

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

(produced by SZGRF/BGR - HANNOVER)

January 2010 UPDATED 17.SEPTEMBER.2010

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

(Format description at the end of the bulletin)

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source	
2010/01/01	02:35:14.5	41.157N	49.097E	33.0G	4.5	4.4		SZGRF	
Caspian Sea									
Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e P	Z 02:40:43.9	25.9	93.8	0.6	4	4.2		
BRG	e P	Z 02:40:44.5	26.0	98.2	0.7	8	4.4		
RUE	e P	Z 02:40:46.5	26.3	101.2	0.8	8	4.4		
RJOB	e P	Z 02:40:49.1	26.5	90.8	0.8	11	4.6		
WET	e P	Z 02:40:49.4	26.5	93.7	0.6	1	3.8		
CLL	e P	Z 02:40:49.7	26.6	98.1	0.7	4	4.3		
TANN	e P	Z 02:40:52.3	26.8	95.9	0.7	5	4.4		
ROTZ	e P	Z 02:40:53.0	27.0	94.4	0.7	2	4.0		
MANZ	e P	Z 02:40:55.2	27.0	94.7	0.7	2	4.0		
NEUB	e P	Z 02:40:56.8	27.4	96.8	0.9	15	4.7		
FUR	e P	Z 02:40:58.0	27.5	90.5	0.6	11	4.9		
GRA1	e P	Z 02:40:59.0	27.6	93.4	0.7	6	4.5		
	e L	Z 02:59:03.4			18.7	870		4.4	
CLZ	e P	Z 02:41:05.0	28.3	96.7	0.7	7	4.6		
UBBA	e P	Z 02:41:06.5	28.4	94.5	0.6	6	4.6		
NRDL	e P	Z 02:41:06.7	28.6	97.6	0.7	2	4.0		
BSEG	e P	Z 02:41:07.4	28.7	100.5	0.7	11	4.8		
STU	e P	Z 02:41:10.4	28.9	90.1	0.8	24	5.1		
TNS	e P	Z 02:41:15.4	29.4	92.1	0.7	6	4.5		
BFO	e P	Z 02:41:16.2	29.5	88.6	0.8	3	4.2		
IBBN	e P	Z 02:41:19.5	30.0	95.2	0.7	14	4.9		
BUG	e P	Z 02:41:21.8	30.2	93.2	0.8	8	4.6		
WLF	e P	Z 02:41:28.7	30.9	89.3	0.9	14	4.9		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/01	05:37:30.5	34.400N	25.500E	20.0G	3.8			EMSC

Eastern Mediterranean Sea

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RJOB	e P	Z	05:41:19.9	16.4	139.9	0.8	2	3.3		
GEC2	e P	Z	05:41:24.2	16.9	144.5	0.7	3	3.5		
FUR	e P	Z	05:41:29.5	17.4	137.2	1.2	18	4.1		
WET	e P	Z	05:41:31.7	17.4	143.0	0.9	4	3.5		
ROTZ	e P	Z	05:41:39.6	18.2	142.6	0.8	1	3.2		
MANZ	e P	Z	05:41:41.6	18.4	142.8	0.8	2	3.4		
BRG	e P	Z	05:41:41.6	18.5	148.6	0.7	1	3.1		
GRA1	e P	Z	05:41:43.6	18.5	140.2	0.8	4	3.8		
TANN	e P	Z	05:41:44.7	18.6	144.3	0.8	5	3.8		
STU	e P	Z	05:41:45.9	18.8	133.9	0.7	5	3.9		
BFO	e P	Z	05:41:46.9	18.9	131.2	0.6	2	3.5		
CLL	e P	Z	05:41:48.8	19.2	147.1	0.6	3	3.6		
NEUB	e P	Z	05:41:53.8	19.5	144.1	0.9	7	3.9		
UBBA	e P	Z	05:41:57.2	19.9	139.6	0.8	1	3.3		
TNS	e P	Z	05:42:00.8	20.1	135.3	0.8	3	3.6		
CLZ	e P	Z	05:42:03.5	20.6	142.2	0.9	4	3.7		
NRDL	e P	Z	05:42:10.6	21.2	142.7	0.7	2	3.6		
BUG	e P	Z	05:42:15.2	21.5	135.3	0.8	8	4.2		
IBBN	e P	Z	05:42:18.2	21.9	137.7	0.8	7	4.1		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/01	09:37:10.9	41.352N	30.481W	33.0N	4.3	3.6		SZGRF

Azores Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z	09:42:47.4	26.7	266.0	0.9	11	4.6		
BFO	e P	Z	09:42:59.4	28.1	270.3	1.1	6	4.3		
STU	e P	Z	09:43:04.6	28.6	270.1	0.6	6	4.6		
NRDL	e P	Z	09:43:10.9	29.4	264.2	0.9	6	4.4		
CLZ	e P	Z	09:43:11.9	29.5	265.5	1.1	3	4.1		
BSEG	e P	Z	09:43:13.1	29.7	261.8	1.0	14	4.8		
GRA1	e P	Z	09:43:16.6	30.0	270.0	0.9	4	4.2		
	e L	Z	09:52:24.4			20.0	137		3.6	
FUR	e P	Z	09:43:17.7	30.0	272.7	0.9	8	4.5		
NEUB	e P	Z	09:43:19.6	30.3	267.8	0.7	3	4.2		
MANZ	e P	Z	09:43:21.5	30.5	270.2	1.1	4	4.2		
ROTZ	e P	Z	09:43:21.9	30.6	270.6	0.8	2	4.0		
TANN	e P	Z	09:43:23.2	30.8	269.7	0.8	2	4.1		
WET	e P	Z	09:43:27.3	31.0	272.2	0.8	4	4.4		
RJOB	e P	Z	09:43:26.7	31.1	274.4	0.9	3	4.3		
CLL	e P	Z	09:43:26.1	31.1	268.7	1.0	3	4.2		
GEC2	e P	Z	09:43:31.0	31.6	273.2	0.7	3	4.3		

BRG e P Z 09:43:31.4 31.7 270.1 1.0 2 4.1

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/01/01 15:43: 7.1 24.300S 179.800W 462.0
 South of Fiji Islands NEIC

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z 16:02:03.3	149.4	18.3					
	e PKPab	Z 16:02:10.3							
RUE	e PKPbc	Z 16:02:04.8	150.0	25.3					
NRDL	e PKPbc	Z 16:02:06.5	150.8	18.8					
	e PKPab	Z 16:02:16.6							
CLL	e PKPbc	Z 16:02:07.6	151.3	24.8					
CLZ	e PKPbc	Z 16:02:08.1	151.4	19.6					
BRG	e PKPbc	Z 16:02:08.0	151.4	26.9					
IBBN	e PKPbc	Z 16:02:08.7	151.4	14.5					
	e PKPab	Z 16:02:18.6							
NEUB	e PKPbc	Z 16:02:08.5	151.7	22.7					
TANN	e PKPbc	Z 16:02:09.7	152.2	24.5					
	e PKPab	Z 16:02:22.7							
UBBA	e PKPbc	Z 16:02:10.4	152.4	19.6					
	e PKPab	Z 16:02:23.0							
MANZ	e PKPbc	Z 16:02:10.9	152.7	24.2					
	e PKPab	Z 16:02:23.4							
ROTZ	e PKPbc	Z 16:02:11.1	152.9	24.6					
GRA1	e PKPab	Z 16:02:27.6	153.2	22.7					
WET	e PKPab	Z 16:02:28.2	153.2	26.4					
TNS	e PKPbc	Z 16:02:12.2	153.3	16.9					
	e PKPab	Z 16:02:26.7							
RJOB	e PKPab	Z 16:02:32.8	154.5	27.5					
STU	e PKPab	Z 16:02:32.2	154.5	19.3					
FUR	e PKPab	Z 16:02:32.6	154.6	24.1					
BFO	e PKPbc	Z 16:02:20.7	155.1	17.8					
	e PKPab	Z 16:02:34.2							

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/01/02 00:10: 7.9 20.660S 174.700W 133.3
 Tonga Islands SZGRF

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z 00:29:32.6	146.5	8.5					
	e pPKPbc	Z 00:30:07.8							
RUE	e PKPbc	Z 00:29:35.5	147.5	14.9					
NRDL	e PKPbc	Z 00:29:36.7	147.9	8.5					
IBBN	e PKPbc	Z 00:29:37.9	148.3	4.4					

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CLZ	e	PKPbc	Z	00:29:38.7	148.6	9.1
	e	pPKPbc	Z	00:30:14.1		
CLL	e	PKPbc	Z	00:29:39.1	148.8	14.0
	e	pPKPbc	Z	00:30:14.4		
BRG	e	PKPbc	Z	00:29:39.9	149.0	15.9
	e	pPKPbc	Z	00:30:15.4		
NEUB	e	PKPbc	Z	00:29:39.6	149.0	11.8
	e	pPKPbc	Z	00:30:15.2		
FBE	e	PKPbc	Z	00:29:40.3	149.1	14.8
BUG	e	PKPbc	Z	00:29:40.1	149.2	3.6
	e	pPKPbc	Z	00:30:15.6		
UBBA	e	PKPbc	Z	00:29:40.9	149.6	8.7
WERD	e	PKPbc	Z	00:29:41.6	149.7	13.1
TANN	e	PKPbc	Z	00:29:41.7	149.7	13.4
	e	pPKPbc	Z	00:30:17.0		
GUNZ	e	PKPbc	Z	00:29:42.0	149.8	13.2
WERN	e	PKPbc	Z	00:29:42.3	149.8	13.3
MANZ	e	PKPbc	Z	00:29:43.0	150.2	12.9
TNS	e	PKPbc	Z	00:29:43.4	150.3	6.0
ROTZ	e	PKPbc	Z	00:29:43.7	150.4	13.2
WLF	e	PKPbc	Z	00:29:45.3	151.0	1.6
GEC2	e	PKPbc	Z	00:29:44.6	151.0	16.4
STU	e	PKPbc	Z	00:29:46.5	151.7	7.7
FUR	e	PKPbc	Z	00:29:47.1	152.1	12.0
BFO	e	PKPbc	Z	00:29:47.5	152.2	6.1
RJOB	e	PKPbc	Z	00:29:47.2	152.3	15.2

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/02	02:15:12.2	38.200N	71.500E	44.0	5.0	5.1		NEIC
Afghanistan-Tajikistan border region								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e P	Z	02:22:57.5	41.7	86.2	1.3	48	5.1		
BRG	e P	Z	02:22:58.0	41.8	84.6	0.9	50	5.2		
FBE	e P	Z	02:23:01.0	42.1	84.2	0.9	57	5.3		
GEC2	e P	Z	02:23:01.4	42.2	82.2	1.6	35	4.8		
CLL	e P	Z	02:23:01.4	42.3	84.4	0.8	27	5.0		
WET	e P	Z	02:23:05.9	42.7	81.9	0.9	14	4.7		
TANN	e P	Z	02:23:06.3	42.8	83.0	0.9	14	4.7		
WERN	e P	Z	02:23:07.5	42.8	82.8	1.0	13	4.6		
GUNZ	e P	Z	02:23:07.6	42.8	82.9	0.9	17	4.8		
WERD	e P	Z	02:23:07.1	42.9	83.0	0.9	20	4.8		
RJOB	e P	Z	02:23:08.6	42.9	80.4	0.9	11	4.6		
ROTZ	e P	Z	02:23:08.8	43.0	82.2	1.2	17	4.7		
MANZ	e P	Z	02:23:08.7	43.0	82.3	1.0	17	4.7		
NEUB	e P	Z	02:23:08.8	43.1	83.4	0.9	44	5.2		
GRA1	e P	Z	02:23:14.3	43.6	81.4	0.9	39	5.1		

	e L	Z	02:43:45.1				18.8	2064		5.1
BSEG	e P	Z	02:23:13.6	43.7	85.2	0.9		45	5.2	
FUR	e P	Z	02:23:14.4	43.9	79.9	1.1		70	5.3	
CLZ	e P	Z	02:23:15.4	43.9	83.1	0.8		20	4.9	
NRDL	e P	Z	02:23:16.2	44.0	83.5	1.0		38	5.1	
UBBA	e P	Z	02:23:19.6	44.3	81.8	0.6		9	4.7	
STU	e P	Z	02:23:25.6	45.1	79.2	0.9		23	5.1	
TNS	e P	Z	02:23:28.6	45.3	80.1	0.9		14	4.9	
IBBN	e P	Z	02:23:27.0	45.4	81.7	1.2		66	5.6	
BFO	e P	Z	02:23:31.5	45.8	78.2	1.1		23	5.1	
BUG	e P	Z	02:23:32.6	45.9	80.5	1.4		48	5.3	
WLF	e P	Z	02:23:39.5	46.9	78.1	1.4		35	5.3	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/02	08:45:33.5	12.500N	141.900E	10.0		6.2		NEIC

South of Mariana Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PP	Z 09:03:30.5	101.9	48.3					
BRG	e Pdiff	Z 08:59:30.7	102.2	52.0					
CLL	e Pdiff	Z 08:59:31.2	102.4	51.1					
	e PP	Z 09:03:35.4							
CLZ	e Pdiff	Z 08:59:34.1	103.3	48.7					
GEC2	e Pdiff	Z 08:59:36.4	103.6	52.1					
MANZ	e Pdiff	Z 08:59:37.1	103.6	50.5					
ROTZ	e Pdiff	Z 08:59:37.2	103.7	50.7					
	e PP	Z 09:03:51.2							
IBBN	e PP	Z 09:03:51.1	104.2	46.3					
GRA1	e L	Z 09:49:21.1	104.3	49.8	21.7	7669		6.2	
BUG	e PP	Z 09:03:58.6	105.0	46.0					
TNS	e PP	Z 09:04:05.9	105.3	47.3					
STU	e PP	Z 09:04:07.3	105.9	48.2					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/02	23:05:53.4	51.800N	30.800W	9.0	4.3	3.4		NEIC

Northern Mid-Atlantic Ridge

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z 23:11:01.3	23.2	289.5	1.2	20	4.5		
BUG	e P	Z 23:11:03.7	23.4	286.0	0.9	8	4.2		
IBBN	e P	Z 23:11:03.8	23.4	284.2	0.8	19	4.7		
TNS	e P	Z 23:11:13.6	24.4	289.0	0.7	4	4.2		
BSEG	e P	Z 23:11:14.0	24.6	281.9	0.8	8	4.5		
NRDL	e P	Z 23:11:16.1	24.8	284.9	0.9	11	4.6		
BFO	e P	Z 23:11:19.2	25.0	292.8	1.0	6	4.3		

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CLZ	e P	Z	23:11:19.4	25.1	286.4	0.9	6	4.3	
STU	e P	Z	23:11:21.9	25.4	292.1	0.8	6	4.3	
NEUB	e P	Z	23:11:28.5	26.1	288.2	0.8	10	4.5	
GRA1	e P	Z	23:11:30.2	26.3	290.9	0.9	5	4.1	
	e L	Z	23:19:54.0			21.1	122		3.4
MANZ	e P	Z	23:11:33.9	26.7	290.6	0.9	4	4.1	
TANN	e P	Z	23:11:34.4	26.8	289.9	0.8	5	4.3	
CLL	e P	Z	23:11:34.6	26.8	288.5	0.8	9	4.6	
ROTZ	e P	Z	23:11:35.4	26.9	291.1	0.9	2	3.9	
BRG	e P	Z	23:11:40.8	27.5	289.6	0.8	4	4.3	
GEC2	e P	Z	23:11:46.4	28.1	293.1	1.0	3	4.1	

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/01/03 17:37: 3.1 18.499S 173.604W 33.0G
 Tonga Islands SZGRF

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
NRDL	e PKPbc	Z	17:56:38.4	145.9	6.3					
IBBN	e PKPbc	Z	17:56:39.7	146.2	2.3					
CLZ	e PKPbc	Z	17:56:40.7	146.5	6.8					
CLL	e PKPbc	Z	17:56:40.9	146.8	11.5					
NEUB	e PKPbc	Z	17:56:41.8	147.0	9.4					
BUG	e PKPbc	Z	17:56:41.9	147.1	1.5					
BRG	e PKPbc	Z	17:56:41.9	147.1	13.2					
TANN	e PKPbc	Z	17:56:43.8	147.7	10.8					
MANZ	e PKPbc	Z	17:56:45.2	148.2	10.3					
TNS	e PKPbc	Z	17:56:45.4	148.2	3.7					
ROTZ	e PKPbc	Z	17:56:45.8	148.4	10.6					
GRA1	e PKPbc	Z	17:56:46.3	148.6	8.8					
GEC2	e PKPbc	Z	17:56:47.4	149.1	13.6					
BFO	e PKPbc	Z	17:56:50.1	150.1	3.7					
RJOB	e PKPbc	Z	17:56:50.2	150.3	12.3					

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/01/03 20:39:12.2 8.900S 77.700W 104.0
 Central Peru NEIC

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e Pdiff	Z	20:52:14.0	92.8	259.6					
BUG	e Pdiff	Z	20:52:18.4	93.8	260.5					
BFO	e Pdiff	Z	20:52:18.6	94.0	261.1					
IBBN	e Pdiff	Z	20:52:20.5	94.3	261.0					
TNS	e Pdiff	Z	20:52:20.9	94.4	261.3					
HLG	e Pdiff	Z	20:52:22.6	94.6	261.2					
STU	e Pdiff	Z	20:52:21.9	94.6	261.8					

UBBA	e	Pdiff	Z	20:52:25.5	95.4	262.6
NRDL	e	Pdiff	Z	20:52:27.4	95.7	262.8
CLZ	e	Pdiff	Z	20:52:27.8	95.8	263.0
FUR	e	Pdiff	Z	20:52:28.2	95.9	263.3
BSEG	e	Pdiff	Z	20:52:28.7	96.0	263.1
GRA1	e	Pdiff	Z	20:52:29.0	96.1	263.4
NEUB	e	Pdiff	Z	20:52:31.3	96.6	264.0
MANZ	e	Pdiff	Z	20:52:31.9	96.7	264.1
ROTZ	e	Pdiff	Z	20:52:32.2	96.7	264.2
RJOB	e	Pdiff	Z	20:52:32.5	96.9	264.4
TANN	e	Pdiff	Z	20:52:33.2	97.0	264.4
CLL	e	Pdiff	Z	20:52:34.7	97.4	265.0
GEC2	e	Pdiff	Z	20:52:35.5	97.6	265.2
BRG	e	Pdiff	Z	20:52:37.4	97.9	265.6
RUE	e	Pdiff	Z	20:52:37.4	97.9	265.7

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/03	21:48: 6.0	8.800S	157.200E	10.0				NEIC

Bougainville - Solomon Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e PKP	Z	22:07:16.5	127.2	47.7					
BSEG	e PKP	Z	22:07:17.3	127.7	43.0					
BRG	e PKP	Z	22:07:18.2	128.2	48.8					
CLL	e PKP	Z	22:07:18.3	128.3	47.5					
FBE	e PKP	Z	22:07:19.0	128.4	48.1					
NRDL	e PKP	Z	22:07:19.5	128.8	43.5					
NEUB	e PKP	Z	22:07:19.8	129.0	46.2					
CLZ	e PKP	Z	22:07:20.3	129.2	44.2					
TANN	e PKP	Z	22:07:20.2	129.2	47.4					
WERD	e PKP	Z	22:07:20.3	129.3	47.2					
PLN	e PKP	Z	22:07:20.4	129.3	47.0					
GUNZ	e PKP	Z	22:07:20.5	129.3	47.3					
GEC2	e PKP	Z	22:07:21.0	129.6	49.8					
MANZ	e PKP	Z	22:07:21.2	129.7	47.3					
GRA1	e PKP	Z	22:07:22.1	130.3	46.4					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/03	22:36:30.3	8.830S	157.590E	33.0G		7.2		SZGRF

Bougainville - Solomon Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e PKPdf	Z	22:55:32.0	127.4	47.3					
BSEG	e PKPdf	Z	22:55:33.1	127.8	42.6					
	e PP	Z	22:57:35.8							

BRG	e PKPdf	Z	22:55:34.0	128.4	48.4			
	e PP	Z	22:57:36.4					
CLL	e PKPdf	Z	22:55:34.0	128.6	47.1			
	e PP	Z	22:57:37.0					
FBE	e PKPdf	Z	22:55:34.7	128.7	47.7			
	e PP	Z	22:57:38.0					
NRDL	e PKPdf	Z	22:55:35.3	129.0	43.1			
	e PP	Z	22:57:42.7					
NEUB	e PKPdf	Z	22:55:35.5	129.2	45.7			
	e PP	Z	22:57:44.1					
CLZ	e PKPdf	Z	22:55:36.1	129.3	43.8			
	e PP	Z	22:57:45.7					
TANN	e PKPdf	Z	22:55:36.2	129.4	47.0			
	e PP	Z	22:57:46.3					
WERD	e PKPdf	Z	22:55:36.3	129.5	46.8			
	e PP	Z	22:57:46.4					
GUNZ	e PKPdf	Z	22:55:36.4	129.5	46.9			
	e PP	Z	22:57:47.1					
GEC2	e PKPdf	Z	22:55:36.8	129.9	49.3			
	e PP	Z	22:57:49.6					
MANZ	e PKPdf	Z	22:55:37.1	129.9	46.9			
	e PP	Z	22:57:49.5					
ROTZ	e PKPdf	Z	22:55:37.2	130.0	47.1			
	e PP	Z	22:57:50.2					
WET	e PP	Z	22:57:52.3	130.1	48.2			
IBBN	e PKPdf	Z	22:55:37.4	130.1	40.5			
	e PP	Z	22:57:52.5					
UBBA	e PKPdf	Z	22:55:37.5	130.2	43.9			
	e PP	Z	22:57:54.1					
GRA1	e PKPdf	Z	22:55:38.1	130.5	46.0			
	e PP	Z	22:57:56.2					
	e L	Z	23:55:22.5			21.9	50400	7.2
BUG	e PKPdf	Z	22:55:38.9	130.9	40.4			
	e PP	Z	22:57:55.5					
RJOB	e PKPdf	Z	22:55:38.6	131.0	49.1			
	e PP	Z	22:57:57.2					
TNS	e PKPdf	Z	22:55:40.0	131.4	42.5			
FUR	e PKPdf	Z	22:55:39.9	131.5	47.0			
STU	e PKPdf	Z	22:55:41.3	132.1	44.2			
	e PP	Z	22:58:04.0					
WLF	e PKPdf	Z	22:55:43.3	132.7	40.0			
BFO	e PP	Z	22:58:08.1	132.8	43.5			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/04	04:17:48.2	8.900S	157.600E	12.0G		5.0		NEIC

