

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

(produced by SZGRF/BGR - HANNOVER)

November 2008 UPDATED 28.MAY.2009

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	
2008/10/31	23:59:32.9	27.854N	68.476E	0.0N	5.4	4.7		SZGRF	
Pakistan									
Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e P	Z 00:08:03.0	46.6	96.0	1.9	43	5.3		
BRG	e P	Z 00:08:04.3	46.7	98.2	1.8	56	5.4		
FBE	e P	Z 00:08:07.0	47.0	97.7	2.2	135	5.7		
RJOB	e P	Z 00:08:07.2	47.1	94.3	2.0	79	5.5		
TANN	e P	Z 00:08:10.7	47.5	96.5	2.7	120	5.6		
GUNZ	e P	Z 00:08:11.8	47.6	96.3	2.1	64	5.4		
ROTZ	e P	Z 00:08:12.4	47.6	95.7	2.0	39	5.2		
MOX	e P	Z 00:08:15.1	48.1	96.0	2.0	82	5.5		
GRA1	e P	Z 00:08:15.5	48.3	94.8	2.5	208	5.8		
	e L	Z 00:29:46.4			18.1	720		4.7	
UBBA	e P	Z 00:08:23.8	49.1	94.8	2.3	80	5.3		
NRDL	e P	Z 00:08:23.3	49.2	96.3	1.7	30	5.1		
STU	e P	Z 00:08:26.4	49.5	92.4	2.3	147	5.5		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source	
2008/11/01	23:33:47.0	51.669N	175.740W	27.5	5.3	4.5		SZGRF	
Andreanof Islands, Aleutian Islands, United States									
Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z 23:45:26.7	74.3	3.9	1.0	69	5.6		
IBBN	e P	Z 23:45:36.2	76.0	2.2	0.9	54	5.7		
CLZ	e P	Z 23:45:38.7	76.4	3.9	1.0	41	5.5		
CLL	e P	Z 23:45:40.2	76.8	5.6	0.9	19	5.2		
NEUB	e P	Z 23:45:41.6	76.9	4.8	1.0	53	5.6		

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BRG	e P	Z	23:45:42.3	77.1	6.1	1.0	21	5.2
UBBA	e P	Z	23:45:43.7	77.4	3.6	1.3	17	5.0
	e pP	Z	23:45:51.7					
MOX	e P	Z	23:45:44.7	77.5	4.7	1.1	26	5.3
TANN	e P	Z	23:45:45.8	77.7	5.2	1.5	26	5.2
WERN	e P	Z	23:45:46.7	77.8	5.1	1.0	30	5.4
TNS	e P	Z	23:45:47.6	78.0	2.7	1.0	32	5.4
WLF	e P	Z	23:45:51.0	78.7	1.2	1.0	24	5.2
GEC2	e P	Z	23:45:53.5	79.2	5.9	1.1	16	4.8
BFO	e P	Z	23:45:57.8	79.9	2.6	1.1	21	5.0
WTTA	e P	Z	23:46:03.5	80.9	4.6	1.1	24	5.1
KBA	e P	Z	23:46:04.0	80.9	5.7	1.0	33	5.3
GRA1	e L	Z	00:29:58.5	78.5	4.4	19.0	196	4.5

Date Origin Time Lat Long Depth mb Ms ML Source
 2008/11/02 00:33:19.8 52.380N 176.480W 45.0 4.7 3.9
 Andreanof Islands, Aleutian Islands, United States

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z	00:44:52.3	73.5	4.3	0.9	18	5.1		
NRDL	e P	Z	00:45:00.1	75.0	4.2	0.8	4	4.5		
IBBN	e P	Z	00:45:02.0	75.3	2.7	0.9	14	5.1		
CLZ	e P	Z	00:45:04.4	75.6	4.3	0.9	11	5.0		
CLL	e P	Z	00:45:05.8	76.0	5.9	0.8	4	4.6		
NEUB	e P	Z	00:45:07.4	76.2	5.2	0.8	10	5.0		
BRG	e P	Z	00:45:08.2	76.4	6.5	0.9	4	4.6		
MOX	e P	Z	00:45:10.4	76.7	5.1	0.8	5	4.6		
TNS	e P	Z	00:45:13.3	77.3	3.1	0.8	7	4.8		
	e pP	Z	00:45:26.3							
ROTZ	e pP	Z	00:45:27.7	77.6	5.4					
GRA1	e P	Z	00:45:15.9	77.7	4.8	0.8	12	5.1		
	e L	Z	00:56:06.1			18.9	57		3.9	
WLF	e P	Z	00:45:17.1	77.9	1.6	0.8	6	4.8		
WET	e P	Z	00:45:18.4	78.2	5.8	1.0	2	4.0		
GEC2	e P	Z	00:45:19.6	78.4	6.3	0.9	2	4.2		
STU	e P	Z	00:45:21.3	78.7	3.5	0.9	6	4.6		
BFO	e P	Z	00:45:23.7	79.2	3.0	0.8	2	4.2		
FUR	e P	Z	00:45:24.3	79.2	4.8	1.0	6	4.4		

Date Origin Time Lat Long Depth mb Ms ML Source
 2008/11/02 01:45:46.7 50.737N 170.954W 60.8 4.9 4.0
 South of Aleutian Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z	01:57:27.7	75.3	0.8	1.2	40	5.4		

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NRDL	e P	Z	01:57:34.8	76.8	0.7	1.2	10	4.8		
IBBN	e P	Z	01:57:37.1	77.0	359.2	1.4	28	5.2		
CLZ	e P	Z	01:57:40.0	77.4	0.9	1.3	26	5.2		
CLL	e P	Z	01:57:41.2	77.9	2.6	0.8	6	4.8		
	e pP	Z	01:57:58.1							
NEUB	e P	Z	01:57:42.9	78.0	1.8	1.2	27	5.3		
BRG	e P	Z	01:57:43.5	78.3	3.2	1.5	22	5.0		
MOX	e P	Z	01:57:45.9	78.6	1.7	1.3	12	4.8		
TNS	e P	Z	01:57:48.8	79.0	359.6	0.9	7	4.7		
ROTZ	e P	Z	01:57:50.3	79.5	2.0	1.2	7	4.5		
GRA1	e P	Z	01:57:50.8	79.6	1.4	1.5	31	5.0		
	e L	Z	02:53:13.6			19.4	68		4.0	
WLF	e P	Z	01:57:49.7	79.6	358.1	1.1	8	4.6		
WET	e P	Z	01:57:53.9	80.1	2.5	1.1	5	4.4		
GEC2	e P	Z	01:57:55.1	80.3	3.0	1.8	23	4.9		

Date Origin Time Lat Long Depth mb Ms ML Source
 2008/11/02 02:36: 8.6 47.340N 150.300E 45.5 4.9 4.1 SZGRF
 Kuril Islands, Russia

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z	02:47:44.3	73.2	27.1	0.8	14	5.0		
NRDL	e P	Z	02:47:51.8	74.5	26.8	2.1	53	5.2		
	e pP	Z	02:48:04.0							
CLL	e P	Z	02:47:52.3	74.8	28.4	0.8	12	5.0		
BRG	e P	Z	02:47:53.4	74.9	29.0	1.0	5	4.4		
CLZ	e P	Z	02:47:54.7	75.1	26.8	1.5	22	4.9		
	e pP	Z	02:48:08.6							
NEUB	e P	Z	02:47:55.6	75.2	27.7	1.1	18	5.1		
IBBN	e P	Z	02:47:55.7	75.3	25.2	0.6	6	4.9		
MOX	e P	Z	02:47:58.6	75.8	27.5	0.7	6	4.8		
UBBA	e P	Z	02:48:00.3	76.1	26.5	0.6	4	4.7		
ROTZ	e P	Z	02:48:02.0	76.4	27.8	1.9	20	4.9		
WET	e P	Z	02:48:04.4	76.7	28.1	0.9	7	4.8		
GEC2	e P	Z	02:48:03.8	76.7	28.6	0.7	6	4.9		
GRA1	e P	Z	02:48:04.6	76.7	27.1	0.7	16	5.3		
	e L	Z	03:27:06.8			19.0	86		4.1	
RJOB	e P	Z	02:48:11.0	78.0	27.9	0.8	4	4.6		
BFO	e P	Z	02:48:15.6	78.8	25.2	0.7	4	4.6		

Date Origin Time Lat Long Depth mb Ms ML Source
 2008/11/02 08:02:21.7 52.500N 176.500W 33.0N 4.6 SZGRF
 Andreanof Islands, Aleutian Islands, United States

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
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NRDL	e P	Z	08:14:01.1	74.9	4.2				
IBBN	e P	Z	08:14:02.7	75.1	2.7				
CLZ	e P	Z	08:14:05.3	75.5	4.3	0.9	6	4.7	
BRG	e P	Z	08:14:09.0	76.3	6.5				
MOX	e P	Z	08:14:11.3	76.6	5.1	1.1	7	4.7	
TNS	e P	Z	08:14:14.3	77.2	3.1	0.9	8	4.8	
GRA1	e P	Z	08:14:17.1	77.6	4.8	0.8	9	4.9	
WET	e P	Z	08:14:19.2	78.0	5.8	1.5	7	4.5	
GEC2	e P	Z	08:14:20.4	78.3	6.3	1.0	3	4.3	

Date Origin Time Lat Long Depth mb Ms ML Source
 2008/11/02 13:48:47.8 51.500N 174.500W 57.0 5.9 5.9
 Andreanof Islands, Aleutian Islands, United States SZGRF

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z	14:00:19.4	74.5	3.1	0.9	127	5.9		
NRDL	e P	Z	14:00:27.0	75.9	3.0	2.0	242	6.0		
IBBN	e P	Z	14:00:29.1	76.2	1.4	1.0	152	6.1		
CLZ	e P	Z	14:00:31.6	76.6	3.1	1.0	116	6.0		
CLL	e P	Z	14:00:32.9	77.0	4.8	2.2	428	6.2		
	e pP	Z	14:00:49.9							
BUG	e P	Z	14:00:33.6	77.0	1.1	1.0	64	5.7		
NEUB	e P	Z	14:00:34.2	77.2	4.0	1.2	151	6.0		
FBE	e P	Z	14:00:35.7	77.4	5.0	1.3	135	5.9		
	e pP	Z	14:00:52.7							
BRG	e P	Z	14:00:35.1	77.4	5.4	1.3	74	5.7		
UBBA	e P	Z	14:00:36.8	77.6	2.9	2.0	236	6.0		
MOX	e P	Z	14:00:37.2	77.7	3.9	2.2	424	6.2		
	e pP	Z	14:00:54.2							
PLN	e P	Z	14:00:38.3	77.9	4.2	2.2	1253	6.7		
WERD	e P	Z	14:00:38.5	77.9	4.3	2.1	274	6.0		
	e pP	Z	14:00:55.5							
TANN	e P	Z	14:00:38.6	77.9	4.4	2.1	272	6.0		
	e pP	Z	14:00:53.8							
GUNZ	e P	Z	14:00:39.0	78.0	4.3	2.1	364	6.1		
WERN	e P	Z	14:00:39.5	78.0	4.4	1.2	86	5.8		
TNS	e P	Z	14:00:40.7	78.2	1.9	0.9	78	5.7		
	e pP	Z	14:00:56.0							
ROTZ	e P	Z	14:00:42.5	78.6	4.3	2.2	297	5.9		
	e pP	Z	14:00:57.2							
GRA1	e P	Z	14:00:43.5	78.7	3.6	1.1	187	6.0		
	e L	Z	14:46:00.6			18.5	4911		5.9	
WLF	e P	Z	14:00:44.1	78.8	0.4	2.1	371	6.1		
	e pP	Z	14:00:59.1							
WET	e P	Z	14:00:45.6	79.2	4.7	2.0	158	5.6		
GEC2	e P	Z	14:00:46.6	79.4	5.2	2.0	166	5.6		
	e pP	Z	14:01:01.8							

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STU	e P	Z	14:00:48.3	79.7	2.3	1.1	85	5.6
BFO	e P	Z	14:00:50.6	80.1	1.8	1.4	110	5.7
FUR	e P	Z	14:00:51.2	80.2	3.6	2.2	439	6.1
	e pP	Z	14:01:06.5					
RJOB	e P	Z	14:00:53.1	80.6	4.6	0.8	33	5.4

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/02	13:55:14.0	51.520N	176.630W	33.0G	4.9	5.9		SZGRF

Andreanof Islands, Aleutian Islands, United States

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z 14:06:55.9	74.4	4.5	1.0	20	5.1		
NRDL	e P	Z 14:07:03.7	75.8	4.3	1.6	24	5.1		
IBBN	e P	Z 14:07:05.5	76.1	2.8	1.0	28	5.3		
CLZ	e P	Z 14:07:07.9	76.5	4.5	1.1	14	5.0		
CLL	e P	Z 14:07:09.3	76.8	6.1	1.0	6	4.7		
NEUB	e P	Z 14:07:10.9	77.0	5.4	0.9	22	5.3		
BRG	e P	Z 14:07:11.7	77.2	6.7	1.1	9	4.8		
MOX	e P	Z 14:07:13.9	77.6	5.2	1.0	8	4.8		
TANN	e P	Z 14:07:14.7	77.8	5.8	1.2	7	4.6		
ROTZ	e P	Z 14:07:18.2	78.4	5.6	1.4	10	4.6		
GRA1	e P	Z 14:07:19.9	78.6	5.0					
	e L	Z 14:46:00.6			18.5	4911		5.9	
WLF	e P	Z 14:07:20.5	78.8	1.8	1.0	15	5.0		
GEC2	e P	Z 14:07:22.8	79.2	6.5	1.1	6	4.4		
STU	e P	Z 14:07:24.9	79.6	3.7	0.5	12	5.1		
BFO	e P	Z 14:07:27.1	80.1	3.1	1.7	17	4.7		
RJOB	e P	Z 14:07:29.5	80.4	5.9	1.3	10	4.7		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/02	15:01:0.3	30.000S	177.000W	45.0G		5.8		NEIC

Kermadec Islands, New Zealand

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPab	Z 15:21:14.0	155.5	15.4					
IBBN	e PKPab	Z 15:21:22.3	157.4	10.8					
CLL	e PKPab	Z 15:21:22.2	157.4	23.1					
CLZ	e PKPab	Z 15:21:22.8	157.5	16.9					
BRG	e PKPab	Z 15:21:23.1	157.6	25.5					
FBE	e PKPab	Z 15:21:23.9	157.7	24.2					
NEUB	e PKPab	Z 15:21:23.8	157.8	20.5					
MOX	e PKPab	Z 15:21:26.5	158.4	20.6					
TANN	e PKPab	Z 15:21:26.7	158.4	22.7					
WERD	e PKPab	Z 15:21:26.4	158.4	22.4					
PLN	e PKPab	Z 15:21:26.7	158.4	22.0					

