

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

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

AUGUST 2002 UPDATED 17.DECEMBER.2002

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
2002/08/01	14:20:21.5	38.430N	25.110E	33.0N				SZGRF
2002/08/01	16:04:32.9	34.830N	28.170E	35	4.3			NEIC
Aegean Sea								
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb MS ML
	GRA1	e P	Z 16:08:55.7	19.4	133.8	1.0	20	
Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/01	16:26: 2.3	36.060N	71.780E	33.0N				SZGRF
2002/08/01	16:25:44.9	36.537N	71.213E	33N	4.7			NEIC
Afghanistan-Tajikistan border region								
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb MS ML
	GRA1	e P	Z 16:34:15.7	44.4	83.5			
Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/01	19:10:28.7	10.000N	81.560W	33.0N	5.4			SZGRF
2002/08/01	19:10:10.6	7.733N	82.824W	10G	5.1	4.8		NEIC
Panama								
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb MS ML
	GRA1	e P	Z 19:22:57.0	86.7	278.1	1.7	46	5.4

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
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2002/08/02 23:11:35.2 28.820N 140.740E 436.5 5.9 5.3 SZGRF
 2002/08/02 23:11:39.1 29.266N 139.044E 424D 5.7 NEIC
 Bonin Islands, Japan, region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RGN	e P	Z	23:23:25.4	84.1	45.4					
RUE	e P	Z	23:23:31.6	85.4	45.6	1.1	60	5.6		
BRG	e P	Z	23:23:36.5	86.4	45.7	1.0	53	5.6		
CLL	i P	+ Z	23:23:36.9			1.1	80	5.7		
	e pP	Z	23:25:16.0							
	e sP	Z	23:25:59.4							
	e PP	Z	23:27:08.4							
	e sPP	Z	23:29:16.7							
	e SKSac	Z	23:33:18.7							
	e S	T	23:33:33.6							
	e sS	T	23:36:30.2							
	e SS	T	23:39:26.4							
	e sSS	T	23:42:09.1							
	e SSS	T	23:43:09.9							
	e SSSS	T	23:46:26.8							
	e L	Z	00:11:09.4			18.0	1768		5.5	
MOX	e P	Z	23:23:42.2	87.6	43.9	1.9	92	5.8		
	e pP	Z	23:25:22.3							
GEC2	e P	Z	23:23:43.6	87.9	45.4					
IBBN	e P	Z	23:23:43.9	88.0	41.0	0.9	97	6.1		
WET	e P	Z	23:23:44.7	88.1	44.8					
GRA1	e P	Z	23:23:46.9	88.5	43.6	1.1	101	6.0		
	e pP	Z	23:25:25.5							
GRFO	e P	Z	23:23:46.8	88.5	43.6					
BUG	e P	Z	23:23:47.6	88.9	40.6					
	e pP	Z	23:25:26.9							
TNS	e P	Z	23:23:50.1	89.3	41.5					
FUR	e P	Z	23:23:51.6	89.6	43.6	0.9	162	6.2		
STU	e P	Z	23:23:53.6	90.0	42.0	0.9	97	6.0		
WLF	e P	Z	23:23:56.9	90.7	39.7	1.2	78	5.9		
BFO	e P	Z	23:23:56.8	90.8	41.4	0.9	75	6.0		
	e pP	Z	23:25:36.4							
GRA1	e L	Z	00:09:12.2	88.5	43.6	18.4	961		5.3	

Date Origin Time Lat Long Depth mb Ms ML Source
 2002/08/02 16:13:16.9 N 5.3 SZGRF
 2002/08/02 16:13:19.7 12.067N 86.981W 70D 5.3 NEIC
 Off coast of central America

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z	16:26:19.2	86.0	284.0	1.6	28	5.3		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/02	20:32:15.4	51.460N	173.350W	33.0N	5.1			SZGRF
2002/08/02	20:32:11.2	51.383N	173.961W	33N	4.4			NEIC

Andreanof Islands, Aleutian Islands, United States

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 20:44:15.3	78.8	3.3	0.9	18	5.1		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/03	02:24: 2.7	45.020N	147.610E	33.0N	5.3	5.5		SZGRF
2002/08/03	02:23:52.9	43.657N	147.637E	33N	5.1	4.6		NEIC

Kuril Islands, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i P	+ Z 02:35:46.4			0.7	19	5.3		
	e	02:35:53.5							
	e	02:36:01.7							
IBBN	e P	Z 02:35:51.0	78.0	28.5	1.2	39	5.4		
MOX	e P	Z 02:35:52.3	78.2	30.9					
BUG	e P	Z 02:35:55.7	78.9	28.1	1.0	31	5.4		
GEC2	e P	Z 02:35:56.9	79.1	32.0	0.8	14	5.2		
WET	e P	Z 02:35:57.6	79.1	31.5	1.0	24	5.3		
GRA1	e P	Z 02:35:58.1	79.2	30.5	0.7	41	5.7		
GRFO	e P	Z 02:35:58.1	79.2	30.5	0.7	32	5.5		
TNS	e P	Z 02:36:00.0	79.6	28.7	0.8	21	5.2		
FUR	e P	Z 02:36:05.0	80.5	30.4	1.0	42	5.3		
STU	e P	Z 02:36:05.6	80.7	29.1	0.8	29	5.2		
WLF	e P	Z 02:36:07.2	80.8	27.2					
BFO	e P	Z 02:36:09.0	81.3	28.5	0.9	14	4.9		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/03	02:38:55.5	7.140N	85.190W	33.0N	5.5	5.6		SZGRF
2002/08/03	02:39:01.9	8.254N	82.930W	10G	5.6	5.4		NEIC

Off coast of Costa Rica

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 02:51:45.9	86.4	278.5	0.9	28	5.5		
	e L	Z 03:25:59.1			20.8	2648		5.6	
CLL	i P	Z 02:51:50.1			1.3	27	5.2		
	e S	N 03:02:30.7							
	e SS	E 03:08:35.5							
	e SSS	E 03:11:52.0							
	e SSSS	N 03:14:44.5							

e LR	Z	03:20:17.9							
e L	Z	03:28:50.6	20.0	2116	5.5				

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/03	07:59:43.6	53.510N	171.700W	33.0N	5.1			SZGRF
2002/08/03	07:59:31.6	52.136N	169.718W	33N	4.6			NEIC

Fox Islands, Aleutian Islands, United States

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 08:11:32.3	78.2	0.6			5.1		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/03	14:18:17.4	1.910S	13.100W	33.0N	5.4	5.1		SZGRF
2002/08/03	14:18:13.3	1.464S	14.350W	10G	5.3	5.1		NEIC

North of Ascension Island

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BFO	e P	Z 14:27:35.4	53.5	208.6	1.5	78	5.4		
	e S	N 14:35:06.5							
WLF	e P	Z 14:27:39.6	54.1	205.6	1.5	42	5.3		
STU	e P	Z 14:27:39.9	54.2	209.5	1.0	37	5.4		
	e S	N 14:35:16.1							
FUR	e P	Z 14:27:41.6	54.4	212.1	1.2	132	5.8		
TNS	e P	Z 14:27:47.9	55.2	208.1	1.7	73	5.4		
GRFO	e P	Z 14:27:50.8	55.7	211.5					
GRA1	e P	Z 14:27:50.8	55.7	211.5	1.2	45	5.4		
	e S	N 14:35:35.1							
	e L	Z 14:52:31.4			18.4	1471		5.1	
WET	e P	Z 14:27:51.8	55.8	213.6	1.3	72	5.5		
	e S	N 14:35:37.7							
GEC2	e P	Z 14:27:52.4	55.9	214.6					
	e S	N 14:35:36.3							
BUG	e P	Z 14:27:53.4	56.0	206.4	1.0	19	5.1		
	e S	N 14:35:40.6							
MOX	e P	Z 14:27:57.7	56.6	211.6	1.4	54	5.4		
	e S	N 14:35:48.5							
IBBN	e P	Z 14:27:59.9	56.9	206.7	1.2	26	5.1		
	e S	N 14:35:53.1							
BRG	e P	Z 14:28:04.6	57.6	214.1	1.4	36	5.2		
	e S	N 14:36:01.5							
CLL	i P	+ Z 14:28:04.8			1.4	40	5.3		
	e PP	Z 14:30:10.5							
	e PPP	Z 14:31:38.2							
	e S	R 14:36:01.7							
	e SS	R 14:39:55.2							

	e LR	Z	14:45:39.5								
	e L	Z	14:51:48.3			20.0	1619		5.1		
RUE	e P	Z	14:28:13.8	58.9	213.4	1.4	75	5.5			
	e S	N	14:36:18.3								

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/03								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 21:09:30.4							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/04	00:21:47.5	11.170N	86.400W	33.0N	4.9	5.2		SZGRF
2002/08/04	00:21:43.0	11.408N	87.311W	33N	5.2	4.8		NEIC

Near coast of Nicaragua

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 00:34:26.7	86.7	283.8			4.9		
	e L	Z 01:07:55.7			21.8	1034		5.2	
CLL	i P	Z 00:34:29.3			1.6	17	5.1		
	e SKSac	Z 00:44:52.0							
	e SS	E 00:51:06.3							
	e (SSS)	E 00:54:37.8							
	e LR	Z 01:02:45.3							
	e L	Z 01:09:19.8			22.0	1017		5.2	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/04	07:53:58.4	47.020N	158.240E	33.0N	4.8			SZGRF
2002/08/04	07:54:24.0	48.230N	153.249E	170D	4.5			NEIC

East of Kuril Islands, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 08:06:00.4	76.8	24.9			4.8		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/04	09:50:28.4	45.074S	80.637W	33N	5.4	4.9		NEIC

Off coast of southern Chile

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 10:09:35.4	123.7	238.0					
CLL	e PKPdf	Z 10:09:29.0			1.5	9			

e PP	Z	10:11:21.5							
e SKSac	T	10:16:31.9							
e PS	Z	10:21:08.6							
e SS	T	10:28:12.5							
e SSS	R	10:32:34.9							
e LQ	T	10:42:28.5							
e LR	Z	10:49:23.6							
e L	Z	10:58:56.2				22.0	810		5.3

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/04	15:16:50.4	32.420S	10.990W	33.0N	5.3	5.1		SZGRF
2002/08/04	15:16:26.8	35.447S	15.990W	10G	5.4	5.3		NEIC

