

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

(produced by SZGRF/BGR - HANNOVER)

February 2010 UPDATED 25.SEPTEMBER.2010

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	
2010/02/01	22:28:20.0	6.200S	154.466E	48.6		5.9		emsc	
Bougainville - Solomon Islands region									
Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPdf	Z 22:47:12.9	124.2	44.7					
BRG	e PKPdf	Z 22:47:12.8	124.6	50.2					
NRDL	e PKPdf	Z 22:47:15.0	125.3	45.2					
CLZ	e PKPdf	Z 22:47:15.2	125.6	45.8					
MOX	e L	Z 23:45:13.7	125.9	47.8	21.6	3849		6.0	
GEC2	e PKPdf	Z 22:47:15.8	126.0	51.0					
	e pPKPdf	Z 22:47:30.5							
ROTZ	e PKPdf	Z 22:47:16.5	126.2	48.9					
WET	e PKPdf	Z 22:47:16.9	126.2	50.0					
IBBN	e PKPdf	Z 22:47:17.5	126.4	42.7					
GRA1	e L	Z 23:48:05.4	126.7	47.9	20.4	2936		5.9	
RJOB	e PKPdf	Z 22:47:18.6	127.2	50.7					
WLF	e PKPdf	Z 22:47:22.7	129.0	42.2					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source	
2010/02/02	06:45: 1.2	1.390S	15.270W	10.0N	4.6			SZGRF	
North of Ascension Island									
Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BFO	e P	Z 06:54:22.4	53.8	209.7	0.8	5	4.6		
RJOB	e P	Z 06:54:30.4	54.9	215.1	0.6	9	5.0		
TNS	e P	Z 06:54:34.8	55.5	209.2	0.9	7	4.7		
GRA1	e P	Z 06:54:38.0	55.9	212.6	0.8	8	4.8		
WET	e P	Z 06:54:39.5	56.1	214.6	0.8	8	4.8		

./2010/bul1002.txt

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GEC2	e P	Z	06:54:40.1	56.1	215.7	0.7	5	4.6
ROTZ	e P	Z	06:54:41.1	56.3	213.7	0.9	3	4.3
MOX	e P	Z	06:54:44.9	56.9	212.7	0.8	5	4.6
TANN	e P	Z	06:54:45.7	57.0	213.7	0.8	6	4.6
BRG	e P	Z	06:54:52.4	57.9	215.2	0.9	2	4.2
CLL	e P	Z	06:54:52.3	57.9	214.0	0.8	2	4.1
BSEG	e P	Z	06:55:01.5	59.3	210.2	0.8	4	4.6

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/03	01:01:15.0	18.380S	179.060W	33.0N				SZGRF
Fiji Islands region								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
IBBN	e PKPbc	Z	01:20:49.7	145.7	11.5					
CLL	e PKPbc	Z	01:20:49.9	145.7	20.6					
CLZ	e PKPbc	Z	01:20:50.2	145.7	16.0					
BRG	e PKPbc	Z	01:20:50.8	145.9	22.4					
MOX	e PKPbc	Z	01:20:52.7	146.6	18.6					
TANN	e PKPbc	Z	01:20:53.1	146.7	20.2					
ROTZ	e PKPbc	Z	01:20:55.2	147.3	20.1					
TNS	e PKPbc	Z	01:20:55.7	147.6	13.4					
GRA1	e PKPbc	Z	01:20:55.6	147.6	18.4					
GEC2	e PKPbc	Z	01:20:56.4	147.8	23.2					
WLF	e PKPbc	Z	01:20:58.4	148.4	9.5					
STU	e PKPbc	Z	01:20:59.1	148.9	15.3					
RJOB	e PKPbc	Z	01:20:59.5	149.1	22.3					
BFO	e PKPbc	Z	01:21:00.4	149.5	13.9					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/03	07:22:11.0	54.430N	163.260W	37.4	4.9			SZGRF
Unimak Island, Alaska, United States, region								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z	07:33:20.5	71.5	356.1	0.9	12	5.0		
NRDL	e P	Z	07:33:28.6	72.9	356.0	0.8	9	4.9		
IBBN	e P	Z	07:33:29.3	73.0	354.6	0.6	14	5.2		
CLZ	e P	Z	07:33:33.1	73.6	356.1	0.8	13	5.0		
BUG	e P	Z	07:33:33.7	73.8	354.3	0.8	15	5.1		
CLL	e P	Z	07:33:35.8	74.2	357.7	0.8	9	4.9		
BRG	e P	Z	07:33:38.7	74.7	358.3	0.8	8	4.8		
MOX	e P	Z	07:33:39.8	74.8	356.9	0.6	15	5.2		
TANN	e P	Z	07:33:41.2	75.1	357.4	0.7	2	4.3		
TNS	e P	Z	07:33:41.4	75.1	355.0	0.7	10	5.0		
WLF	e P	Z	07:33:44.1	75.5	353.7	0.7	7	4.9		
ROTZ	e P	Z	07:33:45.3	75.7	357.3	0.9	8	4.9		

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GRA1	e P	Z	07:33:45.5	75.8	356.7	0.9	12	5.0
WET	e P	Z	07:33:48.9	76.4	357.7	0.8	4	4.6
GEC2	e P	Z	07:33:50.4	76.7	358.2	0.7	7	4.9
BFO	e P	Z	07:33:51.8	77.0	355.0	0.8	6	4.8
RJOB	e P	Z	07:33:56.4	77.8	357.7	0.8	11	5.1

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/04	13:02:32.7	21.440S	177.430W	33.0G				SZGRF

Fiji Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z 13:21:20.6	147.0	13.3					
NRDL	e PKPbc	Z 13:21:24.5	148.4	13.5					
IBBN	e PKPbc	Z 13:21:26.0	148.9	9.4					
	e PKPab	Z 13:21:30.1							
CLZ	e PKPbc	Z 13:21:26.4	149.0	14.2					
CLL	e PKPbc	Z 13:21:26.2	149.0	19.1					
BRG	e PKPbc	Z 13:21:26.9	149.2	21.0					
BUG	e PKPbc	Z 13:21:28.0	149.8	8.7					
MOX	e PKPbc	Z 13:21:28.7	149.9	17.0					
TANN	e PKPbc	Z 13:21:29.0	150.0	18.6					
UBBA	e PKPbc	Z 13:21:28.8	150.0	14.0					
ROTZ	e PKPbc	Z 13:21:30.6	150.7	18.5					
TNS	e PKPbc	Z 13:21:30.9	150.8	11.3					
GRA1	e PKPbc	Z 13:21:31.3	150.9	16.7					
	e PKPab	Z 13:21:38.8							
WET	e PKPbc	Z 13:21:31.6	151.1	20.2					
	e PKPab	Z 13:21:39.6							
GEC2	e PKPbc	Z 13:21:31.6	151.2	21.9					
WLF	e PKPbc	Z 13:21:33.1	151.6	7.0					
STU	e PKPbc	Z 13:21:33.9	152.2	13.3					
FUR	e PKPbc	Z 13:21:34.2	152.4	17.7					
	e PKPab	Z 13:21:44.9							
RJOB	e PKPbc	Z 13:21:34.3	152.4	20.9					
	e PKPab	Z 13:21:45.2							
BFO	e PKPbc	Z 13:21:34.9	152.7	11.8					
	e PKPab	Z 13:21:45.6							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/04	17:48: 7.8	19.810S	174.120W	33.0G		5.2		SZGRF

Tonga Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z 18:07:47.6	145.7	7.4					
NRDL	e PKPbc	Z 18:07:52.2	147.2	7.3					

IBBN	e	PKPbc	Z	18:07:53.0	147.5	3.3				
CLZ	e	PKPbc	Z	18:07:54.2	147.8	7.9				
CLL	e	PKPbc	Z	18:07:54.5	148.0	12.7				
BRG	e	PKPbc	Z	18:07:55.6	148.3	14.5				
BUG	e	PKPbc	Z	18:07:55.4	148.4	2.5				
UBBA	e	PKPbc	Z	18:07:57.1	148.8	7.5				
MOX	e	PKPbc	Z	18:07:56.9	148.8	10.5				
	e	L	Z	19:11:42.1			22.0	463		5.2
TANN	e	PKPbc	Z	18:07:57.4	149.0	12.1				
TNS	e	PKPbc	Z	18:07:58.7	149.5	4.8				
ROTZ	e	PKPbc	Z	18:07:59.2	149.6	11.8				
GRA1	e	PKPbc	Z	18:07:59.8	149.8	10.0				
	e	L	Z	19:15:42.8			20.8	422		5.2
WET	e	PKPbc	Z	18:08:00.5	150.1	13.3				
WLF	e	PKPbc	Z	18:08:00.8	150.1	0.5				
GEC2	e	PKPbc	Z	18:08:00.7	150.3	15.0				
STU	e	PKPbc	Z	18:08:02.0	150.9	6.4				
FUR	e	PKPbc	Z	18:08:02.8	151.3	10.6				
BFO	e	PKPbc	Z	18:08:03.4	151.4	4.8				
RJOB	e	PKPbc	Z	18:08:03.5	151.5	13.7				

Date Origin Time Lat Long Depth mb Ms ML Source  
 2010/02/04 20:20:16.9 40.360N 126.410W 23.0 4.8 5.8  
 Off coast of northern California, United States

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z 20:32:23.4	78.6	327.8	0.9	13	5.0		
IBBN	e P	Z 20:32:26.5	79.2	326.2	0.7	5	4.5		
CLZ	e P	Z 20:32:33.2	80.4	328.1	1.0	6	4.6		
TNS	e P	Z 20:32:36.7	81.2	326.9	1.3	13	4.8		
UBBA	e P	Z 20:32:37.3	81.2	327.9	1.0	3	4.4		
CLL	e P	Z 20:32:39.5	81.7	329.9	1.0	12	5.0		
MOX	e P	Z 20:32:40.4	81.9	329.0	1.1	13	5.0		
	e L	Z 21:09:06.7			19.9	3036		5.7	
TANN	e P	Z 20:32:43.1	82.3	329.6	0.9	4	4.7		
BRG	e P	Z 20:32:43.6	82.4	330.6	0.9	15	5.2		
GRA1	e P	Z 20:32:44.5	82.6	328.8	0.9	6	4.8		
	e L	Z 21:10:04.4			18.4	3697		5.8	
BFO	e P	Z 20:32:44.6	82.7	326.9	1.0	7	4.8		
ROTZ	e P	Z 20:32:45.6	82.8	329.5	1.0	5	4.7		
WET	e P	Z 20:32:49.6	83.6	330.0	1.0	3	4.4		
	e pP	Z 20:32:56.2							
GEC2	e P	Z 20:32:52.2	84.1	330.6	1.1	13	5.0		
RJOB	e P	Z 20:32:55.8	84.8	330.0	1.0	9	5.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/05	01:41:28.6	53.322N	173.347W	33.0G	4.6			SZGRF

Andreanof Islands, Aleutian Islands, United States

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLZ	e P	Z	01:52:53.7	74.8	2.3	0.8	6	4.6		
CLL	e P	Z	01:52:55.4	75.2	3.9	0.7	4	4.6		
NEUB	e P	Z	01:52:56.9	75.4	3.2	0.9	10	4.9		
BRG	e P	Z	01:52:57.8	75.6	4.5	0.8	5	4.7		
MOX	e P	Z	01:52:59.9	75.9	3.1	0.8	4	4.6		
TNS	e P	Z	01:53:02.7	76.4	1.1	0.8	4	4.6		
ROTZ	e P	Z	01:53:05.0	76.8	3.4	0.8	3	4.4		
GRA1	e P	Z	01:53:05.7	76.9	2.8	0.8	9	5.0		
WET	e P	Z	01:53:07.4	77.4	3.8	0.7	1	4.2		
GEC2	e P	Z	01:53:09.2	77.7	4.3	0.8	4	4.5		
BFO	e P	Z	01:53:12.8	78.3	1.0	0.8	3	4.4		
RJOB	e P	Z	01:53:15.6	78.8	3.7	0.8	5	4.6		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/05	06:47:32.1	40.574N	137.393E	33.0G	5.0			SZGRF

Eastern Sea of Japan

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z	06:59:11.6	75.2	38.8	0.7	14	5.1		
BRG	e P	Z	06:59:16.4	76.1	40.8	0.7	11	5.1		
CLL	e P	Z	06:59:16.5	76.1	40.2	0.7	18	5.3		
NEUB	e P	Z	06:59:19.9	76.7	39.4	0.8	20	5.3		
CLZ	e P	Z	06:59:20.7	76.8	38.5	0.8	9	4.9		
TANN	e P	Z	06:59:21.8	77.0	39.7	0.9	5	4.6		
MOX	e P	Z	06:59:22.8	77.2	39.2	0.8	4	4.7		
MANZ	e P	Z	06:59:24.6	77.5	39.4	0.7	6	4.9		
ROTZ	e P	Z	06:59:25.7	77.7	39.5	0.8	8	5.0		
GEC2	e P	Z	06:59:25.4	77.7	40.3	0.8	5	4.7		
WET	e P	Z	06:59:26.5	77.9	39.8	0.9	8	4.9		
GRA1	e P	Z	06:59:28.2	78.1	38.8	0.8	20	5.3		
TNS	e P	Z	06:59:31.6	78.8	37.0	0.7	5	4.7		
RJOB	e P	Z	06:59:32.7	79.0	39.6	0.8	10	4.9		
WLF	e P	Z	06:59:38.8	80.1	35.4	0.7	8	4.7		
BFO	e P	Z	06:59:39.8	80.4	36.7	0.8	13	5.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/05	17:32:12.3	22.482S	176.967W	33.0G				SZGRF

South of Fiji Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
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BSEG	e	PKPbc	Z	17:51:55.0	148.1	12.8
CLL	e	PKPbc	Z	17:51:59.9	150.2	18.7
BRG	e	PKPbc	Z	17:52:00.5	150.4	20.7
NEUB	e	PKPbc	Z	17:52:00.9	150.5	16.6
BUG	e	PKPbc	Z	17:52:01.7	150.9	8.1
MOX	e	PKPbc	Z	17:52:02.1	151.1	16.6
TANN	e	PKPbc	Z	17:52:02.4	151.1	18.3
UBBA	e	PKPbc	Z	17:52:02.1	151.1	13.4
MANZ	e	PKPbc	Z	17:52:03.4	151.6	17.8
ROTZ	e	PKPbc	Z	17:52:03.9	151.8	18.1
TNS	e	PKPbc	Z	17:52:04.4	151.9	10.7
GEC2	e	PKPbc	Z	17:52:04.7	152.3	21.6

Date Origin Time Lat Long Depth mb Ms ML Source  
 2010/02/06 20:32:2.8 15.700S 172.900W 31.0 5.3 NEIC  
 Samoa Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
NRDL	e	PKP	Z 20:51:34.7	143.1	4.8					
CLL	e	PKP	Z 20:51:36.6	144.1	9.7					
BUG	e	PKP	Z 20:51:36.3	144.3	0.3					
BRG	e	PKP	Z 20:51:37.9	144.4	11.4					
UBBA	e	PKP	Z 20:51:36.1	144.8	4.8					
MOX	e	PKP	Z 20:51:36.6	144.9	7.6					
TANN	e	PKP	Z 20:51:37.2	145.0	9.0					
TNS	e	PKP	Z 20:51:38.1	145.5	2.3					
ROTZ	e	PKP	Z 20:51:38.9	145.7	8.7					
GRA1	e	PKP	Z 20:51:40.4	145.8	7.1					
	e	L	Z 21:57:02.9			20.8	481		5.3	
WLF	e	PKP	Z 20:51:40.9	146.0	358.4					
WET	e	PKP	Z 20:51:41.6	146.2	10.0					
GEC2	e	PKP	Z 20:51:41.6	146.4	11.5					
BFO	e	PKP	Z 20:51:43.9	147.4	2.2					
FUR	e	PKP	Z 20:51:44.5	147.4	7.5					
RJOB	e	PKP	Z 20:51:45.1	147.6	10.3					

Date Origin Time Lat Long Depth mb Ms ML Source  
 2010/02/06 20:51:13.3 15.834S 172.609W 33.0G 5.3 SZGRF  
 Samoa Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e	PKPbc	Z 21:10:42.6	144.2	9.3					
UBBA	e	PKPbc	Z 21:10:44.4	145.0	4.4					
MOX	e	PKPbc	Z 21:10:44.9	145.0	7.1					
TANN	e	PKPbc	Z 21:10:45.7	145.2	8.6					

TNS	e	PKPbc	Z	21:10:47.2	145.6	1.8
MANZ	e	PKPbc	Z	21:10:47.4	145.6	8.1
ROTZ	e	PKPbc	Z	21:10:48.2	145.8	8.3
GRA1	e	PKPbc	Z	21:10:49.1	146.0	6.6
WLF	e	PKPbc	Z	21:10:49.5	146.2	357.9
GEC2	e	PKPbc	Z	21:10:50.0	146.6	11.1
BFO	e	PKPbc	Z	21:10:52.7	147.5	1.7
FUR	e	PKPbc	Z	21:10:53.0	147.5	7.0
RJOB	e	PKPbc	Z	21:10:53.7	147.8	9.8

Date 2010/02/07  
 Origin Time 06:10: 4.2  
 Lat 24.488N  
 Long 124.804E  
 Depth 38.6  
 mb 5.9  
 Ms 6.7  
 ML  
 Source SZGRF  
 Southwestern Ryukyu Islands, Japan