Bougainville - Solomon Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e PKPdf	Z	04:36:53.6	127.5	47.3					
BSEG	e PKPdf	Z	04:36:54.5	127.9	42.6					
BRG	e PKPdf	Z	04:36:55.1	128.5	48.4					
CLL	e PKPdf	Z	04:36:55.5	128.6	47.1					
NRDL	e PKPdf	Z	04:36:56.5	129.0	43.1					
NEUB	e PKPdf	Z	04:36:57.2	129.2	45.8					
CLZ	e PKPdf	Z	04:36:57.5	129.4	43.8					
TANN	e PKPdf	Z	04:36:57.5	129.5	47.0					
GEC2	e PKPdf	Z	04:36:58.3	129.9	49.4					
MANZ	e PKPdf	Z	04:36:58.4	129.9	46.9					
ROTZ	e PKPdf	Z	04:36:58.7	130.0	47.1					
UBBA	e PKPdf	Z	04:36:58.6	130.3	44.0					
GRA1	e L	Z	05:35:16.0	130.6	46.1	19.4	303		5.0	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/04	10:03:32.4	22.520S	177.860W	33.0G				SZGRF
South of Fiji Islands								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPdf	Z	10:23:12.2	148.0	14.3					
	e PKPbc	Z	10:23:14.3							
RUE	e PKPdf	Z	10:23:13.4	148.7	21.0					
	e PKPbc	Z	10:23:16.3							
NRDL	e PKPdf	Z	10:23:14.3	149.4	14.6					
	e PKPbc	Z	10:23:18.0							
IBBN	e PKPdf	Z	10:23:15.5	149.9	10.4					
	e PKPbc	Z	10:23:19.4							
CLZ	e PKPdf	Z	10:23:15.5	150.0	15.3					
	e PKPbc	Z	10:23:19.8							
	e PKPab	Z	10:23:25.2							
CLL	e PKPdf	Z	10:23:15.2	150.0	20.4					
	e PKPbc	Z	10:23:19.4							
	e PKPab	Z	10:23:25.0							
BRG	e PKPdf	Z	10:23:15.6	150.2	22.3					
	e PKPbc	Z	10:23:20.0							
	e PKPab	Z	10:23:25.9							
FBE	e PKPdf	Z	10:23:16.2	150.3	21.3					
	e PKPbc	Z	10:23:20.5							
	e PKPab	Z	10:23:26.6							
NEUB	e PKPdf	Z	10:23:16.1	150.4	18.2					
	e PKPbc	Z	10:23:20.4							
	e PKPab	Z	10:23:26.4							
BUG	e PKPdf	Z	10:23:16.5	150.8	9.7					
	e PKPbc	Z	10:23:21.5							
PLN	e PKPdf	Z	10:23:17.0	151.0	19.3					
	e PKPbc	Z	10:23:21.9							

	e PKPab	Z	10:23:29.2		
TANN	e PKPdf	Z	10:23:17.2	151.0	19.9
	e PKPbc	Z	10:23:22.1		
	e PKPab	Z	10:23:29.2		
WERD	e PKPbc	Z	10:23:22.1	151.0	19.6
	e PKPab	Z	10:23:29.2		
GUNZ	e PKPdf	Z	10:23:17.3	151.0	19.7
	e PKPbc	Z	10:23:22.5		
	e PKPab	Z	10:23:29.8		
UBBA	e PKPdf	Z	10:23:17.1	151.0	15.1
	e PKPbc	Z	10:23:21.7		
MANZ	e PKPdf	Z	10:23:17.8	151.4	19.5
	e PKPbc	Z	10:23:23.0		
ROTZ	e PKPbc	Z	10:23:23.7	151.6	19.9
TNS	e PKPdf	Z	10:23:18.4	151.9	12.4
	e PKPbc	Z	10:23:24.2		
GRA1	e PKPab	Z	10:23:33.7	151.9	18.0
WET	e PKPab	Z	10:23:35.4	152.1	21.5
GEC2	e PKPbc	Z	10:23:24.5	152.1	23.3
WLF	e PKPdf	Z	10:23:20.4	152.7	8.1
	e PKPbc	Z	10:23:26.4		
STU	e PKPdf	Z	10:23:20.2	153.2	14.5
	e PKPbc	Z	10:23:26.8		
	e PKPab	Z	10:23:38.2		
FUR	e PKPab	Z	10:23:39.5	153.3	19.1
RJOB	e PKPbc	Z	10:23:27.0	153.4	22.4
	e PKPab	Z	10:23:39.9		
BFO	e PKPbc	Z	10:23:28.0	153.7	13.0
	e PKPab	Z	10:23:40.7		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/04	11:28:23.6	8.300S	157.100E	35.0		5.4		NEIC

Bougainville - Solomon Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e PKPdf	Z	11:47:24.1	126.7	47.5					
BSEG	e PKPdf	Z	11:47:25.0	127.2	42.9					
BRG	e PKPdf	Z	11:47:26.0	127.7	48.6					
CLL	e PKPdf	Z	11:47:26.1	127.9	47.3					
FBE	e PKPdf	Z	11:47:26.8	128.0	47.9					
NRDL	e PKPdf	Z	11:47:27.3	128.3	43.4					
NEUB	e PKPdf	Z	11:47:27.6	128.5	46.0					
CLZ	e PKPdf	Z	11:47:28.1	128.7	44.0					
TANN	e PKPdf	Z	11:47:28.0	128.7	47.2					
WERD	e PKPdf	Z	11:47:28.1	128.8	47.0					
GUNZ	e PKPdf	Z	11:47:28.4	128.8	47.1					
GEC2	e PKPdf	Z	11:47:28.7	129.2	49.5					

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MANZ	e	PKPdf	Z	11:47:29.0	129.2	47.1						
ROTZ	e	PKPdf	Z	11:47:29.1	129.3	47.3						
WET	e	PKPdf	Z	11:47:30.6	129.4	48.4						
IBBN	e	PKPdf	Z	11:47:29.2	129.4	40.8						
UBBA	e	PKPdf	Z	11:47:29.4	129.6	44.2						
GRA1	e	L	Z	12:48:49.1	129.8	46.3	21.3	889		5.4		
BUG	e	PKPdf	Z	11:47:30.6	130.3	40.7						
RJOB	e	PKPdf	Z	11:47:30.5	130.3	49.2						
TNS	e	PKPdf	Z	11:47:31.9	130.7	42.7						
FUR	e	PKPdf	Z	11:47:31.8	130.8	47.3						
STU	e	PKPdf	Z	11:47:33.0	131.4	44.5						
WLF	e	PKPdf	Z	11:47:34.8	132.1	40.3						

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/04								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
ASSE	e	PKPab	Z	13:26:32.7					
BFO	e	PKPab	Z	13:26:50.5					
BRG	e	PKPab	Z	13:26:34.2					
BSEG	e	PKPab	Z	13:26:25.8					
CLL	e	PKPab	Z	13:26:33.4					
CLZ	e	PKPab	Z	13:26:34.5					
FLT1	e	PKPab	Z	13:26:30.9					
FUR	e	PKPab	Z	13:26:48.6					
GEC2	e	PKPab	Z	13:26:42.1					
GRA1	e	PKPab	Z	13:26:42.5					
GTTG	e	PKPab	Z	13:26:36.0					
IBBN	e	PKPab	Z	13:26:34.4					
MANZ	e	PKPab	Z	13:26:40.1					
NEUB	e	PKPab	Z	13:26:35.4					
RJOB	e	PKPab	Z	13:26:48.1					
ROTZ	e	PKPab	Z	13:26:41.2					
STU	e	PKPab	Z	13:26:48.0					
TANN	e	PKPab	Z	13:26:38.0					
TNS	e	PKPab	Z	13:26:42.7					
UBBA	e	PKPab	Z	13:26:38.3					
WET	e	PKPab	Z	13:26:43.9					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/05	02:47:11.3	36.330N	25.140E	33.0G	4.0			SZGRF
Dodecanese Islands, Greece								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e	P	Z	02:50:47.6	15.0	142.0	0.8	6	

FUR	e P	Z	02:50:53.8	15.6	134.2	0.6	12	4.2
ROTZ	e P	Z	02:51:02.5	16.4	140.2	0.8	3	
MANZ	e P	Z	02:51:05.4	16.6	140.5	0.8	7	
GRA1	e P	Z	02:51:07.1	16.7	137.7	0.8	9	
TANN	e P	Z	02:51:08.6	16.8	142.2	0.8	4	
STU	e P	Z	02:51:11.8	17.0	131.0	0.8	9	
CLL	e P	Z	02:51:14.5	17.3	145.3	0.7	4	3.7
TNS	e P	Z	02:51:26.8	18.4	132.8	0.7	10	
NRDL	e P	Z	02:51:34.9	19.3	140.8	0.8	5	
BUG	e P	Z	02:51:41.0	19.7	133.0	0.8	12	4.2
BSEG	e P	Z	02:51:47.2	20.4	143.7	0.6	6	4.0

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/01/05 04:55:39.3 58.100S 14.900W 10.0 6.3 NEIC
 East of South Sandwich Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BFO	e PP	Z	05:14:34.1	108.1	192.7					
	e PS	Z	05:24:12.0							
FUR	e PP	Z	05:14:35.0	108.4	194.2					
	e PS	Z	05:24:18.3							
STU	e PP	Z	05:14:37.2	108.7	193.2					
	e PS	Z	05:24:21.9							
WLF	e PS	Z	05:24:23.4	109.1	191.6					
GEC2	e PP	Z	05:14:43.5	109.5	195.6					
	e PS	Z	05:24:28.0							
WET	e PP	Z	05:14:46.0	109.7	195.2					
	e PS	Z	05:24:34.0							
GRA1	e PP	Z	05:14:47.2	109.9	194.3					
	e PS	Z	05:24:36.9							
	e L	Z	05:57:27.8			20.0	8374		6.3	
TNS	e PP	Z	05:14:48.2	110.0	192.9					
	e PS	Z	05:24:40.8							
ROTZ	e PP	Z	05:14:47.9	110.1	194.9					
	e PS	Z	05:24:39.3							
MANZ	e PP	Z	05:14:48.5	110.3	194.8					
	e PS	Z	05:24:40.8							
TANN	e PP	Z	05:14:52.9	110.8	195.1					
	e PS	Z	05:24:45.4							
UBBA	e PP	Z	05:14:52.5	110.8	193.8					
	e PS	Z	05:24:46.8							
BUG	e PP	Z	05:14:53.2	111.0	192.3					
	e PS	Z	05:24:50.9							
NEUB	e PP	Z	05:14:56.0	111.5	194.8					
	e PS	Z	05:24:52.3							
BRG	e PP	Z	05:14:57.6	111.5	195.9					
	e PS	Z	05:24:50.9							

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CLL	e PP	Z	05:14:58.8	111.8	195.4
	e PS	Z	05:24:53.3		
CLZ	e PP	Z	05:14:59.7	111.9	194.1
	e PS	Z	05:24:56.7		
IBBN	e PS	Z	05:24:57.9	111.9	192.7
NRDL	e PP	Z	05:15:03.2	112.5	194.0
	e PS	Z	05:25:01.1		
RUE	e PP	Z	05:15:07.9	113.0	196.0
	e PS	Z	05:25:04.2		
HLG	e PP	Z	05:15:12.6	113.8	192.9
	e PS	Z	05:25:10.0		
BSEG	e PP	Z	05:15:13.8	113.9	194.3
	e PS	Z	05:25:10.7		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/05	12:15:32.8	9.100S	157.600E	18.0		6.7		NEIC
Bougainville - Solomon Islands region								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e PKPdf	Z	12:34:51.8	127.7	47.4					
BSEG	e PKPdf	Z	12:34:52.6	128.1	42.7					
BRG	e PKPdf	Z	12:34:53.7	128.7	48.5					
CLL	e PKPdf	Z	12:34:53.7	128.8	47.2					
NRDL	e PKPdf	Z	12:34:54.9	129.2	43.2					
NEUB	e PKPdf	Z	12:34:55.1	129.4	45.9					
CLZ	e PKPdf	Z	12:34:55.7	129.6	43.9					
TANN	e PKPdf	Z	12:34:55.7	129.7	47.1					
GEC2	e PKPdf	Z	12:34:56.5	130.1	49.5					
MANZ	e PKPdf	Z	12:34:56.7	130.1	47.0					
ROTZ	e PKPdf	Z	12:34:56.8	130.2	47.3					
UBBA	e PKPdf	Z	12:34:57.2	130.5	44.1					
GRA1	e PKPdf	Z	12:34:57.8	130.7	46.2					
	e L	Z	13:35:44.1			20.4	16926		6.7	
BUG	e PKPdf	Z	12:34:58.6	131.2	40.5					
TNS	e PKPdf	Z	12:34:59.7	131.6	42.6					
WLF	e PKPdf	Z	12:35:01.4	133.0	40.2					
BFO	e PKPdf	Z	12:35:02.1	133.0	43.7					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/05	17:31: 5.0	22.678S	177.960W	33.0G				SZGRF
South of Fiji Islands								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RGN	e PKPbc	Z	17:50:45.1	147.0	19.4					
BSEG	e PKPbc	Z	17:50:47.5	148.1	14.6					

NRDL	e	PKPbc	Z	17:50:51.1	149.5	14.8
CLL	e	PKPbc	Z	17:50:52.7	150.1	20.6
CLZ	e	PKPbc	Z	17:50:53.0	150.1	15.6
BRG	e	PKPbc	Z	17:50:53.3	150.3	22.6
TANN	e	PKPbc	Z	17:50:55.3	151.1	20.2
MANZ	e	PKPbc	Z	17:50:55.6	151.6	19.8
ROTZ	e	PKPbc	Z	17:50:56.8	151.8	20.1
TNS	e	PKPbc	Z	17:50:57.3	152.0	12.7
GEC2	e	PKPbc	Z	17:50:57.8	152.2	23.6
WLF	e	PKPbc	Z	17:50:59.7	152.8	8.3
STU	e	PKPbc	Z	17:51:00.1	153.3	14.8
RJOB	e	PKPbc	Z	17:51:00.2	153.5	22.7
BFO	e	PKPbc	Z	17:51:01.2	153.9	13.3

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/06	00:28:35.5	14.100N	90.540W	33.0G	4.7	4.5		SZGRF
Guatemala								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z	00:41:00.5	83.5	284.2	0.9	7	4.9		
TNS	e P	Z	00:41:07.0	84.8	285.9	0.9	7	4.9		
BSEG	e P	Z	00:41:07.2	84.9	287.0	0.8	13	5.2		
NRDL	e P	Z	00:41:08.8	85.2	286.9	0.9	5	4.8		
BFO	e P	Z	00:41:08.7	85.3	285.9	0.9	5	4.7		
CLZ	e P	Z	00:41:10.7	85.5	287.2	0.9	8	4.8		
STU	e P	Z	00:41:11.1	85.7	286.5	0.7	7	4.9		
NEUB	e P	Z	00:41:15.5	86.5	288.3	1.0	6	4.7		
GRA1	e P	Z	00:41:16.6	86.7	288.0	1.0	9	4.9		
	e L	Z	01:16:49.2			21.3	184		4.5	
MANZ	e P	Z	00:41:18.4	87.1	288.6	1.0	3	4.4		
TANN	e P	Z	00:41:18.7	87.2	288.9	1.1	3	4.4		
ROTZ	e P	Z	00:41:19.2	87.3	288.7	1.2	4	4.4		
GEC2	e P	Z	00:41:24.8	88.5	289.9	0.9	2	4.3		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/07	07:11:37.7	27.800N	128.800E	50.0	5.0			NEIC
Ryukyu Islands, Japan								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z	07:23:55.4	82.6	51.6	0.8	9	5.0		
BRG	e P	Z	07:23:56.0	82.7	54.0	0.7	2	4.5		
CLL	e P	Z	07:23:57.0	82.9	53.4	0.7	19	5.4		
NEUB	e P	Z	07:24:00.8	83.6	52.5	0.7	19	5.4		
TANN	e P	Z	07:24:01.4	83.7	52.9	0.8	3	4.5		
CLZ	e P	Z	07:24:01.8	83.9	51.5	0.7	12	5.2		

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GEC2	e P	Z	07:24:02.9	84.0	53.7	0.8	7	5.0
MANZ	e P	Z	07:24:03.7	84.2	52.6	0.7	5	4.8
ROTZ	e P	Z	07:24:04.5	84.2	52.7	0.8	8	5.0
UBBA	e P	Z	07:24:06.2	84.7	51.1	0.7	2	4.4
IBBN	e P	Z	07:24:06.0	84.8	49.6	0.6	18	5.4
RJOB	e P	Z	07:24:09.2	85.2	52.9	0.8	18	5.3
BFO	e P	Z	07:24:19.1	87.1	49.8	0.8	3	4.4

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/07	15:48:19.3	22.400S	173.290W	33.0G				SZGRF

Tonga Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z 16:08:02.0	148.3	6.4					
NRDL	e PKPbc	Z 16:08:04.4	149.8	6.3					
CLZ	e PKPbc	Z 16:08:07.6	150.4	6.9					
CLL	e PKPbc	Z 16:08:07.8	150.7	11.9					
NEUB	e PKPbc	Z 16:08:08.6	150.9	9.7					
BRG	e PKPbc	Z 16:08:08.6	151.0	13.9					
UBBA	e PKPbc	Z 16:08:09.4	151.5	6.4					
TANN	e PKPbc	Z 16:08:10.3	151.6	11.2					
MANZ	e PKPbc	Z 16:08:11.5	152.1	10.7					
TNS	e PKPbc	Z 16:08:11.5	152.1	3.4					
ROTZ	e PKPbc	Z 16:08:11.9	152.3	11.0					
GRA1	e PKPbc	Z 16:08:12.3	152.5	9.1					
GEC2	e PKPbc	Z 16:08:13.2	153.0	14.3					
BFO	e PKPbc	Z 16:08:15.7	154.0	3.4					
RJOB	e PKPbc	Z 16:08:15.6	154.2	13.0					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/08	00:50:41.2	15.981S	174.230W	33.0G				SZGRF

Tonga Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKPbc	Z 01:10:10.1	144.2	11.9					
BRG	e PKPbc	Z 01:10:11.8	144.5	13.6					
BUG	e PKPbc	Z 01:10:11.4	144.5	2.5					
UBBA	e PKPbc	Z 01:10:13.1	145.0	7.1					
TANN	e PKPbc	Z 01:10:14.1	145.1	11.3					
TNS	e PKPbc	Z 01:10:16.3	145.7	4.6					
ROTZ	e PKPbc	Z 01:10:16.3	145.8	11.1					
GRA1	e PKPbc	Z 01:10:17.0	146.0	9.4					
GEC2	e PKPbc	Z 01:10:18.1	146.5	13.9					
STU	e PKPbc	Z 01:10:19.6	147.1	6.1					
BFO	e PKPbc	Z 01:10:21.0	147.6	4.6					

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RJOB e PKPbc Z 01:10:21.5 147.7 12.7

Date Origin Time Lat Long Depth mb Ms ML Source
2010/01/08 04:30:37.0 31.400S 179.600W 395.0
Kermadec Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPab	Z	04:50:15.6	156.4	21.5					
CLL	e PKPab	Z	04:50:22.4	158.0	29.9					
BRG	e PKPab	Z	04:50:23.2	158.1	32.4					
CLZ	e PKPab	Z	04:50:24.2	158.3	23.6					
IBBN	e PKPab	Z	04:50:24.7	158.4	17.3					
GEC2	e PKPab	Z	04:50:30.7	159.9	34.8					
TNS	e PKPab	Z	04:50:32.4	160.2	20.7					
RJOB	e PKPab	Z	04:50:36.2	161.1	34.5					

Date Origin Time Lat Long Depth mb Ms ML Source
2010/01/08 08:12:48.4 45.986N 13.442E 10.0G
Northern Italy

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
OBKA	e Pg	Z	08:13:05.7	0.9	236.0					2.0
	e Sg	E	08:13:19.0							
KBA	e Pg	Z	08:13:08.7	1.1	176.5					1.8
	e Sg	N	08:13:23.1							
WTTA	e Pg	Z	08:13:21.3	1.8	135.2					2.3
	e Sg	N	08:13:44.9							
RJOB	e Pg	Z	08:13:21.5	1.8	165.6					2.1
	e Sg	E	08:13:47.0							
GEC2	e Pg	Z	08:13:39.7	2.9	183.6					2.5
	e Sg	E	08:14:17.9							
WET	e Sg	N	08:14:30.4	3.2	172.9					2.8
ROTZ	e Pn	Z	08:13:47.9	3.9	167.2					
TANN	e Sg	E	08:15:09.6	4.5	171.2					

