

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

(produced by SZGRF/BGR - HANNOVER)

July 2010 UPDATED 27.JANUARY.2011

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
2010/07/01	03:07:48.8	21.600S	174.950W	36.0G				NEIC
Tonga Islands								
Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb MS ML
BSEG	e PKPbc	Z	03:27:28.8	147.4	9.1			
RUE	e PKPbc	Z	03:27:31.5	148.4	15.6			
IBBN	e PKPbc	Z	03:27:33.6	149.2	4.9			
CLZ	e PKPbc	Z	03:27:34.5	149.5	9.8			
CLL	e PKPbc	Z	03:27:34.6	149.7	14.8			
BRG	e PKPbc	Z	03:27:35.5	149.9	16.7			
NEUB	e PKPbc	Z	03:27:35.4	149.9	12.6			
FBE	e PKPbc	Z	03:27:35.8	150.0	15.6			
BUG	e PKPbc	Z	03:27:35.6	150.1	4.1			
MOX	e PKPbc	Z	03:27:36.7	150.5	12.5			
UBBA	e PKPbc	Z	03:27:36.5	150.5	9.4			
PLN	e PKPbc	Z	03:27:37.1	150.6	13.5			
WERD	e PKPbc	Z	03:27:37.0	150.6	13.8			
TANN	e PKPbc	Z	03:27:37.1	150.6	14.1			
GUNZ	e PKPbc	Z	03:27:37.3	150.7	13.9			
WERN	e PKPbc	Z	03:27:37.6	150.7	14.0			
MANZ	e PKPbc	Z	03:27:38.3	151.1	13.7			
TNS	e PKPbc	Z	03:27:38.5	151.3	6.6			
ROTZ	e PKPbc	Z	03:27:38.8	151.3	13.9			
GRA1	e PKPbc	Z	03:27:39.2	151.5	12.1			
WET	e PKPbc	Z	03:27:39.7	151.8	15.5			
GEC2	e PKPbc	Z	03:27:40.0	151.9	17.3			
WLF	e PKPbc	Z	03:27:40.5	151.9	2.2			
STU	e PKPbc	Z	03:27:41.6	152.6	8.4			
BFO	e PKPbc	Z	03:27:42.5	153.1	6.8			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/01	20:29:56.1	52.214N	164.093W	41.2	4.8			SZGRF
South of Alaska								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 20:41:50.5	78.0	357.1	1.1	8	4.8		
	e pP	Z 20:42:02.4							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/02	01:12:48.1	14.360S	167.340E	221.0G				NEIC
Vanuatu Islands								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 01:31:50.3	139.7	37.3					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/02	06:04: 3.9	14.480S	165.170E	35.0G				SZGRF
Vanuatu Islands								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PP	Z 06:26:00.2	135.9	36.2					
BRG	e PKPdf	Z 06:23:23.1	136.8	43.0					
	e PP	Z 06:26:06.0							
CLL	e PKPdf	Z 06:23:23.0	136.9	41.4					
	e PP	Z 06:26:06.1							
FBE	e PKPdf	Z 06:23:23.8	137.1	42.2					
	e PP	Z 06:26:07.5							
NEUB	e PKPdf	Z 06:23:24.4	137.5	39.9					
	e PP	Z 06:26:09.8							
CLZ	e PKPdf	Z 06:23:24.6	137.6	37.7					
	e PP	Z 06:26:10.5							
TANN	e PKPdf	Z 06:23:25.2	137.8	41.4					
	e PP	Z 06:26:11.4							
WERD	e PKPdf	Z 06:23:25.2	137.9	41.2					
PLN	e PKPdf	Z 06:23:25.3	137.9	40.9					
GUNZ	e PKPdf	Z 06:23:25.4	137.9	41.3					
WERN	e PKPdf	Z 06:23:25.5	137.9	41.4					
MOX	e PKPdf	Z 06:23:25.4	138.0	40.1					
	e L	Z 07:27:27.3			20.6	4841		6.2	
IBBN	e PKPdf	Z 06:23:25.3	138.1	33.9					
MANZ	e PKPdf	Z 06:23:26.2	138.3	41.2					
ROTZ	e PKPdf	Z 06:23:26.4	138.4	41.5					
	e PP	Z 06:26:16.6							

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GEC2	e	PKPdf	Z	06:23:26.4	138.4	44.2				
UBBA	e	PKPdf	Z	06:23:26.1	138.5	37.9				
	e	PP	Z	06:26:16.3						
WET	e	PKPdf	Z	06:23:26.8	138.6	42.9				
	e	PP	Z	06:26:17.9						
GRA1	e	PKPdf	Z	06:23:27.3	138.9	40.3				
	e	PP	Z	06:26:21.3						
	e	L	Z	07:26:55.6			20.7	4719		6.2
BUG	e	PKPdf	Z	06:23:26.8	139.0	33.7				
	e	PP	Z	06:26:21.3						
TNS	e	PP	Z	06:26:26.0	139.6	36.2				
RJOB	e	PKPdf	Z	06:23:28.5	139.6	43.9				
	e	PP	Z	06:26:24.4						
FUR	e	PKPdf	Z	06:23:29.4	140.0	41.5				
STU	e	PKPdf	Z	06:23:30.1	140.4	38.2				
WLF	e	PKPdf	Z	06:23:31.4	140.9	33.3				
BFO	e	PKPdf	Z	06:23:31.2	141.1	37.4				

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/02	12:00:19.4	13.660S	166.500E	116.1N				NEIC
Vanuatu Islands								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e	PKPdf	Z	12:19:30.5	135.6	34.1				
HLG	e	PKPdf	Z	12:19:31.8	136.1	30.7				
BRG	e	PKPdf	Z	12:19:32.3	136.7	40.7				
CLL	e	PKPdf	Z	12:19:32.3	136.7	39.2				
FBE	e	PKPdf	Z	12:19:33.0	136.9	39.9				
NEUB	e	PKPdf	Z	12:19:33.6	137.3	37.7				
CLZ	e	PKPdf	Z	12:19:33.8	137.3	35.4				
TANN	e	PKPdf	Z	12:19:34.2	137.6	39.1				
WERD	e	PKPdf	Z	12:19:34.2	137.7	38.9				
PLN	e	PKPdf	Z	12:19:34.2	137.7	38.7				
GUNZ	e	PKPdf	Z	12:19:34.5	137.7	39.0				
WERN	e	PKPdf	Z	12:19:34.8	137.8	39.1				
MOX	e	PKPdf	Z	12:19:34.4	137.8	37.9				
IBBN	e	PKPdf	Z	12:19:34.4	137.8	31.6				
MANZ	e	PKPdf	Z	12:19:35.1	138.1	39.0				
ROTZ	e	PKPdf	Z	12:19:35.4	138.2	39.3				
UBBA	e	PKPdf	Z	12:19:35.5	138.2	35.6				
GEC2	e	PKPdf	Z	12:19:35.4	138.3	41.9				
WET	e	PKPdf	Z	12:19:35.7	138.4	40.6				

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/02	15:11:38.2	16.523S	172.668W	33.0G		4.6		SZGRF

Samoa Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLZ	e PKPbc	Z	15:31:09.7	144.6	5.0					
CLL	e PKPbc	Z	15:31:10.1	144.9	9.5					
BUG	e PKPbc	Z	15:31:10.9	145.1	359.9					
NEUB	e PKPbc	Z	15:31:11.1	145.1	7.5					
BRG	e PKPbc	Z	15:31:11.3	145.2	11.2					
FBE	e PKPbc	Z	15:31:11.9	145.3	10.2					
UBBA	e PKPbc	Z	15:31:12.6	145.6	4.5					
MOX	e PKPbc	Z	15:31:12.9	145.7	7.3					
	e L	Z	16:30:43.0			18.8	102		4.6	
PLN	e PKPbc	Z	15:31:13.4	145.8	8.3					
WERD	e PKPbc	Z	15:31:13.5	145.8	8.5					
TANN	e PKPbc	Z	15:31:13.6	145.9	8.8					
GUNZ	e PKPbc	Z	15:31:13.9	145.9	8.6					
WERN	e PKPbc	Z	15:31:14.2	146.0	8.7					
MANZ	e PKPbc	Z	15:31:15.1	146.3	8.3					
ROTZ	e PKPbc	Z	15:31:15.9	146.5	8.5					
GRA1	e PKPbc	Z	15:31:16.1	146.7	6.8					
	e L	Z	16:30:46.0			21.5	87		4.5	
WLF	e PKPbc	Z	15:31:17.1	146.8	357.9					
WET	e PKPbc	Z	15:31:17.2	147.1	9.8					
GEC2	e PKPbc	Z	15:31:17.3	147.3	11.3					
BFO	e PKPbc	Z	15:31:20.0	148.2	1.8					
FUR	e PKPbc	Z	15:31:20.1	148.2	7.2					
RJOB	e PKPbc	Z	15:31:20.5	148.5	10.1					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/02	18:23: 8.4	10.500N	92.500E	22.2	4.9	4.9		SZGRF

Andaman Islands, India, region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z	18:34:47.1	74.7	92.2	1.6	17	4.8		
	e pP	Z	18:34:53.6							
GEC2	e P	Z	18:34:47.4	74.8	91.4	1.2	6	4.5		
	e pP	Z	18:34:53.7							
RUE	e P	Z	18:34:48.2	74.8	92.5	1.2	30	5.2		
	e pP	Z	18:34:54.4							
FBE	e P	Z	18:34:49.6	75.0	91.7	1.3	18	4.9		
	e pP	Z	18:34:55.6							
CLL	e P	Z	18:34:50.2	75.3	91.5	1.4	11	4.7		
	e pP	Z	18:34:56.6							
WET	e P	Z	18:34:50.7	75.3	90.9	1.6	12	4.7		
	e pP	Z	18:34:57.0							
TANN	e P	Z	18:34:52.6	75.6	90.9	1.5	11	4.8		
	e pP	Z	18:34:58.8							

WERN	e pP	Z	18:34:59.1	75.6	90.8					
GUNZ	e P	Z	18:34:53.1	75.7	90.8	1.4	10	4.8		
	e pP	Z	18:34:59.5							
WERD	e P	Z	18:34:53.1	75.7	90.8	1.4	9	4.7		
	e pP	Z	18:34:59.5							
ROTZ	e P	Z	18:34:53.7	75.7	90.5	1.4	13	4.9		
	e pP	Z	18:35:00.3							
PLN	e P	Z	18:34:53.7	75.8	90.7					
	e pP	Z	18:34:59.8							
MANZ	e P	Z	18:34:54.3	75.8	90.5	1.5	14	4.9		
	e pP	Z	18:35:00.4							
NEUB	e P	Z	18:34:54.7	76.0	90.6	1.2	16	5.0		
	e pP	Z	18:35:01.4							
MOX	e P	Z	18:34:55.4	76.1	90.3	1.4	12	4.8		
	e pP	Z	18:35:01.8							
	e L	Z	19:14:07.7			21.6	475	4.8		
GRA1	e P	Z	18:34:57.3	76.4	89.8	1.5	16	4.9		
	e pP	Z	18:35:03.6							
	e L	Z	19:17:13.2			18.3	526	4.9		
CLZ	e P	Z	18:35:00.0	76.9	89.6	1.2	12	4.9		
	e pP	Z	18:35:06.2							
BSEG	e P	Z	18:35:00.3	76.9	90.0	1.2	23	5.2		
	e pP	Z	18:35:06.7							
TNS	e P	Z	18:35:06.8	78.2	87.8	1.4	13	4.9		
	e pP	Z	18:35:13.4							
BFO	e P	Z	18:35:07.5	78.3	87.3	1.0	4	4.5		
	e pP	Z	18:35:13.7							
IBBN	e P	Z	18:35:09.1	78.5	87.7	1.2	15	4.9		
	e pP	Z	18:35:15.7							
BUG	e P	Z	18:35:10.7	78.8	87.1	1.5	21	5.0		
	e pP	Z	18:35:17.7							
WLF	e P	Z	18:35:15.6	79.7	85.9	1.8	35	5.0		
	e pP	Z	18:35:22.0							

Date 2010/07/02 Origin Time 18:53:34.2 Lat 19.940S Long 177.720W Depth 397.0G mb Ms ML Source EMSC
 Fiji Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	19:12:25.1	145.5	13.4					
CLZ	e PKPbc	Z	19:12:31.1	147.5	14.2					
CLL	e PKPbc	Z	19:12:30.9	147.5	19.0					
BRG	e PKPbc	Z	19:12:31.6	147.7	20.8					
FBE	e PKPbc	Z	19:12:32.2	147.8	19.8					
NEUB	e PKPbc	Z	19:12:31.7	147.9	16.9					
BUG	e PKPbc	Z	19:12:32.9	148.3	8.9					
MOX	e PKPbc	Z	19:12:33.4	148.4	16.9					

PLN	e	PKPbc	Z	19:12:33.6	148.5	18.0
TANN	e	PKPbc	Z	19:12:33.6	148.5	18.5
WERD	e	PKPbc	Z	19:12:33.5	148.5	18.2
GUNZ	e	PKPbc	Z	19:12:33.9	148.6	18.3
	e	PKPab	Z	19:12:39.5		
WERN	e	PKPbc	Z	19:12:34.2	148.6	18.4
	e	PKPab	Z	19:12:39.8		
MANZ	e	PKPbc	Z	19:12:34.9	149.0	18.1
	e	PKPab	Z	19:12:41.1		
ROTZ	e	PKPbc	Z	19:12:35.4	149.1	18.4
TNS	e	PKPbc	Z	19:12:35.8	149.3	11.4
	e	PKPab	Z	19:12:42.3		
GRA1	e	PKPbc	Z	19:12:36.0	149.4	16.7
	e	PKPab	Z	19:12:43.1		
WET	e	PKPbc	Z	19:12:36.4	149.6	20.0
GEC2	e	PKPbc	Z	19:12:36.4	149.7	21.6
WLF	e	PKPbc	Z	19:12:38.2	150.1	7.3
	e	PKPab	Z	19:12:46.0		
STU	e	PKPab	Z	19:12:47.7	150.6	13.3
FUR	e	PKPbc	Z	19:12:39.3	150.9	17.6
	e	PKPab	Z	19:12:49.1		
RJOB	e	PKPab	Z	19:12:50.0	150.9	20.7
BFO	e	PKPbc	Z	19:12:39.8	151.2	11.9
	e	PKPab	Z	19:12:50.0		

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/07/03 04:22:14.8 21.890S 174.510W 35.0G
 Tonga Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 04:42:12.2	151.8	11.3					

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/07/03 12:13:31.0 11.370S 163.710E 39.0G
 Bougainville - Solomon Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLZ	e PKPdf	Z 12:32:44.7	134.1	37.8					
WERD	e PKPdf	Z 12:32:44.9	134.4	41.1					
PLN	e PKPdf	Z 12:32:45.1	134.5	40.9					
GUNZ	e PKPdf	Z 12:32:44.9	134.5	41.2					
WERN	e PKPdf	Z 12:32:45.3	134.5	41.3					
MOX	e PKPdf	Z 12:32:45.0	134.6	40.1					
IBBN	e PKPdf	Z 12:32:45.4	134.7	34.2					
MANZ	e PKPdf	Z 12:32:45.8	134.9	41.1					

ROTZ	e	PKPdf	Z	12:32:45.9	135.0	41.4
GEC2	e	PKPdf	Z	12:32:45.9	135.0	43.9
UBBA	e	PKPdf	Z	12:32:45.8	135.1	38.0
WET	e	PKPdf	Z	12:32:47.2	135.2	42.7

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/03	19:33:20.9	40.108N	141.675E	33.0G	5.3	4.6		SZGRF

Near east coast of eastern Honshu, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e P	Z 19:45:10.7	77.0	38.3	1.1	46	5.5		
BSEG	e P	Z 19:45:11.5	77.1	36.1	1.1	52	5.6		
CLL	e P	Z 19:45:16.9	78.2	37.6	1.1	40	5.4		
FBE	e P	Z 19:45:18.4	78.4	37.8	1.3	59	5.5		
NEUB	e P	Z 19:45:20.1	78.8	36.7	1.1	55	5.5		
CLZ	e P	Z 19:45:20.7	78.8	35.9	1.3	66	5.5		
TANN	e P	Z 19:45:22.3	79.1	37.1	1.2	15	4.9		
WERD	e P	Z 19:45:22.5	79.2	37.0	1.2	22	5.1		
PLN	e P	Z 19:45:22.7	79.2	36.9	1.4	31	5.0		
GUNZ	e P	Z 19:45:22.8	79.2	37.0					
WERN	e P	Z 19:45:23.1	79.3	37.0	1.1	29	5.1		
MOX	e P	Z 19:45:23.0	79.3	36.6	1.2	25	5.0		
	e L	Z 20:23:45.0			19.3	254		4.6	
IBBN	e P	Z 19:45:23.3	79.3	34.1	1.0	49	5.4		
MANZ	e P	Z 19:45:24.9	79.6	36.8	1.0	36	5.2		
UBBA	e P	Z 19:45:25.4	79.7	35.5	1.9	58	5.2		
ROTZ	e P	Z 19:45:26.1	79.8	36.9	1.2	30	5.1		
GEC2	e P	Z 19:45:26.0	79.9	37.8	1.1	18	4.9		
WET	e P	Z 19:45:27.1	80.0	37.3	1.2	30	5.1		
GRA1	e P	Z 19:45:28.4	80.2	36.2	1.3	76	5.6		
	e L	Z 20:22:53.0			19.3	301		4.7	
BUG	e P	Z 19:45:27.9	80.2	33.7	1.2	42	5.3		
TNS	e P	Z 19:45:31.3	80.8	34.4	1.2	29	5.2		
RJOB	e P	Z 19:45:33.2	81.1	37.1	1.0	59	5.6		
FUR	e P	Z 19:45:34.4	81.4	36.1	1.0	96	5.9		
STU	e P	Z 19:45:35.9	81.7	34.8	0.9	46	5.6		
BFO	e P	Z 19:45:39.7	82.4	34.1	1.2	49	5.6		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/04	01:56:50.7	37.806N	70.583E	33.0N	4.7			SZGRF

Afghanistan-Tajikistan border region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e P	Z 02:04:36.8	41.8	83.2	1.5	11	4.4		
FBE	e P	Z 02:04:36.5	41.8	85.3	1.3	25	4.8		

CLL	e P	Z	02:04:37.3	42.0	85.5	1.4	19	4.6
WET	e P	Z	02:04:40.7	42.3	83.0	1.3	9	4.3
TANN	e P	Z	02:04:41.4	42.4	84.1	1.4	12	4.4
WERN	e P	Z	02:04:42.4	42.5	83.9	1.7	15	4.5
GUNZ	e P	Z	02:04:42.3	42.5	84.0	1.8	24	4.6
WERD	e P	Z	02:04:42.3	42.5	84.1	1.3	10	4.4
PLN	e P	Z	02:04:42.9	42.6	84.0	1.3	8	4.3
ROTZ	e P	Z	02:04:44.0	42.6	83.2	1.6	12	4.4
MANZ	e P	Z	02:04:44.0	42.7	83.4	1.7	17	4.5
NEUB	e P	Z	02:04:44.0	42.8	84.5	1.2	23	4.8
MOX	e P	Z	02:04:45.5	42.9	83.8	1.3	10	4.4
GRA1	e P	Z	02:04:49.5	43.3	82.5	1.5	32	4.8
BSEG	e P	Z	02:04:49.4	43.4	86.3	1.2	22	4.8
CLZ	e P	Z	02:04:50.9	43.6	84.2	1.4	20	4.7
STU	e P	Z	02:05:00.6	44.7	80.2	1.2	15	4.8
TNS	e P	Z	02:05:02.6	45.0	81.2	1.6	10	4.5
IBBN	e P	Z	02:05:02.9	45.1	82.8	1.2	36	5.2
BFO	e P	Z	02:05:05.2	45.4	79.2	1.3	9	4.6
BUG	e P	Z	02:05:06.3	45.5	81.6	1.4	30	5.1
WLF	e P	Z	02:05:14.8	46.5	79.1	1.4	21	5.1

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/04	05:21:15.1	18.510N	145.130E	458.0G				NEIC
Mariana Islands								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e Pdiff	Z	05:34:02.8	98.6	45.3					
NEUB	e Pdiff	Z	05:34:06.1	99.2	44.3					
CLZ	e Pdiff	Z	05:34:06.5	99.4	43.0					
	e PP	Z	05:38:18.1							
TANN	e PP	Z	05:38:19.2	99.5	45.0					
WERD	e Pdiff	Z	05:34:07.5	99.5	44.9					
	e PP	Z	05:38:19.5							
PLN	e Pdiff	Z	05:34:07.6	99.6	44.7					
	e PP	Z	05:38:20.1							
GUNZ	e Pdiff	Z	05:34:07.5	99.6	44.9					
WERN	e Pdiff	Z	05:34:07.9	99.6	44.9					
	e PP	Z	05:38:20.5							
MOX	e Pdiff	Z	05:34:08.5	99.7	44.2					
	e PP	Z	05:38:20.9							
MANZ	e Pdiff	Z	05:34:09.2	100.0	44.7					
	e PP	Z	05:38:22.7							
GEC2	e Pdiff	Z	05:34:09.4	100.0	46.2					
	e PP	Z	05:38:23.5							
ROTZ	e Pdiff	Z	05:34:10.5	100.1	44.8					
	e PP	Z	05:38:23.9							
IBBN	e Pdiff	Z	05:34:10.0	100.1	40.7					

	e PP	Z	05:38:22.6						
WET	e PP	Z	05:38:24.9	100.2	45.5				
UBBA	e PP	Z	05:38:24.7	100.3	42.8				
GRA1	e PP	Z	05:38:27.7	100.6	44.0				
BUG	e PP	Z	05:38:29.5	101.0	40.4				
RJOB	e PP	Z	05:38:32.7	101.2	45.6				
TNS	e PP	Z	05:38:32.7	101.4	41.6				

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/04	06:57:57.2	8.687S	79.065W	33.0G	5.3	5.0		SZGRF

Near coast of northern Peru

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 07:11:24.9	96.8	264.6	1.6	11	5.3		
	e L	Z 07:51:50.2			21.7	501		5.0	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/04	11:38:53.1	41.423N	13.614E	10.0G			4.0	SZGRF

Southern Italy

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
OBKA	e Pn	Z 11:40:07.5	5.1	187.9					4.2
	e Pg	Z 11:40:27.4							
KBA	e Pn	Z 11:40:15.3	5.7	178.0					3.9
	e Sn	N 11:41:14.5							
ARSA	e Pn	Z 11:40:20.6	6.0	193.9					3.7
WTTA	e Pn	Z 11:40:20.9	6.0	165.7					4.2
RJOB	e Pn	Z 11:40:24.8	6.3	174.4					
	e Sn	N 11:41:32.2							
DAVA	e Pn	Z 11:40:26.8	6.4	154.2					
MOA	e Pn	Z 11:40:26.1	6.4	184.4					
	e Sn	E 11:41:32.9							
GEC2	e Pn	Z 11:40:39.3	7.4	180.5					4.0
	e Sn	N 11:41:56.6							
WET	e Pn	Z 11:40:43.4	7.7	175.9					
BFO	e Pn	Z 11:40:43.7	7.9	149.6					
ECH	e Pn	Z 11:40:48.3	8.2	143.7					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/04	16:34:54.6	43.568N	7.983E	10.0G			3.7	SZGRF

Near south coast of France

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
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DAVA	e Pn	Z	16:35:54.2	3.9	200.4						3.8
	e Sn	E	16:36:38.0								
WTTA	e Pn	Z	16:36:02.5	4.5	216.1						
ECH	e Pn	Z	16:36:03.6	4.7	172.7						3.6
	e Sn	E	16:36:53.6								
BFO	e Pn	Z	16:36:04.3	4.8	183.0						3.6
	e Sn	N	16:36:55.0								
KBA	e Pn	Z	16:36:11.3	5.1	229.0						
RJOB	e Pn	Z	16:36:12.8	5.4	220.6						
OBKA	e Pn	Z	16:36:14.5	5.5	240.0						3.8
	e Sn	N	16:37:13.4								
MOA	e Pn	Z	16:36:24.2	6.1	228.0						
ARSA	e Pn	Z	16:36:27.0	6.4	237.9						
WET	e Pn	Z	16:36:27.2	6.5	213.0						3.6
	e Sn	N	16:37:35.7								
GEC2	e Pn	Z	16:36:28.0	6.6	219.0						3.6
	e Sn	N	16:37:37.8								
TNS	e Pn	Z	16:36:30.3	6.7	182.9						
	e Sn	N	16:37:41.6								
MOX	e Sn	N	16:37:58.7	7.5	200.6						

Date 2010/07/04 Origin Time 21:55:56.2 Lat 40.440N Long 143.160E Depth 41.1 mb 6.2 Ms 6.4 ML Source SZGRF
Off east coast of Honshu, Japan