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e P	Z	06:22:24.3	82.5	59.0	0.8	219	6.4		
BRG	e P	Z	06:22:27.6	83.3	58.9	0.9	72	5.9		
BSEG	e P	Z	06:22:29.5	83.5	56.5	1.0	78	5.9		
CLL	e P	Z	06:22:28.9	83.6	58.2	0.8	112	6.1		
NEUB	e P	Z	06:22:32.7	84.3	57.3	0.8	88	6.0		
TANN	e P	Z	06:22:32.8	84.3	57.8	0.9	37	5.6		
	e sP	Z	06:22:51.3							
NRDL	e P	Z	06:22:34.0	84.4	56.2	1.0	85	5.9		
GEC2	e P	Z	06:22:33.7	84.5	58.5	0.8	117	6.2		
MOX	e P	Z	06:22:34.6	84.6	57.2	0.8	43	5.7		
MANZ	e P	Z	06:22:35.1	84.7	57.5	0.8	52	5.8		
WET	e P	Z	06:22:35.4	84.8	58.0	0.9	23	5.4		
	e sP	Z	06:22:50.6							
ROTZ	e P	Z	06:22:35.8	84.8	57.5	0.8	73	5.9		
GRA1	e P	Z	06:22:38.6	85.4	56.8	0.9	76	5.8		
	e L	Z	07:05:20.7			20.5	28586		6.7	
UBBA	e P	Z	06:22:38.4	85.4	56.0	0.8	32	5.5		
RJOB	e P	Z	06:22:40.4	85.6	57.8	1.0	54	5.6		
IBBN	e P	Z	06:22:40.4	85.7	54.4	0.8	208	6.3		
FUR	e P	Z	06:22:43.1	86.2	56.7	0.9	187	6.2		
	e sP	Z	06:22:58.2							
BUG	e P	Z	06:22:43.9	86.5	54.0	1.0	106	5.9		
	e sP	Z	06:22:59.3							
TNS	e P	Z	06:22:44.3	86.6	54.8	0.9	49	5.7		
	e sP	Z	06:22:59.9							
STU	e P	Z	06:22:46.3	87.0	55.3	1.0	71	5.8		
	e sP	Z	06:23:01.7							
BFO	e P	Z	06:22:49.4	87.7	54.6	0.8	17	5.4		
	e sP	Z	06:23:04.9							
WLF	e P	Z	06:22:51.9	88.1	53.0	0.9	75	6.0		
	e sP	Z	06:23:07.4							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/07	22:28:22.4	23.170S	178.600W	560.9				SZGRF
South of Fiji Islands								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	22:47:06.5	148.5	15.8					
	e PKPab	Z	22:47:12.0							
HLG	e PKPab	Z	22:47:12.4	148.6	11.5					
	e PKPbc	Z	22:47:08.0	149.2	22.6					
NRDL	e pPKPbc	Z	22:49:17.5							
	e PKPbc	Z	22:47:09.6	149.9	16.1					
IBBN	e pPKPbc	Z	22:49:19.2							
	e PKPbc	Z	22:47:11.2	150.5	11.9					
	e PKPab	Z	22:47:20.0							
CLL	e pPKPbc	Z	22:49:20.4							
	e PKPbc	Z	22:47:10.9	150.5	22.0					
	e PKPab	Z	22:47:19.7							
BRG	e pPKPbc	Z	22:49:20.6							
	e PKPbc	Z	22:47:11.3	150.6	24.0					
	e pPKPbc	Z	22:49:21.1							
FBE	e PKPbc	Z	22:47:12.0	150.7	22.9					
	e pPKPbc	Z	22:49:21.3							
NEUB	e PKPbc	Z	22:47:11.9	150.8	19.9					
	e PKPab	Z	22:47:21.4							
	e pPKPbc	Z	22:49:21.1							
BUG	e PKPbc	Z	22:47:12.9	151.4	11.3					
	e pPKPbc	Z	22:49:22.9							
MOX	e PKPbc	Z	22:47:13.0	151.4	19.9					
	e pPKPbc	Z	22:49:23.0							
TANN	e PKPbc	Z	22:47:13.2	151.4	21.6					
	e PKPab	Z	22:47:24.1							
	e pPKPbc	Z	22:49:23.4							
PLN	e PKPbc	Z	22:47:13.2	151.4	21.0					
	e PKPab	Z	22:47:24.2							
	e pPKPbc	Z	22:49:23.8							
WERD	e PKPbc	Z	22:47:13.1	151.4	21.3					
	e PKPab	Z	22:47:24.0							
	e pPKPbc	Z	22:49:23.8							
GUNZ	e PKPbc	Z	22:47:13.4	151.5	21.4					
	e PKPab	Z	22:47:24.4							
	e pPKPbc	Z	22:49:23.9							
UBBA	e pPKPbc	Z	22:49:23.4	151.6	16.8					
WERN	e PKPbc	Z	22:47:13.7	151.6	21.6					
	e PKPab	Z	22:47:24.8							
	e pPKPbc	Z	22:49:24.4							
MANZ	e PKPbc	Z	22:47:14.2	151.9	21.3					
	e pPKPbc	Z	22:49:25.0							



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ROTZ	e	PKPbc	Z	22:47:14.8	152.1	21.6
	e	pPKPbc	Z	22:49:25.2		
GRA1	e	PKPab	Z	22:47:28.5	152.4	19.8
	e	pPKPbc	Z	22:49:26.2		
TNS	e	PKPbc	Z	22:47:15.3	152.4	14.1
	e	PKPab	Z	22:47:28.2		
	e	pPKPbc	Z	22:49:26.2		
WET	e	PKPab	Z	22:47:28.8	152.5	23.3
	e	pPKPbc	Z	22:49:26.3		
GEC2	e	PKPbc	Z	22:47:15.5	152.5	25.1
	e	pPKPbc	Z	22:49:25.9		
WLF	e	pPKPbc	Z	22:49:28.0	153.2	9.7
STU	e	PKPab	Z	22:47:33.5	153.7	16.3
	e	pPKPbc	Z	22:49:28.5		
FUR	e	PKPab	Z	22:47:34.5	153.8	20.9
RJOB	e	PKPab	Z	22:47:34.8	153.8	24.3
	e	pPKPbc	Z	22:49:29.0		
BFO	e	PKPab	Z	22:47:36.0	154.2	14.8
	e	pPKPbc	Z	22:49:29.5		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/07	23:21:53.1	24.690S	179.250W	33.0G				NEIC
South of Fiji Islands								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e	PKPbc	Z	23:41:40.1	149.9	17.5				
	e	PKPab	Z	23:41:45.4						
RUE	e	PKPbc	Z	23:41:41.6	150.5	24.6				
	e	PKPab	Z	23:41:48.0						
NRDL	e	PKPbc	Z	23:41:43.2	151.3	17.9				
	e	PKPab	Z	23:41:51.0						
CLL	e	PKPbc	Z	23:41:44.5	151.8	24.1				
	e	PKPab	Z	23:41:53.2						
IBBN	e	PKPbc	Z	23:41:44.8	151.9	13.6				
	e	PKPab	Z	23:41:55.0						
BRG	e	PKPbc	Z	23:41:45.1	151.9	26.1				
	e	PKPab	Z	23:41:54.0						
FBE	e	PKPbc	Z	23:41:45.5	152.0	25.0				
	e	PKPab	Z	23:41:54.8						
NEUB	e	PKPbc	Z	23:41:45.4	152.2	21.8				
	e	PKPab	Z	23:41:54.9						
MOX	e	PKPbc	Z	23:41:46.6	152.7	21.9				
	e	PKPab	Z	23:41:57.2						
TANN	e	PKPbc	Z	23:41:46.8	152.7	23.7				
	e	PKPab	Z	23:41:57.4						
WERD	e	PKPbc	Z	23:41:46.8	152.7	23.4				
	e	PKPab	Z	23:41:57.4						

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PLN	e	PKPbc	Z	23:41:46.8	152.7	23.1
	e	PKPab	Z	23:41:57.5		
BUG	e	PKPab	Z	23:41:56.8	152.8	13.0
GUNZ	e	PKPbc	Z	23:41:47.1	152.8	23.5
	e	PKPab	Z	23:41:58.0		
WERN	e	PKPbc	Z	23:41:47.1	152.9	23.7
	e	PKPab	Z	23:41:58.2		
UBBA	e	PKPbc	Z	23:41:46.9	152.9	18.7
ROTZ	e	PKPab	Z	23:42:00.3	153.4	23.8
GRA1	e	PKPab	Z	23:42:01.7	153.7	21.9
WET	e	PKPab	Z	23:42:01.8	153.8	25.6
TNS	e	PKPbc	Z	23:41:49.1	153.8	16.0
	e	PKPab	Z	23:42:01.7		
GEC2	e	PKPbc	Z	23:41:49.0	153.8	27.5
STU	e	PKPab	Z	23:42:06.9	155.0	18.4
RJOB	e	PKPab	Z	23:42:08.0	155.1	26.7
FUR	e	PKPab	Z	23:42:07.8	155.1	23.2
BFO	e	PKPab	Z	23:42:09.3	155.6	16.9

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/08	07:57:22.6	43.408N	86.354E	33.0G	5.0			SZGRF

Northern Xinjiang, China

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RGN	e P	Z 08:05:50.5	46.9	72.0	0.6	44	5.8		
RUE	e P	Z 08:05:52.5	47.3	70.5	0.6	24	5.5		
BRG	e P	Z 08:05:56.3	47.8	69.2	0.6	6	4.9		
CLL	e P	Z 08:05:59.1	48.2	69.0	0.6	32	5.6		
GEC2	e P	Z 08:06:03.6	48.7	67.4	0.6	3	4.4		
TANN	e P	Z 08:06:04.6	48.8	68.0	0.8	5	4.6		
NEUB	e P	Z 08:06:05.0	49.0	68.2	0.6	24	5.4		
WET	e P	Z 08:06:06.5	49.1	67.2	0.6	5	4.7		
MANZ	e P	Z 08:06:07.4	49.2	67.4	0.8	3	4.4		
ROTZ	e P	Z 08:06:07.9	49.2	67.3	0.7	4	4.5		
MOX	e P	Z 08:06:07.7	49.3	67.7	0.6	7	4.8		
NRDL	e P	Z 08:06:09.2	49.4	68.3	0.7	12	4.9		
RJOB	e P	Z 08:06:11.8	49.7	66.0	0.7	13	5.0		
GRA1	e P	Z 08:06:12.9	49.9	66.7	0.7	15	5.1		
UBBA	e P	Z 08:06:13.9	50.1	66.9	0.6	4	4.5		
IBBN	e P	Z 08:06:19.4	50.8	66.7	0.7	18	5.1		
TNS	e P	Z 08:06:23.0	51.3	65.6	0.6	6	4.7		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/08	19:06:54.6	38.598N	15.824W	33.0G	4.2			SZGRF

Azores-Cape St. Vincent Ridge

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z	19:11:15.4	19.2	243.1	0.8	16	4.3		
BFO	e P	Z	19:11:24.7	19.9	249.8	0.8	8	4.0		
TNS	e P	Z	19:11:33.1	20.7	245.2	0.8	9	4.2		
GRA1	e P	Z	19:11:48.4	22.2	250.3	0.9	10	4.2		
RJOB	e P	Z	19:11:53.6	22.6	256.7	0.8	6	4.2		
MOX	e P	Z	19:11:55.4	22.7	248.7	0.9	6	4.1		
ROTZ	e P	Z	19:11:55.0	22.8	251.4	1.0	7	4.1		
MANZ	e P	Z	19:11:55.2	22.8	250.8	0.8	10	4.4		
WET	e P	Z	19:11:58.2	23.0	253.6	0.7	3	3.9		
GEC2	e P	Z	19:12:01.6	23.5	255.2	0.8	8	4.3		
BRG	e P	Z	19:12:08.8	24.2	251.1	0.7	3	3.9		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/08	21:26:49.1	15.400S	173.100W	59.0				GFZ

Tonga Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
MOX	e PKPbc	Z	21:46:19.8	144.6	7.9					
TANN	e PKPbc	Z	21:46:15.7	144.7	9.3					
MANZ	e PKPbc	Z	21:46:21.3	145.2	8.8					
ROTZ	e PKPbc	Z	21:46:22.6	145.4	9.0					
GRA1	e PKPbc	Z	21:46:23.0	145.5	7.4					
WET	e PKPbc	Z	21:46:23.7	145.9	10.3					
GEC2	e PKPbc	Z	21:46:24.1	146.1	11.8					
FUR	e PKPbc	Z	21:46:27.7	147.0	7.8					
BFO	e PKPbc	Z	21:46:26.7	147.0	2.5					
RJOB	e PKPbc	Z	21:46:27.5	147.3	10.6					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/09	00:47:38.4	15.775N	97.639W	33.0G	5.5	5.3		SZGRF

Near coast of Oaxaca, Mexico

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
IBBN	e P	Z	01:00:19.0	86.6	291.7	1.1	88	5.8		
WLF	e P	Z	01:00:18.9	86.6	290.6	1.2	82	5.7		
BUG	e P	Z	01:00:19.0	86.7	291.3	1.4	102	5.8		
BSEG	e P	Z	01:00:22.6	87.4	293.6	1.1	46	5.7		
TNS	e P	Z	01:00:24.5	87.8	292.3	0.9	54	5.9		
NRDL	e P	Z	01:00:24.7	87.9	293.5	1.0	24	5.5		
CLZ	e P	Z	01:00:27.1	88.3	293.7	1.1	38	5.6		
BFO	e P	Z	01:00:27.0	88.4	292.2	1.1	14	5.1		
UBBA	e P	Z	01:00:27.5	88.5	293.4	1.9	51	5.4		
STU	e P	Z	01:00:28.9	88.8	292.9	0.9	24	5.4		

NEUB	e P	Z	01:00:31.6	89.3	294.8	1.1	39	5.6		
MOX	e P	Z	01:00:32.1	89.5	294.7	1.2	30	5.4		
GRA1	e P	Z	01:00:33.3	89.7	294.4	1.5	46	5.5		
	e L	Z	01:39:04.4			18.2	1154		5.3	
RUE	e P	Z	01:00:34.0	89.9	296.4	0.9	18	5.3		
WERD	e P	Z	01:00:34.7	90.0	295.2	1.3	34	5.4		
CLL	e P	Z	01:00:34.5	90.0	295.8	1.1	20	5.3		
GUNZ	e P	Z	01:00:34.9	90.0	295.2	1.1	34	5.5		
MANZ	e P	Z	01:00:35.0	90.0	295.1	1.1	25	5.4		
TANN	e P	Z	01:00:35.1	90.1	295.3	1.2	32	5.4		
ROTZ	e P	Z	01:00:36.0	90.2	295.2	1.4	31	5.4		
FUR	e P	Z	01:00:36.2	90.3	294.4	1.5	39	5.4		
FBE	e P	Z	01:00:36.6	90.4	296.0	1.1	30	5.5		
BRG	e P	Z	01:00:38.0	90.7	296.5	0.9	31	5.6		
WET	e P	Z	01:00:38.9	90.9	295.7	1.1	39	5.6		
RJOB	e P	Z	01:00:41.3	91.4	295.6	1.3	28	5.4		
GEC2	e P	Z	01:00:41.7	91.5	296.3	1.2	27	5.5		

Date Origin Time Lat Long Depth mb Ms ML Source  
 2010/02/09 01:03:44.5 15.100S 173.500W 10.0 5.7 NEIC  
 Tonga Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	01:23:15.7	141.0	5.9					
CLZ	e PKPbc	Z	01:23:17.4	143.1	6.2					
MOX	e PKPbc	Z	01:23:21.4	144.2	8.5					
TANN	e PKPbc	Z	01:23:21.7	144.4	9.9					
MANZ	e PKPbc	Z	01:23:22.4	144.8	9.4					
TNS	e PKPbc	Z	01:23:22.6	144.8	3.3					
ROTZ	e PKPbc	Z	01:23:22.7	145.0	9.6					
GRA1	e PKPbc	Z	01:23:24.0	145.2	8.0					
	e L	Z	02:29:18.5			21.2	1520		5.7	
WLF	e PKPbc	Z	01:23:24.8	145.4	359.4					
WET	e PKPbc	Z	01:23:25.3	145.6	10.9					
GEC2	e PKPbc	Z	01:23:25.5	145.7	12.4					
FUR	e PKPbc	Z	01:23:28.3	146.7	8.4					
BFO	e PKPbc	Z	01:23:28.3	146.7	3.2					
RJOB	e PKPbc	Z	01:23:28.5	146.9	11.2					

Date Origin Time Lat Long Depth mb Ms ML Source  
 2010/02/10 04:51:11.7 22.810S 170.460E 33.0G SZGRF  
 Southeast of Loyalty Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	05:10:46.0	145.5	33.5					

BRG	e	PKPbc	Z	05:10:48.5	146.5	41.8
CLL	e	PKPbc	Z	05:10:49.3	146.6	39.9
NEUB	e	PKPbc	Z	05:10:51.2	147.2	38.2
CLZ	e	PKPbc	Z	05:10:51.4	147.2	35.4
TANN	e	PKPbc	Z	05:10:51.4	147.5	40.0
MOX	e	PKPbc	Z	05:10:52.2	147.7	38.5
MANZ	e	PKPbc	Z	05:10:53.6	148.0	39.9
ROTZ	e	PKPbc	Z	05:10:53.9	148.1	40.3
GEC2	e	PKPbc	Z	05:10:54.0	148.1	43.6
WET	e	PKPbc	Z	05:10:54.3	148.3	42.0
TNS	e	PKPbc	Z	05:10:56.6	149.2	33.8
RJOB	e	PKPbc	Z	05:10:56.7	149.4	43.4
STU	e	PKPbc	Z	05:10:58.9	150.1	36.4
WLF	e	PKPbc	Z	05:10:59.9	150.4	30.4
BFO	e	PKPbc	Z	05:11:00.0	150.8	35.4