Date Origin Time Lat Long Depth mb Ms ML Source
2010/01/08 08:50:44.5 17.100N 93.800W 172.0 5.2
Chiapas, Mexico

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z	09:02:58.1	84.2	291.3	0.9	16	5.3		
TNS	e P	Z	09:02:59.5	84.5	290.2	0.8	17	5.3		
NRDL	e P	Z	09:03:00.1	84.6	291.3	0.8	11	5.1		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2010/01/08												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GRA1	e PKP	Z 11:51:01.4									
2010/01/08	12:14:59.5	6.100N	126.800E	118.0				NEIC				
Mindanao, Philippine Islands												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	BRG	e Pdiff	Z 12:28:28.8	99.3	68.2							
	CLL	e Pdiff	Z 12:28:30.2	99.7	67.4							
	CLZ	e Pdiff	Z 12:28:36.4	100.9	65.1							
	GRA1	e Pdiff	Z 12:28:37.6	101.3	66.2							
2010/01/08	17:43:15.6	39.957N	15.535E	280.0G				GSRC				
Southern Italy												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GRA1	e Pn	Z 17:45:36.5	10.2	161.0							
2010/01/09	05:51:34.2	9.200S	157.600E	35.0		6.1		NEIC				
Bougainville - Solomon Islands region												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	BSEG	e PKPdf	Z 06:10:38.3	128.2	42.7							
	BRG	e PKPdf	Z 06:10:39.4	128.7	48.6							
	CLL	e PKPdf	Z 06:10:39.4	128.9	47.3							
	NRDL	e PKPdf	Z 06:10:40.7	129.3	43.3							
	CLZ	e PKPdf	Z 06:10:41.4	129.7	44.0							
	TANN	e PKPdf	Z 06:10:41.3	129.7	47.2							
	GEC2	e PKPdf	Z 06:10:42.2	130.2	49.6							
	ROTZ	e PKPdf	Z 06:10:42.8	130.3	47.3							
	IBBN	e PKPdf	Z 06:10:42.7	130.4	40.6							
	UBBA	e PKPdf	Z 06:10:42.8	130.6	44.1							
	GRA1	e PKPdf	Z 06:10:43.4	130.8	46.2							
		e L	Z 07:11:26.6			21.4	4603			6.1		

BUG	e	PKPdf	Z	06:10:44.2	131.3	40.6
RJOB	e	PKPdf	Z	06:10:45.8	131.4	49.3
TNS	e	PKPdf	Z	06:10:45.4	131.7	42.7
FUR	e	PKPdf	Z	06:10:47.1	131.8	47.3
STU	e	PKPdf	Z	06:10:46.4	132.4	44.5
WLF	e	PKPdf	Z	06:10:48.1	133.1	40.2
BFO	e	PKPdf	Z	06:10:48.3	133.1	43.7

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/09								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
ARSA	e Pn	Z 14:26:31.9							
GEC2	e Pn	Z 14:26:53.6							
OBKA	e Pn	Z 14:26:21.7							
RJOB	e Pn	Z 14:26:40.6							
WET	e Pn	Z 14:27:00.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/10	00:27:45.3	41.350N	125.150W	30.2	6.0	6.6		SZGRF

Off coast of northern California, United States

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z 00:39:39.7	77.3	327.3	1.4	449	6.4		
	e S	R 00:49:36.5							
RGN	e S	R 00:49:46.2	77.7	329.4					
IBBN	e P	Z 00:39:42.3	77.9	325.8	1.3	407	6.4		
	e S	R 00:49:40.8							
BUG	e P	Z 00:39:44.8	78.4	325.5	1.4	132	5.8		
	e S	R 00:49:45.5							
NRDL	e P	Z 00:39:45.8	78.5	327.4	1.4	306	6.1		
	e S	R 00:49:46.7							
CLZ	e P	Z 00:39:49.8	79.1	327.6	1.5	522	6.4		
	e S	R 00:49:54.8							
WLF	e P	Z 00:39:51.1	79.5	325.0	1.4	252	6.0		
	e S	R 00:49:59.2							
RUE	e P	Z 00:39:52.2	79.7	329.9	1.4	315	6.1		
	e S	R 00:50:00.0							
TNS	e P	Z 00:39:53.0	79.8	326.5	1.4	168	5.8		
	e S	R 00:50:02.5							
UBBA	e P	Z 00:39:53.3	79.9	327.5	1.8	296	5.9		
	e S	R 00:50:02.3							
NEUB	e P	Z 00:39:54.5	80.1	328.6	1.1	274	6.1		
	e S	R 00:50:04.4							
CLL	e P	Z 00:39:56.2	80.4	329.5	1.3	290	6.1		

	e pP	Z	00:40:05.0								
	e S	R	00:50:07.8								
PLN	e P	Z	00:39:58.4	80.9	329.0	1.4	157	5.9			
FBE	e P	Z	00:39:59.0	80.9	329.8	1.4	314	6.1			
WERD	e P	Z	00:39:58.7	81.0	329.1	1.3	100	5.7			
TANN	e P	Z	00:39:59.3	81.0	329.2	1.4	119	5.7			
	e S	R	00:50:15.5								
GUNZ	e P	Z	00:39:59.3	81.0	329.1	1.4	149	5.8			
BRG	e P	Z	00:39:59.9	81.1	330.2	1.2	310	6.2			
	e S	R	00:50:15.4								
WERN	e P	Z	00:39:59.9	81.1	329.1	1.4	196	6.0			
	e pP	Z	00:40:08.6								
GRA1	e P	Z	00:40:00.9	81.2	328.4	1.3	284	6.2			
	e S	R	00:50:17.8								
	e L	Z	01:17:19.7			19.0	24514		6.6		
MANZ	e P	Z	00:40:00.6	81.3	329.0	1.4	152	5.9			
	e S	R	00:50:17.9								
STU	e P	Z	00:40:00.9	81.3	327.1	1.5	172	6.0			
	e S	R	00:50:18.1								
BFO	e P	Z	00:40:01.0	81.4	326.6	1.5	240	6.1			
	e S	R	00:50:17.5								
ROTZ	e P	Z	00:40:02.0	81.5	329.1	1.3	116	5.8			
	e S	R	00:50:20.9								
FUR	e P	Z	00:40:07.8	82.6	328.5	1.6	477	6.5			
	e S	R	00:50:34.4								
GEC2	e P	Z	00:40:08.7	82.8	330.1	1.6	221	6.1			
	e S	R	00:50:36.6								
RJOB	e P	Z	00:40:12.1	83.5	329.6	1.3	150	6.1			
	e pP	Z	00:40:20.8								
	e S	R	00:50:44.3								

Date 2010/01/10
 Origin Time 08:33:34.4
 Lat 42.999N
 Long 13.618E
 Depth 10.0G
 mb
 Ms
 ML 3.9
 Source SZGRF
 Central Italy

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
OBKA	e Pn	Z 08:34:29.3	3.6	191.0					4.1
KBA	e Pn	Z 08:34:35.9	4.1	177.2					3.8
	e Sn	E 08:35:20.8							
ARSA	e Pn	Z 08:34:41.0	4.5	198.2					3.6
WTTA	e Pn	Z 08:34:42.0	4.5	161.1					4.1
RJOB	e Pn	Z 08:34:45.7	4.8	172.8					3.8
	e Sn	E 08:35:38.8							
OBER	e Pn	Z 08:34:48.9	5.0	150.8					3.9
	e Sn	N 08:35:43.7							
GEC2	e Pn	Z 08:34:59.2	5.8	180.6					
	e Sn	N 08:36:01.5							

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WET	e Pn	Z	08:35:04.8	6.2	175.0
	e Sn	N	08:36:09.3		
BFO	e Pn	Z	08:35:07.5	6.5	143.3
TNS	e Sn	E	08:36:53.3	8.0	151.9
CLL	e Pn	Z	08:35:32.8	8.3	176.9

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/10	13:08:13.7	85.841N	97.124E	10.0N	4.3			SZGRF
North of Severnaya Zemlya								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 13:15:50.3	40.2	6.4	0.9	8	4.3		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/10	22:44:38.6	16.538S	174.745W	141.8				SZGRF
Tonga Islands								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
NRDL	e PKPbc	Z 23:03:54.1	143.8	7.9					
IBBN	e PKPbc	Z 23:03:55.7	144.2	4.1					
CLZ	e PKPbc	Z 23:03:56.4	144.5	8.5					
	e pPKPbc	Z 23:04:34.4							
CLL	e PKPbc	Z 23:03:56.7	144.7	12.9					
BRG	e PKPbc	Z 23:03:57.8	145.0	14.6					
BUG	e PKPbc	Z 23:03:58.2	145.1	3.4					
UBBA	e PKPbc	Z 23:03:59.5	145.5	8.1					
TANN	e PKPbc	Z 23:04:00.3	145.6	12.3					
TNS	e PKPbc	Z 23:04:01.6	146.2	5.5					
	e pPKPbc	Z 23:04:39.1							
ROTZ	e PKPbc	Z 23:04:02.6	146.3	12.1					
	e pPKPbc	Z 23:04:39.5							
GRA1	e PKPbc	Z 23:04:03.2	146.5	10.4					
	e pPKPbc	Z 23:04:39.4							
WLF	e PKPbc	Z 23:04:04.6	146.9	1.6					
	e pPKPbc	Z 23:04:41.5							
GEC2	e PKPbc	Z 23:04:04.3	147.0	15.0					
	e pPKPbc	Z 23:04:41.4							
STU	e PKPbc	Z 23:04:06.0	147.6	7.1					
	e pPKPbc	Z 23:04:43.2							
FUR	e PKPbc	Z 23:04:06.9	148.0	10.9					
	e pPKPbc	Z 23:04:44.3							
BFO	e PKPbc	Z 23:04:07.5	148.1	5.6					
	e pPKPbc	Z 23:04:44.5							
RJOB	e PKPbc	Z 23:04:07.4	148.2	13.8					
	e pPKPbc	Z 23:04:44.4							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/11	07:49:13.1	18.149S	178.976W	600.0G				SZGRF
Fiji Islands region								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	08:07:38.9	143.5	14.9					
CLL	e PKPbc	Z	08:07:44.6	145.5	20.4					
CLZ	e PKPbc	Z	08:07:44.7	145.5	15.8					
BRG	e PKPbc	Z	08:07:45.4	145.7	22.1					
FBE	e PKPbc	Z	08:07:45.4	145.8	21.2					
	e PKPab	Z	08:07:49.7							
NEUB	e PKPbc	Z	08:07:45.4	145.9	18.4					
TANN	e PKPbc	Z	08:07:47.4	146.5	19.9					
WERD	e PKPbc	Z	08:07:47.2	146.5	19.7					
GUNZ	e PKPbc	Z	08:07:47.5	146.5	19.8					
WERN	e PKPbc	Z	08:07:47.6	146.6	19.9					
	e PKPab	Z	08:07:52.9							
NKC	e PKPbc	Z	08:07:47.8	146.6	20.0					
	e PKPab	Z	08:07:53.0							
ROTZ	e PKPbc	Z	08:07:49.2	147.1	19.9					
TNS	e PKPbc	Z	08:07:49.3	147.4	13.2					
	e PKPab	Z	08:07:55.7							
GRA1	e PKPbc	Z	08:07:49.8	147.4	18.2					
	e PKPab	Z	08:07:56.6							
GEC2	e PKPbc	Z	08:07:50.3	147.6	22.9					
WLF	e PKPbc	Z	08:07:51.8	148.2	9.3					
STU	e PKPbc	Z	08:07:52.6	148.7	15.1					
FUR	e PKPbc	Z	08:07:52.9	148.8	19.1					
RJOB	e PKPbc	Z	08:07:52.7	148.9	22.0					
BFO	e PKPbc	Z	08:07:53.5	149.2	13.7					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/11	08:14:19.2	17.400S	178.900W	533.0				NEIC
Fiji Islands region								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLZ	e PKPbc	Z	08:32:55.9	144.8	15.5					
CLL	e PKPbc	Z	08:32:55.0	144.8	20.0					
BRG	e PKPbc	Z	08:32:56.0	145.0	21.7					
ROTZ	e PKPbc	Z	08:33:00.7	146.4	19.4					
GEC2	e PKPbc	Z	08:33:01.3	146.9	22.4					

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Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/11	22:23: 9.4	18.811S	179.794E	33.0N				SZGRF

Fiji Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKPbc	Z	22:42:45.1	145.9	22.7					
BRG	e PKPbc	Z	22:42:45.8	146.0	24.5					
FBE	e PKPbc	Z	22:42:46.4	146.1	23.5					
NEUB	e PKPbc	Z	22:42:46.4	146.2	20.7					
TANN	e PKPbc	Z	22:42:48.0	146.8	22.3					
WERD	e PKPbc	Z	22:42:48.0	146.8	22.0					
GUNZ	e PKPbc	Z	22:42:48.4	146.9	22.1					
WERN	e PKPbc	Z	22:42:48.6	147.0	22.2					
NKC	e PKPbc	Z	22:42:48.7	147.0	22.4					
ROTZ	e PKPbc	Z	22:42:50.0	147.5	22.2					
GEC2	e PKPbc	Z	22:42:51.0	147.9	25.4					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/12	08:25:11.5	43.118N	13.659E	10.0G			4.4	SZGRF

Central Italy

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
OBKA	e Pn	Z	08:26:04.4	3.4	190.9					4.8
KBA	e Pn	Z	08:26:11.4	4.0	176.7					4.4
	e Sn	E	08:26:55.7							
ARSA	e Pn	Z	08:26:16.4	4.3	198.3					4.1
MOA	e Pn	Z	08:26:22.3	4.8	185.4					4.2
OBER	e Pn	Z	08:26:25.3	4.9	149.9					4.3
	e Sn	N	08:27:17.9							
DAVA	e Pn	Z	08:26:26.8	4.9	146.1					4.4
GEC2	e Pn	Z	08:26:34.6	5.7	180.3					
	e Sn	N	08:27:37.4							
WET	e Sn	Z	08:27:45.6	6.1	174.6					
BFO	e Pn	Z	08:26:44.5	6.4	142.5					
	e Sn	N	08:27:51.6							
TANN	e Pn	Z	08:26:55.6	7.3	173.1					
TNS	e Sn	Z	08:28:28.7	7.9	151.3					
CLL	e Pn	Z	08:27:07.5	8.2	176.6					
	e Sn	N	08:28:34.6							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/12	13:35:45.1	43.105N	13.687E	10.0G			4.1	SZGRF

Central Italy

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
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OBKA	e Pn	Z	13:36:38.1	3.5	190.5	4.4
KBA	e Pn	Z	13:36:45.0	4.0	176.4	4.1
	e Sn	E	13:37:29.0			
ARSA	e Pn	Z	13:36:50.2	4.3	198.0	3.8
MOA	e Pn	Z	13:36:55.9	4.8	185.1	4.0
OBER	e Pn	Z	13:36:58.8	4.9	149.7	4.2
	e Sn	N	13:37:51.2			
DAVA	e Pn	Z	13:37:00.2	5.0	146.0	4.3
GEC2	e Pn	Z	13:37:08.2	5.7	180.1	
	e Sn	N	13:38:10.9			
WET	e Pn	Z	13:37:13.9	6.1	174.4	
	e Sn	N	13:38:19.3			
BFO	e Pn	Z	13:37:18.1	6.4	142.5	
TANN	e Pn	Z	13:37:29.5	7.4	173.0	
TNS	e Sn	N	13:39:02.9	8.0	151.3	

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/01/12 21:53:16.0 18.370N 72.230W 33.0N 6.9 7.2 SZGRF
 Haiti region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z	22:04:17.1	68.7	273.6	2.1	2353	7.0		
	e S	N	22:13:18.9							
BUG	e P	Z	22:04:20.3	69.3	273.8	1.4	814	6.8		
IBBN	e P	Z	22:04:21.9	69.5	273.8	1.2	1010	6.9		
TNS	e P	Z	22:04:25.9	70.1	275.1	1.8	1497	6.9		
BFO	e P	Z	22:04:26.2	70.2	275.7	3.4	6625	7.3		
STU	e P	Z	22:04:29.4	70.7	276.2	1.7	1335	6.8		
BSEG	e P	Z	22:04:30.6	70.9	275.2					
CLZ	e P	Z	22:04:32.4	71.1	276.0	1.4	1015	6.8		
GRA1	e P	Z	22:04:37.0	71.9	277.3	1.8	1047	6.7		
	e S	N	22:13:57.3							
	e L	Z	22:33:56.4			19.3	115011		7.2	
FUR	e P	Z	22:04:38.4	72.2	277.9	1.4	1173	6.8		
ROTZ	e P	Z	22:04:41.0	72.5	278.0	2.6	3798	7.1		
	e S	N	22:14:05.8							
TANN	e P	Z	22:04:41.2	72.6	278.0	2.3	2294	6.9		
	e S	N	22:14:05.7							
CLL	e P	Z	22:04:42.3	72.8	278.2	1.5	689	6.6		
	e S	N	22:14:08.2							
WET	e P	Z	22:04:45.9	73.1	278.7	3.2	7361	7.3		
BRG	e P	Z	22:04:46.3	73.5	279.0					
GEC2	e P	Z	22:04:47.2	73.6	279.4	2.1	1580	6.8		
	e S	N	22:14:14.2							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/12	22:00:42.0	18.300N	72.800W	10.0	5.5			NEIC

Haiti region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z	22:11:48.1	69.1	274.0	0.9	34	5.6		
BUG	e P	Z	22:11:51.6	69.7	274.1	0.9	29	5.4		
IBBN	e P	Z	22:11:53.0	69.9	274.2	1.0	93	5.9		
TNS	e P	Z	22:11:56.6	70.5	275.5	0.8	27	5.4		
BFO	e P	Z	22:11:57.5	70.6	276.0	0.9	17	5.2		
STU	e P	Z	22:12:00.9	71.1	276.5	0.8	30	5.5		
BSEG	e P	Z	22:12:01.1	71.3	275.6	0.9	22	5.3		
NRDL	e P	Z	22:12:00.7	71.3	275.9	1.0	27	5.4		
CLZ	e P	Z	22:12:03.0	71.5	276.4	0.9	58	5.7		
GRA1	e P	Z	22:12:09.6	72.3	277.7	0.9	24	5.3		
FUR	e P	Z	22:12:09.2	72.6	278.2	0.8	64	5.8		
ROTZ	e P	Z	22:12:12.1	73.0	278.4	0.9	41	5.5		
TANN	e P	Z	22:12:12.4	73.0	278.4	0.8	47	5.7		
CLL	e P	Z	22:12:14.7	73.2	278.5	0.9	26	5.3		
GEC2	e P	Z	22:12:18.0	74.1	279.8	0.9	51	5.6		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/12	22:12:11.0	18.978N	72.275W	33.0G	5.7			SZGRF

Haiti region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z	22:23:08.8	68.2	274.1	1.9	213	6.1		
BUG	e P	Z	22:23:12.2	68.8	274.2	1.8	153	5.9		
IBBN	e P	Z	22:23:14.0	69.1	274.3	1.4	114	5.9		
TNS	e P	Z	22:23:17.8	69.7	275.6	1.5	86	5.7		
BFO	e P	Z	22:23:18.5	69.8	276.2	1.4	34	5.3		
STU	e P	Z	22:23:22.4	70.3	276.6	1.8	123	5.7		
BSEG	e P	Z	22:23:22.3	70.4	275.7	1.8	79	5.6		
NRDL	e P	Z	22:23:23.0	70.5	276.0	1.6	103	5.7		
UBBA	e P	Z	22:23:23.0	70.6	276.5	2.9	411	6.1		
CLZ	e P	Z	22:23:24.2	70.7	276.4	1.2	52	5.5		
GRA1	e P	Z	22:23:28.9	71.5	277.8	1.7	85	5.6		
FUR	e P	Z	22:23:30.3	71.8	278.3	1.6	157	5.9		
ROTZ	e P	Z	22:23:32.9	72.1	278.5	1.3	74	5.7		
TANN	e P	Z	22:23:32.9	72.2	278.5	1.4	61	5.6		
CLL	e P	Z	22:23:34.0	72.4	278.6	1.3	37	5.4		
BRG	e P	Z	22:23:38.2	73.0	279.4	1.4	65	5.6		
GEC2	e P	Z	22:23:39.2	73.2	279.9	1.3	72	5.6		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
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2010/01/12 23:12: 6.7
Haiti region