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e P	Z	22:07:48.3	77.3	37.1	1.5	648	6.5		
	e pP	Z	22:08:00.2							
BSEG	e P	Z	22:07:48.8	77.3	34.9	1.3	369	6.4		
	e pP	Z	22:08:00.7							
HLG	e P	Z	22:07:52.2	77.9	33.2	1.3	314	6.3		
	e pP	Z	22:08:04.0							
CLL	e P	Z	22:07:54.6	78.5	36.4	1.0	246	6.2		
	e pP	Z	22:08:06.4							
FBE	e P	Z	22:07:56.1	78.7	36.6	1.6	609	6.4		
	e pP	Z	22:08:07.9							
CLZ	e P	Z	22:07:58.2	79.0	34.7	1.4	482	6.3		
	e pP	Z	22:08:10.0							
NEUB	e P	Z	22:07:57.7	79.0	35.6	1.1	338	6.3		
	e pP	Z	22:08:09.5							
TANN	e P	Z	22:08:00.1	79.4	35.9	1.8	342	6.0		
	e pP	Z	22:08:11.9							
WERD	e P	Z	22:08:00.2	79.4	35.8	1.6	325	6.0		
	e pP	Z	22:08:12.0							
PLN	e P	Z	22:08:00.6	79.5	35.7	1.7	466	6.1		
	e pP	Z	22:08:12.4							
GUNZ	e P	Z	22:08:00.6	79.5	35.9	1.6	392	6.1		

	e pP	Z	22:08:12.4								
IBBN	e P	Z	22:08:00.6	79.5	32.9	1.2	364	6.2			
	e pP	Z	22:08:12.4								
MOX	e P	Z	22:08:00.7	79.5	35.4	1.6	367	6.1			
	e pP	Z	22:08:12.6								
	e L	Z	22:46:33.6			18.8	15692	6.4			
WERN	e P	Z	22:08:00.9	79.6	35.9	1.5	324	6.0			
	e pP	Z	22:08:12.7								
MANZ	e P	Z	22:08:02.7	79.9	35.7	1.3	194	5.9			
	e pP	Z	22:08:14.6								
UBBA	e P	Z	22:08:02.9	80.0	34.3	1.7	321	6.0			
	e pP	Z	22:08:14.8								
ROTZ	e P	Z	22:08:03.8	80.0	35.7	1.6	525	6.2			
	e pP	Z	22:08:15.7								
GEC2	e P	Z	22:08:04.1	80.2	36.6	1.6	283	6.0			
	e pP	Z	22:08:15.9								
WET	e P	Z	22:08:05.0	80.3	36.1	1.4	357	6.2			
	e pP	Z	22:08:16.8								
BUG	e P	Z	22:08:05.2	80.4	32.5	1.4	317	6.2			
	e pP	Z	22:08:17.0								
GRA1	e P	Z	22:08:06.0	80.5	35.0	1.1	462	6.4			
	e pP	Z	22:08:17.9								
	e L	Z	22:49:31.4			18.5	16649	6.4			
TNS	e P	Z	22:08:08.8	81.0	33.2	1.6	327	6.1			
	e pP	Z	22:08:20.6								
RJOB	e P	Z	22:08:11.2	81.5	35.9	1.3	342	6.3			
	e pP	Z	22:08:23.1								
FUR	e P	Z	22:08:12.3	81.7	34.9	1.0	333	6.4			
	e pP	Z	22:08:24.2								
STU	e P	Z	22:08:13.5	82.0	33.6	1.0	254	6.3			
	e pP	Z	22:08:25.4								
WLF	e P	Z	22:08:15.7	82.3	31.6	2.4	948	6.6			
	e pP	Z	22:08:27.5								
BFO	e P	Z	22:08:17.1	82.7	33.0	1.8	700	6.6			
	e pP	Z	22:08:29.0								

Date 2010/07/05
 Origin Time 02:04: 7.9
 Xizang

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 02:13:33.0	54.5	80.5	1.3	10	4.7		

Date 2010/07/05
 Origin Time 17:18:38.1
 Lat 21.650S
 Long 179.250W
 Depth 573.0G
 mb
 Ms
 ML
 Source EMSC

Fiji Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	17:37:13.1	146.9	16.4					
RUE	e PKPbc	Z	17:37:14.9	147.6	23.0					
CLL	e PKPbc	Z	17:37:18.1	148.8	22.4					
CLZ	e PKPbc	Z	17:37:18.4	148.9	17.5					
BRG	e PKPbc	Z	17:37:18.6	149.0	24.3					
FBE	e PKPbc	Z	17:37:19.2	149.1	23.3					
NEUB	e PKPbc	Z	17:37:19.0	149.2	20.3					
MOX	e PKPbc	Z	17:37:20.3	149.8	20.4					
TANN	e PKPbc	Z	17:37:20.4	149.8	22.0					
WERD	e PKPbc	Z	17:37:20.5	149.8	21.7					
PLN	e PKPbc	Z	17:37:20.4	149.8	21.4					
GUNZ	e PKPbc	Z	17:37:20.8	149.9	21.8					
WERN	e PKPbc	Z	17:37:21.0	149.9	22.0					
MANZ	e PKPbc	Z	17:37:21.7	150.3	21.7					
ROTZ	e PKPbc	Z	17:37:22.1	150.5	22.0					
TNS	e PKPbc	Z	17:37:22.7	150.8	14.8					
WET	e PKPbc	Z	17:37:22.8	150.9	23.6					
GEC2	e PKPbc	Z	17:37:23.0	150.9	25.4					
WLF	e PKPbc	Z	17:37:25.0	151.7	10.6					

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/07/05 19:06:21.6 19.677N 74.607W 33.0G 5.1 4.0
 Cuba region SZGRF

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z	19:17:25.7	69.2	276.3	1.4	32	5.4		
BUG	e P	Z	19:17:28.7	69.7	276.5	1.0	14	5.0		
IBBN	e P	Z	19:17:29.8	69.9	276.5	1.0	29	5.4		
TNS	e P	Z	19:17:34.4	70.6	277.8	1.5	32	5.2		
BFO	e P	Z	19:17:34.9	70.8	278.4	1.0	7	4.7		
BSEG	e P	Z	19:17:37.6	71.3	277.9	1.2	17	5.1		
UBBA	e P	Z	19:17:39.3	71.5	278.7	1.5	20	5.0		
CLZ	e P	Z	19:17:40.1	71.6	278.7	1.1	20	5.2		
GRA1	e P	Z	19:17:45.3	72.5	280.0	1.6	18	5.0		
	e L	Z	19:43:35.6			22.0	87		4.0	
MOX	e P	Z	19:17:45.6	72.6	280.0	1.3	14	4.9		
	e L	Z	19:43:48.4			20.4	88		4.0	
NEUB	e P	Z	19:17:45.7	72.6	279.9	1.5	36	5.3		
FUR	e P	Z	19:17:47.3	72.8	280.5	0.9	17	5.2		
PLN	e P	Z	19:17:47.6	72.9	280.4	1.0	14	5.0		
MANZ	e P	Z	19:17:48.1	73.0	280.6	1.0	9	4.8		
WERD	e P	Z	19:17:48.5	73.0	280.6	1.4	21	5.1		
GUNZ	e P	Z	19:17:48.6	73.1	280.6	1.2	15	5.0		
ROTZ	e P	Z	19:17:49.3	73.1	280.7	1.2	21	5.1		

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WERN	e P	Z	19:17:49.1	73.1	280.7	1.2	10	4.8
TANN	e P	Z	19:17:48.9	73.1	280.7	1.2	17	5.1
CLL	e P	Z	19:17:49.7	73.3	280.8	1.1	11	4.9
RUE	e P	Z	19:17:51.7	73.5	281.1	1.7	45	5.2
FBE	e P	Z	19:17:51.9	73.6	281.2	1.3	24	5.1
WET	e P	Z	19:17:52.1	73.6	281.4	1.3	21	5.0
RJOB	e P	Z	19:17:53.2	73.9	281.7	1.1	8	4.7
BRG	e P	Z	19:17:53.6	74.0	281.6	1.2	15	4.9
GEC2	e P	Z	19:17:55.5	74.2	282.0	1.2	17	5.0

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/06	16:38:7.0	22.390S	171.700E	142.0G				NEIC
Southeast of Loyalty Islands								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e PKPbc	Z 16:57:31.6	146.7	39.6					
CLL	e PKPbc	Z 16:57:31.5	146.7	37.7					
FBE	e PKPbc	Z 16:57:32.4	146.9	38.6					
CLZ	e PKPbc	Z 16:57:33.3	147.2	33.1					
NEUB	e PKPbc	Z 16:57:33.2	147.2	35.9					
TANN	e PKPbc	Z 16:57:34.4	147.6	37.7					
IBBN	e PKPbc	Z 16:57:34.1	147.6	28.5					
WERD	e PKPbc	Z 16:57:34.4	147.7	37.5					
PLN	e PKPbc	Z 16:57:34.4	147.7	37.2					
GUNZ	e PKPbc	Z 16:57:34.8	147.7	37.6					
WERN	e PKPbc	Z 16:57:35.0	147.8	37.7					
MOX	e PKPbc	Z 16:57:34.6	147.8	36.2					
MANZ	e PKPbc	Z 16:57:35.6	148.1	37.6					
ROTZ	e PKPbc	Z 16:57:36.2	148.2	38.0					
GEC2	e PKPbc	Z 16:57:36.2	148.3	41.3					
WET	e PKPbc	Z 16:57:36.6	148.4	39.7					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/06	18:02:10.1	53.720S	140.640E	10.0G				NEIC
West of Macquarie Island								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPbc	Z 18:21:57.7	149.1	117.2					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/06	19:08:22.1	29.368N	81.126E	33.0G	5.2	4.0		SZGRF
Nepal								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z	19:17:39.4	53.6	86.6	1.2	33	5.2		
RUE	e P	Z	19:17:39.2	53.6	87.7	1.2	46	5.4		
GEC2	e P	Z	19:17:41.7	53.9	85.0	1.3	10	4.7		
FBE	e P	Z	19:17:42.4	53.9	86.2	1.3	49	5.4		
CLL	e P	Z	19:17:43.1	54.1	86.2	1.3	20	5.0		
WET	e P	Z	19:17:45.6	54.4	84.6	1.4	15	4.8		
TANN	e P	Z	19:17:46.7	54.5	85.2	1.4	18	4.9		
RJOB	e P	Z	19:17:46.6	54.6	83.5	1.1	10	4.8		
WERN	e P	Z	19:17:47.3	54.6	85.0	1.6	26	5.0		
GUNZ	e P	Z	19:17:47.3	54.6	85.1	1.4	28	5.1		
WERD	e P	Z	19:17:47.3	54.6	85.1	1.3	25	5.1		
PLN	e P	Z	19:17:48.1	54.7	85.0	1.3	21	5.0		
ROTZ	e P	Z	19:17:48.9	54.8	84.6	1.5	41	5.2		
MANZ	e P	Z	19:17:49.0	54.8	84.6	1.4	34	5.2		
NEUB	e P	Z	19:17:49.0	54.9	85.3	1.3	49	5.4		
MOX	e P	Z	19:17:50.4	55.1	84.7	1.4	28	5.1		
	e L	N	19:28:51.5			21.5	109		3.9	
GRA1	e P	Z	19:17:53.5	55.4	83.8	1.6	81	5.5		
	e L	Z	19:31:18.0			21.5	163		4.1	
FUR	e P	Z	19:17:54.0	55.6	82.8	1.2	35	5.3		
BSEG	e P	Z	19:17:54.3	55.6	86.0	1.2	47	5.4		
CLZ	e P	Z	19:17:55.1	55.7	84.6	1.2	64	5.5		
UBBA	e P	Z	19:17:57.3	56.1	83.7	1.8	30	5.0		
STU	e P	Z	19:18:03.0	56.8	81.8	1.5	40	5.2		
TNS	e P	Z	19:18:05.0	57.1	82.2	1.3	20	5.0		
IBBN	e P	Z	19:18:06.2	57.3	83.0	1.5	86	5.6		
BUG	e P	Z	19:18:09.0	57.7	82.1	1.1	45	5.4		

Date Origin Time Lat Long Depth mb Ms ML Source
2010/07/07 22:32:40.1 21.575S 171.964E 33.0N
Southeast of Loyalty Islands SZGRF

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKPbc	Z	22:52:16.4	146.1	36.7					
FBE	e PKPbc	Z	22:52:17.4	146.2	37.6					
CLZ	e PKPbc	Z	22:52:18.7	146.5	32.2					
NEUB	e PKPbc	Z	22:52:18.5	146.6	34.9					
IBBN	e PKPbc	Z	22:52:19.7	146.9	27.6					
TANN	e PKPbc	Z	22:52:19.6	147.0	36.7					
WERD	e PKPbc	Z	22:52:19.7	147.0	36.4					
PLN	e PKPbc	Z	22:52:19.7	147.0	36.2					
GUNZ	e PKPbc	Z	22:52:20.0	147.1	36.5					
MOX	e PKPbc	Z	22:52:19.8	147.1	35.2					
WERN	e PKPbc	Z	22:52:20.1	147.1	36.7					
MANZ	e PKPbc	Z	22:52:21.0	147.5	36.5					
ROTZ	e PKPbc	Z	22:52:21.5	147.6	36.9					

GEC2	e	PKPbc	Z	22:52:21.5	147.7	40.1
WET	e	PKPbc	Z	22:52:21.9	147.8	38.6
WLF	e	PKPbc	Z	22:52:27.9	149.8	26.9
BFO	e	PKPbc	Z	22:52:27.9	150.2	31.8

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/07	23:53:37.4	33.045N	118.036W	13.1	5.1	5.6		SZGRF

Southern California, United States

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z 00:06:05.5	83.6	315.8	1.1	24	5.3		
	e pP	Z 00:06:09.3							
CLZ	e P	Z 00:06:07.1	83.9	318.7	1.2	26	5.3		
	e pP	Z 00:06:10.9							
UBBA	e P	Z 00:06:09.5	84.5	318.4	1.7	40	5.4		
	e pP	Z 00:06:13.6							
RUE	e P	Z 00:06:11.1	84.7	321.1	1.4	40	5.5		
	e pP	Z 00:06:14.8							
NEUB	e P	Z 00:06:11.9	84.9	319.7	1.3	28	5.3		
	e pP	Z 00:06:15.7							
MOX	e P	Z 00:06:13.7	85.3	319.6	1.2	10	4.8		
	e pP	Z 00:06:17.4							
	e L	Z 00:42:22.7			19.0	1843		5.5	
CLL	e P	Z 00:06:13.6	85.3	320.6	1.1	13	5.0		
	e pP	Z 00:06:17.3							
PLN	e P	Z 00:06:15.3	85.6	320.0	1.5	10	4.7		
	e pP	Z 00:06:19.1							
STU	e P	Z 00:06:15.6	85.6	318.0	0.9	12	5.0		
	e pP	Z 00:06:19.1							
WERD	e P	Z 00:06:15.5	85.7	320.2	1.6	12	4.8		
	e pP	Z 00:06:19.4							
FBE	e P	Z 00:06:16.3	85.8	320.9	1.3	14	4.9		
	e pP	Z 00:06:19.9							
GUNZ	e P	Z 00:06:16.1	85.8	320.2	1.4	12	4.8		
	e pP	Z 00:06:20.0							
TANN	e P	Z 00:06:16.1	85.8	320.3	1.7	16	4.9		
	e pP	Z 00:06:20.1							
GRA1	e P	Z 00:06:17.0	85.8	319.4	1.1	13	4.9		
	e pP	Z 00:06:20.7							
	e L	Z 00:43:48.4			18.7	3206		5.7	
WERN	e P	Z 00:06:16.6	85.9	320.2	1.8	20	5.0		
	e pP	Z 00:06:20.4							
MANZ	e P	Z 00:06:17.0	86.0	320.0	1.4	10	4.8		
	e pP	Z 00:06:21.0							
WET	e P	Z 00:06:22.0	86.9	320.6	2.1	19	4.9		
	e pP	Z 00:06:26.0							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/08	03:15:49.0	61.850N	150.473W	20.8G	4.8			NEIC
Southern Alaska, United States								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLZ	e P	Z	03:26:32.7	65.3	350.2	1.5	13	5.0		
BUG	e P	Z	03:26:33.3	65.3	348.7	0.5	7	5.1		
CLL	e P	Z	03:26:36.2	66.1	351.6	1.3	5	4.6		
MOX	e P	Z	03:26:39.6	66.6	350.9	1.1	7	4.8		
PLN	e P	Z	03:26:40.8	66.8	351.2	0.9	5	4.8		
WERD	e P	Z	03:26:43.0	66.9	351.3	0.9	3	4.6		
ROTZ	e P	Z	03:26:47.0	67.5	351.3	0.8	3	4.5		
GEC2	e P	Z	03:26:52.6	68.6	352.1	0.8	4	4.7		
RJOB	e P	Z	03:26:59.7	69.6	351.7	0.9	7	4.8		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/08	12:23:29.6	43.518N	145.623E	33.0G	4.7			SZGRF
Hokkaido, Japan, region								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z	12:35:10.4	75.3	31.8	0.9	9	4.9		
CLL	e P	Z	12:35:17.2	76.7	33.3	0.9	14	5.1		
FBE	e P	Z	12:35:18.7	76.9	33.4	0.9	7	4.8		
CLZ	e P	Z	12:35:20.3	77.1	31.6	1.3	11	4.8		
TANN	e P	Z	12:35:22.7	77.6	32.8	1.0	4	4.5		
WERD	e P	Z	12:35:22.9	77.6	32.7	1.0	5	4.6		
GUNZ	e P	Z	12:35:23.3	77.7	32.7	1.0	6	4.7		
MOX	e P	Z	12:35:23.2	77.7	32.3	1.1	6	4.6		
WERN	e P	Z	12:35:23.5	77.7	32.7	1.0	7	4.7		
ROTZ	e P	Z	12:35:26.6	78.2	32.5	1.8	24	4.9		
BUG	e P	Z	12:35:27.3	78.4	29.5	1.2	17	4.9		
GEC2	e P	Z	12:35:27.4	78.5	33.4	1.1	6	4.5		
WET	e P	Z	12:35:28.1	78.5	32.9	1.0	9	4.7		
RJOB	e P	Z	12:35:34.8	79.7	32.7	0.9	7	4.6		
BFO	e P	Z	12:35:39.9	80.8	29.9	1.1	6	4.5		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/08	12:48:25.0	24.060S	178.680W	543.7G				SZGRF
South of Fiji Islands								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPdf	Z	13:07:07.6	149.4	16.3					
	e PKPbc	Z	13:07:12.8							

	e PKPab	Z	13:07:19.3		
	e pPKPbc	Z	13:09:18.3		
HLG	e PKPbc	Z	13:07:13.2	149.5	11.9
RUE	e PKPbc	Z	13:07:14.1	150.0	23.2
CLL	e PKPdf	Z	13:07:10.4	151.3	22.7
	e PKPbc	Z	13:07:17.0		
	e PKPab	Z	13:07:26.8		
	e pPKPbc	Z	13:09:23.4		
IBBN	e PKPbc	Z	13:07:17.3	151.3	12.3
	e PKPab	Z	13:07:27.7		
CLZ	e PKPdf	Z	13:07:10.7	151.4	17.4
	e PKPbc	Z	13:07:17.6		
	e PKPab	Z	13:07:27.8		
FBE	e PKPdf	Z	13:07:11.2	151.6	23.6
	e PKPbc	Z	13:07:18.1		
	e PKPab	Z	13:07:28.5		
	e pPKPbc	Z	13:09:24.3		
NEUB	e PKPbc	Z	13:07:18.0	151.7	20.4
	e PKPab	Z	13:07:28.7		
	e pPKPbc	Z	13:09:24.1		
BUG	e PKPbc	Z	13:07:19.0	152.2	11.7
MOX	e PKPdf	Z	13:07:11.6	152.2	20.5
	e PKPbc	Z	13:07:19.1		
	e PKPab	Z	13:07:31.0		
TANN	e PKPdf	Z	13:07:12.0	152.3	22.3
	e PKPbc	Z	13:07:19.3		
	e PKPab	Z	13:07:31.4		
	e pPKPbc	Z	13:09:25.7		
WERD	e PKPdf	Z	13:07:11.8	152.3	22.0
	e PKPbc	Z	13:07:19.2		
	e PKPab	Z	13:07:31.3		
	e pPKPbc	Z	13:09:25.8		
PLN	e PKPdf	Z	13:07:11.8	152.3	21.7
	e PKPbc	Z	13:07:19.3		
	e PKPab	Z	13:07:31.3		
	e pPKPbc	Z	13:09:25.7		
GUNZ	e PKPbc	Z	13:07:19.6	152.3	22.1
	e PKPab	Z	13:07:31.9		
	e pPKPbc	Z	13:09:25.9		
WERN	e PKPdf	Z	13:07:12.1	152.4	22.2
	e PKPbc	Z	13:07:19.7		
	e PKPab	Z	13:07:32.2		
	e pPKPbc	Z	13:09:26.5		
UBBA	e PKPbc	Z	13:07:19.3	152.4	17.3
MANZ	e PKPdf	Z	13:07:12.5	152.7	21.9
	e PKPbc	Z	13:07:20.3		
ROTZ	e PKPdf	Z	13:07:12.6	152.9	22.3
	e PKPbc	Z	13:07:20.7		
	e PKPab	Z	13:07:34.5		

GRA1	e	PKPab	Z	13:07:35.7	153.2	20.4
TNS	e	PKPdf	Z	13:07:13.5	153.3	14.6
	e	PKPbc	Z	13:07:21.6		
	e	PKPab	Z	13:07:35.6		
WET	e	PKPdf	Z	13:07:13.2	153.3	24.1
	e	PKPab	Z	13:07:36.1		
GEC2	e	PKPdf	Z	13:07:13.3	153.4	25.9
	e	PKPbc	Z	13:07:21.4		
	e	PKPab	Z	13:07:35.8		
WLF	e	PKPab	Z	13:07:39.9	154.1	10.1
STU	e	PKPdf	Z	13:07:15.1	154.5	16.9
	e	PKPab	Z	13:07:40.8		
RJOB	e	PKPab	Z	13:07:41.8	154.6	25.1
FUR	e	PKPab	Z	13:07:41.8	154.6	21.6
BFO	e	PKPab	Z	13:07:43.4	155.1	15.3

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/08	13:46:58.0	13.993N	93.377E	42.4	5.1	4.3		SZGRF
Andaman Islands, India, region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e P	Z 13:58:21.3	72.6	89.5	0.9	44	5.6		
	e pP	Z 13:58:33.3							
GEC2	e P	Z 13:58:22.3	72.8	88.3	1.0	21	5.2		
	e pP	Z 13:58:34.4							
FBE	e P	Z 13:58:23.6	72.9	88.7	1.2	40	5.4		
	e pP	Z 13:58:35.7							
CLL	e P	Z 13:58:24.0	73.1	88.5	1.0	9	4.9		
	e pP	Z 13:58:36.1							
WET	e P	Z 13:58:25.3	73.3	87.8	1.3	25	5.2		
	e pP	Z 13:58:37.5							
RJOB	e P	Z 13:58:25.4	73.4	87.3	1.4	16	5.0		
TANN	e P	Z 13:58:26.5	73.5	87.8	1.2	12	4.8		
	e pP	Z 13:58:38.6							
WERN	e P	Z 13:58:27.1	73.6	87.7	1.0	7	4.6		
	e pP	Z 13:58:39.2							
GUNZ	e P	Z 13:58:27.2	73.6	87.7	1.2	19	5.0		
	e pP	Z 13:58:39.3							
WERD	e P	Z 13:58:27.2	73.6	87.7	0.9	11	4.9		
	e pP	Z 13:58:39.2							
ROTZ	e P	Z 13:58:28.3	73.7	87.5	1.2	24	5.1		
	e pP	Z 13:58:40.5							
PLN	e P	Z 13:58:27.7	73.7	87.6	0.8	8	4.8		
	e pP	Z 13:58:39.8							
MANZ	e P	Z 13:58:28.5	73.7	87.5	1.4	32	5.2		
	e pP	Z 13:58:40.6							
MOX	e P	Z 13:58:29.7	74.0	87.3	0.9	10	4.8		

	e pP	Z	13:58:41.9							
	e L	Z	14:35:15.6			20.7	168		4.3	
GRA1	e P	Z	13:58:31.9	74.3	86.7	1.3	23	5.1		
	e L	Z	14:35:17.8			21.3	171		4.3	
BSEG	e P	Z	13:58:33.6	74.7	87.2	0.7	19	5.2		
	e pP	Z	13:58:45.6							
CLZ	e P	Z	13:58:34.0	74.7	86.6	0.9	14	5.0		
	e pP	Z	13:58:46.0							
TNS	e P	Z	13:58:41.6	76.1	84.8	0.9	11	5.0		
IBBN	e P	Z	13:58:42.9	76.3	84.7	1.2	31	5.3		
BUG	e P	Z	13:58:45.1	76.7	84.1	0.9	19	5.2		

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/07/08 19:43:38.1 24.205N 122.441E 33.0G 5.0 4.6
 Taiwan region SZGRF

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
NEUB	e P	Z	19:56:01.3	83.2	59.2	1.3	15	5.1		
TANN	e P	Z	19:56:01.5	83.3	59.7	2.1	19	5.0		
WERD	e P	Z	19:56:01.8	83.3	59.6	1.9	21	5.0		
GEC2	e P	Z	19:56:02.1	83.3	60.4	1.2	8	4.8		
GUNZ	e P	Z	19:56:02.1	83.4	59.6	1.5	10	4.8		
WERN	e P	Z	19:56:02.2	83.4	59.6	1.9	20	5.0		
PLN	e P	Z	19:56:02.3	83.4	59.5	2.2	28	5.1		
MOX	e P	Z	19:56:03.6	83.6	59.1	1.2	6	4.7		
	e L	Z	20:37:58.7			18.7	308		4.7	
CLZ	e P	Z	19:56:04.0	83.6	58.3	1.6	18	5.1		
WET	e P	Z	19:56:04.0	83.7	59.8	1.7	14	4.9		
MANZ	e P	Z	19:56:03.9	83.7	59.4	1.6	11	4.8		
ROTZ	e P	Z	19:56:04.3	83.7	59.4	1.8	21	5.1		
GRA1	e P	Z	19:56:07.1	84.3	58.7	1.5	26	5.2		
	e L	Z	20:38:23.6			21.9	278		4.6	
UBBA	e P	Z	19:56:07.1	84.4	57.9	2.1	26	5.1		
RJOB	e P	Z	19:56:07.6	84.4	59.7	1.3	10	4.9		
FUR	e P	Z	19:56:11.1	85.1	58.6	1.7	65	5.6		
BUG	e P	Z	19:56:13.0	85.5	55.9	1.6	35	5.2		
BFO	e P	Z	19:56:18.4	86.6	56.5	1.8	13	4.7		
WLF	e P	Z	19:56:21.2	87.1	55.0	0.9	14	5.1		