Date Origin Time Lat Long Depth mb Ms ML Source  
 2010/02/10 07:18:36.6 7.200S 154.700E 61.0 NEIC  
 Bougainville - Solomon Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e	PKPdf	Z	07:37:31.7	125.2	45.0			
BRG	e	PKPdf	Z	07:37:32.0	125.6	50.5			
CLL	e	PKPdf	Z	07:37:32.1	125.8	49.3			
FBE	e	PKPdf	Z	07:37:32.8	125.9	49.9			
NRDL	e	PKPdf	Z	07:37:33.6	126.3	45.5			
TANN	e	PKPdf	Z	07:37:33.8	126.6	49.2			
CLZ	e	PKPdf	Z	07:37:34.2	126.6	46.1			
WERD	e	PKPdf	Z	07:37:34.4	126.7	49.0			
PLN	e	PKPdf	Z	07:37:33.9	126.7	48.8			
WERN	e	PKPdf	Z	07:37:34.4	126.7	49.2			
MOX	e	PKPdf	Z	07:37:34.3	126.9	48.1			
GEC2	e	PKPdf	Z	07:37:34.5	127.0	51.4			
MANZ	e	PKPdf	Z	07:37:34.8	127.1	49.0			
ROTZ	e	PKPdf	Z	07:37:34.9	127.2	49.3			
WET	e	PKPdf	Z	07:37:35.3	127.2	50.4			
IBBN	e	PKPdf	Z	07:37:35.4	127.4	43.0			
UBBA	e	PKPdf	Z	07:37:35.8	127.5	46.3			
GRA1	e	PKPdf	Z	07:37:36.0	127.7	48.3			
TNS	e	PKPdf	Z	07:37:40.1	128.6	44.9			
FUR	e	PKPdf	Z	07:37:37.4	128.7	49.2			
WLF	e	PKPdf	Z	07:37:41.7	130.0	42.5			

Date Origin Time Lat Long Depth mb Ms ML Source  
 2010/02/10 20:46:40.7 1.100N 126.100E 8.0G 4.7 neic

Northern Molucca Sea

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e Pdiff	Z	21:00:46.0	102.9	71.8					
CLL	e Pdiff	Z	21:00:47.3	103.3	70.9					
TANN	e Pdiff	Z	21:00:50.2	103.9	70.7					
MANZ	e Pdiff	Z	21:00:52.8	104.3	70.5					
ROTZ	e Pdiff	Z	21:00:52.3	104.3	70.6					
MOX	e Pdiff	Z	21:00:52.6	104.4	69.9					
NRDL	e Pdiff	Z	21:00:54.0	104.6	68.2					
RJOB	e Pdiff	Z	21:00:52.7	104.6	71.6					
CLZ	e Pdiff	Z	21:00:53.2	104.7	68.6					
GRA1	e L	Z	21:52:12.6	104.9	69.8	19.8	224		4.7	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/10	21:27:41.0	25.170S	179.550W	33.0G				SZGRF

South of Fiji Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	21:47:29.4	150.3	18.2					
	e PKPab	Z	21:47:35.1							
RUE	e PKPbc	Z	21:47:30.9	150.9	25.4					
CLL	e PKPbc	Z	21:47:33.5	152.2	24.9					
	e PKPab	Z	21:47:42.8							
CLZ	e PKPbc	Z	21:47:34.0	152.3	19.6					
BRG	e PKPbc	Z	21:47:33.9	152.3	27.0					
	e PKPab	Z	21:47:43.5							
NEUB	e PKPbc	Z	21:47:34.7	152.6	22.7					
	e PKPab	Z	21:47:44.7							
TANN	e PKPbc	Z	21:47:35.1	153.1	24.6					
MOX	e PKPbc	Z	21:47:35.0	153.1	22.8					
	e PKPab	Z	21:47:47.0							
UBBA	e PKPbc	Z	21:47:35.6	153.3	19.5					
MANZ	e PKPbc	Z	21:47:36.7	153.6	24.3					
WET	e PKPab	Z	21:47:52.0	154.1	26.5					
GEC2	e PKPbc	Z	21:47:37.9	154.2	28.4					
FUR	e PKPab	Z	21:47:57.2	155.5	24.2					
BFO	e PKPab	Z	21:47:58.3	156.0	17.8					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/11	11:51:54.8	40.112S	16.676W	10.0G	5.7	4.8		neic

Southern Mid-Atlantic Ridge

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BFO	e P	Z	12:04:59.2	91.2	198.9	1.7	68	5.7		

RJOB	e P	Z	12:05:01.2	91.7	202.1	1.5	24	5.3	
FUR	e P	Z	12:05:02.1	91.7	201.0	2.0	192	6.1	
STU	e P	Z	12:05:02.7	91.8	199.5	1.5	67	5.8	
WLF	e P	Z	12:05:03.4	92.0	197.3	2.0	140	6.0	
WET	e P	Z	12:05:07.9	93.0	202.2	1.8	54	5.7	
TNS	e P	Z	12:05:08.5	93.0	199.0	1.6	36	5.6	
GRA1	e P	Z	12:05:10.4	93.1	201.0	2.0	183	6.2	
	e L	Z	12:45:14.0			19.5	366		4.8
ROTZ	e P	Z	12:05:09.9	93.4	201.7	1.7	36	5.5	
MANZ	e P	Z	12:05:12.5	93.6	201.7	2.0	50	5.6	
UBBA	e P	Z	12:05:14.2	93.9	200.1	2.0	44	5.5	
TANN	e P	Z	12:05:13.8	94.1	201.9	2.3	86	5.7	
MOX	e P	Z	12:05:14.2	94.1	201.3	2.0	43	5.4	
NRDL	e P	Z	12:05:22.5	95.5	200.3	2.8	143	5.9	

Date Origin Time Lat Long Depth mb Ms ML Source  
 2010/02/11 19:05:29.4 24.170S 174.460W 33.0G  
 South of Tonga Islands SZGRF

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
HLG	e PKPab	Z	19:25:23.9	149.9	4.3					
BSEG	e PKPbc	Z	19:25:17.2	150.0	8.7					
	e PKPab	Z	19:25:23.2							
RUE	e PKPbc	Z	19:25:19.4	151.0	15.7					
NRDL	e PKPbc	Z	19:25:19.2	151.5	8.7					
IBBN	e PKPbc	Z	19:25:21.4	151.8	4.3					
CLZ	e PKPbc	Z	19:25:22.0	152.1	9.4					
CLL	e PKPbc	Z	19:25:22.0	152.3	14.7					
BRG	e PKPbc	Z	19:25:22.9	152.5	16.8					
NEUB	e PKPbc	Z	19:25:22.9	152.5	12.4					
BUG	e PKPab	Z	19:25:33.4	152.7	3.4					
MOX	e PKPbc	Z	19:25:24.1	153.1	12.3					
TANN	e PKPbc	Z	19:25:24.3	153.2	14.1					
MANZ	e PKPbc	Z	19:25:25.3	153.7	13.6					
	e PKPab	Z	19:25:38.0							
TNS	e PKPab	Z	19:25:38.3	153.8	6.0					
GRA1	e PKPab	Z	19:25:39.2	154.1	11.9					
WET	e PKPab	Z	19:25:40.3	154.4	15.6					
FUR	e PKPab	Z	19:25:45.3	155.6	12.7					
RJOB	e PKPab	Z	19:25:46.4	155.7	16.3					
BFO	e PKPab	Z	19:25:46.2	155.7	6.2					

Date Origin Time Lat Long Depth mb Ms ML Source  
 2010/02/11 21:56: 8.6 32.466N 27.708E 33.0G 5.7 4.8  
 Eastern Mediterranean Sea SZGRF

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
FUR	e P	Z	22:00:38.4	20.0	135.7	2.1	1825	5.9		
WET	e P	Z	22:00:39.1	20.0	140.9	1.4	654	5.7		
GRA1	e P	Z	22:00:51.2	21.1	138.4	2.1	2195	6.1		
	e L	Z	22:09:58.1			19.1	4011		4.8	
TANN	e P	Z	22:00:51.8	21.2	142.1	1.0	217	5.4		
STU	e P	Z	22:00:52.7	21.4	132.8	0.9	140	5.4		
BFO	e P	Z	22:00:54.9	21.5	130.3	1.4	174	5.3		
CLL	e P	Z	22:00:57.7	21.7	144.6	1.1	122	5.2		
MOX	e P	Z	22:00:57.1	21.7	140.8	0.9	76	5.2		
UBBA	e P	Z	22:01:05.9	22.5	137.9	1.6	251	5.5		
TNS	e P	Z	22:01:08.8	22.8	134.0	1.5	440	5.8		
CLZ	e P	Z	22:01:12.0	23.1	140.2	1.0	170	5.5		
WLF	e P	Z	22:01:15.7	23.5	129.0	1.1	348	5.8		
NRDL	e P	Z	22:01:18.6	23.7	140.7	2.0	558	5.7		
BUG	e P	Z	22:01:23.4	24.1	133.9	1.3	464	5.8		
IBBN	e P	Z	22:01:27.9	24.5	136.1	1.8	701	6.1		
BSEG	e P	Z	22:01:29.2	24.8	143.0	2.1	987	6.2		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/12	03:22:51.3	56.600N	152.400W	20.0	4.9			GSRC-M

Kodiak Island, Alaska, United States, region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLZ	e P	Z	03:34:10.1	70.6	350.0	1.1	18	5.1		
BRG	e P	Z	03:34:17.4	71.9	352.1	1.0	8	4.8		
MOX	e P	Z	03:34:17.2	71.9	350.8	1.2	16	5.0		
TNS	e P	Z	03:34:17.3	72.0	349.1	0.9	10	5.0		
WET	e P	Z	03:34:26.3	73.6	351.6	1.1	8	4.7		
GEC2	e P	Z	03:34:29.2	73.9	352.1	1.1	6	4.6		
RJOB	e P	Z	03:34:34.9	74.9	351.6	0.9	9	4.8		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/12	11:20:39.7	29.700N	42.800W	10.0	5.0			NEIC

Northern Mid-Atlantic Ridge

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z	11:28:33.8	41.7	260.1	3.1	203	5.3		
BFO	e P	Z	11:28:37.6	42.9	263.4	1.2	21	4.7		
TNS	e P	Z	11:28:40.9	43.2	261.5	1.6	29	4.8		
NRDL	e P	Z	11:28:50.5	44.6	260.7	1.0	19	5.0		
GRA1	e P	Z	11:28:52.6	44.9	264.4	1.9	61	5.2		
BSEG	e P	Z	11:28:54.9	45.0	259.4	0.9	44	5.4		
MOX	e P	Z	11:28:56.9	45.3	263.8	1.2	12	4.7		



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CLL	e P	Z	11:29:02.8	46.2	264.3	1.7	20	4.9
GEC2	e P	Z	11:29:06.2	46.5	267.2	1.6	16	4.9

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/13	02:34:29.2	21.900S	174.800W	33.0G				NEIC

Tonga Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPdf	Z 02:54:11.6	147.7	8.9					
NRDL	e PKPdf	Z 02:54:18.1	149.2	8.9					
CLZ	e PKPdf	Z 02:54:15.5	149.8	9.6					
CLL	e PKPdf	Z 02:54:15.2	150.0	14.6					
BRG	e PKPdf	Z 02:54:15.7	150.2	16.5					
MOX	e PKPdf	Z 02:54:16.8	150.8	12.3					
TANN	e PKPdf	Z 02:54:16.9	150.9	14.0					
WET	e PKPdf	Z 02:54:14.5	152.1	15.4					
GEC2	e PKPdf	Z 02:54:17.3	152.2	17.1					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/13	17:37:53.6	66.500N	174.600W	33.0G	5.2			GSRC

Near north coast of eastern Siberia, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
IBBN	e P	Z 17:48:17.5	61.2	1.1	1.5	38	5.4		
CLZ	e P	Z 17:48:20.8	61.6	2.3	1.4	30	5.3		
GRA2	e P	Z 17:48:35.2	63.8	2.6	1.5	37	5.4		
GRB4	e P	Z 17:48:36.1	63.9	2.7	1.3	28	5.3		
GRB3	e P	Z 17:48:37.0	64.1	2.8	1.2	22	5.2		
GRB2	e P	Z 17:48:37.3	64.1	2.8	1.3	22	5.2		
GRB5	e P	Z 17:48:38.3	64.3	2.8	1.3	14	5.0		
GRC4	e P	Z 17:48:38.5	64.3	2.7	1.3	16	5.1		
GRC1	e P	Z 17:48:39.0	64.4	2.7	1.5	23	5.2		
GRC3	e P	Z 17:48:39.7	64.5	2.7	1.4	18	5.1		
GRC2	e P	Z 17:48:39.8	64.5	2.6	1.4	22	5.2		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/13	22:33:48.7	44.077N	142.106E	33.0G	5.3			SZGRF

Hokkaido, Japan, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z 22:45:04.2	73.7	33.9	0.8	22	5.2		
CLL	e P	Z 22:45:10.9	74.9	35.3	0.7	32	5.5		
CLZ	e P	Z 22:45:14.0	75.4	33.6	0.8	23	5.3		

IBBN	e P	Z	22:45:16.6	75.9	32.0	3.0	232	5.8
WET	e P	Z	22:45:22.0	76.8	34.9	1.0	11	4.9
BUG	e P	Z	22:45:21.5	76.8	31.6	0.9	18	5.2
GRA1	e P	Z	22:45:22.7	76.9	33.9	1.9	76	5.5
RJOB	e P	Z	22:45:28.7	78.0	34.6	0.8	9	4.9
FUR	e P	Z	22:45:29.7	78.2	33.7	1.1	22	5.2
STU	e P	Z	22:45:30.6	78.4	32.5	0.8	19	5.2

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/14	02:57:40.3	37.300N	141.300E	56.0	5.1			NEIC

Near east coast of eastern Honshu, Japan

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA2	e P	Z	03:09:58.9	82.5	38.0	1.0	12	5.1		
GRA1	e P	Z	03:09:58.9	82.5	37.9	1.0	13	5.1		
GRB4	e P	Z	03:09:58.9	82.5	38.1	1.0	12	5.1		
GRB2	e P	Z	03:09:59.2	82.6	38.2	0.9	12	5.1		
GRC1	e P	Z	03:10:00.7	82.9	38.0	0.9	10	5.1		
GRC3	e P	Z	03:10:00.9	83.0	38.1	1.1	11	5.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/14	20:45:30.3	20.550S	169.230E	33.0G				SZGRF

Vanuatu Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
TANN	e PKPbc	Z	21:05:02.4	145.0	40.0					
WERD	e PKPbc	Z	21:05:02.5	145.0	39.8					
	e		21:05:13.2							
GUNZ	e PKPbc	Z	21:05:02.7	145.1	39.9					
	e		21:05:13.4							
WERN	e PKPbc	Z	21:05:03.1	145.1	40.0					
NKC	e PKPbc	Z	21:05:03.1	145.1	40.2					
MOX	e PKPbc	Z	21:05:02.8	145.1	38.6					
IBBN	e PKPbc	Z	21:05:02.9	145.1	31.4					
ROTZ	e PKPbc	Z	21:05:05.1	145.6	40.3					
GEC2	e PKPbc	Z	21:05:04.4	145.6	43.4					
WET	e PKPbc	Z	21:05:05.2	145.8	41.9					
WLF	e PKPbc	Z	21:05:12.1	147.9	30.9					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/15	10:15:44.2	6.100N	126.900E	99.0				NEIC

Mindanao, Philippine Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e Pdiff	Z	10:29:17.0	99.3	68.1					
FBE	e Pdiff	Z	10:29:18.6	99.7	67.6					
CLL	e Pdiff	Z	10:29:18.4	99.7	67.3					
GEC2	e Pdiff	Z	10:29:20.1	100.2	68.2					
TANN	e Pdiff	Z	10:29:21.7	100.4	67.0					
WERD	e Pdiff	Z	10:29:22.0	100.5	66.8					
NKC	e Pdiff	Z	10:29:22.1	100.5	67.0					
GUNZ	e Pdiff	Z	10:29:22.2	100.5	66.9					
WERN	e Pdiff	Z	10:29:22.3	100.5	66.9					
ROHR	e Pdiff	Z	10:29:22.5	100.5	66.9					
MOX	e Pdiff	Z	10:29:23.5	100.8	66.2					
ROTZ	e Pdiff	Z	10:29:23.2	100.8	66.9					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/15	11:50:48.1	46.800N	153.100E	44.0	5.1			NEIC

Kuril Islands, Russia

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e P	Z	12:02:32.2	76.1	26.9	0.7	12	5.2		
GRA1	e P	Z	12:02:44.2	78.0	25.6	1.1	16	5.1		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/15	21:51:48.2	7.300S	128.800E	128.0G				NEIR