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GUNZ	e	PKPab	Z	15:21:27.3	158.5	22.5					
WERN	e	PKPab	Z	15:21:27.6	158.5	22.7					
ROTZ	e	PKPab	Z	15:21:30.0	159.0	22.8					
GRA1	e	PKPab	Z	15:21:31.3	159.4	20.6					
	e	L	Z	16:33:56.1			21.7	1549		5.8	
WET	e	PKPab	Z	15:21:31.9	159.4	25.0					
GEC2	e	PKPab	Z	15:21:31.7	159.5	27.3					
STU	e	PKPab	Z	15:21:36.3	160.6	16.4					
RJOB	e	PKPab	Z	15:21:37.6	160.7	26.5					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/02	21:25:35.1	36.960N	31.850E	33.0G	3.9			SZGRF

Turkey

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e P	Z 21:29:44.9	17.7	125.3	1.1	4	3.5		
WET	e P	Z 21:29:51.0	18.4	124.5	0.7	8	4.0		
ROTZ	e P	Z 21:29:59.4	19.1	124.7	1.3	13	4.0		
TANN	e P	Z 21:30:02.4	19.3	126.7	1.0	6	3.8		
MOX	e P	Z 21:30:08.5	19.9	125.7	1.0	9	4.0		
BFO	e P	Z 21:30:16.2	20.6	114.8	1.0	12	4.2		
TNS	e P	Z 21:30:23.9	21.4	119.4	0.8	6	3.9		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/03	14:52:46.1	52.420N	175.940W	21.5	5.0	3.8		SZGRF

Andreanof Islands, Aleutian Islands, United States

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
NRDL	e P	Z 15:04:26.4	75.0	3.8	1.1	12	4.8		
IBBN	e P	Z 15:04:28.2	75.2	2.3	0.7	22	5.4		
CLZ	e P	Z 15:04:30.8	75.6	4.0	0.9	23	5.3		
CLL	e P	Z 15:04:32.1	76.0	5.6	1.0	12	5.0		
NEUB	e P	Z 15:04:33.6	76.2	4.8	0.8	29	5.5		
FBE	e P	Z 15:04:34.7	76.4	5.8	1.1	20	5.2		
BRG	e P	Z 15:04:34.3	76.4	6.2	0.9	11	5.0		
UBBA	e P	Z 15:04:35.7	76.6	3.7	0.9	6	4.7		
	e pP	Z 15:04:42.6							
MOX	e P	Z 15:04:36.8	76.7	4.7	1.0	16	5.1		
WERD	e P	Z 15:04:37.4	76.9	5.2	1.2	10	4.8		
TANN	e P	Z 15:04:37.6	76.9	5.2	1.1	7	4.7		
GUNZ	e P	Z 15:04:38.2	77.0	5.2	1.0	9	4.9		
TNS	e P	Z 15:04:39.9	77.3	2.7	0.8	18	5.3		
ROTZ	e P	Z 15:04:41.7	77.6	5.1	0.9	10	4.9		
GRA1	e P	Z 15:04:42.7	77.7	4.5	0.7	33	5.6		
	e L	Z 15:33:44.7			21.0	52		3.8	

WLF	e P	Z	15:04:43.0	77.9	1.3	1.0	16	5.1
WET	e P	Z	15:04:44.7	78.2	5.5	1.4	11	4.7
GEC2	e P	Z	15:04:45.9	78.4	6.0	1.0	9	4.8
BFO	e P	Z	15:04:49.9	79.2	2.6	0.9	11	4.8
FUR	e pP	Z	15:04:56.1	79.2	4.5			
RJOB	e P	Z	15:04:52.3	79.6	5.4	0.8	5	4.5

Date Origin Time Lat Long Depth mb Ms ML Source
 2008/11/03 19:22:11.8 1.610N 95.660E 25.6 5.3 5.4
 Off west coast of northern Sumatera, Indonesia

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e P	Z	19:34:34.0	83.5	95.0	1.3	31	5.4		
BRG	e P	Z	19:34:33.4	83.5	95.4	1.0	10	5.0		
FBE	e P	Z	19:34:35.7	83.9	95.0	1.6	48	5.5		
RJOB	e P	Z	19:34:35.7	84.0	94.2	0.8	14	5.2		
WET	e P	Z	19:34:36.8	84.1	94.4	1.0	16	5.2		
CLL	e P	Z	19:34:36.6	84.2	94.7	1.2	19	5.2		
TANN	e P	Z	19:34:38.7	84.4	94.2	1.3	16	5.1		
WERN	e P	Z	19:34:39.0	84.5	94.1	0.9	12	5.1		
GUNZ	e P	Z	19:34:38.4	84.5	94.1	1.1	13	5.1		
WERD	e P	Z	19:34:38.4	84.5	94.1	0.9	9	5.0		
ROTZ	e P	Z	19:34:39.1	84.5	94.0	0.9	15	5.2		
	e pP	Z	19:34:46.8							
NEUB	e P	Z	19:34:40.5	84.9	93.8	1.1	29	5.4		
MOX	e P	Z	19:34:40.7	85.0	93.6	1.6	22	5.1		
GRA1	e P	Z	19:34:42.4	85.2	93.2	1.0	37	5.6		
	e L	Z	20:21:01.9			20.7	1734		5.4	
CLZ	e P	Z	19:34:45.1	85.8	92.7	2.1	92	5.5		
NRDL	e P	Z	19:34:46.4	86.0	92.5	1.4	64	5.6		
BFO	e P	Z	19:34:50.5	87.0	90.9	1.5	26	5.1		
IBBN	e P	Z	19:34:53.4	87.4	90.7	1.0	43	5.5		
BUG	e P	Z	19:34:54.6	87.7	90.3	0.9	27	5.6		
	e pP	Z	19:35:01.8							
WLF	e P	Z	19:34:58.3	88.5	89.3	2.1	125	5.9		

Date Origin Time Lat Long Depth mb Ms ML Source
 2008/11/03 19:35:38.3 16.074S 175.039W 33.0G
 Tonga Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
NRDL	e PKPbc	Z	19:55:09.5	143.4	8.3					
IBBN	e PKPbc	Z	19:55:11.5	143.7	4.5					
CLZ	e PKPbc	Z	19:55:12.3	144.0	8.9					
CLL	e PKPbc	Z	19:55:12.4	144.2	13.3					

NEUB	e	PKPbc	Z	19:55:13.4	144.4	11.3
BRG	e	PKPbc	Z	19:55:13.5	144.5	15.0
FBE	e	PKPbc	Z	19:55:14.2	144.5	14.0
BUG	e	PKPbc	Z	19:55:14.3	144.6	3.8
MOX	e	PKPbc	Z	19:55:15.6	145.0	11.2
UBBA	e	PKPbc	Z	19:55:15.2	145.0	8.5
PLN	e	PKPbc	Z	19:55:16.0	145.1	12.1
WERD	e	PKPbc	Z	19:55:16.1	145.1	12.4
TANN	e	PKPbc	Z	19:55:16.1	145.1	12.7
GUNZ	e	PKPbc	Z	19:55:16.5	145.2	12.5
WERN	e	PKPbc	Z	19:55:16.8	145.3	12.6
TNS	e	PKPbc	Z	19:55:18.1	145.7	6.0
ROTZ	e	PKPbc	Z	19:55:18.4	145.8	12.5
GRA1	e	PKPbc	Z	19:55:18.9	146.0	10.8
WET	e	PKPbc	Z	19:55:19.5	146.3	13.8
WLF	e	PKPbc	Z	19:55:20.7	146.4	2.1
GEC2	e	PKPbc	Z	19:55:19.8	146.5	15.3
STU	e	PKPbc	Z	19:55:22.0	147.1	7.5
FUR	e	PKPbc	Z	19:55:22.8	147.5	11.3
BFO	e	PKPbc	Z	19:55:23.3	147.6	6.1
	e	PKPab	Z	19:55:26.7		
RJOB	e	PKPbc	Z	19:55:23.2	147.7	14.2

Date Origin Time Lat Long Depth mb Ms ML Source
 2008/11/03 21:40:25.7 53.120N 159.510E 35.5 5.0 4.4
 Near east coast of Kamchatka Peninsula, Russia SZGRF

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e P	Z 21:51:29.0	70.6	21.0	1.1	29	5.3		
NRDL	e P	Z 21:51:33.4	71.3	18.8	1.2	13	4.9		
CLL	e P	Z 21:51:36.1	71.9	20.4	0.9	14	5.1		
CLZ	e P	Z 21:51:37.2	71.9	18.9	0.9	19	5.2		
BRG	e P	Z 21:51:37.2	72.1	20.9	1.1	8	4.8		
NEUB	e P	Z 21:51:38.3	72.2	19.7	0.8	10	5.0		
	e pP	Z 21:51:48.5							
MOX	e P	Z 21:51:41.9	72.8	19.5	1.0	9	4.8		
TANN	e pP	Z 21:51:49.5	72.8	20.0					
BUG	e P	Z 21:51:42.3	72.9	17.0	1.0	16	5.1		
GUNZ	e P	Z 21:51:42.6	72.9	19.9	1.1	9	4.8		
UBBA	e P	Z 21:51:42.8	72.9	18.6	1.4	14	4.9		
ROTZ	e P	Z 21:51:46.2	73.5	19.8	1.3	12	4.7		
GRA1	e P	Z 21:51:48.1	73.8	19.2	1.0	24	5.2		
	e L	Z 22:29:58.2			18.2	195		4.4	
TNS	e P	Z 21:51:48.2	73.8	17.6	1.1	12	4.8		
WET	e P	Z 21:51:48.8	73.9	20.1	1.1	18	5.0		
GEC2	e P	Z 21:51:48.9	74.0	20.5	1.1	10	4.7		
RJOB	e P	Z 21:51:56.4	75.3	19.9	1.0	9	4.9		

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BFO e P Z 21:51:58.1 75.6 17.4 1.0 10 4.9

Date Origin Time Lat Long Depth mb Ms ML Source
2008/11/07

Sta Phase Time Dist BAz T[s] A[nm] mb MS ML
GRA1 e PKPbc Z 00:16:41.6

Date Origin Time Lat Long Depth mb Ms ML Source
2008/11/07 07:19:38.0
Vanuatu Islands

Sta Phase Time Dist BAz T[s] A[nm] mb MS ML
GRA1 e PKP Z 07:38:58.5 140.2 36.6
e L Z 08:45:26.9 20.3 6193 6.3

Date Origin Time Lat Long Depth mb Ms ML Source
2008/11/07 08:43:19.4
South of Fiji Islands

Sta Phase Time Dist BAz T[s] A[nm] mb MS ML
RGN e PKPbc Z 09:02:00.2 147.9 24.1
RUE e PKPbc Z 09:02:04.8 149.7 26.3
NRDL e PKPbc Z 09:02:07.1 150.5 19.8
CLL e PKPbc Z 09:02:07.9 150.9 25.8
BRG e PKPbc Z 09:02:08.1 151.0 27.9
e PKPab Z 09:02:18.0
CLZ e PKPbc Z 09:02:08.5 151.1 20.7
e pPKPbc Z 09:04:20.1
FBE e PKPbc Z 09:02:09.0 151.2 26.8
e PKPab Z 09:02:19.1
TANN e PKPbc Z 09:02:09.9 151.9 25.5
e PKPab Z 09:02:21.7
e pPKPbc Z 09:04:21.9
WERD e PKPab Z 09:02:22.0 151.9 25.2
MOX e PKPbc Z 09:02:09.9 151.9 23.8
GUNZ e PKPbc Z 09:02:10.1 151.9 25.3
e PKPab Z 09:02:22.3
e pPKPbc Z 09:04:22.1
WERN e PKPbc Z 09:02:10.8 152.0 25.5
e PKPab Z 09:02:22.7
BUG e PKPbc Z 09:02:10.3 152.0 15.1
ROTZ e PKPab Z 09:02:24.9 152.5 25.6

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GRA1	e PKPab	Z	09:02:26.6	152.9	23.8
WET	e PKPab	Z	09:02:26.1	152.9	27.4
GEC2	e PKPbc	Z	09:02:12.1	152.9	29.2
	e PKPab	Z	09:02:25.9		
TNS	e PKPbc	Z	09:02:12.6	153.0	18.0

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/07	09:40: 6.0	14.900S	168.100E	60.0				GSRC
Vanuatu Islands								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 09:59:25.1	140.4	36.6					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/07								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 16:23:00.4							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/07	17:23:53.2	19.300S	177.600W	582.0				NEIC
Fiji Islands region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 17:42:35.6	148.8	16.2					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/07	21:41: 8.2	70.866N	11.130W	33.0G	4.5			SZGRF
Jan Mayen Island region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 21:46:16.4	23.6	341.8	1.5	23	4.5		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/08	04:04:31.6	38.068N	69.674E	33.0N	4.6			SZGRF
Tajikistan								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 04:12:24.5	42.6	82.8	1.8	20	4.6		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/08	07:49:46.7	16.000S	175.250W	33.0				GSRC

Tonga Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
MOX	e PKPbc	Z	08:09:18.9	144.9	11.5					
WERD	e PKPbc	Z	08:09:19.5	145.0	12.7					
TANN	e PKPbc	Z	08:09:19.5	145.0	13.0					
GUNZ	e PKPbc	Z	08:09:19.7	145.1	12.8					
WERN	e PKPbc	Z	08:09:20.1	145.2	12.9					
TNS	e PKPbc	Z	08:09:21.4	145.6	6.3					
ROTZ	e PKPbc	Z	08:09:22.1	145.7	12.8					
GRA1	e PKPbc	Z	08:09:22.6	145.9	11.1					
WET	e PKPbc	Z	08:09:23.6	146.2	14.1					
WLF	e PKPbc	Z	08:09:23.9	146.3	2.4					
GEC2	e PKPbc	Z	08:09:24.1	146.3	15.7					
STU	e PKPbc	Z	08:09:25.9	147.0	7.9					
FUR	e PKPbc	Z	08:09:27.0	147.4	11.7					
BFO	e PKPbc	Z	08:09:27.2	147.5	6.4					
RJOB	e PKPbc	Z	08:09:27.7	147.6	14.5					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/08	07:49:47.7	15.000S	174.200W	33.0				GSRC