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/07/09 00:41:13.2 24.158N 123.027E 88.3 4.9
 Southwestern Ryukyu Islands, Japan SZGRF

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e P	Z	00:53:27.3	82.9	59.8	0.6	8	5.2		

	e sP	Z	00:54:00.3							
BSEG	e P	Z	00:53:28.0	82.9	58.0	0.6		5	4.9	
GEC2	e P	Z	00:53:32.4	83.7	60.0	0.7		3	4.7	
CLZ	e P	Z	00:53:34.2	84.0	57.9	0.7		6	5.0	
ROTZ	e P	Z	00:53:34.5	84.1	59.0	0.8		3	4.6	
RJOB	e P	Z	00:53:37.7	84.8	59.3	0.7		5	4.8	
FUR	e P	Z	00:53:41.2	85.4	58.2	0.6		11	5.2	
TNS	e P	Z	00:53:43.7	85.9	56.3	0.6		3	4.5	
BFO	e P	Z	00:53:48.4	87.0	56.1	1.0		4	4.5	
WLF	e P	Z	00:53:51.0	87.4	54.6	0.7		14	5.4	
	e sP	Z	00:54:24.3							

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/07/09 15:17:50.1 52.639N 142.494E 30.0G 5.2
 Sakhalin Island, Russia SZGRF

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e P	Z	15:28:47.3	67.7	30.4	1.0	31	5.5		
BRG	e P	Z	15:28:47.6	67.8	30.8	1.7	26	5.2		
CLZ	e P	Z	15:28:50.1	68.1	29.0	1.4	34	5.4		
TANN	e P	Z	15:28:53.4	68.7	29.9	1.4	15	5.0		
MOX	e P	Z	15:28:53.7	68.7	29.5	1.4	28	5.3		
UBBA	e P	Z	15:28:55.6	69.1	28.6	1.7	40	5.3		
ROTZ	e P	Z	15:28:57.5	69.3	29.7	1.4	21	5.1		
BUG	e P	Z	15:28:57.6	69.3	27.2	1.3	33	5.3		
GEC2	e P	Z	15:28:59.2	69.6	30.3	1.6	17	4.9		
WET	e P	Z	15:28:59.7	69.6	29.9	1.4	25	5.1		
GRA1	e P	Z	15:29:00.2	69.7	29.1	1.4	54	5.5		
TNS	e P	Z	15:29:02.1	70.1	27.6	1.6	19	5.0		
RJOB	e P	Z	15:29:07.4	70.9	29.6	1.0	12	5.0		
BFO	e P	Z	15:29:12.0	71.8	27.3	1.2	18	5.1		

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/07/09 22:15:33.0 42.442N 18.675E 10.0G
 Northwestern Balkan Peninsula SZGRF

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
OBKA	e Pn	Z	22:16:46.7	5.0	142.6					
ARSA	e Pn	Z	22:16:50.0	5.3	154.0					
KBA	e Pn	Z	22:17:00.1	6.0	138.9					
MOA	e Pn	Z	22:17:03.7	6.2	148.5					
RJOB	e Pn	Z	22:17:10.4	6.7	139.8					4.7
WTTA	e Pn	Z	22:17:13.8	6.9	131.5					
GEC2	e Pn	Z	22:17:17.1	7.3	149.7					
WET	e Pn	Z	22:17:24.0	7.8	146.8					

DAVA	e Pn	Z	22:17:25.8	7.9	124.7
MANZ	e Pn	Z	22:17:36.5	8.8	146.5
GRA1	e Pn	Z	22:17:37.9	8.9	141.8
BRG	e Pn	Z	22:17:40.8	9.0	157.2
STU	e Pn	Z	22:17:42.3	9.2	130.2
FBE	e Pn	Z	22:17:43.9	9.2	154.7
BFO	e Pn	Z	22:17:43.6	9.3	125.2

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/10	10:15:50.7	29.828N	86.388E	33.0N	4.7			SZGRF

Xizang

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z	10:25:29.7	56.6	82.4	1.1	7	4.6		
FBE	e P	Z	10:25:32.4	56.9	82.0	1.3	13	4.8		
GEC2	e P	Z	10:25:33.2	57.0	80.9	1.4	10	4.6		
CLL	e P	Z	10:25:32.8	57.1	82.0	1.4	9	4.6		
WET	e P	Z	10:25:36.5	57.5	80.5	1.5	11	4.7		
TANN	e P	Z	10:25:36.5	57.6	81.0	1.0	4	4.4		
GUNZ	e P	Z	10:25:37.3	57.7	80.9	1.2	11	4.8		
WERD	e P	Z	10:25:37.3	57.7	80.9	1.1	6	4.5		
PLN	e P	Z	10:25:38.0	57.7	80.8					
ROTZ	e P	Z	10:25:39.1	57.8	80.4	1.2	10	4.7		
MANZ	e P	Z	10:25:39.1	57.9	80.5	1.6	15	4.8		
MOX	e P	Z	10:25:40.3	58.1	80.6	1.2	6	4.5		
BSEG	e P	Z	10:25:42.2	58.3	81.6	1.2	15	4.9		
CLZ	e P	Z	10:25:44.2	58.6	80.4	1.1	16	5.0		
TNS	e P	Z	10:25:54.4	60.1	78.1	1.0	7	4.6		
IBBN	e P	Z	10:25:54.6	60.1	78.8	1.1	16	5.0		
BUG	e P	Z	10:25:57.8	60.6	77.9	1.1	12	4.6		
WLF	e P	Z	10:26:05.6	61.7	76.2	1.2	15	5.1		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/10	12:54:19.2	7.850S	158.730E	33.0G				NEIC

Bougainville - Solomon Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e PKP	Z	13:13:19.5	127.0	45.5					
BSEG	e PKP	Z	13:13:20.3	127.4	40.8					
BRG	e PKP	Z	13:13:21.6	128.1	46.5					
CLL	e PKP	Z	13:13:21.5	128.2	45.2					
FBE	e PKP	Z	13:13:22.2	128.3	45.8					
NEUB	e PKP	Z	13:13:23.0	128.8	43.9					
CLZ	e PKP	Z	13:13:23.4	128.9	41.9					
TANN	e PKP	Z	13:13:23.5	129.1	45.1					

WERD	e	PKP	Z	13:13:23.5	129.1	44.9
PLN	e	PKP	Z	13:13:23.5	129.2	44.7
GUNZ	e	PKP	Z	13:13:23.8	129.2	45.0
WERN	e	PKP	Z	13:13:23.7	129.2	45.1
MOX	e	PKP	Z	13:13:23.7	129.3	44.0
MANZ	e	PKP	Z	13:13:24.3	129.5	45.0
GEC2	e	PKP	Z	13:13:24.2	129.6	47.4
IBBN	e	PKP	Z	13:13:24.6	129.6	38.6
ROTZ	e	PKP	Z	13:13:24.4	129.6	45.2
WET	e	PKP	Z	13:13:24.8	129.8	46.3
UBBA	e	PKP	Z	13:13:24.7	129.9	42.1
GRA1	e	PKP	Z	13:13:25.7	130.1	44.1
BUG	e	PKP	Z	13:13:26.0	130.5	38.5
RJOB	e	PKP	Z	13:13:26.1	130.8	47.1
TNS	e	PKP	Z	13:13:27.6	131.0	40.6
STU	e	PKP	Z	13:13:29.5	131.7	42.3
WLF	e	PKP	Z	13:13:31.1	132.3	38.1
BFO	e	PKP	Z	13:13:29.4	132.4	41.5

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/10	12:54:19.2	7.850S	158.730E	33.0G		5.6		NEIC
Bougainville - Solomon Islands region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e	PKP	Z	13:13:20.2	127.4	40.8			
BRG	e	PKP	Z	13:13:21.5	128.1	46.5			
CLL	e	PKP	Z	13:13:21.5	128.2	45.2			
TANN	e	PKP	Z	13:13:23.5	129.1	45.1			
MOX	e	PKP	Z	13:13:23.8	129.3	44.0			
	e	L	Z	14:14:04.7			20.5	1145	5.6
GEC2	e	PKP	Z	13:13:24.5	129.6	47.4			
	e	L	Z	14:12:12.3			21.4	1207	5.6
IBBN	e	PKP	Z	13:13:24.6	129.6	38.6			
ROTZ	e	PKP	Z	13:13:24.7	129.6	45.2			
WET	e	PKP	Z	13:13:25.0	129.8	46.3			
	e	L	Z	14:12:29.2			20.7	1562	5.7
UBBA	e	PKP	Z	13:13:25.0	129.9	42.1			
GRA1	e	PKP	Z	13:13:25.5	130.1	44.1			
	e	L	Z	14:14:42.8			20.3	1075	5.5
BUG	e	PKP	Z	13:13:26.1	130.5	38.5			
RJOB	e	PKP	Z	13:13:26.3	130.8	47.1			
TNS	e	PKP	Z	13:13:27.3	131.0	40.6			
FUR	e	PKP	Z	13:13:27.6	131.2	45.1			
STU	e	PKP	Z	13:13:28.8	131.7	42.3			
WLF	e	PKP	Z	13:13:30.6	132.3	38.1			
BFO	e	PKP	Z	13:13:29.8	132.4	41.5			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/10	23:04:23.1	30.570S	179.950E	400.0G				NEIC

Kermadec Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKP	Z	23:23:56.3	155.5	21.9					
CLL	e PKP	Z	23:24:03.5	157.1	30.0					
BRG	e PKP	Z	23:24:04.1	157.2	32.5					
IBBN	e PKP	Z	23:24:05.2	157.5	17.8					
TANN	e PKP	Z	23:24:08.2	158.1	30.0					
MOX	e PKP	Z	23:24:08.1	158.1	27.9					
UBBA	e PKP	Z	23:24:09.1	158.4	24.1					
BUG	e PKP	Z	23:24:08.7	158.4	17.4					
ROTZ	e PKP	Z	23:24:11.4	158.7	30.2					
GEC2	e PKP	Z	23:24:11.8	159.0	34.8					
WET	e PKP	Z	23:24:12.5	159.0	32.5					
GRA1	e PKP	Z	23:24:12.9	159.1	28.1					
TNS	e PKP	Z	23:24:13.2	159.3	21.1					
RJOB	e PKP	Z	23:24:17.7	160.2	34.4					
WLF	e PKP	Z	23:24:17.9	160.3	16.1					
FUR	e PKP	Z	23:24:18.6	160.4	30.3					
STU	e PKP	Z	23:24:18.4	160.5	24.5					
BFO	e PKP	Z	23:24:21.1	161.1	22.8					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/11	03:00: 4.3	30.850S	178.230W	33.0G				NEIC

Kermadec Islands, New Zealand

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKP	Z	03:20:19.9	156.1	18.4					
IBBN	e PKP	Z	03:20:28.5	158.1	13.9					
MOX	e PKP	Z	03:20:31.6	158.9	24.1					
TNS	e PKP	Z	03:20:36.5	160.0	17.0					
RJOB	e PKP	Z	03:20:42.1	161.1	30.5					
STU	e PKP	Z	03:20:42.0	161.2	20.1					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/11	21:08:19.0	7.217N	92.049E	10.0G	5.2	4.0		SZGRF

Nicobar Islands, India, region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z	21:20:11.2	76.9	94.7					
GEC2	e P	Z	21:20:11.4	76.9	94.0	2.0	65	5.4		

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	e L	Z	21:53:05.9			21.8	51		3.8
RJOB	e P	Z	21:20:13.7	77.4	93.1				
WET	e P	Z	21:20:14.5	77.5	93.5	1.6	23	5.1	
	e L	Z	21:55:43.6			22.0	54		3.8
CLL	e P	Z	21:20:14.2	77.5	94.0				
	e L	Z	21:59:01.9			18.9	110		4.2
TANN	e P	Z	21:20:16.3	77.8	93.4				
ROTZ	e P	Z	21:20:17.6	77.9	93.1				
MOX	e P	Z	21:20:19.3	78.4	92.8	1.6	31	5.2	
	e L	Z	21:59:32.8			19.7	85		4.1
FUR	e P	Z	21:20:19.7	78.5	92.0				
GRA1	e P	Z	21:20:21.0	78.6	92.3	1.1	31	5.4	
	e L	Z	22:01:47.6			18.1	60		4.0
BSEG	e P	Z	21:20:24.4	79.3	92.4				
UBBA	e P	Z	21:20:25.0	79.4	91.6				
STU	e P	Z	21:20:27.5	79.9	90.6				
TNS	e P	Z	21:20:30.5	80.4	90.3				
BFO	e P	Z	21:20:30.5	80.4	89.9	1.2	11	4.7	
	e L	Z	22:04:24.0			18.4	49		3.9
IBBN	e P	Z	21:20:32.6	80.8	90.1				
BUG	e P	Z	21:20:34.3	81.1	89.6				
WLF	e P	Z	21:20:38.8	81.9	88.4				

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/07/12 00:11:18.2 22.260S 68.200W 85.0G
 Northern Chile NEIC

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z 00:24:41.3	97.3	244.0					
BFO	e P	Z 00:24:44.1	98.0	245.4					
BUG	e P	Z 00:24:47.3	98.7	245.0					
STU	e P	Z 00:24:47.5	98.7	246.0					
TNS	e P	Z 00:24:48.4	98.9	245.7					
IBBN	e P	Z 00:24:50.4	99.3	245.5					
FUR	e P	Z 00:24:52.4	99.8	247.4					
UBBA	e P	Z 00:24:53.3	100.0	246.9					
GRA1	e P	Z 00:24:55.0	100.3	247.6					
RJOB	e P	Z 00:24:55.7	100.5	248.4					
	e PP	Z 00:29:00.6							
MOX	e P	Z 00:24:57.7	100.9	248.1					
ROTZ	e P	Z 00:24:58.0	100.9	248.3					
WET	e P	Z 00:24:58.5	101.1	248.7					
TANN	e P	Z 00:24:59.4	101.3	248.6					
BSEG	e P	Z 00:24:59.4	101.4	247.7					
	e PP	Z 00:29:06.7							
GEC2	e P	Z 00:25:00.1	101.5	249.2					
CLL	e P	Z 00:25:02.3	102.0	249.2					

	e PP	Z	00:29:10.2						
BRG	e P	Z	00:25:04.0	102.4	249.8				
	e PP	Z	00:29:13.4						

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/12	08:16: 4.0	28.358N	126.315E	33.0G	5.2	4.0		SZGRF

Northwest of Ryukyu Islands, Japan

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z	08:28:14.8	81.0	55.5	1.0	6	4.6		
BSEG	e P	Z	08:28:15.5	81.0	53.2	0.9	18	5.1		
CLL	e P	Z	08:28:15.9	81.2	54.9	0.8	14	5.0		
CLZ	e P	Z	08:28:22.4	82.2	53.0	1.1	43	5.5		
GEC2	e P	Z	08:28:21.7	82.2	55.1	1.0	7	4.8		
	e L	Z	09:09:03.1			19.1	84		4.1	
MOX	e P	Z	08:28:22.3	82.3	53.8	0.9	10	5.0		
	e L	Z	09:09:46.4			19.7	73		4.1	
ROTZ	e P	Z	08:28:23.7	82.5	54.1	1.0	21	5.3		
WET	e P	Z	08:28:23.7	82.5	54.5					
GRA1	e P	Z	08:28:26.7	83.1	53.4	1.1	24	5.4		
	e L	Z	09:09:59.4			20.5	59		3.9	
IBBN	e P	Z	08:28:26.8	83.2	51.1					
RJOB	e P	Z	08:28:28.2	83.4	54.3	1.0	18	5.3		
FUR	e P	Z	08:28:31.1	83.9	53.3	0.6	45	5.9		
TNS	e L	Z	09:11:32.5	84.2	51.4	18.3	56		4.0	
BFO	e P	Z	08:28:37.5	85.4	51.2	1.1	8	4.8		
	e L	Z	09:11:37.2			19.6	69		4.1	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/13	03:18: 7.0	36.186N	22.472E	10.0G				SZGRF

Southern Greece

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
OBKA	e Pn	Z	03:20:51.0	11.9	147.3					
	e Sn	Z	03:22:53.9							
KBA	e Pn	Z	03:21:05.7	12.8	144.8					
MOA	e Pn	Z	03:21:09.0	13.1	149.6					
	e Sn	Z	03:23:24.8							
RJOB	e Pn	Z	03:21:15.8	13.6	144.7					
	e Sn	Z	03:23:33.7							
WTTA	e Pn	Z	03:21:18.6	13.7	140.1					
	e Sn	Z	03:23:35.4							
GEC2	e Pn	Z	03:21:23.5	14.2	149.9	5.1	376			
DAVA	e Sn	Z	03:23:55.2	14.5	135.4					
GRA1	e Pn	Z	03:21:50.8	15.8	144.6	4.7	1340			

STU	e Pn	Z	03:21:47.7	15.9	137.4
BRG	e Pn	Z	03:21:46.2	15.9	154.1
TANN	e Pn	Z	03:21:48.6	16.0	149.3
BFO	e Pn	Z	03:21:48.1	16.0	134.2
CLL	e Pn	Z	03:22:00.0	16.6	152.2
UBBA	e Pn	Z	03:22:04.0	17.2	143.8
TNS	e Pn	Z	03:22:05.9	17.3	138.9
CLZ	e Pn	Z	03:22:13.4	17.9	146.5
BUG	e Pn	Z	03:22:23.4	18.7	138.7
BSEG	e Pn	Z	03:22:33.6	19.7	149.6

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/13	23:56:30.7	2.660S	138.620E	15.0G				NEIC
Irian Jaya, Indonesia								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e PP	Z	00:16:08.0	113.2	63.4					
CLL	e PP	Z	00:16:01.9	113.6	62.4					
GEC2	e PP	Z	00:16:13.8	114.3	64.0					
TANN	e PP	Z	00:16:16.6	114.3	62.2					
WET	e PP	Z	00:16:18.3	114.6	63.1					
MOX	e PP	Z	00:16:17.9	114.7	61.4					
ROTZ	e PP	Z	00:16:19.5	114.7	62.3					
CLZ	e PP	Z	00:16:19.5	114.7	59.7					
RJOB	e PP	Z	00:16:15.0	115.3	63.6					
GRA1	e PP	Z	00:16:22.8	115.3	61.4					
UBBA	e PP	Z	00:16:23.2	115.5	59.8					
IBBN	e PP	Z	00:16:26.0	115.9	57.1					
FUR	e PP	Z	00:16:26.5	116.0	62.1					
BUG	e PP	Z	00:16:32.2	116.6	57.0					
TNS	e PP	Z	00:16:30.6	116.6	58.6					
STU	e PP	Z	00:16:33.4	116.9	59.9					
BFO	e PP	Z	00:16:39.2	117.7	59.3					
WLF	e PP	Z	00:16:43.7	118.2	56.7					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/14	04:29:28.7	42.931N	17.948E	10.0G			4.0	SZGRF
Adriatic Sea								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
OBKA	e Pn	Z	04:30:31.7	4.3	144.8					
ARSA	e Pn	Z	04:30:35.0	4.6	157.5					4.0
	e Sn	N	04:31:25.4							
KBA	e Pn	Z	04:30:43.5	5.3	140.2					3.9
	e Sn	E	04:31:42.1							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/15	05:53: 9.6	43.938N	12.291E	10.0G			3.6	SZGRF

Central Italy

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
OBKA	e Pn	Z	05:53:56.7	3.0	212.5					3.9
	e Sn	N	05:54:30.3							
	e Sg	E	05:54:44.3							
KBA	e Pn	Z	05:53:58.8	3.2	193.6					3.5
	e Sn	E	05:54:34.3							
WTTA	e Pn	Z	05:54:01.2	3.4	171.9					
PLONS	e Pn	Z	05:54:07.0	3.7	145.7					3.6
	e Sn	E	05:54:47.6							
DAVA	e Pn	Z	05:54:07.0	3.7	152.4					3.5
	e Sn	N	05:54:48.7							
RJOB	e Pn	Z	05:54:08.0	3.8	185.5					3.6
	e Sn	N	05:54:49.8							
ARSA	e Pn	Z	05:54:09.4	4.0	215.5					
MOA	e Pn	Z	05:54:11.6	4.1	200.1					3.5
	e Sn	E	05:54:56.8							
WILA	e Pn	Z	05:54:12.6	4.2	144.6					3.8
	e Sn	N	05:54:57.7							
	e Sg	N	05:55:24.5							
FUR	e Sn	N	05:54:59.6	4.3	170.2					4.0
SULZ	e Pn	Z	05:54:18.1	4.6	139.4					
SLE	e Pn	Z	05:54:18.0	4.7	144.0					3.7
	e Sn	N	05:55:06.2							
BALST	e Pn	Z	05:54:18.3	4.7	134.9					3.8
	e Sn	E	05:55:05.9							
GEC2	e Sn	N	05:55:15.6	5.0	191.7					3.6
BFO	e Pn	Z	05:54:25.1	5.2	146.5					3.6
	e Sn	N	05:55:19.1							
WET	e Pn	Z	05:54:24.8	5.2	184.7					
WERN	e Pn	Z	05:54:41.5	6.3	180.6					
GUNZ	e Pn	Z	05:54:42.9	6.4	180.3					
TANN	e Pn	Z	05:54:42.0	6.5	181.1					
WERD	e Pn	Z	05:54:42.7	6.5	180.1					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/15	20:28:10.1	52.510N	160.380E	31.9	5.2	3.9		NEIC

Off east coast of Kamchatka Peninsula, Russia

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z	20:39:26.1	70.7	18.8	2.8	181	5.7		

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CLL	e P	Z	20:39:36.1	72.6	20.1	0.9	20	5.2	
	e L	Z	21:09:43.1			19.4	54		3.8
CLZ	e P	Z	20:39:37.1	72.6	18.6	1.3	38	5.4	
BRG	e P	Z	20:39:37.2	72.8	20.6	1.1	8	4.8	
MOX	e P	Z	20:39:41.8	73.5	19.2	0.8	7	4.7	
	e L	Z	21:16:39.0			19.8	50		3.8
ROTZ	e P	Z	20:39:46.0	74.2	19.5	1.4	14	4.8	
GRA1	e L	Z	21:11:15.5	74.5	18.9	20.7	60		3.9
WET	e P	Z	20:39:49.0	74.7	19.8	3.0	122	5.4	
	e L	Z	21:18:19.5			19.2	85		4.1
GEC2	e P	Z	20:39:49.2	74.8	20.3	3.0	101	5.3	
	e L	Z	21:14:42.7			21.0	73		4.0
STU	e L	Z	21:19:26.0	75.8	17.6	18.7	58		3.9
BFO	e L	Z	21:19:28.2	76.4	17.1	20.0	46		3.8

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/07/16 08:11: 2.1 36.900N 26.950E 159.4 5.1 NEIC
 Dodecanese Islands, Greece

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RJOB	e P	Z	08:14:26.9	15.0	131.0	0.7	99			
GEC2	e P	Z	08:14:31.6	15.3	136.2	0.9	160			
WET	e P	Z	08:14:38.5	15.9	134.9	0.9	147			
FUR	e P	Z	08:14:39.8	16.1	128.7	1.1	439	5.5		
ROTZ	e P	Z	08:14:46.7	16.7	134.9	1.4	256			
BRG	e P	Z	08:14:47.7	16.8	141.4	1.1	82	4.8		
TANN	e P	Z	08:14:50.9	17.0	136.9	1.2	151			
GRA1	e P	Z	08:14:51.0	17.1	132.5	1.0	270			
CLL	e P	Z	08:14:55.4	17.5	140.1	1.5	240	5.1		
STU	e P	Z	08:14:56.2	17.5	126.0	0.9	420			
MOX	e P	Z	08:14:56.6	17.6	135.6	1.2	256			
BFO	e P	Z	08:14:58.5	17.8	123.2	1.4	280	5.2		
UBBA	e P	Z	08:15:03.9	18.4	132.5	1.6	110			
TNS	e P	Z	08:15:09.6	18.8	128.1	1.1	333			
CLZ	e P	Z	08:15:10.8	19.0	135.4	1.3	97	4.9		
WLF	e P	Z	08:15:18.6	19.7	122.5	1.2	166			
BUG	e P	Z	08:15:22.0	20.1	128.5	1.2	138	5.1		
IBBN	e P	Z	08:15:25.8	20.5	131.2	1.0	60			
BSEG	e P	Z	08:15:26.4	20.5	139.3	1.4	76	4.8		

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/07/16 18:53: 9.7 39.379N 23.955E 2.0G 4.1 NEIC
 Aegean Sea