Banda Sea

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e Pdiff	Z	22:06:07.0	110.9	74.1					
	e PKKP	Z	22:21:16.1							
BRG	e Pdiff	Z	22:06:08.2	111.2	74.9					
	e PKKPab	Z	22:10:06.8							
	e PKKP	Z	22:21:14.8							
FBE	e Pdiff	Z	22:06:10.1	111.5	74.4					
	e PKKPab	Z	22:10:07.3							
	e PKKP	Z	22:21:13.3							
CLL	e PKKPab	Z	22:10:07.2	111.7	73.9					
	e PP	Z	22:10:50.3							
	e PKKP	Z	22:21:12.2							
GEC2	e PKKPab	Z	22:10:07.6	111.9	75.4					
	e PKKP	Z	22:21:11.4							
TANN	e PKKPab	Z	22:10:08.6	112.2	73.8					
NKC	e PKKPab	Z	22:10:08.4	112.3	73.9					
WERD	e Pdiff	Z	22:06:13.7	112.3	73.7					
	e PKKPab	Z	22:10:08.8							
WET	e PKKPab	Z	22:10:08.3	112.3	74.7					

	e	PKKP	Z	22:21:09.2					
WERN	e	PKKPab	Z	22:10:08.8	112.3	73.8			
GUNZ	e	PKKPab	Z	22:10:08.8	112.3	73.7			
ROHR	e	PKKPab	Z	22:10:09.0	112.4	73.8			
BSEG	e	Pdiff	Z	22:06:14.1	112.4	70.6			
	e	PKKPab	Z	22:10:09.4					
NEUB	e	Pdiff	Z	22:06:14.4	112.4	72.9			
	e	PKKPab	Z	22:10:08.8					
ROTZ	e	Pdiff	Z	22:06:15.0	112.6	73.8			
	e	PKKPab	Z	22:10:09.3					
	e	PKKP	Z	22:21:08.7					
MANZ	e	PKKP	Z	22:21:08.5	112.6	73.7			
MOX	e	PKKPab	Z	22:10:09.4	112.7	73.0			
RJOB	e	PKKPab	Z	22:10:08.9	112.7	75.1			
NRDL	e	Pdiff	Z	22:06:16.2	113.0	71.0			
	e	PKKPab	Z	22:10:10.2					
	e	PP	Z	22:11:02.1					
	e	PKKP	Z	22:21:06.6					
CLZ	e	Pdiff	Z	22:06:16.8	113.1	71.4			
	e	PKKPab	Z	22:10:10.4					
	e	PKKP	Z	22:21:06.5					
GRA1	e	Pdiff	Z	22:06:17.6	113.2	73.0			
	e	PKKPab	Z	22:10:10.3					
	e	PP	Z	22:11:05.8					
UBBA	e	PKKPab	Z	22:10:11.0	113.6	71.5			
	e	PKKP	Z	22:21:03.7					
FUR	e	PKKPab	Z	22:10:11.1	113.6	73.7			
	e	PKKP	Z	22:21:03.9					
IBBN	e	PKKPab	Z	22:10:12.9	114.4	69.0			
	e	PKKP	Z	22:21:00.3					
TNS	e	PKKPab	Z	22:10:13.4	114.7	70.5			
	e	PKKP	Z	22:20:58.6					
STU	e	PKKPab	Z	22:10:13.7	114.7	71.7			
	e	PKKP	Z	22:20:58.8					
BUG	e	PKKPab	Z	22:10:14.0	115.0	68.9			
	e	PKKP	Z	22:20:57.3					
BFO	e	PKKPab	Z	22:10:14.0	115.4	71.2			
	e	PP	Z	22:11:17.6					
WLF	e	PKKPab	Z	22:10:16.9	116.3	68.7			
	e	PKKP	Z	22:20:51.8					

Date Origin Time Lat Long Depth mb Ms ML Source  
 2010/02/16 01:57:24.8 41.500N 143.500E 33.0G 5.3 5.2 ML SZGRF  
 Hokkaido, Japan, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z 02:09:13.4	76.5	34.2	2.1	104	5.6		

CLL	e P	Z	02:09:19.6	77.7	35.7	1.1	26	5.3	
BRG	e P	Z	02:09:20.5	77.7	36.2	1.6	33	5.2	
CLZ	e P	Z	02:09:23.4	78.2	33.9	1.5	65	5.4	
TANN	e P	Z	02:09:25.8	78.6	35.2	2.2	63	5.3	
MOX	e P	Z	02:09:25.7	78.7	34.6	2.1	72	5.3	
	e L	N	02:43:58.5			19.4	1025		5.2
UBBA	e P	Z	02:09:28.0	79.2	33.6	2.8	116	5.4	
ROTZ	e P	Z	02:09:28.9	79.2	34.9	1.7	62	5.3	
GEC2	e P	Z	02:09:29.2	79.4	35.8	2.2	54	5.1	
WET	e P	Z	02:09:30.3	79.5	35.3	1.4	34	5.1	
BUG	e P	Z	02:09:30.3	79.6	31.8	1.4	44	5.2	
GRA1	e P	Z	02:09:31.2	79.7	34.3	1.4	80	5.4	
	e L	N	02:44:14.4			19.4	1178		5.2
TNS	e P	Z	02:09:34.4	80.2	32.5	1.9	42	5.1	
RJOB	e P	Z	02:09:36.9	80.7	35.1	1.1	25	5.2	
WLF	e P	Z	02:09:40.7	81.5	30.9	2.1	75	5.5	
BFO	e P	Z	02:09:42.4	81.8	32.2	2.0	112	5.6	

Date Origin Time Lat Long Depth mb Ms ML Source  
 2010/02/16 19:08:23.8 4.170N 92.890E 36.6 5.2 4.5  
 Off west coast of northern Sumatera, Indonesia

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e P	Z	19:20:28.6	79.8	95.4	1.2	49	5.3		
	e pP	Z	19:20:39.3							
BRG	e P	Z	19:20:28.7	79.8	96.0	1.6	32	5.0		
RJOB	e P	Z	19:20:30.8	80.3	94.5	0.9	22	5.1		
WET	e P	Z	19:20:31.6	80.3	94.8	1.4	24	4.9		
CLL	e P	Z	19:20:31.5	80.4	95.3	1.0	14	4.8		
TANN	e P	Z	19:20:33.3	80.7	94.7	1.5	22	5.0		
ROTZ	e P	Z	19:20:34.6	80.8	94.4	0.9	14	5.0		
	e pP	Z	19:20:45.1							
MOX	e P	Z	19:20:36.4	81.2	94.1	1.9	38	5.1		
	e L	N	19:55:54.0			21.4	198		4.4	
GRA1	e P	Z	19:20:37.7	81.4	93.7	1.1	30	5.2		
	e L	N	19:57:10.7			20.6	270		4.6	
CLZ	e P	Z	19:20:40.7	82.1	93.3	0.9	19	5.2		
	e pP	Z	19:20:51.1							
BSEG	e P	Z	19:20:41.7	82.3	93.6	1.2	30	5.3		
NRDL	e P	Z	19:20:42.2	82.3	93.2	1.1	13	5.0		
TNS	e P	Z	19:20:46.9	83.2	91.6	1.1	23	5.3		
	e pP	Z	19:20:57.4							
BFO	e P	Z	19:20:46.7	83.3	91.3	2.1	59	5.5		
IBBN	e P	Z	19:20:49.5	83.7	91.3	2.0	101	5.7		
BUG	e P	Z	19:20:50.9	84.0	90.8	1.0	31	5.5		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/17	06:32: 8.5	21.600S	178.500W	437.0				NEIC

Fiji Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKP	Z	06:51:04.9	149.0	21.1					
CLZ	e PKP	Z	06:51:05.7	149.0	16.2					
BRG	e PKP	Z	06:51:05.9	149.2	23.0					
FBE	e PKP	Z	06:51:06.0	149.2	21.9					
NEUB	e PKP	Z	06:51:06.4	149.3	19.0					
MOX	e PKP	Z	06:51:07.6	149.9	19.0					
PLN	e PKPab	Z	06:51:15.3	149.9	20.1					
WERD	e PKP	Z	06:51:07.8	149.9	20.4					
GUNZ	e PKP	Z	06:51:08.2	150.0	20.5					
WERN	e PKP	Z	06:51:08.4	150.1	20.6					
ROHR	e PKP	Z	06:51:08.5	150.1	20.5					
	e PKPab	Z	06:51:16.2							
ROTZ	e PKP	Z	06:51:09.4	150.6	20.6					
GEC2	e PKP	Z	06:51:10.5	151.1	24.0					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/17	19:38: 5.7	29.800S	177.800W	35.0		5.0		NEIC

Kermadec Islands, New Zealand

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPpdf	Z	19:57:54.1	155.2	17.0					
	e pPKPpdf	Z	19:58:02.7							
	e PKPab	Z	19:58:18.8							
NRDL	e pPKPpdf	Z	19:58:05.9	156.6	17.5					
	e PKPab	Z	19:58:24.2							
CLL	e pPKPpdf	Z	19:58:07.6	157.0	24.6					
	e PKPab	Z	19:58:27.0							
IBBN	e PKPab	Z	19:58:27.2	157.1	12.5					
CLZ	e PKPpdf	Z	19:57:54.8	157.1	18.5					
	e pPKPpdf	Z	19:58:07.7							
	e PKPab	Z	19:58:27.3							
BRG	e PKPpdf	Z	19:57:56.1	157.2	27.1					
	e PKPab	Z	19:58:28.5							
TANN	e PKPpdf	Z	19:57:59.9	158.0	24.4					
	e PKPab	Z	19:58:30.8							
MOX	e PKPab	Z	19:58:30.6	158.0	22.3					
	e L	N	20:39:46.0			19.4	216		5.0	
BUG	e PKPpdf	Z	19:57:57.8	158.0	11.8					
	e PKPab	Z	19:58:30.4							
UBBA	e PKPab	Z	19:58:31.2	158.2	18.5					
ROTZ	e PKPab	Z	19:58:34.0	158.6	24.5					

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GRA1	e	PKPab	Z	19:58:35.8	159.0	22.3				
	e	L	N	20:29:10.9			21.8	244	5.0	
WET	e	PKPab	Z	19:58:35.8	159.0	26.7				
GEC2	e	PKPdf	Z	19:57:57.8	159.0	28.9				
	e	PKPab	Z	19:58:36.3						
TNS	e	PKPab	Z	19:58:35.4	159.0	15.3				
WLF	e	PKPab	Z	19:58:39.5	159.9	10.0				
STU	e	PKPab	Z	19:58:41.9	160.3	18.3				
RJOB	e	PKPab	Z	19:58:42.1	160.3	28.2				
FUR	e	PKPab	Z	19:58:41.9	160.4	24.0				
BFO	e	PKPab	Z	19:58:43.4	160.9	16.4				

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/18	01:13:18.5	42.600N	130.500E	574.0	6.7			NEIC
Priamurye-Northeastern China border region								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z	01:23:43.5	71.5	44.0	1.6	1094	6.7		
CLL	e P	Z	01:23:43.9	71.6	43.5	1.4	1632	7.0		
CLZ	e P	Z	01:23:48.6	72.3	41.9	1.6	1752	6.9		
TANN	e P	Z	01:23:49.2	72.5	42.9	1.7	791	6.6		
MOX	e P	Z	01:23:50.3	72.7	42.5	1.4	791	6.6		
IBBN	e P	Z	01:23:52.0	73.0	40.3	1.4	1384	6.9		
ROTZ	e P	Z	01:23:53.1	73.1	42.7	1.5	1222	6.8		
WET	e P	Z	01:23:53.7	73.2	42.9	1.4	638	6.5		
GRA1	e P	Z	01:23:55.9	73.5	42.0	1.3	2189	7.0		
BUG	e P	Z	01:23:56.7	73.9	39.9	1.5	1033	6.6		
RJOB	e P	Z	01:23:59.9	74.3	42.6	1.3	927	6.7		
TNS	e P	Z	01:23:59.8	74.3	40.4	1.1	417	6.4		
FUR	e P	Z	01:24:01.9	74.7	41.8	1.3	1306	6.8		
STU	e P	Z	01:24:04.0	75.1	40.6	1.4	872	6.6		
WLF	e P	Z	01:24:07.3	75.7	38.8					
BFO	e P	Z	01:24:08.1	75.8	40.0	1.4	1254	6.9		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/18	23:49:47.0	47.850N	151.540E	33.0G	5.7	4.8		SZGRF
Kuril Islands, Russia								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z	00:01:16.5	73.1	26.1	1.0	53	5.6		
RUE	e P	Z	00:01:18.2	73.4	28.1	1.1	124	5.8		
HLG	e P	Z	00:01:18.8	73.4	24.5	1.0	187	6.1		
NRDL	e P	Z	00:01:24.0	74.4	25.7	1.0	54	5.5		
CLL	e P	Z	00:01:25.1	74.7	27.4	0.9	112	5.9		
BRG	e P	Z	00:01:25.9	74.8	28.0	1.1	37	5.3		

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FBE	e P	Z	00:01:26.9	74.9	27.6	1.0	75	5.7	
CLZ	e P	Z	00:01:27.5	74.9	25.8	1.1	124	5.9	
IBBN	e P	Z	00:01:28.5	75.2	24.2	1.0	91	5.9	
TANN	e P	Z	00:01:31.1	75.6	27.0	1.1	34	5.4	
WERD	e P	Z	00:01:31.0	75.6	26.9	1.2	52	5.5	
MOX	e P	Z	00:01:31.2	75.7	26.5	1.1	69	5.7	
	e L	Z	00:38:12.5			20.1	469		4.8
WERN	e P	Z	00:01:31.9	75.8	26.9	0.9	61	5.7	
UBBA	e P	Z	00:01:32.8	76.0	25.5	1.8	115	5.7	
BUG	e P	Z	00:01:33.6	76.1	23.8	1.1	115	5.9	
MANZ	e P	Z	00:01:33.7	76.1	26.7	1.0	43	5.5	
ROTZ	e P	Z	00:01:35.1	76.3	26.8	1.0	64	5.7	
GRA1	e P	Z	00:01:37.1	76.6	26.1	0.9	129	6.1	
	e L	Z	00:42:33.8			20.3	430		4.8
WET	e P	Z	00:01:37.1	76.6	27.1	1.0	83	5.8	
GEC2	e P	Z	00:01:36.8	76.7	27.6	1.1	42	5.5	
TNS	e P	Z	00:01:38.3	76.9	24.4	0.8	73	5.8	
RJOB	e P	Z	00:01:44.2	77.9	26.9	0.9	47	5.6	
FUR	e P	Z	00:01:44.4	78.0	26.0	1.0	129	6.0	
STU	e P	Z	00:01:44.4	78.0	24.8	1.0	87	5.8	
BFO	e P	Z	00:01:47.8	78.7	24.2	1.0	84	5.7	

Date Origin Time Lat Long Depth mb Ms ML Source  
 2010/02/19 11:13:20.7 22.264S 174.088W 33.0N  
 Tonga Islands region SZGRF

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	11:33:03.6	148.2	7.7					
NRDL	e PKPbc	Z	11:33:07.3	149.6	7.7					
IBBN	e PKPbc	Z	11:33:08.4	149.9	3.4					
CLZ	e PKPbc	Z	11:33:09.3	150.2	8.3					
CLL	e PKPbc	Z	11:33:09.4	150.4	13.4					
BRG	e PKPbc	Z	11:33:10.2	150.7	15.3					
BUG	e PKPbc	Z	11:33:10.3	150.8	2.6					
UBBA	e PKPbc	Z	11:33:11.3	151.3	7.9					
MOX	e PKPbc	Z	11:33:11.5	151.3	11.0					
TANN	e PKPbc	Z	11:33:11.9	151.4	12.7					
TNS	e PKPbc	Z	11:33:13.2	152.0	5.0					
ROTZ	e PKPbc	Z	11:33:13.5	152.1	12.5					
WLF	e PKPbc	Z	11:33:15.2	152.6	0.5					
GEC2	e PKPbc	Z	11:33:14.7	152.7	15.9					
BFO	e PKPbc	Z	11:33:17.3	153.9	5.1					
RJOB	e PKPbc	Z	11:33:17.3	153.9	14.6					

Date Origin Time Lat Long Depth mb Ms ML Source



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2010/02/19 12:07: 6.8  
Tonga Islands

16.470S 173.560W 33.0G

SZGRF

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
TNS	e PKPbc	Z	12:26:43.1	146.2	3.5					
ROTZ	e PKPbc	Z	12:26:44.0	146.4	10.0					
GRA1	e PKPbc	Z	12:26:44.4	146.6	8.3					
WLF	e PKPbc	Z	12:26:45.5	146.8	359.5					
WET	e PKPbc	Z	12:26:45.9	146.9	11.4					
GEC2	e PKPbc	Z	12:26:46.0	147.1	12.9					
BFO	e PKPbc	Z	12:26:49.0	148.1	3.4					
RJOB	e PKPbc	Z	12:26:49.3	148.3	11.7					

Date Origin Time  
2010/02/20 05:09: 4.7  
Ryukyu Islands, Japan

Lat Long Depth mb Ms ML  
27.624N 129.941E 33.0G 4.7

Source  
SZGRF

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z	05:21:43.0	85.5	51.2	1.3	8	4.7		