Southern Mid-Atlantic Ridge

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BFO	e P	Z 15:29:10.0	86.5	199.6	1.0	18	5.2		
FUR	e P	Z 15:29:13.2	87.1	201.9	1.0	38	5.6		
STU	e P	Z 15:29:13.3	87.2	200.3	1.6	59	5.6		
WLF	e P	Z 15:29:14.9	87.3	197.9	1.2	29	5.4		
GEC2	e P	Z 15:29:18.9	88.3	203.8					
TNS	e P	Z 15:29:19.8	88.3	199.7	1.0	13	5.1		
WET	e P	Z 15:29:19.4	88.4	203.2	1.0	17	5.2		
GRFO	e P	Z 15:29:20.2	88.5	201.9	1.1	30	5.5		
GRA1	e P	Z 15:29:20.2	88.5	201.9	1.0	36	5.5		
	e L	Z 16:05:32.3			20.2	851		5.1	
BUG	e P	Z 15:29:24.9	89.3	198.8	1.2	25	5.3		
IBBN	e P	Z 15:29:29.3	90.2	199.2	1.1	34	5.4		
BRG	e P	Z 15:29:28.9	90.3	204.0	1.7	15	4.8		
CLL	e P	Z 15:29:29.7			1.3	17	5.1		
	e	15:29:36.8							
	e PP	Z 15:32:59.4							
	e SKKSac	R 15:40:10.6							
	e S	T 15:40:23.1							
	e PS	R 15:41:32.2							
	e SS	R 15:46:18.7							
	e LQ	T 15:53:10.3							
	e LR	Z 16:00:41.6							
	e L	Z 16:03:21.3			22.0	1010		5.2	
RUE	e P	Z 15:29:35.5	91.7	203.9	0.9	34	5.5		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/04	16:49:52.5	16.164S	173.605W	48D	4.5			NEIC

Tonga Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKP	Z 17:09:24.5	144.5	11.0					
MOX	e PKP	Z 17:09:27.5	145.3	8.8					
GRA1	e PKP	Z 17:09:31.3	146.2	8.4					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/04	17:25:07.5	21.049S	174.583W	33N	4.7			NEIC

Tonga Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 17:44:59.2	151.0	11.2					
CLL	e PKPdf	Z 17:44:50.8							
	i PKPbc	+ Z 17:44:54.5			1.4	28			
	e PKPab	Z 17:44:58.6			1.0	11			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/05	01:25:28.2	17.570N	95.910W	33.0N	4.6	4.9		SZGRF
2002/08/05	01:25:20.4	16.087N	95.683W	33N	5.1	4.9		NEIC

Oaxaca, Mexico

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 01:38:11.6	88.2	293.1			4.6		
	e L	Z 02:18:41.4			19.9	495		4.9	
CLL	i P	Z 01:38:11.8			1.3	8	4.8		
	e PP	Z 01:41:44.9							
	e S	T 01:49:05.8							
	e PS	E 01:50:12.1							
	e SS	R 01:54:52.6							
	e LQ	T 02:01:46.4							
	e LR	Z 02:06:59.2							
	e L	Z 02:18:34.5			20.0	646		5.0	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/05	08:52:49.2	21.208S	179.308W	629D	4.8			NEIC

Fiji Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i PKPbc	Z 09:11:27.4			0.5	7			
	i PKPab	Z 09:11:33.2			1.2	18			
	e pPKP	Z 09:13:48.9							
GRA1	e PKPab	Z 09:11:42.0	150.3	20.1					
	e pPKP	Z 09:13:56.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/06	06:05:40.1	7.400N	96.600E	33.0N	5.0			SZGRF
2002/08/06	06:05:52.8	8.308N	93.411E	33N	5.2	4.7		NEIC

Nicobar Islands, India, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 06:17:53.9	78.6	90.5			5.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/06	06:16:21.3	37.860N	2.110W	10.0G				SZGRF
2002/08/06	06:16:18.7	37.985N	1.860W	10G	4.7			NEIC

Spain

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BFO	e Pn	Z 06:19:21.2	12.7	219.3					
GRA1	e Pn	Z 06:19:54.2	15.0	223.6					
MOX	e Pn	Z 06:20:05.2	15.9	222.2					
BRG	e Pn	Z 06:20:23.9	17.1	227.0					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/06	18:51:36.0	5.408S	141.790E	33N	5.3	5.2		NEIC

Irian Jaya, Indonesia, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKPdf	Z 19:10:21.0			0.8	13			
	e pPKPdf	Z 19:10:28.3							
	e PP	Z 19:11:32.9							
	e Sdiff	T 19:19:39.0							
	e PS	Z 19:21:25.0							
	e SS	R 19:27:52.8							
	e LQ	T 19:43:18.2							
	e LR	Z 19:49:57.9							
	e L	Z 20:03:47.2			22.0	620		5.2	
GRA1	e PP	Z 19:11:53.9	119.4	60.2					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/06	19:53:19.2	63.020N	148.910W	33.0N	5.7			SZGRF
2002/08/06	19:53:08.8	61.565N	150.598W	65	5.1			NEIC

Central Alaska, United States

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z	20:03:36.4	63.5	350.0	0.8	20	5.4		
IBBN	e P	Z	20:03:45.0	64.8	348.8	0.6	49	5.9		
RUE	e P	Z	20:03:47.9	65.3	351.9	1.2	88	5.9		
BUG	e P	Z	20:03:49.8	65.6	348.6	1.6	90	5.8		
CLL	i P	- Z	20:03:54.4			0.8	21	5.4		
	e pP	Z	20:04:11.2							
	e PcP	Z	20:04:21.4							
BRG	e P	Z	20:03:58.0	66.9	352.1	2.8	246	5.9		
MOX	e P	Z	20:03:58.1	66.9	350.9	0.6	44	5.9		
TNS	e P	Z	20:03:58.6	67.0	349.3	1.7	61	5.6		
WLF	e P	Z	20:04:00.6	67.2	348.2	1.3	79	5.8		
GRA1	e P	Z	20:04:04.1	67.8	350.8	1.8	83	5.7		
GRFO	e P	Z	20:04:04.2	67.8	350.8	1.8	70	5.6		
STU	e P	Z	20:04:08.1	68.5	349.8					
WET	e P	Z	20:04:08.7	68.5	351.6	1.5	49	5.5		
BFO	e P	Z	20:04:10.1	68.8	349.4	1.3	36	5.4		
GEC2	e P	Z	20:04:10.7	68.9	352.1					
FUR	e P	Z	20:04:13.3	69.3	350.9	1.3	47	5.6		

Date Origin Time Lat Long Depth mb Ms ML Source
 2002/08/07 04:50:06.7 21.763S 176.646W 174D 5.4 NEIC
 Fiji Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKPdf	Z	05:09:32.3			0.9	10			
	i PKPbc	- Z	05:09:37.4			1.5	365			
	i PKPab	Z	05:09:42.5			1.0	152			
	e pPKPbc	Z	05:10:24.4							
	e SKP	Z	05:13:02.6							
	e PP	Z	05:13:07.8							
	e pPP	Z	05:14:03.2							
	e SKKSac	N	05:19:44.7							
	e L	Z	06:01:22.5							
GRA1	e PKP	Z	05:09:42.4	151.4	15.4					

Date Origin Time Lat Long Depth mb Ms ML Source
 2002/08/07 09:52:27.5 48.016N 155.289E 33N 4.9 NEIC
 Kuril Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i P	Z	10:04:12.9			0.9	37	5.5		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/07	23:59:22.4	8.730N	82.470W	33.0N	6.3	6.0		SZGRF
2002/08/07	23:59:14.2	7.801N	82.661W	10G	5.6	5.6		NEIC

Panama-Costa Rica border region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z 00:11:42.9	83.3	274.2	3.0	1014	6.5		
BUG	e P	Z 00:11:45.4	83.9	274.8	4.1	2242	6.7		
IBBN	e P	Z 00:11:46.6	84.1	275.1	2.4	601	6.4		
TNS	e P	Z 00:11:50.0	84.7	275.9	1.9	200	6.0		
BFO	e P	Z 00:11:50.1	84.8	275.9	4.1	1259	6.5		
STU	e P	Z 00:11:53.0	85.4	276.5	3.2	1233	6.6		
BSEG	e P	Z 00:11:53.5	85.4	277.0	2.3	616	6.4		
GRFO	e P	Z 00:11:59.4	86.6	278.0	1.8	206	6.0		
GRA1	e P	Z 00:12:00.5	86.6	278.0	1.8	241	6.0		
	e PP	Z 00:15:27.9							
	e L	Z 00:44:39.8			22.0	6590		6.0	
MOX	e P	Z 00:11:59.7	86.7	278.2	2.9	678	6.3		
CLL	e P	Z 00:12:03.4			1.8	248	6.2		
	e PP	Z 00:15:30.6							
	e SKSac	R 00:22:27.7							
	e S	T 00:22:44.7							
	e PS	Z 00:23:56.7							
	e SS	R 00:28:34.0							
	e LR	Z 00:40:00.5							
	e L	Z 00:45:27.3			22.0	2163		5.5	
WET	e P	Z 00:12:05.1	87.7	279.3	1.8	254	6.1		
RUE	e P	Z 00:12:04.5	87.7	279.8	1.9	219	6.0		
BRG	e P	Z 00:12:06.7	88.1	280.0	3.0	933	6.4		
GEC2	e P	Z 00:12:07.6	88.3	279.9					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/08	06:40:24.8	19.302S	173.615W	33N	4.7			NEIC

Tonga Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 07:00:15.2	149.4	9.0					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/08	08:39:53.4	20.525S	178.198W	553?	4.6			NEIC

Fiji Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKPdf	Z 08:58:34.0							
	i PKPbc	- Z 08:58:37.8			0.8	45			

	i PKPab	Z	08:58:42.4				0.7	17	
GRA1	e PKP	Z	08:58:43.0	149.9	17.8				

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/08	11:42: 2.1	30.490N	99.940E	33.0G	5.8	4.4		SZGRF
2002/08/08	11:42:05.0	30.955N	99.913E	33N	5.4	4.7		NEIC