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
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RJOB	e P	Z	18:55:58.2	11.6	132.0	0.9	46		
WET	e P	Z	18:56:10.3	12.6	136.9	1.7	28		
ROTZ	e P	Z	18:56:21.1	13.3	136.9	1.8	18		
BRG	e P	Z	18:56:22.5	13.5	144.7	1.3	16		
TANN	e P	Z	18:56:27.3	13.7	139.4	1.1	12		
GRA1	e P	Z	18:56:27.9	13.7	134.0	0.9	21		
	e L	Z	19:02:38.6			18.3	1693	4.2	
CLL	e P	Z	18:56:32.0	14.2	143.1	1.1	24		
MOX	e P	Z	18:56:33.5	14.2	137.7	0.1	47		
	e L	Z	19:02:08.5			19.3	1208	4.0	
BFO	e P	Z	18:56:35.0	14.3	122.8	1.0	16		
UBBA	e P	Z	18:56:43.3	15.0	134.1	2.1	40		
TNS	e P	Z	18:56:52.5	15.4	128.9	1.1	40		
CLZ	e P	Z	18:56:53.1	15.6	137.6	1.1	36		
WLF	e P	Z	18:57:05.5	16.3	122.5	1.1	25		
IBBN	e P	Z	18:57:15.7	17.1	132.8	1.0	23		
BSEG	e P	Z	18:57:11.4	17.2	142.1	1.1	46		

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/07/17 04:34: 1.4 20.800S 178.350W 623.4 SZGRF
 Fiji Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z 04:52:33.2	146.2	14.7					
CLZ	e PKPbc	Z 04:52:38.6	148.2	15.6					
CLL	e PKPpdf	Z 04:52:34.1	148.2	20.5					
	e PKPbc	Z 04:52:38.1							
	e PKPab	Z 04:52:43.2							
	e pPKPbc	Z 04:55:00.0							
BRG	e PKPpdf	Z 04:52:34.6	148.4	22.3					
	e PKPbc	Z 04:52:38.7							
	e PKPab	Z 04:52:44.4							
BUG	e PKPbc	Z 04:52:40.5	149.0	10.3					
MOX	e PKPpdf	Z 04:52:35.8	149.1	18.4					
	e PKPbc	Z 04:52:40.4							
TANN	e PKPpdf	Z 04:52:35.9	149.2	20.0					
	e PKPbc	Z 04:52:40.8							
	e PKPab	Z 04:52:47.5							
UBBA	e PKPbc	Z 04:52:40.8	149.3	15.4					
ROTZ	e PKPbc	Z 04:52:42.3	149.8	19.9					
	e PKPab	Z 04:52:50.4							
TNS	e PKPbc	Z 04:52:42.9	150.1	12.8					
	e PKPab	Z 04:52:51.2							
GRA1	e PKPbc	Z 04:52:43.0	150.1	18.2					
WET	e PKPpdf	Z 04:52:37.4	150.3	21.5					
	e PKPbc	Z 04:52:43.2							
	e PKPab	Z 04:52:52.3							

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GEC2	e	PKPbc	Z	04:52:43.2	150.3	23.2
WLF	e	PKPab	Z	04:52:55.4	150.9	8.7
STU	e	PKPbc	Z	04:52:46.2	151.4	14.8
FUR	e	PKPbc	Z	04:52:46.4	151.6	19.2
	e	PKPab	Z	04:52:57.8		
RJOB	e	PKPbc	Z	04:52:46.1	151.6	22.3
	e	PKPab	Z	04:52:58.3		
BFO	e	PKPbc	Z	04:52:47.2	152.0	13.4
	e	PKPab	Z	04:52:59.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/17	06:07:43.2	24.645S	69.841W	52.0G		4.7		NEIC
Northern Chile								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e L	Z 07:08:12.5	103.1	247.2	19.1	187		4.6	
MOX	e L	Z 07:07:52.2	103.7	247.7	20.1	293		4.8	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/17	09:04:27.8	25.452N	120.132E	33.0N	5.0			SZGRF
Taiwan region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z 09:16:33.8	79.9	61.7	0.8	6	4.6		
CLL	e P	Z 09:16:35.3	80.3	61.1	0.9	13	4.9		
TANN	e P	Z 09:16:39.0	81.0	60.6	1.0	4	4.5		
GEC2	e P	Z 09:16:39.9	81.1	61.3	0.9	14	5.0		
MOX	e P	Z 09:16:41.1	81.3	60.0	1.0	8	4.8		
WET	e P	Z 09:16:41.9	81.4	60.7	1.7	19	5.0		
CLZ	e P	Z 09:16:41.8	81.4	59.3	0.9	16	5.1		
ROTZ	e P	Z 09:16:42.2	81.5	60.3	1.2	16	5.0		
GRA1	e P	Z 09:16:45.1	82.0	59.6	0.8	10	5.0		
RJOB	e P	Z 09:16:45.0	82.1	60.5	0.9	8	4.8		
FUR	e P	Z 09:16:48.8	82.8	59.5	0.9	22	5.4		
BUG	e P	Z 09:16:51.3	83.3	56.9	1.2	22	5.3		
WLF	e P	Z 09:16:59.4	84.8	55.9	1.3	28	5.3		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/17	16:20:17.2	16.117S	175.385W	33.0G		5.4		SZGRF
Tonga Islands								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
MOX	e L	Z 17:42:07.4	145.0	11.8	21.6	637		5.4	

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TANN	e	PKPbc	Z	16:39:38.0	145.1	13.3					
TNS	e	PKPbc	Z	16:39:38.9	145.8	6.6					
ROTZ	e	PKPbc	Z	16:39:39.4	145.8	13.0					
GRA1	e	PKPbc	Z	16:39:40.7	146.0	11.4					
	e	L	Z	17:50:14.9			19.3	719		5.5	
WET	e	PKPbc	Z	16:39:41.5	146.3	14.4					
WLF	e	PKPbc	Z	16:39:42.8	146.4	2.7					
GEC2	e	PKPbc	Z	16:39:40.8	146.4	15.9					
STU	e	PKPbc	Z	16:39:43.0	147.1	8.1					
FUR	e	PKPbc	Z	16:39:44.2	147.5	12.0					
BFO	e	PKPbc	Z	16:39:45.6	147.6	6.7					
RJOB	e	PKPbc	Z	16:39:46.9	147.7	14.8					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/17	20:35:34.0	54.360S	136.260W	16.6				NEIC

Pacific-Antarctic Ridge

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e	PKPab	Z	20:56:10.5	159.7	244.3			
ROHR	e	PKPab	Z	20:56:13.9	160.5	245.6			
PLN	e	PKPab	Z	20:56:13.0	160.5	246.3			
NEUB	e	PKPab	Z	20:56:14.7	160.6	248.1			
CLL	e	PKPab	Z	20:56:16.4	161.3	248.5			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/18	05:56:49.3	53.280N	169.210W	33.0G	5.7	6.6		SZGRF

Fox Islands, Aleutian Islands, United States

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RGN	e	P	Z	06:08:13.0	72.2	1.6			
BSEG	e	P	Z	06:08:16.6	72.8	359.7	1.2	76	5.7
	e	S	R	06:17:43.8					
RUE	e	P	Z	06:08:24.7	74.2	1.9	1.6	174	5.8
IBBN	e	P	Z	06:08:25.8	74.4	358.1	1.1	100	5.7
	e	S	R	06:17:59.5					
CLZ	e	P	Z	06:08:28.9	74.9	359.7	1.2	96	5.7
	e	S	R	06:18:06.5					
BUG	e	P	Z	06:08:30.3	75.2	357.8	1.3	81	5.7
	e	S	R	06:18:09.9					
CLL	e	P	Z	06:08:31.1	75.4	1.4	1.5	73	5.6
	e	S	R	06:18:11.4					
NEUB	e	P	Z	06:08:32.1	75.5	0.6	1.5	155	5.9
FBE	e	P	Z	06:08:33.8	75.8	1.6	1.3	128	5.9
BRG	e	P	Z	06:08:33.6	75.8	1.9	1.0	69	5.7
	e	S	R	06:18:16.7					

UBBA	e P	Z	06:08:34.2	75.9	359.5	1.6	82	5.6	
	e S	R	06:18:18.3						
MOX	e P	Z	06:08:35.4	76.1	0.5	1.9	163	5.8	
	e S	R	06:18:20.5						
	e L	Z	06:45:46.6			21.1	35704		6.7
PLN	e P	Z	06:08:36.4	76.2	0.8				
TANN	e P	Z	06:08:36.8	76.3	1.0	1.4	59	5.5	
	e S	R	06:18:23.0						
GUNZ	e P	Z	06:08:37.1	76.3	0.9	1.5	67	5.6	
WERN	e P	Z	06:08:37.6	76.4	1.0	1.0	56	5.6	
TNS	e P	Z	06:08:37.7	76.5	358.6	1.2	47	5.5	
	e S	R	06:18:26.0						
MANZ	e P	Z	06:08:39.1	76.7	0.8	1.5	62	5.5	
ROTZ	e P	Z	06:08:40.7	76.9	0.9	1.8	131	5.8	
	e S	R	06:18:31.2						
WLF	e P	Z	06:08:40.9	77.0	357.2	1.6	125	5.8	
	e S	R	06:18:31.7						
GRA1	e P	Z	06:08:41.2	77.0	0.3	1.6	239	6.1	
	e S	R	06:18:31.9						
	e		06:35:32.0						
	e L	Z	06:45:20.6			21.7	30635		6.6
WET	e P	Z	06:08:44.0	77.6	1.3	1.7	102	5.7	
	e S	R	06:18:38.2						
GEC2	e P	Z	06:08:45.3	77.8	1.8	1.5	104	5.7	
	e S	R	06:18:40.6						
STU	e P	Z	06:08:45.7	77.9	359.0	1.7	129	5.8	
	e S	R	06:18:40.5						
BFO	e P	Z	06:08:48.1	78.4	358.5	1.4	72	5.5	
	e S	R	06:18:39.2						
FUR	e P	Z	06:08:49.4	78.6	0.3	1.9	249	5.9	
	e S	R	06:18:45.8						
RJOB	e P	Z	06:08:51.6	79.0	1.2	1.0	54	5.5	
	e S	R	06:18:53.9						

Date 2010/07/18
 Origin Time 13:03:32.0
 Lat 25.610N
 Long 122.180E
 Depth 33.0N
 mb 5.1
 Ms
 ML
 Source SZGRF
 Taiwan region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z	13:15:44.4	81.0	60.1	1.5	13	4.8		
CLL	e P	Z	13:15:45.7	81.2	59.5	0.9	8	4.8		
BSEG	e P	Z	13:15:46.3	81.3	57.9	1.4	20	5.0		
TANN	e P	Z	13:15:50.4	82.0	59.0	1.2	7	4.7		
GEC2	e P	Z	13:15:50.5	82.1	59.7	1.1	17	5.2		
MOX	e P	Z	13:15:51.9	82.3	58.4	2.8	88	5.5		
CLZ	e P	Z	13:15:52.0	82.4	57.6	1.3	20	5.2		
WET	e P	Z	13:15:52.0	82.4	59.2	1.5	18	5.1		

ROTZ	e P	Z	13:15:52.9	82.5	58.7	1.1	14	5.1
GRA1	e P	Z	13:15:55.7	83.1	58.0	1.2	24	5.3
UBBA	e P	Z	13:15:55.5	83.1	57.3	1.8	20	5.1
RJOB	e P	Z	13:15:56.2	83.2	58.9	1.0	14	5.2
IBBN	e P	Z	13:15:57.6	83.4	55.7	1.7	44	5.4
FUR	e P	Z	13:15:59.6	83.8	57.9	1.1	44	5.6
BUG	e P	Z	13:16:01.1	84.2	55.3	1.1	20	5.3
TNS	e P	Z	13:16:01.6	84.3	56.1	1.6	19	5.1
STU	e P	Z	13:16:03.4	84.7	56.5	1.6	15	5.0
BFO	e P	Z	13:16:07.5	85.4	55.8	1.6	16	4.9
WLF	e P	Z	13:16:09.5	85.8	54.3	1.2	36	5.4

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/07/18 13:04:11.5 5.770S 150.220E 33.0 6.6
 New Britain, Papua New Guinea, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPdf	Z 13:23:01.7	122.0	49.1					
	e PP	Z 13:24:36.1							
BRG	e PKPdf	Z 13:23:01.7	122.1	54.3					
	e PP	Z 13:24:37.3							
CLL	e PKPdf	Z 13:23:01.9	122.3	53.1					
	e PP	Z 13:24:38.4							
TANN	e PKPdf	Z 13:23:03.8	123.2	53.0					
	e PP	Z 13:24:44.3							
CLZ	e PKPdf	Z 13:23:04.4	123.3	50.1					
	e PP	Z 13:24:45.6							
GEC2	e PKPdf	Z 13:23:04.3	123.4	55.1					
	e PP	Z 13:24:45.9							
MOX	e PKPdf	Z 13:23:04.3	123.4	52.0					
	e PP	Z 13:24:46.1							
	e L	Z 14:07:02.2			21.1	16721		6.7	
ROTZ	e PKPdf	Z 13:23:05.0	123.7	53.1					
	e PP	Z 13:24:48.1							
WET	e PKPdf	Z 13:23:04.9	123.7	54.1					
	e PP	Z 13:24:48.0							
UBBA	e PKPdf	Z 13:23:05.8	124.1	50.3					
	e PP	Z 13:24:50.7							
IBBN	e PKPdf	Z 13:23:06.0	124.2	47.1					
	e PP	Z 13:24:51.0							
GRA1	e PKPdf	Z 13:23:05.9	124.2	52.1					
	e PP	Z 13:24:51.5							
	e L	Z 13:55:50.7			19.4	12346		6.6	
RJOB	e PKPdf	Z 13:23:06.0	124.6	54.8					
	e PP	Z 13:24:53.5							
BUG	e PKPdf	Z 13:23:07.3	125.0	47.0					
	e PP	Z 13:24:56.7							

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FUR	e PKPdf	Z	13:23:07.5	125.1	53.0
	e PP	Z	13:24:57.0		
TNS	e PKPdf	Z	13:23:08.0	125.3	48.9
	e PP	Z	13:24:58.8		
STU	e PKPdf	Z	13:23:08.9	125.8	50.5
	e PP	Z	13:25:02.2		
BFO	e PKPdf	Z	13:23:10.0	126.6	49.9
	e PP	Z	13:25:07.0		
WLF	e PKPdf	Z	13:23:11.5	126.7	46.8
	e PP	Z	13:25:08.7		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/18	13:35:1.7	6.450S	149.010E	33.0				SZGRF
New Britain, Papua New Guinea, region								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPdf	Z	13:53:50.6	122.0	50.7					
	e PP	Z	13:55:26.3							
BRG	e PKPdf	Z	13:53:50.8	122.1	55.9					
	e PP	Z	13:55:26.1							
CLL	e PKPdf	Z	13:53:50.9	122.3	54.8					
	e PP	Z	13:55:26.9							
TANN	e PKPdf	Z	13:53:52.8	123.1	54.7					
	e PP	Z	13:55:29.8							
CLZ	e PKPdf	Z	13:53:53.4	123.3	51.8					
	e PP	Z	13:55:34.5							
GEC2	e PKPdf	Z	13:53:53.2	123.3	56.8					
	e PP	Z	13:55:34.9							
MOX	e PKPdf	Z	13:53:53.3	123.4	53.7					
	e PP	Z	13:55:34.3							
WET	e PKPdf	Z	13:53:53.9	123.6	55.8					
	e PP	Z	13:55:37.2							
ROTZ	e PKPdf	Z	13:53:54.0	123.6	54.8					
	e PP	Z	13:55:37.4							
UBBA	e PKPdf	Z	13:53:54.8	124.1	51.9					
	e PP	Z	13:55:40.2							
GRA1	e PKPdf	Z	13:53:55.1	124.2	53.8					
	e pPKPdf	Z	13:54:09.9							
	e PP	Z	13:55:41.4							
IBBN	e PKPdf	Z	13:53:55.0	124.2	48.8					
	e PP	Z	13:55:40.8							
RJOB	e PKPdf	Z	13:53:55.0	124.4	56.5					
	e PP	Z	13:55:42.6							
FUR	e PKPdf	Z	13:53:56.6	125.0	54.7					
	e PP	Z	13:55:46.2							
BUG	e PKPdf	Z	13:53:56.3	125.0	48.7					
	e PP	Z	13:55:46.6							

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TNS	e PKPdf	Z	13:53:57.0	125.3	50.6
	e PP	Z	13:55:47.4		
STU	e PKPdf	Z	13:53:58.0	125.8	52.2
	e PP	Z	13:55:49.9		
BFO	e PKPdf	Z	13:53:59.0	126.5	51.6
	e PP	Z	13:55:56.1		
WLF	e PKPdf	Z	13:54:00.5	126.7	48.5
	e PP	Z	13:55:58.6		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/18	19:48:10.0	53.530N	169.370W	33.0G	5.3	5.5		SZGRF
Fox Islands, Aleutian Islands, United States								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z	19:59:37.9	72.5	359.8	1.5	42	5.3		
IBBN	e P	Z	19:59:47.1	74.1	358.2	1.3	54	5.4		
CLZ	e P	Z	19:59:50.2	74.6	359.8	1.5	56	5.4		
BUG	e P	Z	19:59:51.6	75.0	357.9	1.4	45	5.3		
CLL	e P	Z	19:59:52.4	75.1	1.5	1.5	29	5.1		
BRG	e P	Z	19:59:55.0	75.6	2.0	1.7	56	5.4		
UBBA	e P	Z	19:59:55.6	75.6	359.6	1.6	29	5.1		
MOX	e P	Z	19:59:56.7	75.8	0.6	1.4	33	5.3		
	e L	Z	20:37:17.2			21.4	2536		5.5	
TANN	e P	Z	19:59:58.2	76.0	1.1	1.5	28	5.2		
TNS	e P	Z	19:59:59.0	76.2	358.7	1.6	38	5.3		
ROTZ	e P	Z	20:00:02.0	76.7	1.0	1.5	33	5.2		
WLF	e P	Z	20:00:02.1	76.7	357.3	1.5	61	5.5		
GRA1	e P	Z	20:00:02.5	76.8	0.4	1.6	94	5.7		
	e L	Z	20:41:23.7			20.6	2396		5.5	
WET	e P	Z	20:00:05.3	77.3	1.4	1.5	26	5.2		
GEC2	e P	Z	20:00:06.7	77.6	1.9	1.6	43	5.3		
STU	e P	Z	20:00:07.0	77.7	359.1	1.4	43	5.4		
BFO	e P	Z	20:00:09.4	78.1	358.6	1.5	39	5.3		
FUR	e P	Z	20:00:10.8	78.3	0.4	1.6	78	5.5		
RJOB	e P	Z	20:00:12.9	78.7	1.3	1.3	16	4.9		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/18	20:50:30.7	6.220S	150.530E	59.8				NEIC
New Britain, Papua New Guinea, region								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e PKPdf	Z	21:09:19.9	122.7	54.3					
CLL	e PKPdf	Z	21:09:20.2	122.9	53.1					
TANN	e PKPdf	Z	21:09:22.0	123.7	53.0					
GEC2	e PKPdf	Z	21:09:22.1	124.0	55.1					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/19	02:32:11.0	6.510S	150.590E	37.3		4.5		NEIC
New Britain, Papua New Guinea, region								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e PKPdf	Z	02:51:02.3	122.9	54.4					
CLL	e PKPdf	Z	02:51:02.7	123.2	53.2					
TANN	e PKPdf	Z	02:51:04.2	124.0	53.1					
WERD	e PKPdf	Z	02:51:04.5	124.0	52.9					
NKC	e PKPdf	Z	02:51:05.1	124.1	53.2					
WERN	e PKPdf	Z	02:51:05.0	124.1	53.1					
CLZ	e PKPdf	Z	02:51:05.2	124.1	50.2					
GEC2	e PKPdf	Z	02:51:04.8	124.2	55.2					
MOX	e L	Z	03:33:31.1	124.3	52.1	20.5	108		4.5	
GRA1	e L	Z	03:33:39.2	125.0	52.2	20.6	106		4.5	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/19	03:01:13.3	6.500S	150.210E	37.5		4.9		NEIC
New Britain, Papua New Guinea, region								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e PKPdf	Z	03:20:04.9	122.7	54.7					
CLL	e PKPdf	Z	03:20:05.1	123.0	53.6					
TANN	e PKPdf	Z	03:20:06.8	123.8	53.5					
CLZ	e PKPdf	Z	03:20:07.3	123.9	50.6					
GEC2	e PKPdf	Z	03:20:06.9	124.0	55.6					
MOX	e PKPdf	Z	03:20:06.5	124.1	52.5					
	e L	Z	04:17:19.6			19.3	270		4.9	
ROTZ	e PKPdf	Z	03:20:07.1	124.3	53.6					
WET	e PKPdf	Z	03:20:08.4	124.3	54.6					
UBBA	e PKPdf	Z	03:20:09.5	124.8	50.7					
IBBN	e PKPdf	Z	03:20:09.7	124.8	47.5					
GRA1	e PKPdf	Z	03:20:09.3	124.8	52.6					
	e pPKPdf	Z	03:20:18.5							
	e L	Z	04:17:11.8			20.1	316		5.0	
RJOB	e PKPdf	Z	03:20:10.0	125.2	55.3					
FUR	e PKPdf	Z	03:20:11.1	125.7	53.5					
STU	e PKPdf	Z	03:20:12.0	126.5	51.0					
BFO	e PKPdf	Z	03:20:13.0	127.2	50.3					
WLF	e PKPdf	Z	03:20:15.1	127.4	47.2					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
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2010/07/19 08:20:42.8 53.940N 168.810W 33.0G 5.0 SZGRF
 Fox Islands, Aleutian Islands, United States

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
IBBN	e P	Z 08:32:14.8	73.7	357.9	1.1	28	5.2		
CLZ	e P	Z 08:32:17.3	74.2	359.5	1.5	36	5.2		
CLL	e P	Z 08:32:19.5	74.7	1.1	1.0	7	4.6		
BRG	e P	Z 08:32:22.0	75.2	1.7	1.9	24	5.0		
UBBA	e P	Z 08:32:21.3	75.2	359.3	2.8	50	5.1		
MOX	e P	Z 08:32:24.1	75.4	0.3	1.9	24	5.0		
TANN	e P	Z 08:32:24.7	75.6	0.8	1.9	25	5.0		
TNS	e P	Z 08:32:26.3	75.8	358.3	1.5	11	4.8		
ROTZ	e P	Z 08:32:30.0	76.3	0.6	1.9	19	4.9		
WET	e P	Z 08:32:32.3	76.9	1.0	1.7	17	4.9		
GEC2	e P	Z 08:32:34.7	77.2	1.5	1.7	16	4.9		
BFO	e P	Z 08:32:36.2	77.7	358.3	2.2	56	5.3		

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/07/19 08:23:24.1 54.500N 169.500W 12.3 5.1 5.0
 Fox Islands, Aleutian Islands, United States

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
IBBN	e P	Z 08:34:56.6	73.2	358.3	1.5	48	5.3		
CLZ	e P	Z 08:34:59.8	73.7	359.9	1.4	28	5.1		
BUG	e P	Z 08:35:01.2	74.0	358.0	1.2	18	5.0		
CLL	e P	Z 08:35:02.1	74.2	1.5	2.2	46	5.1		
BRG	e P	Z 08:35:04.7	74.6	2.1	1.5	20	4.9		
UBBA	e P	Z 08:35:05.1	74.7	359.7	2.1	30	5.0		
MOX	e P	Z 08:35:06.2	74.9	0.7	1.8	30	5.0		
	e L	Z 09:13:39.6			20.4	746		5.0	
TANN	e P	Z 08:35:07.8	75.1	1.2	1.6	25	5.0		
TNS	e P	Z 08:35:08.7	75.3	358.8	1.4	18	5.0		
ROTZ	e P	Z 08:35:11.6	75.7	1.0	1.7	32	5.2		
WLF	e P	Z 08:35:11.9	75.8	357.4	0.6	15	5.3		
GRA1	e P	Z 08:35:12.5	75.8	0.4	1.6	63	5.5		
	e pP	Z 08:35:16.0							
	e L	Z 09:13:49.0			19.8	702		5.0	
WET	e P	Z 08:35:15.1	76.3	1.4	1.7	22	5.0		
GEC2	e P	Z 08:35:16.4	76.6	1.9	1.9	37	5.2		
STU	e P	Z 08:35:17.1	76.7	359.2	0.6	14	5.2		
BFO	e P	Z 08:35:19.2	77.2	358.7	1.3	14	5.0		
FUR	e P	Z 08:35:20.4	77.3	0.5	1.2	33	5.3		
RJOB	e P	Z 08:35:22.6	77.7	1.4	1.0	7	4.8		

Date Origin Time Lat Long Depth mb Ms ML Source

2010/07/19 17:15: 8.2 49.440N 130.630W 33.0G 4.9 4.9 SZGRF
 Vancouver Island, Canada, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z 17:26:27.9	71.5	334.4	1.4	23	5.1		
IBBN	e P	Z 17:26:32.5	72.3	333.0	1.7	67	5.5		
BUG	e P	Z 17:26:35.9	72.9	332.9	1.2	17	5.0		
CLZ	e P	Z 17:26:39.6	73.4	334.7	1.4	23	5.0		
WLF	e P	Z 17:26:43.7	74.2	332.4	3.0	99	5.3		
UBBA	e P	Z 17:26:44.1	74.3	334.6	1.9	38	5.1		
TNS	e P	Z 17:26:44.5	74.4	333.7	0.9	8	4.7		
CLL	e P	Z 17:26:45.7	74.6	336.4	1.6	15	4.8		
MOX	e P	Z 17:26:47.1	74.8	335.6	1.3	7	4.6		
	e L	Z 18:00:45.6			19.4	588		4.9	
BRG	e P	Z 17:26:49.6	75.2	337.1	1.1	12	4.9		
TANN	e P	Z 17:26:49.4	75.3	336.2	1.1	5	4.5		
GRA1	e P	Z 17:26:52.4	75.6	335.5	1.5	31	5.2		
	e L	Z 17:58:32.1			21.2	516		4.8	
ROTZ	e P	Z 17:26:53.1	75.8	336.1	1.6	13	4.8		
STU	e P	Z 17:26:53.3	75.9	334.4	0.8	10	5.0		
BFO	e P	Z 17:26:53.9	76.0	333.9	1.5	31	5.2		
WET	e P	Z 17:26:57.0	76.5	336.6	1.5	8	4.6		
FUR	e P	Z 17:26:59.9	77.0	335.7	0.9	16	5.2		
GEC2	e P	Z 17:26:59.9	77.0	337.1	1.6	13	4.8		
RJOB	e P	Z 17:27:04.3	77.8	336.6	1.2	5	4.5		