Date Origin Time  
2010/02/20 11:48: 2.6  
Kuril Islands, Russia

Lat Long Depth mb Ms ML  
45.500N 148.500E 45.1 5.2

Source  
SZGRF

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z	11:59:38.7	74.4	29.0	1.1	32	5.2		
NRDL	e P	Z	11:59:46.0	75.7	28.7	1.4	27	5.2		
CLL	e P	Z	11:59:46.2	75.9	30.4	1.0	33	5.4		
BRG	e P	Z	11:59:46.9	75.9	31.0	1.1	12	4.9		
	e pP	Z	11:59:59.7							
CLZ	e P	Z	11:59:49.0	76.2	28.8	1.5	75	5.6		
IBBN	e P	Z	11:59:50.8	76.6	27.1	1.2	30	5.3		
MOX	e P	Z	11:59:52.4	76.9	29.5	1.4	30	5.2		
UBBA	e P	Z	11:59:54.3	77.2	28.4	1.4	21	5.1		
	e pP	Z	12:00:07.7							
ROTZ	e P	Z	11:59:56.1	77.5	29.7	1.3	24	5.2		
BUG	e P	Z	11:59:55.6	77.5	26.7	1.2	44	5.4		
GEC2	e P	Z	11:59:57.0	77.8	30.6	1.6	24	5.1		
WET	e P	Z	11:59:57.7	77.8	30.1	1.4	40	5.4		
	e pP	Z	12:00:10.6							
GRA1	e P	Z	11:59:58.0	77.8	29.1	1.0	40	5.5		
	e pP	Z	12:00:10.9							
TNS	e P	Z	11:59:59.9	78.2	27.4	1.0	18	5.0		
RJOB	e P	Z	12:00:04.6	79.0	29.9	1.2	16	4.9		
	e pP	Z	12:00:17.5							

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FUR	e P	Z	12:00:05.1	79.2	29.0	1.5	66	5.4
STU	e P	Z	12:00:05.9	79.3	27.7	1.6	48	5.2
BFO	e P	Z	12:00:09.0	79.9	27.1	1.2	14	4.8

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/20	13:35:58.4	13.600S	166.700E	95.0				NEIC
Vanuatu Islands								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKPdf	Z 13:55:11.2	136.7	38.9					
CLZ	e PKPdf	Z 13:55:12.7	137.3	35.1					
TANN	e PKPdf	Z 13:55:12.5	137.6	38.8					
MOX	e PKPdf	Z 13:55:13.1	137.8	37.6					
ROTZ	e PKPdf	Z 13:55:14.5	138.3	38.9					
GEC2	e PKPdf	Z 13:55:14.6	138.3	41.6					
BUG	e PKPdf	Z 13:55:14.8	138.7	31.1					
GRA1	e PKPdf	Z 13:55:15.3	138.7	37.7					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/20								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 15:04:42.8							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/20	21:07:34.4	23.680N	93.790E	124.9	5.1			SZGRF
Myanmar-India border region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z 21:18:05.6	65.6	81.9	1.5	18	5.1		
GEC2	e P	Z 21:18:08.6	66.0	80.8	1.2	16	5.1		
CLL	e P	Z 21:18:08.4	66.1	81.4	1.4	12	4.9		
WET	e P	Z 21:18:11.7	66.5	80.4	1.3	15	5.1		
TANN	e P	Z 21:18:11.8	66.6	80.6	1.4	13	5.0		
RJOB	e P	Z 21:18:13.3	66.8	79.7	1.1	7	4.8		
ROTZ	e P	Z 21:18:14.3	66.8	80.2	1.0	16	5.2		
MOX	e P	Z 21:18:15.4	67.1	80.1	1.8	29	5.2		
BSEG	e P	Z 21:18:16.4	67.3	80.5	1.1	19	5.2		
GRA1	e P	Z 21:18:18.3	67.5	79.4	1.5	39	5.4		
CLZ	e P	Z 21:18:18.7	67.6	79.7	1.0	10	5.0		
NRDL	e P	Z 21:18:19.1	67.7	79.8	1.3	22	5.2		
STU	e P	Z 21:18:26.8	69.0	77.6	0.9	12	5.1		
TNS	e P	Z 21:18:28.0	69.1	77.7	1.0	14	5.1		

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BFO	e P	Z	21:18:30.2	69.6	76.9	2.2	44	5.2
WLF	e P	Z	21:18:38.0	70.7	75.8	1.0	32	5.4
	e pP	Z	21:19:08.8					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/20	22:47:59.5	44.018N	12.420E	10.0G			3.4	SZGRF

Northern Italy

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
OBKA	e Pn	Z	22:48:44.6	2.9	211.8					3.6
KBA	e Pn	Z	22:48:47.4	3.1	192.3					3.3
WTTA	e Pn	Z	22:48:50.1	3.3	170.1					
OBER	e Pn	Z	22:48:56.0	3.7	155.6					3.4
DAVA	e Pn	Z	22:48:56.4	3.7	150.6					3.4
RJOB	e Pn	Z	22:48:56.1	3.7	184.2					
ARSA	e Pn	Z	22:48:57.8	3.9	215.0					3.1
MOA	e Pn	Z	22:49:00.1	4.0	199.2					3.3
	e Sn	E	22:49:43.9							
GEC2	e Pn	Z	22:49:10.8	4.9	190.8					3.3
WET	e Pn	Z	22:49:13.5	5.1	183.7					3.5
	e Sn	E	22:50:08.4							
BFO	e Pn	Z	22:49:14.7	5.2	145.2					
	e Sn	E	22:50:09.0							
TANN	e Pn	Z	22:49:31.6	6.4	180.3					
	e Sn	E	22:50:39.8							
TNS	e Pn	Z	22:49:36.9	6.8	155.0					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/21	00:57:0.3	38.097N	141.261E	33.0G	5.0			SZGRF

Near east coast of eastern Honshu, Japan

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z	01:08:59.8	78.7	37.3	0.9	19	5.1		
BRG	e P	Z	01:09:05.1	79.8	39.5	1.0	11	4.7		
CLL	e P	Z	01:09:05.0	79.8	38.9	0.9	20	5.0		
NRDL	e P	Z	01:09:06.0	80.0	37.0	1.1	12	4.8		
CLZ	e P	Z	01:09:08.7	80.4	37.1	1.2	22	5.1		
MOX	e P	Z	01:09:11.0	80.9	37.9	1.0	10	4.8		
IBBN	e P	Z	01:09:11.3	81.0	35.3	0.8	23	5.3		
ROTZ	e P	Z	01:09:13.9	81.3	38.2	1.5	17	5.0		
GEC2	e P	Z	01:09:13.9	81.4	39.1	0.9	7	4.8		
WET	e P	Z	01:09:15.0	81.5	38.6	1.0	9	4.8		
GRA1	e P	Z	01:09:16.3	81.8	37.5	0.9	15	5.1		
TNS	e P	Z	01:09:18.9	82.4	35.6	0.9	6	4.9		
FUR	e P	Z	01:09:22.0	83.0	37.4	0.9	29	5.5		

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STU	e P	Z	01:09:23.7	83.3	36.0	0.7	14	5.3
BFO	e P	Z	01:09:27.0	84.0	35.4	1.1	23	5.3

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/21	00:56:50.2	16.416N	84.585W	33.0G	4.7			SZGRF

North of Honduras

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 01:09:03.2	81.2	285.1	1.2	10	4.7		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/21	01:49:48.1	16.809S	174.019W	116.8				SZGRF

Tonga Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKPbc	Z 02:09:09.5	145.0	11.8					
MOX	e PKPbc	Z 02:09:12.5	145.9	9.6					
TANN	e PKPbc	Z 02:09:12.5	146.0	11.1					
ROTZ	e PKPbc	Z 02:09:15.0	146.7	10.9					
GRA1	e PKPbc	Z 02:09:15.8	146.8	9.2					
	e pPKPbc	Z 02:09:47.0							
WLF	e PKPbc	Z 02:09:16.6	147.1	0.3					
GEC2	e PKPbc	Z 02:09:16.9	147.4	13.8					
FUR	e PKPbc	Z 02:09:19.6	148.3	9.7					
BFO	e PKPbc	Z 02:09:19.7	148.4	4.3					
RJOB	e PKPbc	Z 02:09:20.4	148.6	12.6					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/21	07:29: 8.5	42.600N	130.700E	553.0	4.9			NEIC

Priamurye-Northeastern China border region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z 07:39:30.9	70.9	42.2	0.8	11	5.0		
BRG	e P	Z 07:39:34.9	71.6	43.8	0.8	5	4.7		
CLL	e P	Z 07:39:35.1	71.7	43.4	0.5	12	5.3		
CLZ	e P	Z 07:39:39.8	72.4	41.8	1.0	11	4.9		
MOX	e P	Z 07:39:41.6	72.8	42.3	1.2	6	4.6		
IBBN	e P	Z 07:39:43.6	73.1	40.2	0.8	8	4.9		
ROTZ	e P	Z 07:39:44.6	73.1	42.5	2.3	40	5.1		
WET	e P	Z 07:39:45.1	73.3	42.8	1.0	6	4.5		
GRA1	e P	Z 07:39:47.1	73.6	41.9	0.9	19	5.1		
BUG	e P	Z 07:39:48.1	73.9	39.7	1.0	16	5.0		
RJOB	e P	Z 07:39:51.3	74.4	42.5	0.9	7	4.7		

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STU	e P	Z	07:39:56.0	75.2	40.5	0.8	9	4.9
BFO	e P	Z	07:39:59.2	75.9	39.9	0.6	8	5.0

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/21	13:35:24.3	45.918N	11.040E	10.0G			2.8	SZGRF

Northern Italy

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
OBER	e Pn	Z	13:35:51.3	1.6	160.7					2.2
KBA	e Pn	Z	13:35:56.1	2.0	234.7					2.6
	e Sg	N	13:36:25.2							
RJOB	e Pn	Z	13:36:00.5	2.2	214.1					2.9
	e Sg	N	13:36:33.5							
FUR	e Pg	Z	13:36:03.8	2.3	184.2					3.0
	e Sg	N	13:36:34.4							
OBKA	e Pn	Z	13:36:06.2	2.5	257.6					2.7
	e Sg	N	13:36:43.9							
MOA	e Pn	Z	13:36:08.8	2.9	230.0					2.8
BFO	e Pn	Z	13:36:10.4	3.0	141.6					
	e Sn	E	13:36:45.7							
GEC2	e Pn	Z	13:36:14.5	3.4	212.6					2.9
	e Sn	E	13:36:56.9							
WET	e Sn	E	13:36:56.8	3.5	201.7					2.9
MOX	e Sn	E	13:37:27.3	4.7	184.8					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/22	02:36:59.2	43.208N	18.361E	10.0G			3.8	SZGRF

Northwestern Balkan Peninsula

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
OBKA	e Pn	Z	02:38:03.1	4.3	139.3					4.1
	e Sn	N	02:38:51.2							
ARSA	e Pn	Z	02:38:04.4	4.5	152.7					3.5
KBA	e Pn	Z	02:38:15.7	5.2	135.8					3.8
	e Sg	N	02:39:47.2							
MOA	e Pn	Z	02:38:18.9	5.5	146.8					3.7
	e Sn	E	02:39:15.8							
RJOB	e Pn	Z	02:38:26.6	6.0	137.2					
WTTA	e Pn	Z	02:38:29.1	6.2	128.2					
GEC2	e Pn	Z	02:38:32.9	6.5	148.4					3.8
	e Sn	E	02:39:40.0							
FUR	e Pn	Z	02:38:39.2	7.0	132.4					
	e Sg	N	02:40:39.4							
WET	e Pn	Z	02:38:42.3	7.0	145.4					
DAVA	e Pn	Z	02:38:42.5	7.2	121.3					

	e Sn	N	02:39:59.4		
BFO	e Pn	Z	02:39:00.8	8.7	122.5
	e Sn	E	02:40:30.5		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/22	05:08:48.0	22.050S	174.010W	34.2		5.6		SZGRF
Tonga Islands region								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	05:28:29.7	147.9	7.6					
	e pPKPbc	Z	05:28:40.3							
NRDL	e PKPbc	Z	05:28:33.5	149.4	7.5					
	e pPKPbc	Z	05:28:43.7							
	e pPKPab	Z	05:28:47.7							
IBBN	e PKPdf	Z	05:28:30.2	149.7	3.3					
	e PKPbc	Z	05:28:34.4							
	e pPKPbc	Z	05:28:44.9							
CLZ	e PKPdf	Z	05:28:30.4	150.0	8.1					
	e PKPbc	Z	05:28:35.3							
	e pPKPbc	Z	05:28:45.8							
	e pPKPab	Z	05:28:50.9							
CLL	e PKPdf	Z	05:28:30.3	150.2	13.2					
	e PKPbc	Z	05:28:35.7							
	e pPKPbc	Z	05:28:46.0							
	e pPKPab	Z	05:28:51.4							
BRG	e PKPdf	Z	05:28:31.2	150.5	15.1					
	e PKPbc	Z	05:28:36.5							
	e pPKPbc	Z	05:28:46.9							
BUG	e PKPdf	Z	05:28:30.9	150.6	2.4					
	e PKPbc	Z	05:28:36.2							
	e pPKPbc	Z	05:28:46.8							
UBBA	e PKPbc	Z	05:28:37.2	151.1	7.7					
	e pPKPbc	Z	05:28:48.0							
	e pPKPab	Z	05:28:54.8							
MOX	e PKPdf	Z	05:28:32.1	151.1	10.8					
	e PKPbc	Z	05:28:37.6							
	e pPKPbc	Z	05:28:47.8							
	e pPKPab	Z	05:28:54.6							
	e L	Z	06:45:10.1			19.5	762		5.5	
TANN	e PKPdf	Z	05:28:32.2	151.2	12.5					
	e PKPbc	Z	05:28:38.3							
	e pPKPbc	Z	05:28:48.1							
	e pPKPab	Z	05:28:55.5							
TNS	e PKPbc	Z	05:28:39.2	151.8	4.8					
	e pPKPab	Z	05:28:57.8							
ROTZ	e PKPdf	Z	05:28:33.3	151.9	12.3					
	e PKPbc	Z	05:28:39.6							

	e	pPKPbc	Z	05:28:49.3						
	e	pPKPab	Z	05:28:58.6						
GRA1	e	PKPbc	Z	05:28:40.1	152.1	10.4				
	e	pPKPab	Z	05:28:59.3						
	e	L	Z	06:36:52.9			22.0	952	5.6	
WET	e	PKPdf	Z	05:28:34.1	152.4	13.9				
	e	PKPbc	Z	05:28:40.7						
	e	pPKPbc	Z	05:28:51.4						
WLF	e	PKPbc	Z	05:28:41.1	152.4	0.3				
	e	pPKPbc	Z	05:28:51.5						
	e	pPKPab	Z	05:29:01.2						
GEC2	e	PKPdf	Z	05:28:34.0	152.5	15.6				
	e	PKPbc	Z	05:28:41.1						
	e	pPKPbc	Z	05:28:51.0						
STU	e	PKPbc	Z	05:28:42.3	153.2	6.6				
	e	pPKPbc	Z	05:28:52.7						
	e	pPKPab	Z	05:29:03.7						
FUR	e	PKPbc	Z	05:28:43.4	153.5	11.0				
	e	pPKPbc	Z	05:28:53.3						
	e	pPKPab	Z	05:29:05.1						
BFO	e	PKPbc	Z	05:28:43.5	153.7	4.9				
	e	pPKPbc	Z	05:28:54.2						
	e	pPKPab	Z	05:29:05.6						
RJOB	e	PKPbc	Z	05:28:43.5	153.7	14.4				
	e	pPKPbc	Z	05:28:54.1						
	e	pPKPab	Z	05:29:06.4						

Date 2010/02/22 Origin Time 05:21: 4.4 Lat 23.440N Long 122.882E Depth 33.0G mb 5.3 Ms ML Source SZGRF  
Taiwan region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z	05:33:26.4	83.1	61.0	0.9	7	4.9		
CLL	e P	Z	05:33:27.8	83.4	60.3	1.1	14	5.1		
GEC2	e P	Z	05:33:32.5	84.2	60.6	0.9	14	5.2		
GUNZ	e P	Z	05:33:31.6	84.2	59.7	1.6	34	5.3		
ROTZ	e P	Z	05:33:34.8	84.6	59.6	1.1	16	5.2		
GRA1	e P	Z	05:33:37.7	85.2	58.8	2.3	106	5.7		
RJOB	e P	Z	05:33:38.1	85.3	59.8	1.0	13	5.1		
FUR	e P	Z	05:33:41.8	85.9	58.8	1.0	61	5.7		
BUG	e P	Z	05:33:43.2	86.3	56.0	1.2	32	5.3		
WLF	e P	Z	05:33:51.6	87.9	55.1	1.0	34	5.6		

Date 2010/02/22 Origin Time 07:00:55.3 Lat 23.320S Long 173.520W Depth 38.1 mb Ms ML Source SZGRF

