	04:45:34.7							
	e S	E	04:52:39.9							
	e SS	N	04:57:47.1							
	e L	Z	05:18:30.8			18.8	126910		7.3	
BUG	i P	Z	04:42:36.1	81.1	42.0	1.6	140		5.7	
FUR	i P	Z	04:42:40.9	81.7	44.4	1.5	171		5.9	
STU	i P	Z	04:42:43.0	82.2	43.1	1.8	193		5.9	
WLF	i P	Z	04:42:46.3	82.9	41.0	1.8	119		5.7	
BFO	i P	Z	04:42:45.7	82.9	42.4	1.2	122		6.0	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/06	12:05:58.4	24.820N	94.740E	33.0N	5.5	5.1		SZGRF
2000/10/06	12:05:40.2	24.331N	97.870E	33N	5.1	5.1		NEIC

Myanmar-India border region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RGN	e P	Z 12:16:35.7	67.3	79.5	0.8	66	5.9		
RUE	e P	Z 12:16:36.0	67.4	79.0	1.0	62	5.8		
BRG	e P	Z 12:16:36.7	67.6	78.4	0.9	16	5.3		
CLL	e P	Z 12:16:39.8	68.1	77.9	1.2	21	5.3		
WET	e P	Z 12:16:43.4	68.7	77.0	1.0	17	5.2		
MOX	e P	Z 12:16:46.4	69.1	76.7					
BSEG	e P	Z 12:16:47.3	69.1	76.9	1.1	48	5.6		
GRA1	e P	Z 12:16:50.0	69.6	76.1					
	e L	Z 12:48:36.6			21.0	1182		5.1	
CLZ	e P	Z 12:16:49.7	69.6	76.2	1.0	43	5.6		
FUR	e P	Z 12:16:51.6	69.9	75.5					
STU	e P	Z 12:16:58.8	71.1	74.3					
TNS	e P	Z 12:16:59.3	71.2	74.3	1.1	24	5.4		
WLF	e P	Z 12:17:09.6	72.8	72.5	1.2	60	5.6		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/06	14:44:18.2	14.260N	90.330W	33.0N	5.1	4.4		SZGRF
2000/10/06	14:44:16.7	14.217N	91.476W	68D	4.9			NEIC

Guatemala

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 14:56:57.8	87.2	288.8	1.3	23	5.1		
	e L	Z 15:31:28.7			18.4	157		4.4	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/06	20:55:27.7	26.550N	128.200E	33.0N	5.2	4.9		SZGRF
2000/10/06	20:55:19.2	25.108N	128.766E	33N	5.3	5.1		NEIC



Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 10:47:11.0							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/07	11:52:33.6			N				SZGRF
North Pacific Ocean								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 12:05:01.2			1.2	18			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/07	11:55:31.5	48.460N	143.440E	33.0N	5.2			SZGRF
2000/10/07	11:55:27.1	48.899N	142.293E	10G	5.1			NEIC
Sakhalin Island, Russia								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 12:07:01.8	72.8	31.2	1.2	30	5.2		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/07								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e Pdiff	Z 12:12:02.2							
	e PP	Z 12:16:26.3							
	e PPP	Z 12:18:46.6							
	e SKSac	E 12:22:41.2							
	e SKKSac	E 12:23:25.8							
	e Sdiff	N 12:24:02.1							
	e PS	Z 12:25:57.6							
	e PPS	Z 12:26:52.8							
	e SS	N 12:31:44.3							
	e L	Z 13:05:52.3			22.0	1905		5.6	
GRA1	e (PKP)	Z 12:16:21.8							
	e L	Z 13:07:32.7			21.4	2626			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/07	21:52: 1.9	7.650N	97.310E	33.0N	4.7			SZGRF
2000/10/07	21:52:24.3	10.014N	92.921E	33N	4.7			NEIC
Nicobar Islands, India, region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 22:04:17.1	77.0	89.8	1.0	6	4.7		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/08	03:37:28.7	17.840N	119.460E	33.0N	5.5	5.2		SZGRF
2000/10/08	03:36:35.1	9.797N	125.526E	33N	5.1	4.9		NEIC

Philippine Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 03:50:14.2	97.6	65.0	2.0	54	5.5		
	e L	Z 04:37:44.0			19.7	888		5.2	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/08	07:28:33.8	16.965S	174.054W	33N	5.0			NEIC

Tonga Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 07:48:17.6	147.0	9.3					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/08	11:51:14.9	34.500N	136.060E	33.0N	5.3	4.8		SZGRF
2000/10/08	11:51:17.9	35.370N	133.278E	10G	5.0	4.7		NEIC

Western Honshu, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 12:03:35.5	80.7	44.5	1.5	28	5.3		
	e L	Z 12:39:20.1			21.4	409		4.8	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/08	15:44:53.1	43.540N	16.050E	10.0G				SZGRF
2000/10/08	15:44:48.6	43.358N	16.130E	10G				NEIC

Northwestern Balkan Peninsula

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WET	e Pn	Z 15:46:21.0	6.2	157.6					
	e Sn	E 15:47:27.5							
GRA1	e Pn	Z 15:46:35.7	7.2	150.1					
	e Sn	E 15:47:51.1							
BFO	e Pn	Z 15:46:37.1	7.4	129.6					
	e Sn	E 15:47:56.8							



BRG	e Sn	N	15:48:03.7	7.7	168.0
MOX	e Pn	Z	15:46:44.3	7.9	155.4
	e Sn	N	15:48:08.0		
TNS	e Pn	Z	15:46:54.8	8.6	139.7
	e Sn	N	15:48:26.4		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/08	18:46:18.7			G				SZGRF
2000/10/08	18:46:02.7	43.060N	18.260E	10G				NEIC

Northwestern Balkan Peninsula

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WET	e Pn	Z 18:47:48.8	7.1	146.5					
GRA1	e Pn	Z 18:48:02.6	8.2	141.2					
BFO	e Pn	Z 18:48:10.0	8.7	123.6					
	e Sn	N 18:49:37.3							
MOX	e Pn	Z 18:48:11.4	8.8	146.6					
CLL	e Sn	E 18:49:37.3	9.0	154.6					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/08	20:12:31.3	0.680S	77.910W	33.0N	5.3			SZGRF
2000/10/08	20:12:32.4	0.400N	78.056W	33N	5.0	4.3		NEIC

Ecuador

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 20:25:27.6	89.2	269.7	1.4	25	5.3		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/08	21:44:47.1			G				SZGRF
2000/10/08	21:44:47.8	43.466N	17.694E	10G	4.2			NEIC

Adriatic Sea

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
FUR	e Pn	Z 21:46:27.9	6.5	134.1					
	e Sn	E 21:47:41.9							
WET	e Pn	Z 21:46:28.1	6.6	147.9					
	e Sn	N 21:47:48.6							
GRA1	e Pn	Z 21:46:41.3	7.6	142.1					
	e Sn	E 21:48:11.8							
BRG	e Pn	Z 21:46:44.1	7.8	159.6					
STU	e Pn	Z 21:46:45.1	7.9	128.9					
BFO	e Pn	Z 21:46:47.6	8.1	123.3					
	e Sn	E 21:48:17.3							

MOX	e Pn	Z	21:46:49.9	8.3	147.8
CLL	e Pn	Z	21:46:54.2	8.5	156.2
	e Sn	E	21:48:28.0		
TNS	e Pn	Z	21:47:05.6	9.2	133.4