18.149N 72.398W 33.0N 5.5 SZGRF

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z 23:23:08.8	68.9	273.6	1.3	46	5.6		
BUG	e P	Z 23:23:13.2	69.5	273.7	1.7	93	5.6		
IBBN	e P	Z 23:23:14.1	69.8	273.8	1.1	58	5.6		
TNS	e P	Z 23:23:17.7	70.4	275.1	1.5	59	5.5		
BFO	e P	Z 23:23:18.5	70.5	275.6	1.9	60	5.4		
STU	e P	Z 23:23:22.0	71.0	276.1	1.1	39	5.5		
BSEG	e P	Z 23:23:22.5	71.2	275.2	1.2	31	5.3		
NRDL	e P	Z 23:23:22.8	71.2	275.5	1.1	37	5.4		
UBBA	e P	Z 23:23:23.0	71.3	276.0	1.6	34	5.2		
CLZ	e P	Z 23:23:24.0	71.4	276.0	1.0	36	5.5		
GRA1	e P	Z 23:23:28.7	72.2	277.3	1.4	32	5.3		
FUR	e P	Z 23:23:30.2	72.4	277.8	1.0	73	5.8		
ROTZ	e P	Z 23:23:32.9	72.8	278.0	1.1	41	5.5		
TANN	e P	Z 23:23:32.7	72.9	278.0	0.9	36	5.5		
CLL	e P	Z 23:23:34.1	73.1	278.1	1.1	31	5.3		
BRG	e P	Z 23:23:38.0	73.7	279.0	0.9	34	5.4		
GEC2	e P	Z 23:23:39.1	73.9	279.4	1.0	51	5.5		

Date Origin Time
2010/01/13 00:43:27.9
Haiti region

Lat Long Depth mb Ms ML Source
18.500N 72.500W 10.0 5.2 NEIC

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 00:54:51.8	72.0	277.6	1.8	35	5.2		

Date Origin Time
2010/01/13 00:59: 6.0
Haiti region

Lat Long Depth mb Ms ML Source
18.300N 72.900W 10.0 5.2 NEIC

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 01:10:34.0	72.4	277.8	1.3	25	5.2		

Date Origin Time
2010/01/13 01:16:52.1
Haiti region

Lat Long Depth mb Ms ML Source
18.400N 72.900W 10.0 5.2 NEIC

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 01:28:20.3	72.3	277.8	1.6	30	5.2		
	e	01:28:26.5							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/13	01:32:46.9	18.320N	71.840W	25.2	5.7			SZGRF
Dominican Republic region								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z	01:43:51.3	68.4	273.3	2.0	223	6.1		
	e sP	Z	01:44:01.4							
BUG	e P	Z	01:43:54.8	69.0	273.4	1.6	77	5.7		
IBBN	e P	Z	01:43:56.2	69.3	273.5	1.4	99	5.9		
TNS	e P	Z	01:44:00.2	69.9	274.8	1.7	138	5.8		
	e sP	Z	01:44:10.3							
BFO	e P	Z	01:44:00.3	70.0	275.4	1.7	74	5.5		
STU	e P	Z	01:44:03.6	70.5	275.8	2.1	215	5.9		
BSEG	e P	Z	01:44:05.4	70.7	274.9					
NRDL	e P	Z	01:44:05.2	70.7	275.2	1.5	62	5.5		
UBBA	e P	Z	01:44:05.5	70.8	275.7	2.3	222	5.9		
CLZ	e P	Z	01:44:06.6	70.9	275.7	1.4	61	5.5		
GRA1	e P	Z	01:44:11.2	71.7	277.0	2.3	198	5.8		
FUR	e P	Z	01:44:12.8	71.9	277.5	1.2	86	5.8		
	e sP	Z	01:44:23.0							
ROTZ	e P	Z	01:44:15.3	72.3	277.7	1.4	68	5.6		
TANN	e P	Z	01:44:15.4	72.4	277.7	2.1	161	5.8		
CLL	e P	Z	01:44:16.4	72.6	277.8	1.7	73	5.5		
	e sP	Z	01:44:26.4							
BRG	e P	Z	01:44:20.4	73.3	278.7	1.4	54	5.5		
GEC2	e P	Z	01:44:21.6	73.4	279.1	1.2	60	5.5		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/13	01:36:41.6	18.973N	71.871W	18.2	5.7			SZGRF
Dominican Republic region								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z	01:47:42.5	68.0	273.8	1.6	83	5.7		
BUG	e P	Z	01:47:45.8	68.6	273.9	1.7	125	5.9		
	e pP	Z	01:47:51.1							
IBBN	e P	Z	01:47:47.3	68.8	273.9	2.2	354	6.2		
	e pP	Z	01:47:52.5							
TNS	e P	Z	01:47:51.2	69.4	275.3	1.4	45	5.4		
	e pP	Z	01:47:56.2							
BFO	e P	Z	01:47:51.3	69.5	275.9	2.1	140	5.7		
STU	e P	Z	01:47:54.8	70.0	276.3	1.5	99	5.7		
BSEG	e P	Z	01:47:55.7	70.2	275.3	1.8	84	5.6		
NRDL	e P	Z	01:47:56.0	70.2	275.7	2.0	146	5.8		
UBBA	e P	Z	01:47:56.6	70.3	276.2	1.5	38	5.3		

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CLZ	e P	Z	01:47:57.4	70.5	276.1	1.2	55	5.6
GRA1	e P	Z	01:48:02.5	71.2	277.5	1.6	72	5.6
	e pP	Z	01:48:07.7					
FUR	e P	Z	01:48:03.9	71.5	278.0	1.3	100	5.8
	e pP	Z	01:48:08.8					
ROTZ	e P	Z	01:48:06.3	71.9	278.2	1.4	78	5.7
TANN	e P	Z	01:48:06.3	71.9	278.2	1.4	63	5.5
	e pP	Z	01:48:11.6					
CLL	e P	Z	01:48:07.3	72.1	278.3	2.0	88	5.5
BRG	e P	Z	01:48:11.6	72.8	279.1	1.2	53	5.5
GEC2	e P	Z	01:48:12.8	73.0	279.6	1.1	50	5.5

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/13	01:57:38.4	18.160N	72.520W	33.0G	5.6			SZGRF
Haiti region								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z	02:08:41.3	69.0	273.7	1.9	115	5.8		
BUG	e P	Z	02:08:44.5	69.6	273.8	1.6	118	5.9		
IBBN	e P	Z	02:08:46.2	69.8	273.9	1.4	92	5.8		
TNS	e P	Z	02:08:50.1	70.4	275.2	1.5	65	5.5		
BFO	e P	Z	02:08:50.1	70.5	275.7	2.9	338	6.0		
STU	e P	Z	02:08:53.6	71.1	276.2	2.0	118	5.7		
BSEG	e P	Z	02:08:54.6	71.2	275.3	2.5	203	5.8		
NRDL	e P	Z	02:08:55.2	71.2	275.6	1.4	50	5.5		
UBBA	e P	Z	02:08:55.6	71.4	276.1	2.1	143	5.7		
CLZ	e P	Z	02:08:56.5	71.5	276.1	1.7	60	5.5		
GRA1	e P	Z	02:09:01.0	72.3	277.4	1.8	81	5.5		
FUR	e P	Z	02:09:02.6	72.5	277.9	2.0	174	5.8		
ROTZ	e P	Z	02:09:05.1	72.9	278.1	1.5	55	5.5		
TANN	e P	Z	02:09:05.1	73.0	278.1	1.5	35	5.3		
CLL	e P	Z	02:09:06.3	73.2	278.2	2.1	101	5.6		
BRG	e P	Z	02:09:10.3	73.8	279.1	1.5	51	5.4		
GEC2	e P	Z	02:09:11.3	74.0	279.5	1.5	64	5.4		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/13	02:11:31.1	18.400N	73.000W	10.0	5.0			NEIC
Haiti region								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z	02:22:57.3	72.4	277.9	1.8	21	5.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
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2010/01/13 03:31:57.2
Haiti region

18.300N 72.900W 10.0 5.0 NEIC

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 03:43:24.1	72.4	277.8	1.7	22	5.0		

Date Origin Time
2010/01/13 05:03: 3.8
Haiti region

Lat Long Depth mb Ms ML Source
18.740N 72.200W 33.0N 5.8 6.1 SZGRF

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z 05:14:03.2	68.4	273.8	2.2	234	6.0		
BUG	e P	Z 05:14:06.4	69.0	274.0	2.4	368	6.2		
IBBN	e P	Z 05:14:08.0	69.2	274.0	1.6	143	5.9		
TNS	e P	Z 05:14:11.9	69.8	275.3	1.8	155	5.8		
BFO	e P	Z 05:14:12.0	69.9	275.9	2.0	126	5.7		
STU	e P	Z 05:14:15.4	70.4	276.4	2.1	227	5.9		
BSEG	e P	Z 05:14:16.5	70.6	275.4	2.7	429	6.1		
NRDL	e P	Z 05:14:16.9	70.6	275.8	1.6	124	5.8		
UBBA	e P	Z 05:14:17.2	70.7	276.3	1.9	132	5.7		
CLZ	e P	Z 05:14:18.4	70.8	276.2	2.3	313	6.0		
GRA1	e P	Z 05:14:23.0	71.6	277.6	2.0	128	5.7		
	e L	Z 05:41:10.9			21.3	10357		6.1	
FUR	e P	Z 05:14:24.5	71.9	278.1	1.1	68	5.7		
ROTZ	e P	Z 05:14:27.0	72.2	278.3	1.4	96	5.7		
TANN	e P	Z 05:14:27.1	72.3	278.3	1.8	132	5.8		
CLL	e P	Z 05:14:28.2	72.5	278.4	1.4	51	5.5		
BRG	e P	Z 05:14:32.2	73.2	279.2	1.2	47	5.5		
GEC2	e P	Z 05:14:33.3	73.4	279.6	1.3	68	5.6		

Date Origin Time
2010/01/13 05:18: 5.4
Haiti region

Lat Long Depth mb Ms ML Source
18.770N 72.450W 15.1 5.4 SZGRF

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BUG	e P	Z 05:29:11.4	69.1	274.2	1.4	47	5.5		
IBBN	e P	Z 05:29:13.1	69.3	274.2	1.4	84	5.8		
TNS	e P	Z 05:29:17.1	69.9	275.5	1.3	44	5.4		
STU	e P	Z 05:29:20.5	70.6	276.6	0.7	13	5.2		
BSEG	e P	Z 05:29:21.6	70.7	275.7	1.2	29	5.3		
NRDL	e P	Z 05:29:22.0	70.7	276.0	2.1	132	5.7		
CLZ	e P	Z 05:29:23.4	71.0	276.4	1.1	30	5.3		
FUR	e P	Z 05:29:29.6	72.0	278.3	0.9	33	5.5		
ROTZ	e P	Z 05:29:32.1	72.4	278.5	1.1	28	5.3		
	e pP	Z 05:29:36.3							

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TANN	e P	Z	05:29:32.2	72.5	278.5	0.9	22	5.3
CLL	e P	Z	05:29:33.3	72.7	278.6	1.2	23	5.2
BRG	e P	Z	05:29:37.2	73.3	279.4	1.1	27	5.3
	e pP	Z	05:29:41.7					
GEC2	e P	Z	05:29:38.4	73.5	279.8	1.0	26	5.2

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/13	05:24: 2.5	18.500N	72.700W	12.3	4.8			NEIC
Haiti region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 05:35:28.5	72.1	277.8	1.1	9	4.8		
	e pP	Z 05:35:32.0							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/13	14:43:49.1	18.620N	72.360W	17.2	5.5			SZGRF
Haiti region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z 14:54:51.2	68.6	273.9	1.2	51	5.6		
	e pP	Z 14:54:56.1							
BUG	e P	Z 14:54:54.5	69.1	274.0	1.5	74	5.7		
	e pP	Z 14:54:59.4							
IBBN	e P	Z 14:54:56.0	69.4	274.1	1.1	60	5.8		
	e pP	Z 14:55:00.9							
TNS	e P	Z 14:55:00.1	70.0	275.4	1.2	56	5.6		
	e pP	Z 14:55:05.0							
BFO	e P	Z 14:55:00.1	70.1	276.0	1.6	46	5.4		
	e pP	Z 14:55:05.1							
STU	e P	Z 14:55:03.6	70.6	276.4	1.6	64	5.5		
	e pP	Z 14:55:08.3							
BSEG	e P	Z 14:55:04.7	70.8	275.5	1.5	53	5.4		
	e pP	Z 14:55:09.5							
NRDL	e P	Z 14:55:05.0	70.8	275.8	1.5	63	5.5		
	e pP	Z 14:55:09.9							
UBBA	e P	Z 14:55:05.5	70.9	276.3	1.8	64	5.5		
	e pP	Z 14:55:10.3							
CLZ	e P	Z 14:55:06.4	71.0	276.3	1.2	44	5.5		
	e pP	Z 14:55:11.3							
GRA1	e P	Z 14:55:11.0	71.8	277.6	1.4	32	5.3		
	e pP	Z 14:55:15.9							
FUR	e P	Z 14:55:12.6	72.1	278.1	1.1	105	5.9		
	e pP	Z 14:55:17.5							
ROTZ	e P	Z 14:55:15.2	72.4	278.3	1.2	51	5.5		
	e pP	Z 14:55:20.0							

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TANN	e P	Z	14:55:15.2	72.5	278.3	1.1	45	5.5
	e pP	Z	14:55:20.1					
CLL	e P	Z	14:55:16.3	72.7	278.4	1.2	30	5.3
	e pP	Z	14:55:21.2					
BRG	e P	Z	14:55:20.3	73.4	279.3	1.1	42	5.5
	e pP	Z	14:55:25.2					
GEC2	e P	Z	14:55:21.5	73.5	279.7	1.1	60	5.5
	e pP	Z	14:55:26.3					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/13	16:21:23.3	15.700S	174.600W	10.0				NEIC
Tonga Islands								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
TANN	e PKPbc	Z 16:41:01.4	144.8	11.9					
TNS	e PKPbc	Z 16:41:01.4	145.4	5.2					
ROTZ	e PKPbc	Z 16:41:02.0	145.5	11.6					
GRA1	e PKPbc	Z 16:41:02.6	145.7	10.0					
WLF	e PKPbc	Z 16:41:04.0	146.0	1.3					
GEC2	e PKPbc	Z 16:41:03.8	146.2	14.5					
STU	e PKPbc	Z 16:41:05.8	146.8	6.7					
FUR	e PKPbc	Z 16:41:07.5	147.2	10.5					
BFO	e PKPbc	Z 16:41:07.5	147.3	5.2					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/13	16:49: 7.2	15.400S	175.100W	10.0				NEIC
Tonga Islands								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
TNS	e PKPbc	Z 17:08:44.7	145.1	6.0					
ROTZ	e PKPbc	Z 17:08:45.1	145.1	12.4					
GRA1	e PKPbc	Z 17:08:46.2	145.3	10.8					
WLF	e PKPbc	Z 17:08:46.8	145.7	2.1					
GEC2	e PKPbc	Z 17:08:48.2	145.8	15.2					
BFO	e PKPbc	Z 17:08:51.1	146.9	6.1					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/13	21:26:17.3	18.500N	72.500W	10.0	5.2			NEIC
Haiti region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 21:37:41.2	72.0	277.6	1.5	27	5.2		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/13	22:21:14.4	18.400N	72.500W	10.0	5.3			NEIC

Haiti region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 22:32:38.0	72.1	277.6	2.3	51	5.3		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/13	22:30:51.3	15.360N	92.610W	33.0G	5.5			SZGRF

Mexico-Guatemala border region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z 22:43:19.0	83.9	286.6	1.8	82	5.7		
BUG	e P	Z 22:43:19.3	84.0	287.2	1.5	66	5.6		
IBBN	e P	Z 22:43:19.6	84.1	287.5	1.2	27	5.4		
BSEG	e P	Z 22:43:24.6	85.0	289.4	2.0	123	5.8		
TNS	e P	Z 22:43:24.8	85.1	288.2	0.9	26	5.5		
CLZ	e P	Z 22:43:28.3	85.7	289.6	1.4	26	5.2		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/14	06:40:19.5	51.975N	159.347E	52.0N	4.9			SZGRF

Off east coast of Kamchatka Peninsula, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
NRDL	e P	Z 06:51:39.7	72.4	19.3	1.0	9	4.9		
CLL	e P	Z 06:51:42.2	72.9	20.9	1.1	11	4.9		
CLZ	e P	Z 06:51:43.5	72.9	19.4	0.9	11	5.0		
IBBN	e P	Z 06:51:43.9	73.0	17.8	0.6	19	5.4		
ROTZ	e P	Z 06:51:52.7	74.5	20.3	0.9	5	4.5		
GRA1	e P	Z 06:51:54.2	74.8	19.7	1.0	15	5.0		
TNS	e P	Z 06:51:55.0	74.9	18.1	0.7	7	4.8		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/14	12:39: 4.7	18.400N	72.800W	10.0	4.6			NEIC

Haiti region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 12:50:30.5	72.3	277.8	1.1	6	4.6		

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Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/14	14:03:40.7	11.500N	142.100E	32.0		6.1		NEIC

South of Mariana Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e SP	Z 14:31:00.2	102.9	48.6					
BRG	e SP	Z 14:31:00.8	103.1	52.3					
CLL	e SP	Z 14:31:01.5	103.3	51.4					
NRDL	e SP	Z 14:31:10.5	103.9	48.6					
TANN	e SP	Z 14:31:11.8	104.2	51.1					
ROTZ	e SP	Z 14:31:17.6	104.7	51.0					
GRA1	e SP	Z 14:31:20.6	105.2	50.2					
	e L	Z 15:08:26.4			21.6	5629		6.1	
TNS	e SP	Z 14:31:33.0	106.2	47.6					
STU	e SP	Z 14:31:38.8	106.8	48.6					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/14	18:46:31.2	43.270N	142.040E	58.5	5.3			SZGRF

Hokkaido, Japan, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z 18:58:05.0	74.4	34.3	0.8	33	5.4		
CLL	e P	Z 18:58:11.4	75.6	35.7	0.8	48	5.7		
	e sP	Z 18:58:34.5							
BRG	e P	Z 18:58:11.7	75.6	36.3	0.8	13	5.1		
NRDL	e P	Z 18:58:11.8	75.7	34.0	0.9	15	5.1		
	e sP	Z 18:58:34.9							
CLZ	e P	Z 18:58:14.8	76.1	34.1	0.7	42	5.7		
	e sP	Z 18:58:37.6							
TANN	e P	Z 18:58:16.9	76.5	35.2	0.9	9	4.9		
IBBN	e P	Z 18:58:17.1	76.6	32.4	0.7	39	5.7		
UBBA	e P	Z 18:58:20.1	77.1	33.7	0.8	10	5.0		
ROTZ	e P	Z 18:58:20.9	77.2	35.0	0.9	17	5.2		
GEC2	e P	Z 18:58:21.4	77.4	35.8	0.7	12	5.1		
BUG	e P	Z 18:58:21.9	77.5	32.0	0.7	29	5.5		
GRA1	e P	Z 18:58:23.2	77.6	34.3	0.7	56	5.8		
TNS	e P	Z 18:58:25.7	78.1	32.6	0.8	15	5.2		
	e sP	Z 18:58:49.0							
FUR	e P	Z 18:58:29.8	78.8	34.2	0.8	52	5.6		
STU	e P	Z 18:58:30.8	79.1	32.9	0.8	36	5.5		
	e sP	Z 18:58:54.1							
WLF	e P	Z 18:58:33.8	79.4	31.0	1.2	19	4.9		
BFO	e P	Z 18:58:34.2	79.8	32.3	0.9	15	4.9		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
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2010/01/14 21:19:28.1

18.740S

179.850W

600.0G

SZGRF

Fiji Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	21:37:54.4	143.9	16.5					
NRDL	e PKPbc	Z	21:37:58.8	145.4	16.7					
CLL	e PKPbc	Z	21:38:00.8	145.9	22.1					
IBBN	e PKPbc	Z	21:38:00.3	145.9	12.9					
CLZ	e PKPbc	Z	21:38:00.6	145.9	17.5					
BRG	e PKPbc	Z	21:38:01.5	146.1	23.8					
	e PKPab	Z	21:38:03.1							
BUG	e PKPbc	Z	21:38:03.0	146.8	12.4					
	e PKPab	Z	21:38:05.2							
TANN	e PKPbc	Z	21:38:03.8	146.8	21.7					
	e PKPab	Z	21:38:06.2							
UBBA	e PKPbc	Z	21:38:03.7	147.0	17.3					
	e PKPab	Z	21:38:06.7							
ROTZ	e PKPbc	Z	21:38:05.8	147.5	21.6					
GRA1	e PKPbc	Z	21:38:06.4	147.8	20.0					
	e PKPab	Z	21:38:10.3							
TNS	e PKPbc	Z	21:38:06.1	147.8	14.9					
	e PKPab	Z	21:38:09.9							
GEC2	e PKPbc	Z	21:38:07.0	148.0	24.7					
WLF	e PKPbc	Z	21:38:08.7	148.7	11.0					
STU	e PKPbc	Z	21:38:09.5	149.1	16.8					
	e PKPab	Z	21:38:15.0							
FUR	e PKPbc	Z	21:38:09.8	149.2	20.9					
	e PKPab	Z	21:38:16.0							
BFO	e PKPbc	Z	21:38:10.7	149.7	15.5					
	e PKPab	Z	21:38:17.2							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/15	11:08:37.6	25.830N	125.763E	141.4	5.7			SZGRF

Southwestern Ryukyu Islands, Japan

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z	11:20:44.9	82.7	57.4	0.9	10	5.0		
BSEG	e P	Z	11:20:45.0	82.8	55.0	2.1	166	5.9		
CLL	e P	Z	11:20:45.7	83.0	56.8	1.0	28	5.5		
	e pP	Z	11:21:21.2							
TANN	e P	Z	11:20:50.0	83.7	56.3	1.6	54	5.5		
NRDL	e P	Z	11:20:50.0	83.8	54.7	2.1	135	5.8		
GEC2	e P	Z	11:20:51.0	83.9	57.0	1.7	64	5.6		
CLZ	e P	Z	11:20:51.4	84.0	54.8	1.4	83	5.8		
	e pP	Z	11:21:27.1							
ROTZ	e P	Z	11:20:52.8	84.2	56.0	1.6	91	5.8		
UBBA	e P	Z	11:20:55.0	84.8	54.5	1.8	92	5.7		