Tonga Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	07:20:40.2	149.2	6.9					
	e pPKPbc	Z	07:20:51.9							
NRDL	e PKPbc	Z	07:20:43.6	150.7	6.8					
IBBN	e PKPbc	Z	07:20:44.6	151.0	2.4					
	e pPKPbc	Z	07:20:56.3							
CLZ	e PKPpdf	Z	07:20:39.6	151.3	7.5					
	e PKPbc	Z	07:20:45.5							
CLL	e PKPbc	Z	07:20:45.1	151.6	12.7					
BRG	e PKPpdf	Z	07:20:39.1	151.8	14.6					
	e PKPbc	Z	07:20:45.9							
BUG	e PKPbc	Z	07:20:46.4	151.9	1.5					
	e pPKPbc	Z	07:20:58.1							
UBBA	e PKPbc	Z	07:20:46.8	152.4	7.0					
	e pPKPab	Z	07:21:09.0							
MOX	e PKPpdf	Z	07:20:39.7	152.4	10.2					
	e PKPbc	Z	07:20:47.3							
	e pPKPbc	Z	07:20:58.9							
TANN	e L	Z	08:37:58.0			19.8	2476		6.0	
	e PKPbc	Z	07:20:47.5	152.5	12.0					
	e pPKPbc	Z	07:20:57.9							
TNS	e PKPbc	Z	07:20:49.3	153.1	4.0					
	e pPKPbc	Z	07:21:00.8							
	e pPKPab	Z	07:21:12.4							
ROTZ	e PKPbc	Z	07:20:49.0	153.2	11.7					
	e pPKPab	Z	07:21:11.9							
GRA1	e L	Z	08:39:48.8	153.4	9.8	18.7	2413		6.0	
WLF	e pPKPab	Z	07:21:15.6	153.7	359.3					
WET	e PKPpdf	Z	07:20:41.5	153.7	13.3					
	e pPKPbc	Z	07:21:01.6							
GEC2	e PKPpdf	Z	07:20:41.7	153.8	15.2					
	e PKPbc	Z	07:20:50.3							
	e pPKPbc	Z	07:21:01.9							
BFO	e pPKPab	Z	07:21:14.4							
	e PKPbc	Z	07:20:53.0	154.9	4.0					
	e pPKPab	Z	07:21:19.8							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/22	07:24:47.0	23.300S	175.810W	39.6				SZGRF

Tonga Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	07:44:30.7	149.0	11.0					
RUE	e PKPbc	Z	07:44:33.2	149.9	17.8					
NRDL	e PKPbc	Z	07:44:33.9	150.5	11.1					



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IBBN	e	PKPbc	Z	07:44:35.2	150.9	6.7
CLZ	e	PKPbc	Z	07:44:35.7	151.1	11.8
CLL	e	PKPbc	Z	07:44:35.7	151.2	17.0
BRG	e	PKPdf	Z	07:44:31.0	151.4	19.0
	e	PKPbc	Z	07:44:36.4		
MOX	e	PKPbc	Z	07:44:37.9	152.1	14.7
	e	pPKPbc	Z	07:44:50.0		
UBBA	e	PKPdf	Z	07:44:31.4	152.1	11.5
TANN	e	PKPbc	Z	07:44:38.1	152.1	16.4
GUNZ	e	PKPbc	Z	07:44:38.8	152.2	16.2
ROTZ	e	PKPbc	Z	07:44:40.0	152.8	16.3
	e	pPKPbc	Z	07:44:51.5		
TNS	e	pPKPbc	Z	07:44:51.7	152.9	8.6
WET	e	PKPbc	Z	07:44:41.5	153.3	18.0

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/22	08:42:37.7	23.990S	175.100W	33.0G				SZGRF

Tonga Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e	PKPbc	Z 09:02:24.7	149.8	9.9					
NRDL	e	PKPbc	Z 09:02:27.7	151.2	9.9					
IBBN	e	PKPbc	Z 09:02:28.7	151.6	5.5					
CLZ	e	PKPbc	Z 09:02:29.5	151.8	10.6					
CLL	e	PKPbc	Z 09:02:29.5	152.0	15.9					
BRG	e	PKPbc	Z 09:02:30.4	152.2	17.9					
BUG	e	PKPbc	Z 09:02:30.9	152.5	4.7					
TANN	e	PKPab	Z 09:02:42.6	152.9	15.3					
ROTZ	e	PKPab	Z 09:02:45.6	153.6	15.1					
TNS	e	PKPab	Z 09:02:45.3	153.6	7.3					
GRA1	e	PKPab	Z 09:02:46.6	153.8	13.2					
GEC2	e	PKPab	Z 09:02:47.6	154.2	18.7					
RJOB	e	PKPab	Z 09:02:53.8	155.4	17.6					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/22	16:55: 8.6	70.190N	6.090W	10.0G	4.6	4.2		SZGRF

Jan Mayen Island region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e	P	Z 16:59:17.6	17.8	341.8	1.3	71	4.6		
	e	S	T 17:02:53.5							
NRDL	e	P	Z 16:59:33.1	19.2	343.3	1.0	27	4.4		
	e	S	T 17:03:21.2							
BUG	e	P	Z 16:59:39.3	19.7	346.6	1.1	40	4.6		
	e	S	T 17:03:31.0							

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CLZ	e P	Z	16:59:40.6	19.9	343.6	1.1	31	4.4			
	e S	T	17:03:36.2								
UBBA	e P	Z	16:59:49.9	20.8	344.6	1.4	32	4.5			
	e S	T	17:03:55.2								
CLL	e P	Z	16:59:51.4	20.8	341.9	1.0	27	4.5			
	e S	T	17:03:57.0								
TNS	e P	Z	16:59:54.0	21.1	346.3	1.0	43	4.7			
	e S	T	17:04:02.7								
MOX	e P	Z	16:59:55.7	21.2	343.5	1.1	37	4.6			
	e S	T	17:04:05.6								
	e L	Z	17:08:14.8			19.4	786			4.1	
WLF	e P	Z	16:59:56.9	21.3	348.6	1.3	43	4.6			
	e S	T	17:04:06.8								
BRG	e P	Z	16:59:57.9	21.4	341.5	1.3	30	4.6			
	e S	T	17:04:10.8								
TANN	e P	Z	16:59:59.9	21.6	343.0	1.2	49	4.8			
GRA1	e P	Z	17:00:05.0	22.1	344.4	1.5	68	4.9			
	e L	Z	17:10:21.5			18.2	1105			4.3	
ROTZ	e P	Z	17:00:06.3	22.2	343.6	1.2	35	4.7			
STU	e P	Z	17:00:10.8	22.6	346.6	0.9	20	4.6			
WET	e P	Z	17:00:13.6	22.9	343.5	1.0	17	4.5			
	e S	T	17:04:32.8								
BFO	e P	Z	17:00:13.9	22.9	347.5	0.9	18	4.6			
GEC2	e P	Z	17:00:17.8	23.3	343.2	1.2	26	4.6			
	e S	T	17:04:42.6								
FUR	e P	Z	17:00:19.7	23.6	345.3	0.6	23	4.9			
RJOB	e P	Z	17:00:26.1	24.2	344.5	0.9	19	4.6			

Date  
2010/02/22

Origin Time

Lat

Long

Depth

mb

Ms

ML

Source

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e PKPbc	Z 19:03:42.7							
BSEG	e PKPbc	Z 19:03:37.0							
CLL	e PKPbc	Z 19:03:42.0							
CLZ	e PKPbc	Z 19:03:41.4							
IBBN	e PKPbc	Z 19:03:41.2							

Date  
2010/02/22

Origin Time  
23:29:44.1

Lat  
56.794N

Long  
153.483W

Depth  
33.0G

mb  
4.9

Ms

ML

Source  
SZGRF

Kodiak Island, Alaska, United States, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
NRDL	e P	Z 23:40:52.1	69.9	350.5	1.0	13	5.0		
CLZ	e P	Z 23:40:56.8	70.6	350.7	0.9	17	5.2		

BUG	e P	Z	23:40:56.4	70.6	349.0	0.8	9	5.0
CLL	e P	Z	23:41:00.6	71.3	352.2	1.3	17	5.0
BRG	e P	Z	23:41:03.9	71.8	352.8	0.9	7	4.8
MOX	e P	Z	23:41:04.3	71.9	351.5	1.1	17	5.1
TNS	e P	Z	23:41:04.7	71.9	349.7	1.0	11	4.9
TANN	e P	Z	23:41:06.3	72.2	352.0	1.2	8	4.7
GRA1	e P	Z	23:41:09.6	72.8	351.3	1.2	16	5.0
ROTZ	e P	Z	23:41:10.2	72.8	351.9	0.9	7	4.8
GEC2	e P	Z	23:41:15.8	73.8	352.7	1.0	8	4.7
FUR	e P	Z	23:41:18.5	74.3	351.4	1.0	18	5.0
RJOB	e P	Z	23:41:21.7	74.8	352.3	0.9	12	4.9

Date Origin Time Lat Long Depth mb Ms ML Source  
 2010/02/23 06:05: 3.6 23.013S 175.584W 40.4 5.2  
 Tonga Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	06:24:47.1	148.8	10.5					
NRDL	e PKPbc	Z	06:24:50.4	150.2	10.6					
	e pPKPbc	Z	06:25:02.6							
IBBN	e PKPbc	Z	06:24:51.5	150.6	6.3					
CLZ	e PKPbc	Z	06:24:52.1	150.8	11.3					
	e pPKPbc	Z	06:25:04.2							
CLL	e PKPbc	Z	06:24:51.9	150.9	16.4					
	e pPKPbc	Z	06:25:04.2							
BRG	e PKPbc	Z	06:24:52.7	151.2	18.4					
MOX	e PKPbc	Z	06:24:53.9	151.8	14.1					
	e L	Z	07:41:42.0			20.1	359		5.2	
TANN	e PKPbc	Z	06:24:54.4	151.9	15.9					
ROTZ	e pPKPbc	Z	06:25:08.2	152.6	15.7					
TNS	e pPKPbc	Z	06:25:08.4	152.6	8.1					
GRA1	e L	Z	07:40:53.7	152.8	13.8	20.5	356		5.2	
WET	e PKPbc	Z	06:24:56.9	153.0	17.4					

Date Origin Time Lat Long Depth mb Ms ML Source  
 2010/02/23 06:26:24.4 18.508N 72.247W 10.0N 4.6  
 Haiti region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z	06:37:50.2	71.8	277.4	1.1	6	4.6		

Date Origin Time Lat Long Depth mb Ms ML Source  
 2010/02/23 10:25:54.5 32.803N 48.940E 33.0G 5.1 4.1  
 SZGRF

Western Iran

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e P	Z 10:32:06.3	30.7	108.3	1.2	10	4.6		
BRG	e P	Z 10:32:11.3	31.3	111.7	1.8	26	4.9		
WET	e P	Z 10:32:11.3	31.3	107.9	1.1	14	4.8		
ROTZ	e P	Z 10:32:17.8	31.9	108.1	2.0	106	5.4		
CLL	e P	Z 10:32:17.5	32.0	111.3	1.2	21	4.9		
FUR	e P	Z 10:32:18.1	32.1	104.7	0.7	66	5.7		
GRA1	e P	Z 10:32:22.6	32.5	106.9	1.4	74	5.4		
	e L	Z 10:47:12.5			19.0	520		4.2	
MOX	e P	Z 10:32:23.9	32.6	108.8	1.6	22	4.8		
	e L	Z 10:49:43.3			18.3	334		4.1	
CLZ	e P	Z 10:32:33.4	33.7	109.2	1.0	26	5.1		
NRDL	e P	Z 10:32:37.2	34.1	109.8	1.7	92	5.4		
TNS	e P	Z 10:32:38.9	34.4	104.8	1.7	78	5.4		
BSEG	e P	Z 10:32:40.2	34.5	112.0	1.2	20	4.9		
IBBN	e P	Z 10:32:48.5	35.4	107.0	0.8	35	5.3		
BUG	e P	Z 10:32:48.3	35.4	105.3	1.5	64	5.3		
WLF	e P	Z 10:32:49.7	35.7	101.8	0.8	21	5.0		

Date Origin Time Lat Long Depth mb Ms ML Source  
 2010/02/23 10:43: 6.0 48.715N 155.015E 33.0G 5.0 4.9 ML SZGRF  
 Kuril Islands, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
NRDL	e P	Z 10:54:41.6	74.5	23.2	1.0	13	4.9		
CLL	e P	Z 10:54:42.8	74.8	24.9	0.9	18	5.1		
BRG	e P	Z 10:54:43.8	75.0	25.4	1.3	13	4.8		
CLZ	e P	Z 10:54:44.5	75.0	23.3	1.0	20	5.1		
TANN	e P	Z 10:54:48.7	75.8	24.4	1.3	11	4.8		
MOX	e P	Z 10:54:48.7	75.8	23.9	1.2	17	5.0		
	e L	Z 11:30:52.7			22.0	701		4.9	
ROTZ	e P	Z 10:54:52.8	76.5	24.2	1.2	15	5.0		
GRA1	e P	Z 10:54:54.7	76.8	23.6	0.9	34	5.5		
	e L	Z 11:40:34.7			20.4	732		5.0	
WET	e P	Z 10:54:55.1	76.8	24.6	1.1	23	5.2		
GEC2	e P	Z 10:54:54.8	76.9	25.1	1.0	11	5.0		
BFO	e P	Z 10:55:05.1	78.8	21.7	1.1	20	5.0		

Date Origin Time Lat Long Depth mb Ms ML Source  
 2010/02/23 10:52:16.9 15.833N 91.567W 33.0N 5.5 5.1 ML SZGRF  
 Mexico-Guatemala border region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
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WLF	e P	Z	11:04:37.8	82.9	286.1	1.5	56	5.6	
BUG	e P	Z	11:04:38.6	83.0	286.7	1.0	32	5.5	
IBBN	e P	Z	11:04:39.0	83.1	287.0	1.1	29	5.4	
BSEG	e P	Z	11:04:44.6	84.0	288.8	1.9	126	5.8	
TNS	e P	Z	11:04:44.3	84.1	287.7	1.2	33	5.5	
NRDL	e P	Z	11:04:46.2	84.4	288.8	1.3	34	5.4	
BFO	e P	Z	11:04:46.0	84.6	287.8				
CLZ	e P	Z	11:04:48.0	84.7	289.1	1.0	30	5.5	
UBBA	e P	Z	11:04:48.1	84.9	288.9				
STU	e P	Z	11:04:48.7	85.0	288.4	0.5	22	5.6	
MOX	e P	Z	11:04:53.5	85.9	290.1	2.1	108	5.6	
	e L	Z	11:30:52.7			22.0	701		5.0
GRA1	e P	Z	11:04:54.2	86.0	289.9	1.3	38	5.4	
	e L	Z	11:40:34.6			20.4	732		5.1
TANN	e P	Z	11:04:56.6	86.5	290.7	1.4	46	5.4	
CLL	e P	Z	11:04:56.3	86.5	291.1	1.5	35	5.3	
FUR	e P	Z	11:04:56.4	86.5	290.0	1.3	43	5.4	
ROTZ	e P	Z	11:04:57.1	86.5	290.6	1.5	45	5.4	
WET	e P	Z	11:05:00.2	87.2	291.1	1.3	50	5.5	
BRG	e P	Z	11:05:00.0	87.2	291.9	1.1	14	5.0	
RJOB	e P	Z	11:05:01.9	87.6	291.1	1.3	28	5.4	
GEC2	e P	Z	11:05:02.8	87.8	291.8	2.1	54	5.5	

Date Origin Time Lat Long Depth mb Ms ML Source  
 2010/02/23 15:16: 5.4 16.320N 91.518W 33.0G 5.4 5.4  
 Mexico-Guatemala border region SZGRF

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z	15:28:24.5	82.5	286.4	1.5	64	5.6		
BUG	e P	Z	15:28:25.3	82.6	287.0	1.3	51	5.6		
BSEG	e P	Z	15:28:31.1	83.6	289.1	1.1	33	5.5		
TNS	e P	Z	15:28:30.8	83.7	288.0	1.4	42	5.5		
NRDL	e P	Z	15:28:32.6	84.0	289.0	1.4	51	5.6		
BFO	e P	Z	15:28:32.8	84.2	288.1	1.6	31	5.3		
CLZ	e P	Z	15:28:34.5	84.3	289.3	1.0	26	5.4		
UBBA	e P	Z	15:28:34.7	84.4	289.1	1.6	36	5.4		
MOX	e P	Z	15:28:40.0	85.5	290.4	1.1	18	5.1		
	e L	Z	16:06:11.5			20.5	1465		5.4	
GRA1	e P	Z	15:28:40.7	85.6	290.1	1.5	66	5.6		
	e L	Z	16:04:23.0			20.2	1490		5.4	
CLL	e P	Z	15:28:42.8	86.0	291.4	1.0	24	5.3		
TANN	e P	Z	15:28:42.5	86.1	291.0	1.8	69	5.5		
ROTZ	e P	Z	15:28:43.5	86.1	290.9	1.5	42	5.3		
BRG	e P	Z	15:28:46.6	86.8	292.1	1.3	24	5.2		
WET	e P	Z	15:28:46.7	86.8	291.4	1.1	30	5.3		
RJOB	e P	Z	15:28:48.5	87.2	291.4	0.9	21	5.3		
GEC2	e P	Z	15:28:49.4	87.4	292.0	1.3	29	5.4		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/23	15:36:7.3	16.530S	172.730W	55.7				SZGRF

Samoa Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKPbc	Z	15:55:36.6	144.9	9.6					
MOX	e PKPbc	Z	15:55:38.9	145.7	7.4					
TNS	e PKPbc	Z	15:55:40.7	146.3	2.0					
ROTZ	e PKPbc	Z	15:55:41.8	146.5	8.6					
GRA1	e PKPbc	Z	15:55:42.2	146.7	6.9					
WLF	e PKPbc	Z	15:55:42.9	146.9	358.0					
	e pPKPbc	Z	15:55:59.6							
WET	e PKPbc	Z	15:55:43.4	147.1	9.9					
GEC2	e PKPbc	Z	15:55:43.8	147.3	11.5					
STU	e pPKPbc	Z	15:56:01.6	147.7	3.5					
BFO	e PKPbc	Z	15:55:46.6	148.2	1.9					
	e pPKPbc	Z	15:56:02.8							
FUR	e PKPbc	Z	15:55:46.6	148.2	7.3					
RJOB	e PKPbc	Z	15:55:47.4	148.5	10.2					
	e pPKPbc	Z	15:56:03.7							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/23	22:38:36.7	23.700S	176.660W	33.0G				SZGRF