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/07/19 17:45:42.2 27.000N 61.950E 33.0N 4.7
 Southern Iran SZGRF

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e P	Z 17:53:39.0	42.9	102.5	0.9	14	4.7		
BRG	e P	Z 17:53:41.9	43.3	104.9	0.7	3	4.1		
RJOB	e P	Z 17:53:41.7	43.3	100.6	0.6	25	5.1		
CLL	e P	Z 17:53:47.2	43.9	104.4	1.2	10	4.4		
ROTZ	e P	Z 17:53:48.5	44.1	102.1	1.0	5	4.2		
MOX	e P	Z 17:53:53.1	44.6	102.5	1.3	9	4.5		
GRA1	e P	Z 17:53:54.2	44.7	101.2	1.1	9	4.6		
CLZ	e P	Z 17:54:00.7	45.6	102.5	1.0	7	4.6		
BSEG	e P	Z 17:54:04.5	46.2	104.4	0.7	10	4.9		
BFO	e P	Z 17:54:05.5	46.3	97.4	1.1	5	4.5		
TNS	e P	Z 17:54:08.7	46.5	99.3	1.4	17	5.0		
IBBN	e P	Z 17:54:14.0	47.3	100.6	0.5	16	5.4		
BUG	e P	Z 17:54:15.4	47.5	99.4	0.9	12	5.0		
WLF	e P	Z 17:54:19.2	47.9	96.8	1.3	16	5.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/20	03:10:27.7	36.890N	22.053E	10.0G	4.7	3.9		SZGRF

Southern Greece

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RJOB	e P	Z	03:13:36.8	12.8	144.5					
GEC2	e P	Z	03:13:44.1	13.4	149.9					
FUR	e P	Z	03:13:49.5	13.8	141.0					
WET	e P	Z	03:13:51.6	13.9	148.1					
ROTZ	e P	Z	03:14:01.3	14.7	147.4					
GRA1	e P	Z	03:14:05.5	15.0	144.5					
	e L	Z	03:21:01.3			19.3	709		3.8	
STU	e P	Z	03:14:07.0	15.1	137.0					
BRG	e P	Z	03:14:08.6	15.1	154.4					
TANN	e P	Z	03:14:10.5	15.2	149.4					
BFO	e P	Z	03:14:07.3	15.2	133.7	1.1	16			
MOX	e P	Z	03:14:14.2	15.6	147.5	2.0	68			
	e L	Z	03:21:55.8			19.1	1287		4.1	
CLL	e P	Z	03:14:17.6	15.8	152.5	1.4	43			
UBBA	e P	Z	03:14:23.3	16.4	143.7	1.4	22			
TNS	e P	Z	03:14:26.2	16.5	138.6	1.0	43			
CLZ	e P	Z	03:14:34.9	17.1	146.5	1.1	24			
WLF	e P	Z	03:14:34.6	17.2	132.1	1.6	146			
BUG	e P	Z	03:14:43.8	17.9	138.5	1.9	212	5.0		
IBBN	e P	Z	03:14:50.9	18.4	141.3	1.4	46	4.4		
BSEG	e P	Z	03:14:54.2	18.9	149.8	1.4	151	5.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/20	12:53:55.3	52.716N	170.713W	33.0G	4.7			SZGRF

Fox Islands, Aleutian Islands, United States

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLZ	e P	Z	13:05:36.0	75.4	0.7	1.2	9	4.8		
FBE	e P	Z	13:05:41.1	76.3	2.5	1.7	34	5.2		
BRG	e P	Z	13:05:41.3	76.3	2.9	1.3	7	4.6		
MOX	e P	Z	13:05:42.6	76.6	1.4	1.1	6	4.6		
TANN	e P	Z	13:05:44.0	76.8	2.0	1.8	13	4.8		
WERN	e P	Z	13:05:44.5	77.0	1.9	1.3	7	4.6		
ROTZ	e P	Z	13:05:47.5	77.5	1.8	1.7	13	4.8		
GRA1	e P	Z	13:05:48.4	77.6	1.2	0.6	6	4.9		
GEC2	e P	Z	13:05:52.0	78.4	2.7	1.3	5	4.4		
BFO	e P	Z	13:05:55.7	79.0	359.4	1.0	5	4.5		
RJOB	e P	Z	13:05:59.0	79.5	2.2	0.8	3	4.3		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/20	17:19:54.9	29.320S	10.230W	33.0G	5.7	5.2		SZGRF

Southern Mid-Atlantic Ridge

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BFO	e P	Z	17:31:55.6	79.4	196.4	1.3	77	5.6		
	e S	T	17:41:57.1							
	e SS	T	17:46:59.3							
RJOB	e P	Z	17:31:58.1	79.8	200.3	1.8	68	5.4		
	e S	T	17:41:59.5							
	e SS	T	17:47:03.7							
FUR	e P	Z	17:31:58.8	79.8	198.9	1.5	157	5.7		
	e S	T	17:42:01.5							
	e SS	T	17:47:05.2							
STU	e P	Z	17:31:58.9	80.0	197.1	1.4	112	5.6		
	e S	T	17:42:02.7							
	e SS	T	17:47:08.3							
WLF	e P	Z	17:32:00.8	80.3	194.4	1.4	119	5.6		
	e PP	Z	17:35:02.9							
	e S	T	17:42:05.2							
	e SS	T	17:47:11.2							
GEC2	e P	Z	17:32:05.5	81.0	201.0	1.7	51	5.3		
	e S	T	17:42:14.6							
	e SS	T	17:47:23.6							
WET	e P	Z	17:32:05.7	81.1	200.3	1.9	150	5.7		
	e S	T	17:42:14.4							
	e SS	T	17:47:26.1							
TNS	e P	Z	17:32:06.1	81.2	196.4	1.5	71	5.5		
	e S	T	17:42:14.1							
	e SS	T	17:47:25.7							
GRA1	e P	Z	17:32:06.5	81.3	198.8	1.4	119	5.7		
	e PP	Z	17:35:11.2							
	e S	T	17:42:15.2							
	e SS	T	17:47:28.5							
ROTZ	e L	Z	18:04:52.5	81.6	199.7	21.8	1120	5.7	5.2	
	e P	Z	17:32:08.1							
	e PP	Z	17:35:13.9							
	e S	T	17:42:19.3							
	e SS	T	17:47:32.6							
UBBA	e P	Z	17:32:10.9	82.1	197.7	1.8	91	5.6		
	e PP	Z	17:35:17.7							
	e S	T	17:42:25.2							
	e SS	T	17:47:39.5							
BUG	e P	Z	17:32:11.1	82.2	195.3	1.8	157	5.8		
	e S	T	17:42:26.1							
	e SS	T	17:47:42.2							
TANN	e P	Z	17:32:11.6	82.2	199.8	2.0	110	5.6		
	e PP	Z	17:35:19.4							
	e S	T	17:42:26.6							

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	e SS	T	17:47:42.3							
MOX	e P	Z	17:32:11.5	82.3	199.1	2.0		88	5.6	
	e PP	Z	17:35:19.6							
	e S	T	17:42:28.0							
	e SS	T	17:47:42.2							
	e L	Z	18:08:17.5			18.2		1199		5.3
BRG	e P	Z	17:32:15.8	83.0	201.1	2.0		91	5.7	
	e PP	Z	17:35:26.0							
	e S	T	17:42:34.2							
	e SS	T	17:47:54.4							
IBBN	e P	Z	17:32:16.3	83.1	195.7	1.6		150	6.0	
	e S	T	17:42:36.2							
CLZ	e P	Z	17:32:16.5	83.2	198.0	1.8		89	5.7	
	e S	T	17:42:37.0							
	e SS	T	17:47:56.0							
CLL	e P	Z	17:32:16.6	83.2	200.3	1.9		109	5.8	
	e PP	Z	17:35:27.3							
	e S	T	17:42:36.2							
	e SS	T	17:47:56.5							
BSEG	e P	Z	17:32:26.3	85.1	197.9	2.1		219	6.0	
	e S	T	17:42:55.1							
	e SS	T	17:48:22.6							

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/07/20 19:18:23.5 5.910S 150.680E 35.9
 New Britain, Papua New Guinea, region NEIC

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPdf	Z 19:37:14.3	122.3	48.6					
BRG	e PKPdf	Z 19:37:14.4	122.5	53.9					
CLL	e PKPdf	Z 19:37:14.6	122.7	52.7					
TANN	e PKPdf	Z 19:37:16.4	123.5	52.6					
CLZ	e PKPdf	Z 19:37:17.0	123.6	49.7					
GEC2	e PKPdf	Z 19:37:16.9	123.8	54.7					
MOX	e PKPdf	Z 19:37:17.0	123.8	51.6					
ROTZ	e PKPdf	Z 19:37:17.6	124.0	52.7					
WET	e PKPdf	Z 19:37:17.6	124.1	53.7					
UBBA	e PKPdf	Z 19:37:18.3	124.5	49.9					
IBBN	e PKPdf	Z 19:37:18.5	124.5	46.7					
GRA1	e PKPdf	Z 19:37:18.5	124.6	51.7					
	e	19:37:22.6							
RJOB	e PKPdf	Z 19:37:18.7	124.9	54.4					
BUG	e PKPdf	Z 19:37:19.9	125.3	46.6					
FUR	e PKPdf	Z 19:37:20.1	125.5	52.6					
TNS	e PKPdf	Z 19:37:20.7	125.6	48.5					
STU	e PKPdf	Z 19:37:21.5	126.2	50.1					
BFO	e PKPdf	Z 19:37:22.7	126.9	49.5					

WLF e PKPdf Z 19:37:24.1 127.1 46.3

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/07/20 19:38:24.7 27.590N 51.940E 33.0G 5.5
 Persian Gulf

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e P	Z 19:45:26.5	36.2	111.8	2.0	181	5.6		
RJOB	e P	Z 19:45:28.0	36.4	109.4	0.8	78	5.6		
WET	e P	Z 19:45:30.9	36.8	111.3	1.2	80	5.3		
BRG	e P	Z 19:45:31.2	36.9	114.6	1.3	95	5.4		
ROTZ	e P	Z 19:45:37.0	37.5	111.3	1.5	208	5.6		
FUR	e P	Z 19:45:37.1	37.5	108.4	1.1	319	6.0		
TANN	e P	Z 19:45:37.4	37.5	112.4	1.3	29	4.9		
CLL	e P	Z 19:45:37.4	37.6	114.0	1.2	142	5.6		
GRA1	e P	Z 19:45:41.6	38.0	110.2	1.0	177	5.8		
MOX	e P	Z 19:45:42.1	38.1	111.7	1.0	53	5.2		
STU	e P	Z 19:45:48.7	39.0	107.0	1.5	102	5.2		
UBBA	e P	Z 19:45:51.2	39.1	110.2	1.7	134	5.3		
CLZ	e P	Z 19:45:52.3	39.3	111.8	0.9	172	5.7		
BFO	e P	Z 19:45:52.9	39.4	105.7	0.9	27	4.9		
TNS	e P	Z 19:45:57.0	39.9	108.0	1.1	153	5.5		
BSEG	e P	Z 19:45:58.9	40.1	114.1	1.2	221	5.7		
IBBN	e P	Z 19:46:06.5	41.0	109.6	1.1	223	5.8		
BUG	e P	Z 19:46:06.4	41.0	108.1	1.1	195	5.7		
WLF	e P	Z 19:46:07.2	41.1	105.1	1.0	142	5.7		

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/07/20 19:50:32.0 28.220N 51.380E 33.0N 4.9
 Southern Iran

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e P	Z 19:57:26.9	35.4	111.7	1.4	19	4.8		
RJOB	e P	Z 19:57:28.6	35.6	109.2	0.7	27	5.2		
WET	e P	Z 19:57:31.8	36.0	111.2	1.4	21	4.8		
BRG	e P	Z 19:57:32.0	36.1	114.5	0.8	11	4.8		
ROTZ	e P	Z 19:57:37.8	36.7	111.2	0.8	16	4.8		
FUR	e P	Z 19:57:37.8	36.7	108.2	0.8	45	5.2		
CLL	e P	Z 19:57:38.3	36.8	114.0	1.0	22	4.8		
GRA1	e P	Z 19:57:42.4	37.2	110.1	0.8	36	5.2		
UBBA	e P	Z 19:57:51.5	38.3	110.2	1.1	13	4.6		
CLZ	e P	Z 19:57:53.2	38.5	111.8	0.7	36	5.1		
BFO	e P	Z 19:57:54.1	38.6	105.5	0.7	11	4.6		
TNS	e P	Z 19:57:58.0	39.1	107.8	1.1	25	4.8		
IBBN	e P	Z 19:58:07.2	40.2	109.5	1.1	61	5.1		

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BUG	e P	Z	19:58:07.2	40.2	108.1	1.4	60	5.0
WLF	e P	Z	19:58:08.2	40.3	104.9	0.8	25	4.9

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/20	20:31:9.6	6.040S	150.660E	40.0				NEIC
New Britain, Papua New Guinea, region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPdf	Z 20:50:00.8	122.4	48.7					
BRG	e PKPdf	Z 20:50:00.9	122.6	54.0					
CLL	e PKPdf	Z 20:50:01.4	122.8	52.8					
TANN	e PKPdf	Z 20:50:02.9	123.6	52.7					
CLZ	e PKPdf	Z 20:50:03.5	123.7	49.8					
GEC2	e PKPdf	Z 20:50:03.4	123.9	54.8					
MOX	e PKPdf	Z 20:50:03.4	123.9	51.7					
ROTZ	e PKPdf	Z 20:50:04.1	124.1	52.8					
WET	e PKPdf	Z 20:50:04.1	124.2	53.8					
UBBA	e PKPdf	Z 20:50:04.9	124.6	50.0					
IBBN	e PKPdf	Z 20:50:05.1	124.6	46.8					
GRA1	e PKPdf	Z 20:50:05.4	124.7	51.8					
RJOB	e PKPdf	Z 20:50:05.6	125.0	54.6					
BUG	e PKPdf	Z 20:50:06.5	125.4	46.7					
FUR	e PKPdf	Z 20:50:06.7	125.6	52.8					
TNS	e PKPdf	Z 20:50:07.1	125.7	48.6					
STU	e PKPdf	Z 20:50:08.1	126.3	50.2					
BFO	e PKPdf	Z 20:50:09.5	127.0	49.6					
WLF	e PKPdf	Z 20:50:10.6	127.2	46.4					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/20	21:19:20.1	34.940N	137.380E	76.1	5.2			SZGRF
Near south coast of eastern Honshu, Japan								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z 21:31:23.0	80.1	41.6	1.5	21	4.9		
BRG	e P	Z 21:31:26.7	80.8	43.9	1.1	15	4.9		
CLL	e P	Z 21:31:26.9	80.9	43.2	1.1	37	5.3		
CLZ	e P	Z 21:31:31.4	81.6	41.4	1.7	37	5.2		
TANN	e P	Z 21:31:32.0	81.8	42.8	1.3	9	4.8		
MOX	e P	Z 21:31:33.1	82.0	42.2					
IBBN	e P	Z 21:31:34.4	82.3	39.6	0.9	15	5.2		
ROTZ	e P	Z 21:31:35.6	82.4	42.5	1.3	34	5.4		
GEC2	e P	Z 21:31:34.7	82.4	43.5	1.1	19	5.2		
UBBA	e P	Z 21:31:35.9	82.6	41.1	1.9	36	5.3		
WET	e P	Z 21:31:36.0	82.6	42.9	1.3	21	5.2		
GRA1	e P	Z 21:31:38.1	82.9	41.8	1.3	60	5.7		

	e pP	Z	21:31:58.6						
BUG	e P	Z	21:31:38.8	83.2	39.2	0.9	11	5.1	
RJOB	e P	Z	21:31:41.5	83.6	42.8	1.1	37	5.5	
TNS	e P	Z	21:31:41.7	83.7	39.9	1.2	10	4.9	
FUR	e P	Z	21:31:43.4	84.0	41.8	1.6	102	5.8	
STU	e P	Z	21:31:45.5	84.4	40.3	0.8	22	5.4	
WLF	e P	Z	21:31:48.6	85.0	38.2	1.2	17	5.1	
BFO	e P	Z	21:31:48.7	85.2	39.7	1.3	17	5.1	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/20	21:50:33.6	11.750N	125.360E	75.8	4.9			NEIC

Samar, Philippine Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e P	Z 22:03:44.1	94.2	65.2	1.0	4	4.7		
BSEG	e P	Z 22:03:46.5	94.6	62.8	1.4	10	5.0		
GEC2	e P	Z 22:03:47.4	94.8	65.9	1.3	5	4.8		
TANN	e P	Z 22:03:47.8	94.9	64.9	1.4	6	4.9		
MOX	e P	Z 22:03:49.5	95.3	64.2	1.5	6	4.8		
ROTZ	e P	Z 22:03:50.0	95.3	64.7	1.6	6	4.8		
CLZ	e P	Z 22:03:50.6	95.5	63.1	1.2	8	5.1		
RJOB	e P	Z 22:03:51.8	95.9	65.3	1.0	6	5.1		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/20	23:54:35.6	3.159S	141.029E	47.0G		4.8		NEIC

New Guinea, Papua New Guinea

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e PKPdf	Z 00:13:10.3	115.0	61.5					
CLL	e PKPdf	Z 00:13:10.8	115.3	60.5					
NEUB	e PKPdf	Z 00:13:12.2	116.0	59.4					
GEC2	e PKPdf	Z 00:13:12.2	116.1	62.1					
WERD	e PKPdf	Z 00:13:12.6	116.1	60.2					
ROHR	e PKPdf	Z 00:13:12.8	116.2	60.3					
MOX	e L	Z 01:09:53.5	116.4	59.5	18.0	218		4.8	
GRA1	e L	Z 01:10:11.0	117.1	59.5	19.0	165		4.7	
FUR	e PKPdf	Z 00:13:16.2	117.8	60.2					
TNS	e PKPdf	Z 00:13:17.0	118.3	56.6					
STU	e PKPdf	Z 00:13:17.9	118.7	58.0					
WLF	e PKPdf	Z 00:13:20.4	119.9	54.7					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/21	02:57:29.3	28.305N	90.832E	33.0N	4.8			SZGRF

Xizang

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z	03:07:35.0	60.4	80.4	0.6	4	4.5		
CLL	e P	Z	03:07:38.2	60.9	80.0	0.7	4	4.3		
GEC2	e P	Z	03:07:38.5	60.9	79.2	0.8	8	4.6		
WET	e P	Z	03:07:41.8	61.4	78.8	0.7	3	4.7		
TANN	e P	Z	03:07:41.7	61.4	79.1	0.8	4	4.7		
ROTZ	e P	Z	03:07:44.5	61.7	78.6	0.7	7	5.0		
RJOB	e P	Z	03:07:44.4	61.7	78.0	0.8	3	4.5		
MOX	e P	Z	03:07:45.5	61.9	78.7	1.4	6	4.6		
BSEG	e P	Z	03:07:46.6	62.0	79.4	0.9	11	5.1		
GRA1	e P	Z	03:07:48.8	62.3	77.9	1.2	8	4.8		
CLZ	e P	Z	03:07:48.9	62.4	78.4	0.6	14	5.3		
FUR	e P	Z	03:07:50.9	62.6	77.2	0.5	11	5.2		
TNS	e P	Z	03:07:58.8	64.0	76.2	0.8	7	4.9		
WLF	e P	Z	03:08:09.6	65.5	74.4	1.1	16	5.2		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/21	09:16: 5.2	3.040N	128.220E	108.2				NEIC

North of Halmahera, Indonesia

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e Pdiff	Z	09:29:49.3	102.6	68.9					
	e PP	Z	09:34:03.9							
	e PPP	R	09:36:15.8							
	e SKSac	R	09:40:16.8							
CLL	e Pdiff	Z	09:29:50.7	103.0	68.0					
	e PP	Z	09:34:06.3							
	e SKSac	R	09:40:18.1							
BSEG	e Pdiff	Z	09:29:53.0	103.4	65.1					
	e PP	Z	09:34:09.5							
	e PPP	R	09:36:21.8							
	e SKSac	R	09:40:22.3							
TANN	e Pdiff	Z	09:29:54.0	103.6	67.7					
	e PP	Z	09:34:11.8							
	e PPP	R	09:36:22.8							
	e SKSac	R	09:40:22.2							
WET	e Pdiff	Z	09:29:55.2	103.9	68.4					
	e PP	Z	09:34:13.6							
	e SKSac	R	09:40:23.4							
ROTZ	e Pdiff	Z	09:29:56.3	104.0	67.7					
	e PP	Z	09:34:15.1							
	e SKSac	R	09:40:25.1							
MOX	e Pdiff	Z	09:29:55.8	104.0	67.0					
	e PP	Z	09:34:14.7							
	e PPP	R	09:36:26.0							

	e SKSac	R	09:40:23.7			
CLZ	e Pdiff	Z	09:29:57.1	104.3	65.7	
	e PP	Z	09:34:16.8			
	e SKSac	R	09:40:25.6			
RJOB	e Pdiff	Z	09:29:57.3	104.4	68.6	
	e PP	Z	09:34:19.3			
	e SKSac	R	09:40:23.5			
GRA1	e Pdiff	Z	09:29:58.9	104.6	66.9	
	e		09:30:26.1			
	e PP	Z	09:34:19.8			
	e PPP	R	09:36:31.7			
	e SKSac	R	09:40:27.0			
UBBA	e Pdiff	Z	09:29:59.7	104.9	65.6	
	e PP	Z	09:34:20.9			
	e SKSac	R	09:40:28.0			
FUR	e Pdiff	Z	09:30:01.2	105.2	67.3	
	e PP	Z	09:34:23.7			
	e SKSac	R	09:40:28.0			
IBBN	e Pdiff	Z	09:30:02.4	105.5	63.3	
	e PP	Z	09:34:25.0			
	e SKSac	R	09:40:31.0			
TNS	e Pdiff	Z	09:30:05.2	106.1	64.4	
	e PP	Z	09:34:28.8			
	e SKSac	R	09:40:34.3			
BUG	e Pdiff	Z	09:30:05.3	106.2	63.1	
	e PP	Z	09:34:30.0			
	e PPP	R	09:36:43.2			
	e SKSac	R	09:40:34.2			
STU	e Pdiff	Z	09:30:05.7	106.2	65.4	
	e PP	Z	09:34:30.0			
	e SKSac	R	09:40:32.6			
BFO	e Pdiff	Z	09:30:08.6	106.9	64.8	
	e PP	Z	09:34:36.5			
	e SKSac	R	09:40:36.1			
WLF	e Pdiff	Z	09:30:12.6	107.6	62.6	
	e PP	Z	09:34:40.5			
	e PPP	R	09:36:56.3			
	e SKSac	R	09:40:41.2			

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/07/21 20:12:12.4 34.467N 29.741E 10.0G 4.1 Eastern Mediterranean Sea GSRC

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e P	Z	20:16:32.9	18.6	134.5	1.6	34	4.3		
WET	e P	Z	20:16:38.4	19.2	133.5	1.3	30	4.3		
FUR	e P	Z	20:16:41.4	19.4	128.2	1.2	24	4.3		

ROTZ	e P	Z	20:16:46.5	20.0	133.4	1.2	14	4.1
BRG	e P	Z	20:16:46.2	20.0	139.0	1.2	7	3.8
TANN	e P	Z	20:16:49.5	20.3	135.1	1.2	8	3.8
GRA1	e P	Z	20:16:53.0	20.4	131.3	1.2	16	4.1
CLL	e P	Z	20:16:54.3	20.7	137.9	1.8	17	4.1
MOX	e P	Z	20:16:59.1	20.9	133.9	1.1	29	4.5

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/07/22 05:04:0.4 15.560S 167.230E 33.0G 5.4
 Vanuatu Islands SZGRF

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPdf	Z	05:23:21.1	137.6	34.1					
BRG	e PKPdf	Z	05:23:23.6	138.7	41.0					
CLL	e PKPdf	Z	05:23:23.4	138.7	39.4					
CLZ	e PKPdf	Z	05:23:24.7	139.3	35.5					
	e PP	Z	05:26:18.6							
TANN	e PKPdf	Z	05:23:25.3	139.6	39.4					
	e PP	Z	05:26:20.5							
MOX	e PKPdf	Z	05:23:25.6	139.8	38.0					
	e L	E	06:35:32.8			20.6	543		5.3	
IBBN	e PKPdf	Z	05:23:25.4	139.8	31.6					
ROTZ	e PKPdf	Z	05:23:26.6	140.2	39.5					
	e PP	Z	05:26:24.4							
UBBA	e PKPdf	Z	05:23:26.2	140.3	35.7					
GEC2	e PKPdf	Z	05:23:26.6	140.3	42.2					
	e PP	Z	05:26:24.2							
WET	e PKPdf	Z	05:23:27.0	140.4	40.9					
	e PP	Z	05:26:25.3							
BUG	e PKPdf	Z	05:23:26.9	140.7	31.4					
GRA1	e PKPdf	Z	05:23:27.2	140.7	38.2					
	e PP	Z	05:26:27.6							
	e L	Z	06:28:49.9			20.5	677		5.4	
TNS	e PKPdf	Z	05:23:28.4	141.3	33.9					
RJOB	e PKPdf	Z	05:23:29.0	141.5	41.9					
	e PP	Z	05:26:33.1							
FUR	e PP	Z	05:26:34.9	141.9	39.5					
STU	e PKPdf	Z	05:23:30.3	142.2	36.0					
WLF	e PKPdf	Z	05:23:31.2	142.6	30.9					
BFO	e PKPdf	Z	05:23:31.7	142.9	35.1					