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/08	22:38:45.6	46.530N	10.350E	10.0G			2.9	SZGRF
2000/10/08	22:38:46.3	46.623N	10.290E	10G				NEIC

Northern Italy

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
FUR	e Pn	Z 22:39:17.8	1.7	203.8					3.2
	e Sn	E 22:39:39.4							
BFO	e Pn	Z 22:39:23.5	2.2	141.5					2.6
	e Sn	E 22:39:50.7							
STU	e Sn	E 22:39:54.4	2.3	160.6					2.9
WET	e Pn	N 22:39:34.9	3.1	215.5					
	e Sn	E 22:40:12.5							2.9
GRA1	e Pn	Z 22:39:34.2	3.1	191.8					
	e Sn	E 22:40:13.9							
TNS	e Pn	Z 22:39:46.3	3.8	160.5					
MOX	e Pn	Z 22:39:48.2	4.1	192.8					
	e Sn	E 22:40:36.2							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/09	00:02:13.9	38.100N	19.620E	10.0G				SZGRF
2000/10/09	00:02:10.9	38.241N	20.393E	33N	4.2			NEIC

Ionian Sea

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
FUR	e Sn	E 00:07:06.7	11.9	143.0					
WET	e Pn	Z 00:05:03.8	12.2	150.8					
	e Sn	E 00:07:11.1							
GRA1	e Pn	Z 00:05:17.2	13.2	146.7					
	e Sn	E 00:07:34.9							
STU	e Sn	E 00:07:37.5	13.3	138.3					
BFO	e Pn	Z 00:05:18.7	13.3	134.7					
	e Sn	E 00:07:36.0							
MOX	e Pn	Z 00:05:27.0	13.9	150.0					
	e Sn	N 00:07:55.1							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/09	02:29:47.8	9.010N	95.860E	33.0N	5.5	5.3		SZGRF

./2000/bul0010.txt

Thu Apr 23 08:38:25 2020

19

2000/10/09 02:30:00.3 10.003N 92.932E 33N 5.4 5.6 NEIC  
Nicobar Islands, India, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 02:41:52.5	77.0	89.8	1.5	88	5.5		
	e S	N 02:51:40.8							
	e SS	E 02:57:03.1							
	e L	Z 03:21:59.0			19.5	1271		5.3	

Date Origin Time Lat Long Depth mb Ms ML Source  
2000/10/09 05:14:16.1 30.674S 178.141W 42D 5.0 4.7 NEIC  
Kermadec Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 05:34:08.0	159.7	23.8					
	e PKPab	Z 05:34:50.1							

Date Origin Time Lat Long Depth mb Ms ML Source  
2000/10/09 07:03:25.6 30.449N 98.065E 33N 4.8 4.6 SZGRF  
2000/10/09 07:03:38.5 NEIC  
Sichuan, China

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 07:14:21.5	65.3	71.3					

Date Origin Time Lat Long Depth mb Ms ML Source  
2000/10/09

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 14:32:47.2							

Date Origin Time Lat Long Depth mb Ms ML Source  
2000/10/09

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 22:02:38.7							

Date Origin Time Lat Long Depth mb Ms ML Source  
2000/10/10 05:23:02.6 6.185S 154.703E 33N 5.4 5.3 NEIC

Bougainville - Solomon Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRB1	e L	Z 06:41:37.6	126.8	48.3	19.0	361		5.1	
GRA1	e PKPdf	Z 05:42:02.6	126.8	47.6					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/10	23:55:52.4			N				SZGRF

Northern Sumatera, Indonesia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 00:08:30.0							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/11	04:13:35.7	20.568S	178.051W	490D	4.9			NEIC

Fiji Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 04:32:31.9	150.0	17.5					
	e pPKP	Z 04:34:26.5							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/11	09:41:59.5	22.870N	94.670E	33.0N	6.1			SZGRF
2000/10/11	09:42:07.1	23.855N	94.831E	96*	5.4			NEIC

Myanmar

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	i P	Z 09:52:45.9	66.0	81.6	1.2	246	6.3		
BRG	i P	Z 09:52:46.9	66.1	81.0	1.1	120	6.0		
GEC2	i P	Z 09:52:50.2	66.6	80.0	1.1	107	6.0		
CLL	i P	Z 09:52:49.7	66.6	80.5	1.0	88	5.9		
WET	i P	Z 09:52:53.2	67.1	79.5	1.1	96	5.9		
MOX	i P	Z 09:52:56.1	67.6	79.2	1.1	109	6.0		
BSEG	i P	Z 09:52:58.0	67.8	79.6	1.0	244	6.4		
GRA1	i P	Z 09:52:59.8	68.0	78.6	1.7	322	6.3		
CLZ	i P	Z 09:52:59.9	68.1	78.8	1.0	183	6.2		
FUR	i P	Z 09:53:00.7	68.3	78.0	1.1	153	6.1		
STU	i P	Z 09:53:08.4	69.5	76.8	1.0	199	6.2		
IBBN	i P	Z 09:53:08.8	69.6	77.0	1.1	150	6.0		
TNS	i P	Z 09:53:09.4	69.7	76.8	1.0	140	6.0		
BUG	i P	Z 09:53:12.0	70.1	76.4	1.2	152	6.0		
BFO	i P	Z 09:53:11.9	70.2	76.0	1.3	59	5.6		
WLF	i P	Z 09:53:19.1	71.2	75.0	1.0	259	6.3		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/12	02:22:09.5	17.687S	173.030W	33N	5.2	5.4		NEIC

Tonga Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 02:41:52.7	147.8	7.6					
	e L	Z 03:58:47.9			18.2	698		5.5	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/12	07:54:49.0	11.020N	91.190E	33.0N		4.9		SZGRF
2000/10/12	07:54:37.8	10.006N	92.871E	33N	5.1	4.9		NEIC

Andaman Islands, India, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 08:06:28.4	77.0	89.8					
	e L	Z 08:49:21.5			18.0	498		4.9	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/12	17:30:14.9	56.410N	152.550W	33.0N	5.4			SZGRF
2000/10/12	17:29:56.1	56.393N	153.194W	44*	4.4			NEIC

Kodiak Island, Alaska, United States, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 17:41:42.1	73.1	351.1	1.9	58	5.4		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/12	20:55:19.3	19.500S	67.600E	33.0N	5.5	4.3		SZGRF
2000/10/12	20:54:51.4	28.856S	61.875E	10G	5.2	4.8		NEIC

Mid-Indian Ridge

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 21:07:53.1	90.5	137.4	1.5	47	5.5		
	e L	Z 21:42:41.3			21.1	128		4.3	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/12	23:26:29.5	18.110N	119.640E	33.4	5.5			SZGRF
2000/10/12	23:25:52.1	12.391N	124.939E	33N	5.4	5.1		NEIC

Philippine Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 23:39:14.4	95.2	63.9	1.7	40	5.5		
	e pP	Z 23:39:24.2							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/13	16:12:47.3	52.020N	165.280W	33.0N	4.7			SZGRF
2000/10/13	16:12:55.0	53.695N	164.097W	37D	4.6			NEIC