Sichuan, China

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e P	Z	11:52:36.7	63.7	72.6	1.1	72	5.8		
BRG	e P	Z	11:52:39.3	64.1	72.0	1.8	141	5.9		
CLL	i P	- Z	11:52:41.8			1.0	46	5.7		
	e PP	Z	11:55:06.0							
	e PPP	Z	11:56:33.8							
	e S	E	12:01:19.8							
	e SS	R	12:05:36.3							
	e SSS	Z	12:08:30.5							
	e LQ	T	12:13:03.8							
	e L	Z	12:23:12.8			18.0	414		4.7	
BSEG	e P	Z	11:52:47.2	65.2	70.8	1.0	79	5.9		
WET	e P	Z	11:52:47.6	65.3	70.5	1.8	127	5.9		
MOX	e P	Z	11:52:48.9	65.6	70.3	1.7	97	5.8		
GRA1	e P	Z	11:52:53.2	66.1	69.7	1.0	84	5.9		
	e L	Z	12:26:28.8			18.9	250		4.4	
FUR	e P	Z	11:52:56.3	66.6	69.1	0.9	145	6.2		
IBBN	e P	Z	11:52:59.6	67.2	68.4	1.1	57	5.7		
TNS	e P	Z	11:53:02.0	67.6	68.0	1.0	32	5.5		
STU	e P	Z	11:53:02.5	67.7	68.0	1.3	93	5.8		
BUG	e P	Z	11:53:03.4	67.8	67.7	1.0	50	5.7		
BFO	e P	Z	11:53:06.7	68.4	67.2	1.4	89	5.8		
WLF	e P	Z	11:53:12.4	69.2	66.3	1.0	143	6.1		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/08	13:39:10.7	2.650S	84.690W	33.0N	5.8	5.2		SZGRF
2002/08/08	13:39:59.5	4.959N	77.796W	58*	5.4	4.9		NEIC

Off coast of Ecuador

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z	13:52:34.0	85.6	272.5	1.2	37	5.8		
	e L	Z	14:26:22.4			22.0	906		5.2	
CLL	e P	Z	13:52:39.0			1.5	31	5.2		
	e pP	Z	13:52:49.8							
	e PP	Z	13:56:05.4							
	e SKSac	R	14:03:03.0							
	e S	T	14:03:16.8							

e PS	E	14:04:10.8									
e SS	R	14:08:58.6									
e SSS	E	14:12:23.0									
e LQ	T	14:16:48.2									
e LR	Z	14:21:42.1									
e L	Z	14:27:15.4				22.0		1044		5.2	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/08	21:17:10.6	13.572N	39.828E	10G	4.8			NEIC

Ethiopia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i P	+ Z 21:25:16.3			1.8	37	4.8		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/09	13:31:05.7	16.177S	176.243W	364D	5.4			NEIC

Fiji Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPdf	Z 13:49:51.4	141.9	10.2					
	e pPKPdf	Z 13:51:22.5							
	e PP	Z 13:53:01.2							
RUE	e PKPdf	Z 13:49:54.2	142.8	16.1					
IBBN	e PKPbc	Z 13:49:57.5	143.7	6.5					
CLL	i PKPbc	- Z 13:49:58.6			0.9	189			
	e	13:50:05.1							
	e pPKPbc	Z 13:51:27.8							
	e SKP	Z 13:53:08.1							
	e sPP	Z 13:55:18.1							
	e SKKSac	R 13:59:39.5							
	e SKSP	Z 14:02:52.8							
	e SPP	Z 14:05:18.9							
	e SS	E 14:11:37.5							
	e SSP	Z 14:12:15.3							
	e sSS	T 14:13:45.3							
	e LQ	T 14:29:50.6							
BRG	e PKPbc	Z 13:49:59.8	144.4	16.9					
	e pPKPdf	Z 13:51:28.1							
BUG	e PKPbc	Z 13:50:00.4	144.6	5.8					
MOX	e PKPbc	Z 13:50:01.7	145.0	13.2					
GRA1	e PKPdf	Z 13:50:03.3	145.9	12.9					
	e PKPbc	Z 13:50:05.0							
	e pPKPdf	Z 13:51:31.2							
	e pPKPbc	Z 13:51:34.9							
WET	e PKPdf	Z 13:50:03.4	146.2	15.9					

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GEC2	e PKPdf	Z	13:50:03.7	146.3	17.4
	e PKPbc	Z	13:50:06.1		
WLF	e PKPbc	Z	13:50:06.7	146.5	4.2
STU	e PKPdf	Z	13:50:05.2	147.1	9.6
	e PKPbc	Z	13:50:08.2		
FUR	e PKPdf	Z	13:50:05.5	147.4	13.5
	e PKPbc	Z	13:50:09.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/09	14:25:47.0	29.765S	177.267W	33N	4.9			NEIC

Kermadec Islands, New Zealand

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKPab	Z 14:46:11.0			1.5	22			
GRA1	e PKP	Z 14:46:18.8	159.1	21.0					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/09	19:48: 3.7	44.670N	10.730E	10.0G				SZGRF
2002/08/09	19:47:54.2	44.050N	10.690E	5G				NEIC

Northern Italy

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BFO	e Pn	Z 19:49:05.1	4.6	158.2					
	e Sn	E 19:49:49.8							
GEC2	e Pn	Z 19:49:13.5	5.2	204.5					
	e Sn	N 19:50:05.8							
WET	e Pn	Z 19:49:14.0	5.3	197.2					
GRA1	e Pn	Z 19:49:19.4	5.7	183.9					
TNS	e Sn	N 19:50:34.2	6.4	165.3					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/09	21:00:58.5	23.400N	71.310E	33.0N	5.0			SZGRF

Southern India

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e P	Z 21:10:00.3	51.5	98.0					
BRG	e P	Z 21:10:02.5	51.7	99.8					
WET	e P	Z 21:10:04.2	52.1	97.5					
CLL	e P	Z 21:10:07.0	52.3	99.3					
MOX	e P	Z 21:10:12.8	53.1	97.6					
GRA1	e P	Z 21:10:13.9	53.2	96.6	1.5	30	5.0		
BSEG	e P	Z 21:10:22.0	54.3	98.9					
STU	e P	Z 21:10:35.0	54.4	94.3					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/09	22:09:17.4	14.910N	41.070E	33.0N	4.8			SZGRF
2002/08/09	22:08:42.9	11.848N	43.709E	10G	5.0	4.7		NEIC

Ethiopia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 22:17:09.0	46.3	133.4	1.9	35	4.8		
CLL	e P	Z 22:17:11.9			1.2	14	4.6		
	e	22:17:15.7							
	e PP	Z 22:18:52.2							
	e S	T 22:23:54.5							
	e SS	Z 22:27:07.8							
	e LR	Z 22:31:28.3							
	e L	Z 22:38:03.9			20.0	206		4.0	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/10	03:25:26.2	52.110N	178.890W	33.0N	5.1			SZGRF
2002/08/10	03:25:17.8	51.149N	179.684W	33N	4.7			NEIC

Andreanof Islands, Aleutian Islands, United States

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 03:37:20.8	78.7	7.0	0.7	12	5.1		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/10	05:15:33.7	44.630N	10.730E	10.0G				SZGRF

Northern Italy

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
FUR	e Sn	E 05:17:12.0	3.6	186.3					
BFO	e Pn	Z 05:16:35.7	4.1	155.1					
	e Sn	N 05:17:19.9							
GEC2	e Pn	Z 05:16:43.8	4.7	206.9					
	e Sn	N 05:17:36.3							
WET	e Pn	Z 05:16:44.6	4.7	198.8					
	e Sn	E 05:17:37.9							
GRA1	e Pn	Z 05:16:50.2	5.1	184.0					
TNS	e Pn	Z 05:16:59.6	5.8	163.7					
	e Sn	N 05:18:05.1							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
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2002/08/10 05:50:13.0
Tonga Islands

17.633S 173.433W 33N 4.6 4.4 NEIC

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i PKPbc	+ Z	06:09:52.5			1.2	38			
	e		06:09:59.3							
BUG	e PKP	Z	06:09:53.3	146.2	1.2					
BRG	e PKP	Z	06:09:53.6	146.2	12.7					
GRA1	e PKP	Z	06:09:58.4	147.7	8.3					
GEC2	e PKP	Z	06:09:59.4	148.3	13.0					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/10	15:56:21.0	15.680N	39.700E	33.0N	5.0	4.6		SZGRF
2002/08/10	15:56:02.1	13.655N	39.752E	10G	5.1	5.2		NEIC

Ethiopia

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e P	Z	16:03:48.1	41.2	139.6					
FUR	e P	Z	16:03:52.1	41.8	135.9					
WET	e P	Z	16:03:52.7	41.8	138.8	1.0	23	4.8		
BRG	e P	Z	16:03:59.8	42.7	141.4					
GRA1	e P	Z	16:04:00.9	42.9	137.0	1.1	33	5.0		
	e PP	Z	16:05:45.2							
	e S	E	16:10:23.5							
	e SS	E	16:13:31.2							
	e L	Z	16:23:14.9			22.0	998		4.6	
STU	e P	Z	16:04:04.8	43.2	133.8					
BFO	e P	Z	16:04:05.8	43.3	132.4	1.2	46	5.1		
CLL	i P	Z	16:04:05.5			1.3	38	5.0		
	e PP	Z	16:05:49.0							
	e PcP	Z	16:05:58.2			1.4	20			
	e S	T	16:10:33.7							
	e SS	T	16:13:49.5							
	e L	Z	16:28:19.8			18.0	826		4.7	
MOX	e P	Z	16:04:06.1	43.5	138.2	1.2	34	4.9		
RUE	e P	Z	16:04:10.0	44.0	142.2					
TNS	e P	Z	16:04:15.3	44.5	134.0	1.3	51	5.1		
WLF	e P	Z	16:04:20.4	45.3	130.8					
BUG	e P	Z	16:04:25.9	45.9	133.4					
IBBN	e P	Z	16:04:27.8	46.3	134.6					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/10								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
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GRA1 e PKPdf Z 20:02:07.0

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/11	01:15:31.7	14.550N	93.100W	28.7	5.1	4.8		SZGRF
2002/08/11	01:15:25.5	14.461N	93.292W	33N	4.4	4.1		NEIC

Near coast of Chiapas, Mexico

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 01:28:18.4	88.1	290.3	2.0	19	5.1		
	e pP	Z 01:28:26.8							
	e L	Z 02:11:01.0			18.1	318		4.8	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/11	05:05:44.5	4.130S	71.010W	571.5	5.5			SZGRF
2002/08/11	05:06:32.2	5.574S	71.871W	568D	4.8			NEIC