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/07/22 21:06:35.1 36.760N 141.400E 40.1 5.1 4.4
 Near east coast of eastern Honshu, Japan SZGRF

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z 21:18:41.3	80.0	37.8	1.2	17	4.8		
BRG	e P	Z 21:18:46.5	81.0	40.1	2.0	36	5.1		
	e pP	Z 21:18:58.0							
CLL	e P	Z 21:18:46.6	81.0	39.5	1.2	18	5.0		
CLZ	e P	Z 21:18:50.4	81.6	37.7	1.3	22	5.1		
TANN	e P	Z 21:18:51.7	81.9	39.0	1.7	14	4.8		
MOX	e P	Z 21:18:52.4	82.1	38.4	1.1	7	4.7		
	e L	Z 21:58:52.3			18.5	141		4.4	
IBBN	e P	Z 21:18:53.1	82.2	35.8	1.3	26	5.3		
ROTZ	e P	Z 21:18:55.3	82.5	38.8	1.5	26	5.2		
UBBA	e P	Z 21:18:54.9	82.6	37.3	2.1	29	5.1		
GEC2	e P	Z 21:18:55.1	82.6	39.7	1.5	10	4.8		
WET	e P	Z 21:18:56.0	82.7	39.2	1.6	19	5.1		
	e pP	Z 21:19:07.7							
GRA1	e P	Z 21:18:57.8	83.0	38.1	1.8	68	5.6		
	e L	Z 21:59:19.9			18.3	175		4.5	
TNS	e P	Z 21:19:00.7	83.6	36.2	1.9	32	5.2		
	e pP	Z 21:19:12.4							
FUR	e P	Z 21:19:03.2	84.2	38.0	1.1	20	5.2		
STU	e P	Z 21:19:04.7	84.5	36.6	1.2	22	5.3		
	e pP	Z 21:19:16.5							
WLF	e P	Z 21:19:07.3	85.0	34.5	1.6	41	5.4		
BFO	e P	Z 21:19:08.2	85.2	36.0	1.4	26	5.2		
	e pP	Z 21:19:19.7							

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/07/22 23:27:15.1 26.860N 142.980E 34.0 4.7 NEIC
 Bonin Islands, Japan, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 23:40:23.2	92.3	41.8	0.9	3	4.7		

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/07/23 00:56:46.4 36.541N 56.146E 33.0G 4.8 SZGRF
 Northern and central Iran

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e P	Z 01:03:18.8	33.0	95.7	2.4	40	4.9		
BRG	e P	Z 01:03:19.8	33.1	99.1	1.7	29	4.9		
FBE	e P	Z 01:03:23.4	33.5	98.6	1.8	46	5.1		
WET	e P	Z 01:03:24.8	33.6	95.5	2.3	21	4.7		
CLL	e P	Z 01:03:24.8	33.8	98.8	1.8	14	4.6		
TANN	e P	Z 01:03:27.5	34.0	97.0	1.5	7	4.4		
WERN	e P	Z 01:03:27.8	34.0	96.8	1.9	30	4.9		

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ROTZ	e P	Z	01:03:28.1	34.1	95.8	1.5	8	4.4
WERD	e P	Z	01:03:28.1	34.1	96.9	1.9	20	4.7
MANZ	e P	Z	01:03:29.0	34.2	96.1	2.0	18	4.7
PLN	e P	Z	01:03:29.0	34.2	96.9	1.8	16	4.7
NEUB	e P	Z	01:03:31.6	34.5	97.6	2.0	72	5.2
MOX	e P	Z	01:03:32.3	34.6	96.6	1.4	18	4.8
FUR	e P	Z	01:03:32.3	34.6	92.7	2.2	53	5.1
GRA1	e P	Z	01:03:33.6	34.7	94.9	1.9	37	5.0
CLZ	e P	Z	01:03:39.8	35.5	97.2	1.6	19	4.7
UBBA	e P	Z	01:03:41.3	35.6	95.5	1.7	33	4.9
BSEG	e P	Z	01:03:42.0	35.8	100.0	1.5	28	4.9
STU	e P	Z	01:03:44.3	36.0	92.0	1.5	40	5.0
TNS	e P	Z	01:03:49.6	36.5	93.3	1.7	22	4.6

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/07/23 01:57:10.0 17.810S 178.660W 592.6 NEIC
 Fiji Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLZ	e PKPbc	Z 02:15:42.9	145.2	15.2					
CLL	e PKPbc	Z 02:15:42.7	145.2	19.7					
BRG	e PKPbc	Z 02:15:43.6	145.4	21.5					
FBE	e PKPbc	Z 02:15:44.1	145.5	20.5					
PLN	e PKPbc	Z 02:15:45.6	146.2	18.7					
TANN	e PKPbc	Z 02:15:45.7	146.2	19.3					
WERD	e PKPbc	Z 02:15:45.6	146.2	19.0					
GUNZ	e PKPbc	Z 02:15:46.0	146.3	19.1					
MANZ	e PKPbc	Z 02:15:47.0	146.7	18.9					
ROTZ	e PKPbc	Z 02:15:47.8	146.9	19.2					
TNS	e PKPbc	Z 02:15:48.6	147.1	12.5					
GEC2	e PKPbc	Z 02:15:48.9	147.4	22.2					
BFO	e PKPbc	Z 02:15:52.4	149.0	13.0					

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/07/23 02:49:37.0 15.802S 172.962W 47.6 4.1 SZGRF
 Samoa Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
MOX	e PKPbc	Z 03:09:06.3	145.0	7.7					
	e pPKPbc	Z 03:09:20.8							
	e L	Z 04:21:31.4			19.4	34		4.1	
PLN	e PKPbc	Z 03:09:07.0	145.1	8.6					
	e pPKPbc	Z 03:09:21.3							
WERD	e PKPbc	Z 03:09:07.1	145.1	8.9					
	e pPKPbc	Z 03:09:21.2							

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TANN	e	PKPbc	Z	03:09:07.1	145.1	9.1						
	e	pPKPbc	Z	03:09:21.4								
GUNZ	e	PKPbc	Z	03:09:07.5	145.2	8.9						
	e	pPKPbc	Z	03:09:21.6								
WERN	e	PKPbc	Z	03:09:07.9	145.2	9.0						
	e	pPKPbc	Z	03:09:22.1								
TNS	e	PKPbc	Z	03:09:08.7	145.6	2.4						
	e	pPKPbc	Z	03:09:23.2								
MANZ	e	PKPbc	Z	03:09:08.8	145.6	8.6						
	e	pPKPbc	Z	03:09:22.9								
ROTZ	e	PKPbc	Z	03:09:09.7	145.8	8.9						
	e	pPKPbc	Z	03:09:23.8								
GRA1	e	PKPbc	Z	03:09:10.1	145.9	7.2						
	e	pPKPbc	Z	03:09:24.7								
	e	L	Z	04:15:57.3			21.3	31		4.1		
WET	e	PKPbc	Z	03:09:10.9	146.3	10.2						
GEC2	e	PKPbc	Z	03:09:11.6	146.5	11.7						
FUR	e	PKPbc	Z	03:09:14.3	147.5	7.6						
BFO	e	PKPbc	Z	03:09:14.2	147.5	2.3						

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/23	08:16:27.1	19.704S	175.853W	33.0G				SZGRF

Tonga Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e	PKPbc	Z	08:36:02.2	145.4	10.3			
CLZ	e	PKPbc	Z	08:36:08.1	147.5	11.0			
CLL	e	PKPbc	Z	08:36:07.9	147.6	15.7			
BRG	e	PKPbc	Z	08:36:08.5	147.9	17.5			
FBE	e	PKPbc	Z	08:36:09.1	147.9	16.5			
MOX	e	PKPbc	Z	08:36:10.2	148.5	13.5			
PLN	e	PKPbc	Z	08:36:10.4	148.6	14.6			
WERD	e	PKPbc	Z	08:36:10.6	148.6	14.9			
TANN	e	PKPbc	Z	08:36:10.5	148.6	15.1			
GUNZ	e	PKPbc	Z	08:36:10.8	148.7	14.9			
MANZ	e	PKPbc	Z	08:36:11.7	149.1	14.7			
ROTZ	e	PKPbc	Z	08:36:12.3	149.3	15.0			
TNS	e	PKPbc	Z	08:36:12.3	149.3	7.9			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/23	14:34:15.7	4.560S	102.570E	58.4	4.9			NEIC

Southern Sumatera, Indonesia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e	P	Z	14:47:22.8	92.7	93.9	0.7	6	5.2

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GEC2	e P	Z	14:47:23.0	92.7	93.9	1.5	10	5.0
FBE	e P	Z	14:47:24.7	93.0	93.5	0.9	5	5.0
WET	e P	Z	14:47:25.5	93.2	93.2	1.0	6	5.0
WERD	e P	Z	14:47:27.2	93.7	92.7	1.0	6	4.8
ROTZ	e P	Z	14:47:27.9	93.7	92.7	1.0	3	4.6
MANZ	e P	Z	14:47:28.3	93.8	92.6	0.9	6	4.9

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/23	18:31:10.9	22.500S	171.500E	33.0G		4.4		SZGRF

Southeast of Loyalty Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z 18:50:45.2	145.5	31.7					
RUE	e PKPbc	Z 18:50:45.0	145.5	38.2					
BRG	e PKPbc	Z 18:50:48.9	146.7	40.0					
CLL	e PKPbc	Z 18:50:48.7	146.7	38.1					
FBE	e PKPbc	Z 18:50:49.5	146.9	39.0					
CLZ	e PKPbc	Z 18:50:50.8	147.2	33.5					
NEUB	e PKPbc	Z 18:50:50.3	147.3	36.3					
TANN	e PKPbc	Z 18:50:51.7	147.6	38.1					
WERD	e PKPbc	Z 18:50:51.8	147.7	37.9					
IBBN	e PKPbc	Z 18:50:51.7	147.7	28.9					
PLN	e PKPbc	Z 18:50:51.8	147.7	37.6					
GUNZ	e PKPbc	Z 18:50:52.0	147.7	38.0					
WERN	e PKPbc	Z 18:50:52.3	147.8	38.1					
MOX	e PKPbc	Z 18:50:51.9	147.8	36.6					
	e L	Z 19:50:09.8			21.9	74		4.4	
MANZ	e PKPbc	Z 18:50:53.1	148.1	38.0					
UBBA	e PKPbc	Z 18:50:52.8	148.2	33.8					
ROTZ	e PKPbc	Z 18:50:53.5	148.2	38.4					
GEC2	e PKPbc	Z 18:50:53.4	148.3	41.7					
GRA1	e L	Z 19:50:49.8	148.7	36.9	21.7	66		4.4	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/23	22:08:10.6	6.830N	124.970E	617.0				SZGRF

Mindanao, Philippine Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RGN	e Pdiff	Z 22:20:36.1	96.6	68.3					
	e PP	Z 22:24:42.4							
	e pPP	Z 22:26:31.5							
RUE	e Pdiff	Z 22:20:38.4	97.1	68.9					
	e PP	Z 22:24:45.7							
	e pPP	Z 22:26:34.9							
BRG	e Pdiff	Z 22:20:40.3	97.6	69.2					

	e PP	Z	22:24:49.3		
	e pPP	Z	22:26:38.4		
FBE	e Pdiff	Z	22:20:42.0	97.9	68.8
CLL	e Pdiff	Z	22:20:41.8	98.0	68.4
	e PP	Z	22:24:51.8		
	e pPP	Z	22:26:42.0		
GEC2	e Pdiff	Z	22:20:44.0	98.5	69.3
	e PP	Z	22:24:55.6		
	e pPP	Z	22:26:46.1		
BSEG	e Pdiff	Z	22:20:44.7	98.5	65.8
	e PP	Z	22:24:56.7		
	e pPP	Z	22:26:46.1		
TANN	e Pdiff	Z	22:20:45.0	98.7	68.1
	e PP	Z	22:24:57.3		
	e pPP	Z	22:26:46.7		
WERD	e Pdiff	Z	22:20:45.3	98.7	68.0
GUNZ	e Pdiff	Z	22:20:45.5	98.8	68.0
WERN	e Pdiff	Z	22:20:45.5	98.8	68.1
NEUB	e Pdiff	Z	22:20:45.4	98.8	67.4
	e PP	Z	22:24:57.0		
	e pPP	Z	22:26:46.9		
PLN	e Pdiff	Z	22:20:45.8	98.8	67.8
WET	e Pdiff	Z	22:20:46.0	98.9	68.6
	e PP	Z	22:24:59.2		
	e pPP	Z	22:26:49.2		
MANZ	e Pdiff	Z	22:20:46.9	99.0	67.9
	e PP	Z	22:25:00.0		
	e pPP	Z	22:26:50.3		
ROTZ	e Pdiff	Z	22:20:47.2	99.1	68.0
	e PP	Z	22:25:00.6		
	e pPP	Z	22:26:51.0		
MOX	e Pdiff	Z	22:20:46.9	99.1	67.4
	e PP	Z	22:24:59.8		
	e pPP	Z	22:26:50.2		
CLZ	e Pdiff	Z	22:20:48.6	99.3	66.2
	e PP	Z	22:25:01.7		
	e pPP	Z	22:26:52.0		
GRA1	e Pdiff	Z	22:20:49.7	99.7	67.2
	e PP	Z	22:25:05.3		
	e pPP	Z	22:26:54.9		
HLG	e PP	Z	22:25:05.3	99.7	63.7
	e pPP	Z	22:26:55.2		
UBBA	e Pdiff	Z	22:20:50.8	99.9	66.0
	e PP	Z	22:25:06.1		
	e pPP	Z	22:26:56.9		
FUR	e Pdiff	Z	22:20:51.8	100.2	67.5
	e PP	Z	22:25:09.1		
	e pPP	Z	22:26:58.2		
IBBN	e Pdiff	Z	22:20:54.2	100.6	63.9

TNS	e pPP	Z	22:27:01.9	101.1	64.9
	e Pdiff	Z	22:20:56.2		
	e PP	Z	22:25:14.9		
BUG	e pPP	Z	22:27:06.4	101.2	63.7
	e Pdiff	Z	22:20:56.9		
	e PP	Z	22:25:16.1		
STU	e pPP	Z	22:27:06.7	101.3	65.7
	e Pdiff	Z	22:20:56.5		
	e PP	Z	22:25:16.0		
BFO	e pPP	Z	22:27:07.3	102.0	65.1
	e Pdiff	Z	22:20:59.2		
	e PP	Z	22:25:20.7		
WLF	e pPP	Z	22:27:12.2	102.7	63.1
	e Pdiff	Z	22:21:03.6		
	e PP	Z	22:25:26.2		
	e pPP	Z	22:27:17.5		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/23	22:51:23.5	6.480N	123.290E	591.6				NEIC
Mindanao, Philippine Islands								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RGN	e Pdiff	Z	23:03:44.0	96.0	69.9					
	e PP	Z	23:07:51.7							
	e SP	Z	23:15:37.3							
RUE	e Pdiff	Z	23:03:46.2	96.5	70.5					
	e PP	Z	23:07:55.3							
	e pPP	Z	23:09:42.9							
BRG	e SP	Z	23:15:42.6	96.9	70.8					
	e Pdiff	Z	23:03:48.0							
	e Pdiff	Z	23:03:49.8							
FBE	e Pdiff	Z	23:03:49.8	97.2	70.3					
	e Pdiff	Z	23:03:49.6							
	e PP	Z	23:08:02.3							
CLL	e pPP	Z	23:09:48.9	97.3	70.0					
	e SP	Z	23:15:52.7							
	e Pdiff	Z	23:03:51.7							
GEC2	e PP	Z	23:08:05.8	97.7	70.8					
	e pPP	Z	23:09:53.2							
	e SP	Z	23:15:59.1							
BSEG	e Pdiff	Z	23:03:52.5	97.9	67.4					
	e PP	Z	23:08:06.2							
	e pPP	Z	23:09:53.4							
TANN	e SP	Z	23:15:57.5	97.9	69.7					
	e Pdiff	Z	23:03:52.7							
	e PP	Z	23:08:07.8							
	e pPP	Z	23:09:54.7							
	e SP	Z	23:15:59.6							

WERD	e Pdiff	Z	23:03:53.0	98.0	69.5
WERN	e Pdiff	Z	23:03:53.3	98.0	69.6
GUNZ	e Pdiff	Z	23:03:53.2	98.0	69.6
NEUB	e Pdiff	Z	23:03:53.2	98.1	69.0
	e PP	Z	23:08:08.0		
	e pPP	Z	23:09:55.6		
	e SP	Z	23:15:59.6		
PLN	e Pdiff	Z	23:03:53.5	98.1	69.4
WET	e Pdiff	Z	23:03:53.8	98.1	70.2
	e PP	Z	23:08:08.4		
	e pPP	Z	23:09:56.8		
	e SP	Z	23:16:02.8		
MANZ	e Pdiff	Z	23:03:54.7	98.3	69.4
	e PP	Z	23:08:10.3		
	e pPP	Z	23:09:57.8		
	e SP	Z	23:16:03.8		
ROTZ	e Pdiff	Z	23:03:54.9	98.3	69.5
	e PP	Z	23:08:10.9		
	e pPP	Z	23:09:58.9		
	e SP	Z	23:16:03.3		
MOX	e Pdiff	Z	23:03:54.7	98.4	69.0
	e PP	Z	23:08:10.0		
	e pPP	Z	23:09:57.6		
	e SP	Z	23:16:03.8		
CLZ	e Pdiff	Z	23:03:56.3	98.6	67.8
	e PP	Z	23:08:11.9		
	e pPP	Z	23:09:59.2		
	e SP	Z	23:16:06.5		
GRA1	e Pdiff	Z	23:03:57.5	98.9	68.8
	e PP	Z	23:08:14.3		
	e pPP	Z	23:10:03.2		
	e SP	Z	23:16:09.6		
HLG	e Pdiff	Z	23:03:57.6	99.1	65.4
	e SP	Z	23:16:10.7		
UBBA	e Pdiff	Z	23:03:58.5	99.2	67.6
	e PP	Z	23:08:16.1		
	e pPP	Z	23:10:04.7		
	e SP	Z	23:16:12.8		
FUR	e Pdiff	Z	23:03:59.5	99.5	69.0
	e PP	Z	23:08:17.9		
	e pPP	Z	23:10:07.2		
	e SP	Z	23:16:17.1		
IBBN	e Pdiff	Z	23:04:01.9	99.9	65.5
	e SP	Z	23:16:19.2		
TNS	e Pdiff	Z	23:04:04.0	100.4	66.4
	e PP	Z	23:08:24.8		
	e pPP	Z	23:10:13.8		
	e SP	Z	23:16:25.0		
STU	e Pdiff	Z	23:04:04.2	100.5	67.3

	e PP	Z	23:08:25.5		
	e pPP	Z	23:10:14.7		
	e SP	Z	23:16:27.1		
BUG	e Pdiff	Z	23:04:04.7	100.6	65.3
	e SP	Z	23:16:26.6		
BFO	e Pdiff	Z	23:04:06.9	101.2	66.7
	e PP	Z	23:08:31.3		
	e pPP	Z	23:10:19.8		
	e SP	Z	23:16:34.6		
WLF	e Pdiff	Z	23:04:11.3	102.0	64.7
	e PP	Z	23:08:36.6		
	e pPP	Z	23:10:26.5		
	e SP	Z	23:16:41.4		

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/07/23 23:15: 8.5 6.740N 123.260E 616.7
 Mindanao, Philippine Islands NEIC

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RGN	e Pdiff	Z	23:27:30.7	95.8	69.8					
RUE	e Pdiff	Z	23:27:32.8	96.2	70.4					
FBE	e Pdiff	Z	23:27:36.4	97.0	70.2					
CLL	e Pdiff	Z	23:27:36.3	97.1	69.9					
GEC2	e Pdiff	Z	23:27:38.3	97.5	70.7					
	e PP	Z	23:31:53.6							
BSEG	e Pdiff	Z	23:27:39.1	97.6	67.3					
TANN	e Pdiff	Z	23:27:39.3	97.7	69.5					
WERD	e Pdiff	Z	23:27:39.8	97.8	69.4					
GUNZ	e Pdiff	Z	23:27:40.0	97.8	69.4					
WERN	e Pdiff	Z	23:27:39.9	97.8	69.5					
NEUB	e Pdiff	Z	23:27:39.8	97.8	68.9					
PLN	e Pdiff	Z	23:27:40.2	97.9	69.3					
WET	e Pdiff	Z	23:27:40.5	97.9	70.0					
	e PP	Z	23:31:57.3							
MANZ	e Pdiff	Z	23:27:41.4	98.1	69.3					
	e PP	Z	23:31:59.4							
ROTZ	e Pdiff	Z	23:27:41.5	98.1	69.4					
	e PP	Z	23:31:58.1							
MOX	e Pdiff	Z	23:27:41.2	98.1	68.8					
	e PP	Z	23:31:58.4							
CLZ	e Pdiff	Z	23:27:43.0	98.4	67.6					
GRA1	e Pdiff	Z	23:27:44.2	98.7	68.6					
	e PP	Z	23:32:03.1							
UBBA	e Pdiff	Z	23:27:45.1	99.0	67.5					
FUR	e PP	Z	23:32:07.7	99.2	68.9					
IBBN	e Pdiff	Z	23:27:48.5	99.7	65.4					
TNS	e Pdiff	Z	23:27:50.8	100.2	66.3					

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	e PP	Z	23:32:13.7		
STU	e Pdiff	Z	23:27:50.9	100.3	67.2
BUG	e Pdiff	Z	23:27:51.3	100.3	65.1
	e PP	Z	23:32:15.4		
BFO	e Pdiff	Z	23:27:53.6	101.0	66.5
	e PP	Z	23:32:19.9		
WLF	e Pdiff	Z	23:27:57.9	101.7	64.5
	e PP	Z	23:32:25.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/24								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
AHRW	e Pdiff	Z 00:09:53.2							
ASSE	e Pdiff	Z 00:09:41.2							
BFO	e Pdiff	Z 00:09:53.4							
BRG	e Pdiff	Z 00:09:33.9							
BUG	e Pdiff	Z 00:09:50.9							
CLL	e Pdiff	Z 00:09:36.1							
CLZ	e Pdiff	Z 00:09:42.7							
FBE	e Pdiff	Z 00:09:35.5							
FLT1	e Pdiff	Z 00:09:39.0							
FUR	e Pdiff	Z 00:09:46.1							
GEC2	e Pdiff	Z 00:09:38.5							
GRA1	e Pdiff	Z 00:09:44.0							
GUNZ	e Pdiff	Z 00:09:39.9							
IBBN	e Pdiff	Z 00:09:48.3							
MANZ	e Pdiff	Z 00:09:41.1							
MOX	e Pdiff	Z 00:09:41.1							
NEUB	e Pdiff	Z 00:09:39.8							
PLN	e Pdiff	Z 00:09:40.1							
ROTZ	e Pdiff	Z 00:09:41.4							
RUE	e Pdiff	Z 00:09:32.1							
STU	e Pdiff	Z 00:09:50.7							
TANN	e Pdiff	Z 00:09:39.3							
TNS	e Pdiff	Z 00:09:50.4							
UBBA	e Pdiff	Z 00:09:44.9							
WERD	e Pdiff	Z 00:09:39.7							
WERN	e Pdiff	Z 00:09:39.9							
WET	e Pdiff	Z 00:09:40.4							
WLF	e Pdiff	Z 00:09:57.8							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/24	02:11:31.9	1.548N	99.253E	33.0G	5.4			SZGRF
Northern Sumatera, Indonesia								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z	02:24:08.3	85.8	92.7	1.4	25	5.1		
GEC2	e P	Z	02:24:08.6	85.9	92.3	1.3	37	5.4		
RUE	e P	Z	02:24:09.2	86.0	92.6	1.0	53	5.6		
FBE	e P	Z	02:24:10.3	86.2	92.2	1.3	29	5.3		
CLL	e P	Z	02:24:10.9	86.4	92.0	1.6	30	5.2		
WET	e P	Z	02:24:11.3	86.5	91.7	1.4	23	5.1		
TANN	e P	Z	02:24:12.7	86.8	91.5	1.6	26	5.1		
WERN	e P	Z	02:24:13.1	86.8	91.4	1.3	14	5.0		
GUNZ	e P	Z	02:24:13.3	86.8	91.4	1.3	19	5.1		
WERD	e P	Z	02:24:13.3	86.9	91.4	1.6	34	5.2		
ROTZ	e P	Z	02:24:14.0	86.9	91.3	1.1	13	5.0		
PLN	e P	Z	02:24:13.7	87.0	91.3	1.5	31	5.2		
MANZ	e P	Z	02:24:14.4	87.0	91.2	1.4	36	5.3		
NEUB	e P	Z	02:24:14.9	87.2	91.0	1.6	82	5.6		
MOX	e P	Z	02:24:15.4	87.3	90.8	1.5	33	5.3		
GRA1	e P	Z	02:24:16.9	87.5	90.5	1.3	38	5.6		
CLZ	e P	Z	02:24:19.4	88.1	89.9	1.4	70	5.8		
BSEG	e P	Z	02:24:19.5	88.1	89.9	1.3	50	5.7		
UBBA	e P	Z	02:24:20.2	88.3	89.6	1.5	30	5.4		
TNS	e P	Z	02:24:25.4	89.3	88.4	1.3	51	5.6		
BFO	e P	Z	02:24:25.0	89.5	88.3	1.4	22	5.2		
IBBN	e P	Z	02:24:27.0	89.7	87.9	1.3	52	5.6		
BUG	e P	Z	02:24:28.4	90.0	87.5	1.3	41	5.5		
WLF	e P	Z	02:24:32.5	90.8	86.6	1.3	31	5.5		