South of Fiji Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	22:58:22.1	149.3	12.6					
	e PKPab	Z	22:58:26.9							
NRDL	e PKPbc	Z	22:58:25.5	150.7	12.8					
IBBN	e PKPbc	Z	22:58:26.7	151.2	8.4					
	e PKPab	Z	22:58:34.4							
CLZ	e PKPbc	Z	22:58:27.1	151.3	13.5					
	e PKPab	Z	22:58:35.1							
CLL	e PKPbc	Z	22:58:27.2	151.4	18.7					
	e PKPab	Z	22:58:35.3							
BRG	e PKPbc	Z	22:58:27.8	151.6	20.8					
BUG	e PKPbc	Z	22:58:28.4	152.1	7.7					
MOX	e PKPbc	Z	22:58:29.4	152.3	16.5					
TANN	e PKPbc	Z	22:58:29.6	152.4	18.2					
UBBA	e PKPbc	Z	22:58:29.1	152.4	13.3					
ROTZ	e PKPbc	Z	22:58:31.1	153.0	18.1					
TNS	e PKPab	Z	22:58:42.6	153.2	10.4					
GRA1	e PKPab	Z	22:58:43.8	153.3	16.2					
WET	e PKPbc	Z	22:58:32.3	153.5	19.9					

	e	PKPab	Z	22:58:44.7					
GEC2	e	PKPbc	Z	22:58:32.3	153.6	21.7			
WLF	e	PKPbc	Z	22:58:33.6	153.9	5.9			
	e	PKPab	Z	22:58:46.7					
STU	e	PKPbc	Z	22:58:34.5	154.5	12.5			
FUR	e	PKPab	Z	22:58:50.1	154.7	17.2			
RJOB	e	PKPab	Z	22:58:51.1	154.8	20.7			
BFO	e	PKPab	Z	22:58:51.0	155.1	10.9			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/24	04:55:53.5	4.700S	153.100E	90.0				NEIC
New Ireland, Papua New Guinea, region								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e	PKPdf	Z 05:14:39.2	122.2	45.5					
BRG	e	PKPdf	Z 05:14:39.8	122.6	50.7					
CLL	e	PKPdf	Z 05:14:39.8	122.8	49.5					
NRDL	e	PKPdf	Z 05:14:41.2	123.3	45.9					
TANN	e	PKPdf	Z 05:14:41.8	123.7	49.4					
CLZ	e	PKPdf	Z 05:14:42.0	123.7	46.5					
GEC2	e	PKPdf	Z 05:14:42.3	124.0	51.5					
WET	e	PKPdf	Z 05:14:43.0	124.3	50.5					
GRA1	e	PKPdf	Z 05:14:43.7	124.7	48.5					
RJOB	e	PKPdf	Z 05:14:44.3	125.2	51.2					
TNS	e	PKPdf	Z 05:14:45.7	125.7	45.2					
STU	e	PKPdf	Z 05:14:47.2	126.3	46.8					
WLF	e	PKPdf	Z 05:14:49.3	127.1	43.0					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/24	05:21:27.4	46.191N	14.623E	10.0G			2.9	SZGRF
Northwestern Balkan Peninsula								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
OBKA	e	Pg	N 05:21:33.3	0.3	170.8					
	e	Sg	E 05:21:39.7							2.7
ARSA	e	Pn	Z 05:21:49.0	1.2	210.5					2.6
	e	Sg	N 05:22:05.7							
KBA	e	Pn	Z 05:21:49.4	1.2	134.8					2.8
	e	Sg	E 05:22:06.2							
MOA	e	Pn	Z 05:21:56.7	1.7	171.5					2.6
	e	Sg	N 05:22:20.8							
RJOB	e	Pn	Z 05:22:01.2	2.0	140.4					2.9
	e	Sg	N 05:22:29.6							
WTTA	e	Pn	Z 05:22:05.0	2.3	116.6					2.8
GEC2	e	Pn	Z 05:22:10.0	2.7	166.5					3.0

	e	Sg	E	05:22:54.8						
WET	e	Pn	Z	05:22:16.2	3.2	157.7				3.0
GRA1	e	Pg	Z	05:22:44.8	4.2	145.7				3.6
BFO	e	Pn	Z	05:22:37.2	4.8	114.3				
	e	Sn	N	05:23:29.9						
MOX	e	Pn	Z	05:22:39.2	4.9	154.7				3.2
	e	Sn	E	05:23:33.6						
TNS	e	Pn	Z	05:22:52.2	5.8	132.1				
	e	Sn	N	05:23:54.5						

Date Origin Time Lat Long Depth mb Ms ML Source  
 2010/02/24 11:58: 1.6 30.300S 165.800E 35.0 4.9 NEIC  
 Northwest of New Zealand

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z 12:17:49.5	150.5	46.7					
BRG	e PKPbc	Z 12:17:49.7	150.7	56.2					
CLL	e PKPbc	Z 12:17:49.8	150.9	54.3					
NRDL	e PKPbc	Z 12:17:51.9	151.6	48.3					
TANN	e PKPbc	Z 12:17:51.9	151.7	54.8					
CLZ	e PKPbc	Z 12:17:52.6	151.9	49.6					
GEC2	e PKPbc	Z 12:17:52.3	151.9	59.0					
MOX	e PKPbc	Z 12:17:52.5	152.0	53.2					
	e L	Z 13:22:48.4			21.4	216		4.9	
GRA1	e PKPbc	Z 12:17:54.8	152.8	54.1					
	e L	Z 13:36:19.4			21.3	261		5.0	

Date Origin Time Lat Long Depth mb Ms ML Source  
 2010/02/24 21:56: 1.9 21.572S 178.551W 33.0G SZGRF  
 Fiji Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z 22:15:41.8	146.9	15.2					
CLL	e PKPbc	Z 22:15:46.6	148.9	21.2					
BRG	e PKPbc	Z 22:15:47.4	149.1	23.1					
MOX	e PKPbc	Z 22:15:49.1	149.9	19.1					
TANN	e PKPbc	Z 22:15:49.2	149.9	20.7					
ROTZ	e PKPbc	Z 22:15:50.7	150.6	20.7					
TNS	e PKPbc	Z 22:15:51.6	150.8	13.4					
GRA1	e PKPbc	Z 22:15:51.1	150.8	18.9					
GEC2	e PKPbc	Z 22:15:51.9	151.0	24.0					

Date Origin Time Lat Long Depth mb Ms ML Source



2010/02/25 03:51:58.0  
Bay of Bengal

15.565N 92.317E 33.0G 5.1

SZGRF

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
OJC	e P	Z 04:02:48.7	67.0	93.2	1.1	20	5.3		
OKC	e P	Z 04:02:55.6	68.0	91.7	1.1	22	5.3		
MORC	e P	Z 04:02:58.0	68.4	91.2	1.1	21	5.3		
DPC	e P	Z 04:03:03.1	69.2	90.5	1.2	43	5.6		
KSP	e P	Z 04:03:03.1	69.2	90.7	0.9	14	5.2		
BRG	e P	Z 04:03:11.8	70.7	88.9	1.0	11	5.0		
RUE	e P	Z 04:03:12.3	70.8	89.3	1.1	33	5.4		
GEC2	e P	Z 04:03:13.2	70.9	88.0	1.0	17	5.1		
CLL	e P	Z 04:03:14.9	71.3	88.3	1.2	12	4.9		
WET	e P	Z 04:03:16.2	71.4	87.5	1.1	12	4.9		
TANN	e P	Z 04:03:17.4	71.6	87.6	1.3	14	4.9		
WERN	e P	Z 04:03:17.9	71.7	87.5	0.9	5	4.6		
GUNZ	e P	Z 04:03:17.8	71.7	87.5	1.1	16	5.0		
PLN	e P	Z 04:03:18.6	71.8	87.4					
ROTZ	e P	Z 04:03:19.2	71.8	87.2	1.1	20	5.1		
MANZ	e P	Z 04:03:19.3	71.9	87.2	1.1	13	5.0		
NEUB	e P	Z 04:03:19.5	72.0	87.3	1.1	18	5.1		
MOX	e P	Z 04:03:20.5	72.2	87.0	3.0	116	5.5		
BSEG	e P	Z 04:03:24.4	72.8	87.0	0.9	18	5.2		
CLZ	e P	Z 04:03:24.8	72.9	86.4	1.2	18	5.1		
NRDL	e P	Z 04:03:25.7	73.0	86.4	1.4	27	5.2		
BUG	e P	Z 04:03:36.0	74.8	83.9	1.1	23	5.1		

Date Origin Time Lat Long Depth mb Ms ML Source  
2010/02/25 04:57: 8.5 27.075N 100.643E 33.0G 5.2 SZGRF  
Yunnan, China

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 05:08:13.1	69.3	72.1	0.9	18	5.2		

Date Origin Time Lat Long Depth mb Ms ML Source  
2010/02/26 01:07:58.4 23.433N 122.535E 33.0G 6.2 5.2 SZGRF  
Taiwan region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RGN	e P	Z 01:20:12.2	81.4	61.2	1.3	266	6.2		
RUE	e P	Z 01:20:16.2	82.2	61.3	1.0	210	6.2		
BRG	e P	Z 01:20:19.6	82.9	61.2	1.9	313	6.2		
CLL	e P	Z 01:20:20.9	83.2	60.6	1.5	289	6.3		
BSEG	e P	Z 01:20:22.6	83.3	58.8	0.9	101	6.0		
NEUB	e P	Z 01:20:24.9	83.9	59.6	1.0	216	6.3		

TANN	e P	Z	01:20:25.1	83.9	60.1	1.1	92	5.9	
WERD	e P	Z	01:20:25.4	84.0	60.0	1.3	136	6.0	
GEC2	e P	Z	01:20:25.6	84.0	60.8	1.0	189	6.3	
GUNZ	e P	Z	01:20:25.7	84.0	60.0	1.0	162	6.2	
WERN	e P	Z	01:20:25.8	84.0	60.0	1.1	166	6.2	
PLN	e P	Z	01:20:25.8	84.1	59.9	1.0	134	6.1	
NRDL	e P	Z	01:20:26.4	84.1	58.5	1.3	197	6.2	
MOX	e P	Z	01:20:26.8	84.3	59.5	1.7	240	6.1	
	e L	Z	02:02:29.7			19.8	978		5.2
WET	e P	Z	01:20:27.4	84.3	60.3	1.4	142	6.0	
CLZ	e P	Z	01:20:27.6	84.3	58.6	1.3	361	6.4	
HLG	e P	Z	01:20:27.4	84.3	56.9	0.9	221	6.4	
ROTZ	e P	Z	01:20:27.9	84.4	59.8	1.1	163	6.2	
GRA1	e P	Z	01:20:30.8	85.0	59.1	1.6	415	6.4	
	e L	Z	02:03:26.0			18.5	823		5.2
UBBA	e P	Z	01:20:30.8	85.1	58.3	1.3	132	6.0	
IBBN	e P	Z	01:20:32.7	85.4	56.7	0.8	354	6.5	
FUR	e P	Z	01:20:34.7	85.7	59.0	0.9	305	6.4	
BUG	e P	Z	01:20:36.1	86.2	56.3	1.3	396	6.4	
TNS	e P	Z	01:20:36.7	86.2	57.1	1.1	126	6.0	
STU	e P	Z	01:20:38.3	86.6	57.6	1.1	142	6.0	
BFO	e P	Z	01:20:41.6	87.3	56.9	1.5	124	6.0	
WLF	e P	Z	01:20:44.3	87.8	55.3	1.2	300	6.5	

Date 2010/02/26  
 Origin Time 04:42:33.4  
 Xizang

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e P	Z	04:52:21.2	57.8	84.2	0.7	75	5.8		
BRG	e P	Z	04:52:22.0	57.9	83.4	0.7	44	5.6		
GEC2	e P	Z	04:52:25.1	58.3	81.9	1.0	55	5.5		
CLL	e P	Z	04:52:25.3	58.4	82.9	0.9	18	5.1		
WET	e P	Z	04:52:28.4	58.8	81.5	0.7	40	5.5		
TANN	e P	Z	04:52:28.9	58.9	82.0	0.8	26	5.3		
WERN	e P	Z	04:52:29.6	59.0	81.9	0.9	22	5.2		
GUNZ	e P	Z	04:52:29.6	59.0	81.9	1.0	46	5.5		
WERD	e P	Z	04:52:29.5	59.0	81.9	0.7	32	5.5		
PLN	e P	Z	04:52:30.2	59.1	81.8	0.8	36	5.5		
ROTZ	e P	Z	04:52:31.3	59.2	81.4	0.9	53	5.6		
NEUB	e P	Z	04:52:30.9	59.2	82.0	0.8	49	5.6		
MOX	e P	Z	04:52:32.4	59.4	81.5	0.9	30	5.3		
BSEG	e P	Z	04:52:34.9	59.7	82.5	0.8	110	6.0		
GRA1	e P	Z	04:52:35.7	59.8	80.7	1.5	116	5.7		
CLZ	e P	Z	04:52:36.6	60.0	81.3	0.9	87	5.8		
FUR	e P	Z	04:52:36.9	60.0	79.9	1.3	120	5.8		
NRDL	e P	Z	04:52:37.2	60.1	81.5	1.0	107	5.8		

UBBA	e P	Z	04:52:38.9	60.4	80.5	1.0	18	4.9
STU	e P	Z	04:52:45.1	61.3	78.8	0.9	76	5.5
TNS	e P	Z	04:52:46.5	61.5	79.0	0.9	52	5.7
IBBN	e P	Z	04:52:46.7	61.5	79.7	0.8	60	5.9
BUG	e P	Z	04:52:49.8	62.0	78.9	1.0	59	5.8
WLF	e P	Z	04:52:57.4	63.0	77.2	1.0	76	5.8

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/26	05:38:17.9	23.674N	122.882E	33.0G	5.3			SZGRF

Taiwan region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z	05:50:50.3	85.0	58.7	0.9	18	5.3		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/26	08:37:3.1	6.400N	126.800E	117.0				NEIC

Mindanao, Philippine Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e Pdiff	Z	08:50:40.8	101.1	66.0					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/26	20:31:27.2	26.180N	129.560E	33.0G	6.7	7.9		SZGRF

Ryukyu Islands, Japan

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RGN	e P	Z	20:43:48.4	82.6	54.3	1.3	1482	7.0		
RUE	e P	Z	20:43:53.5	83.6	54.4	1.4	1569	7.1		
	e S	R	20:54:14.0							
BSEG	e P	Z	20:43:57.7	84.3	51.9	1.4	1409	6.9		
	e S	R	20:54:19.2							
BRG	e P	Z	20:43:57.5	84.4	54.4	1.4	670	6.6		
	e S	R	20:54:22.0							
CLL	e P	Z	20:43:58.9	84.6	53.7	1.3	911	6.7		
	e S	R	20:54:24.7							
HLG	e P	Z	20:44:02.7	85.3	50.0	2.0	2634	7.0		
NEUB	e P	Z	20:44:02.4	85.3	52.8	1.3	1302	6.9		
NRDL	e P	Z	20:44:02.5	85.3	51.6	1.3	594	6.6		
	e S	R	20:54:31.5							
TANN	e P	Z	20:44:02.7	85.4	53.3	1.3	361	6.3		
WERD	e P	Z	20:44:03.3	85.5	53.2	1.4	542	6.5		
GUNZ	e P	Z	20:44:03.3	85.5	53.2	1.3	728	6.6		
	e S	R	20:54:33.8							

PLN	e P	Z	20:44:03.4	85.6	53.0	1.3	555	6.5	
WERN	e P	Z	20:44:03.8	85.6	53.2	1.3	829	6.7	
CLZ	e P	Z	20:44:04.3	85.6	51.8	1.2	1913	7.1	
	e S	R	20:54:35.2						
GEC2	e P	Z	20:44:04.2	85.7	54.1	1.4	437	6.4	
MOX	e P	Z	20:44:04.1	85.7	52.7	2.6	1986	6.8	
	e S	R	20:54:36.6						
	e L	Z	21:26:22.1			19.1	470957		7.9
ROTZ	e P	Z	20:44:05.7	86.0	53.0	1.4	859	6.7	
WET	e P	Z	20:44:05.5	86.0	53.5	1.3	248	6.2	
UBBA	e P	Z	20:44:07.6	86.4	51.5	1.6	807	6.8	
	e S	R	20:54:42.6						
GRA1	e P	Z	20:44:08.4	86.5	52.3	1.3	1520	7.2	
	e S	R	20:54:43.5						
	e L	Z	21:28:29.6			18.1	335660		7.8
IBBN	e P	Z	20:44:08.5	86.6	49.8	1.3	1643	7.2	
	e S	R	20:54:44.4						
RJOB	e P	Z	20:44:10.0	86.9	53.4	1.0	563	6.8	
BUG	e P	Z	20:44:12.0	87.4	49.4	1.3	896	6.8	
	e S	R	20:54:54.6						
FUR	e P	Z	20:44:12.8	87.4	52.3	1.2	1430	7.1	
	e S	R	20:54:54.1						
TNS	e P	Z	20:44:12.9	87.6	50.3	1.3	336	6.4	
STU	e P	Z	20:44:15.2	88.1	50.8	1.3	531	6.6	
BFO	e P	Z	20:44:18.1	88.8	50.1	1.4	513	6.6	
	e S	R	20:55:06.4						
WLF	e P	Z	20:44:20.5	89.1	48.5	1.9	970	6.7	