Peru-Brazil border region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z 05:18:16.8	86.6	257.3	1.2	64	5.7		
	e pP	Z 05:20:20.6							
BUG	e P	Z 05:18:21.5	87.7	258.0	1.1	60	5.6		
	e pP	Z 05:20:24.3							
BFO	e P	Z 05:18:21.8	87.7	259.0	1.3	17	5.0		
IBBN	e P	Z 05:18:23.9	88.1	258.4	0.7	50	5.8		
	e pP	Z 05:20:28.2							
TNS	e P	Z 05:18:24.0	88.1	259.0	1.1	30	5.3		
STU	e P	Z 05:18:24.7	88.3	259.6	1.2	43	5.4		
FUR	e P	Z 05:18:31.0	89.6	261.2	1.1	30	5.5		
GRA1	e P	Z 05:18:32.3	89.8	261.1	1.5	62	5.7		
	e pP	Z 05:20:37.1							
MOX	e P	Z 05:18:34.0	90.2	261.4	1.5	33	5.4		
WET	e P	Z 05:18:36.8	90.8	262.4	1.5	32	5.3		
CLL	i P	Z 05:18:38.0			2.2	54	5.5		
	e sP	Z 05:21:37.0							
	e PP	Z 05:22:20.4							
	e sPP	Z 05:25:12.0							
	e S	T 05:28:46.8							
	e SP	Z 05:29:56.9							
	e	05:31:23.6							
	e sS	T 05:32:26.2							
	e SSS	Z 05:38:50.3							
GEC2	e P	Z 05:18:38.8	91.3	263.0					
BRG	e P	Z 05:18:41.0	91.7	263.2	1.5	26	5.2		
RUE	e P	Z 05:18:40.9	91.8	263.2	2.4	108	5.7		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/11	07:56:35.7	73.290N	7.170E	33.0N	4.4			SZGRF
2002/08/11	07:56:30.0	73.256N	6.408E	10G	4.3			NEIC

Greenland Sea

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z	08:01:44.7	23.7	356.5	1.3	17	4.4		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/11	21:16:36.8	21.533S	179.522W	650G	4.4			NEIC

Fiji Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i PKPbc	+ Z	21:35:14.0			1.3	38			
	i PKPab	Z	21:35:20.5			0.8	9			
	e pPKPbc	Z	21:37:38.4							
GRA1	e PKP	Z	21:35:19.3	150.6	20.7					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/11	21:55:42.0	43.680N	143.340E	61.9	5.3			SZGRF
2002/08/11	21:55:30.6	41.166N	142.512E	57D	5.0			NEIC

Hokkaido, Japan, region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e P	Z	22:07:17.7	76.4	37.2	1.3	47	5.4		
BRG	e P	Z	22:07:24.3	77.6	37.1	1.1	15	5.0		
CLL	i P	+ Z	22:07:24.1			1.0	37	5.5		
	e pP	Z	22:07:40.8							
	e PP	Z	22:10:24.8							
	e PPP	Z	22:12:19.9							
	e S	T	22:17:18.6							
	e sS	Z	22:17:48.7							
	e LR	Z	22:34:05.0							
	e L	Z	22:43:51.5			22.0	400		4.7	
IBBN	e P	Z	22:07:30.0	78.7	33.0	0.8	38	5.6		
MOX	e P	Z	22:07:30.2	78.7	35.5	0.9	14	5.1		
GEC2	e P	Z	22:07:33.7	79.3	36.6	0.8	17	5.2		
WET	e P	Z	22:07:34.8	79.4	36.1	1.0	25	5.3		
BUG	e P	Z	22:07:34.7	79.5	32.6	1.1	31	5.3		
GRA1	e P	Z	22:07:35.9	79.6	35.1	0.9	51	5.7		
	e pP	Z	22:07:52.1							
TNS	e P	Z	22:07:38.3	80.2	33.3	1.0	16	5.0		

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FUR	e P	Z	22:07:42.2	80.8	35.0	0.9	54	5.6
BFO	e P	Z	22:07:46.6	81.8	33.1	1.5	44	5.2
	e pP	Z	22:08:05.0					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/12	02:08:34.6	52.370N	166.470W	37.1	5.2			SZGRF
2002/08/12	02:08:33.1	52.776N	166.757W	33N	4.7			NEIC

Fox Islands, Aleutian Islands, United States

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i P	Z 02:20:29.8	77.5	358.7	0.7	14	5.2		
	e pP	Z 02:20:40.4							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/12	02:59:23.9	19.508S	169.000E	113D	5.6			NEIC

Vanuatu Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e PP	Z 03:22:11.7	141.8	39.7					
BRG	e PP	Z 03:22:14.0	143.0	41.3					
CLL	e PKP	Z 03:18:42.2							
	e pPKP	Z 03:19:13.6							
	e PP	Z 03:21:58.8							
	i SKP	Z 03:22:14.0			1.9	114			
	e SS	T 03:40:29.6							
	e L	Z 04:25:24.0			22.0	228		4.9	
IBBN	e PP	Z 03:22:15.9	144.1	31.1					
GEC2	e PKP	Z 03:18:47.8	144.6	42.8					
WET	e PKP	Z 03:18:48.6	144.7	41.4					
GRA1	e PKP	Z 03:18:49.6	145.0	38.4					
	e pPKP	Z 03:19:19.5							
TNS	e PKP	Z 03:18:51.3	145.6	33.8					
FUR	e PKP	Z 03:18:52.6	146.2	39.9					
	e pPKP	Z 03:19:22.6							
BFO	e PKP	Z 03:18:55.6	147.2	35.2					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/12	05:10:18.9	22.222S	178.891W	442D	4.8			NEIC

South of Fiji Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e PKPbc	Z 05:29:14.8	148.2	22.7					
CLL	e PKPdf	Z 05:29:11.8							

	i	PKPbc	Z	05:29:18.0				1.1	71
	i	PKPab	Z	05:29:25.8				1.3	43
	e	PKS	Z	05:32:52.6					
BUG	e	PKPbc	Z	05:29:19.9	150.4	11.6			
GRA1	e	PKPbc	Z	05:29:23.1	151.4	19.8			
	e	PKPab	Z	05:29:34.7					
WLF	e	PKPbc	Z	05:29:25.3	152.3	10.1			
	e	PKPab	Z	05:29:37.8					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/12	11:28:44.6	37.810N	69.980E	234.8	5.0			SZGRF
2002/08/12	11:28:33.3	36.462N	70.155E	232D	4.7			NEIC

Afghanistan-Tajikistan border region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 11:36:19.9	43.8	84.4	1.4	43	5.0		
	e pP	Z 11:37:09.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/12	22:50:39.3	44.680N	12.120E	10.0G				SZGRF

Northern Italy

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e Pn	Z 22:51:45.0	4.3	195.2					
	e Sn	N 22:52:35.2							
GRC1	e Sn	E 22:52:34.1	4.3	174.4					
BFO	e Pn	Z 22:51:48.3	4.5	143.1					
	e Sn	N 22:52:38.3							
WET	e Pn	Z 22:51:46.0	4.5	186.9					
	e Sn	N 22:52:37.8							
GRA1	e Pn	Z 22:51:54.2	5.0	172.7					
	e Sn	N 22:52:50.6							
MOX	e Pn	Z 22:52:06.6	6.0	176.6					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/13	06:05:46.1	6.130S	104.750E	33.0N		5.8		SZGRF
2002/08/13	06:05:37.3	7.076S	104.006E	33N	5.4	5.9		NEIC

Sunda Strait, Indonesia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e P	Z 06:19:07.3							
	e	06:19:10.0							
	e SKSac	R 06:29:42.1							

	e PS	R	06:31:40.0							
	e SS	R	06:36:53.9							
	e L	Z	07:13:42.1			20.0	4346		5.9	
GRA1	e P	Z	06:19:10.8	97.2	92.5					
	e L	Z	07:13:07.0			19.1	2929		5.8	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/13	07:47:49.2	14.560N	55.140E	33.0N	5.3			SZGRF
2002/08/13	07:47:42.2	14.731N	55.805E	10G	5.3	4.7		NEIC

Arabian Sea

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e P	Z 07:56:26.2	48.4	119.9	1.8	57	5.4		
FUR	e P	Z 07:56:34.9	49.5	116.9	1.4	143	5.8		
CLL	i P	Z 07:56:39.5			1.8	52	5.2		
	e PcP	Z 07:57:59.9							
	e PP	Z 07:58:38.3							
	e LR	Z 08:12:22.7							
	e L	Z 08:21:11.0			20.0	462		4.5	
GRA1	e P	Z 07:56:40.6	50.2	118.0	1.7	70	5.3		
RUE	e P	Z 07:56:41.0	50.3	122.7	1.7	123	5.6		
MOX	e P	Z 07:56:42.4	50.5	119.1	1.7	36	5.0		
BFO	e P	Z 07:56:48.9	51.4	114.1	1.3	33	5.1		
TNS	e P	Z 07:56:54.0	52.1	115.6	1.2	20	4.9		
BSEG	e P	Z 07:56:59.6	52.8	120.0	1.6	34	5.0		
WLF	e P	Z 07:57:02.5	53.2	113.0	1.3	45	5.2		
BUG	e P	Z 07:57:03.1	53.3	115.3	2.1	65	5.2		
IBBN	e P	Z 07:57:04.2	53.4	116.3	1.8	82	5.4		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/13	08:37:42.5	15.780N	53.740E	33.0N	5.9	5.3		SZGRF
2002/08/13	08:37:22.7	14.705N	55.890E	10G	5.5	5.5		NEIC

Arabian Sea

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e P	Z 08:46:06.4	48.5	119.8					
WET	e P	Z 08:46:11.4	49.1	119.2	2.5	198	5.8		
FUR	e P	Z 08:46:14.9	49.6	116.8	2.4	873	6.5		
CLL	i P	Z 08:46:18.8			2.8	594	6.0		
	e PcP	Z 08:47:39.3							
	e PP	Z 08:48:21.7							
	e PPP	Z 08:49:20.8							
	e S	R 08:53:31.0							
	e SS	T 08:57:20.2							
	e LR	Z 09:01:48.0							

	e L	Z	09:10:55.0			20.0	3882		
GRA1	e P	Z	08:46:20.3	50.3	117.9	2.7	531	6.2	
	e S	E	08:53:33.5						
	e L	Z	09:14:20.0			18.1	2749		5.3
RUE	e P	Z	08:46:21.6	50.3	122.6	2.7	717	6.3	
MOX	e P	Z	08:46:22.7	50.5	119.0	2.6	469	6.2	
STU	e P	Z	08:46:26.7	51.1	115.2	3.1	353	5.9	
BFO	e P	Z	08:46:28.9	51.4	114.1	1.8	124	5.6	
TNS	e P	Z	08:46:34.4	52.1	115.5	2.2	140	5.5	
BSEG	e P	Z	08:46:40.5	52.9	119.9	2.1	146	5.5	
WLF	e P	Z	08:46:42.9	53.3	112.9	1.5	74	5.4	
BUG	e P	Z	08:46:44.2	53.3	115.2	2.8	408	5.9	
IBBN	e P	Z	08:46:44.6	53.4	116.3	3.2	1210	6.3	