South of Aleutian Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 16:24:44.2	76.5	357.2			4.7		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/13	17:24:14.6	36.560N	34.020W	33.0N	5.0			SZGRF
2000/10/13	17:23:41.8	34.388N	36.937W	10G	4.5			NEIC

Azores Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 17:31:03.4	38.1	264.9	1.4	26	5.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/13	21:11:59.8	30.110N	50.660E	33.0N	5.3			SZGRF
2000/10/13	21:12:06.5	30.665N	49.686E	33N	4.9			NEIC

Northern and central Iran

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 21:18:53.2	34.5	108.9	1.8	82	5.3		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/14	04:33:09.6	20.500S	178.514W	569D	4.6			NEIC

Fiji Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKPdf	Z 04:51:48.6			1.2	10			
	e PKPbc	Z 04:51:51.9			1.1	98			
	e PKPab	Z 04:51:57.3			0.8	48			
	e pPKPbc	Z 04:54:05.4							
	e	04:54:38.9							
GRA1	e PKPdf	Z 04:51:52.5	149.8	18.4					

i PKPbc Z 04:51:57.6  
i PKPab Z 04:52:05.6

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/14	11:19:31.5	32.370N	141.620E	62.0	5.2			SZGRF
2000/10/14	11:19:42.6	33.630N	141.840E	89D	4.9			NEIC

Southeast of Honshu, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 11:32:13.4	85.9	39.3	1.5	30	5.2		
	e pP	Z 11:32:30.7							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/14								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BFO	e Pn	Z 11:35:54.0							
GEC2	e Pn	Z 11:35:21.3							
MOX	e Pn	Z 11:35:51.9							
WET	e Pn	Z 11:35:38.2							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/14	13:51:49.3	36.860N	70.310E	91.9	4.7			SZGRF
2000/10/14	13:51:37.7	36.210N	71.097E	93D	4.9			NEIC

Hindu Kush, Afghanistan, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i P	Z 13:59:44.7	44.6	84.0			4.7		
	e pP	Z 14:00:06.9							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/14	15:14:55.5	18.756S	177.748W	600G	4.5			NEIC

Fiji Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 15:33:35.0	148.2	16.3					
	e pPKP	Z 15:35:56.3							

./2000/bul0010.txt

Thu Apr 23 08:38:25 2020

24

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/14	17:07:00.2	20.805S	178.893W	583D	4.7			NEIC

Fiji Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKPdf	Z	17:25:37.4			1.3	14			
	i PKPbc	- Z	17:25:41.8			0.8	86			
	e PKPab	Z	17:25:46.7							
	e pPKPbc	Z	17:27:56.6							
GRA1	e PKPdf	Z	17:25:41.6	150.0	19.2					
	e PKPbc	Z	17:25:46.6							
	i PKPab	Z	17:25:55.5							
	e pPKPbc	Z	17:28:05.0							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/14	19:57:54.1	49.120N	86.890E	21.2	5.1			SZGRF
2000/10/14	19:57:48.8	49.955N	87.479E	18D	4.8	4.3		NEIC

Kazakhstan-Xinjiang border region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z	20:06:22.8	46.9	58.8	1.0	16	5.1		
	e pP	Z	20:06:28.5							
	e PP	Z	20:08:17.1							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/14	20:02:48.9	25.650N	142.400E	33.0N	5.8	4.9		SZGRF
2000/10/14	20:02:52.5	23.607N	141.839E	137D	5.6			NEIC

Volcano Islands, Japan, region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RGN	i P	+ Z	20:15:39.3	90.3	45.8	1.2	105	5.9		
RUE	i P	+ Z	20:15:45.4	91.5	46.2	1.2	60	5.7		
BSEG	i P	+ Z	20:15:47.0	91.9	43.3	1.0	99	6.1		
BRG	i P	+ Z	20:15:50.3	92.6	46.4	1.1	49	5.7		
CLL	i P	+ Z	20:15:50.4	92.7	45.6	1.0	69	5.9		
CLZ	i P	Z	20:15:54.0	93.4	43.5	1.1	42	5.7		
MOX	i P	+ Z	20:15:55.5	93.8	44.5	1.1	41	5.7		
GEC2	i P	+ Z	20:15:57.1	94.1	46.3	1.0	34	5.7		
IBBN	i P	+ Z	20:15:57.2	94.2	41.3	1.0	98	6.2		
WET	i P	+ Z	20:15:58.1	94.2	45.6	1.2	30	5.6		
GRA1	i P	+ Z	20:15:59.7	94.6	44.3	1.2	86	6.0		
	e L	Z	21:02:11.4			19.4	380		4.9	
BUG	i P	+ Z	20:16:01.1	95.0	40.9	1.0	25	5.5		
TNS	i P	Z	20:16:03.5	95.5	42.0	1.0	25	5.5		
FUR	i P	+ Z	20:16:04.7	95.7	44.4	1.0	107	6.1		



./2000/bul0010.txt

Thu Apr 23 08:38:25 2020

25

STU	i P	Z	20:16:06.8	96.2	42.7	1.3	68	5.9
WLF	i P	+ Z	20:16:10.1	96.8	40.1	1.1	34	5.8
BFO	i P	Z	20:16:09.8	96.9	42.0	1.2	41	5.8

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/14	22:43: 9.6	1.650N	25.640W	33.0N	4.7			SZGRF
2000/10/14	22:43:00.4	0.563N	25.068W	10G	4.7			NEIC

Central Mid-Atlantic Ridge

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 22:52:54.9	58.1	224.2	1.2	8	4.7		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/14								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 23:35:34.6							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/15								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 02:39:35.4							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/15	04:18:34.9	15.073S	177.537W	33N	4.9			NEIC

Fiji Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 04:38:09.2	144.7	14.7					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/15								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 04:50:27.1							

./2000/bul0010.txt

Thu Apr 23 08:38:25 2020

26

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
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2000/10/15

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 06:18:08.9							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/15	16:05:19.6			N				SZGRF
2000/10/15	16:05:19.2	0.332S	16.184W	10G	4.7			NEIC

North of Ascension Island

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 16:14:52.0	55.3	214.1					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/15	18:15:58.6	21.910N	90.000E	33.0N	4.9			SZGRF

Bangladesh

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 18:26:44.4	66.3	83.5			4.9		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/16	22:33:30.7	26.380N	79.660E	33.0N	4.7			SZGRF
2000/10/16	22:33:09.6	23.268N	80.278E	33N	4.8	3.8		NEIC

Northern India

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 22:43:10.0	59.1	89.7			4.7		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/17	09:31:23.4	45.510N	154.830E	33.0N	5.2			SZGRF
2000/10/17	09:32:37.8	48.276N	146.241E	510*	4.2			NEIC

East of Kuril Islands, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 09:43:28.1	74.7	29.2	0.5	16	5.2		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/17	10:32:58.7	30.359S	178.563W	60D	5.5			NEIC

Kermadec Islands, New Zealand

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 10:52:50.0	159.3	24.5					
	e PKPab	Z 10:53:29.6							
CLL	e PKPdf	Z 10:52:48.4			2.2	56			
	i PKPbc	Z 10:52:59.7			0.9	16			
	i PKPab	Z 10:53:20.5			0.9	33			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/17								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 13:57:53.6							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/17	19:28:10.6	1.560N	79.100W	33.0N		4.5		SZGRF
2000/10/17	19:27:55.0	0.392S	80.812W	33N	5.1	4.5		NEIC