Date Origin Time Lat Long Depth mb Ms ML Source  
 2010/02/27 06:34:14.5 35.648S 72.562W 35.0G 8.9 NEIC  
 Near coast of central Chile

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e Pdiff	Z	06:48:44.3	110.0	238.0					
	e PP	Z	06:53:32.4							
	e SP	Z	07:03:06.0							
BFO	e SS	T	07:08:54.6							
	e Pdiff	Z	06:48:46.5	110.5	238.9					
	e PP	Z	06:53:36.1							
	e SP	Z	07:03:12.0							
STU	e SS	T	07:09:01.7							
	e Pdiff	Z	06:48:49.9	111.2	239.6					
	e PP	Z	06:53:41.1							
	e SP	Z	07:03:20.2							
BUG	e SS	T	07:09:14.0							
	e Pdiff	Z	06:48:50.8	111.5	239.3					
	e PP	Z	06:53:43.1							

	e SP	Z	07:03:24.4				
	e SS	T	07:09:17.0				
TNS	e Pdiff	Z	06:48:51.4	111.5	239.6		
	e PP	Z	06:53:43.7				
	e SP	Z	07:03:24.4				
	e SS	T	07:09:18.1				
FUR	e Pdiff	Z	06:48:54.1	112.1	240.7		
	e PP	Z	06:53:47.6				
	e SP	Z	07:03:31.5				
	e SS	T	07:09:23.6				
IBBN	e Pdiff	Z	06:48:54.0	112.2	239.9		
	e PP	Z	06:53:48.2				
	e SP	Z	07:03:31.3				
	e SS	T	07:09:24.9				
UBBA	e Pdiff	Z	06:48:56.6	112.7	240.8		
	e PP	Z	06:53:51.6				
	e SP	Z	07:03:38.5				
	e SS	T	07:09:32.7				
RJOB	e Pdiff	Z	06:48:57.1	112.8	241.5		
	e PP	Z	06:53:52.6				
	e SP	Z	07:03:39.2				
	e SS	T	07:09:33.4				
GRA1	e Pdiff	Z	06:48:57.3	112.8	241.2		
	e PP	Z	06:53:52.5				
	e SP	Z	07:03:40.4				
	e SS	T	07:09:34.2				
	e L	Z	07:40:53.1			20.8	3225128
HLG	e Pdiff	Z	06:48:58.0	113.2	240.7		8.9
	e PP	Z	06:53:54.8				
	e SP	Z	07:03:41.6				
	e SS	T	07:09:37.7				
CLZ	e Pdiff	Z	06:49:00.0	113.4	241.5		
	e PP	Z	06:53:57.0				
	e SP	Z	07:03:46.7				
	e SS	T	07:09:40.7				
ROTZ	e Pdiff	Z	06:49:00.5	113.4	241.9		
	e PP	Z	06:53:57.2				
	e SP	Z	07:03:47.2				
	e SS	T	07:09:43.4				
MOX	e Pdiff	Z	06:49:00.5	113.5	241.8		
	e PP	Z	06:53:57.5				
	e SP	Z	07:03:48.5				
	e SS	T	07:09:44.0				
	e L	Z	07:41:56.3			19.8	2454341
WET	e Pdiff	Z	06:49:00.9	113.5	242.0		8.8
	e PP	Z	06:53:57.8				
	e SP	Z	07:03:47.7				
	e SS	T	07:09:45.2				
NRDL	e Pdiff	Z	06:49:00.3	113.5	241.5		

	e PP	Z	06:53:57.8		
	e SP	Z	07:03:47.2		
	e SS	T	07:09:43.4		
GEC2	e Pdiff	Z	06:49:01.7	113.8	242.4
	e PP	Z	06:53:59.7		
	e SP	Z	07:03:50.3		
	e SS	T	07:09:48.3		
NEUB	e Pdiff	Z	06:49:01.9	113.8	242.1
	e PP	Z	06:54:00.0		
	e SP	Z	07:03:51.7		
	e SS	T	07:09:48.7		
TANN	e Pdiff	Z	06:49:02.4	113.8	242.3
	e PP	Z	06:54:00.3		
	e SP	Z	07:03:52.3		
	e SS	T	07:09:49.2		
BSEG	e Pdiff	Z	06:49:03.4	114.3	242.2
	e PP	Z	06:54:02.7		
	e SP	Z	07:03:53.9		
	e SS	T	07:09:51.0		
CLL	e Pdiff	Z	06:49:05.3	114.6	243.0
	e PP	Z	06:54:05.4		
	e SP	Z	07:04:00.1		
	e SS	T	07:09:57.4		
BRG	e Pdiff	Z	06:49:07.1	114.9	243.4
	e PP	Z	06:54:08.0		
	e SP	Z	07:04:03.8		
	e SS	T	07:10:03.4		
RUE	e Pdiff	Z	06:49:09.5	115.5	244.0
	e PP	Z	06:54:11.9		
	e SP	Z	07:04:09.6		
	e SS	T	07:10:07.9		
RGN	e Pdiff	Z	06:49:12.3	116.2	244.6
	e PP	Z	06:54:16.3		
	e SP	Z	07:04:15.6		
	e SS	T	07:10:18.9		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/27	08:01:24.1	37.700S	75.200W	39.0G				NEIC
Off coast of central Chile								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BFO	e PKKPab	Z	08:30:51.1	113.4	239.0					
STU	e PKKPab	Z	08:30:48.0	114.1	239.6					
FUR	e PKKPab	Z	08:30:44.8	115.0	240.6					
GRA1	e PKKPab	Z	08:30:41.4	115.7	241.2					
CLZ	e PKKPab	Z	08:30:38.6	116.3	241.6					
MOX	e PKiKP	Z	08:20:04.2	116.4	241.9					

	e	PKKPab	Z	08:30:38.0					
WET	e	PKiKP	Z	08:20:04.1	116.4	242.0			
NRDL	e	PKiKP	Z	08:20:04.3	116.5	241.8			
WERN	e	PKiKP	Z	08:20:04.8	116.7	242.2			
	e	PKKPab	Z	08:30:37.1					
GUNZ	e	PKiKP	Z	08:20:04.7	116.7	242.2			
	e	PKKPab	Z	08:30:37.0					
WERD	e	PKiKP	Z	08:20:04.7	116.7	242.2			
	e	PKKPab	Z	08:30:36.7					
GEC2	e	PKiKP	Z	08:20:04.4	116.8	242.4			
NEUB	e	PKiKP	Z	08:20:04.8	116.8	242.3			
	e	PKKPab	Z	08:30:36.2					
TANN	e	PKiKP	Z	08:20:04.8	116.8	242.3			
BSEG	e	PKiKP	Z	08:20:05.5	117.3	242.5			
CLL	e	PKiKP	Z	08:20:06.0	117.5	243.1			
BRG	e	PKiKP	Z	08:20:06.8	117.8	243.5			
RUE	e	PKiKP	Z	08:20:07.8	118.5	244.1			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/27	10:30:32.5	34.000S	72.900W	35.0				NEIC

Near coast of central Chile

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PP	Z 10:49:40.2	111.8	242.7					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/27	15:45:41.0	24.416S	65.387W	38.0				NEIC

Salta Province, Argentina

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e Pdiff	Z 15:59:23.2	100.3	244.2					
	e PP	Z 16:03:23.9							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/27	19:00: 8.0	33.400S	71.900W	34.0				NEIC

Near coast of central Chile

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PP	Z 19:19:13.1	110.8	242.5					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
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2010/02/27 23:21:17.8 36.340N 70.110E 125.8 5.9 SZGRF  
 Hindu Kush, Afghanistan, region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z	23:28:57.5	42.0	87.8	0.9	228	5.9		
RUE	e P	Z	23:28:57.4	42.1	89.4	0.9	235	5.9		
GEC2	e P	Z	23:28:59.6	42.3	85.4	1.1	125	5.5		
RGN	e P	Z	23:29:00.4	42.4	91.3	1.4	1160	6.4		
CLL	e P	Z	23:29:01.7	42.6	87.5	0.9	124	5.6		
WET	e P	Z	23:29:03.9	42.8	85.1	1.7	104	5.3		
TANN	e P	Z	23:29:05.5	43.0	86.2	1.1	134	5.6		
RJOB	e P	Z	23:29:05.1	43.0	83.6	1.2	139	5.6		
WERN	e P	Z	23:29:06.2	43.1	86.0	1.6	150	5.5		
	e pP	Z	23:29:34.8							
GUNZ	e P	Z	23:29:06.1	43.1	86.0	1.0	132	5.6		
	e pP	Z	23:29:34.9							
WERD	e P	Z	23:29:06.1	43.1	86.1	1.1	138	5.6		
	e pP	Z	23:29:34.7							
PLN	e P	Z	23:29:06.9	43.2	86.0	1.1	166	5.7		
	e pP	Z	23:29:35.7							
ROTZ	e P	Z	23:29:07.8	43.2	85.3	1.4	321	5.9		
	e pP	Z	23:29:36.3							
NEUB	e P	Z	23:29:08.2	43.4	86.5	1.0	251	5.9		
MOX	e P	Z	23:29:09.6	43.5	85.8	1.1	161	5.7		
	e pP	Z	23:29:38.1							
GRA1	e P	Z	23:29:13.1	43.9	84.5	1.3	377	6.0		
	e pP	Z	23:29:41.6							
FUR	e P	Z	23:29:13.1	44.0	83.0	1.0	275	5.9		
	e pP	Z	23:29:41.7							
BSEG	e P	Z	23:29:14.6	44.1	88.3	1.0	235	5.9		
CLZ	e P	Z	23:29:15.2	44.2	86.1	1.4	284	5.8		
	e pP	Z	23:29:43.8							
NRDL	e P	Z	23:29:16.1	44.3	86.6	1.0	166	5.7		
	e pP	Z	23:29:44.9							
UBBA	e P	Z	23:29:17.4	44.5	84.8	1.6	201	5.8		
STU	e P	Z	23:29:23.4	45.3	82.2	1.0	205	6.0		
HLG	e P	Z	23:29:25.9	45.6	86.6	1.2	380	6.3		
TNS	e P	Z	23:29:25.9	45.6	83.1	1.3	116	5.8		
IBBN	e P	Z	23:29:27.4	45.8	84.7	0.9	325	6.3		
BFO	e P	Z	23:29:27.7	45.9	81.2	1.1	123	5.9		
BUG	e P	Z	23:29:30.5	46.2	83.5	1.1	265	6.2		
WLF	e P	Z	23:29:38.2	47.1	81.1	1.1	330	6.4		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/28	01:20:51.5	27.665N	126.886E	33.0G	5.4			SZGRF

Northwest of Ryukyu Islands, Japan



Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 01:33:18.5	83.9	53.4	1.2	27	5.4		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/28	02:23:31.2	36.665N	21.507E	33.0G				SZGRF

Southern Greece

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e Pn	Z 02:27:06.4	15.0	146.4					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/28	03:33:56.4	28.466N	130.250E	33.0N	5.4			SZGRF

Ryukyu Islands, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 03:46:28.8	85.0	50.5	1.1	30	5.4		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/28	08:17:47.9	35.378N	143.037E	33.0G	5.4	5.2		SZGRF

Off east coast of Honshu, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e P	Z 08:30:03.0	81.7	39.6	1.6	65	5.5		
BSEG	e P	Z 08:30:04.0	81.8	37.2	1.3	33	5.3		
BRG	e P	Z 08:30:08.8	82.8	39.6	1.6	42	5.4		
CLL	e P	Z 08:30:08.8	82.9	39.0	1.2	26	5.3		
NEUB	e P	Z 08:30:12.0	83.4	38.1	1.4	55	5.6		
CLZ	e P	Z 08:30:12.6	83.5	37.1	1.3	29	5.3		
TANN	e P	Z 08:30:13.9	83.8	38.5	1.9	55	5.5		
WERD	e P	Z 08:30:14.1	83.8	38.4	1.4	23	5.2		
GUNZ	e P	Z 08:30:14.4	83.9	38.4	1.5	35	5.4		
WERN	e P	Z 08:30:14.7	83.9	38.5	1.4	29	5.3		
MOX	e P	Z 08:30:14.7	83.9	37.9	1.8	57	5.5		
	e L	Z 09:06:18.3			21.9	984		5.1	
IBBN	e P	Z 08:30:15.0	84.0	35.2	1.8	82	5.7		
ROTZ	e P	Z 08:30:17.3	84.4	38.3	1.6	71	5.6		
UBBA	e P	Z 08:30:17.0	84.4	36.8	1.6	29	5.3		
GEC2	e P	Z 08:30:16.9	84.5	39.3	1.2	17	5.1		
WET	e P	Z 08:30:18.1	84.6	38.7	1.4	20	5.1		
GRA1	e P	Z 08:30:19.6	84.8	37.6	1.2	68	5.7		
	e L	Z 09:17:48.8			18.7	1412		5.4	
BUG	e P	Z 08:30:19.3	84.9	34.8	1.3	40	5.5		
TNS	e P	Z 08:30:22.4	85.5	35.6	1.5	37	5.3		

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RJOB	e P	Z	08:30:23.6	85.7	38.6	1.2	16	5.0
FUR	e P	Z	08:30:25.1	86.0	37.6	1.8	86	5.6
STU	e P	Z	08:30:26.6	86.4	36.1	1.3	50	5.5
BFO	e P	Z	08:30:29.8	87.1	35.5	1.6	43	5.3

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/28	10:26:52.9	1.011S	80.292W	33.0G	5.3			SZGRF
Near coast of Ecuador								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 10:39:57.5	91.8	270.5	1.0	16	5.3		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/28	12:13:32.9	3.006N	97.620E	33.0N	5.1			SZGRF
Northern Sumatra, Indonesia								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e P	Z 12:25:59.0	83.7	92.6	1.3	10	4.9		
WET	e P	Z 12:26:01.6	84.3	92.0	1.0	8	4.9		
CLL	e P	Z 12:26:01.3	84.3	92.3	1.0	6	4.8		
RJOB	e P	Z 12:26:01.1	84.3	91.8	0.9	7	4.9		
GUNZ	e P	Z 12:26:03.8	84.7	91.7	1.9	19	5.0		
WERD	e P	Z 12:26:03.7	84.7	91.7	0.9	5	4.7		
ROTZ	e P	Z 12:26:04.3	84.7	91.6	1.0	8	4.9		
NEUB	e P	Z 12:26:05.3	85.1	91.4	1.1	14	5.1		
CLZ	e P	Z 12:26:10.0	85.9	90.3	0.8	14	5.2		
BSEG	e P	Z 12:26:10.1	86.0	90.4	1.0	25	5.3		
NRDL	e P	Z 12:26:10.9	86.1	90.1	1.0	22	5.2		
TNS	e P	Z 12:26:16.1	87.2	88.7	0.9	12	5.0		
IBBN	e P	Z 12:26:17.7	87.5	88.3	0.9	30	5.6		
BUG	e P	Z 12:26:19.2	87.9	87.9	0.9	21	5.5		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/02/28	22:07:45.9	41.069N	140.485E	33.0G	5.0			SZGRF
Hokkaido, Japan, region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z 22:19:29.5	75.8	36.5	1.1	25	5.2		
BRG	e P	Z 22:19:35.0	76.9	38.5	1.2	10	4.8		
CLL	e P	Z 22:19:34.8	76.9	37.9	1.1	22	5.2		
TANN	e P	Z 22:19:40.2	77.9	37.4	2.0	36	5.2		
WERD	e P	Z 22:19:40.6	77.9	37.3	1.0	7	4.7		
PLN	e P	Z 22:19:40.7	77.9	37.2	1.1	8	4.8		

GUNZ	e P	Z	22:19:40.8	77.9	37.3	0.8	9	5.0
WERN	e P	Z	22:19:41.1	78.0	37.3	1.0	16	5.1
MOX	e P	Z	22:19:41.0	78.0	36.9	1.3	16	5.0
ROTZ	e P	Z	22:19:44.1	78.5	37.2	1.6	27	5.0
GEC2	e P	Z	22:19:44.3	78.6	38.0	1.1	7	4.6
WET	e P	Z	22:19:45.1	78.7	37.5	1.2	12	4.8
GRA1	e P	Z	22:19:46.4	78.9	36.5	1.3	56	5.4
RJOB	e P	Z	22:19:51.2	79.9	37.3	0.9	15	4.9
FUR	e P	Z	22:19:52.7	80.1	36.4	1.0	33	5.2
STU	e P	Z	22:19:54.1	80.4	35.1	0.9	19	5.1

## Format description

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(T. Plenefisch, Email: plene@szgrf.bgr.de)

In general all regional and teleseismic events clearly recorded with stations of the Gräfenberg-Array (GRF) and stronger events recorded with stations of the German Regional Seismological Network (GRSN) are included in this bulletin. Each event is reported by an EPICENTER LINE, a REGION LINE and a block of PHASE LINES.

## EPICENTER LINE:

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, SED, MAD)

## REGION LINE:

The region name of the epicenter location.

## 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
	Component where the phase was picked

Time	Arrival time of the reported phase
Dist	Distance from the epicenter location to the station in degree
BAz	Backazimuth from the epicenter location 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