Tonga Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
UBBA	e PKP	Z	08:09:18.5	144.0	6.9					
MOX	e PKP	Z	08:09:19.0	144.0	9.6					
WERD	e PKP	Z	08:09:19.5	144.2	10.8					
TANN	e PKP	Z	08:09:19.5	144.2	11.0					
GUNZ	e PKP	Z	08:09:19.9	144.2	10.8					
WERN	e PKP	Z	08:09:20.3	144.3	10.9					
TNS	e PKP	Z	08:09:21.3	144.7	4.4					
ROTZ	e PKP	Z	08:09:22.1	144.8	10.8					
GRA1	e PKP	Z	08:09:22.6	145.0	9.2					
WLF	e PKP	Z	08:09:23.9	145.3	0.6					
WET	e PKP	Z	08:09:23.7	145.4	12.1					
GEC2	e PKP	Z	08:09:24.1	145.5	13.6					
STU	e PKP	Z	08:09:25.8	146.1	5.9					
FUR	e PKP	Z	08:09:27.2	146.5	9.6					
BFO	e PKP	Z	08:09:27.3	146.6	4.4					
RJOB	e PKP	Z	08:09:27.8	146.8	12.4					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/08	08:46:15.5	59.200N	120.820E	33.0G	5.2	4.7		SZGRF

Southeastern Siberia, Russia

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e P	Z	08:55:46.8	55.1	36.5	1.1	23	5.1		
NRDL	e P	Z	08:55:48.0	55.2	35.7	1.3	22	5.0		
CLZ	e P	Z	08:55:51.0	55.6	35.6	1.8	61	5.3		
NEUB	e P	Z	08:55:50.5	55.6	35.9	1.6	38	5.2		
TANN	e P	Z	08:55:53.6	56.0	35.9	1.9	40	5.1		
WERD	e P	Z	08:55:53.8	56.0	35.8	1.6	45	5.2		
GUNZ	e P	Z	08:55:54.1	56.1	35.8					
MOX	e P	Z	08:55:54.5	56.1	35.6	1.3	27	5.1		
WERN	e P	Z	08:55:54.6	56.1	35.8	1.0	14	4.9		
ROTZ	e P	Z	08:55:58.3	56.6	35.5	1.6	33	5.1		
GEC2	e P	Z	08:55:59.1	56.8	35.8	1.2	23	5.1		
WET	e P	Z	08:56:00.0	56.9	35.6	1.0	24	5.2		
GRA2	e P	Z	08:56:00.9	57.0	35.1	1.3	17	4.9		
BUG	e P	Z	08:56:00.8	57.0	34.0	1.4	36	5.2		
GRA1	e P	Z	08:56:01.0	57.0	35.1	2.0	91	5.5		
	e L	Z	09:13:20.5			21.3	611		4.7	
GRB4	e P	Z	08:56:01.5	57.1	35.1	1.3	41	5.3		
GRB3	e P	Z	08:56:01.7	57.1	35.2	1.1	28	5.2		
GRB1	e P	Z	08:56:01.7	57.1	35.2	1.2	39	5.3		
GRC4	e P	Z	08:56:03.6	57.4	35.0	1.2	25	5.1		
GRC3	e P	Z	08:56:04.7	57.6	34.9	0.9	15	5.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/08	09:15:51.8	15.200S	174.200W	140.0	5.5			NEIC

Tonga

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WERD	e PKPbc	Z	09:35:10.4	142.1	5.1					
TANN	e PKPbc	Z	09:35:10.6	142.1	5.3					
ROTZ	e PKPbc	Z	09:35:12.9	142.7	5.0					
GRA1	e PKPbc	Z	09:35:13.8	142.9	3.4					
GEC2	e PKPbc	Z	09:35:15.1	143.6	7.6					
BFO	e PKPbc	Z	09:35:18.1	144.3	358.7					
FUR	e PKPbc	Z	09:35:18.0	144.4	3.6					
RJOB	e PKPbc	Z	09:35:18.7	144.7	6.3					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/09	07:48:55.1	36.200N	28.000E	33.0	3.9			THE

Dodecanese Islands, Greece

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z	07:53:03.9	18.5	133.8	1.1	19	4.2		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/09	09:30: 4.7	43.279N	13.457E	10.0G			3.1	SZGRF

Central Italy

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
OBKA	e Pn	Z	09:30:55.1	3.3	193.9					3.1
KBA	e Pn	Z	09:31:01.9	3.8	178.8					
	e Sn	N	09:31:43.9							
WTTA	e Pn	Z	09:31:07.6	4.2	161.5					
ARSA	e Pn	Z	09:31:07.1	4.2	200.9					
	e Sn	E	09:31:53.2							
MOA	e Pn	Z	09:31:13.4	4.6	187.4					
DAVA	e Pn	Z	09:31:16.1	4.7	146.6					
GEC2	e Pn	Z	09:31:25.0	5.6	181.8					
	e Sn	N	09:32:25.5							
WET	e Pn	Z	09:31:28.8	5.9	175.9					
	e Sn	E	09:32:31.0							
BFO	e Pn	Z	09:31:33.8	6.2	142.8					
	e Sn	E	09:32:38.0							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/10	01:22: 6.0	37.850N	95.840E	33.0G	6.6	6.7		SZGRF

Qinghai, China

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RGN	e P	Z	01:31:43.3	56.0	70.8	1.6	1390	6.7		
RUE	e P	Z	01:31:45.9	56.4	69.8	2.4	2600	6.8		
FBE	e P	Z	01:31:51.9	57.2	68.6	1.8	1165	6.6		
CLL	e P	Z	01:31:51.7	57.3	68.6	2.0	1063	6.5		
GEC2	e P	Z	01:31:55.8	57.8	67.6	1.7	629	6.4		
BSEG	e P	Z	01:31:56.5	57.8	68.4	1.9	2212	6.9		
TANN	e P	Z	01:31:56.8	57.9	67.8	2.0	1048	6.5		
WERD	e P	Z	01:31:57.2	58.0	67.7	2.0	915	6.5		
GUNZ	e P	Z	01:31:57.4	58.0	67.6	1.9	1232	6.6		
WERN	e P	Z	01:31:57.5	58.0	67.6	1.9	1010	6.5		
NEUB	e P	Z	01:31:57.2	58.0	67.8	1.7	1255	6.7		
WET	e P	Z	01:31:58.6	58.2	67.3	2.1	1258	6.6		
ROTZ	e P	Z	01:32:00.0	58.3	67.2	1.9	1332	6.6		
MOX	e P	Z	01:31:59.5	58.3	67.4	1.7	800	6.5		
NRDL	e P	Z	01:32:01.1	58.5	67.4	1.8	1971	6.8		
CLZ	e P	Z	01:32:01.5	58.6	67.3	1.4	656	6.5		

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RJOB	e P	Z	01:32:03.0	58.8	66.4	2.2	1943	6.8	
GRA1	e P	Z	01:32:04.2	58.9	66.6	2.0	2690	6.9	
	e L	Z	01:58:21.6			21.2	68332		6.7
HLG	e P	Z	01:32:05.0	59.1	66.9	1.6	1321	6.7	
UBBA	e P	Z	01:32:05.5	59.2	66.5	1.7	601	6.3	
FUR	e P	Z	01:32:08.3	59.5	65.8	1.9	2950	7.0	
IBBN	e P	Z	01:32:10.3	59.9	65.8	2.0	1692	6.7	
TNS	e P	Z	01:32:13.6	60.4	65.2	2.3	1238	6.3	
BUG	e P	Z	01:32:14.7	60.5	65.1	1.8	1086	6.4	
STU	e P	Z	01:32:14.5	60.5	64.9	1.9	1051	6.3	
BFO	e P	Z	01:32:19.1	61.2	64.1	1.8	895	6.3	
WLF	e P	Z	01:32:24.7	61.9	63.5	1.8	1366	6.9	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/10								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 02:01:43.2							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/10	03:47:13.0	37.547N	99.537E	33.0G	5.5			SZGRF
Qinghai, China								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 03:57:25.7	61.3	64.6	0.8	24	5.5		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/10	07:51:49.9	17.800S	178.700W	600.0				GSRC
Fiji Islands region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKP	Z 08:10:22.7	145.2	19.8					
FBE	e PKP	Z 08:10:24.1	145.5	20.6					
WERD	e PKP	Z 08:10:25.6	146.2	19.1					
GUNZ	e PKP	Z 08:10:25.9	146.3	19.1					
WERN	e PKP	Z 08:10:26.0	146.3	19.3					
ROTZ	e PKP	Z 08:10:27.6	146.9	19.2					
TNS	e PKP	Z 08:10:28.0	147.1	12.6					
GEC2	e PKP	Z 08:10:28.8	147.4	22.3					
WLF	e PKP	Z 08:10:30.7	147.9	8.7					
RJOB	e PKP	Z 08:10:31.7	148.6	21.4					
BFO	e PKP	Z 08:10:32.5	148.9	13.1					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/10	08:58:23.8	3.570S	101.280E	33.0N	5.7			SZGRF

Southern Sumatera, Indonesia

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e P	Z	09:11:26.1	91.1	94.2	1.6	60	5.7		
RUE	e P	Z	09:11:26.9	91.3	94.2	1.1	155	6.3		
FBE	e P	Z	09:11:27.8	91.5	93.9	0.9	38	5.7		
RJOB	e P	Z	09:11:27.8	91.6	93.5					
WET	e P	Z	09:11:28.8	91.7	93.5	1.3	38	5.6		
CLL	e P	Z	09:11:28.4	91.7	93.6	1.2	42	5.6		
TANN	e P	Z	09:11:30.1	92.0	93.2	1.3	25	5.4		
WERN	e P	Z	09:11:30.4	92.0	93.1	1.0	17	5.3		
GUNZ	e P	Z	09:11:30.8	92.1	93.1	1.2	33	5.5		
WERD	e P	Z	09:11:30.7	92.1	93.1	1.0	23	5.4		
ROTZ	e P	Z	09:11:31.2	92.1	93.0	1.0	20	5.4		
NEUB	e P	Z	09:11:32.5	92.5	92.6	1.0	83	6.0		
MOX	e P	Z	09:11:32.8	92.5	92.5	1.6	60	5.8		
FUR	e P	Z	09:11:33.3	92.7	92.4					
GRA1	e P	Z	09:11:34.3	92.8	92.3	1.0	51	5.9		
CLZ	e P	Z	09:11:36.7	93.4	91.5	1.4	58	5.8		
NRDL	e P	Z	09:11:37.3	93.5	91.2	1.2	39	5.6		
STU	e P	Z	09:11:39.8	94.1	90.8					
TNS	e P	Z	09:11:42.2	94.6	90.1	1.1	28	5.6		
BFO	e P	Z	09:11:42.1	94.6	90.2	1.1	20	5.5		
IBBN	e P	Z	09:11:43.8	95.0	89.4	0.6	19	5.7		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/10	09:51:57.2	32.100S	179.300W	100.0				GSRC

South of Kermadec Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKPab	Z	10:12:19.1	158.8	29.9					
FBE	e PKPab	Z	10:12:20.7	159.0	31.2					
IBBN	e PKPab	Z	10:12:21.0	159.2	17.0					
WERD	e PKPab	Z	10:12:23.7	159.7	29.5					
MOX	e PKPab	Z	10:12:23.6	159.8	27.6					
GUNZ	e PKPab	Z	10:12:24.1	159.8	29.7					
WERN	e PKPab	Z	10:12:24.4	159.9	29.9					
ROTZ	e PKPab	Z	10:12:26.8	160.4	30.2					
GEC2	e PKPab	Z	10:12:27.4	160.6	35.0					
GRA1	e PKPab	Z	10:12:28.3	160.7	28.0					
RJOB	e PKPab	Z	10:12:33.5	161.9	34.8					
FUR	e PKPab	Z	10:12:34.4	162.1	30.3					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/10	20:54:51.5	21.672N	96.816E	108.4	5.5			SZGRF

Myanmar

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 21:05:56.2	70.9	78.7	1.8	70	5.5		
	e pP	Z 21:06:23.8							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/11	02:19:11.2	19.168N	95.861E	33.0G	5.4			SZGRF

Myanmar

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 02:30:32.6	72.1	81.2	1.6	50	5.4		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/11	15:06:17.5	14.800N	93.022W	33.0N	5.3			SZGRF