Near coast of Ecuador

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 19:41:02.6	91.6	271.3					
	e L	Z 20:16:59.1			21.5	189		4.5	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/17	20:00:39.8	17.280N	94.140W	185.6	5.1	4.8		SZGRF
2000/10/17	20:00:36.0	15.399N	92.047W	180D	5.1			NEIC

Chiapas, Mexico

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i P	+ Z 20:13:02.8							
	e pP	Z 20:13:50.6							
	e sP	Z 20:14:05.4							
	e S	E 20:23:14.4							
	e pS	E 20:24:25.5							
	e sS	E 20:25:38.1							
	e SS	E 20:29:12.9							
	e sSS	E 20:30:25.1							
	e SSSS	N 20:35:56.3							
GRA1	i P	Z 20:13:01.0	86.6	289.9	0.9	15	5.1		
	e pP	Z 20:13:46.9							

e L                    Z 20:47:40.3                    22.0                    385                    4.8

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/18	02:34:34.0	6.590S	69.880E	33.0N	5.2			SZGRF
2000/10/18	02:34:21.7	10.500S	66.750E	10G	5.0			NEIC

Chagos Archipelago region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i P	- Z 02:46:16.6	77.2	123.8	1.5	30	5.2		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/18	02:43:33.4	9.600S	64.260E	33.0N	5.5	5.2		SZGRF
2000/10/18	02:43:18.1	10.501S	66.719E	10G	5.4	5.1		NEIC

South Indian Ocean

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
FUR	e P	Z 02:55:07.7	76.3	123.6	1.2	127	5.8		
BRG	e P	Z 02:55:09.4	76.5	126.4	1.4	57	5.4		
CLL	e P	Z 02:55:13.7	77.2	125.6	1.3	53	5.4		
GRA1	i P	Z 02:55:12.8	77.2	123.8	1.2	74	5.6		
	e L	Z 03:58:52.8			18.0	1022		5.2	
RUE	e P	Z 02:55:15.5	77.5	126.5	1.2	78	5.6		
MOX	e P	Z 02:55:15.3	77.5	124.3	1.5	41	5.2		
STU	e P	Z 02:55:16.4	77.8	121.9	1.0	50	5.6		
BFO	e P	Z 02:55:17.5	78.1	121.2	1.4	44	5.4		
CLZ	e P	Z 02:55:22.9	78.9	123.5	1.3	87	5.7		
RGN	e P	Z 02:55:23.4	79.0	126.5	1.0	63	5.7		
TNS	e P	Z 02:55:23.5	79.0	121.6	1.3	38	5.4		
WLF	e P	Z 02:55:28.8	80.0	119.6	1.1	16	5.1		
BSEG	e P	Z 02:55:29.5	80.0	123.7	1.4	33	5.3		
BUG	e P	Z 02:55:30.7	80.3	120.8	1.0	21	5.2		
IBBN	e P	Z 02:55:32.1	80.5	121.3					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/18	03:04:20.4	27.650N	127.020E	33.0N	5.3			SZGRF
2000/10/18	03:04:07.6	30.876N	131.490E	33N	5.0	5.0		NEIC

Ryukyu Islands, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 03:16:47.4	83.6	48.2			5.3		

./2000/bul0010.txt

Thu Apr 23 08:38:25 2020

29

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/18								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 07:05:10.6							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/18	16:38:13.3	18.590S	66.830W	33.0N				SZGRF
2000/10/18	16:37:41.9	19.101S	68.093W	153D	5.1			NEIC

Central Bolivia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 16:51:40.4	97.8	249.6					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/18	21:54:53.9	1.880S	23.980W	33.0N	4.6			SZGRF

Central Mid-Atlantic Ridge

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 22:04:56.1	59.8	221.8			4.6		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/18	22:55:55.8	37.010N	27.310E	33.0N	4.2			SZGRF
2000/10/18	22:55:37.9	36.122N	28.710E	25*	4.3			NEIC

Turkey

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 22:59:53.9	18.6	130.3	1.5	29	4.2		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/19	01:49:29.1	29.790N	74.290E	51.8	5.0			SZGRF
2000/10/19	01:49:41.5	31.930N	73.320E	33N	4.9			NEIC

Northern India

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i P	Z 01:58:25.9	48.7	87.0			5.0		
	e pP	Z 01:58:39.9							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
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./2000/bul0010.txt

Thu Apr 23 08:38:25 2020

30

2000/10/19	10:27:28.1	57.270N	7.180E	10.0G		3.9	SZGRF
2000/10/19	10:27:21.8	57.639N	6.888E	33N			NEIC

North Sea

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RGN	e Pn	Z	10:28:32.5	4.7	313.4					4.4
	e Sn	E	10:29:26.7							
CLZ	e Pn	Z	10:28:53.9	6.1	342.3					3.7
	e Sn	E	10:29:55.9							
BUG	e Sn	E	10:29:57.0	6.2	358.1					3.7
CLL	e Pn	Z	10:29:07.7	7.3	333.2					
	e Sn	E	10:30:21.5							
TNS	e Pn	Z	10:29:10.3	7.5	353.6					
	e Sn	E	10:30:31.6							
MOX	e Pn	Z	10:29:12.4	7.5	340.3					
	e Sn	E	10:30:30.7							
BRG	e Pn	Z	10:29:18.0	7.9	331.5					
	e Sn	E	10:30:37.6							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/20	00:23:5.4	12.830S	66.240E	33.0N	4.8			SZGRF
2000/10/20	00:23:10.7	10.457S	66.902E	10G	4.7			NEIC

Mid-Indian Ridge

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z	00:35:06.0	77.3	123.6			4.8		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/20	02:56:42.2	44.240N	148.780E	33.0N				SZGRF
2000/10/20	02:56:45.8	43.437N	147.295E	100G	4.7			NEIC

Kuril Islands, Russia

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z	03:08:43.4	79.3	30.8					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/20								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z	03:49:27.2							

./2000/bul0010.txt

Thu Apr 23 08:38:25 2020

31

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/20	10:22:50.5	30.320N	142.040E	33.0N	5.1			SZGRF
2000/10/20	10:23:29.9	28.495N	139.326E	425D	4.7			NEIC

Southeast of Honshu, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 10:35:41.6	89.3	43.8			5.1		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/20								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 21:07:50.2							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/20	21:14:49.7	7.763S	158.607E	50D	5.4			NEIC

Bougainville - Solomon Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 21:33:55.8	130.0	44.2					
	e pPKPdf	Z 21:34:10.1							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/21	05:24:46.4	17.121S	175.043W	33N	5.3	5.1		NEIC

Tonga Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 05:44:26.3	147.0	11.1					
	e	05:45:36.9							
	e SS	E 06:06:25.9							
	e L	Z 07:06:09.6			20.9	1227		5.7	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/21								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 06:19:20.8							
	e	06:19:36.8							

./2000/bul0010.txt

Thu Apr 23 08:38:25 2020

32

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/21	08:24:25.7	9.910S	15.190W	33.0N	4.8	4.3		SZGRF
2000/10/21	08:24:42.5	7.377S	13.465W	10G	5.1	4.5		NEIC