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/07/24 05:35: 5.1 6.800N 124.220E 579.2
 Mindanao, Philippine Islands SZGRF

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e Pdiff	Z	05:47:34.6	96.7	69.5					
	e PP	Z	05:51:39.8							
	e pPP	Z	05:53:25.9							
BRG	e Pdiff	Z	05:47:36.3	97.2	69.9					
	e PP	Z	05:51:43.3							
	e pPP	Z	05:53:29.5							
FBE	e Pdiff	Z	05:47:38.0	97.5	69.4					
CLL	e Pdiff	Z	05:47:37.8	97.6	69.0					
	e PP	Z	05:51:45.7							
	e pPP	Z	05:53:32.7							
GEC2	e Pdiff	Z	05:47:39.9	98.0	69.9					
	e PP	Z	05:51:48.8							
	e pPP	Z	05:53:37.0							
BSEG	e Pdiff	Z	05:47:40.8	98.1	66.5					
	e PP	Z	05:51:50.2							

	e pPP	Z	05:53:37.1		
TANN	e Pdiff	Z	05:47:40.9	98.2	68.7
	e PP	Z	05:51:51.1		
	e pPP	Z	05:53:37.5		
WERD	e Pdiff	Z	05:47:41.3	98.3	68.6
GUNZ	e Pdiff	Z	05:47:41.5	98.3	68.6
WERN	e Pdiff	Z	05:47:41.5	98.3	68.7
NEUB	e Pdiff	Z	05:47:41.5	98.4	68.1
	e PP	Z	05:51:51.4		
	e pPP	Z	05:53:38.4		
PLN	e Pdiff	Z	05:47:41.7	98.4	68.5
WET	e Pdiff	Z	05:47:41.9	98.4	69.2
	e PP	Z	05:51:52.5		
	e pPP	Z	05:53:40.1		
MANZ	e Pdiff	Z	05:47:42.9	98.6	68.5
	e PP	Z	05:51:53.6		
	e pPP	Z	05:53:40.8		
ROTZ	e Pdiff	Z	05:47:43.1	98.6	68.6
	e PP	Z	05:51:54.2		
	e pPP	Z	05:53:42.0		
MOX	e Pdiff	Z	05:47:42.8	98.7	68.0
	e PP	Z	05:51:54.1		
	e pPP	Z	05:53:41.3		
CLZ	e Pdiff	Z	05:47:44.5	98.9	66.8
	e PP	Z	05:51:56.6		
	e pPP	Z	05:53:43.5		
GRA1	e Pdiff	Z	05:47:45.7	99.2	67.8
	e PP	Z	05:51:58.5		
	e pPP	Z	05:53:46.4		
UBBA	e Pdiff	Z	05:47:46.8	99.5	66.7
	e PP	Z	05:52:00.1		
	e pPP	Z	05:53:48.1		
FUR	e Pdiff	Z	05:47:47.7	99.8	68.1
	e PP	Z	05:52:02.2		
IBBN	e Pdiff	Z	05:47:50.2	100.2	64.6
	e PP	Z	05:52:05.0		
	e pPP	Z	05:53:52.2		
TNS	e Pdiff	Z	05:47:52.1	100.7	65.5
	e PP	Z	05:52:09.0		
STU	e Pdiff	Z	05:47:52.4	100.8	66.4
	e PP	Z	05:52:10.1		
	e pPP	Z	05:53:58.6		
BUG	e Pdiff	Z	05:47:52.8	100.8	64.3
	e PP	Z	05:52:09.7		
	e pPP	Z	05:53:58.4		
BFO	e Pdiff	Z	05:47:55.1	101.5	65.7
	e PP	Z	05:52:14.7		
	e pPP	Z	05:54:02.6		
WLF	e Pdiff	Z	05:47:59.6	102.2	63.7

e PP Z 05:52:20.9
e pPP Z 05:54:10.1

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/24	10:30: 8.3	18.310S	177.790W	579.3				NEIC

Fiji Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
IBBN	e PKPbc	Z 10:48:42.9	145.7	9.4					
CLZ	e PKPbc	Z 10:48:43.4	145.9	13.9					
CLL	e PKPbc	Z 10:48:43.2	145.9	18.5					
BRG	e PKPbc	Z 10:48:44.1	146.1	20.3					
FBE	e PKPbc	Z 10:48:44.5	146.2	19.3					
NEUB	e PKPbc	Z 10:48:44.3	146.2	16.5					
BUG	e PKPbc	Z 10:48:45.1	146.6	8.8					
MOX	e PKPbc	Z 10:48:45.9	146.8	16.5					
PLN	e PKPbc	Z 10:48:46.1	146.9	17.5					
WERD	e PKPbc	Z 10:48:46.1	146.9	17.7					
TANN	e PKPbc	Z 10:48:46.1	146.9	18.0					
GUNZ	e PKPbc	Z 10:48:46.5	146.9	17.8					
WERN	e PKPbc	Z 10:48:46.8	147.0	17.9					
MANZ	e PKPbc	Z 10:48:47.5	147.3	17.6					
ROTZ	e PKPbc	Z 10:48:48.1	147.5	17.9					
TNS	e PKPbc	Z 10:48:48.2	147.7	11.1					
GEC2	e PKPbc	Z 10:48:49.2	148.1	21.0					
WLF	e PKPbc	Z 10:48:50.7	148.5	7.2					
FUR	e PKPbc	Z 10:48:52.1	149.2	17.0					
BFO	e PKPbc	Z 10:48:52.8	149.6	11.5					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/25	03:39:26.3	14.801S	172.156W	47.4		5.8		SZGRF

Samoa Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BUG	e PKPbc	Z 03:58:50.4	143.4	359.1					
UBBA	e PKPbc	Z 03:58:52.4	143.9	3.5					
	e pPKPbc	Z 03:59:06.7							
MOX	e PKPbc	Z 03:58:52.4	144.0	6.2					
	e pPKPbc	Z 03:59:07.0							
	e L	Z 05:04:45.0			21.3	1358		5.7	
PLN	e PKPbc	Z 03:58:53.4	144.1	7.1					
WERD	e PKPbc	Z 03:58:53.5	144.2	7.4					
	e pPKPbc	Z 03:59:07.3							
TANN	e PKPbc	Z 03:58:53.4	144.2	7.6					
	e pPKPbc	Z 03:59:07.5							

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GUNZ	e PKPbc	Z	03:58:53.7	144.3	7.4				
	e pPKPbc	Z	03:59:07.8						
WERN	e PKPbc	Z	03:58:54.2	144.3	7.5				
	e pPKPbc	Z	03:59:08.1						
TNS	e PKPbc	Z	03:58:55.0	144.6	1.0				
	e pPKPbc	Z	03:59:09.3						
MANZ	e PKPbc	Z	03:58:55.0	144.6	7.1				
	e pPKPbc	Z	03:59:09.1						
ROTZ	e PKPbc	Z	03:58:56.1	144.9	7.3				
	e pPKPbc	Z	03:59:10.3						
GRA1	e PKPbc	Z	03:58:56.5	145.0	5.7				
	e pPKPbc	Z	03:59:11.0						
	e L	Z	05:04:23.4			21.4	1594		5.8
WLF	e PKPbc	Z	03:58:57.4	145.1	357.1				
WET	e PKPbc	Z	03:58:57.6	145.4	8.6				
	e pPKPbc	Z	03:59:11.9						
GEC2	e PKPbc	Z	03:58:58.0	145.6	10.1				
	e pPKPbc	Z	03:59:12.3						
STU	e PKPbc	Z	03:58:59.8	146.0	2.3				
BFO	e PKPbc	Z	03:59:01.3	146.5	0.8				
FUR	e PKPbc	Z	03:59:01.3	146.5	6.0				

Date 2010/07/25
 Origin Time 03:52:21.2
 Lat 23.733N
 Long 120.915E
 Depth 40.5
 mb 5.3
 Ms 5.4
 ML
 Source SZGRF
 Taiwan

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e P	Z	04:04:29.5	81.1	62.3	0.7	35	5.5		
BRG	e P	Z	04:04:32.6	81.7	62.2	1.1	15	5.0		
FBE	e P	Z	04:04:34.5	82.0	61.8	1.1	29	5.3		
CLL	e P	Z	04:04:34.0	82.1	61.6	0.9	21	5.3		
BSEG	e P	Z	04:04:35.3	82.2	59.9	1.7	42	5.3		
NEUB	e P	Z	04:04:38.0	82.8	60.7	0.9	31	5.5		
GEC2	e P	Z	04:04:38.3	82.8	61.8	1.1	21	5.3		
	e sP	Z	04:04:54.6							
WERD	e P	Z	04:04:38.4	82.9	61.0	2.0	48	5.4		
	e sP	Z	04:04:55.0							
GUNZ	e P	Z	04:04:38.7	82.9	61.0	0.9	17	5.3		
WERN	e P	Z	04:04:38.7	82.9	61.0	1.1	20	5.2		
PLN	e P	Z	04:04:38.8	82.9	60.9	1.1	14	5.1		
MOX	e P	Z	04:04:39.8	83.1	60.5	1.1	17	5.2		
	e sP	Z	04:04:56.5							
	e L	Z	05:04:55.6			21.3	1358		5.3	
WET	e P	Z	04:04:40.1	83.2	61.2	1.5	20	5.1		
	e sP	Z	04:04:56.6							
MANZ	e P	Z	04:04:40.2	83.2	60.8	1.2	18	5.2		
	e sP	Z	04:04:56.7							

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CLZ	e P	Z	04:04:40.8	83.2	59.7	1.0	29	5.5
ROTZ	e P	Z	04:04:40.8	83.2	60.8	1.0	20	5.3
	e sP	Z	04:04:57.2					
GRA1	e P	Z	04:04:43.7	83.8	60.1	1.4	30	5.3
	e sP	Z	04:05:00.1					
	e L	Z	05:04:23.4			21.4	1594	5.4
UBBA	e P	Z	04:04:43.7	83.9	59.3	1.4	16	5.1
	e sP	Z	04:05:00.3					
IBBN	e P	Z	04:04:46.2	84.4	57.8	0.9	27	5.5
FUR	e P	Z	04:04:47.3	84.6	60.0	1.2	55	5.7
BUG	e P	Z	04:04:49.7	85.1	57.3	1.2	19	5.2
TNS	e P	Z	04:04:49.7	85.1	58.1	1.8	38	5.3

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/25	08:18:29.0	6.790N	123.600E	611.0				NEIC
Mindanao, Philippine Islands								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e Pdiff	Z	08:30:54.2	96.4	70.1					
BRG	e Pdiff	Z	08:30:56.0	96.8	70.4					
FBE	e Pdiff	Z	08:30:57.8	97.2	69.9					
CLL	e Pdiff	Z	08:30:57.6	97.2	69.6					
GEC2	e Pdiff	Z	08:30:59.6	97.7	70.4					
TANN	e Pdiff	Z	08:31:00.8	97.9	69.2					
WERD	e Pdiff	Z	08:31:01.1	98.0	69.1					
GUNZ	e Pdiff	Z	08:31:01.3	98.0	69.1					
WERN	e Pdiff	Z	08:31:01.3	98.0	69.2					
PLN	e Pdiff	Z	08:31:01.5	98.0	69.0					
ROTZ	e Pdiff	Z	08:31:02.9	98.3	69.1					
MOX	e Pdiff	Z	08:31:02.6	98.3	68.5					
CLZ	e Pdiff	Z	08:31:04.4	98.6	67.3					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/25	12:56:52.9	50.210N	154.800E	33.0G	6.0			SZGRF
Kuril Islands, Russia								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RGN	e P	Z	13:08:06.6	70.4	25.0	0.8	362	6.6		
BSEG	e P	Z	13:08:14.2	71.7	23.1	1.2	85	5.8		
RUE	e P	Z	13:08:16.8	72.2	25.0	1.2	205	6.1		
CLL	e P	Z	13:08:23.8	73.4	24.4	1.3	277	6.1		
BRG	e P	Z	13:08:24.9	73.6	24.9	1.4	123	5.8		
CLZ	e P	Z	13:08:25.6	73.6	22.8	1.2	280	6.2		
FBE	e P	Z	13:08:25.8	73.7	24.6	1.2	187	6.0		
IBBN	e P	Z	13:08:26.3	73.8	21.3	1.1	204	6.1		

NEUB	e P	Z	13:08:26.4	73.8	23.6	1.5	270	6.1
TANN	e P	Z	13:08:30.0	74.4	24.0	1.6	149	5.8
MOX	e P	Z	13:08:29.9	74.4	23.5	1.2	164	5.9
WERD	e P	Z	13:08:30.0	74.4	23.9	1.3	162	5.9
PLN	e P	Z	13:08:30.1	74.4	23.8	1.2	122	5.8
GUNZ	e P	Z	13:08:30.4	74.5	23.9	1.3	161	5.9
WERN	e P	Z	13:08:30.8	74.5	23.9	1.2	179	6.0
UBBA	e P	Z	13:08:31.2	74.6	22.5	1.8	288	6.0
BUG	e P	Z	13:08:31.4	74.7	20.9	1.2	230	6.1
MANZ	e P	Z	13:08:32.6	74.9	23.7	1.1	117	5.8
ROTZ	e P	Z	13:08:34.0	75.0	23.7	1.1	147	5.9
GRA1	e P	Z	13:08:35.9	75.4	23.1	1.1	335	6.4
WET	e P	Z	13:08:36.3	75.4	24.1	1.3	280	6.2
GEC2	e P	Z	13:08:36.1	75.5	24.5	0.9	67	5.8
TNS	e P	Z	13:08:36.6	75.5	21.5	0.7	214	6.4
WLF	e P	Z	13:08:42.8	76.6	20.0	0.8	64	5.8
STU	e P	Z	13:08:43.1	76.7	21.8	1.4	328	6.3
FUR	e P	Z	13:08:43.6	76.7	23.0	1.0	239	6.3
BFO	e P	Z	13:08:46.5	77.3	21.2	0.8	154	6.2

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/07/26 17:31:31.6 24.119S 66.941W 194.1G
 Salta Province, Argentina

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e pPdiff	Z	17:45:32.8	98.0	241.9					
BFO	e pPdiff	Z	17:45:35.2	98.7	243.2					
STU	e pPdiff	Z	17:45:38.7	99.4	243.9					
BUG	e pPdiff	Z	17:45:38.9	99.5	242.9					
TNS	e pPdiff	Z	17:45:39.8	99.6	243.6					
IBBN	e pPdiff	Z	17:45:42.0	100.1	243.4					
UBBA	e pPdiff	Z	17:45:45.0	100.7	244.8					
GRA1	e pPdiff	Z	17:45:46.2	101.0	245.5					
CLZ	e pPdiff	Z	17:45:48.1	101.4	245.3					
ROTZ	e pPdiff	Z	17:45:49.3	101.6	246.2					
MOX	e pPdiff	Z	17:45:49.0	101.6	246.0					
MANZ	e pPdiff	Z	17:45:49.4	101.6	246.2					
WET	e pPdiff	Z	17:45:49.5	101.7	246.6					
PLN	e pPdiff	Z	17:45:50.3	101.9	246.3					
WERN	e pPdiff	Z	17:45:50.7	101.9	246.4					
GUNZ	e pPdiff	Z	17:45:50.6	101.9	246.4					
WERD	e pPdiff	Z	17:45:50.4	101.9	246.4					
TANN	e pPdiff	Z	17:45:51.1	102.0	246.5					
BSEG	e pPdiff	Z	17:45:51.4	102.2	245.6					
BRG	e pPdiff	Z	17:45:55.6	103.0	247.7					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/26	22:58:20.7	23.085S	175.269W	33.0N				SZGRF

Tonga Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	23:18:05.5	148.9	10.0					
IBBN	e PKPbc	Z	23:18:10.3	150.7	5.7					
CLZ	e PKPbc	Z	23:18:10.6	150.9	10.7					
CLL	e PKPbc	Z	23:18:10.6	151.1	15.9					
BRG	e PKPbc	Z	23:18:11.4	151.3	17.9					
NEUB	e PKPbc	Z	23:18:11.3	151.4	13.6					
FBE	e PKPbc	Z	23:18:11.7	151.4	16.7					
MOX	e PKPbc	Z	23:18:12.5	151.9	13.6					
UBBA	e PKPbc	Z	23:18:12.6	152.0	10.4					
PLN	e PKPbc	Z	23:18:12.8	152.0	14.7					
WERD	e PKPbc	Z	23:18:12.7	152.0	15.0					
WERN	e PKPbc	Z	23:18:13.3	152.1	15.2					
MANZ	e PKPbc	Z	23:18:13.6	152.5	14.8					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/26	23:06:50.1	6.496N	123.242E	625.9G				NEIC

Mindanao, Philippine Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e Pdiff	Z	23:19:13.1	96.4	70.5					
BRG	e Pdiff	Z	23:19:14.8	96.9	70.8					
FBE	e Pdiff	Z	23:19:16.6	97.2	70.3					
CLL	e Pdiff	Z	23:19:16.3	97.3	70.0					
GEC2	e Pdiff	Z	23:19:18.5	97.7	70.9					
BSEG	e Pdiff	Z	23:19:19.3	97.8	67.5					
TANN	e Pdiff	Z	23:19:19.6	97.9	69.7					
WERD	e Pdiff	Z	23:19:19.9	98.0	69.6					
WERN	e Pdiff	Z	23:19:20.0	98.0	69.6					
GUNZ	e Pdiff	Z	23:19:20.1	98.0	69.6					
NEUB	e Pdiff	Z	23:19:20.0	98.0	69.0					
PLN	e Pdiff	Z	23:19:20.3	98.1	69.4					
WET	e Pdiff	Z	23:19:20.5	98.1	70.2					
ROTZ	e Pdiff	Z	23:19:21.7	98.3	69.6					
MOX	e Pdiff	Z	23:19:21.5	98.3	69.0					
CLZ	e Pdiff	Z	23:19:23.3	98.6	67.8					
FUR	e Pdiff	Z	23:19:26.3	99.4	69.1					
IBBN	e Pdiff	Z	23:19:28.8	99.9	65.6					
TNS	e Pdiff	Z	23:19:30.8	100.3	66.5					

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Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/26	23:19: 3.7	24.720S	176.730W	12.0				SZGRF

South of Fiji Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	23:38:54.9	150.3	13.0					
RUE	e PKPbc	Z	23:38:56.8	151.1	20.1					
	e pPKPbc	Z	23:39:00.2							
CLZ	e PKPbc	Z	23:38:59.8	152.3	14.0					
	e pPKPbc	Z	23:39:02.9							
CLL	e PKPbc	Z	23:38:59.6	152.4	19.3					
	e pPKPbc	Z	23:39:03.1							
BRG	e PKPbc	Z	23:39:00.2	152.6	21.4					
	e pPKPbc	Z	23:39:03.7							
FBE	e PKPbc	Z	23:39:00.6	152.7	20.3					
	e pPKPbc	Z	23:39:04.1							
NEUB	e PKPbc	Z	23:39:00.4	152.7	17.0					
MOX	e PKPbc	Z	23:39:01.7	153.3	17.1					
PLN	e PKPbc	Z	23:39:01.7	153.3	18.2					
	e pPKPbc	Z	23:39:05.5							
TANN	e PKPbc	Z	23:39:01.9	153.3	18.9					
WERD	e PKPbc	Z	23:39:01.8	153.3	18.5					
	e pPKPbc	Z	23:39:05.4							
WERN	e PKPab	Z	23:39:15.1	153.5	18.8					
MANZ	e PKPbc	Z	23:39:02.9	153.8	18.4					
	e PKPab	Z	23:39:16.1							
TNS	e PKPbc	Z	23:39:04.4	154.2	10.8					
	e PKPab	Z	23:39:17.7							
GRA1	e PKPab	Z	23:39:18.5	154.3	16.8					
WET	e PKPab	Z	23:39:19.3	154.4	20.6					
WLF	e PKPbc	Z	23:39:05.7	155.0	6.2					
	e PKPab	Z	23:39:21.6							
FUR	e PKPab	Z	23:39:24.6	155.7	17.9					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/26	23:31: 9.7	39.966N	142.818E	21.1	5.0	4.6		SZGRF

Near east coast of eastern Honshu, Japan

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e P	Z	23:43:04.3	77.6	37.6	1.1	32	5.4		
	e pP	Z	23:43:10.4							
BSEG	e P	Z	23:43:04.9	77.6	35.3	1.0	27	5.3		
	e pP	Z	23:43:11.0							
BRG	e P	Z	23:43:10.6	78.8	37.5	1.0	15	5.0		
	e pP	Z	23:43:16.9							
CLL	e P	Z	23:43:10.5	78.8	36.9	0.9	24	5.2		
	e pP	Z	23:43:16.8							

FBE	e P	Z	23:43:11.9	79.0	37.1	0.9	21	5.1
	e pP	Z	23:43:18.1					
CLZ	e P	Z	23:43:14.1	79.3	35.1	1.1	30	5.1
	e pP	Z	23:43:20.1					
NEUB	e P	Z	23:43:13.6	79.3	36.0	1.0	32	5.2
	e pP	Z	23:43:19.8					
TANN	e P	Z	23:43:15.8	79.7	36.4	1.0	6	4.5
	e pP	Z	23:43:22.0					
WERD	e P	Z	23:43:16.0	79.7	36.3	1.1	10	4.7
	e pP	Z	23:43:22.1					
PLN	e P	Z	23:43:16.2	79.8	36.2	1.2	12	4.7
	e pP	Z	23:43:22.2					
GUNZ	e P	Z	23:43:16.5	79.8	36.3	1.0	14	4.8
	e pP	Z	23:43:22.5					
IBBN	e P	Z	23:43:16.6	79.8	33.4	0.9	23	5.1
	e pP	Z	23:43:22.8					
MOX	e P	Z	23:43:16.5	79.8	35.9	1.1	13	4.8
	e pP	Z	23:43:22.7					
WERN	e P	Z	23:43:16.7	79.8	36.3	1.0	18	4.9
	e pP	Z	23:43:22.8					
MANZ	e P	Z	23:43:18.4	80.2	36.1	1.0	12	4.8
	e pP	Z	23:43:24.6					
UBBA	e P	Z	23:43:18.7	80.3	34.8	1.7	17	4.8
	e pP	Z	23:43:24.7					
ROTZ	e P	Z	23:43:19.6	80.3	36.2	1.3	22	5.0
	e pP	Z	23:43:25.7					
GEC2	e P	Z	23:43:19.8	80.5	37.1	1.0	8	4.7
	e pP	Z	23:43:25.8					
WET	e P	Z	23:43:20.8	80.6	36.6	1.2	16	4.9
	e pP	Z	23:43:26.7					
BUG	e P	Z	23:43:21.1	80.7	32.9	0.9	13	5.0
	e pP	Z	23:43:27.0					
GRA1	e P	Z	23:43:21.9	80.8	35.5	1.0	34	5.3
	e pP	Z	23:43:28.1					
TNS	e P	Z	23:43:24.6	81.3	33.7	1.2	17	5.0
	e pP	Z	23:43:30.5					
FUR	e P	Z	23:43:28.0	82.0	35.4	0.9	26	5.4
	e pP	Z	23:43:34.3					
STU	e P	Z	23:43:29.3	82.3	34.0	1.2	22	5.3
	e pP	Z	23:43:35.6					
BFO	e P	Z	23:43:32.9	82.9	33.4	1.2	27	5.3
	e pP	Z	23:43:38.8					
MOX	e L	Z	00:18:42.9	79.8	35.9	19.2	195	4.5
GRA1	e L	Z	00:22:41.7	80.8	35.5	19.0	354	4.7

Xizang

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z	10:24:38.5	61.6	76.4	1.6	12	4.9		
FBE	e P	Z	10:24:41.1	61.9	76.0	1.3	12	4.9		
CLL	e P	Z	10:24:41.3	62.0	75.9	1.8	19	5.0		
GEC2	e P	Z	10:24:43.3	62.2	75.1	1.5	19	5.1		
TANN	e P	Z	10:24:45.5	62.6	75.1	1.6	13	4.8		
WET	e P	Z	10:24:46.2	62.6	74.7	1.4	12	4.8		
WERN	e P	Z	10:24:46.1	62.7	75.0	1.3	11	4.8		
WERD	e P	Z	10:24:46.1	62.7	75.0	1.3	7	4.7		
PLN	e P	Z	10:24:46.7	62.7	74.9	1.6	13	4.8		
ROTZ	e P	Z	10:24:48.2	62.9	74.6	1.2	18	5.1		
BSEG	e P	Z	10:24:48.2	62.9	75.3	1.3	25	5.2		
RJOB	e P	Z	10:24:49.0	63.1	74.0	1.4	10	4.8		
CLZ	e P	Z	10:24:51.5	63.5	74.3	1.5	26	5.2		
GRA1	e P	Z	10:24:52.5	63.5	73.9	1.1	17	5.2		
BFO	e P	Z	10:25:06.0	65.8	71.4	1.5	13	4.9		
WLF	e P	Z	10:25:12.9	66.7	70.5	1.4	40	5.5		