Date Origin Time Lat Long Depth mb Ms ML Source
 2002/08/13 14:13:55.2 30.731S 177.430W 33N 5.4 5.5 ML NEIC
 Kermadec Islands, New Zealand

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKPdf	Z 14:33:47.5							
	i PKPab	Z 14:34:20.4			1.9	35			
	e PP	Z 14:38:01.6							
	e PPP	Z 14:41:51.3							
	e PPS	Z 14:51:15.3							
	e L	Z 15:56:18.1			18.0	977		5.7	
GRA1	e PKPdf	Z 14:33:48.5	160.0	22.2					
	e PP	Z 14:38:08.0							

Date Origin Time Lat Long Depth mb Ms ML Source
 2002/08/13 16:08:07.0 16.042S 174.961W 200G 4.4 Ms ML NEIC
 Tonga Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 16:27:25.4							

Date Origin Time Lat Long Depth mb Ms ML Source
 2002/08/13 20:30:36.8 17.554S 179.110W 600G 4.7 Ms ML NEIC
 Fiji Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA3	e PKPdf	Z 20:49:15.7	146.7	18.3					
	e PKPbc	Z 20:49:18.6							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/13	21:35:39.5	19.731S	169.432E	203D	5.1			NEIC

Vanuatu Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e PKP	Z	21:54:53.2	145.0						
WET	e PKP	Z	21:54:53.7	145.2						
GRA1	e PKP	Z	21:54:54.7	145.4						
STU	e PKP	Z	21:54:59.0	147.0						
TNS	e PKP	Z	21:54:56.3	146.1						
BFO	e PKP	Z	21:55:00.5	147.7						

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/13	22:24: 8.6	36.310N	71.370E	33.0N	5.0			SZGRF

Afghanistan-Tajikistan border region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z	22:32:18.6	44.7	83.7	1.6	29	5.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/13	23:32:33.0	54.630N	163.080W	39.4	4.9			SZGRF
2002/08/13	23:32:23.0	53.439N	163.576W	8	4.8	4.2		NEIC

Unimak Island, Alaska, United States, region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z	23:43:49.9	72.5	356.2	1.3	22	5.1		
IBBN	e P	Z	23:43:58.5	74.0	354.6					
RUE	e P	Z	23:43:59.1	74.1	358.4					
BUG	e P	Z	23:44:03.0	74.8	354.4					
CLL	e P	Z	23:44:04.9	75.2	357.9	1.2	12	4.8		
BRG	e P	Z	23:44:07.7	75.7	358.5	1.0	11	4.8		
MOX	e P	Z	23:44:09.0	75.8	357.0	1.3	22	5.0		
TNS	e P	Z	23:44:10.7	76.1	355.1	1.1	11	4.8		
WLF	e P	Z	23:44:13.6	76.5	353.7					
GRA1	e P	Z	23:44:14.8	76.8	356.8	1.4	37	5.3		
	e pP	Z	23:44:26.1							
WET	e P	Z	23:44:18.1	77.4	357.8	1.4	12	4.8		
STU	e P	Z	23:44:18.9	77.6	355.6	1.4	21	5.1		
GEC2	e P	Z	23:44:19.5	77.7	358.3					
BFO	e P	Z	23:44:21.1	78.0	355.1	1.3	12	4.8		

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Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/14	08:00:30.3	21.851S	174.068W	33N	5.0			NEIC

Tonga Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i PKPbc	Z 08:20:19.4			0.8	11			
	e PKPab	Z 08:20:26.2							
GRA1	e PKP	Z 08:20:35.0	151.8	10.4					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/14	13:12:42.9	7.814N	136.850E	33N	6.1	6.0		NEIC

Western Caroline Islands, Micronesia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e Pdiff	Z 13:26:43.6	103.7	55.0					
	e PP	Z 13:31:00.0							
	e SKSac	N 13:37:20.1							
	e PS	E 13:40:15.4							
	e SS	N 13:45:54.9							
CLL	e Pdiff	Z 13:26:43.3			1.5	19			
	e	13:26:50.3							
	e PP	Z 13:31:02.8							
	e PPP	Z 13:33:11.9							
	e PPPP	Z 13:35:08.6							
	e SKSac	R 13:37:31.4							
	e PS	R 13:40:29.7							
	e PPS	R 13:41:06.3							
	i PKKPbc	Z 13:42:40.7							
	e SS	R 13:46:14.9							
	e SSS	Z 13:49:48.2							
	e SSSS	Z 13:54:03.1							
	e LR	Z 14:03:02.1							
	e L	Z 14:16:47.4			20.0	12620		6.4	
MOX	e Pdiff	Z 13:26:48.6	104.9	56.9					
	e PP	Z 13:31:10.8							
	e SS	N 13:46:04.1							
GRA1	e Pdiff	Z 13:26:51.9	105.6	56.7					
	e PP	Z 13:31:18.6							
	e SP	Z 13:40:31.7							
	e PKKP	Z 13:42:34.7							
	e SS	E 13:46:22.3							
	e L	Z 14:18:47.4			19.5	10761		6.4	
TNS	e Pdiff	Z 13:26:56.6	106.8	54.2					
	e PP	Z 13:31:25.7							
	e SKSac	N 13:37:36.9							
	e SS	E 13:46:46.7							
BFO	e Pdiff	Z 13:27:01.6	108.0	54.6					

e PP Z 13:31:34.1
 e SKSac Z 13:38:08.5
 e SS N 13:47:05.0

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/14	13:57:56.4	14.190N	146.130E	65*	6.1			NEIC

Mariana Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e Pdiff	Z 14:11:49.3	102.7	47.4					
CLL	e Pdiff	Z 14:11:49.8			2.1	80			
	e PP	Z 14:16:05.3							
	e PPP	Z 14:18:21.0							
	e LR	Z 14:47:51.2							
	e L	Z 15:01:34.4			20.0	35856		6.9	
MOX	e Pdiff	Z 14:11:55.3	104.0	45.4					
GEC2	e Pdiff	Z 14:11:56.6	104.2	47.6					
IBBN	e Pdiff	Z 14:11:57.6	104.4	41.7					
WET	e Pdiff	Z 14:11:56.6	104.4	46.8					
GRA1	e Pdiff	Z 14:11:58.3	104.8	45.3					
	e L	Z 15:02:31.2			20.5	28864		6.8	
TNS	e Pdiff	Z 14:12:02.7	105.7	42.7					
FUR	e Pdiff	Z 14:12:04.8	105.9	45.6					
WLF	e Pdiff	Z 14:12:09.1	107.1	40.7					
BFO	e Pdiff	Z 14:12:07.3	107.1	43.0					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/14	16:29:14.1	13.590N	58.880E	33.0N	5.5			SZGRF
2002/08/14	16:29:30.6	14.699N	55.820E	10G	5.1	4.5		NEIC

Arabian Sea

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 16:38:27.5	50.3	118.0	2.5	157	5.5		
CLL	e P	Z 16:38:28.4			2.3	87	5.3		
	e (PP)	Z 16:40:28.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/14	16:31:53.1	15.081N	55.968E	10G	4.7			NEIC

Owen Fracture Zone Region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e P	Z 16:40:48.3			1.9	77	5.3		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/15	01:25:33.9	19.838S	177.692W	500G	4.4			NEIC

Fiji Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	01:44:15.7	145.4	13.3					
RUE	e PKPbc	Z	01:44:17.9	146.2	19.6					
IBBN	e PKPbc	Z	01:44:20.9	147.3	9.5					
CLL	e PKPbc	Z	01:44:21.3	147.4	18.9					
	e PKPab	Z	01:44:25.3							
BRG	e PKPbc	Z	01:44:22.0	147.6	20.8					
	e PKPab	Z	01:44:26.5							
BUG	e PKPbc	Z	01:44:23.0	148.2	8.9					
MOX	e PKPbc	Z	01:44:23.7	148.3	16.8					
TNS	e PKPbc	Z	01:44:26.0	149.2	11.3					
	e PKPab	Z	01:44:32.6							
GRA1	e PKPbc	Z	01:44:26.4	149.3	16.6					
	e PKPab	Z	01:44:33.6							
WET	e PKPbc	Z	01:44:26.6	149.5	19.9					
GEC2	e PKPbc	Z	01:44:26.8	149.6	21.5					
WLF	e PKPbc	Z	01:44:28.3	150.0	7.2					
	e PKPab	Z	01:44:36.3							
STU	e PKPbc	Z	01:44:28.9	150.5	13.3					
	e PKPab	Z	01:44:38.2							
FUR	e PKPbc	Z	01:44:29.3	150.8	17.5					
	e PKPab	Z	01:44:39.4							
BFO	e PKPbc	Z	01:44:30.0	151.1	11.8					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/15	05:30:32.4	0.360S	122.940E	33.0N		5.8		SZGRF
2002/08/15	05:30:28.9	1.254S	121.361E	33N	5.8	5.8		NEIC

Minahassa Peninsula, Sulawesi, Indonesia

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e Pdiff	Z	05:44:22.2	101.6	76.7					
	e PP	Z	05:48:33.6							
BRG	e Pdiff	Z	05:44:24.1	101.9	77.1					
	e PP	Z	05:48:36.7							
CLL	e Pdiff	Z	05:44:23.2							
	e PP	Z	05:48:40.8							
	e PPP	Z	05:50:38.6							
	e SKSac	E	05:55:11.4							
	e Sdiff	T	05:56:03.6							
	e PS	R	05:57:54.0							
	e PPS	Z	05:58:40.9							

	e SS	R	06:03:22.0									
	e SSS	E	06:07:07.9									
	e LQ	T	06:15:46.8									
	e LR	Z	06:20:56.6									
	e L	Z	06:34:08.0			22.0	3874		5.9			
GEC2	e Pdiff	Z	05:44:26.5	102.5	77.3							
	e PP	Z	05:48:40.2									
WET	e Pdiff	Z	05:44:29.1	102.9	76.6							
	e PP	Z	05:48:44.1									
BSEG	e Pdiff	Z	05:44:29.9	103.2	73.4							
	e PP	Z	05:48:44.6									
MOX	e Pdiff	Z	05:44:30.9	103.4	75.3							
	e PP	Z	05:48:47.7									
GRA1	e Pdiff	Z	05:44:33.1	103.8	75.2							
	e PP	Z	05:48:51.1									
	e SP	Z	05:58:04.8									
	e L	Z	06:39:32.3			21.2	3086		5.8			
FUR	e Pdiff	Z	05:44:34.0	104.2	75.6							
	e PP	Z	05:48:52.4									
IBBN	e Pdiff	Z	05:44:38.9	105.2	71.7							
	e PP	Z	05:48:59.7									
STU	e Pdiff	Z	05:44:39.5	105.4	73.8							
	e PP	Z	05:49:01.2									
TNS	e Pdiff	Z	05:44:40.8	105.4	72.8							
	e PP	Z	05:49:02.4									
BUG	e Pdiff	Z	05:44:41.2	105.8	71.5							
	e PP	Z	05:49:04.0									
BFO	e Pdiff	Z	05:44:42.4	106.0	73.2							
	e PP	Z	05:49:06.3									