Ascension Island region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 08:34:55.8	61.0	208.3			4.8		
	e L	Z 09:01:07.6			19.4	211		4.3	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/21	08:42:55.2	28.000N	127.040E	33.0N	5.5	4.8		SZGRF
2000/10/21	08:42:51.5	29.577N	128.060E	2	5.1	4.8		NEIC

Ryukyu Islands, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 08:55:21.3	83.0	51.4	1.4	41	5.5		
	e L	Z 09:33:39.9			19.8	402		4.8	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/21	15:05:2.1	2.970S	15.970W	33.0N	4.6			SZGRF

North of Ascension Island

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 15:14:49.4	57.6	212.7			4.6		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/21								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 17:58:07.2							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/21	22:30:34.8	16.450N	118.740E	33.0N	5.7	4.9		SZGRF
2000/10/21	22:30:32.2	13.739N	120.718E	148D	5.6			NEIC

Philippine Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z 22:43:14.4	89.6	68.4	1.2	63	5.6		
CLL	e P	Z 22:43:16.1	90.0	67.7	1.3	50	5.5		
	e pP	Z 22:43:55.0							



	e		22:44:03.2				1.3	48			
	e PP	Z	22:46:55.5								
	e SKSac	E	22:53:29.7								
	e S	N	22:53:55.1								
	e PS	Z	22:55:04.0								
	e SS	E	23:00:08.4								
	e L	Z	23:24:07.2				20.0	500		5.0	
BSEG	e P	Z	22:43:19.2	90.4	65.6	1.0		43	5.5		
GEC2	e P	Z	22:43:18.2	90.5	68.3	1.2		42	5.4		
WET	e P	Z	22:43:21.1	90.9	67.6	1.5		65	5.7		
MOX	e P	Z	22:43:21.0	91.0	66.6	1.3		53	5.7		
CLZ	e P	Z	22:43:22.6	91.3	65.6	1.4		67	5.8		
GRA1	i P	Z	22:43:23.4	91.6	66.4	2.5		293	6.2		
	e pP	Z	22:43:58.5								
	e sP	Z	22:44:11.5								
	e PP	Z	22:47:01.4								
	e L	Z	23:29:34.1				18.4	392		4.9	
FUR	e P	Z	22:43:27.9	92.2	66.4	1.3		102	5.9		
IBBN	e P	Z	22:43:28.1	92.5	63.5	1.1		52	5.7		
TNS	e P	Z	22:43:31.5	93.0	64.2	3.1		403	6.1		
BUG	e P	Z	22:43:30.7	93.2	63.2	1.1		42	5.6		
STU	e P	Z	22:43:32.4	93.2	64.8	1.2		49	5.6		
BFO	e P	Z	22:43:34.5	93.9	64.2	1.3		38	5.6		
WLF	e P	Z	22:43:38.7	94.6	62.4	1.2		41	5.6		

Date Origin Time Lat Long Depth mb Ms ML Source  
 2000/10/22 01:21:44.0 7.104N 126.695E 80D 5.5  
 Mindanao, Philippine Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e Pdiff	Z 01:35:24.4	100.5	65.6					
	e PP	Z 01:39:23.4							
	e L	Z 02:22:21.5			22.0	177		4.5	

Date Origin Time Lat Long Depth mb Ms ML Source  
 2000/10/22

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 10:49:41.6							

Date Origin Time Lat Long Depth mb Ms ML Source  
 2000/10/22 14:41: 1.3 36.170N 14.050W 33.0N 4.0  
 North Atlantic Ocean

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 14:46:01.0	22.7	243.1			4.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/22	17:53:20.5	10.610N	125.380E	33.0N				SZGRF

Leyte, Philippine Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 18:06:48.5	96.9	64.6					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/22								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 20:45:50.1							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/23	01:25:27.1	42.530N	147.070E	33.0N	5.2			SZGRF
2000/10/23	01:25:27.9	43.279N	146.956E	33N	5.2	4.5		NEIC

Off southeast coast of Hokkaido, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i P	Z 01:37:33.6	79.3	31.1	1.0	31	5.2		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/23	06:55:20.1	32.920N	56.070E	33.0N	5.1	4.1		SZGRF
2000/10/23	06:54:49.7	31.613N	59.883E	33N	5.4	4.9		NEIC

Northern and central Iran

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i P	+ Z 07:02:26.2	40.2	98.0	1.1	46	5.1		
	e L	Z 07:20:02.6			21.5	305		4.1	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/23	12:01:19.3	6.960S	28.410E	33.0N	4.8	4.0		SZGRF
2000/10/23	12:02:11.1	1.523N	30.597E	10G	4.7	4.3		NEIC

Lake Tanganyika region

./2000/bul0010.txt

Thu Apr 23 08:38:25 2020

35

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 12:11:13.3	50.9	154.7			4.8		
	e L	Z 12:34:05.0			21.3	136		4.0	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/24								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 02:22:25.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/24	06:35:24.5	17.917S	178.649W	600G	4.7			NEIC
Fiji Islands region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 06:54:03.9	147.2	17.5					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/24	07:52:22.1	43.080N	13.620E	10.0G				SZGRF
2000/10/24	07:52:21.9	43.043N	13.333E	10G	5.2			NEIC
Central Italy								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e Pn	Z 07:53:47.2	5.8	182.7					
	e Sn	E 07:54:52.0							
WET	e Pn	Z 07:53:51.4	6.1	176.9					
	e Sn	E 07:54:58.0							
BFO	e Pn	Z 07:53:56.4	6.3	144.7					
MOX	e Pn	Z 07:54:12.6	7.7	170.6					
	e Sn	E 07:55:36.8							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/24	11:09: 3.0	16.210S	72.600W	33.0N	5.6			SZGRF
2000/10/24	11:09:14.5	15.078S	72.541W	107D	5.3			NEIC
Near coast of Peru								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 11:22:37.8	97.5	255.5	0.9	12	5.6		

./2000/bul0010.txt

Thu Apr 23 08:38:25 2020

36

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/24	13:15:19.3	8.850N	35.710W	33.0N	4.9			SZGRF

Central Mid-Atlantic Ridge

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 13:24:57.6	56.4	240.1	1.2	14	4.9		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/24	22:54: 6.9	41.710N	13.910E	10.0G				SZGRF
2000/10/24	22:53:53.5	40.867N	14.534E	10G				NEIC

Southern Italy

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e Pn	Z 22:55:49.8	8.0	175.5					
	e Sn	E 22:57:08.6							
WET	e Pn	Z 22:55:56.2	8.4	171.4					
	e Sn	E 22:57:16.0							
GRA1	e Sn	E 22:57:33.7	9.1	164.0					
MOX	e Pn	Z 22:56:15.9	10.0	167.2					
	e Sn	E 22:57:54.9							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/25	00:27:18.8	11.520S	66.810E	33.0N	5.0			SZGRF

Mid-Indian Ridge

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 00:39:15.0	78.1	124.3	1.5	21	5.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/25	03:09: 7.4	25.840N	128.530E	34.3		4.4		SZGRF
2000/10/25	03:09:03.5	25.584N	128.367E	33N	5.0	4.6		NEIC

Ryukyu Islands, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 03:21:45.9	86.4	53.5					
	e pP	Z 03:21:55.9							
	e L	Z 04:04:20.4			20.5	173		4.4	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/25	05:26:38.8	34.595S	109.567W	10G	5.6	5.7		NEIC