GRA1	e P	Z	11:20:55.5	84.8	55.3	1.7	209	6.1
IBBN	e P	Z	11:20:57.0	85.0	52.9	1.2	54	5.7
FUR	e P	Z	11:20:59.9	85.7	55.2	2.1	447	6.2
BUG	e P	Z	11:21:01.0	85.8	52.5			
TNS	e P	Z	11:21:00.9	86.0	53.3	1.3	28	5.2
STU	e P	Z	11:21:02.9	86.4	53.8	1.9	108	5.7
BFO	e P	Z	11:21:06.4	87.1	53.1	1.9	116	5.7
WLF	e P	Z	11:21:08.6	87.5	51.6	1.7	61	5.7

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/15	14:20:55.3	45.802N	14.201E	10.0G			3.8	SZGRF
Northwestern Balkan Peninsula								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
OBKA	e Pg	Z	14:21:09.3	0.7	198.9					3.7
	e Sg	E	14:21:20.1							
KBA	e Pn	Z	14:21:21.0	1.4	154.9					3.7
	e Pg	Z	14:21:21.5							
	e Sg	E	14:21:40.6							
ARSA	e Pn	Z	14:21:24.2	1.7	212.6					3.1
	e Pg	Z	14:21:26.7							
	e Sg	E	14:21:49.7							
MOA	e Pn	Z	14:21:29.7	2.0	181.3					3.4
	e Pg	Z	14:21:34.8							
	e Sn	N	14:21:55.7							
WTTA	e Pn	Z	14:21:34.0	2.3	128.7					
	e Pg	Z	14:21:37.5							
GEC2	e Pn	Z	14:21:43.1	3.1	173.5					4.0
	e Sn	E	14:22:19.5							
	e Sg	E	14:22:32.0							
DAVA	e Pn	Z	14:21:48.3	3.3	115.0					
ROTZ	e Pn	Z	14:21:58.3	4.2	160.6					3.3
	e Sn	E	14:22:44.4							
	e Sg	E	14:23:06.3							
GRA1	e Sn	N	14:22:50.0	4.4	151.6					4.3
MANZ	e Pn	Z	14:22:01.9	4.4	160.7					
	e Sn	N	14:22:49.3							
	e Sg	N	14:23:15.1							
STU	e Pn	Z	14:22:03.3	4.5	129.3					
WERN	e Sn	E	14:22:56.8	4.6	164.1					4.1
	e Sg	E	14:23:21.7							
GUNZ	e Pn	Z	14:22:07.5	4.7	164.0					4.2
	e Sg	E	14:23:27.1							
BFO	e Pn	Z	14:22:06.0	4.7	120.1					3.8
	e Sn	N	14:22:58.0							
PLN	e Sg	E	14:23:29.9	4.9	163.0					4.1

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/15	15:44:49.0	43.603N	146.632E	33.0G	5.7	4.5		SZGRF

Kuril Islands, Russia

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z	15:56:30.7	75.6	31.1	1.0	135	6.0		
NRDL	e P	Z	15:56:37.7	76.9	30.8	1.0	51	5.6		
CLL	e P	Z	15:56:37.8	76.9	32.6	0.9	157	6.1		
BRG	e P	Z	15:56:38.3	77.0	33.1	1.0	52	5.6		
CLZ	e P	Z	15:56:40.9	77.3	30.9	1.2	161	6.0		
IBBN	e P	Z	15:56:42.7	77.7	29.2	1.1	138	6.0		
TANN	e P	Z	15:56:43.4	77.9	32.1	1.0	25	5.3		
UBBA	e P	Z	15:56:46.0	78.3	30.5	1.8	86	5.5		
ROTZ	e P	Z	15:56:47.3	78.5	31.9	1.0	45	5.4		
BUG	e P	Z	15:56:47.5	78.7	28.8	1.1	81	5.7		
GEC2	e P	Z	15:56:48.4	78.8	32.7	1.1	36	5.3		
GRA1	e P	Z	15:56:49.5	78.9	31.2	1.0	130	5.9		
	e L	Z	16:35:09.2			21.6	215		4.5	
TNS	e P	Z	15:56:51.6	79.4	29.4	1.2	56	5.4		
FUR	e P	Z	15:56:56.3	80.2	31.1	1.0	96	5.8		
STU	e P	Z	15:56:56.9	80.4	29.8	1.0	84	5.7		
BFO	e P	Z	15:57:00.4	81.0	29.2	1.0	42	5.4		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/15	18:00:54.9	10.864N	62.925W	33.0N	5.4			SZGRF

Near coast of Venezuela

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z	18:11:53.0	68.2	261.0	0.9	30	5.5		
BUG	e P	Z	18:11:58.3	69.2	261.2	1.1	60	5.7		
BFO	e P	Z	18:12:00.0	69.5	263.2	0.9	8	4.9		
IBBN	e P	Z	18:12:01.6	69.6	261.3	1.1	72	5.7		
TNS	e P	Z	18:12:02.5	69.8	262.6	1.0	48	5.6		
STU	e P	Z	18:12:04.1	70.1	263.7	1.1	62	5.6		
UBBA	e P	Z	18:12:08.4	70.8	263.7	1.7	21	5.0		
NRDL	e P	Z	18:12:10.5	71.1	263.2	1.2	47	5.5		
CLZ	e P	Z	18:12:11.0	71.2	263.6	1.2	33	5.4		
BSEG	e P	Z	18:12:11.9	71.4	262.9	1.4	58	5.5		
FUR	e P	Z	18:12:12.7	71.4	265.6	1.5	81	5.6		
GRA1	e P	Z	18:12:12.8	71.5	265.0	1.2	22	5.2		
ROTZ	e P	Z	18:12:17.0	72.1	265.7	1.3	19	5.1		
TANN	e P	Z	18:12:18.1	72.4	265.7	1.1	23	5.2		
CLL	e P	Z	18:12:20.0	72.8	265.9	1.0	24	5.3		
GEC2	e P	Z	18:12:22.1	73.1	267.2	1.1	35	5.4		
BRG	e P	Z	18:12:23.8	73.3	266.8	1.1	29	5.3		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/16	05:52:21.7	42.012N	19.456E	10.0G			4.6	SZGRF
Northwestern Balkan Peninsula								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
OBKA	e Pn	Z	05:53:44.4	5.7	140.3					
ARSA	e Pn	Z	05:53:46.5	5.9	150.5					
KBA	e Pn	Z	05:53:57.3	6.7	137.1					4.5
	e Sn	E	05:55:08.5							
MOA	e Pn	Z	05:54:00.8	6.9	145.9					4.4
	e Sn	N	05:55:11.0							
WTTA	e Pn	Z	05:54:10.3	7.6	130.5					5.0
	e Sn	E	05:55:31.0							
GEC2	e Pn	Z	05:54:14.6	7.9	147.3					
DAVA	e Pn	Z	05:54:24.3	8.6	124.3					
MANZ	e Pn	Z	05:54:35.5	9.5	144.7					
WERN	e Pn	Z	05:54:38.6	9.6	146.7					
TANN	e Pn	Z	05:54:39.1	9.7	147.5					
WERD	e Pn	Z	05:54:39.9	9.8	147.0					
BFO	e Pn	Z	05:54:41.8	10.1	124.8					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/16	20:08:25.2	52.070N	176.029E	33.0G	5.5	4.7		SZGRF
Rat Islands, Aleutian Islands, United States								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z	20:19:48.7	73.3	9.1	1.3	163	5.9		
NRDL	e P	Z	20:19:56.4	74.8	8.9	1.0	50	5.5		
IBBN	e P	Z	20:19:58.9	75.2	7.4	0.9	160	6.1		
	e L	Z	20:50:35.5			21.5	523		4.8	
CLZ	e P	Z	20:20:00.5	75.4	9.1	1.1	105	5.9		
CLL	e P	Z	20:20:01.1	75.6	10.7	0.6	15	5.3		
	e L	Z	20:52:16.8			19.8	420		4.7	
BRG	e P	Z	20:20:03.1	75.9	11.2	0.9	24	5.3		
BUG	e P	Z	20:20:03.5	76.1	7.1	1.0	63	5.7		
UBBA	e P	Z	20:20:05.8	76.4	8.8	2.9	101	5.4		
TANN	e P	Z	20:20:06.8	76.6	10.3	1.4	22	5.1		
TNS	e P	Z	20:20:10.0	77.2	7.8	0.7	39	5.6		
ROTZ	e P	Z	20:20:10.9	77.2	10.1	1.0	33	5.4		
GRA1	e P	Z	20:20:12.0	77.4	9.5	0.9	45	5.6		
	e L	Z	20:54:15.4			21.6	437		4.7	
WLF	e P	Z	20:20:14.3	77.9	6.3	1.0	30	5.4		
GEC2	e P	Z	20:20:14.6	78.0	11.0	1.1	21	5.2		
STU	e P	Z	20:20:17.5	78.5	8.2	1.0	40	5.4		

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FUR	e P	Z	20:20:19.9	78.9	9.5	1.0	48	5.5	
	e L	Z	20:56:33.7			22.0	306		4.6
BFO	e P	Z	20:20:20.2	79.1	7.7	0.8	27	5.3	
	e L	Z	20:54:05.5			21.9	449		4.8

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/16	20:24:3.0	34.061N	45.763E	33.0N	5.0			SZGRF

Iran-Iraq border region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
MOA	e P	Z	20:29:44.9	27.2	108.9	0.9	12	4.6		
KBA	e P	Z	20:29:48.2	27.6	106.4	0.9	14	4.8		
GEC2	e P	Z	20:29:50.2	27.9	110.0					
BRG	e P	Z	20:29:55.1	28.5	113.8					
WTTA	e P	Z	20:29:58.4	28.7	104.9	1.2	30	5.0		
ROTZ	e P	Z	20:30:01.5	29.1	109.8	2.4	131	5.3		
FUR	e P	Z	20:30:02.5	29.2	106.1	1.0	51	5.3		
CLL	e P	Z	20:30:01.8	29.2	113.4	1.4	24	4.9		
GRA1	e P	Z	20:30:06.4	29.7	108.6	1.0	23	5.0		
DAVA	e P	Z	20:30:08.2	29.9	103.1	0.9	24	5.0		
CLZ	e P	Z	20:30:17.2	30.9	111.1	1.1	25	5.0		
NRDL	e P	Z	20:30:20.8	31.3	111.8	1.2	31	5.1		
TNS	e P	Z	20:30:23.6	31.6	106.4	1.3	29	5.0		
IBBN	e P	Z	20:30:32.3	32.6	108.8	1.2	39	5.2		
BUG	e P	Z	20:30:32.5	32.6	107.0	1.1	18	4.9		
WLF	e P	Z	20:30:33.7	32.9	103.2	1.4	44	5.2		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/17	06:04:46.0	38.616N	143.788E	33.0G	5.5			SZGRF

Off east coast of Honshu, Japan

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z	06:16:47.7	79.2	35.3	1.1	44	5.4		
BRG	e P	Z	06:16:53.5	80.3	37.5	1.1	32	5.2		
CLL	e P	Z	06:16:53.4	80.3	36.9	1.2	65	5.5		
NRDL	e P	Z	06:16:54.0	80.4	35.0	1.8	54	5.3		
CLZ	e P	Z	06:16:56.8	80.9	35.1	1.4	90	5.6		
TANN	e P	Z	06:16:58.6	81.2	36.4	1.1	15	5.0		
IBBN	e P	Z	06:16:59.2	81.4	33.3	1.0	43	5.5		
ROTZ	e P	Z	06:17:02.2	81.9	36.2	1.2	35	5.4		
GEC2	e P	Z	06:17:02.5	82.0	37.1	1.2	14	5.0		
GRA1	e P	Z	06:17:04.6	82.3	35.5	1.0	42	5.6		
TNS	e P	Z	06:17:07.2	82.9	33.6	0.9	18	5.3		
FUR	e P	Z	06:17:10.7	83.5	35.4	1.1	86	5.9		
STU	e P	Z	06:17:11.9	83.8	34.0	1.8	140	5.9		

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BFO e P Z 06:17:15.3 84.5 33.4 1.2 102 5.9

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/17	09:46:44.4	6.100S	152.500E	35.0				NEIC

New Britain, Papua New Guinea, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPdf	Z 10:05:37.7	123.3	46.8					
BRG	e PKPdf	Z 10:05:38.2	123.6	52.2					
CLL	e PKPdf	Z 10:05:38.6	123.8	51.0					
NRDL	e PKPdf	Z 10:05:39.9	124.3	47.3					
TANN	e PKPdf	Z 10:05:40.3	124.6	50.9					
CLZ	e PKPdf	Z 10:05:40.6	124.6	47.9					
GEC2	e PKPdf	Z 10:05:40.8	124.9	53.0					
ROTZ	e PKPdf	Z 10:05:41.4	125.1	50.9					
IBBN	e PKPdf	Z 10:05:42.1	125.5	44.8					
UBBA	e PKPdf	Z 10:05:42.1	125.5	48.0					
GRA1	e PKPdf	Z 10:05:42.0	125.7	50.0					
BUG	e PKPdf	Z 10:05:43.5	126.3	44.7					
FUR	e PKPdf	Z 10:05:44.0	126.6	50.9					
TNS	e PKPdf	Z 10:05:44.3	126.6	46.7					
STU	e PKPdf	Z 10:05:45.4	127.3	48.3					
BFO	e PKPdf	Z 10:05:47.4	128.0	47.6					
WLF	e PKPdf	Z 10:05:47.7	128.1	44.4					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/17	12:00: 2.0	57.700S	65.900W	10.0		6.0		NEIC

Drake Passage

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BFO	e PKPdf	Z 12:18:55.3	122.3	217.5					
STU	e PKPdf	Z 12:18:56.6	123.0	218.0					
TNS	e PKPdf	Z 12:18:58.8	123.9	218.3					
BUG	e PKPdf	Z 12:18:59.3	124.4	218.3					
GRA1	e PKPdf	Z 12:18:59.6	124.6	219.2					
	e SKKPbc	Z 12:32:34.1							
	e L	Z 13:14:40.4			20.9	3462		6.0	
GEC2	e PKPdf	Z 12:18:59.7	125.0	219.9					
UBBA	e PKPdf	Z 12:19:00.6	125.0	219.2					
IBBN	e PKPdf	Z 12:19:01.1	125.2	218.9					
TANN	e PKPdf	Z 12:19:01.5	125.6	220.1					
CLZ	e PKPdf	Z 12:19:02.1	125.9	219.8					
NRDL	e PKPdf	Z 12:19:03.0	126.3	220.0					
CLL	e PKPdf	Z 12:19:03.0	126.5	220.7					
BRG	e PKPdf	Z 12:19:03.1	126.6	220.9					

BSEG e PKPdf Z 12:19:05.2 127.5 220.8

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/01/17 20:16:23.1 36.439N 26.409E 33.0G 4.7 3.9
 Dodecanese Islands, Greece

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e P	Z 20:20:02.6	15.5	138.5	1.0	60	4.7		
	e L	Z 20:26:40.3			18.4	874		4.0	
FUR	e P	Z 20:20:10.1	16.2	131.0	1.0	122	5.0		
	e L	Z 20:26:50.5			20.3	716		3.9	
ROTZ	e P	Z 20:20:18.7	16.8	137.0	1.6	92	4.7		
BRG	e P	Z 20:20:19.9	17.0	143.5	1.3	19	4.1		
	e L	Z 20:27:04.3			22.0	479		3.7	
WERN	e P	Z 20:20:21.6	17.1	138.6	0.7	14	4.2		
TANN	e P	Z 20:20:22.1	17.2	139.0	1.1	24	4.3		
GRA1	e P	Z 20:20:22.9	17.2	134.6	0.9	54	4.7		
FBE	e P	Z 20:20:22.7	17.2	142.2	1.0	45	4.6		
WERD	e P	Z 20:20:22.6	17.3	138.7	0.9	24	4.3		
STU	e L	Z 20:28:26.3	17.6	128.1	18.6	663		3.9	
CLL	e P	Z 20:20:26.2	17.7	142.1	1.0	49	4.6		
	e L	Z 20:27:35.4			22.0	561		3.8	
BFO	e P	Z 20:20:29.2	17.8	125.2	1.4	91	4.7		
TNS	e P	Z 20:20:40.8	18.9	130.0	0.8	110	5.1		
WLF	e P	Z 20:20:49.3	19.7	124.4					

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/01/17 22:38:13.9 32.000S 177.800W 3.0
 South of Kermadec Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPab	Z 22:58:41.0	157.3	18.1					
NRDL	e PKPab	Z 22:58:46.2	158.7	18.7					
CLL	e PKPab	Z 22:58:48.5	159.1	26.5					
BRG	e PKPab	Z 22:58:49.3	159.2	29.1					
CLZ	e PKPab	Z 22:58:50.0	159.3	19.9					
TANN	e PKPab	Z 22:58:53.5	160.1	26.3					
ROTZ	e PKPab	Z 22:58:56.7	160.7	26.5					
GEC2	e PKPab	Z 22:58:57.6	161.1	31.4					
GRA1	e PKPab	Z 22:58:58.2	161.1	24.2					
TNS	e PKPab	Z 22:58:58.4	161.2	16.6					
STU	e PKPab	Z 22:59:03.6	162.4	20.0					
FUR	e PKPab	Z 22:59:03.9	162.4	26.3					
BFO	e PKPab	Z 22:59:05.8	163.0	18.1					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/18	01:02:30.8	47.686N	152.024E	33.0G	5.9			SZGRF

Kuril Islands, Russia

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z	01:13:59.4	73.3	25.8	0.9	103	5.8		
NRDL	e P	Z	01:14:07.1	74.7	25.5	0.9	98	5.8		
CLL	e P	Z	01:14:08.4	75.0	27.2	0.9	168	6.1		
BRG	e P	Z	01:14:09.1	75.1	27.7	1.6	104	5.6		
CLZ	e P	Z	01:14:10.5	75.2	25.6	1.0	190	6.2		
IBBN	e P	Z	01:14:11.6	75.5	24.0	1.0	198	6.2		
TANN	e P	Z	01:14:14.1	75.9	26.8	1.2	46	5.5		
UBBA	e P	Z	01:14:15.7	76.2	25.2	1.6	124	5.8		
BUG	e P	Z	01:14:16.5	76.4	23.6	1.0	181	6.1		
ROTZ	e P	Z	01:14:18.1	76.6	26.5	0.9	99	5.9		
GRA1	e P	Z	01:14:20.2	76.9	25.9	1.0	271	6.3		
GEC2	e P	Z	01:14:19.9	76.9	27.4	1.0	62	5.7		
TNS	e P	Z	01:14:21.3	77.2	24.2	0.9	132	6.1		
FUR	e P	Z	01:14:27.5	78.3	25.8	1.0	218	6.1		
WLF	e P	Z	01:14:27.4	78.3	22.7	1.0	37	5.3		
STU	e P	Z	01:14:27.4	78.3	24.5	1.0	161	6.0		
BFO	e P	Z	01:14:30.7	78.9	24.0	1.1	131	5.9		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/18	15:40:24.4	12.192N	90.037W	86.8	5.4			SZGRF

Off coast of central America

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z	15:52:57.6	86.1	285.5	1.6	76	5.6		
NRDL	e P	Z	15:52:57.9	86.4	285.4	2.1	52	5.3		
CLZ	e P	Z	15:52:59.6	86.7	285.7	1.8	70	5.5		
UBBA	e P	Z	15:53:00.0	86.8	285.4	1.6	28	5.1		
PLN	e P	Z	15:53:06.3	88.2	287.1	1.5	34	5.5		
	e pP	Z	15:53:30.4							
WERD	e P	Z	15:53:06.7	88.3	287.2					
GUNZ	e P	Z	15:53:07.3	88.3	287.2	2.7	126	5.8		
WERN	e P	Z	15:53:07.4	88.4	287.3					
TANN	e P	Z	15:53:07.3	88.4	287.3	1.6	34	5.3		
ROTZ	e P	Z	15:53:07.7	88.4	287.1	1.5	24	5.2		
CLL	e P	Z	15:53:07.6	88.5	287.7	1.4	21	5.2		
FBE	e P	Z	15:53:10.0	88.8	288.0	1.8	54	5.5		
WET	e P	Z	15:53:10.9	89.0	287.7	1.7	60	5.6		
BRG	e P	Z	15:53:10.8	89.2	288.5	1.5	20	5.1		
	e pP	Z	15:53:33.0							
GEC2	e P	Z	15:53:13.2	89.6	288.3	1.8	33	5.3		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/18	15:56:52.0	40.989N	20.375E	10.0G			5.2	SZGRF

Greece-Albania border region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
OBKA	e Pn	Z	15:58:32.6	6.9	140.6					
ARSA	e Pn	Z	15:58:34.0	7.2	149.2					
KBA	e Pn	Z	15:58:45.6	7.9	137.8					
MOA	e Pn	Z	15:58:49.4	8.1	145.4					5.2
WTTA	e Pn	Z	15:58:58.5	8.9	131.9					5.3
DAVA	e Pn	Z	15:59:13.4	9.8	126.1					
MANZ	e Pn	Z	15:59:23.7	10.7	144.2					
SLE	e Pn	Z	15:59:25.4	10.8	124.3					
TANN	e Pn	Z	15:59:27.1	10.9	146.7					
BFO	e Pn	Z	15:59:29.1	11.3	126.2	0.8	22			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/18	21:35:29.1	18.400S	173.400W	82.0				NEIC