Near coast of Chiapas, Mexico

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z 15:18:53.7	85.7	289.4	1.3	63	5.6		
NRDL	e P	Z 15:18:55.1	86.0	289.3	1.3	20	5.1		
CLZ	e P	Z 15:18:57.0	86.4	289.5	1.1	20	5.1		
UBBA	e P	Z 15:18:57.0	86.5	289.3	1.7	27	5.1		
MOX	e P	Z 15:19:02.3	87.6	290.6	1.2	13	5.1		
GRA1	e P	Z 15:19:03.0	87.7	290.3	0.9	17	5.4		
GRA3	e P	Z 15:19:03.1	87.7	290.4	1.1	19	5.3		
GRB4	e P	Z 15:19:04.2	87.9	290.6	1.0	31	5.6		
GRB1	e P	Z 15:19:04.8	88.0	290.6	1.2	27	5.5		
WERD	e P	Z 15:19:04.5	88.0	291.1	1.3	21	5.3		
GRC4	e P	Z 15:19:04.8	88.1	290.6	1.4	39	5.5		
GRB2	e P	Z 15:19:04.9	88.1	290.7	1.0	32	5.6		
GRC1	e P	Z 15:19:05.1	88.1	290.5	1.5	22	5.3		
GUNZ	e P	Z 15:19:05.0	88.1	291.1	1.5	36	5.5		
GRB3	e P	Z 15:19:05.4	88.1	290.8	1.2	23	5.4		
CLL	e P	Z 15:19:04.9	88.1	291.6	1.0	14	5.2		
GRB5	e P	Z 15:19:05.0	88.1	290.7	1.1	21	5.4		
WERN	e P	Z 15:19:05.3	88.1	291.2	1.1	15	5.2		
TANN	e P	Z 15:19:05.2	88.1	291.2	1.1	14	5.2		
ROTZ	e P	Z 15:19:05.7	88.2	291.0	1.3	16	5.2		
FBE	e P	Z 15:19:07.0	88.5	291.9	1.4	25	5.3		
WET	e P	Z 15:19:08.7	88.9	291.6	1.4	24	5.3		
GEC2	e P	Z 15:19:11.3	89.5	292.2	1.0	7	4.8		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/11	16:16:35.7	32.431N	26.947E	33.0G	4.7			SZGRF
Eastern Mediterranean Sea								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RJOB	e P	Z	16:20:52.3	18.7	139.9	1.7	33	4.3		
GEC2	e P	Z	16:20:57.4	19.2	143.9	0.8	22	4.4		
WET	e P	Z	16:21:03.3	19.7	142.6	1.2	49	4.6		
ROTZ	e P	Z	16:21:11.3	20.5	142.2	1.6	34	4.4		
GRA1	e P	Z	16:21:15.2	20.8	140.0	2.5	348	5.2		
TANN	e P	Z	16:21:16.4	20.9	143.8	1.2	27	4.5		
GUNZ	e P	Z	16:21:16.4	20.9	143.4	1.1	16	4.3		
WERD	e P	Z	16:21:17.1	21.0	143.5	0.9	11	4.2		
CLL	e P	Z	16:21:21.8	21.5	146.2	1.2	23	4.4		
CLZ	e P	Z	16:21:36.9	22.9	141.7	1.6	50	4.8		
NRDL	e P	Z	16:21:43.6	23.5	142.1	1.7	65	4.9		
BSEG	e P	Z	16:21:54.1	24.5	144.5	1.4	112	5.4		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/11	21:56: 4.8	37.258N	96.168E	33.0G	5.3	5.0		SZGRF
Qinghai, China								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e P	Z	22:05:46.9	57.0	70.1	0.8	45	5.5		
FBE	e P	Z	22:05:52.8	57.8	68.9	1.0	38	5.4		
CLL	e P	Z	22:05:52.6	57.9	68.9	0.9	35	5.4		
GEC2	e P	Z	22:05:56.7	58.4	67.9	1.0	20	5.1		
BSEG	e P	Z	22:05:57.1	58.4	68.7	0.9	64	5.6		
TANN	e P	Z	22:05:57.4	58.5	68.1	1.0	25	5.2		
WERD	e P	Z	22:05:58.1	58.6	68.0	1.0	22	5.1		
GUNZ	e P	Z	22:05:58.2	58.6	68.0	0.9	28	5.3		
WERN	e P	Z	22:05:58.5	58.6	67.9	1.0	22	5.2		
NEUB	e P	Z	22:05:58.2	58.6	68.1	0.9	48	5.5		
WET	e P	Z	22:05:59.4	58.8	67.6	1.0	21	5.1		
ROTZ	e P	Z	22:06:00.7	58.9	67.5	1.0	36	5.4		
MOX	e P	Z	22:06:00.4	58.9	67.7	1.1	30	5.2		
NRDL	e P	Z	22:06:01.8	59.1	67.7	1.0	68	5.6		
CLZ	e P	Z	22:06:02.4	59.2	67.5	0.9	51	5.5		
RJOB	e P	Z	22:06:03.7	59.3	66.8	1.1	21	5.1		
GRA1	e P	Z	22:06:05.3	59.5	66.9	0.9	71	5.7		
	e L	Z	22:32:23.5			18.9	1114		5.0	
UBBA	e P	Z	22:06:06.3	59.8	66.7	1.4	17	4.9		
FUR	e P	Z	22:06:09.3	60.1	66.1	0.9	79	5.8		
TNS	e P	Z	22:06:14.5	61.0	65.5	1.0	17	4.8		

STU	e P	Z	22:06:15.4	61.1	65.2	0.9	38	5.2
BUG	e P	Z	22:06:15.5	61.1	65.3	1.0	43	5.2
BFO	e P	Z	22:06:19.8	61.8	64.5	1.1	33	5.5
WLF	e P	Z	22:06:25.6	62.5	63.8	1.2	75	5.7

Date Origin Time Lat Long Depth mb Ms ML Source
 2008/11/12 12:09:35.9 37.435N 95.917E 33.0G 5.2 4.1
 Qinghai, China

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z	12:19:19.7	57.2	69.3	1.5	38	5.2		
FBE	e P	Z	12:19:22.2	57.5	68.9	1.4	35	5.2		
CLL	e P	Z	12:19:22.3	57.6	68.9	1.2	30	5.2		
GEC2	e P	Z	12:19:26.0	58.1	67.9	1.1	14	4.9		
TANN	e P	Z	12:19:27.0	58.3	68.1	0.9	10	4.9		
WERD	e P	Z	12:19:27.6	58.3	68.0	1.0	14	5.0		
GUNZ	e P	Z	12:19:28.0	58.4	68.0	0.9	20	5.1		
WERN	e P	Z	12:19:28.0	58.4	67.9	0.8	14	5.0		
NEUB	e P	Z	12:19:27.9	58.4	68.1	0.8	25	5.3		
PLN	e P	Z	12:19:28.1	58.4	67.9	1.0	58	5.6		
WET	e P	Z	12:19:28.8	58.5	67.6	0.8	13	5.0		
ROTZ	e P	Z	12:19:30.3	58.7	67.5	0.9	20	5.1		
MOX	e P	Z	12:19:30.0	58.7	67.7	0.9	15	5.0		
NRDL	e P	Z	12:19:31.4	58.8	67.7	1.2	58	5.5		
CLZ	e P	Z	12:19:32.2	58.9	67.6	0.9	30	5.4		
RJOB	e P	Z	12:19:33.3	59.1	66.8	1.3	20	5.0		
GRA1	e P	Z	12:19:34.6	59.3	66.9	0.9	52	5.6		
	e L	Z	12:49:39.1			19.2	138		4.1	
FUR	e P	Z	12:19:38.8	59.8	66.1	0.8	53	5.6		
TNS	e P	Z	12:19:43.8	60.7	65.5	1.2	15	4.7		
STU	e P	Z	12:19:45.1	60.9	65.2	0.6	19	5.1		
BUG	e P	Z	12:19:45.1	60.9	65.4	1.7	56	5.1		
BFO	e P	Z	12:19:49.5	61.6	64.5	1.4	26	5.3		

Date Origin Time Lat Long Depth mb Ms ML Source
 2008/11/12 14:03:24.5 39.140N 35.433E 33.0N 4.4
 Turkey

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e P	Z	14:07:36.1	18.3	113.9	1.2	12	3.9		
WERN	e P	Z	14:07:51.5	19.7	115.6	1.2	19	4.2		
TANN	e P	Z	14:07:51.5	19.7	116.1	1.5	26	4.2		
GUNZ	e P	Z	14:07:52.3	19.7	115.7	1.3	13	4.0		
CLL	e P	Z	14:07:52.4	19.8	119.1	2.0	36	4.3		
GRA1	e P	Z	14:07:56.2	20.1	112.4	1.1	49	4.6		

MOX	e P	Z	14:07:57.8	20.3	115.3	1.2	25	4.3
NEUB	e P	Z	14:07:59.5	20.4	117.0	1.2	38	4.5
UBBA	e P	Z	14:08:08.3	21.3	113.4	3.7	343	5.1
BFO	e P	Z	14:08:10.8	21.5	105.2	1.4	54	4.8
CLZ	e P	Z	14:08:10.3	21.5	116.3	1.4	41	4.7
TNS	e P	Z	14:08:16.5	22.0	109.9	1.6	38	4.6

Date Origin Time Lat Long Depth mb Ms ML Source
 2008/11/13 10:31:35.3 21.800S 178.100W 370.0 mb MS ML
 Fiji Islands region NEIC

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	10:50:34.2	147.1	14.5					
HLG	e PKPbc	Z	10:50:34.4	147.2	10.3					
RUE	e PKPbc	Z	10:50:36.2	147.9	21.1					
NRDL	e PKPbc	Z	10:50:37.5	148.6	14.7					
IBBN	e PKPbc	Z	10:50:39.1	149.1	10.6					
CLZ	e PKPbc	Z	10:50:39.6	149.2	15.5					
CLL	e PKPbc	Z	10:50:39.4	149.2	20.4					
BRG	e PKPbc	Z	10:50:39.9	149.3	22.3					
FBE	e PKPbc	Z	10:50:40.5	149.4	21.3					
NEUB	e PKPbc	Z	10:50:40.3	149.5	18.3					
BUG	e PKPbc	Z	10:50:41.1	150.0	10.0					
MOX	e PKPbc	Z	10:50:41.6	150.1	18.3					
	e pPKPbc	Z	10:52:19.3							
PLN	e PKPbc	Z	10:50:41.7	150.1	19.4					
TANN	e PKPbc	Z	10:50:41.8	150.1	20.0					
WERD	e PKPbc	Z	10:50:41.8	150.1	19.7					
	e pPKPbc	Z	10:52:19.6							
GUNZ	e PKPbc	Z	10:50:42.1	150.2	19.8					
	e pPKPbc	Z	10:52:19.9							
UBBA	e pPKPbc	Z	10:52:19.4	150.2	15.3					
WERN	e PKPbc	Z	10:50:42.3	150.2	19.9					
	e pPKPbc	Z	10:52:20.3							
ROTZ	e PKPbc	Z	10:50:43.3	150.8	19.9					
	e pPKPbc	Z	10:52:21.4							
TNS	e PKPbc	Z	10:50:44.0	151.0	12.6					
GRA1	e PKPbc	Z	10:50:44.1	151.1	18.1					
WET	e PKPbc	Z	10:50:43.9	151.2	21.6					
GEC2	e PKPbc	Z	10:50:44.3	151.3	23.3					
WLF	e PKPbc	Z	10:50:46.1	151.8	8.4					
RJOB	e PKPbc	Z	10:50:46.8	152.5	22.4					
BFO	e PKPbc	Z	10:50:47.7	152.9	13.2					

Date Origin Time Lat Long Depth mb Ms ML Source

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2008/11/13 11:07:23.0
Zaire

6.400S 26.900E 10.0 5.1 NEIC

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 11:17:11.7	57.7	161.5	1.1	22	5.1		

Date Origin Time Lat Long Depth mb Ms ML Source
2008/11/13 20:52:10.8 39.700N 74.000E 60.0 4.9 GSRC
Southern Xinjiang, China

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 21:00:18.9	44.5	78.1	0.8	13	4.9		

Date Origin Time Lat Long Depth mb Ms ML Source
2008/11/14 01:48:45.2 44.030N 126.940W 33.0N 4.8 SZGRF
Off coast of Oregon, United States

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 02:00:48.6	79.4	330.8	1.2	14	4.8		

Date Origin Time Lat Long Depth mb Ms ML Source
2008/11/14 02:05: 9.4 53.700S 8.700E 10.0N 5.8 NEIC
Bouvet Island region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e L	Z 03:05:19.3	103.4	181.5	20.0	3215		5.8	

Date Origin Time Lat Long Depth mb Ms ML Source
2008/11/14 13:25:55.9 41.554N 18.721E 10.0G 5.8 SZGRF
Adriatic Sea

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RJOB	e Pn	Z 13:27:43.9	7.5	143.6					
GEC2	e Pn	Z 13:27:51.3	8.1	152.3					
WET	e Pn	Z 13:27:59.5	8.6	149.5					
TANN	e Pn	Z 13:28:16.6	9.9	151.6					
BFO	e Pn	Z 13:28:17.7	10.0	128.9					

Date Origin Time Lat Long Depth mb Ms ML Source

2008/11/14 22:52:38.1 22.221S 172.394E 197.5
Southeast of Loyalty Islands

SZGRF

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	23:12:17.1	145.5	30.2					
BRG	e PKPbc	Z	23:12:21.0	146.8	38.4					
	e pPKPbc	Z	23:13:11.3							
CLL	e PKPbc	Z	23:12:20.9	146.8	36.5					
NRDL	e PKPbc	Z	23:12:21.3	146.8	31.0					
FBE	e PKPbc	Z	23:12:21.9	147.0	37.4					
CLZ	e PKPbc	Z	23:12:23.0	147.3	31.9					
IBBN	e PKPbc	Z	23:12:23.9	147.7	27.3					
TANN	e PKPbc	Z	23:12:23.9	147.7	36.5					
	e pPKPbc	Z	23:13:14.5							
WERD	e PKPbc	Z	23:12:23.9	147.8	36.2					
	e pPKPbc	Z	23:13:14.7							
PLN	e PKPbc	Z	23:12:24.0	147.8	36.0					
GUNZ	e PKPbc	Z	23:12:24.3	147.8	36.4					
	e pPKPbc	Z	23:13:14.9							
MOX	e PKPbc	Z	23:12:24.1	147.9	34.9					
WERN	e PKPbc	Z	23:12:24.5	147.9	36.5					
UBBA	e PKPbc	Z	23:12:25.2	148.3	32.2					
ROTZ	e PKPbc	Z	23:12:25.9	148.3	36.7					
GEC2	e PKPbc	Z	23:12:25.7	148.5	40.0					
WET	e PKPbc	Z	23:12:26.1	148.6	38.4					
BUG	e PKPbc	Z	23:12:26.3	148.6	27.1					
GRA1	e PKPbc	Z	23:12:26.9	148.8	35.2					
TNS	e PKPbc	Z	23:12:28.3	149.3	30.1					
	e pPKPbc	Z	23:13:19.5							
RJOB	e PKPbc	Z	23:12:28.2	149.7	39.8					
WLF	e PKPbc	Z	23:12:31.9	150.5	26.5					
BFO	e PKPbc	Z	23:12:31.9	151.0	31.6					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/15	04:03:30.0	52.921N	177.368W	33.0G	5.3	4.7		SZGRF

Andreanof Islands, Aleutian Islands, United States

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z	04:15:01.4	73.0	4.8	0.9	60	5.7		
IBBN	e P	Z	04:15:11.2	74.7	3.2	1.1	58	5.5		
CLZ	e P	Z	04:15:13.6	75.0	4.8	0.9	40	5.4		
CLL	e P	Z	04:15:14.8	75.4	6.4	1.1	15	5.1		
BUG	e P	Z	04:15:15.7	75.6	2.9	1.2	32	5.3		
NEUB	e P	Z	04:15:16.3	75.6	5.7	1.0	45	5.6		
FBE	e P	Z	04:15:17.5	75.8	6.6	1.1	37	5.4		
BRG	e P	Z	04:15:17.1	75.8	7.0	0.8	17	5.2		
MOX	e P	Z	04:15:19.4	76.2	5.6	1.0	20	5.2		