Southern East Pacific Rise

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML	
GRA1	e PKPdf	Z	05:45:59.8	134.9	266.3						
	e SP	Z	05:58:50.7								
	e SS	E	06:06:25.3								
	e L	Z	06:51:54.9								
CLL	i PKPdf	Z	05:46:01.3			20.3	777		5.4		
	e PP	Z	05:48:40.7			1.7	51				
	e SKP	Z	05:49:36.2								
	e PS	Z	05:58:51.6								
	e PPS	Z	06:00:50.6								
	e PSPS	E	06:07:25.6								
	e SSS	E	06:11:35.9								
	e L	Z	06:40:22.7			18.0	1248				5.7

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/25	09:32:50.7	2.920S	101.210E	33.0N	5.8	6.5		SZGRF
2000/10/25	09:32:24.0	6.507S	105.604E	38G	6.3	6.6		NEIC

Southern Sumatera, Indonesia

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML					
BRG	i P	+ Z	09:45:49.1	96.1	92.8	1.4	89	5.9							
GEC2	i P	+ Z	09:45:48.4	96.1	92.9	1.7	147	6.0							
WET	i P	+ Z	09:45:51.8	96.7	92.2	1.2	92	6.0							
CLL	i P	+ Z	09:45:51.7	96.7	92.1	1.3	53	5.7							
	e PP	Z	09:49:48.6												
	e PPP	Z	09:51:48.3												
	e SKSac	E	09:56:30.5												
	e SKKSac	E	09:56:52.7												
	e S	N	09:57:11.9												
	e PS	Z	09:58:14.3												
	e SS	E	10:03:47.0												
	e L	Z	10:35:00.5			20.0	17970		6.5						
	MOX	i P	+ Z			09:45:55.6	97.6				91.1	1.3	60	5.8	
FUR	i P	Z	09:45:56.2			97.7	91.1				1.0	66	5.9		
GRA1	i P	+ Z	09:45:57.5			97.8	90.9				1.4	84	5.9		
	e PP	Z	09:49:52.1												
	e L	Z	10:40:06.1			21.0	18762				6.5				
CLZ	i P	+ Z	09:45:59.3			98.3	89.9				1.3	51	5.8		
STU	i P	Z	09:46:02.8			99.1	89.5				1.4	82	5.9		
TNS	i P	+ Z	09:46:05.1			99.6	88.7				1.3	62	5.8		
BFO	i P	+ Z	09:46:04.9			99.7	88.9				1.1	24	5.4		
IBBN	i P	Z	09:46:06.5	99.9	87.8	1.4	83	5.9							
WLF	i P	Z	09:46:11.9	101.1	87.0	1.8	52	5.7							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/25	10:19:16.5	46.790N	150.930E	33.0N	4.9			SZGRF
2000/10/25	10:19:31.6	46.911N	150.429E	182*	4.8			NEIC

Kuril Islands, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 10:31:08.7	77.2	27.2			4.9		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/25	19:00:17.7	34.635S	109.490W	10G	5.6	5.7		NEIC

Southern East Pacific Rise

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i PKPdf	Z 19:19:39.3			1.3	32			
	e	19:19:49.3							
	e PP	Z 19:22:19.6							
	e SKP	Z 19:23:13.0							
	e SKSP	Z 19:32:28.1							
	e PPS	Z 19:34:23.7							
	e SSP	E 19:41:02.5							
	e SSS	E 19:45:12.6							
	e LV	Z 20:05:16.7							
	e L	Z 20:13:57.0			18.0	1919		5.9	
GRA1	e PKPdf	Z 19:19:38.5	134.8	266.2					
	e PP	Z 19:22:09.3							
	e L	Z 20:15:39.4			20.8	1052		5.5	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/25	23:19: 5.0	45.600N	150.960E	33.0N	4.6			SZGRF
2000/10/25	23:19:20.9	47.795N	153.028E	133?	4.3			NEIC

Kuril Islands, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 23:31:03.3	77.1	25.2			4.6		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/26	03:20:59.9	9.780S	13.430W	33.0N	4.8			SZGRF

Ascension Island region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 03:31:25.7	63.3	207.4			4.8		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/26	08:53:59.7	6.060N	96.450E	33.0N	5.1			SZGRF
2000/10/26	08:54:29.2	10.520N	92.693E	33N	4.9			NEIC

Nicobar Islands, India, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 09:06:18.3	76.5	89.6			5.1		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/26	10:56:20.5	43.730N	10.390E	10.0G				SZGRF
2000/10/26	10:56:45.3	44.912N	10.968E	10G	4.9			NEIC

Central Italy

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BFO	e Sn	E 10:58:26.0	3.9	151.1					
GEC2	e Pn	Z 10:57:41.9	4.4	206.4					
	e Sn	N 10:58:46.2							
WET	e Pn	Z 10:57:43.7	4.4	197.8					
	e Sn	N 10:58:47.5							
TNS	e Pn	Z 10:57:58.1	5.6	161.3					
	e Sn	E 10:59:10.5							
BRG	e Pn	Z 10:58:10.8	6.3	199.6					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/26	12:23:48.8	43.820N	150.700E	33.0N	5.0			SZGRF
2000/10/26	12:23:53.2	44.656N	149.285E	43*	4.9	3.9		NEIC

East of Kuril Islands, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 12:35:55.4	78.8	29.0	0.9	18	5.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/26	14:08:37.7	34.515S	109.299W	10G	5.5	5.0		NEIC

Southern East Pacific Rise

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 14:27:57.0	134.7	266.2					

./2000/bul0010.txt

Thu Apr 23 08:38:25 2020

40

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/26	15:21:14.2	21.980N	93.650E	33.0N	5.3			SZGRF
2000/10/26	15:22:34.7	29.241N	81.875E	33N	4.7			NEIC

Myanmar

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 15:32:14.5	56.0	83.4	1.8	35	5.3		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/27	00:09: 6.3	54.350N	92.240E	33.0N	5.7	6.0		SZGRF
2000/10/27	00:08:50.3	54.701N	95.037E	10G	5.7	5.3		NEIC

Southwestern Siberia, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e P	Z 00:17:12.4	45.5	53.2	1.0	80	5.6		
BSEG	e P	Z 00:17:19.6	46.3	52.8	1.5	134	5.7		
BRG	e P	Z 00:17:19.6	46.4	52.0	2.1	250	5.8		
CLL	e P	Z 00:17:21.2	46.6	52.0	0.9	68	5.7		
CLZ	e P	Z 00:17:29.0	47.6	51.2	1.0	40	5.5		
MOX	e P	Z 00:17:29.9	47.7	50.9	1.1	67	5.7		
GEC2	e P	Z 00:17:30.0	47.8	50.5	2.1	144	5.7		
WET	e P	Z 00:17:32.8	48.0	50.4	2.1	264	6.0		
GRA1	e P	Z 00:17:36.7	48.5	50.1	2.0	287	6.1		
	e PP	Z 00:19:28.5							
	e S	E 00:24:28.7							
	e SS	E 00:27:58.0							
	e L	Z 00:40:17.6			18.3	13557		6.0	
IBBN	e P	Z 00:17:36.7	48.5	50.4	1.0	60	5.7		
BUG	e P	Z 00:17:41.9	49.3	49.6	1.2	74	5.7		
FUR	e P	Z 00:17:43.9	49.5	49.1	1.0	93	5.9		
TNS	e P	Z 00:17:44.7	49.5	49.3	1.1	54	5.5		
STU	e P	Z 00:17:48.2	50.1	48.7	1.0	86	5.7		
BFO	e P	Z 00:17:54.0	50.8	48.1	2.1	198	5.7		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/27	04:21: 9.6	25.790N	141.680E	33.0N	6.6	5.2		SZGRF
2000/10/27	04:21:51.7	26.277N	140.522E	387D	6.1			NEIC