Date Origin Time Lat Long Depth mb Ms ML Source
 2002/08/16 00:28:14.2 30.734S 178.527W 240? 4.6 NEIC
 Kermadec Islands, New Zealand

	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
	GRA1	e PKP	Z 00:48:29.4	159.7	24.8					

Date Origin Time Lat Long Depth mb Ms ML Source
 2002/08/16 16:17:59.7 20.999S 168.608E 41D 5.3 4.9 NEIC
 Loyalty Islands

	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
	BSEG	e PKP	Z 16:37:27.1	143.2	35.2					
	BRG	e PKP	Z 16:37:30.7	144.1	43.0					
	CLL	i PKP	Z 16:37:30.9			0.8	37			

	e pPKP	Z	16:37:43.9								
	e PP	Z	16:40:53.6								
	e L	Z	17:45:29.0			20.0	189		4.9		
MOX	e PKPbc	Z	16:37:34.6	145.3	39.8						
IBBN	e PKPbc	Z	16:37:34.6	145.4	32.6						
GEC2	e PKPbc	Z	16:37:36.3	145.7	44.7						
WET	e PKPbc	Z	16:37:36.7	145.9	43.2						
GRA1	e PKPbc	Z	16:37:37.6	146.2	40.2						
	e pPKPbc	Z	16:37:50.8								
	e L	Z	17:45:37.5			20.2	190		4.9		
TNS	e PKPbc	Z	16:37:39.5	146.9	35.4						
STU	e PKPbc	Z	16:37:41.7	147.7	37.9						
WLF	e PKPbc	Z	16:37:43.4	148.1	32.2						
BFO	e PKPbc	Z	16:37:43.5	148.4	37.0						

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2002/08/16												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GRA1	e PKP	Z 21:46:02.3									

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2002/08/16												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GRA1	e PKP	Z 21:50:37.5									

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2002/08/16	21:54:54.6	19.883S	177.563W	600G	4.1			NEIC				
Fiji Islands region												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GRA1	e PKP	Z 22:13:47.0	149.4	16.4							
		e	22:13:51.8									

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2002/08/16	22:33:39.7	37.220S	177.330E	178				NEIC				
Off east coast of North Island, New Zealand												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GRA1	e PKP	Z 22:51:12.8	164.0	44.0							

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GRA1 e P Z 13:34:01.0 25.3 93.5

Date Origin Time Lat Long Depth mb Ms ML Source
2002/08/17 14:02:56.7 46.536N 153.182E 33N 4.3
Kuril Islands, Russia

Sta Phase Time Dist BAz T[s] A[nm] mb MS ML
GRA1 e P Z 14:14:58.8 78.3 25.7

Date Origin Time Lat Long Depth mb Ms ML Source
2002/08/18 11:52:32.2 40.020N 42.140E 33.0N 4.7
2002/08/18 11:52:28.0 40.718N 42.509E 10G 4.4
Turkey

Sta Phase Time Dist BAz T[s] A[nm] mb MS ML
GRA1 e P Z 11:57:42.1 23.6 100.4 1.2 29 4.7

Date Origin Time Lat Long Depth mb Ms ML Source
2002/08/18 16:49:01.2 31.402S 178.142W 53D 5.2
Kermadec Islands region

Sta Phase Time Dist BAz T[s] A[nm] mb MS ML
GRA1 e PKPdf Z 17:08:53.7 160.4 24.5
e PKPab Z 17:09:34.9

Date Origin Time Lat Long Depth mb Ms ML Source
2002/08/18 21:07: 0.8 15.520N 100.830E 33.0N
Southeast Asia

Sta Phase Time Dist BAz T[s] A[nm] mb MS ML
GRA1 e P Z 21:18:56.2 78.0 80.1

Date Origin Time Lat Long Depth mb Ms ML Source
2002/08/19 03:24:41.5 50.100N 174.390E 33.0N 4.2
2002/08/19 03:24:41.9 51.229N 178.605E 33N 4.7 4.2
South of Aleutian Islands

Sta Phase Time Dist BAz T[s] A[nm] mb MS ML
GRA1 e P Z 03:36:43.1 78.5 8.0

e L Z 04:17:40.0 22.0 109 4.2

Date Origin Time Lat Long Depth mb Ms ML Source
2002/08/19 11:01:01.7 21.697S 179.505W 580G 6.7 NEIC
Fiji Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RGN	e PKPdf	Z	11:19:35.0	145.8	21.5					
	e PKPbc	Z	11:19:37.1							
	e PKPab	Z	11:19:40.7							
	e PP	Z	11:23:04.2							
BSEG	e PKPdf	Z	11:19:37.1	146.9	16.9					
	e PKPbc	Z	11:19:40.5							
	e PKPab	Z	11:19:44.7							
	e PP	Z	11:23:06.5							
RUE	e PKPdf	Z	11:19:38.1	147.6	23.5					
	e PKPbc	Z	11:19:42.2							
	e PKPab	Z	11:19:46.1							
	e PP	Z	11:23:07.0							
CLL	e Pdiff	Z	11:17:23.3							
	i PKPdf	- Z	11:19:39.5			1.7	592			
	e		11:19:43.2							
	e PKPbc	Z	11:19:43.8							
	e		11:19:49.3							
	e		11:19:53.1							
	e pPKPbc	Z	11:22:03.6							
	e PP	Z	11:23:18.5							
	e sPP	Z	11:26:34.2							
	e PPS	Z	11:36:24.8							
	e SS	T	11:41:45.9							
	e sSS	T	11:45:40.4							
BRG	e PKPdf	Z	11:19:40.2	149.0	24.8					
	e PKPbc	Z	11:19:44.6							
	e PKPab	Z	11:19:49.9							
	e PP	Z	11:23:11.6							
MOX	e PKPdf	Z	11:19:41.5	149.8	20.9					
	e PKPbc	Z	11:19:45.6							
	e PKPab	Z	11:19:51.4							
	e PP	Z	11:23:16.7							
BUG	e PKPdf	Z	11:19:41.4	149.8	12.6					
	e PKPbc	Z	11:19:45.3							
	e PKPab	Z	11:19:51.6							
	e PP	Z	11:23:17.6							
GRA1	e PKPdf	Z	11:19:43.3	150.7	20.7					
	e PKPbc	Z	11:19:47.4							
	e PKPab	Z	11:19:53.9							
	e PP	Z	11:23:20.9							

Station	Phase	Type	Time	Dist	Baz	T[s]	A[nm]	mb	MS	ML
	e L	Z	11:41:45.8					21.6	86614	7.5
TNS	e PKPpdf	Z	11:19:43.3	150.8	15.3					
	e PKPbc	Z	11:19:47.4							
	e PKPab	Z	11:19:53.7							
	e PP	Z	11:23:21.8							
WET	e PKPpdf	Z	11:19:43.2	150.8	24.1					
	e PKPbc	Z	11:19:47.0							
	e PKPab	Z	11:19:54.2							
	e PP	Z	11:23:21.4							
GEC2	e PKPpdf	Z	11:19:43.4	150.9	25.9					
	e PKPbc	Z	11:19:47.4							
	e PKPab	Z	11:19:54.1							
	e PP	Z	11:23:26.9							
FUR	e PKPpdf	Z	11:19:45.2	152.2	21.8					
	e PKPbc	Z	11:19:49.1							
	e PKPab	Z	11:19:56.8							
	e PP	Z	11:23:35.7							
BFO	e PKPpdf	Z	11:19:45.7	152.6	16.0					
	e PKPbc	Z	11:19:49.9							
	e PKPab	Z	11:19:58.1							
	e PP	Z	11:23:37.1							

Date 2002/08/19
 Origin Time 11:08:25.4
 Lat 23.876S
 Long 178.411E
 Depth 694D
 mb 6.9
 Ms
 ML
 Source NEIC
 South of Fiji Islands

Sta	Phase	Type	Time	Dist	Baz	T[s]	A[nm]	mb	MS	ML
CLL	e PKPpdf	Z	11:26:56.3			1.9	1803			
	e		11:27:02.8							
	e PKPbc	Z	11:27:08.7							
	e		11:27:19.0							
	e pPKPpdf	Z	11:29:33.2							
	e pPKPbc	Z	11:29:38.5							
	e sPKPbc	Z	11:30:43.3							
	e sPKPab	Z	11:30:50.3							
	e SKSdf	R	11:33:02.8							
	e pPP	Z	11:33:11.0							
	e sPP	Z	11:34:06.1							
	e SKKSac	Z	11:36:33.1							
	e PSKS	R	11:40:57.3							
	e PPS	Z	11:43:59.2							
	e SSS	R	11:55:27.3							
	e SSSS	R	11:59:15.9							
RGN	e PKPpdf	Z	11:26:56.6	147.4	25.9					
BSEG	e PKPpdf	Z	11:26:59.1	148.6	21.3					
	e PKPbc	Z	11:27:04.8							
RUE	e PKPpdf	Z	11:27:00.0	149.1	28.2					