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PLN	e P	Z	04:15:20.1	76.3	5.9	1.0	63	5.7		
WERD	e P	Z	04:15:20.3	76.3	6.0	2.9	159	5.6		
GUNZ	e P	Z	04:15:20.9	76.4	6.0	1.2	15	5.0		
WERN	e P	Z	04:15:21.4	76.5	6.0	1.0	26	5.3		
TNS	e P	Z	04:15:22.6	76.7	3.6	1.1	28	5.3		
GRA1	e P	Z	04:15:25.3	77.1	5.3	0.9	33	5.5		
	e L	Z	05:00:38.2			18.8	343		4.7	
WLF	e P	Z	04:15:26.2	77.4	2.2	0.9	21	5.2		
WET	e P	Z	04:15:27.2	77.6	6.3	1.5	21	5.0		
GEC2	e P	Z	04:15:28.5	77.8	6.8	1.0	9	4.9		

Date Origin Time Lat Long Depth mb Ms ML Source
 2008/11/15 04:03:32.3 53.321N 177.107W 33.0G 5.4
 Andreanof Islands, Aleutian Islands, United States SZGRF

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z	04:15:01.5	72.6	4.6	0.9	60	5.7		
NRDL	e P	Z	04:15:09.4	74.0	4.5	2.9	186	5.6		
IBBN	e P	Z	04:15:11.3	74.3	3.0	1.1	58	5.5		
CLZ	e P	Z	04:15:13.5	74.7	4.6	0.9	40	5.4		
CLL	e P	Z	04:15:14.9	75.0	6.2	0.8	16	5.1		
BUG	e P	Z	04:15:15.7	75.2	2.7	1.2	32	5.3		
NEUB	e P	Z	04:15:16.4	75.2	5.5	0.9	44	5.6		
FBE	e P	Z	04:15:17.6	75.4	6.4	1.1	37	5.4		
BRG	e P	Z	04:15:17.2	75.4	6.8	0.8	18	5.2		
MOX	e P	Z	04:15:19.5	75.8	5.4	1.0	19	5.2		
PLN	e P	Z	04:15:20.2	75.9	5.7	1.0	63	5.7		
WERD	e P	Z	04:15:20.4	75.9	5.8	2.9	159	5.6		
GUNZ	e P	Z	04:15:21.0	76.0	5.8	2.8	152	5.6		
WERN	e P	Z	04:15:21.5	76.1	5.8	1.0	26	5.3		
TNS	e P	Z	04:15:22.7	76.4	3.4	3.0	278	5.9		
ROTZ	e P	Z	04:15:24.5	76.6	5.7	2.9	123	5.5		
GRA1	e P	Z	04:15:25.4	76.7	5.1	0.9	33	5.5		
WLF	e P	Z	04:15:26.3	77.0	2.0	2.3	130	5.7		
GEC2	e P	Z	04:15:28.6	77.4	6.6	1.0	9	4.9		

Date Origin Time Lat Long Depth mb Ms ML Source
 2008/11/15 21:58:22.7 22.250S 165.695E 33.0N
 New Caledonia SZGRF

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPbc	Z	22:17:58.5	146.0	45.5					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/15	23:03:26.6	13.861N	85.408W	33.0N	4.9			SZGRF

Nicaragua

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z	23:15:35.9	80.5	280.2	0.5	3	4.6		
TNS	e P	Z	23:15:42.6	81.8	281.9	0.8	5	4.7		
BFO	e P	Z	23:15:43.9	82.1	282.0	1.5	20	5.0		
BSEG	e P	Z	23:15:44.0	82.1	282.8	1.5	52	5.5		
NRDL	e P	Z	23:15:45.1	82.3	282.8	0.6	2	4.3		
CLZ	e P	Z	23:15:46.9	82.6	283.1	0.1	1	4.9		
GRA1	e P	Z	23:15:52.4	83.7	284.0	1.1	12	5.0		
MOX	e P	Z	23:15:52.0	83.7	284.2	1.3	14	5.0		
PLN	e P	Z	23:15:53.8	84.1	284.6	0.5				
WERD	e P	Z	23:15:54.3	84.2	284.7	1.1				
GUNZ	e P	Z	23:15:54.6	84.2	284.8	0.7				
WERN	e P	Z	23:15:55.0	84.2	284.8	0.8				
TANN	e P	Z	23:15:55.1	84.3	284.9	1.2	17	5.2		
ROTZ	e P	Z	23:15:55.4	84.3	284.7	0.9	4	4.7		
CLL	e P	Z	23:15:54.9	84.4	285.2	1.0	9	4.9		
FBE	e P	Z	23:15:57.0	84.7	285.5					
WET	e P	Z	23:15:58.3	84.9	285.3	0.9	10	5.1		
RJOB	e P	Z	23:15:59.7	85.2	285.3	0.9	5	4.7		
GEC2	e P	Z	23:16:00.9	85.5	285.9	1.1	6	4.6		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/16	12:20:30.0	10.071N	92.294E	16.7N	5.1	5.1		SZGRF

Andaman Islands, India, region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e P	Z	12:32:10.1	74.9	91.9	1.0	18	5.1		
RUE	e P	Z	12:32:10.5	75.0	92.9	0.9	33	5.3		
FBE	e P	Z	12:32:12.1	75.2	92.2	0.9	22	5.2		
CLL	e P	Z	12:32:13.0	75.5	92.0	1.2	13	4.9		
WET	e P	Z	12:32:13.6	75.5	91.3	1.0	10	4.9		
RJOB	e P	Z	12:32:13.0	75.5	90.9	1.2	8	4.7		
TANN	e P	Z	12:32:15.3	75.8	91.3	1.2	7	4.7		
WERN	e P	Z	12:32:15.4	75.8	91.2	1.0	9	4.8		
GUNZ	e P	Z	12:32:15.5	75.9	91.2	0.9	7	4.8		
WERD	e P	Z	12:32:15.5	75.9	91.2	0.9	8	4.9		
ROTZ	e P	Z	12:32:16.4	75.9	91.0	0.9	14	5.1		
PLN	e P	Z	12:32:16.0	76.0	91.1	1.6	79	5.6		
NEUB	e P	Z	12:32:17.2	76.2	91.0	1.1	19	5.1		
MOX	e P	Z	12:32:18.1	76.3	90.7	0.9	7	4.8		
GRA1	e P	Z	12:32:19.9	76.6	90.2	0.9	19	5.2		
	e L	Z	13:10:44.7			18.8	794		5.1	
CLZ	e P	Z	12:32:22.6	77.1	90.0	1.0	25	5.3		

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BSEG	e P	Z	12:32:23.0	77.2	90.5	4.8	892	6.2
NRDL	e P	Z	12:32:23.4	77.3	90.0	1.5	20	5.0
TNS	e P	Z	12:32:30.0	78.4	88.2	3.2	162	5.6
BFO	e P	Z	12:32:30.2	78.5	87.7	1.0	13	4.9
IBBN	e P	Z	12:32:31.4	78.7	88.1	1.1	13	4.9
BUG	e P	Z	12:32:33.4	79.0	87.5	2.4	111	5.5

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/16	17:02:55.5	2.520N	122.300E	33.0		7.1		SZGRF
Celebes Sea								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e Pdiff	Z	17:16:19.7	99.9	73.2					
	e PP	Z	17:20:42.7							
GEC2	e Pdiff	Z	17:16:20.9	100.2	74.1					
	e PP	Z	17:20:45.8							
	e SKSac	R	17:26:57.6							
	e SS	R	17:34:51.5							
WET	e Pdiff	Z	17:16:23.1	100.6	73.4					
	e PP	Z	17:20:49.1							
	e SKSac	R	17:27:00.1							
	e SS	R	17:34:58.9							
BSEG	e Pdiff	Z	17:16:24.2	100.6	70.5					
	e PP	Z	17:20:49.2							
	e SKSac	R	17:27:01.5							
	e SS	R	17:34:58.5							
ROTZ	e Pdiff	Z	17:16:24.5	100.8	72.8					
	e PP	Z	17:20:50.5							
	e SKSac	R	17:27:02.1							
	e SS	R	17:35:02.5							
MOX	e Pdiff	Z	17:16:24.6	100.9	72.2					
	e PP	Z	17:20:50.6							
	e SKSac	R	17:27:01.4							
	e SS	R	17:35:02.7							
RJOB	e Pdiff	Z	17:16:24.3	101.1	73.6					
	e PP	Z	17:20:53.3							
	e SKSac	R	17:26:59.6							
	e SS	R	17:35:02.8							
NRDL	e Pdiff	Z	17:16:26.6	101.2	70.6					
	e PP	Z	17:20:53.2							
	e SKSac	R	17:27:03.7							
	e SS	R	17:35:05.4							
CLZ	e Pdiff	Z	17:16:26.7	101.3	70.9					
	e PP	Z	17:20:53.8							
	e SKSac	R	17:27:03.8							
	e SS	R	17:35:07.7							
GRA1	e Pdiff	Z	17:16:27.2	101.5	72.0					

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	e PP	Z	17:20:46.2								
	e SKSac	R	17:27:04.6								
	e SS	R	17:35:10.8								
	e L	Z	18:06:21.9			21.9	64413		7.1		
TNS	e Pdiff	Z	17:16:34.1	103.0	69.7						
	e PP	Z	17:21:06.2								
	e SKSac	R	17:27:12.9								
	e SS	R	17:35:31.4								
STU	e PP	Z	17:21:06.4	103.0	70.6						
	e SKSac	R	17:27:10.4								
	e SS	R	17:35:31.0								
BUG	e PP	Z	17:21:08.1	103.2	68.4						
BFO	e Pdiff	Z	17:16:36.4	103.7	70.0						
	e PP	Z	17:21:11.5								
	e SKSac	R	17:27:13.5								
	e SS	R	17:35:41.3								
WLF	e PP	Z	17:21:17.9	104.6	67.9						

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/17	06:36:55.9	20.922S	174.327W	33.0G				SZGRF

Tonga Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPbc	Z 06:56:50.1	150.9	10.7					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/17	12:55:41.5	81.549N	108.491W	33.0G	4.9	4.8		SZGRF

Arctic Ocean

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z 13:03:24.0	40.7	348.6	1.1	32	5.0		
IBBN	e P	Z 13:03:34.3	42.0	348.6	1.5	41	4.9		
NRDL	e P	Z 13:03:35.1	42.1	348.9	1.1	21	4.8		
CLZ	e P	Z 13:03:40.8	42.8	349.1	0.9	16	4.7		
BUG	e P	Z 13:03:40.1	42.8	348.8	1.3	17	4.6		
CLL	e P	Z 13:03:46.7	43.6	349.5	0.9	14	4.7		
UBBA	e P	Z 13:03:47.8	43.7	349.2	0.9	8	4.5		
MOX	e P	Z 13:03:50.8	44.1	349.5	1.1	14	4.6		
TNS	e P	Z 13:03:51.1	44.1	349.2	1.0	21	4.8		
BRG	e P	Z 13:03:51.2	44.1	349.7	0.8	8	4.5		
WLF	e P	Z 13:03:53.4	44.4	349.0	0.9	25	5.1		
TANN	e P	Z 13:03:53.7	44.4	349.6	1.1	19	4.9		
GRA3	e P	Z 13:03:57.9	44.9	349.6					
GRA1	e P	Z 13:03:58.3	45.0	349.6	3.0	252	5.6		
	e L	Z 13:24:44.9			21.8	1133		4.8	

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ROTZ	e P	Z	13:03:58.6	45.0	349.7	1.7	31	5.0
GRA2	e P	Z	13:03:58.8	45.0	349.6			
GRA4	e P	Z	13:03:59.4	45.1	349.6			
GRB4	e P	Z	13:04:00.2	45.3	349.7			
GRB1	e P	Z	13:04:00.9	45.3	349.7			
GRB3	e P	Z	13:04:01.5	45.4	349.7			
GRB2	e P	Z	13:04:01.7	45.5	349.7			
GRB5	e P	Z	13:04:02.9	45.6	349.8			
GRC4	e P	Z	13:04:02.9	45.6	349.7			
STU	e P	Z	13:04:03.0	45.7	349.5	0.6	19	5.3
GRC1	e P	Z	13:04:03.6	45.7	349.8			
WET	e P	Z	13:04:04.2	45.7	349.9	0.9	17	5.1
GRC2	e P	Z	13:04:04.3	45.8	349.8			
GRC3	e P	Z	13:04:04.4	45.8	349.8			
BFO	e P	Z	13:04:05.5	46.0	349.5	1.1	16	5.0
GEC2	e P	Z	13:04:07.3	46.1	350.1	1.4	18	4.9
RJOB	e P	Z	13:04:14.5	47.1	350.1	1.3	9	4.7

Date Origin Time Lat Long Depth mb Ms ML Source
 2008/11/17 13:16:27.5 19.093S 172.683E 33.0N
 Vanuatu Islands region SZGRF

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
UBBA	e PKPbc	Z 13:36:01.5	145.4	29.7					
GEC2	e PKPbc	Z 13:36:02.8	145.8	37.1					
GRA1	e PKPbc	Z 13:36:03.5	146.0	32.5					
TNS	e PKPbc	Z 13:36:05.1	146.4	27.7					
RJOB	e PKPbc	Z 13:36:07.1	147.0	36.7					
FUR	e PKPbc	Z 13:36:08.1	147.3	33.9					
STU	e PKPbc	Z 13:36:08.7	147.5	30.0					
WLF	e PKPbc	Z 13:36:09.3	147.6	24.2					
BFO	e PKPbc	Z 13:36:10.8	148.1	28.9					

Date Origin Time Lat Long Depth mb Ms ML Source
 2008/11/18 04:00: 5.6 81.606N 108.785W 33.0G 5.0 4.7
 Arctic Ocean SZGRF

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z 04:07:48.1	40.7	348.7	0.9	13	4.7		
NRDL	e P	Z 04:07:59.1	42.1	349.0	1.8	70	5.1		
CLZ	e P	Z 04:08:04.9	42.8	349.2	1.2	27	4.8		
CLL	e P	Z 04:08:10.7	43.6	349.6	1.1	16	4.7		
MOX	e P	Z 04:08:14.9	44.1	349.6	1.5	18	4.6		
BRG	e P	Z 04:08:15.1	44.1	349.8	1.2	13	4.5		
TNS	e P	Z 04:08:15.2	44.1	349.3	1.3	34	4.9		