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/07/28 11:31:56.2 53.770N 169.460W 33.0G 4.9 4.9
 Fox Islands, Aleutian Islands, United States

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z	11:43:21.3	72.3	359.9	1.3	18	5.0		
IBBN	e P	Z	11:43:30.5	73.9	358.3	1.2	32	5.2		
CLZ	e P	Z	11:43:33.6	74.4	359.9	1.3	19	5.0		
FBE	e P	Z	11:43:38.5	75.3	1.7	1.3	20	5.1		
BRG	e P	Z	11:43:38.3	75.3	2.1	1.7	21	5.0		
MOX	e P	Z	11:43:40.2	75.6	0.7	1.4	15	4.9		
	e L	Z	12:21:06.8			21.3	600		4.9	
WERD	e P	Z	11:43:42.0	75.8	1.1	1.1	6	4.6		
WERN	e P	Z	11:43:42.4	75.9	1.1	1.3	11	4.8		
TNS	e P	Z	11:43:42.4	76.0	358.7	1.4	14	4.9		
ROTZ	e P	Z	11:43:45.5	76.5	1.0	1.4	11	4.8		
WLF	e P	Z	11:43:45.5	76.5	357.3	1.2	15	5.0		
GRA1	e P	Z	11:43:46.0	76.5	0.4	1.5	45	5.4		
	e L	Z	12:25:05.4			20.0	566		4.9	
WET	e P	Z	11:43:48.8	77.1	1.4	1.7	19	5.0		
GEC2	e P	Z	11:43:50.0	77.4	1.9	1.4	12	4.8		
BFO	e P	Z	11:43:52.9	77.9	358.7	1.3	12	4.8		
RJOB	e P	Z	11:43:56.3	78.5	1.4	1.1	6	4.6		

Date Origin Time Lat Long Depth mb Ms ML Source

2010/07/28 16:12: 6.3 43.770N 125.800W 10.0 4.7 4.6 NEIC
 Off coast of Oregon, United States

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z 16:23:52.3	75.4	328.8	2.1	40	5.2		
	e sP	Z 16:23:58.5							
CLZ	e P	Z 16:24:02.9	77.2	329.1	1.2	9	4.8		
	e sP	Z 16:24:09.3							
WLF	e P	Z 16:24:05.4	77.6	326.6	2.1	34	5.1		
	e sP	Z 16:24:11.6							
TNS	e P	Z 16:24:06.8	77.9	328.1	2.4	27	4.9		
	e sP	Z 16:24:13.1							
UBBA	e P	Z 16:24:06.5	77.9	329.0	1.1	3	4.3		
	e sP	Z 16:24:12.9							
CLL	e P	Z 16:24:09.2	78.4	331.0	1.6	12	4.7		
	e sP	Z 16:24:15.6							
MOX	e P	Z 16:24:10.1	78.6	330.1	2.1	18	4.7		
	e sP	Z 16:24:16.7							
FBE	e L	Z 16:56:50.1	78.9	331.2	21.3	205	5.0	4.4	
	e P	Z 16:24:12.1							
PLN	e sP	Z 16:24:18.4	78.9	330.5	1.6	7	4.4		
	e P	Z 16:24:12.0							
TANN	e sP	Z 16:24:18.2	79.1	330.7	2.9	48	5.0		
	e P	Z 16:24:12.7							
BRG	e sP	Z 16:24:19.1	79.1	331.6	0.9	6	4.6		
	e P	Z 16:24:13.1							
WERN	e sP	Z 16:24:19.5	79.1	330.6	1.3	8	4.6		
	e P	Z 16:24:13.2							
GRA1	e sP	Z 16:24:19.6	79.3	329.9	1.5	11	4.6		
	e P	Z 16:24:14.5							
MANZ	e L	Z 17:01:09.8	79.3	330.5	18.1	339	4.8	4.7	
	e P	Z 16:24:14.1							
BFO	e sP	Z 16:24:20.4	79.3	330.5	3.1	42	4.8		
	e P	Z 16:24:15.3							
ROTZ	e sP	Z 16:24:21.5	79.5	328.2	1.4	7	4.4		
	e P	Z 16:24:15.6							
WET	e sP	Z 16:24:22.0	79.5	330.6	1.7	7	4.3		
	e P	Z 16:24:15.6							
GEC2	e sP	Z 16:24:22.0	80.3	331.1	1.4	4	4.3		
	e P	Z 16:24:19.7							
	e sP	Z 16:24:26.0	80.8	331.6	1.7	7	4.4		
	e P	Z 16:24:22.2							
	e sP	Z 16:24:28.6							

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/07/28 18:21:15.6 12.250S 165.450E 78.2 NEIC
 Santa Cruz Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPdf	Z	18:40:24.3	133.9	34.8					
BRG	e PKPdf	Z	18:40:26.5	135.0	41.2					
CLL	e PKPdf	Z	18:40:26.4	135.0	39.7					
FBE	e PKPdf	Z	18:40:27.2	135.2	40.4					
CLZ	e PKPdf	Z	18:40:27.8	135.6	36.0					
TANN	e PKPdf	Z	18:40:28.5	135.9	39.6					
WERD	e PKPdf	Z	18:40:29.6	136.0	39.4					
PLN	e PKPdf	Z	18:40:28.5	136.0	39.2					
WERN	e PKPdf	Z	18:40:28.9	136.0	39.6					
MOX	e PKPdf	Z	18:40:28.6	136.1	38.4					
IBBN	e PKPdf	Z	18:40:28.8	136.1	32.4					
MANZ	e PKPdf	Z	18:40:29.3	136.4	39.5					
ROTZ	e PKPdf	Z	18:40:29.7	136.5	39.7					
UBBA	e PKPdf	Z	18:40:29.6	136.6	36.2					
GEC2	e PKPdf	Z	18:40:29.5	136.6	42.3					
WET	e PKPdf	Z	18:40:29.9	136.7	41.0					
GRA1	e PKPdf	Z	18:40:30.4	137.0	38.5					
BUG	e PKPdf	Z	18:40:30.3	137.0	32.2					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/29	02:55:30.3	3.555S	37.637E	33.0N	4.5			SZGRF

Tanzania

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RJOB	e P	Z	03:05:04.5	55.7	149.5	1.1	5	4.4		
GEC2	e P	Z	03:05:09.4	56.4	150.9	1.1	9	4.7		
WET	e P	Z	03:05:12.4	56.9	150.1	1.2	4	4.3		
BFO	e P	Z	03:05:19.8	57.8	144.8	1.9	10	4.5		
MANZ	e P	Z	03:05:19.5	57.9	149.5	1.3	6	4.4		
GRA1	e P	Z	03:05:19.6	57.9	148.4	1.2	8	4.6		
BRG	e P	Z	03:05:21.1	58.1	151.8	1.0	3	4.2		
TANN	e P	Z	03:05:21.8	58.1	150.0	1.2	5	4.4		
MOX	e P	Z	03:05:24.7	58.6	149.1	1.6	8	4.5		
CLL	e P	Z	03:05:25.5	58.8	150.9	1.1	4	4.4		
NEUB	e P	Z	03:05:28.7	59.0	149.5	0.7	8	4.8		
TNS	e P	Z	03:05:29.7	59.3	145.5	0.8	5	4.6		
WLF	e P	Z	03:05:32.5	59.8	142.9	1.4	12	4.7		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/29	07:31:56.8	6.470N	123.370E	618.8				NEIC

Mindanao, Philippine Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RGN	e Pdiff	Z	07:44:19.8	96.1	69.8					

	e PP	Z	07:48:24.3		
	e pPP	Z	07:50:14.2		
RUE	e Pdiff	Z	07:44:22.1	96.5	70.4
	e PP	Z	07:48:27.4		
	e pPP	Z	07:50:17.9		
BRG	e Pdiff	Z	07:44:23.8	97.0	70.7
	e PP	Z	07:48:31.2		
	e pPP	Z	07:50:22.5		
FBE	e Pdiff	Z	07:44:25.6	97.3	70.3
CLL	e Pdiff	Z	07:44:25.3	97.4	69.9
	e PP	Z	07:48:33.8		
	e pPP	Z	07:50:24.9		
GEC2	e Pdiff	Z	07:44:27.5	97.8	70.8
	e PP	Z	07:48:37.5		
	e pPP	Z	07:50:29.8		
	e SKSac	Z	07:54:03.8		
BSEG	e Pdiff	Z	07:44:28.3	97.9	67.4
	e PP	Z	07:48:38.4		
	e pPP	Z	07:50:29.8		
	e SKSac	Z	07:54:03.3		
TANN	e Pdiff	Z	07:44:28.5	98.0	69.6
	e PP	Z	07:48:39.1		
	e pPP	Z	07:50:30.8		
	e SKSac	Z	07:54:04.2		
WERN	e Pdiff	Z	07:44:29.1	98.1	69.6
NEUB	e Pdiff	Z	07:44:29.1	98.1	68.9
	e PP	Z	07:48:39.4		
	e pPP	Z	07:50:30.8		
	e SKSac	Z	07:54:04.0		
PLN	e Pdiff	Z	07:44:29.3	98.2	69.4
WET	e Pdiff	Z	07:44:29.5	98.2	70.1
	e PP	Z	07:48:40.7		
	e pPP	Z	07:50:32.9		
	e SKSac	Z	07:54:04.6		
MANZ	e Pdiff	Z	07:44:30.4	98.4	69.4
	e PP	Z	07:48:42.1		
	e pPP	Z	07:50:34.1		
	e SKSac	Z	07:54:06.9		
ROTZ	e Pdiff	Z	07:44:30.7	98.4	69.5
	e PP	Z	07:48:42.6		
	e pPP	Z	07:50:34.3		
	e SKSac	Z	07:54:08.5		
MOX	e Pdiff	Z	07:44:30.4	98.4	68.9
	e PP	Z	07:48:42.1		
	e pPP	Z	07:50:33.9		
	e SKSac	Z	07:54:06.3		
CLZ	e Pdiff	Z	07:44:32.2	98.7	67.7
	e PP	Z	07:48:43.8		
	e pPP	Z	07:50:35.8		

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
ASSE	e Pdiff	Z 08:26:31.2							
BRG	e Pdiff	Z 08:26:24.6							
BUG	e Pdiff	Z 08:26:41.0							
CLL	e Pdiff	Z 08:26:26.0							
CLZ	e Pdiff	Z 08:26:32.8							
FBE	e Pdiff	Z 08:26:26.3							
FLT1	e Pdiff	Z 08:26:28.9							
GEC2	e Pdiff	Z 08:26:28.4							
GTTG	e Pdiff	Z 08:26:34.1							
MANZ	e Pdiff	Z 08:26:31.1							
MOX	e Pdiff	Z 08:26:31.1							
PLN	e Pdiff	Z 08:26:30.0							
ROTZ	e Pdiff	Z 08:26:31.4							
RUE	e Pdiff	Z 08:26:22.8							
TANN	e Pdiff	Z 08:26:29.2							
TNS	e Pdiff	Z 08:26:40.5							
WERN	e Pdiff	Z 08:26:29.8							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/29	19:34:48.5	4.000N	75.040W	63.3	5.2			NEIC
Colombia								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z 19:46:58.9	81.3	265.9	0.7	30	5.4		
BUG	e P	Z 19:47:03.2	82.1	266.5	1.6	39	5.3		
IBBN	e P	Z 19:47:05.1	82.4	266.7	1.3	26	5.2		
BFO	e P	Z 19:47:05.3	82.6	267.7	1.5	13	5.0		
TNS	e P	Z 19:47:06.9	82.8	267.6	1.2	24	5.3		
STU	e P	Z 19:47:08.6	83.2	268.3	1.3	22	5.2		
UBBA	e P	Z 19:47:12.1	83.8	268.7	1.8	13	4.8		
CLZ	e P	Z 19:47:13.7	84.0	268.9	1.6	38	5.4		
BSEG	e P	Z 19:47:13.5	84.0	268.6	1.4	22	5.2		
GRA1	e P	Z 19:47:16.0	84.5	269.7	1.9	36	5.3		
FUR	e P	Z 19:47:16.3	84.6	269.9	2.2	107	5.7		
NEUB	e P	Z 19:47:18.0	84.9	270.0	0.9	14	5.2		
MANZ	e P	Z 19:47:19.2	85.1	270.4	1.1	9	4.9		
PLN	e P	Z 19:47:19.2	85.1	270.4	1.4	18	5.1		
ROTZ	e P	Z 19:47:19.8	85.2	270.5	1.7	19	5.1		
WERN	e P	Z 19:47:20.1	85.3	270.6	1.5	23	5.2		
TANN	e P	Z 19:47:20.3	85.3	270.6	1.4	22	5.2		
RJOB	e P	Z 19:47:21.2	85.6	271.1	1.1	16	5.0		
WET	e P	Z 19:47:21.8	85.6	271.0	1.4	32	5.3		
CLL	e P	Z 19:47:21.8	85.7	271.0	1.1	12	4.9		
FBE	e P	Z 19:47:23.2	85.9	271.3	0.9	11	5.0		
BRG	e P	Z 19:47:24.9	86.3	271.7	1.2	16	5.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/30	03:56:10.7	52.400N	160.380E	33.0G	6.6	6.5		SZGRF

Off east coast of Kamchatka Peninsula, Russia

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RGN	e P	Z	04:07:23.2	69.6	20.7	1.1	992	6.9		
BSEG	e P	Z	04:07:30.4	70.8	18.8	1.3	470	6.5		
RUE	e P	Z	04:07:34.2	71.5	20.7	1.1	641	6.6		
CLL	e P	Z	04:07:41.1	72.7	20.2	1.2	444	6.5		
CLZ	e P	Z	04:07:42.3	72.8	18.6	1.2	565	6.6		
IBBN	e P	Z	04:07:42.4	72.8	17.1	1.1	450	6.5		
BRG	e P	Z	04:07:42.4	72.9	20.7	1.9	458	6.3		
FBE	e P	Z	04:07:43.2	73.0	20.3	1.4	563	6.5		
BUG	e P	Z	04:07:47.5	73.7	16.7	1.2	338	6.3		
UBBA	e P	Z	04:07:47.8	73.8	18.3	2.4	1366	6.5		
WERN	e P	Z	04:07:48.3	73.8	19.7	1.1	294	6.2		
GRA1	e P	Z	04:07:53.2	74.6	18.9	1.4	635	6.5		
	e L	N	04:46:32.2			18.3	24335		6.5	
TNS	e P	Z	04:07:53.2	74.7	17.3	1.5	370	6.2		
WET	e P	Z	04:07:54.0	74.8	19.9	2.0	746	6.4		
WLF	e P	Z	04:07:59.0	75.6	15.9	1.8	784	6.5		
STU	e P	Z	04:08:00.2	75.9	17.6	1.1	280	6.3		
FUR	e P	Z	04:08:01.1	76.1	18.8	2.1	812	6.5		
RJOB	e P	Z	04:08:01.7	76.1	19.7	2.2	693	6.4		
BFO	e P	Z	04:08:03.4	76.5	17.1	2.2	613	6.3		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/07/30	04:28:1.4	52.520N	160.570E	33.0G	5.8			SZGRF

Off east coast of Kamchatka Peninsula, Russia

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z	04:39:20.2	70.7	18.7	1.8	224	6.0		
RUE	e P	Z	04:39:24.1	71.4	20.6	1.0	159	6.1		
CLL	e P	Z	04:39:31.0	72.6	20.0	1.7	217	6.0		
CLZ	e P	Z	04:39:32.0	72.7	18.5	1.1	126	5.9		
IBBN	e P	Z	04:39:32.1	72.7	16.9	0.8	89	5.9		
BRG	e P	Z	04:39:32.0	72.8	20.5	1.4	68	5.6		
FBE	e P	Z	04:39:33.1	72.9	20.2	1.5	160	5.9		
NEUB	e P	Z	04:39:33.3	73.0	19.2	1.4	122	5.8		
MOX	e P	Z	04:39:36.8	73.6	19.1	1.7	122	5.7		
PLN	e P	Z	04:39:37.0	73.6	19.4	1.6	127	5.7		
TANN	e P	Z	04:39:36.9	73.6	19.6	1.9	139	5.7		
WERD	e P	Z	04:39:39.2	73.6	19.5					
BUG	e P	Z	04:39:37.2	73.6	16.6	1.1	103	5.8		
UBBA	e P	Z	04:39:37.6	73.7	18.1	2.0	239	5.9		

WERN	e P	Z	04:39:38.1	73.7	19.5	1.4	88	5.6
MANZ	e P	Z	04:39:39.7	74.1	19.3	1.9	109	5.6
ROTZ	e P	Z	04:39:41.2	74.3	19.4	1.7	130	5.7
GRA1	e P	Z	04:39:42.7	74.5	18.8	2.1	411	6.1
TNS	e P	Z	04:39:43.0	74.6	17.2	1.2	76	5.6
WET	e P	Z	04:39:43.9	74.7	19.7	2.1	249	5.9
GEC2	e P	Z	04:39:43.9	74.8	20.2	1.6	70	5.4
WLF	e P	Z	04:39:48.7	75.5	15.7	2.4	306	6.0
FUR	e P	Z	04:39:50.9	76.0	18.7	1.1	79	5.8
RJOB	e P	Z	04:39:51.4	76.0	19.5	1.0	38	5.5
BFO	e P	Z	04:39:53.0	76.4	17.0	1.9	118	5.7

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/07/30 13:50:20.4 35.220N 58.670E 10.0G 5.2 4.4
 Northern and central Iran SZGRF

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e P	Z	13:57:18.0	35.5	95.5	1.4	86	5.4		
BRG	e P	Z	13:57:19.4	35.5	98.5	1.5	102	5.4		
RUE	e P	Z	13:57:21.7	35.9	100.6					
FBE	e P	Z	13:57:22.9	35.9	98.1	1.4	107	5.5		
RJOB	e P	Z	13:57:22.6	36.0	93.2	1.1	60	5.4		
WET	e P	Z	13:57:22.5	36.0	95.2	1.0	12	4.7		
CLL	e P	Z	13:57:24.3	36.2	98.3	1.0	24	5.0		
TANN	e P	Z	13:57:26.5	36.4	96.6	1.4	28	4.8		
ROTZ	e P	Z	13:57:27.1	36.5	95.5	1.3	35	4.9		
MANZ	e P	Z	13:57:28.0	36.6	95.7	2.0	59	5.0		
MOX	e P	Z	13:57:31.5	37.0	96.2	1.5	95	5.3		
FUR	e P	Z	13:57:31.2	37.0	92.6	1.4	86	5.3		
GRA1	e P	Z	13:57:33.0	37.1	94.6	1.3	76	5.3		
	e L	Z	14:17:44.9			21.2	721		4.4	
CLZ	e P	Z	13:57:39.0	37.9	96.6	1.1	47	5.1		
UBBA	e P	Z	13:57:40.1	38.0	95.0	1.6	117	5.4		
BSEG	e P	Z	13:57:41.5	38.2	99.2	1.3	93	5.3		
STU	e P	Z	13:57:43.1	38.4	91.8	1.5	179	5.5		
BFO	e P	Z	13:57:47.2	39.0	90.6	1.3	42	4.9		
IBBN	e P	Z	13:57:52.5	39.5	95.0	1.4	60	5.0		
BUG	e P	Z	13:57:54.7	39.8	93.5	1.3	64	5.1		
WLF	e P	Z	13:58:00.7	40.4	90.5	2.0	300	5.7		

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/07/31 03:52:24.5 31.111N 140.577E 33.0G 5.0
 Southeast of Honshu, Japan SZGRF

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
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RUE	e P	Z	04:04:54.4	84.4	43.5	0.9	32	5.5
BSEG	e P	Z	04:04:56.0	84.7	41.0	0.8	25	5.5
BRG	e P	Z	04:04:59.7	85.5	43.6	0.8	12	5.1
CLL	e P	Z	04:04:59.9	85.6	42.9	0.9	26	5.3
FBE	e P	Z	04:05:01.1	85.7	43.1	0.8	20	5.3
CLZ	e P	Z	04:05:03.8	86.3	40.9	1.1	22	5.2
TANN	e P	Z	04:05:04.4	86.5	42.4	0.8	3	4.5
PLN	e P	Z	04:05:04.8	86.6	42.2	0.9	4	4.5
MOX	e P	Z	04:05:05.2	86.7	41.8	0.8	3	4.5
MANZ	e P	Z	04:05:06.8	86.9	42.2	0.8	4	4.7
IBBN	e P	Z	04:05:06.6	87.0	39.0	0.8	22	5.4
ROTZ	e P	Z	04:05:07.6	87.1	42.2	0.9	5	4.6
GEC2	e P	Z	04:05:07.1	87.1	43.3	0.8	6	4.7
WET	e P	Z	04:05:07.5	87.2	42.7	0.9	2	4.5
BUG	e P	Z	04:05:10.7	87.8	38.6	1.2	16	5.2
RJOB	e P	Z	04:05:12.9	88.3	42.6	0.9	7	4.9
FUR	e P	Z	04:05:14.9	88.7	41.5	0.6	12	5.3
BFO	e P	Z	04:05:20.2	89.8	39.3	0.9	5	4.8

Date 2010/07/31 Origin Time 06:53: 5.4 Lat 29.890N Long 55.260E Depth 10.0G mb 5.2 Ms ML Source SZGRF
Southern Iran

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e P	Z 07:00:13.0	36.7	105.6	1.4	101	5.4		
RJOB	e P	Z 07:00:15.7	37.0	103.3	0.9	56	5.3		
BRG	e P	Z 07:00:16.3	37.1	108.4	1.0	20	4.8		
WET	e P	Z 07:00:17.5	37.3	105.2	1.7	99	5.3		
FBE	e P	Z 07:00:19.6	37.5	107.9	1.0	18	4.8		
CLL	e P	Z 07:00:22.6	37.8	108.0	1.3	90	5.3		
ROTZ	e P	Z 07:00:23.1	37.8	105.3	1.7	82	5.2		
TANN	e P	Z 07:00:23.1	37.9	106.3	2.2	56	4.9		
MANZ	e P	Z 07:00:24.0	38.0	105.5	2.0	70	5.1		
FUR	e P	Z 07:00:24.3	38.1	102.4	1.6	104	5.3		
GRA1	e P	Z 07:00:28.0	38.4	104.2	1.8	254	5.6		
MOX	e P	Z 07:00:27.7	38.4	105.8	1.0	18	4.7		
UBBA	e P	Z 07:00:36.7	39.5	104.4	2.0	104	5.1		
CLZ	e P	Z 07:00:37.3	39.5	106.0	1.3	116	5.4		
BSEG	e P	Z 07:00:42.1	40.2	108.3	1.1	33	4.9		
TNS	e P	Z 07:00:43.8	40.3	102.2	1.5	148	5.4		
IBBN	e P	Z 07:00:50.9	41.2	103.9	1.3	78	5.3		
BUG	e P	Z 07:00:51.7	41.3	102.5	1.8	217	5.6		
WLF	e P	Z 07:00:54.0	41.6	99.5	1.5	56	5.1		

Date Origin Time Lat Long Depth mb Ms ML Source

2010/07/31 11:36:57.4
North of Ascension Island

1.460S

15.010W

33.0G

5.5

SZGRF

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BFO	e P	Z	11:46:15.6	53.8	209.4	1.4	87	5.6		
STU	e P	Z	11:46:20.2	54.4	210.3	1.2	51	5.4		
FUR	e P	Z	11:46:22.2	54.6	212.9	1.5	154	5.8		
RJOB	e P	Z	11:46:23.4	54.8	214.8	2.0	95	5.5		
TNS	e P	Z	11:46:28.1	55.4	208.9	1.5	94	5.6		
GRA1	e P	Z	11:46:31.1	55.9	212.3	1.4	79	5.6		
WET	e P	Z	11:46:32.5	56.0	214.3	1.4	92	5.6		
GEC2	e P	Z	11:46:33.1	56.1	215.4	1.6	107	5.6		
BUG	e P	Z	11:46:33.2	56.2	207.1	1.6	102	5.6		
ROTZ	e P	Z	11:46:34.3	56.3	213.3	1.7	75	5.4		
UBBA	e P	Z	11:46:35.4	56.5	210.5	1.5	77	5.5		
MANZ	e P	Z	11:46:35.2	56.5	213.1	1.6	96	5.6		
MOX	e P	Z	11:46:38.0	56.8	212.4	1.5	71	5.5		
PLN	e P	Z	11:46:38.3	56.9	213.0	1.5	61	5.4		
TANN	e P	Z	11:46:38.8	56.9	213.4	1.4	76	5.5		
IBBN	e P	Z	11:46:39.6	57.1	207.4	1.4	67	5.5		
CLZ	e P	Z	11:46:42.4	57.5	210.6	1.5	38	5.2		
FBE	e P	Z	11:46:44.1	57.7	214.2	1.7	76	5.4		
BRG	e P	Z	11:46:45.1	57.8	214.9	1.4	43	5.3		
CLL	e P	Z	11:46:45.3	57.9	213.7	1.5	47	5.3		
RUE	e P	Z	11:46:54.2	59.1	214.1	1.4	104	5.7		
BSEG	e P	Z	11:46:54.6	59.2	209.8	1.6	108	5.6		

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