Tonga Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
IBBN	e PKP	Z	21:54:59.6	146.1	2.0					
CLZ	e PKP	Z	21:55:01.0	146.4	6.5					
CLL	e PKP	Z	21:55:01.5	146.7	11.1					
BUG	e PKP	Z	21:55:03.3	147.0	1.2					
BRG	e PKP	Z	21:55:02.8	147.0	12.9					
UBBA	e PKP	Z	21:55:03.2	147.5	6.0					
TANN	e PKP	Z	21:55:03.8	147.6	10.4					
ROTZ	e PKP	Z	21:55:06.5	148.3	10.2					
GRA1	e PKP	Z	21:55:09.4	148.5	8.4					
WET	e PKP	Z	21:55:08.0	148.8	11.6					
GEC2	e PKP	Z	21:55:08.2	149.0	13.2					
FUR	e PKP	Z	21:55:10.4	150.0	8.9					
RJOB	e PKP	Z	21:55:10.9	150.2	11.9					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/19	00:17:50.7	9.000S	158.100E	52.0				NEIC

Bougainville - Solomon Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKP	Z	00:36:51.4	128.2	42.1					
BRG	e PKP	Z	00:36:51.9	128.8	47.9					

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CLL	e	PKP	Z	00:36:51.7	128.9	46.6
NRDL	e	PKP	Z	00:36:53.2	129.3	42.6
CLZ	e	PKP	Z	00:36:54.0	129.7	43.3
GEC2	e	PKP	Z	00:36:54.8	130.3	48.9
ROTZ	e	PKP	Z	00:36:55.2	130.4	46.6
WET	e	PKP	Z	00:36:55.4	130.5	47.8

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/19	01:02:37.9	18.449S	169.872W	35.0G				SZGRF
Tonga Islands region								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
NRDL	e	PKPbc	Z 01:22:13.5	146.0	360.0					
IBBN	e	PKPbc	Z 01:22:14.9	146.1	356.0					
CLZ	e	PKPbc	Z 01:22:16.3	146.6	0.4					
CLL	e	PKPbc	Z 01:22:16.8	147.1	5.0					
TANN	e	PKPbc	Z 01:22:20.5	148.0	4.2					
ROTZ	e	PKPbc	Z 01:22:21.8	148.6	3.8					
WET	e	PKPbc	Z 01:22:24.4	149.2	5.1					
GEC2	e	PKPbc	Z 01:22:23.4	149.5	6.7					
BFO	e	PKPbc	Z 01:22:25.5	150.1	356.6					
RJOB	e	PKPbc	Z 01:22:26.1	150.6	5.2					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/19	14:23:38.2	18.478N	80.978W	33.0G	5.8			SZGRF
North of Honduras								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e	P	Z 14:35:17.0	74.2	280.1	2.3	362	6.0		
BUG	e	P	Z 14:35:18.9	74.6	280.5	1.4	139	5.8		
IBBN	e	P	Z 14:35:19.9	74.7	280.6					
TNS	e	P	Z 14:35:24.8	75.5	281.6	1.5	133	5.9		
BSEG	e	P	Z 14:35:26.6	75.9	282.1	1.7	155	5.9		
NRDL	e	P	Z 14:35:27.7	76.1	282.3					
STU	e	P	Z 14:35:29.2	76.3	282.5					
UBBA	e	P	Z 14:35:29.1	76.4	282.6	1.8	118	5.7		
CLZ	e	P	Z 14:35:29.6	76.4	282.7					
NEUB	e	P	Z 14:35:35.1	77.4	283.9					
GRA1	e	P	Z 14:35:35.1	77.4	283.8	1.1	58	5.6		
PLN	e	P	Z 14:35:36.7	77.8	284.3					
WERD	e	P	Z 14:35:37.5	77.9	284.4	1.2	61	5.6		
GUNZ	e	P	Z 14:35:37.8	77.9	284.5					
WERN	e	P	Z 14:35:38.8	78.0	284.5	1.3	65	5.6		
TANN	e	P	Z 14:35:38.6	78.0	284.6	1.2	70	5.7		
ROTZ	e	P	Z 14:35:38.9	78.0	284.5					

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CLL	e P	Z	14:35:39.0	78.1	284.8				
FBE	e P	Z	14:35:40.9	78.4	285.1	1.1	82	5.7	
BRG	e P	Z	14:35:42.7	78.8	285.6				
RJOB	e P	Z	14:35:43.2	78.9	285.3	2.4	242	5.8	
GEC2	e P	Z	14:35:45.3	79.2	285.8	1.4	75	5.5	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/20	09:32:23.3	16.541N	93.296W	33.0N	5.1	4.5		SZGRF

Chiapas, Mexico

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z 09:44:47.3	83.4	287.8	0.7	26	5.6		
BSEG	e P	Z 09:44:52.0	84.4	290.6	1.0	23	5.4		
TNS	e P	Z 09:44:53.4	84.6	289.5	0.9	39	5.6		
	e L	Z 10:02:32.4			20.4	124		4.3	
BFO	e P	Z 09:44:55.3	85.2	289.6	0.9	15	5.2		
CLZ	e P	Z 09:44:56.5	85.2	290.8	1.0	14	5.2		
	e L	Z 10:03:19.6			20.2	134		4.3	
STU	e P	Z 09:44:57.3	85.6	290.2	0.8	34	5.5		
MOX	e P	Z 09:45:02.4	86.3	291.8	0.9	24	5.3		
	e L	Z 10:03:17.4			18.1	1074		5.3	
GRA1	e P	Z 09:45:03.0	86.5	291.6	1.0	12	5.0		
	e L	Z 10:02:18.3			19.8	186		4.5	
CLL	e P	Z 09:45:03.9	86.9	292.9	1.0	6	4.7		
TANN	e P	Z 09:45:04.8	86.9	292.5	1.0	8	4.8		
ROTZ	e P	Z 09:45:05.5	87.0	292.3	0.8	2	4.3		
BRG	e P	Z 09:45:07.5	87.6	293.6	1.0	5	4.8		
WET	e P	Z 09:45:08.6	87.7	292.9	0.9	5	4.9		
RJOB	e P	Z 09:45:10.9	88.2	292.8	0.7	6	5.0		
GEC2	e P	Z 09:45:11.0	88.3	293.5	1.0	5	4.8		
	e L	Z 10:02:38.0			19.0	158		4.5	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/20	11:03:54.7	19.086N	71.761W	33.0G	6.3	6.0		SZGRF

Dominican Republic region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e L	Z 11:39:22.7	67.8	273.8	21.9	12468		6.1	
BUG	e P	Z 11:14:53.8	68.4	273.9	1.7	436	6.4		
IBBN	e P	Z 11:14:55.6	68.7	273.9	1.5	428	6.5		
TNS	e P	Z 11:14:59.0	69.3	275.3	1.5	284	6.3		
BFO	e P	Z 11:14:59.3	69.4	275.9	1.7	237	6.1		
STU	e P	Z 11:15:03.2	69.9	276.3	2.1	672	6.4		
	e L	Z 11:41:24.3			20.6	11886		6.1	
BSEG	e P	Z 11:15:03.6	70.1	275.3	1.9	382	6.2		

CLZ	e P	Z	11:15:05.6	70.3	276.1	1.6	267	6.1	
	e L	Z	11:41:06.0			21.9	6434	5.8	
GRA1	e P	Z	11:15:10.2	71.1	277.5	1.8	304	6.1	
MOX	e P	Z	11:15:10.4	71.2	277.5	1.8	1025	6.7	
FUR	e P	Z	11:15:11.6	71.3	278.1	1.4	314	6.3	
	e L	Z	11:41:34.6			21.2	9174	6.0	
ROTZ	e P	Z	11:15:14.3	71.7	278.2	1.9	488	6.3	
TANN	e P	Z	11:15:14.3	71.8	278.2	2.3	601	6.3	
CLL	e P	Z	11:15:15.4	72.0	278.3	1.7	257	6.1	
	e L	Z	11:43:49.3			21.9	3189	5.5	
WET	e P	Z	11:15:17.3	72.2	278.9	1.7	407	6.3	
	e L	Z	11:41:55.6			22.0	13176	6.2	
RJOB	e P	Z	11:15:18.1	72.4	279.3	0.8	51	5.7	
BRG	e P	Z	11:15:19.4	72.6	279.1	2.2	673	6.4	

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/01/20 19:53:14.5 17.600S 178.700W 543.0 mb Ms ML NEIC
 Fiji Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKP	Z	20:11:43.9	143.0	14.4					
NRDL	e PKP	Z	20:11:48.6	144.4	14.5					
CLZ	e PKP	Z	20:11:50.8	145.0	15.2					
CLL	e PKP	Z	20:11:50.6	145.0	19.7					
TANN	e PKP	Z	20:11:53.5	146.0	19.3					
ROTZ	e PKP	Z	20:11:55.6	146.7	19.2					
TNS	e PKP	Z	20:11:55.9	146.9	12.5					
GRA1	e PKP	Z	20:11:56.2	146.9	17.5					
GEC2	e PKP	Z	20:11:56.7	147.2	22.2					
WLF	e PKP	Z	20:11:58.6	147.7	8.7					
BFO	e PKP	Z	20:12:00.4	148.7	13.0					

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/01/21 07:54:53.8 68.375N 13.492W 33.0G 4.4 mb Ms ML SZGRF
 Iceland region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
NRDL	e P	Z	07:59:22.1	19.4	333.7	1.3	22	4.2		
BUG	e P	Z	07:59:23.8	19.7	337.1	0.9	46	4.7		
CLZ	e P	Z	07:59:29.1	20.1	334.3	1.2	13	4.0		
MOX	e P	Z	07:59:44.3	21.5	334.7	1.3	10	4.1		
FBE	e P	Z	07:59:46.9	21.7	333.3	0.3	19	5.0		
PLN	e P	Z	07:59:48.0	21.8	334.6					
WERD	e P	Z	07:59:48.4	21.9	334.5	1.0	11	4.2		
TANN	e P	Z	07:59:49.4	21.9	334.4	1.1	14	4.3		

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GUNZ	e P	Z	07:59:49.4	21.9	334.6				
WERN	e P	Z	07:59:50.2	22.0	334.6	1.2	16	4.3	
ROTZ	e P	Z	07:59:54.2	22.5	335.3				
GEC2	e P	Z	08:00:06.2	23.7	335.2	1.0	20	4.6	
RJOB	e P	Z	08:00:15.8	24.5	336.8	1.0	18	4.8	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/21	08:03:23.4	8.300N	110.300W	10.0				NEIC

Eastcentral Pacific Ocean

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
TNS	e Pdiff	Z 08:17:13.5	101.2	297.8					
RGN	e Pdiff	Z 08:17:15.5	101.5	302.8					
UBBA	e Pdiff	Z 08:17:15.8	101.7	299.2					
MOX	e Pdiff	Z 08:17:19.8	102.7	300.6					
GRA1	e Pdiff	Z 08:17:22.1	103.0	300.0					
TANN	e Pdiff	Z 08:17:23.4	103.3	301.2					
MANZ	e Pdiff	Z 08:17:23.4	103.3	300.8					
ROTZ	e Pdiff	Z 08:17:24.2	103.5	300.9					
BRG	e Pdiff	Z 08:17:25.0	103.9	302.6					
WET	e Pdiff	Z 08:17:27.6	104.2	301.3					
GEC2	e Pdiff	Z 08:17:30.2	104.8	302.0					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/21	11:55:28.7	55.575N	162.460W	33.0N	5.2			SZGRF

Alaska Peninsula, United States

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z 12:06:40.1	70.3	355.7	1.1	26	5.3		
NRDL	e P	Z 12:06:48.4	71.8	355.6	1.1	21	5.2		
IBBN	e P	Z 12:06:49.0	71.8	354.2	0.9	25	5.4		
CLZ	e P	Z 12:06:52.7	72.4	355.8	1.6	56	5.5		
BUG	e P	Z 12:06:53.2	72.6	353.9	0.9	18	5.2		
CLL	e P	Z 12:06:55.7	73.1	357.3	1.0	18	5.2		
BRG	e P	Z 12:06:58.5	73.5	357.9	1.1	16	5.0		
MOX	e P	Z 12:06:59.6	73.7	356.5	1.3	31	5.2		
TANN	e P	Z 12:07:01.2	73.9	357.0					
TNS	e P	Z 12:07:01.1	73.9	354.7	1.1	21	5.1		
WLF	e P	Z 12:07:03.5	74.3	353.3	1.6	64	5.4		
ROTZ	e P	Z 12:07:05.2	74.6	356.9	1.2	21	5.0		
WET	e P	Z 12:07:08.7	75.2	357.3	1.4	19	5.0		
GEC2	e P	Z 12:07:10.4	75.5	357.8	0.9	10	5.0		
BFO	e P	Z 12:07:11.7	75.8	354.6	1.0	10	4.9		
FUR	e P	Z 12:07:13.9	76.1	356.4					
RJOB	e P	Z 12:07:16.7	76.6	357.2	0.8	17	5.2		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/21	16:45:20.1	18.400N	72.800W	8.0	4.8			NEIC

Haiti region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BFO	e P	Z 16:56:39.1	70.5	276.1					
CLZ	e P	Z 16:56:42.6	71.5	276.4					
GRA1	e P	Z 16:56:49.1	72.3	277.8					
ROTZ	e P	Z 16:56:51.2	72.9	278.5					
TANN	e P	Z 16:56:51.3	72.9	278.5	0.8	10	5.0		
WET	e P	Z 16:56:53.9	73.4	279.2	0.7	4	4.5		
BRG	e P	Z 16:56:56.5	73.8	279.4	0.9	7	4.7		
GEC2	e P	Z 16:56:57.6	74.0	279.8	1.0	10	4.8		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/21	17:09:17.9	46.116N	15.658E	10.0G			3.0	SZGRF

Northwestern Balkan Peninsula

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
OBKA	e Pn	Z 17:09:32.4	0.9	116.8					3.3
	e Pg	Z 17:09:33.5							
	e Sg	Z 17:09:46.9							
ARSA	e Pn	Z 17:09:38.6	1.1	175.3					
	e Pg	Z 17:09:41.1							
KBA	e Pn	Z 17:09:50.7	1.9	120.3					
MOA	e Pn	Z 17:09:50.5	2.0	150.8					2.8
	e Sg	Z 17:10:19.1							
RJOB	e Pn	Z 17:09:58.5	2.5	128.6					
GEC2	e Pn	Z 17:10:04.9	3.0	153.4					
WET	e Pn	Z 17:10:11.6	3.6	147.2					
ROTZ	e Pn	Z 17:10:21.6	4.3	146.4					
MANZ	e Pn	Z 17:10:25.2	4.5	147.1					
WERN	e Pn	Z 17:10:27.2	4.7	151.1					
TANN	e Pn	Z 17:10:29.1	4.8	152.5					
BRG	e Pn	Z 17:10:29.8	4.9	165.9					
MOX	e Pn	Z 17:10:35.0	5.3	147.8					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/22	00:47: 8.1	38.859N	21.046E	10.0G	5.2	4.9		SZGRF

Greece

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
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RJOB	e P	Z	00:49:40.7	10.7	143.0				
	e S	Z	00:51:48.5						
GEC2	e P	Z	00:49:50.0	11.3	149.4				
FUR	e P	Z	00:49:54.4	11.7	139.2				
WET	e P	Z	00:49:55.3	11.8	147.3				
ROTZ	e P	Z	00:50:05.2	12.6	146.7				
GRA1	e P	Z	00:50:10.2	12.9	143.5				
	e L	Z	00:56:18.3			21.3	11203		4.9
BRG	e P	Z	00:50:10.4	13.0	154.7				
TANN	e P	Z	00:50:13.5	13.1	149.0				
STU	e P	Z	00:50:10.6	13.1	134.9				
	e S	N	00:52:39.9						
BFO	e P	Z	00:50:15.0	13.2	131.2				
MOX	e P	Z	00:50:20.0	13.5	147.0				
	e L	Z	00:56:35.3			21.0	9791		4.8
CLL	e P	Z	00:50:20.5	13.7	152.5				
TNS	e P	Z	00:50:32.2	14.4	137.1				
WLF	e P	Z	00:50:41.1	15.1	129.9				
NRDL	e P	Z	00:50:46.2	15.6	146.6				
	e L	Z	00:57:35.4			19.9	9264		4.9
BSEG	e P	Z	00:50:59.2	16.8	149.8	1.3	240	5.2	

Date 2010/01/22 Origin Time 01:24:50.3 Lat 20.100S Long 174.880E Depth 33.0G mb Ms ML Source SZGRF
 Vanuatu Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
NRDL	e PKPbc	Z	01:44:24.5	145.5	25.8					
CLL	e PKPbc	Z	01:44:25.2	145.7	31.2					
BRG	e PKPbc	Z	01:44:25.9	145.8	33.0					
CLZ	e PKPbc	Z	01:44:26.2	146.0	26.7					
GEC2	e PKPbc	Z	01:44:30.8	147.5	34.4					
GRA1	e PKPbc	Z	01:44:31.5	147.7	29.6					
TNS	e PKPbc	Z	01:44:32.1	148.0	24.6					
	e PKPab	Z	01:44:35.0							
RJOB	e PKPbc	Z	01:44:33.9	148.8	33.9					
FUR	e PKPbc	Z	01:44:34.5	149.0	31.0					
WLF	e PKPbc	Z	01:44:35.4	149.1	20.9					
	e PKPab	Z	01:44:39.4							
BFO	e PKPbc	Z	01:44:36.4	149.8	25.7					
	e PKPab	Z	01:44:41.8							

Date 2010/01/22 Origin Time 06:46:15.5 Lat 3.000N Long 93.800E Depth 20.0 mb Ms ML Source NEIC
 Off west coast of northern Sumatera, Indonesia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 06:58:38.7	82.9	93.7	1.4	18	5.1		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/22	09:28:32.4	15.500S	173.100W	10.0				NEIC

Tonga Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 09:48:11.3	145.6	7.4					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/22	09:54:54.4	16.300S	172.900W	10.0		5.5		NEIC

Samoa Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 10:14:35.0	146.4	7.2					
	e L	Z 11:08:27.1			18.7	725		5.5	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/23	00:22:57.8	15.300S	173.300W	9.0				NEIC

Tonga Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 00:42:38.5	145.4	7.7					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/23	09:08:57.9	9.980N	83.810W	33.0G	5.3			SZGRF

Costa Rica

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BUG	e P	Z 09:21:20.2	82.9	277.1	1.5	43	5.5		
TNS	e P	Z 09:21:24.9	83.8	278.1	1.3	24	5.3		
NRDL	e P	Z 09:21:28.6	84.5	279.2	1.5	30	5.3		
STU	e P	Z 09:21:28.2	84.5	278.8	1.2	25	5.3		
UBBA	e P	Z 09:21:29.0	84.7	279.3	1.5	26	5.2		
CLZ	e P	Z 09:21:29.9	84.7	279.5	1.4	46	5.5		
GRA1	e P	Z 09:21:34.3	85.6	280.3	1.1	24	5.2		
MOX	e P	Z 09:21:34.5	85.7	280.5	1.5	19	5.0		
ROTZ	e P	Z 09:21:37.4	86.2	281.0	1.4	18	5.0		
TANN	e P	Z 09:21:37.6	86.3	281.2	1.3	28	5.2		

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CLL	e P	Z	09:21:37.9	86.4	281.5	1.3	28	5.3
WET	e P	Z	09:21:40.3	86.8	281.6	1.3	41	5.4
RJOB	e P	Z	09:21:41.1	87.0	281.6	1.3	23	5.2
BRG	e P	Z	09:21:41.4	87.1	282.3	1.3	26	5.2
GEC2	e P	Z	09:21:42.4	87.4	282.2	1.2	22	5.3

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/23	16:07:29.1	35.560N	72.190E	33.0G	5.0			SZGRF
Pakistan								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z 16:15:33.4	43.8	87.1	0.8	18	4.9		
GEC2	e P	Z 16:15:35.2	44.1	84.8	2.0	23	4.6		
CLL	e P	Z 16:15:37.6	44.4	86.9	0.9	15	4.9		
WET	e P	Z 16:15:39.9	44.6	84.6	1.2	7	4.4		
TANN	e P	Z 16:15:41.4	44.8	85.6	2.2	55	5.1		
RJOB	e P	Z 16:15:41.4	44.9	83.1	0.9	12	4.8		
ROTZ	e P	Z 16:15:43.2	45.0	84.7	1.7	38	5.0		
GRA1	e P	Z 16:15:48.9	45.7	84.0	1.7	65	5.4		
FUR	e P	Z 16:15:49.7	45.8	82.5	1.1	26	5.2		
BSEG	e P	Z 16:15:49.7	45.9	87.4	0.8	24	5.3		
CLZ	e P	Z 16:15:50.5	46.0	85.4	1.5	33	5.1		
NRDL	e P	Z 16:15:51.5	46.1	85.9	1.0	22	5.1		
UBBA	e P	Z 16:15:52.8	46.3	84.2	1.1	10	4.8		
TNS	e P	Z 16:16:00.8	47.4	82.5	0.9	9	4.9		
IBBN	e P	Z 16:16:03.1	47.6	84.0	0.9	25	5.3		
BFO	e P	Z 16:16:03.5	47.7	80.8	1.2	13	5.0		
BUG	e P	Z 16:16:06.1	48.0	82.8	2.2	146	5.7		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/23	20:22:23.3	8.300N	83.000W	36.0	5.2	4.6		NEIC
Costa Rica								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA2	e P	Z 20:35:02.5	86.5	278.7	1.8	37	5.2		
	e L	Z 21:07:37.3			19.7	219		4.6	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/23	22:40:34.2	20.600S	171.490E	33.0G				SZGRF
Vanuatu Islands region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e PKPbc	Z 23:00:06.6	145.0	38.5					