BRG	e	PKPdf	Z	11:27:02.5	150.5	29.8
	e	PKPbc	Z	11:27:08.4		
	e	PKPab	Z	11:27:16.7		
MOX	e	PKPbc	Z	11:27:11.2	151.3	25.8
	e	PKPab	Z	11:27:18.4		
BUG	e	PKPdf	Z	11:27:03.9	151.6	17.2
	e	PKPbc	Z	11:27:10.4		
	e	PKPab	Z	11:27:20.5		
GEC2	e	PKPdf	Z	11:27:04.9	152.3	31.2
	e	PKPbc	Z	11:27:13.0		
WET	e	PKPbc	Z	11:27:13.0	152.3	29.4
	e	PKPab	Z	11:27:23.4		
GRA1	e	PKPdf	Z	11:27:05.2	152.3	25.9
	e	PKPbc	Z	11:27:13.1		
	e	PKPab	Z	11:27:23.5		
	e	pPKPdf	Z	11:29:35.9		
	e	pPKPbc	Z	11:29:40.2		
	e	pPKPab	Z	11:29:46.4		
	e	PP	Z	11:31:06.0		
GRFO	e	PKPbc	Z	11:27:13.1	152.3	25.9
	e	PKPab	Z	11:27:23.4		
TNS	e	PKPdf	Z	11:27:05.5	152.5	20.2
	e	PKPbc	Z	11:27:13.4		
FUR	e	PKPbc	Z	11:27:15.9	153.7	27.3
	e	PKPab	Z	11:27:28.7		

Date Origin Time Lat Long Depth mb Ms ML Source
 2002/08/19 11:23:06.3 23.907S 178.372E 682D 6.0 NEIC
 South of Fiji Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e	PKPbc	Z 11:41:43.8	149.1	28.2					
CLL	e	PKPdf	Z 11:41:38.4			1.6	175			
	i	PKPbc	Z 11:41:46.5			0.8	817			
	e	PKPab	Z 11:41:56.3							
BRG	e	SKPdf	Z 11:44:14.7							
	e	pPKPbc	Z 11:44:19.3							
	e	PKPbc	Z 11:41:46.8	150.5	29.9					
MOX	e	PKPab	Z 11:41:56.1							
	e	PKPbc	Z 11:41:48.3	151.4	25.9					
BUG	e	PKPab	Z 11:41:59.3							
	e	PKPbc	Z 11:41:48.6	151.6	17.3					
GEC2	e	PKPab	Z 11:42:00.6							
	e	PKPbc	Z 11:41:50.6	152.3	31.3					
WET	e	PKPab	Z 11:42:03.8							
	e	PKPbc	Z 11:42:04.4	152.3	29.5					
GRA1	e	PKPbc	Z 11:41:50.5	152.3	26.0					

	e PKPab	Z	11:42:04.6						
GRFO	e PKPbc	Z	11:41:50.6	152.3	26.0				
	e PKPab	Z	11:42:04.5						
TNS	e PKPab	Z	11:42:04.9	152.5	20.3				
FUR	e PKPbc	Z	11:41:53.9	153.7	27.4				
	e PKPab	Z	11:42:10.4						
BFO	e PKPbc	Z	11:41:54.5	154.3	21.4				
	e PKPab	Z	11:42:12.4						

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/19	11:45:29.6	21.879S	179.547E	600G	5.0			NEIC
Fiji Islands Region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i PKPbc	Z 12:04:11.2			1.0	63			
	e PKPab	Z 12:04:18.0			1.2	39			
	e pPKPbc	Z 12:06:32.5							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/19	12:26:26.6	21.597S	179.340E	600G	4.7			NEIC
Fiji Islands Region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i PKPbc	Z 12:45:08.4			1.1	24			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/19	12:26:52.6	21.275S	179.585E	600G	4.5			NEIC
Fiji Islands Region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i PKPbc	- Z 12:45:33.1			1.1	42			
	e PKPab	Z 12:45:39.9			0.7	12			
	e pPKPbc	Z 12:47:32.9							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/19	12:52:02.5	24.823S	178.483E	670D	5.1			NEIC
South of Fiji Islands								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPdf	Z 13:10:33.3	149.6	21.6					
	e PKPbc	Z 13:10:39.6							

	e PKPab	Z	13:10:47.9		
	e pPKP	Z	13:13:17.1		
RUE	e PKPdf	Z	13:10:34.1	150.0	28.6
	e PKPbc	Z	13:10:40.7		
	e PKPab	Z	13:10:50.1		
	e pPKP	Z	13:13:18.8		
CLL	e PKPdf	Z	13:10:36.4		1.4 28
	i PKPbc	- Z	13:10:43.5		1.2 220
	i PKPab	Z	13:10:55.0		0.7 54
	e pPKPdf	Z	13:13:16.0		
	i pPKPbc	Z	13:13:21.7		
BRG	e PKPdf	Z	13:10:36.7	151.4	30.3
	e PKPbc	Z	13:10:43.9		
	e PKPab	Z	13:10:55.4		
	e pPKP	Z	13:13:22.4		
IBBN	e PKPdf	Z	13:10:36.6	151.6	17.9
	e PKPbc	Z	13:10:44.5		
	e PKPab	Z	13:10:56.5		
	e pPKP	Z	13:13:22.5		
MOX	e PKPdf	Z	13:10:37.5	152.3	26.3
	e PKPbc	Z	13:10:45.5		
	e PKPab	Z	13:10:59.3		
	e pPKP	Z	13:13:24.3		
BUG	e PKPdf	Z	13:10:38.3	152.5	17.5
	e PKPbc	Z	13:10:46.2		
	e PKPab	Z	13:11:00.1		
	e pPKP	Z	13:13:24.5		
GEC2	e PKPdf	Z	13:10:38.9	153.2	31.9
	e PKPbc	Z	13:10:47.4		
	e PKPab	Z	13:11:03.0		
	e pPKP	Z	13:13:26.4		
WET	e PKPdf	Z	13:10:39.1	153.2	30.0
	e PKPab	Z	13:11:04.0		
	e pPKP	Z	13:13:26.6		
GRA1	e PKPdf	Z	13:10:39.3	153.2	26.4
	e PKPbc	Z	13:10:47.9		
	e PKPab	Z	13:11:04.3		
	e pPKP	Z	13:13:26.7		
GRFO	e PKPdf	Z	13:10:39.3	153.2	26.4
	e PKPbc	Z	13:10:47.8		
	e PKPab	Z	13:11:04.2		
	e pPKP	Z	13:13:26.7		
TNS	e PKPdf	Z	13:10:39.3	153.5	20.6
	e PKPbc	Z	13:10:48.2		
	e PKPab	Z	13:11:04.3		
	e pPKPab	Z	13:13:26.3		
WLF	e PKPdf	Z	13:10:41.0	154.5	16.3
	e PKPbc	Z	13:10:50.5		
	e PKPab	Z	13:11:08.8		

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	e pPKPab	Z	13:13:29.7								
FUR	e PKPdf	Z	13:10:40.9	154.6	27.9						
	e PKPbc	Z	13:10:50.3								
	e PKPab	Z	13:11:10.0								
BFO	e PKPdf	Z	13:10:41.3	155.2	21.8						
	e PKPbc	Z	13:10:51.7								
	e PKPab	Z	13:11:12.1								
	e pPKPab	Z	13:13:30.6								

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/19	13:11:54.9	23.855S	178.342E	700G	4.3			NEIC
South of Fiji Islands								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i PKPbc	Z	13:30:31.3			0.8	31			
	i PKPab	Z	13:30:41.1			0.6	13			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/19	19:20:26.6	23.871S	178.678E	600G	4.3			NEIC
South of Fiji Islands								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKP	Z	19:39:06.4	148.7	20.8					
	e		19:39:13.1							
CLL	i PKPbc	- Z	19:39:10.3			0.8	25			
	i PKPab	Z	19:39:20.4			0.7	11			
	e pPKPbc	Z	19:41:44.1							
BRG	e PKP	Z	19:39:10.8	150.5	29.3					
	e		19:39:21.1							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/20	01:44:56.3	21.923S	179.430W	599D	4.6			NEIC
Fiji Islands region								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKP	Z	02:03:33.9	147.1	16.8					
CLL	e PKPdf	Z	02:03:33.5							
	i PKPbc	+ Z	02:03:38.7			1.1	29			
	e PKPab	Z	02:03:45.1			0.8	5			
	e pPKPbc	Z	02:06:00.3							
	e SKP	Z	02:06:20.3							
IBBN	e PKP	Z	02:03:38.8	149.1	13.1					
BRG	e PKP	Z	02:03:39.3	149.2	24.8					

MOX	e	PKP	Z	02:03:40.9	150.0	20.8
BUG	e	PKP	Z	02:03:40.8	150.0	12.5
GRA1	e	PKP	Z	02:03:43.6	151.0	20.7
TNS	e	PKP	Z	02:03:43.6	151.0	15.2
WET	e	PKP	Z	02:03:43.7	151.1	24.1
	e	pPKP	Z	02:06:05.0		
GEC2	e	PKP	Z	02:03:43.5	151.1	25.9
WLF	e	PKP	Z	02:03:46.0	151.9	11.0
FUR	e	PKP	Z	02:03:46.6	152.4	21.8
BFO	e	PKP	Z	02:03:47.4	152.9	15.9

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/20	10:59:41.3	31.950N	142.580E	33.0N	5.6	6.2		SZGRF
2002/08/20	10:59:31.9	31.035N	141.920E	9G	5.4	6.2		NEIC

Southeast of Honshu, Japan

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e P	Z	11:12:11.1	85.0	42.6	1.5	172	6.1		
BSEG	e P	Z	11:12:12.3	85.3	40.0	1.2	76	5.8		
BRG	e P	Z	11:12:16.5	86.1	42.6	1.5	49	5.4		
CLL	i P	+ Z	11:12:16.8			1.4	100	5.7		
	e PP	Z	11:15:28.4							
	e PPP	Z	11:17:38.2							
	e S	T	11:22:53.4							
	e PS	Z	11:23:43.3							
	e SS	T	11:28:38.9							
	e LQ	T	11:38:55.8							
	e LR	Z	11:47:29.4							
	e L	Z	12:00:11.3			18.0	13540		6.4	
MOX	e P	Z	11:12:22.1	87.3	40.9	1.5	46	5.4		
IBBN	e P	Z	11:12:23.1	87.5	38.0	1.3	110	5.8		
GEC2	e P	Z	11:12:24.0	87.7	42.4	1.4	33	5.5		
WET	e P	Z	11:12:25.1	87.9	41.8	1.8	45	5.5		
GRA1	e P	Z	11:12:26.8	88.2	40.5			5.6		
	e PP	Z	11:15:59.6							
	e SS	N	11:29:13.8							
	e L	Z	12:02:45.0			18.8	8169		6.2	
GRFO	e P	Z	11:12:26.7	88.2	40.5	1.6	78	5.8		
BUG	e P	Z	11:12:26.9	88.4	37.6	1.2	46	5.7		
TNS	e P	Z	11:12:29.8	88.9	38.5	1.6	28	5.2		
WLF	e P	Z	11:12:36.4	90.3	36.7	1.6	79	5.7		
BFO	e P	Z	11:12:36.6	90.4	38.4	1.3	58	5.6		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/20	11:24:47.6	21.634S	179.463W	638?	4.6			NEIC