Volcano Islands, Japan, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RGN	e P	Z 04:33:57.6	87.4	45.6	1.7	1141	6.8		
RUE	e P	Z 04:34:03.7	88.6	46.0	1.5	569	6.6		
BSEG	e P	Z 04:34:05.2	89.0	43.2	1.0	500	6.7		
BRG	e P	Z 04:34:08.3	89.6	46.1	1.5	573	6.7		
CLL	e P	Z 04:34:08.5	89.8	45.3	1.1	460	6.7		



	e pP	Z	04:35:41.8								
	e sP	Z	04:36:16.0								
	e PP	Z	04:37:45.1								
	e PPP	Z	04:39:46.9								
	e SKSac	Z	04:43:59.0								
	e S	N	04:44:15.9								
	e SP	Z	04:45:32.4								
	e PS	N	04:46:19.3								
	e sS	E	04:46:56.9								
	e SS	N	04:50:34.3								
	e SSSS	N	04:57:43.4								
	e L	Z	05:14:35.1			18.0	1307			5.4	
CLZ	e P	Z	04:34:12.4	90.5	43.3	1.1	350		6.6		
MOX	e P	Z	04:34:13.6	90.8	44.3	1.3	346		6.5		
GEC2	e P	Z	04:34:14.4	91.2	45.9	1.1	241		6.5		
IBBN	e P	Z	04:34:15.6	91.3	41.2	1.1	716		6.9		
WET	e P	Z	04:34:16.4	91.3	45.3	1.2	221		6.4		
GRA1	e P	Z	04:34:18.3	91.7	44.0	1.4	582		6.8		
	e PP	Z	04:38:02.6								
	e L	Z	05:19:08.5			18.2	760			5.2	
BUG	e P	Z	04:34:19.3	92.1	40.8	1.4	339		6.6		
TNS	e P	Z	04:34:21.4	92.5	41.8	1.3	213		6.3		
FUR	e P	Z	04:34:23.4	92.8	44.0	1.0	744		7.0		
STU	e P	Z	04:34:24.9	93.3	42.4	1.1	414		6.7		
WLF	e P	Z	04:34:28.3	93.9	40.0	1.3	270		6.5		
BFO	e P	Z	04:34:28.1	94.0	41.8	1.2	312		6.6		

Date  
2000/10/27

Origin Time

Lat

Long

Depth

mb

Ms

ML

Source

Sta  
GRA1

Phase  
e PKP

Time  
Z 04:51:34.4

Dist

BAz

T[s]

A[nm]

mb

MS

ML

Date  
2000/10/27

Origin Time  
09:10:11.1  
South Atlantic Ocean

Lat  
2.090S

Long  
25.520W

Depth  
33.0N

mb

Ms  
5.1

ML

Source  
SZGRF

Sta  
CLL

Phase  
e P

Time  
Z 09:20:32.6

Dist

BAz

T[s]

A[nm]

mb

MS

ML

GRA1

e P  
e PP

Z 09:20:19.2  
Z 09:22:25.9

60.6

223.3

18.0

1884

5.3

e S E 09:28:24.8  
 e L Z 09:43:35.8 21.9 1369 5.1

Date Origin Time Lat Long Depth mb Ms ML Source  
 2000/10/27 14:37:10.8 44.780N 8.460E 10.0G 3.3 SZGRF  
 Northern Italy

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BFO	e Pn	Z 14:38:05.8	3.6	178.5					3.2
	e Sn	E 14:38:46.6							
WET	e Pn	Z 14:38:28.9	5.3	216.3					
GEC2	e Pn	Z 14:38:31.8	5.4	223.4					
TNS	e Pn	Z 14:38:31.5	5.4	179.9					3.5
	e Sn	E 14:39:32.8							
MOX	e Sn	E 14:39:50.9	6.2	201.1					

Date Origin Time Lat Long Depth mb Ms ML Source  
 2000/10/27 18:57:30.3 17.130N 62.180W 33.0N 5.4 SZGRF  
 2000/10/27 18:57:39.2 17.393N 61.171W 42D 5.0 NEIC  
 Leeward Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 19:08:16.2	65.5	268.3	1.9	52	5.4		

Date Origin Time Lat Long Depth mb Ms ML Source  
 2000/10/27 19:02:38.4 16.060N 63.210W 33.0N 5.4 5.3 SZGRF  
 2000/10/27 19:02:53.3 17.587N 61.250W 41D 5.4 5.3 NEIC  
 Leeward Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 19:13:32.9	65.4	268.5	1.3	29	5.4		
	e S	E 19:22:23.8							
	e SS	N 19:26:52.9							
	e L	Z 19:38:24.2			19.5	1628		5.3	

Date Origin Time Lat Long Depth mb Ms ML Source  
 2000/10/27 19:15:46.9 16.170N 62.710W 33.0N 5.4 SZGRF  
 2000/10/27 19:15:58.5 17.686N 61.213W 43D 5.1 5.2 NEIC  
 Leeward Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
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GRA1	e P	Z	19:26:39.4	65.3	268.6	1.7	40	5.4
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Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/27	19:31:24.9	16.570N	63.460W	33.0N	5.0			SZGRF
2000/10/27	19:31:37.2	17.431N	61.114W	33N	5.0			NEIC

Leeward Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 19:42:18.6	65.4	268.3			5.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/27								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 22:42:50.0							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/28	00:12:24.4	17.816S	172.881W	33N	5.0	4.9		NEIC

Tonga Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 00:32:10.0	148.0	7.4					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/28	03:38:25.9	51.260N	171.930W	33.0N	5.4			SZGRF
2000/10/28	03:38:34.8	52.631N	171.017W	32*	4.7	4.5		NEIC

Fox Islands, Aleutian Islands, United States

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 03:50:26.9	77.7	1.4	2.5	89	5.4		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/28	04:13:59.3	31.590N	132.270E	33.0N	4.8			SZGRF

Southeast of Shikoku, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 04:26:23.5	83.4	47.3			4.8		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/28	04:21:57.6	61.230N	101.310E	33.0N	5.0			SZGRF

Northern and central Siberia, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 04:30:34.4	48.1	40.3			5.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/28	20:03:21.9	33.370N	92.760E	33.0N	5.4	4.5		SZGRF
2000/10/28	20:03:17.7	32.638N	92.275E	33N	5.1	4.4		NEIC

Qinghai, China

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 20:13:26.1	60.3	73.3	1.9	76	5.4		
	e L	Z 20:43:26.2			19.6	363		4.5	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/28	20:20:29.6			N				SZGRF

Xizang

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 20:31:09.1							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/29	06:05:32.5			N				SZGRF

Central Mid-Atlantic Ridge

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 06:15:29.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/29	08:37:00.9	5.241S	153.914E	80G	5.4			NEIC