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WLF	e P	Z	04:08:17.3	44.4	349.1	2.3	127	5.4		
TANN	e P	Z	04:08:17.7	44.4	349.7	4.5	435	5.7		
GRA1	e P	Z	04:08:22.4	45.0	349.7	1.3	41	5.2		
	e L	Z	04:27:13.1			21.5	1009		4.7	
ROTZ	e P	Z	04:08:22.7	45.0	349.8	1.7	39	5.1		
STU	e P	Z	04:08:27.1	45.7	349.6	1.1	22	5.1		
WET	e P	Z	04:08:28.2	45.7	350.0	1.4	24	5.0		
BFO	e P	Z	04:08:29.6	46.0	349.6	1.4	25	5.0		
GEC2	e P	Z	04:08:31.4	46.1	350.2	1.4	20	5.0		
RJOB	e P	Z	04:08:38.6	47.1	350.2	3.1	102	5.4		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/18	04:53:18.6	82.142N	100.387W	33.0G	4.9	4.4		SZGRF

Arctic Ocean

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLZ	e P	Z 05:01:07.1	41.5	348.9	1.3	42	5.0		
CLL	e P	Z 05:01:13.1	42.3	349.3	1.1	21	4.8		
UBBA	e P	Z 05:01:14.3	42.5	349.1	0.6	10	4.8		
MOX	e P	Z 05:01:17.5	42.8	349.3	0.9	11	4.6		
TNS	e P	Z 05:01:17.6	42.9	349.0	1.1	24	4.8		
BRG	e P	Z 05:01:17.9	42.9	349.4	1.3	21	4.7		
TANN	e P	Z 05:01:20.1	43.1	349.4	1.3	19	4.7		
GRA1	e P	Z 05:01:25.1	43.7	349.4	1.2	49	5.1		
	e L	Z 05:22:00.7			19.7	489		4.4	
ROTZ	e P	Z 05:01:25.1	43.8	349.5	2.3	84	5.1		
WET	e P	Z 05:01:30.7	44.4	349.7	1.1	21	5.0		
BFO	e P	Z 05:01:32.3	44.7	349.4	2.3	48	5.0		
GEC2	e P	Z 05:01:33.7	44.8	349.8	1.6	32	5.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/18	11:12:18.0	22.195S	165.799E	33.0N				SZGRF

New Caledonia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPbc	Z 11:31:53.9	146.0	45.3					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/18	12:46: 5.0	22.250S	165.695E	33.0N				SZGRF

New Caledonia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPbc	Z 13:05:40.9	146.0	45.5					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/18	14:03:11.5	19.872S	170.714E	29.0		5.3		SZGRF

Vanuatu Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
TANN	e PKPbc	Z	14:22:43.5	144.9	37.3					
	e pPKPbc	Z	14:22:52.2							
MOX	e PKPbc	Z	14:22:43.8	145.1	35.9					
UBBA	e PKPbc	Z	14:22:45.6	145.5	33.3					
ROTZ	e PKPbc	Z	14:22:45.9	145.6	37.5					
GEC2	e PKPbc	Z	14:22:45.7	145.7	40.6					
WET	e PKPbc	Z	14:22:46.4	145.8	39.1					
GRA1	e PKPbc	Z	14:22:47.3	146.0	36.1					
	e L	Z	15:26:12.8			20.5	534		5.3	
TNS	e PKPbc	Z	14:22:49.2	146.5	31.3					
STU	e PKPbc	Z	14:22:52.0	147.5	33.7					
WLF	e PKPbc	Z	14:22:53.2	147.8	28.0					
BFO	e PKPbc	Z	14:22:53.7	148.2	32.7					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/18	14:38:44.2	22.646S	164.964E	33.0G				SZGRF

New Caledonia

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPbc	Z	14:58:20.0	146.0	46.9					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/19	06:11:30.0	9.746N	80.982W	33.0G	5.7	6.3		SZGRF

Panama

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z	06:23:45.6	80.7	274.2	1.6	56	5.3		
BUG	e P	Z	06:23:48.0	81.3	274.8	2.1	185	5.7		
IBBN	e P	Z	06:23:49.3	81.5	275.0	1.3	37	5.3		
TNS	e P	Z	06:23:52.8	82.2	275.8	5.1	1381	6.3		
BFO	e P	Z	06:23:52.8	82.3	276.0	1.9	30	5.1		
STU	e P	Z	06:23:55.8	82.8	276.6	1.8	83	5.7		
BSEG	e P	Z	06:23:56.3	82.9	276.8	2.2	244	6.0		
NRDL	e P	Z	06:23:56.7	82.9	276.8	1.9	110	5.8		
UBBA	e P	Z	06:23:57.3	83.1	276.9	1.8	53	5.5		
CLZ	e P	Z	06:23:58.1	83.2	277.1	1.6	74	5.7		
GRA1	e P	Z	06:24:02.1	84.0	278.0	1.5	59	5.6		

	e L	Z	06:56:56.3			21.8	12444		6.3
MOX	e P	Z	06:24:02.5	84.1	278.2	1.9	78	5.6	
FUR	e P	Z	06:24:03.4	84.2	278.2	1.2	37	5.5	
ROTZ	e P	Z	06:24:05.6	84.6	278.7	2.0	81	5.6	
TANN	e P	Z	06:24:05.6	84.7	278.9	5.0	1512	6.5	
CLL	e P	Z	06:24:06.1	84.9	279.2	1.8	95	5.7	
WET	e P	Z	06:24:08.0	85.1	279.3	1.5	58	5.6	
RJOB	e P	Z	06:24:08.7	85.3	279.3	2.2	101	5.7	
BRG	e P	Z	06:24:09.6	85.5	280.0	1.6	44	5.3	
GEC2	e P	Z	06:24:10.6	85.7	279.9	1.6	39	5.3	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/19	08:25: 9.2	53.220N	157.870E	66.1N	5.1			SZGRF

Kamchatka Peninsula, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e P	Z 08:36:21.5	71.4	21.3	1.0	34	5.4		
CLZ	e P	Z 08:36:22.8	71.5	19.8	0.9	24	5.3		
IBBN	e P	Z 08:36:22.8	71.6	18.3	1.3	76	5.7		
BRG	e P	Z 08:36:22.9	71.6	21.8	0.8	5	4.7		
MOX	e P	Z 08:36:27.5	72.3	20.4	0.8	12	5.1		
TANN	e P	Z 08:36:27.9	72.4	20.9	1.1	10	4.8		
UBBA	e P	Z 08:36:28.4	72.5	19.5	1.5	22	5.1		
ROTZ	e P	Z 08:36:31.9	73.0	20.7	1.3	19	5.0		
GRA1	e P	Z 08:36:33.6	73.3	20.1	1.6	83	5.5		
TNS	e P	Z 08:36:33.9	73.4	18.5	1.2	18	5.0		
WET	e P	Z 08:36:34.4	73.4	21.0	0.8	14	5.1		
GEC2	e P	Z 08:36:34.8	73.5	21.4	0.6	10	5.0		
RJOB	e P	Z 08:36:42.3	74.8	20.8	1.4	16	5.0		
BFO	e P	Z 08:36:44.0	75.2	18.3	1.0	12	5.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/19	15:21:17.6	48.290N	25.405W	33.0N	5.3	4.8		SZGRF

Northern Mid-Atlantic Ridge

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e L	Z 15:35:18.4	23.8	280.8	21.5	3589		4.8	
GRA3	e P	Z 15:26:28.9	23.9	280.7	2.7	282	5.3		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/19	17:14:15.5	8.296N	92.937E	33.0G	5.3			SZGRF

Nicobar Islands, India, region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z	17:26:07.6	76.6	93.3	0.9	14	5.1		
GEC2	e P	Z	17:26:08.1	76.7	92.6	1.0	21	5.2		
WET	e P	Z	17:26:11.2	77.2	92.0	0.9	17	5.2		
CLL	e P	Z	17:26:10.6	77.2	92.6	1.1	10	4.9		
RJOB	e P	Z	17:26:10.6	77.2	91.7	1.1	16	5.1		
TANN	e P	Z	17:26:12.6	77.6	92.0	1.5	18	5.0		
ROTZ	e P	Z	17:26:14.2	77.7	91.7	1.1	16	5.1		
MOX	e P	Z	17:26:16.0	78.1	91.4	0.9	15	5.1		
GRA1	e P	Z	17:26:17.5	78.3	90.9	0.9	31	5.4		
BSEG	e P	Z	17:26:20.5	79.0	91.0	15.9	52923	7.3		
NRDL	e P	Z	17:26:21.4	79.1	90.6	1.1	16	4.9		
TNS	e P	Z	17:26:27.2	80.1	88.9	1.9	51	5.1		
IBBN	e P	Z	17:26:29.0	80.5	88.7	1.0	44	5.4		
BUG	e P	Z	17:26:30.5	80.8	88.2	1.1	36	5.3		
WLF	e P	Z	17:26:35.3	81.6	87.0	1.2	23	5.2		

Date Origin Time Lat Long Depth mb Ms ML Source
 2008/11/19 20:37:48.0 23.206S 178.088W 596.1
 South of Fiji Islands SZGRF

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	20:57:36.9	148.6	15.0					
IBBN	e PKPbc	Z	20:57:41.8	150.6	11.0					
CLL	e PKPbc	Z	20:57:41.5	150.6	21.1					
CLZ	e PKPbc	Z	20:57:42.1	150.6	16.0					
BRG	e PKPbc	Z	20:57:42.1	150.8	23.1					
BUG	e PKPbc	Z	20:57:43.6	151.5	10.3					
MOX	e PKPbc	Z	20:57:43.8	151.5	19.0					
TANN	e PKPbc	Z	20:57:44.0	151.6	20.7					
UBBA	e PKPbc	Z	20:57:44.2	151.7	15.8					
ROTZ	e PKPbc	Z	20:57:45.6	152.2	20.6					
	e pPKPbc	Z	21:00:02.3							
TNS	e PKPbc	Z	20:57:46.1	152.5	13.1					
GEC2	e PKPbc	Z	20:57:46.4	152.7	24.2					
BFO	e PKPbc	Z	20:57:50.2	154.4	13.7					

Date Origin Time Lat Long Depth mb Ms ML Source
 2008/11/21 07:05:36.5 9.041S 159.614E 124.0
 Bougainville - Solomon Islands region NEIC

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e PKPdf	Z	07:24:27.2	128.5	45.1					
BSEG	e PKPdf	Z	07:24:27.9	128.8	40.3					
CLL	e PKPdf	Z	07:24:29.2	129.7	44.9					

	e pPKPdf	Z	07:25:02.9		
FBE	e PKPdf	Z	07:24:29.9	129.8	45.5
	e pPKPdf	Z	07:25:03.5		
NRDL	e PKPdf	Z	07:24:30.2	130.0	40.9
NEUB	e PKPdf	Z	07:24:30.7	130.3	43.5
CLZ	e PKPdf	Z	07:24:31.2	130.4	41.5
	e SKP	Z	07:27:45.6		
TANN	e PKPdf	Z	07:24:31.3	130.5	44.8
	e PP	Z	07:26:48.6		
	e pPP	Z	07:27:18.4		
	e SKP	Z	07:27:45.6		
WERD	e PKPdf	Z	07:24:31.3	130.6	44.6
PLN	e PKPdf	Z	07:24:31.5	130.6	44.4
	e PP	Z	07:26:48.6		
	e SKP	Z	07:27:45.8		
GUNZ	e PKPdf	Z	07:24:31.5	130.6	44.7
	e SKP	Z	07:27:45.8		
WERN	e PKPdf	Z	07:24:31.7	130.7	44.8
MOX	e PKPdf	Z	07:24:31.6	130.7	43.7
	e PP	Z	07:26:49.3		
	e SKP	Z	07:27:46.3		
GEC2	e PKPdf	Z	07:24:32.2	131.0	47.2
	e pPP	Z	07:27:21.1		
IBBN	e PKPdf	Z	07:24:32.2	131.1	38.2
ROTZ	e PKPdf	Z	07:24:32.5	131.1	44.9
	e PP	Z	07:26:52.0		
	e SKP	Z	07:27:48.0		
WET	e PKPdf	Z	07:24:32.7	131.2	46.1
UBBA	e PKPdf	Z	07:24:32.6	131.3	41.7
	e SKP	Z	07:27:48.5		
GRA1	e PKPdf	Z	07:24:33.3	131.6	43.8
	e SKP	Z	07:27:49.7		
BUG	e PKPdf	Z	07:24:33.7	131.9	38.0
RJOB	e PKPdf	Z	07:24:34.1	132.2	46.9
	e SKP	Z	07:27:51.3		
TNS	e PKPdf	Z	07:24:35.0	132.4	40.2
	e PP	Z	07:26:59.7		
	e SKP	Z	07:27:52.6		
FUR	e PKPdf	Z	07:24:35.3	132.7	44.8
	e SKP	Z	07:27:54.2		
STU	e PKPdf	Z	07:24:36.3	133.2	41.9
BFO	e PKPdf	Z	07:24:37.5	133.9	41.2
	e SKP	Z	07:27:57.8		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/21	07:05:35.0	8.900S	159.600E	118.0				NEIC
Bougainville - Solomon Islands region								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e PKP	Z	07:24:27.6	128.4	45.1					
BSEG	e PKP	Z	07:24:28.3	128.7	40.3					
CLL	e PKP	Z	07:24:29.6	129.5	44.8					
FBE	e PKP	Z	07:24:30.3	129.6	45.5					
NRDL	e PKP	Z	07:24:30.6	129.9	40.8					
NEUB	e PKP	Z	07:24:31.1	130.1	43.5					
CLZ	e PKP	Z	07:24:31.6	130.2	41.5					
TANN	e PKP	Z	07:24:31.7	130.4	44.7					
WERD	e PKP	Z	07:24:31.7	130.4	44.5					
PLN	e PKP	Z	07:24:31.9	130.5	44.3					
GUNZ	e PKP	Z	07:24:31.9	130.5	44.6					
WERN	e PKP	Z	07:24:32.1	130.5	44.7					
MOX	e PKP	Z	07:24:32.0	130.6	43.6					
GEC2	e PKP	Z	07:24:32.6	130.9	47.1					
IBBN	e PKP	Z	07:24:32.6	130.9	38.1					
ROTZ	e PKP	Z	07:24:32.9	131.0	44.8					
WET	e PKP	Z	07:24:33.1	131.1	46.0					
UBBA	e PKP	Z	07:24:33.0	131.2	41.6					
GRA1	e PKP	Z	07:24:33.7	131.5	43.7					
BUG	e PKP	Z	07:24:34.1	131.8	38.0					
RJOB	e PKP	Z	07:24:34.5	132.1	46.8					
TNS	e PKP	Z	07:24:35.4	132.3	40.1					
FUR	e PKP	Z	07:24:35.7	132.5	44.8					
STU	e PKP	Z	07:24:36.7	133.0	41.9					
WLF	e PKP	Z	07:24:38.6	133.6	37.6					
BFO	e PKP	Z	07:24:37.9	133.8	41.1					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/22	16:01:36.4	21.449S	170.578E	33.0G				SZGRF