CLZ	e	PKPbc	Z	23:00:08.6	145.5	32.3
NEUB	e	PKPbc	Z	23:00:08.8	145.5	35.0
IBBN	e	PKPbc	Z	23:00:09.9	145.9	27.9
TANN	e	PKPbc	Z	23:00:09.8	145.9	36.7
WERD	e	PKPbc	Z	23:00:10.1	145.9	36.4
PLN	e	PKPbc	Z	23:00:10.2	146.0	36.2
GUNZ	e	PKPbc	Z	23:00:10.2	146.0	36.5
WERN	e	PKPbc	Z	23:00:10.5	146.0	36.7
ROHR	e	PKPbc	Z	23:00:10.7	146.1	36.6
ROTZ	e	PKPbc	Z	23:00:12.1	146.5	36.9
GEC2	e	PKPbc	Z	23:00:11.8	146.6	40.1
RJOB	e	PKPbc	Z	23:00:15.7	147.9	39.8
BFO	e	PKPbc	Z	23:00:19.1	149.1	31.9

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/24	01:02:9.6	31.900S	57.900E	10.0	5.4			NEIC
Southwest Indian Ridge								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RJOB	e P	Z	01:15:03.7	89.3	143.0	1.8	37	5.3		
GEC2	e P	Z	01:15:05.8	89.8	143.7	1.8	29	5.2		
FUR	e P	Z	01:15:09.2	90.3	141.9	2.0	238	6.1		
WET	e P	Z	01:15:08.1	90.4	143.1	1.9	44	5.4		
ROTZ	e P	Z	01:15:12.5	91.2	142.6	1.8	29	5.3		
BRG	e P	Z	01:15:13.7	91.4	143.9	1.7	40	5.5		
GRA1	e P	Z	01:15:14.4	91.5	141.8	1.8	60	5.6		
TANN	e P	Z	01:15:14.5	91.6	142.8	2.2	60	5.5		
STU	e P	Z	01:15:14.6	91.6	140.3	1.3	25	5.4		
BFO	e P	Z	01:15:15.5	91.6	139.7	1.6	31	5.4		
CLL	e P	Z	01:15:17.3	92.1	143.2	1.8	23	5.2		
UBBA	e P	Z	01:15:20.7	92.9	140.9	2.0	26	5.3		
TNS	e P	Z	01:15:21.8	93.0	139.8	1.8	28	5.4		
BUG	e P	Z	01:15:28.2	94.4	138.8	1.6	37	5.5		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/24	02:36:17.5	35.730N	110.110E	25.0	5.1	4.2		SZGRF
Southeastern China								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z	02:47:06.9	66.5	61.6	1.1	10	4.9		
CLL	e P	Z	02:47:08.4	66.9	61.2	0.9	10	5.0		
	e pP	Z	02:47:16.5							
BSEG	e P	Z	02:47:10.2	67.0	60.3	1.8	38	5.3		
TANN	e P	Z	02:47:13.8	67.6	60.5	1.2	10	4.9		
GEC2	e P	Z	02:47:14.2	67.7	60.7	1.7	22	5.1		

	e pP	Z	02:47:22.0							
NRDL	e P	Z	02:47:15.6	67.8	59.7	1.1	14	5.1		
WET	e P	Z	02:47:16.5	68.0	60.3	1.1	5	4.7		
	e pP	Z	02:47:23.4							
CLZ	e P	Z	02:47:16.9	68.0	59.6	1.1	15	5.1		
	e pP	Z	02:47:23.6							
ROTZ	e P	Z	02:47:16.9	68.1	60.1	1.1	10	5.0		
GRA1	e P	Z	02:47:20.6	68.6	59.4	1.1	27	5.3		
	e pP	Z	02:47:26.5							
	e L	Z	03:22:29.9			18.8	149		4.2	
RJOB	e P	Z	02:47:21.1	68.7	59.8	1.5	11	4.7		
FUR	e P	Z	02:47:25.2	69.4	59.0	1.0	28	5.3		
BUG	e P	Z	02:47:28.0	69.9	57.5	2.0	62	5.4		
TNS	e P	Z	02:47:28.1	69.9	57.8	3.6	188	5.6		
BFO	e P	Z	02:47:34.2	71.0	57.2	1.5	14	4.9		

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/01/24 06:48:44.9 19.530S 177.280W 10.0N SZGRF
 Fiji Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	07:08:21.7	145.1	12.6					
NRDL	e PKPbc	Z	07:08:25.9	146.5	12.7					
IBBN	e PKPbc	Z	07:08:27.6	147.0	8.7					
CLZ	e PKPbc	Z	07:08:28.0	147.1	13.4					
CLL	e PKPbc	Z	07:08:28.0	147.2	18.1					
BRG	e PKPbc	Z	07:08:28.6	147.4	19.9					
BUG	e PKPbc	Z	07:08:29.8	147.9	8.1					
	e PKPab	Z	07:08:32.6							
TANN	e PKPbc	Z	07:08:30.9	148.2	17.6					
ROTZ	e PKPbc	Z	07:08:32.8	148.8	17.5					
TNS	e PKPbc	Z	07:08:33.0	149.0	10.5					
	e PKPab	Z	07:08:36.9							
GRA1	e PKPbc	Z	07:08:33.2	149.1	15.7					
	e PKPab	Z	07:08:37.5							
WET	e PKPbc	Z	07:08:33.5	149.3	19.0					
	e PKPab	Z	07:08:38.6							
GEC2	e PKPbc	Z	07:08:33.8	149.4	20.6					
STU	e PKPbc	Z	07:08:36.3	150.3	12.4					
	e PKPab	Z	07:08:42.2							
FUR	e PKPbc	Z	07:08:36.9	150.5	16.6					
	e PKPab	Z	07:08:43.3							
RJOB	e PKPbc	Z	07:08:36.7	150.6	19.6					
	e PKPab	Z	07:08:44.1							
BFO	e PKPbc	Z	07:08:37.4	150.8	10.9					
	e PKPab	Z	07:08:44.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/24	07:19: 4.0	40.914N	143.905E	33.0N	4.7			SZGRF

Off east coast of Honshu, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 07:31:12.2	80.3	34.3	1.1	9	4.7		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/24	14:19: 0.0	9.200S	157.700E	10.0		5.0		NEIC

Bougainville - Solomon Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 14:38:19.8	130.9	46.1					
	e L	Z 15:36:16.9			20.8	336		5.0	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/24	18:15:16.0	18.600S	167.900E	66.0				NEIC

Vanuatu Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 18:34:41.6	143.7	39.4					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/24	18:27:25.9	13.800S	167.100E	268.0				NEIC

Vanuatu Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 18:46:22.2	139.0	37.3					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/24	18:48:52.5	21.000S	179.100W	643.0				NEIC

Fiji Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 19:07:33.9	150.2	19.6					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
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2010/01/24 22:43:26.3
Leeward Islands

16.090N

60.080W

47.6

5.4

SZGRF

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BUG	e P	Z	22:53:50.1	63.4	262.5	1.4	40	5.5		
	e pP	Z	22:54:03.7							
BFO	e P	Z	22:53:52.2	63.8	264.9	1.0	6	4.8		
IBBN	e P	Z	22:53:53.1	63.8	262.5	1.2	48	5.6		
TNS	e P	Z	22:53:54.2	64.0	264.1	1.1	42	5.6		
STU	e P	Z	22:53:56.4	64.4	265.4	1.0	39	5.6		
UBBA	e P	Z	22:54:01.0	65.1	265.0	1.5	26	5.2		
NRDL	e P	Z	22:54:02.4	65.3	264.3	1.4	43	5.5		
CLZ	e P	Z	22:54:03.2	65.4	264.9	1.4	39	5.5		
BSEG	e P	Z	22:54:03.9	65.6	263.9	1.2	42	5.5		
FUR	e P	Z	22:54:05.3	65.7	267.2	1.0	18	5.2		
GRA1	e P	Z	22:54:05.5	65.8	266.5	1.1	20	5.3		
	e pP	Z	22:54:18.4							
ROTZ	e P	Z	22:54:09.7	66.4	267.2	1.4	23	5.2		
TANN	e P	Z	22:54:11.0	66.6	267.2	1.1	18	5.2		
	e pP	Z	22:54:24.2							
RJOB	e P	Z	22:54:11.5	66.7	268.6	0.4	6	5.2		
WET	e P	Z	22:54:12.2	66.8	268.0	1.2	23	5.3		
CLL	e P	Z	22:54:13.3	67.0	267.2	1.0	33	5.5		
GEC2	e P	Z	22:54:15.7	67.3	268.8	1.3	26	5.3		
BRG	e P	Z	22:54:17.0	67.5	268.1	1.0	27	5.4		

Date Origin Time Lat Long Depth mb Ms ML Source
2010/01/25 00:08:11.1 48.350N 151.940E 125.8N 5.1 SZGRF
Kuril Islands, Russia

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
NRDL	e P	Z	00:19:35.0	74.1	25.3	0.8	8	4.8		
CLL	e P	Z	00:19:36.1	74.3	27.0	0.7	21	5.3		
BRG	e P	Z	00:19:36.9	74.5	27.5	1.1	9	4.7		
CLZ	e P	Z	00:19:38.4	74.6	25.4	0.9	18	5.1		
IBBN	e P	Z	00:19:39.5	74.8	23.8	0.7	14	5.1		
UBBA	e P	Z	00:19:43.4	75.6	25.0	0.9	5	4.7		
BUG	e P	Z	00:19:44.3	75.7	23.4	2.0	68	5.4		
ROTZ	e P	Z	00:19:46.1	75.9	26.3	1.1	12	4.9		
GRA1	e P	Z	00:19:48.0	76.3	25.7	0.8	27	5.5		
WET	e P	Z	00:19:48.0	76.3	26.6	1.0	15	5.1		
GEC2	e P	Z	00:19:47.6	76.3	27.1	0.7	6	4.8		
TNS	e P	Z	00:19:49.5	76.6	24.0	0.7	15	5.2		
RJOB	e P	Z	00:19:55.1	77.6	26.4	0.9	10	4.9		
FUR	e P	Z	00:19:55.2	77.7	25.5	0.8	18	5.2		
STU	e P	Z	00:19:55.4	77.7	24.3	0.9	17	5.2		
BFO	e P	Z	00:19:58.5	78.3	23.7	0.9	15	5.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/25	07:15: 4.2	31.250N	132.530E	33.0G	5.8	5.2		SZGRF

Southeast of Shikoku, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z 07:27:18.8	81.3	47.0	1.6	50	5.4		
BRG	e P	Z 07:27:20.8	81.7	49.3	1.8	81	5.6		
CLL	e P	Z 07:27:21.3	81.9	48.7	1.0	44	5.5		
NRDL	e P	Z 07:27:24.6	82.4	46.7	2.0	81	5.6		
TANN	e P	Z 07:27:26.2	82.7	48.2	1.7	66	5.6		
CLZ	e P	Z 07:27:26.6	82.7	46.9	1.8	176	6.0		
MOX	e P	Z 07:27:27.5	83.0	47.6	1.8	89	5.7		
GEC2	e P	Z 07:27:28.1	83.1	49.0	1.9	66	5.5		
ROTZ	e P	Z 07:27:29.4	83.3	48.0	1.9	162	5.9		
WET	e P	Z 07:27:29.6	83.4	48.4	1.9	70	5.6		
IBBN	e P	Z 07:27:30.3	83.5	45.0	0.4	31	5.8		
UBBA	e P	Z 07:27:30.7	83.6	46.5	2.1	172	5.9		
GRA1	e P	Z 07:27:31.9	83.8	47.3	1.5	172	6.1		
	e L	Z 08:08:37.1			20.3	1151		5.2	
RJOB	e P	Z 07:27:34.5	84.3	48.2	1.1	65	5.8		
BUG	e P	Z 07:27:34.4	84.4	44.5	1.6	96	5.8		
TNS	e P	Z 07:27:36.6	84.7	45.3	2.0	144	5.9		
FUR	e P	Z 07:27:36.9	84.8	47.2	1.5	194	6.1		
STU	e P	Z 07:27:39.4	85.4	45.8	1.5	103	5.7		
BFO	e P	Z 07:27:42.8	86.1	45.1	1.5	112	5.8		
WLF	e P	Z 07:27:43.9	86.1	43.6	1.9	213	6.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/25								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 16:08:55.9							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/25	17:04: 0.7	58.810N	154.110W	33.0G	5.5			SZGRF

Alaska Peninsula, United States

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z 17:14:50.3	66.6	351.3	1.2	39	5.5		
IBBN	e P	Z 17:14:58.8	67.9	350.0	1.0	40	5.6		
NRDL	e P	Z 17:14:58.9	68.0	351.3	1.3	61	5.7		
CLZ	e P	Z 17:15:03.6	68.6	351.4	1.3	85	5.8		

BUG	e P	Z	17:15:03.3	68.7	349.8	0.9	64	5.9
CLL	e P	Z	17:15:07.5	69.4	352.9	1.4	40	5.3
UBBA	e P	Z	17:15:09.2	69.6	351.3	1.7	55	5.4
BRG	e P	Z	17:15:10.8	69.9	353.4	1.2	42	5.4
MOX	e P	Z	17:15:11.1	69.9	352.2	1.3	65	5.6
TNS	e P	Z	17:15:11.9	70.0	350.5	1.6	80	5.6
TANN	e P	Z	17:15:13.2	70.2	352.7	1.4	35	5.3
WLF	e P	Z	17:15:14.0	70.3	349.3	1.4	85	5.7
GRA1	e P	Z	17:15:16.9	70.8	352.0	1.3	49	5.5
ROTZ	e P	Z	17:15:17.1	70.8	352.5	1.1	32	5.4
WET	e P	Z	17:15:21.3	71.5	352.9	1.4	45	5.4
STU	e P	Z	17:15:20.9	71.6	351.0	0.8	38	5.6
GEC2	e P	Z	17:15:23.1	71.9	353.4	0.9	19	5.2
BFO	e P	Z	17:15:22.9	71.9	350.5	1.5	62	5.5
FUR	e P	Z	17:15:25.8	72.4	352.1	1.0	50	5.6
RJOB	e P	Z	17:15:29.0	72.9	352.9	0.8	49	5.7

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/01/25 21:38:53.7 18.920S 172.070W 33.0 5.5
 Tonga Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	21:58:27.5	144.9	3.9					
IBBN	e PKPbc	Z	21:58:31.1	146.6	359.7					
CLL	e PKPbc	Z	21:58:33.0	147.4	8.9					
	e PKPab	Z	21:58:36.0							
BRG	e PKPbc	Z	21:58:34.2	147.7	10.7					
MOX	e PKPbc	Z	21:58:35.0	148.1	6.6					
	e PKPab	Z	21:58:38.8							
TNS	e PKPbc	Z	21:58:37.4	148.7	0.9					
GRA1	e PKPbc	Z	21:58:37.7	149.1	6.1					
	e PKPab	Z	21:58:41.4							
	e L	Z	23:04:43.5			21.5	756		5.5	
WLF	e PKPbc	Z	21:58:39.0	149.2	356.7					
	e PKPab	Z	21:58:42.2							
GEC2	e PKPbc	Z	21:58:39.9	149.7	10.9					
BFO	e PKPbc	Z	21:58:41.8	150.6	0.8					
RJOB	e PKPbc	Z	21:58:43.3	150.9	9.5					

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/01/25 22:52:58.7 6.670S 72.380W 142.5 5.6
 Peru-Brazil border region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z	23:05:31.1	87.7	256.9	1.0	152	6.3		

BUG	e P	Z	23:05:36.2	88.8	257.8	1.2	109	6.0
BFO	e P	Z	23:05:36.2	88.9	258.6	1.2	19	5.2
TNS	e P	Z	23:05:38.1	89.3	258.7	1.2	37	5.5
UBBA	e P	Z	23:05:43.4	90.4	259.9	1.6	48	5.5
FUR	e pP	Z	23:06:20.9	90.8	260.8			
CLZ	e P	Z	23:05:45.1	90.8	260.2	0.8	25	5.6
GRA1	e P	Z	23:05:46.5	91.0	260.8	1.3	46	5.6
MOX	e P	Z	23:05:47.8	91.4	261.1	1.1	22	5.4
	e pP	Z	23:06:24.3					
ROTZ	e P	Z	23:05:48.9	91.6	261.6	1.5	37	5.5
RJOB	e P	Z	23:05:49.4	91.7	262.0	1.0	29	5.6
TANN	e P	Z	23:05:50.8	91.9	261.8	1.1	32	5.6
WET	e P	Z	23:05:51.0	92.0	262.1	1.4	29	5.4
CLL	e P	Z	23:05:52.6	92.3	262.2	0.9	27	5.6
BRG	e P	Z	23:05:54.7	92.9	262.9	1.1	26	5.6
	e pP	Z	23:06:30.5					

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/01/25 23:08:57.1 51.110N 179.600W 33.0N 5.2
 Andreanof Islands, Aleutian Islands, United States SZGRF

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z 23:20:35.8	74.6	6.4	1.3	39	5.3		
NRDL	e P	Z 23:20:43.6	76.1	6.3	1.3	38	5.4		
IBBN	e P	Z 23:20:45.8	76.4	4.7	1.1	54	5.6		
CLZ	e P	Z 23:20:47.8	76.7	6.4	1.1	37	5.4		
CLL	e P	Z 23:20:48.8	77.0	8.1	1.2	19	5.1		
BUG	e P	Z 23:20:50.4	77.3	4.4	1.5	50	5.4		
BRG	e P	Z 23:20:50.9	77.4	8.7	1.1	20	5.2		
UBBA	e P	Z 23:20:53.2	77.7	6.2	1.6	32	5.2		
MOX	e P	Z 23:20:53.5	77.8	7.2	1.3	24	5.2		
TANN	e P	Z 23:20:54.6	78.0	7.7	1.4	21	5.1		
TNS	e P	Z 23:20:56.9	78.4	5.1	1.1	26	5.3		
ROTZ	e P	Z 23:20:58.4	78.6	7.5	1.2	19	5.1		
GRA1	e P	Z 23:20:59.4	78.8	6.9	1.2	40	5.3		
WLF	e P	Z 23:21:01.0	79.1	3.7	1.0	23	5.2		
WET	e P	Z 23:21:01.0	79.2	7.9	1.2	14	4.8		
GEC2	e P	Z 23:21:02.2	79.4	8.5	1.1	9	4.7		
STU	e P	Z 23:21:04.4	79.8	5.6	1.4	38	5.1		
FUR	e P	Z 23:21:07.2	80.3	6.9	1.3	29	5.1		
BFO	e P	Z 23:21:07.2	80.3	5.0	1.4	22	4.9		
RJOB	e P	Z 23:21:08.8	80.6	7.9	1.1	10	4.7		

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/01/26 06:53:25.6 0.300S 99.000E 58.0 5.0
 NEIC

Southern Sumatera, Indonesia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 07:06:14.2	88.8	91.9	1.0	11	5.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/26	09:44: 6.1	16.100S	176.600W	361.0G				NEIC

Fiji Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKP	Z 10:02:56.8	144.0	15.8					
BRG	e PKP	Z 10:02:57.8	144.2	17.5					
NEUB	e PKP	Z 10:02:58.4	144.3	13.9					
FBE	e PKP	Z 10:02:58.6	144.3	16.5					
BUG	e PKP	Z 10:02:59.0	144.5	6.4					
MOX	e PKP	Z 10:03:00.0	144.8	13.8					
PLN	e PKP	Z 10:03:00.6	144.9	14.7					
WERD	e PKP	Z 10:03:00.4	144.9	15.0					
TANN	e PKP	Z 10:03:00.6	144.9	15.3					
GUNZ	e PKP	Z 10:03:01.0	145.0	15.1					
WERN	e PKP	Z 10:03:01.3	145.1	15.2					
ROHR	e PKP	Z 10:03:01.1	145.1	15.1					
ROTZ	e PKP	Z 10:03:02.9	145.6	15.1					
GRA1	e PKP	Z 10:03:03.7	145.8	13.5					
GEC2	e PKP	Z 10:03:04.4	146.2	18.0					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/26	15:22: 5.5	39.100S	15.800W	10.0	5.5	4.6		NEIC

Tristan da Cunha region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
STU	e P	Z 15:35:06.8	90.6	199.1	1.3	40	5.5		
WLF	e P	Z 15:35:09.3	90.9	196.9	1.8	90	5.7		
GEC2	e P	Z 15:35:12.8	91.7	202.5	1.5	6	4.7		
WET	e P	Z 15:35:12.8	91.8	201.9	2.3	72	5.6		
TNS	e P	Z 15:35:14.7	91.8	198.6	1.8	48	5.5		
GRA1	e P	Z 15:35:14.6	91.9	200.7	1.5	41	5.5		
	e L	Z 16:14:31.6			19.2	203		4.6	
UBBA	e P	Z 15:35:18.4	92.7	199.8	2.3	70	5.6		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/26	22:11:30.5	19.460S	177.970W	33.0G				SZGRF