New Ireland, Papua New Guinea, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKPdf	Z 08:55:59.6			1.0	46			
	e pPKPdf	Z 08:56:21.2							
	e	08:56:46.8							
	e PP	Z 08:57:44.4							

e sPP	Z	08:58:10.0									
e SP	Z	09:07:30.4									
e SKKSdf	Z	09:13:20.9									
e SS	E	09:14:39.7									
e SSS	E	09:19:11.6									
e L	Z	09:45:53.5				22.0		5837		6.2	
GRA1 e PKP	Z	08:55:54.2	125.6	47.9							
e PP	Z	08:57:45.8									
e L	Z	09:47:17.5				20.2		3307		6.0	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/29	12:30:50.3	15.090S	173.394W	33N	5.3	5.4		NEIC
Tonga Islands								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 12:50:27.1	145.2	7.8					
	e L	Z 14:01:48.5			20.2	720		5.4	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/29	13:03:25.0	14.999S	173.774W	33N	4.8			NEIC
Samoa Islands region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 13:23:00.7	145.1	8.4					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/29	17:44:48.7	8.950N	82.250W	33.0N	5.3			SZGRF
2000/10/29	17:44:50.0	9.733N	82.300W	33N	5.0			NEIC
Panama-Costa Rica border region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 17:57:23.3	84.9	279.0			5.3		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/29								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 21:06:01.7							

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Thu Apr 23 08:38:25 2020

46

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/29	21:11:46.6	44.790N	148.240E	33.0N	5.4			SZGRF
2000/10/29	21:11:52.7	45.474N	148.964E	100D	4.8			NEIC

Kuril Islands, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 21:23:44.2	78.0	28.8	1.9	71	5.4		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/29	22:04:1.8	48.480N	154.370E	15.8	5.7			SZGRF
2000/10/29	22:03:56.6	47.703N	155.689E	50D	5.7			NEIC

Kuril Islands, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	i P	- Z 22:15:31.7	74.2	23.4	0.9	36	5.5		
RUE	i P	- Z 22:15:34.1	74.7	25.5	1.0	83	5.7		
CLL	i P	- Z 22:15:41.2	76.0	24.9	1.2	123	5.8		
BRG	i P	- Z 22:15:42.0	76.1	25.4	1.4	55	5.4		
CLZ	i P	- Z 22:15:43.1	76.1	23.2	1.2	121	5.8		
IBBN	i P	- Z 22:15:43.6	76.3	21.6	1.0	81	5.8		
MOX	i P	- Z 22:15:47.0	76.9	23.9	1.1	67	5.7		
BUG	i P	- Z 22:15:48.4	77.2	21.2	1.0	57	5.7		
GRA1	i P	- Z 22:15:53.3	77.9	23.6	1.2	117	5.9		
	e pP	Z 22:15:56.9							
	e sP	Z 22:16:01.0							
WET	i P	- Z 22:15:53.3	78.0	24.6	1.2	110	5.9		
GEC2	i P	- Z 22:15:52.0	78.0	25.1	1.3	38	5.4		
TNS	i P	- Z 22:15:53.7	78.1	21.8	0.9	58	5.7		
STU	i P	- Z 22:16:00.0	79.3	22.2	1.1	73	5.6		
FUR	i P	- Z 22:16:00.3	79.3	23.5	1.1	125	5.9		
BFO	i P	- Z 22:16:03.3	79.9	21.6	1.2	76	5.6		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/29	22:55:15.9	29.240N	130.190E	33.0N	5.5			SZGRF
2000/10/29	22:55:40.3	31.201N	130.165E	199*	4.7			NEIC

Ryukyu Islands, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 23:07:44.9	82.7	49.0	1.2	36	5.5		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/30	01:03:9.8	1.710S	26.590W	33.0N	5.0			SZGRF
2000/10/30	01:03:26.7	0.684N	25.586W	10G	5.3	5.4		NEIC

## Central Mid-Atlantic Ridge

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 01:13:18.9	58.2	224.8					
	e S	N 01:21:28.7							
	e L	Z 01:38:19.0			19.7	1067		5.0	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/30	03:07:1.2	16.840N	62.860W	33.0N	5.4	5.5		SZGRF
2000/10/30	03:07:10.0	17.644N	61.186W	33N	5.4	5.6		NEIC

## Leeward Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 03:17:51.2	65.3	268.5			5.4		
	e S	E 03:26:43.3							
	e L	Z 03:40:34.4			21.8	2908		5.5	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/30	16:42:58.7	34.770N	135.130E	33.0N	5.4	5.2		SZGRF
2000/10/30	16:42:51.6	34.281N	136.221E	35D	5.4	5.1		NEIC

## Near south coast of western Honshu, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 16:55:16.0	82.9	43.0			5.4		
	e L	Z 17:36:12.1			19.1	1109		5.2	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/30	19:20:53.1	35.610N	137.350E	33.0N	5.1			SZGRF
2000/10/30	19:20:36.1	34.340N	139.202E	10G	5.0	3.8		NEIC

## Eastern Honshu, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 19:33:11.7	84.2	40.9			5.1		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/30	22:39:8.7	38.140N	70.440E	33.0N	5.1	4.5		SZGRF
2000/10/30	22:39:07.3	37.559N	69.581E	40*	5.2	4.6		NEIC

## Afghanistan-Tajikistan border region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 22:47:05.2	42.8	83.5	1.7	72	5.1		

e PP	Z	22:48:49.0									
e L	Z	23:08:39.8	18.4	615	4.5						

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/30	23:23:19.2	34.070N	92.440E	33.0N	5.1			SZGRF
2000/10/30	23:23:10.5	32.728N	92.290E	33N	5.0			NEIC

Qinghai, China

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 23:33:18.8	60.2	73.2			5.1		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/31	01:20:36.1	33.450N	92.190E	33.0N	4.8			SZGRF
2000/10/31	01:20:29.3	32.721N	92.334E	33N	4.8			NEIC

Qinghai, China

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 01:30:37.6	60.2	73.2			4.8		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/31	02:40:40.6	45.700N	147.430E	33.0N	5.1			SZGRF
2000/10/31	02:40:33.7	45.296N	149.971E	51D	4.9			NEIC

Kuril Islands, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 02:52:32.3	78.5	28.3	1.3	22	5.1		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/31	05:21:49.5	37.320N	87.630E	33.0N	4.7			SZGRF
2000/10/31	05:21:03.1	32.641N	92.276E	33N	4.8	4.8		NEIC

Southern Xinjiang, China

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 05:31:13.0	60.3	73.3					
	e L	Z 06:01:23.2			18.8	673		4.7	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/31	18:09:36.3	17.889S	175.293W	33N	5.3	5.4		NEIC

Tonga Islands



Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 18:29:20.0	147.8	11.7					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/31	18:43:20.3	17.886S	175.303W	33N	5.9	5.8		NEIC

Tonga Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 19:03:00.1	147.8	11.7					
	e PKPbc	Z 19:03:02.5							
	e PKPab	Z 19:03:05.5							
	e PP	Z 19:06:26.2							
	e L	Z 20:07:40.0			21.4	3389		6.1	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2000/10/31	20:47:15.5	15.272S	175.441W	33N	4.9			NEIC

Tonga Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 21:06:48.6	145.2	11.3					
	e PP	Z 21:10:12.1							

#### Format description

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(K. Klinge, 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