Southeast of Loyalty Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	16:21:12.0	144.2	32.5					
BRG	e PKPbc	Z	16:21:15.6	145.4	40.5					
CLL	e PKPbc	Z	16:21:15.5	145.4	38.7					
NRDL	e PKPbc	Z	16:21:15.6	145.5	33.3					
FBE	e PKPbc	Z	16:21:16.5	145.6	39.6					
NEUB	e PKPbc	Z	16:21:17.4	146.0	37.0					
TANN	e PKPbc	Z	16:21:18.5	146.3	38.7					
WERD	e PKPbc	Z	16:21:18.5	146.4	38.5					
PLN	e PKPbc	Z	16:21:18.5	146.4	38.2					
IBBN	e PKPbc	Z	16:21:18.2	146.4	29.8					
GUNZ	e PKPbc	Z	16:21:18.9	146.4	38.6					
WERN	e PKPbc	Z	16:21:19.1	146.5	38.7					
NKC	e PKPbc	Z	16:21:19.1	146.5	38.9					

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MOX	e	PKPbc	Z	16:21:18.6	146.5	37.2
ROTZ	e	PKPbc	Z	16:21:20.3	146.9	39.0
GEC2	e	PKPbc	Z	16:21:20.3	147.0	42.1
WET	e	PKPbc	Z	16:21:20.6	147.1	40.6
BUG	e	PKPbc	Z	16:21:21.5	147.3	29.7
RJOB	e	PKPbc	Z	16:21:23.0	148.2	41.9
STU	e	PKPbc	Z	16:21:25.0	148.9	35.1
BFO	e	PKPbc	Z	16:21:26.2	149.6	34.1

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/22	17:22:37.7	22.500S	171.200E	33.0N				NEIC
Southeast of Loyalty Islands								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e	PKPbc	Z	17:42:06.8	145.4	32.2			
BRG	e	PKPbc	Z	17:42:10.4	146.6	40.4			
CLL	e	PKPbc	Z	17:42:10.3	146.6	38.6			
NRDL	e	PKPbc	Z	17:42:10.4	146.7	33.0			
CLZ	e	PKPbc	Z	17:42:12.3	147.1	34.0			
TANN	e	PKPbc	Z	17:42:13.3	147.5	38.6			
MOX	e	PKPbc	Z	17:42:13.4	147.7	37.1			
ROTZ	e	PKPbc	Z	17:42:15.0	148.1	38.8			
GEC2	e	PKPbc	Z	17:42:15.1	148.2	42.1			
WET	e	PKPbc	Z	17:42:15.5	148.3	40.5			
BUG	e	PKPbc	Z	17:42:15.3	148.5	29.3			
GRA1	e	PKPbc	Z	17:42:16.0	148.6	37.4			
RJOB	e	PKPbc	Z	17:42:17.8	149.4	41.9			
FUR	e	PKPbc	Z	17:42:18.9	149.8	39.0			
STU	e	PKPbc	Z	17:42:19.8	150.1	34.9			
WLF	e	PKPbc	Z	17:42:20.9	150.4	28.9			
BFO	e	PKPbc	Z	17:42:21.0	150.8	33.9			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/22	18:49:36.4	1.989S	12.959W	33.0G	5.5	6.2		SZGRF
North of Ascension Island								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BFO	e	P	Z	18:58:59.2	53.6	206.8	1.2	76	5.5
WLF	e	P	Z	18:59:03.7	54.2	203.8	1.2	82	5.6
STU	e	P	Z	18:59:03.9	54.3	207.7	1.1	46	5.4
FUR	e	P	Z	18:59:05.4	54.4	210.3	0.9	155	6.0
RJOB	e	P	Z	18:59:06.2	54.6	212.2	1.1	73	5.6
	e	PP	Z	19:01:04.9					
TNS	e	P	Z	18:59:11.9	55.3	206.3	1.0	70	5.6
GRA1	e	P	Z	18:59:14.6	55.7	209.7	1.1	69	5.6

	e L	Z	19:21:59.0			20.7	21656		6.2
WET	e P	Z	18:59:15.6	55.8	211.8	1.1	101	5.8	
GEC2	e P	Z	18:59:16.2	55.8	212.8	1.2	123	5.8	
	e PP	Z	19:01:17.9						
ROTZ	e P	Z	18:59:17.6	56.1	210.8	1.2	38	5.3	
BUG	e P	Z	18:59:17.5	56.1	204.6	1.2	45	5.4	
UBBA	e P	Z	18:59:19.3	56.3	207.9	1.3	28	5.1	
MOX	e P	Z	18:59:21.5	56.7	209.8	1.1	46	5.4	
TANN	e P	Z	18:59:22.2	56.7	210.9	1.1	64	5.6	
IBBN	e P	Z	18:59:24.0	57.0	204.9	1.1	57	5.5	
CLZ	e P	Z	18:59:26.3	57.3	208.0	1.4	34	5.2	
BRG	e P	Z	18:59:28.6	57.6	212.4	1.0	30	5.3	
CLL	e P	Z	18:59:28.8	57.7	211.2	1.1	21	5.1	
NRDL	e P	Z	18:59:30.1	57.8	207.6	1.4	40	5.3	
BSEG	e P	Z	18:59:38.8	59.2	207.4	1.1	214	6.1	

Date Origin Time Lat Long Depth mb Ms ML Source
 2008/11/22 23:06:48.4 37.200S 94.800W 10.0 5.5 NEIC
 West Chile Rise

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z	23:25:52.4	127.1	253.7					
CLZ	e PKPdf	Z	23:25:52.0	127.2	254.7					
MOX	e PKPdf	Z	23:25:53.0	127.6	254.7					
WET	e PKPdf	Z	23:25:53.6	128.0	254.4					
TANN	e PKPdf	Z	23:25:54.1	128.1	255.0					
GEC2	e PKPdf	Z	23:25:54.2	128.4	254.6					
CLL	e PKPdf	Z	23:25:54.8	128.6	256.1					
GRA1	e L	Z	00:19:25.6	127.1	253.7	19.9	1108		5.5	

Date Origin Time Lat Long Depth mb Ms ML Source
 2008/11/23 07:53:45.3 20.300S 175.600W 170.0 NEIC
 Tonga Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKP	Z	08:13:05.3	146.1	10.0					
NRDL	e PKP	Z	08:13:09.0	147.5	10.0					
IBBN	e PKP	Z	08:13:10.4	147.9	5.9					
CLZ	e PKP	Z	08:13:11.2	148.1	10.6					
CLL	e PKP	Z	08:13:11.4	148.3	15.5					
BRG	e PKP	Z	08:13:12.2	148.5	17.3					
MOX	e PKP	Z	08:13:13.6	149.1	13.3					
TANN	e PKP	Z	08:13:14.0	149.2	14.9					
ROTZ	e PKP	Z	08:13:15.8	149.9	14.7					
TNS	e PKP	Z	08:13:15.6	149.9	7.6					

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GRA1	e	PKP	Z	08:13:16.3	150.1	12.9
GEC2	e	PKP	Z	08:13:17.1	150.5	17.9
WLF	e	PKP	Z	08:13:17.8	150.6	3.3
STU	e	PKP	Z	08:13:18.8	151.3	9.4
RJOB	e	PKP	Z	08:13:19.6	151.7	16.8
BFO	e	PKP	Z	08:13:19.9	151.8	7.8

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/23	08:58:18.3	22.500S	171.300E	40.0		5.6		NEIC
Southeast of Loyalty Islands								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e	PKPbc	Z 09:17:54.7	146.6	40.3				
CLL	e	PKPbc	Z 09:17:54.6	146.6	38.4				
CLZ	e	PKPbc	Z 09:17:57.0	147.2	33.8				
TANN	e	PKPbc	Z 09:17:57.3	147.6	38.4				
IBBN	e	PKPbc	Z 09:17:57.4	147.6	29.3				
MOX	e	PKPbc	Z 09:17:57.4	147.7	36.9				
ROTZ	e	PKPbc	Z 09:18:00.0	148.2	38.7				
GEC2	e	PKPbc	Z 09:17:59.1	148.2	42.0				
WET	e	PKPbc	Z 09:17:59.8	148.4	40.4				
GRA1	e	PKPbc	Z 09:17:57.7	148.6	37.2				
	e	L	Z 10:27:43.9			21.0	937	5.6	
RJOB	e	PKPbc	Z 09:18:02.4	149.5	41.8				
STU	e	PKPbc	Z 09:18:04.5	150.1	34.8				
WLF	e	PKPbc	Z 09:18:05.3	150.4	28.7				
BFO	e	PKPbc	Z 09:18:05.6	150.8	33.7				

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/23	11:57:48.5	4.700S	153.000E	74.0				NEIC
New Ireland, Papua New Guinea, region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e	PKPbc	Z 12:16:36.4	122.2	45.6				
BRG	e	PKPbc	Z 12:16:36.4	122.6	50.8				
CLL	e	PKPbc	Z 12:16:36.6	122.8	49.6				
TANN	e	PKPpdf	Z 12:16:38.8	123.6	49.5				
CLZ	e	PKPbc	Z 12:16:38.9	123.6	46.6				
MOX	e	PKPbc	Z 12:16:39.6	123.9	48.5				
GEC2	e	PKPbc	Z 12:16:39.2	124.0	51.6				
WET	e	PKPbc	Z 12:16:39.7	124.2	50.6				
TNS	e	PKPbc	Z 12:16:43.2	125.6	45.3				
STU	e	PKPpdf	Z 12:16:43.4	126.3	46.9				

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/23	12:18:53.6	21.500S	177.100W	272.0				NEIC

Fiji Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z 12:38:04.3	147.1	12.8					
CLL	e PKP	Z 12:38:10.0	149.2	18.6					
BRG	e PKPbc	Z 12:38:10.3	149.4	20.5					
BUG	e PKP	Z 12:38:11.5	149.9	8.1					
MOX	e PKP	Z 12:38:12.7	150.1	16.4					
TANN	e PKP	Z 12:38:12.4	150.1	18.1					
GEC2	e PKP	Z 12:38:15.0	151.3	21.3					
WLF	e PKPbc	Z 12:38:16.0	151.7	6.4					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/23	18:06:41.7	17.400N	93.700W	193.0				NEIC

Chiapas, Mexico

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z 18:18:47.8	83.0	288.7					
BSEG	e P	Z 18:18:52.3	83.9	291.4					
TNS	e P	Z 18:18:53.9	84.2	290.3					
NRDL	e P	Z 18:18:54.5	84.3	291.4					
CLZ	e P	Z 18:18:56.0	84.7	291.6					
BFO	e P	Z 18:18:55.8	84.8	290.4					
STU	e P	Z 18:18:58.2	85.1	291.0					
MOX	e P	Z 18:19:02.5	85.9	292.7					
GRA1	e P	Z 18:19:02.8	86.0	292.4					
PLN	e P	Z 18:19:03.1	86.3	293.1					
WERD	e P	Z 18:19:03.3	86.4	293.2					
ROHR	e P	Z 18:19:04.4	86.5	293.2					
WET	e P	Z 18:19:08.4	87.2	293.7					
GEC2	e P	Z 18:19:11.4	87.9	294.3					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/24	09:02:56.7	53.200N	154.030E	531.4	6.7			SZGRF

Sea of Okhotsk

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
NRDL	e P	Z 09:13:17.2	70.1	22.0	0.9	440	6.6		
	e pP	Z 09:15:04.9							
CLL	e P	Z 09:13:19.4	70.5	23.6	0.8	1289	7.1		
	e pP	Z 09:15:08.0							
	e S	E 09:21:49.3							

CLZ	e P	Z	09:13:21.0	70.6	22.1	1.7	2847	7.1
	e pP	Z	09:15:10.9					
	e S	E	09:21:53.6					
BRG	e P	Z	09:13:20.5	70.7	24.0	1.5	874	6.7
	e pP	Z	09:15:10.9					
	e S	E	09:21:55.6					
IBBN	e P	Z	09:13:21.4	70.8	20.6	0.8	811	6.9
	e pP	Z	09:15:10.3					
	e S	E	09:21:55.6					
MOX	e P	Z	09:13:25.4	71.4	22.7	0.8	512	6.7
	e pP	Z	09:15:15.6					
	e S	E	09:22:02.6					
TANN	e P	Z	09:13:25.6	71.5	23.1	1.1	243	6.2
	e pP	Z	09:15:15.6					
	e S	E	09:22:04.7					
UBBA	e P	Z	09:13:26.5	71.7	21.8			
	e pP	Z	09:15:14.7					
	e S	E	09:22:07.5					
BUG	e P	Z	09:13:26.6	71.7	20.2	0.9	544	6.7
	e pP	Z	09:15:16.0					
	e S	E	09:22:08.6					
ROTZ	e sS	E	09:25:21.4					
	e P	Z	09:13:29.8	72.1	22.9	0.9	400	6.5
	e pP	Z	09:15:19.6					
GRA1	e P	Z	09:13:31.6	72.4	22.3	0.8	1170	7.0
	e pP	Z	09:15:22.6					
	e S	E	09:22:16.2					
WET	e P	Z	09:13:32.2	72.5	23.2	0.8	673	6.8
	e pP	Z	09:15:18.6					
	e S	E	09:22:17.0					
GEC2	e P	Z	09:13:32.2	72.6	23.6	0.8	352	6.5
	e S	E	09:22:15.4					
	e P	Z	09:13:32.1	72.6	20.8	0.8	446	6.7
TNS	e pP	Z	09:15:22.5					
	e P	Z	09:13:40.3	73.6	19.4	1.4	800	6.6
	e pP	Z	09:15:27.8					
WLF	e S	E	09:22:31.0					
	e sS	E	09:25:49.8					
	e P	Z	09:13:38.8	73.8	21.1	0.9	421	6.5
STU	e pP	Z	09:15:30.5					
	e P	Z	09:13:39.5	73.8	22.2	0.9	825	6.8
	e S	E	09:22:32.9					
RJOB	e P	Z	09:13:39.9	73.8	23.0	0.8	448	6.5
	e S	E	09:22:34.0					
	e P	Z	09:13:42.2	74.4	20.5	0.8	397	6.5
BFO	e pP	Z	09:15:33.6					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
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2008/11/24 18:44:25.3 53.296N 158.853E 33.0G 5.1 SZGRF
 Near east coast of Kamchatka Peninsula, Russia