Fiji Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	22:31:02.9	144.9	13.7					
NRDL	e PKPbc	Z	22:31:07.1	146.4	13.8					
IBBN	e PKPbc	Z	22:31:08.9	146.9	9.9					
CLZ	e PKPbc	Z	22:31:08.9	147.0	14.5					
CLL	e PKPbc	Z	22:31:09.0	147.0	19.2					
BRG	e PKPbc	Z	22:31:10.1	147.2	21.1					
BUG	e PKPbc	Z	22:31:11.9	147.8	9.3					
	e PKPab	Z	22:31:13.6							
TANN	e PKPbc	Z	22:31:12.4	148.0	18.8					
ROTZ	e PKPbc	Z	22:31:14.4	148.6	18.7					
TNS	e PKPbc	Z	22:31:14.7	148.8	11.7					
	e PKPab	Z	22:31:17.6							
GRA1	e PKPbc	Z	22:31:15.1	148.9	16.9					
WET	e PKPbc	Z	22:31:15.6	149.1	20.2					
	e PKPab	Z	22:31:19.2							
GEC2	e PKPbc	Z	22:31:15.8	149.1	21.8					
FUR	e PKPbc	Z	22:31:18.7	150.3	17.8					
	e PKPab	Z	22:31:24.5							
RJOB	e PKPbc	Z	22:31:18.8	150.4	20.9					
	e PKPab	Z	22:31:24.9							
BFO	e PKPbc	Z	22:31:19.4	150.7	12.2					

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/01/27 01:48:18.4 49.214N 25.157W 33.0G 4.4 Northern Mid-Atlantic Ridge SZGRF

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z	01:53:27.8	23.4	282.9	1.8	22	4.4		

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/01/27 12:31:36.1 38.800S 15.700W 10.0 5.4 Tristan da Cunha region NEIC

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z	12:44:43.2	91.6	200.7	1.6	32	5.4		
	e pP	Z	12:44:48.9							

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/01/27 17:42:52.7 13.620S 12.970W 33.0G 6.1 5.7 Southern Mid-Atlantic Ridge SZGRF

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BFO	e P	Z 17:53:26.7	64.8	203.0	1.5	185	6.1		
STU	e P	Z 17:53:30.7	65.4	203.8	1.7	179	6.0		
FUR	e P	Z 17:53:31.3	65.4	206.0	2.2	791	6.6		
WLF	e P	Z 17:53:31.4	65.5	200.5	2.2	518	6.4		
RJOB	e P	Z 17:53:31.5	65.5	207.7	2.1	121	5.8		
TNS	e P	Z 17:53:38.3	66.6	202.8	1.7	258	6.2		
GEC2	e P	Z 17:53:40.3	66.8	208.3	2.0	199	6.0		
WET	e P	Z 17:53:40.0	66.8	207.5	1.6	155	6.0		
	e PP	Z 17:56:06.1							
GRA1	e P	Z 17:53:39.9	66.8	205.7	2.2	506	6.4		
	e PP	Z 17:56:04.8							
	e L	Z 18:21:13.4			22.0	5032		5.7	
ROTZ	e P	Z 17:53:42.3	67.1	206.7	2.0	266	6.1		
BUG	e P	Z 17:53:43.5	67.4	201.4	1.3	99	5.9		
UBBA	e P	Z 17:53:44.4	67.5	204.2	2.1	264	6.1		
MOX	e P	Z 17:53:46.1	67.8	205.9	1.9	185	6.0		
	e PP	Z 17:56:17.4							
TANN	e P	Z 17:53:46.3	67.8	206.8	1.8	186	6.0		
IBBN	e P	Z 17:53:49.6	68.3	201.7	2.0	687	6.5		
CLZ	e P	Z 17:53:50.9	68.5	204.4	1.8	216	6.1		
BRG	e P	Z 17:53:51.7	68.6	208.2	1.8	111	5.8		
CLL	e P	Z 17:53:52.3	68.8	207.2	2.4	350	6.2		
	e PP	Z 17:56:23.5							
NRDL	e P	Z 17:53:54.8	69.0	204.1	2.2	495	6.3		
BSEG	e P	Z 17:54:02.3	70.4	204.1	1.9	311	6.1		

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/01/27 18:49:33.4 13.700N 125.400E 24.0 5.4 NEIC
 Philippine Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 19:02:52.4	94.4	62.7	1.3	18	5.4		
	e PP	Z 19:06:38.9							

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/01/27 20:30:34.7 28.250N 139.490E 168.5N 5.4 SZGRF
 Bonin Islands, Japan, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z 20:43:03.9	87.5	45.8					
CLZ	e P	Z 20:43:08.3	88.3	43.1	1.7	44	5.4		
GEC2	e P	Z 20:43:11.3	89.0	45.6					
ROTZ	e P	Z 20:43:11.6	89.0	44.5	1.4	19	5.1		
GRA1	e P	Z 20:43:13.5	89.5	43.8	1.5	25	5.3		

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RJOB	e P	Z	20:43:16.8	90.2	44.9	0.9	14	5.3
FUR	e P	Z	20:43:19.2	90.6	43.8	1.2	45	5.7
STU	e P	Z	20:43:21.0	91.1	42.2	1.1	25	5.5
WLF	e P	Z	20:43:24.4	91.7	39.9	1.4	37	5.6
BFO	e P	Z	20:43:23.8	91.8	41.6	1.0	14	5.4

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/28	04:05:46.3	47.500N	152.190E	33.0G	5.2			SZGRF

Kuril Islands, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z 04:17:18.5	73.6	25.8	0.9	14	5.0		
NRDL	e P	Z 04:17:26.1	74.9	25.5	0.8	14	5.1		
CLL	e P	Z 04:17:27.5	75.2	27.2	0.8	31	5.5		
CLZ	e P	Z 04:17:29.7	75.4	25.6	0.9	27	5.4		
IBBN	e P	Z 04:17:30.8	75.7	23.9	1.2	39	5.4		
MOX	e P	Z 04:17:33.4	76.2	26.2	0.8	11	5.1		
BUG	e P	Z 04:17:36.0	76.6	23.5	1.2	44	5.5		
ROTZ	e P	Z 04:17:37.0	76.8	26.5	0.8	11	5.0		
GRA1	e P	Z 04:17:39.1	77.1	25.9	0.7	32	5.6		
WET	e P	Z 04:17:39.2	77.1	26.9	1.0	20	5.2		
GEC2	e P	Z 04:17:38.8	77.2	27.3	0.6	8	5.0		
TNS	e P	Z 04:17:40.4	77.4	24.2	0.9	22	5.3		
RJOB	e P	Z 04:17:46.3	78.4	26.7	0.9	15	5.0		
STU	e P	Z 04:17:46.6	78.5	24.5	0.9	24	5.2		
BFO	e P	Z 04:17:49.9	79.2	23.9	1.0	22	5.1		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/28	08:04: 8.9	23.400S	66.600W	161.0	5.6			NEIC

Jujuy Province, Argentina

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e Pdiff	Z 08:17:22.8	97.3	242.1	1.1	65	5.8		
	e PKKP	Z 08:34:32.7							
BFO	e Pdiff	Z 08:17:24.6	97.9	243.5	1.1	19	5.2		
STU	e Pdiff	Z 08:17:28.8	98.6	244.1	1.0	44	5.8		
	e PKKP	Z 08:33:57.5							
BUG	e Pdiff	Z 08:17:28.4	98.7	243.1	1.5	80	5.8		
TNS	e pPdiff	Z 08:18:19.5	98.8	243.8					
IBBN	e Pdiff	Z 08:17:32.2	99.4	243.6	1.1	67	5.9		
	e PKKP	Z 08:34:23.0							
FUR	e Pdiff	Z 08:17:33.4	99.6	245.5	4.8	2189	6.8		
	e pPdiff	Z 08:18:23.2							
	e PKKP	Z 08:33:55.0							
UBBA	e Pdiff	Z 08:17:34.8	100.0	245.0	1.7	19	5.2		

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GRA1	e pPdiff	Z	08:18:25.1							
	e Pdiff	Z	08:17:36.3	100.2	245.7	1.8		57	5.7	
	e pPdiff	Z	08:18:25.9							
	e PKKP	Z	08:33:52.9							
RJOB	e PKKP	Z	08:33:52.7	100.4	246.5					
CLZ	e Pdiff	Z	08:17:38.1	100.6	245.5	1.5		22	5.4	
	e PKKP2	Z	08:34:17.4							
NRDL	e PKKP2	Z	08:34:17.1	100.8	245.4					
ROTZ	e Pdiff	Z	08:17:38.8	100.8	246.4	1.1		9	5.1	
	e PKKP	Z	08:33:51.5							
MOX	e PKKP2	Z	08:34:16.8	100.8	246.2					
WET	e Pdiff	Z	08:17:39.8	101.0	246.8	1.4		25	5.4	
	e PKKP	Z	08:33:51.2							
TANN	e PKKP	Z	08:33:50.1	101.3	246.7					
	e PKKP2	Z	08:34:14.0							
GEC2	e Pdiff	Z	08:17:41.2	101.4	247.3	2.2		80	5.7	
	e PKKP	Z	08:33:50.4							
	e PKKP2	Z	08:34:13.4							
BSEG	e PKKP2	Z	08:34:12.6	101.5	245.8					
CLL	e Pdiff	Z	08:17:43.5	101.9	247.3	1.0		12	5.2	
BRG	e PKKP	Z	08:33:47.6	102.3	247.9					
	e PKKP2	Z	08:34:10.1							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/28	19:45: 6.4	41.400N	73.960E	10.0N	4.6			SZGRF
Kyrgyzstan								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z 19:52:54.1	41.4	79.0	0.9	7	4.4		
CLL	e P	Z 19:52:57.6	41.9	78.9	1.0	10	4.5		
GEC2	e P	Z 19:52:59.3	42.0	76.6	0.9	14	4.7		
TANN	e P	Z 19:53:02.7	42.5	77.5	0.9	4	4.1		
WET	e P	Z 19:53:02.8	42.5	76.4	1.1	11	4.5		
MOX	e P	Z 19:53:06.3	42.9	77.3	2.7	114	5.1		
GRA1	e P	Z 19:53:10.8	43.4	76.0	1.2	26	4.8		
FUR	e P	Z 19:53:13.5	43.8	74.5	0.8	24	5.0		
BFO	e P	Z 19:53:27.0	45.6	73.0	1.1	7	4.6		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/28	23:52:48.2	1.760N	29.350E	33.0G	4.6	4.1		SZGRF
Zaire								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RJOB	e P	Z 00:01:29.0	48.2	157.5	0.8	4	4.6		
FUR	e P	Z 00:01:34.5	49.0	155.7	0.8	16	5.1		

Station	Type	Time	Depth	Lat	Long	Ms	ML	A	mb	MS	ML
GEC2	e P	Z 00:01:35.3	49.0	159.1	0.8	6	4.7				
WET	e P	Z 00:01:38.6	49.4	158.1	0.9	4	4.4				
BFO	e P	Z 00:01:42.2	50.0	152.1	0.9	5	4.4				
GRA1	e P	Z 00:01:45.3	50.4	156.2	0.9	13	4.8				
	e L	Z 00:26:10.5				18.2	138			4.0	
TANN	e P	Z 00:01:49.0	50.7	158.0	0.9	3	4.2				
BRG	e P	Z 00:01:48.8	50.8	160.0	0.9	3	4.2				
MOX	e P	Z 00:01:51.1	51.1	157.0	1.0	5	4.4				
	e L	Z 00:26:47.6				18.1	162			4.1	
CLL	e P	Z 00:01:53.0	51.4	158.9	1.0	4	4.3				
TNS	e P	Z 00:01:55.1	51.6	152.9	0.9	14	4.9				
UBBA	e P	Z 00:01:55.9	51.7	155.0	0.8	2	4.1				
BUG	e P	Z 00:02:05.9	53.0	151.9	1.2	21	4.9				
NRDL	e P	Z 00:02:07.3	53.2	155.7	1.1	23	5.0				
BSEG	e P	Z 00:02:15.9	54.5	156.4	1.2	10	4.8				

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/01/29 08:15:23.9 19.692S 171.149E 33.0G
 Vanuatu Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPbc	Z 08:35:02.9	146.0	35.3					

Date Origin Time Lat Long Depth mb Ms ML Source
 2010/01/29 09:19:51.7 21.250S 170.100E 104.6
 Southeast of Loyalty Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e PKPbc	Z 09:39:23.8	145.0	41.1					
CLL	e PKPbc	Z 09:39:24.0	145.0	39.3					
CLZ	e PKPbc	Z 09:39:26.1	145.6	34.9					
TANN	e PKPbc	Z 09:39:26.9	146.0	39.3					
IBBN	e PKPbc	Z 09:39:27.9	146.1	30.4					
MOX	e PKPbc	Z 09:39:27.4	146.1	37.8					
ROTZ	e PKPbc	Z 09:39:29.6	146.6	39.5					
UBBA	e PKPbc	Z 09:39:29.1	146.6	35.2					
GEC2	e PKPbc	Z 09:39:29.4	146.6	42.7					
WET	e PKPbc	Z 09:39:29.3	146.7	41.2					
	e PKP	Z 09:39:29.7							
BUG	e PKPbc	Z 09:39:29.9	147.0	30.3					
GRA1	e PKPbc	Z 09:39:30.3	147.0	38.1					
TNS	e PKPbc	Z 09:39:32.8	147.6	33.2					
RJOB	e PKPbc	Z 09:39:33.6	147.8	42.5					
FUR	e PKPbc	Z 09:39:34.8	148.2	39.7					
STU	e PKPbc	Z 09:39:35.7	148.5	35.7					

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WLF	e	PKPbc	Z	09:39:36.9	148.9	29.9
BFO	e	PKPbc	Z	09:39:37.5	149.2	34.7

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/29	17:52:10.8	4.990N	75.540W	33.0G	4.9			SZGRF
Colombia								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BUG	e P	Z 18:04:29.9	81.6	267.5	0.8	6	4.7		
BFO	e P	Z 18:04:32.5	82.2	268.7	0.8	3	4.4		
TNS	e P	Z 18:04:33.7	82.3	268.6	1.4	19	5.0		
NRDL	e P	Z 18:04:39.2	83.4	269.6	0.9	7	4.9		
BSEG	e P	Z 18:04:39.7	83.5	269.6	0.9	10	5.1		
CLZ	e P	Z 18:04:40.2	83.6	269.9	0.8	7	4.9		
MOX	e P	Z 18:04:44.1	84.3	271.0	1.2	8	4.8		
ROTZ	e P	Z 18:04:46.5	84.7	271.5	1.3	5	4.6		
TANN	e P	Z 18:04:47.1	84.9	271.6	1.1	14	5.1		
RJOB	e P	Z 18:04:48.3	85.2	272.1	0.7	3	4.6		
WET	e P	Z 18:04:48.6	85.2	272.1	1.0	7	4.9		
GEC2	e P	Z 18:04:51.0	85.7	272.7	0.9	7	4.8		
BRG	e P	Z 18:04:51.5	85.8	272.8	0.9	13	5.1		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/29	22:25:28.5	51.790N	175.650E	33.0G	4.7			SZGRF
Rat Islands, Aleutian Islands, United States								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z 22:37:04.4	73.6	9.4	0.8	22	5.2		
NRDL	e P	Z 22:37:12.2	75.0	9.2	0.8	7	4.8		
IBBN	e P	Z 22:37:14.8	75.4	7.7	0.8	23	5.3		
CLZ	e P	Z 22:37:16.3	75.6	9.3	0.8	14	5.1		
CLL	e P	Z 22:37:16.5	75.9	11.0	0.7	4	4.6		
BRG	e P	Z 22:37:18.8	76.2	11.5	0.7	3	4.5		
MOX	e P	Z 22:37:21.8	76.7	10.1	1.1	7	4.7		
TANN	e P	Z 22:37:22.6	76.8	10.6	0.7	2	4.4		
TNS	e P	Z 22:37:26.1	77.4	8.1	0.8	5	4.7		
ROTZ	e P	Z 22:37:26.8	77.5	10.4	0.9	3	4.4		
GRA1	e P	Z 22:37:27.6	77.7	9.8	0.7	9	5.0		
WET	e P	Z 22:37:29.3	78.0	10.8	0.8	2	4.3		
GEC2	e P	Z 22:37:30.4	78.2	11.3	0.8	3	4.4		
FUR	e P	Z 22:37:36.0	79.2	9.8	1.0	12	4.8		
BFO	e P	Z 22:37:35.9	79.3	7.9	0.7	5	4.6		
RJOB	e P	Z 22:37:37.3	79.4	10.7	0.8	6	4.6		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/30	07:23:43.3	52.882N	171.848E	33.0G	4.8			SZGRF

Near Islands, Aleutian Islands, United States

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 07:35:33.0	76.1	11.9	1.0	8	4.8		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/31	00:58: 1.0	23.090S	177.180W	33.0G				SZGRF

South of Fiji Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z 01:17:49.2	148.6	13.3					
NRDL	e PKPbc	Z 01:17:53.0	150.1	13.5					
IBBN	e PKPbc	Z 01:17:54.4	150.5	9.3					
CLZ	e PKPbc	Z 01:17:54.8	150.7	14.3					
CLL	e PKPbc	Z 01:17:54.6	150.7	19.4					
BRG	e PKPbc	Z 01:17:55.2	150.9	21.4					
BUG	e PKPbc	Z 01:17:56.4	151.4	8.6					
MOX	e PKPbc	Z 01:17:57.0	151.6	17.2					
TANN	e PKPbc	Z 01:17:57.2	151.7	18.9					
UBBA	e PKPbc	Z 01:17:56.9	151.7	14.0					
ROTZ	e PKPbc	Z 01:17:58.9	152.3	18.8					
TNS	e PKPbc	Z 01:17:59.2	152.5	11.3					
GRA1	e PKPbc	Z 01:17:59.5	152.6	17.0					
WET	e PKPbc	Z 01:17:59.7	152.8	20.6					
GEC2	e PKPbc	Z 01:17:59.9	152.8	22.4					
STU	e PKPbc	Z 01:18:02.1	153.8	13.4					
FUR	e PKPbc	Z 01:18:02.6	154.0	18.0					
RJOB	e PKPbc	Z 01:18:02.2	154.1	21.4					
BFO	e PKPbc	Z 01:18:03.0	154.4	11.8					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/31	02:00: 1.0	22.904S	177.131W	33.0G				SZGRF

South of Fiji Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z 02:19:48.7	148.5	13.2					
NRDL	e PKPbc	Z 02:19:52.4	149.9	13.4					
IBBN	e PKPbc	Z 02:19:53.7	150.4	9.1					
CLZ	e PKPbc	Z 02:19:54.2	150.5	14.1					
CLL	e PKPbc	Z 02:19:53.8	150.5	19.2					
BRG	e PKPbc	Z 02:19:54.4	150.7	21.2					
BUG	e PKPbc	Z 02:19:55.8	151.3	8.5					

MOX	e	PKPbc	Z	02:19:56.2	151.4	17.0
TANN	e	PKPbc	Z	02:19:56.3	151.5	18.8
UBBA	e	PKPbc	Z	02:19:56.6	151.5	13.9
ROTZ	e	PKPbc	Z	02:19:58.0	152.2	18.7
TNS	e	PKPbc	Z	02:19:58.4	152.3	11.1
GRA1	e	PKPbc	Z	02:19:58.8	152.4	16.8
WET	e	PKPbc	Z	02:19:58.8	152.6	20.4
GEC2	e	PKPbc	Z	02:19:59.0	152.7	22.2
STU	e	PKPbc	Z	02:20:01.3	153.7	13.2
FUR	e	PKPbc	Z	02:20:01.6	153.9	17.8
RJOB	e	PKPbc	Z	02:20:01.4	153.9	21.2
BFO	e	PKPbc	Z	02:20:02.4	154.2	11.6

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2010/01/31	15:18: 9.2	20.980S	170.640E	244.9				SZGRF
Vanuatu Islands								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e	PKPbc	Z 15:37:47.5	145.0	40.1					
CLZ	e	PKPbc	Z 15:37:48.0	145.5	33.9					
TANN	e	PKPbc	Z 15:37:49.3	145.9	38.3					
IBBN	e	PKPbc	Z 15:37:50.1	146.0	29.4					
MOX	e	PKPbc	Z 15:37:49.6	146.1	36.8					
UBBA	e	PKPbc	Z 15:37:51.2	146.5	34.1					
ROTZ	e	PKPbc	Z 15:37:51.7	146.5	38.5					
GEC2	e	PKPbc	Z 15:37:51.6	146.6	41.7					
WET	e	PKPbc	Z 15:37:52.1	146.7	40.1					
BUG	e	PKPbc	Z 15:37:52.1	146.9	29.3					
GRA1	e	PKPbc	Z 15:37:53.1	147.0	37.0					
TNS	e	PKPbc	Z 15:37:54.9	147.6	32.2					
RJOB	e	PKPbc	Z 15:37:55.2	147.8	41.4					
	e	pPKPbc	Z 15:38:56.7							
FUR	e	PKPbc	Z 15:37:56.6	148.2	38.6					
STU	e	PKPbc	Z 15:37:57.6	148.5	34.7					
BFO	e	PKPbc	Z 15:37:59.2	149.2	33.6					

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