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
NRDL	e P	Z	18:55:36.5	71.0	19.1	0.9	15	5.1		
CLL	e P	Z	18:55:39.2	71.5	20.7	1.0	30	5.4		
CLZ	e P	Z	18:55:40.2	71.6	19.2	1.0	38	5.5		
BRG	e P	Z	18:55:40.7	71.7	21.2	1.1	13	5.0		
MOX	e P	Z	18:55:45.1	72.5	19.8	1.2	17	5.1		
TANN	e P	Z	18:55:45.2	72.5	20.3	1.4	14	4.9		
ROTZ	e P	Z	18:55:49.6	73.2	20.1	1.0	10	4.8		
GRA1	e P	Z	18:55:51.0	73.5	19.5	1.3	60	5.5		
TNS	e P	Z	18:55:51.4	73.5	17.9	0.8	16	5.1		
GEC2	e P	Z	18:55:52.3	73.7	20.8	0.6	11	5.1		
RJOB	e P	Z	18:55:59.6	74.9	20.2	0.9	9	4.8		
BFO	e P	Z	18:56:01.6	75.3	17.7	1.0	14	5.1		

Date Origin Time Lat Long Depth mb Ms ML Source
 2008/11/25 01:36:30.5 30.300S 177.900W 35.0 5.3
 Kermadec Islands, New Zealand

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPab	Z	01:56:44.8	155.6	17.4					
NRDL	e PKPab	Z	01:56:51.2	157.0	18.0					
CLL	e PKPab	Z	01:56:53.5	157.5	25.2					
IBBN	e PKPab	Z	01:56:54.3	157.6	12.9					
CLZ	e PKPab	Z	01:56:54.2	157.6	19.0					
BRG	e PKPab	Z	01:56:54.3	157.6	27.7					
FBE	e PKPab	Z	01:56:55.0	157.7	26.4					
NEUB	e PKPab	Z	01:56:55.3	157.9	22.7					
TANN	e PKPab	Z	01:56:58.1	158.4	25.0					
MOX	e PKPab	Z	01:56:57.7	158.4	22.9					
WERD	e PKPab	Z	01:56:58.0	158.5	24.6					
PLN	e PKPab	Z	01:56:58.1	158.5	24.2					
BUG	e PKPab	Z	01:56:57.6	158.5	12.3					
GUNZ	e PKPab	Z	01:56:58.3	158.5	24.8					
WERN	e PKPab	Z	01:56:58.7	158.6	24.9					
UBBA	e PKPab	Z	01:56:58.0	158.7	19.0					
ROTZ	e PKPab	Z	01:57:01.0	159.1	25.1					
GRA3	e PKPab	Z	01:57:02.6	159.3	23.1					
GRA1	e PKPab	Z	01:57:02.2	159.4	22.9					
	e L	N	03:03:19.8			21.3	498		5.3	
WET	e PKPab	Z	01:57:02.7	159.5	27.4					
GEC2	e PKPab	Z	01:57:03.0	159.5	29.7					
TNS	e PKPab	Z	01:57:02.3	159.5	15.8					
WLF	e PKPab	Z	01:57:06.7	160.4	10.5					
RJOB	e PKPab	Z	01:57:08.5	160.7	29.0					

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STU	e	PKPab	Z	01:57:07.7	160.8	18.9
FUR	e	PKPab	Z	01:57:08.5	160.8	24.8
BFO	e	PKPab	Z	01:57:10.4	161.4	17.0

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/25	15:05:31.7	22.810S	35.940E	28.5	5.0			SZGRF

Mozambique

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
FUR	e P	Z 15:17:06.9	74.3	156.5	1.3	42	5.4		
GEC2	e P	Z 15:17:06.3	74.4	158.8	1.5	14	4.8		
ROTZ	e P	Z 15:17:14.1	75.6	157.5	1.0	12	5.0		
GRA2	e P	Z 15:17:14.7	75.7	156.7					
TANN	e P	Z 15:17:17.4	76.1	157.8	1.0	9	4.9		
WERD	e P	Z 15:17:17.9	76.2	157.6	1.3	15	5.0		
BRG	e P	Z 15:17:17.4	76.2	159.2	2.5	37	5.1		
MOX	e P	Z 15:17:19.7	76.5	157.0	1.3	15	5.0		
CLL	e P	Z 15:17:21.0	76.8	158.3	1.6	14	4.7		
	e pP	Z 15:17:29.2							
TNS	e P	Z 15:17:21.9	77.0	154.1	1.2	13	4.8		
BSEG	e P	Z 15:17:37.7	79.9	156.1	1.3	52	5.5		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/26	04:01:59.0	23.000S	168.750E	46.0		4.6		SZGRF

New Caledonia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e PKPbc	Z 04:21:36.0	146.0	44.4					
	e pPKPbc	Z 04:21:50.3							
CLL	e PKPbc	Z 04:21:36.0	146.1	42.6					
	e pPKPbc	Z 04:21:50.2							
FBE	e PKPbc	Z 04:21:36.8	146.2	43.5					
	e pPKPbc	Z 04:21:51.2							
NEUB	e PKPbc	Z 04:21:38.2	146.6	40.9					
	e pPKPbc	Z 04:21:52.6							
CLZ	e pPKPbc	Z 04:21:52.4	146.7	38.2					
TANN	e PKPbc	Z 04:21:39.2	146.9	42.7					
	e pPKPbc	Z 04:21:53.5							
WERD	e PKPbc	Z 04:21:39.4	147.0	42.5					
	e pPKPbc	Z 04:21:53.6							
PLN	e PKPbc	Z 04:21:39.8	147.0	42.2					
	e pPKPbc	Z 04:21:53.7							
GUNZ	e PKPbc	Z 04:21:40.0	147.0	42.6					
	e pPKPbc	Z 04:21:53.8							
WERN	e PKPbc	Z 04:21:40.3	147.1	42.7					

	e	pPKPbc	Z	04:21:54.2							
NKC	e	PKPbc	Z	04:21:40.3	147.1	42.9					
MOX	e	PKPbc	Z	04:21:39.9	147.1	41.2					
	e	pPKPbc	Z	04:21:53.7							
ROHR	e	PKPbc	Z	04:21:40.4	147.1	42.7					
IBBN	e	PKPbc	Z	04:21:39.9	147.3	33.7					
	e	pPKPbc	Z	04:21:54.5							
GEC2	e	PKPbc	Z	04:21:41.6	147.5	46.3					
	e	pPKPbc	Z	04:21:55.7							
ROTZ	e	PKPbc	Z	04:21:41.5	147.5	43.0					
	e	pPKPbc	Z	04:21:55.9							
UBBA	e	pPKPbc	Z	04:21:55.4	147.7	38.6					
GRA1	e	L	Z	05:29:29.4	148.0	41.6	20.7	112		4.6	
BUG	e	pPKPbc	Z	04:21:56.5	148.2	33.7					
RJOB	e	PKPbc	Z	04:21:44.7	148.7	46.2					
	e	pPKPbc	Z	04:21:58.9							
TNS	e	PKPbc	Z	04:21:46.2	148.7	36.7					
	e	pPKPbc	Z	04:21:58.8							
STU	e	PKPbc	Z	04:21:46.8	149.6	39.4					
	e	pPKPbc	Z	04:22:01.3							
WLF	e	PKPbc	Z	04:21:48.7	150.0	33.5					
	e	pPKPbc	Z	04:22:02.8							

Date Origin Time Lat Long Depth mb Ms ML Source
 2008/11/27 17:31:33.1 17.800S 167.500E 50.0 5.2 NEIC
 Vanuatu Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e	PKPdf	Z 17:50:57.9	140.8	42.1					
CLL	e	PKPdf	Z 17:50:57.4	140.9	40.5					
FBE	e	PKPdf	Z 17:50:58.0	141.0	41.3					
TANN	e	PKPdf	Z 17:50:58.6	141.8	40.5					
WERD	e	PKPdf	Z 17:51:00.1	141.8	40.3					
GEC2	e	PKPdf	Z 17:50:57.2	142.4	43.6					
GRA1	e	L	N 18:55:10.0	142.8	39.4	22.0	499		5.2	
TNS	e	PKPdf	Z 17:51:00.8	143.5	34.9					
RJOB	e	PKPdf	Z 17:51:01.1	143.6	43.3					
STU	e	PKPdf	Z 17:51:03.4	144.4	37.2					
WLF	e	PKPdf	Z 17:51:05.1	144.8	31.9					

Date Origin Time Lat Long Depth mb Ms ML Source
 2008/11/28 01:34: 0.1 21.383S 176.725W 33.0G SZGRF
 Fiji Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
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BSEG	e	PKPbc	Z	01:53:44.4	147.0	12.1
NRDL	e	PKPbc	Z	01:53:48.0	148.4	12.2
CLZ	e	PKPbc	Z	01:53:49.9	149.0	12.9
CLL	e	PKPbc	Z	01:53:49.7	149.1	17.9
BRG	e	PKPbc	Z	01:53:50.5	149.3	19.8
MOX	e	PKPbc	Z	01:53:51.9	150.0	15.7
TANN	e	PKPbc	Z	01:53:52.1	150.1	17.3
WET	e	PKPbc	Z	01:53:54.9	151.2	18.8
GEC2	e	PKPbc	Z	01:53:55.1	151.3	20.5

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/28	08:00:4.0	51.177N	152.994E	48.3	5.4	4.8		SZGRF
Northwest of Kuril Islands, Russia								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z 08:11:13.1	70.3	23.8	1.2	52	5.5		
NRDL	e P	Z 08:11:21.1	71.7	23.5	1.5	35	5.3		
CLL	e P	Z 08:11:22.7	72.1	25.1	1.4	66	5.6		
BRG	e P	Z 08:11:23.5	72.2	25.6	1.2	26	5.2		
CLZ	e P	Z 08:11:24.6	72.3	23.6	1.6	106	5.7		
TANN	e P	Z 08:11:28.7	73.0	24.6	1.4	21	5.1		
MOX	e P	Z 08:11:28.7	73.0	24.1	1.4	33	5.3		
	e pP	Z 08:11:42.6							
UBBA	e P	Z 08:11:30.0	73.3	23.2	1.5	46	5.3		
BUG	e P	Z 08:11:30.6	73.4	21.6	1.3	47	5.3		
ROTZ	e P	Z 08:11:32.8	73.7	24.4	1.6	55	5.3		
GRA1	e P	Z 08:11:34.6	74.0	23.8	1.6	113	5.7		
	e pP	Z 08:11:48.4							
	e L	Z 08:49:11.9			20.0	453		4.8	
WET	e P	Z 08:11:35.0	74.1	24.7	1.6	84	5.5		
GEC2	e P	Z 08:11:34.8	74.1	25.2	1.6	48	5.3		
TNS	e P	Z 08:11:35.5	74.2	22.2	1.6	47	5.3		
RJOB	e P	Z 08:11:42.3	75.4	24.5	1.4	22	5.1		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/28	08:50:42.8	4.276S	104.727E	33.0N	5.7	5.8		SZGRF
Southern Sumatera, Indonesia								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z 09:03:56.5	93.8	92.1	2.2	136	5.9		
GEC2	e P	Z 09:03:56.8	93.9	92.0	2.7	333	6.2		
CLL	e P	Z 09:03:59.4	94.4	91.3	2.6	152	5.9		
WET	e P	Z 09:03:59.4	94.4	91.4	1.3	28	5.4		
RJOB	e P	Z 09:03:59.4	94.5	91.5	1.0	10	5.1		
ROTZ	e P	Z 09:04:01.3	94.9	90.8	1.6	34	5.5		

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MOX	e P	Z	09:04:02.6	95.3	90.3	2.3	88	5.8		
GRA1	e P	Z	09:04:04.7	95.5	90.1	1.0	27	5.7		
	e PP	Z	09:07:55.8							
	e S	N	09:15:15.0							
	e SS	N	09:21:11.1							
	e L	Z	09:56:04.0			21.2	3374	5.8		
CLZ	e P	Z	09:04:06.6	96.1	89.2	1.5	35	5.7		
NRDL	e P	Z	09:04:07.6	96.2	88.9					
UBBA	e P	Z	09:04:07.7	96.3	89.0					
TNS	e P	Z	09:04:12.4	97.3	87.9					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/28	09:38: 9.2	22.852N	46.993W	33.0N	5.3			SZGRF
Northern Mid-Atlantic Ridge								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 09:47:18.6	52.4	261.4	1.6	64	5.3		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/28	13:42:31.6	42.096N	129.602W	33.0N	5.8	5.6		SZGRF
Off coast of Oregon, United States								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 13:54:48.7	82.0	331.7	2.5	209	5.8		
	e S	N 14:05:13.8							
	e L	Z 14:31:12.6			21.9	2663		5.6	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/28	19:45:19.3	33.252N	141.849E	33.0G	5.3			SZGRF
Off east coast of Honshu, Japan								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z 19:57:48.2	83.3	39.1	1.3	40	5.5		
BRG	e P	Z 19:57:52.7	84.2	41.5	0.8	14	5.2		
CLL	e P	Z 19:57:52.9	84.3	40.9	1.0	29	5.5		
CLZ	e P	Z 19:57:56.6	84.9	39.0	1.3	32	5.4		
IBBN	e P	Z 19:57:59.2	85.5	37.0	0.8	31	5.5		
ROTZ	e P	Z 19:58:00.7	85.8	40.2	1.7	23	5.0		
GRA1	e P	Z 19:58:02.9	86.2	39.5	1.6	49	5.4		
BUG	e P	Z 19:58:03.5	86.4	36.6					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2008/11/29	05:59:17.7	18.414S	177.199W	383.8				SZGRF

Fiji Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e PKPbc	Z 06:18:09.0	144.9	18.3					
CLZ	e PKPbc	Z 06:18:12.7	146.0	12.9					
BRG	e PKPbc	Z 06:18:13.4	146.4	19.3					
FBE	e PKPbc	Z 06:18:13.8	146.4	18.3					
BUG	e PKPbc	Z 06:18:14.3	146.8	7.8					
GRA1	e PKPdf	Z 06:18:13.7	148.0	15.2					
	e PKPbc	Z 06:18:17.9							
	e pPKPbc	Z 06:19:50.9							
GEC2	e PKPbc	Z 06:18:18.5	148.3	20.0					
WLF	e PKPbc	Z 06:18:20.1	148.6	6.1					
STU	e PKPdf	Z 06:18:15.9	149.2	11.9					
	e PKPbc	Z 06:18:20.9							

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