Fiji Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z	11:43:30.9	150.7	20.6					
CLL	i PKPbc	+ Z	11:43:26.2			1.2	46			
	i PKPab	Z	11:43:32.3			0.9	13			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/20	13:11:41.7	22.000S	178.970W	600.0				GRSN

Fiji Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i PKPbc	Z	13:30:31.1	149.2	22.1	0.7	16			
	e PKPab	Z	13:30:38.0							
	e pPKPbc	Z	13:32:48.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/21	12:09:14.9	20.992S	168.705E	42D	5.3	4.8		NEIC

Loyalty Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKPdf	Z	12:28:46.6							
	e pPKPdf	Z	12:28:59.9							
GRA1	e PKP	Z	12:28:52.7	146.2	40.0					
	e		12:29:07.0							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/21	17:11:14.1	50.970N	175.490W	33.0N	5.1			SZGRF
2002/08/21	17:11:13.9	51.377N	178.367W	33N	5.1	4.1		NEIC

Andreanof Islands, Aleutian Islands, United States

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z	17:23:16.1	78.6	6.1	0.9	23	5.1		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/21								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z	19:50:28.7							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/21	23:15:15.3	49.870N	152.270E	33.0N	5.6	4.4		SZGRF
2002/08/21	23:15:00.5	47.127N	152.864E	65D	5.1			NEIC

Northwest of Kuril Islands, Russia

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e P	Z	23:26:35.1	74.5	27.6	1.1	102	5.9		
CLL	i P	- Z	23:26:42.2			0.6	78	6.0		
	e pP	Z	23:26:58.1							
	e S	Z	23:36:17.2							
	e SS	Z	23:41:42.0							
	e LR	Z	23:51:10.9							
	e L	Z	00:04:42.9			22.0	192		4.4	
BRG	e P	Z	23:26:42.4	75.8	27.5	1.2	32	5.2		
IBBN	e P	Z	23:26:44.8	76.2	23.6	1.0	68	5.6		
MOX	e P	Z	23:26:47.7	76.7	26.0	1.2	62	5.5		
BUG	e P	Z	23:26:49.9	77.1	23.2	1.2	83	5.6		
GRA1	e P	Z	23:26:53.8	77.7	25.6	0.8	97	5.9		
WET	e P	Z	23:26:53.6	77.7	26.6	1.3	67	5.5		
GEC2	e P	Z	23:26:53.2	77.7	27.1	1.3	53	5.4		
TNS	e P	Z	23:26:54.8	77.9	23.9	0.7	55	5.8		
FUR	e P	Z	23:27:00.9	79.0	25.5	1.2	92	5.8		
BFO	e P	Z	23:27:04.2	79.7	23.7	1.0	51	5.6		
GRA1	e L	Z	00:03:05.9	77.7	25.6	20.8	181		4.4	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/22	00:30:25.7	42.810N	81.040E	33.0N	4.9			SZGRF
2002/08/22	00:30:23.5	40.706N	78.533E	33N	4.7			NEIC

Northern Xinjiang, China

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z	00:38:37.6	44.7	76.9	1.1	12	4.7		
CLL	e P	Z	00:38:40.9	45.1	76.7	0.8	14	5.0		
GEC2	e P	Z	00:38:43.2	45.3	74.8	1.0	20	5.1		
WET	e P	Z	00:38:46.5	45.8	74.6	0.8	8	4.8		
MOX	e P	Z	00:38:49.3	46.2	75.2	0.8	5	4.7		
GRA1	e P	Z	00:38:54.0	46.6	74.1	0.8	25	5.4		
	e		00:38:58.2							
BFO	e P	Z	00:39:10.1	48.9	71.3	0.9	8	4.8		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/22								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
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GRA1 e PKP Z 07:21:59.7

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/22	09:39:15.9	57.240N	164.560E	33.0N	5.5	4.4		SZGRF
2002/08/22	09:38:58.9	55.033N	164.238E	33N	5.3	4.5		NEIC

Bering Sea

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z 09:50:05.4	68.9	15.7	1.2	37	5.5		
RUE	e P	Z 09:50:10.2	69.7	17.5	1.0	43	5.6		
IBBN	e P	Z 09:50:17.3	70.9	14.0	1.6	91	5.8		
CLL	i P	- Z 09:50:17.5			1.6	74	5.6		
	e PcP	Z 09:50:35.1							
	e L	Z 10:21:41.8			22.0	244		4.4	
BRG	e P	Z 09:50:19.1	71.2	17.5	1.7	54	5.4		
BUG	e P	Z 09:50:22.4	71.8	13.7	1.6	52	5.4		
MOX	e P	Z 09:50:23.2	71.9	16.1	1.6	54	5.4		
TNS	e P	Z 09:50:28.8	72.8	14.2	1.2	23	5.2		
GRA1	e P	Z 09:50:29.7	72.9	15.8	1.7	122	5.8		
	e L	Z 10:25:43.5			18.6	193		4.4	
WET	e P	Z 09:50:30.9	73.1	16.7	1.8	85	5.6		
GEC2	e P	Z 09:50:31.4	73.2	17.1	1.9	103	5.6		
FUR	e P	Z 09:50:37.9	74.3	15.7	1.0	31	5.4		
BFO	e P	Z 09:50:39.4	74.7	14.0	1.4	37	5.3		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/22	19:24:12.6	41.620N	129.970W	33.0N	5.2			SZGRF
2002/08/22	19:25:16.0	43.980N	128.368W	10G	4.6			NEIC

Off coast of northern California, United States

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 19:36:32.6	79.9	331.7	1.7	26	5.2		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/22	23:58:09.9	21.018S	179.176W	622D	5.2			NEIC

Fiji Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RGN	e PKPab	Z 00:16:39.6	145.2	20.7					
BSEG	e PKP	Z 00:16:43.2	146.3	16.1					
RUE	e PKP	Z 00:16:45.1	147.0	22.6					
CLL	e PKPdf	Z 00:16:43.4			1.2	22			
	i PKPbc	- Z 00:16:48.3			1.0	167			

	i	PKPab	Z	00:16:54.0			1.0	73
	e	pPKPbc	Z	00:19:09.0				
	e	PP	Z	00:20:15.7				
	e			00:23:33.9				
	e	SSSS	Z	00:48:33.0				
BRG	e	PKPdf	Z	00:16:43.8	148.4	23.9		
	e	PKPbc	Z	00:16:49.1				
	e	PKPab	Z	00:16:55.0				
BUG	e	PKPdf	Z	00:16:45.3	149.2	11.8		
	e	PKPbc	Z	00:16:50.4				
MOX	e	PKPdf	Z	00:16:45.2	149.2	19.9		
	e	PKPbc	Z	00:16:50.7				
	e	PKPab	Z	00:16:57.6				
GRA1	e	PKPdf	Z	00:16:47.3	150.2	19.8		
	e	PKPbc	Z	00:16:53.3				
	e	PKPab	Z	00:17:02.4				
TNS	e	PKPdf	Z	00:16:46.4	150.2	14.4		
	e	PKPbc	Z	00:16:53.0				
	e	PKPab	Z	00:17:01.7				
WET	e	PKPdf	Z	00:16:46.5	150.3	23.2		
	e	PKPbc	Z	00:16:53.1				
	e	PKPab	Z	00:17:02.7				
GEC2	e	PKPdf	Z	00:16:46.6	150.3	24.9		
	e	PKPbc	Z	00:16:53.4				
	e	PKPab	Z	00:17:02.9				
FUR	e	PKPdf	Z	00:16:48.6	151.6	20.8		
	e	PKPbc	Z	00:16:56.2				
	e	PKPab	Z	00:17:08.6				
BFO	e	PKPdf	Z	00:16:49.1	152.0	15.1		
	e	PKPbc	Z	00:16:56.9				
	e	PKPab	Z	00:17:09.8				

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/23								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i	PKPbc	- Z 17:18:47.0							
	e	PKPab	Z 17:18:53.3			0.7	6			
GRA1	e	PKP	Z 17:18:51.0							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/24	02:06:48.0	8.210N	59.730E	33.0N	4.9			SZGRF
2002/08/24	02:07:29.7	14.523N	56.339E	10G	4.6	4.4		NEIC

Carlsberg Ridge

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e P	Z 02:16:30.5			1.2	6	4.4		
	e	02:16:41.5							
	e	02:17:05.3							
	e PP	Z 02:18:28.6							
	e PPP	Z 02:19:30.3							
	e S	Z 02:23:46.3							
	e LR	Z 02:31:51.7							
GRA1	e P	Z 02:16:36.3	50.7	117.6	1.3	17	4.9		
	e	02:16:42.2							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/24	02:13:45.0	9.810N	58.810E	33.0N	5.2			SZGRF
2002/08/24	02:14:21.4	14.601N	56.181E	10G	4.8			NEIC

Carlsberg Ridge

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 02:23:20.4	50.6	117.7	1.2	30	5.2		
	e	02:23:34.0							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/24	02:53:46.9	30.482S	177.762W	33N	4.8			NEIC

Kermadec Islands, New Zealand

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 03:14:21.8	159.6	22.7					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/24	07:31:31.3	1.460S	19.370W	33.0N	5.1	4.0		SZGRF

Central Mid-Atlantic Ridge

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 07:41:17.6	57.5	217.1	2.1	45	5.1		
	e L	Z 08:04:15.9			21.9	119		4.0	
CLL	e P	Z 07:41:32.9							
	e S	R 07:49:35.4							
	e SS	T 07:53:56.7							
	e LR	Z 07:58:07.5							
	e L	Z 08:07:56.1			18.0	174			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
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2002/08/24 17:47:44.6 21.764S 179.407W 600G 4.6 NEIC
 Fiji Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKPdf	Z 18:06:21.6			1.3	3			
	i PKPbc	Z 18:06:26.2			1.3	47			
	i PKPab	Z 18:06:32.8			0.8	11			
	e pPKPbc	Z 18:08:48.1							
GRA1	e PKP	Z 18:06:30.7	150.8	20.6					
	e	18:06:41.4							

Date Origin Time Lat Long Depth mb Ms ML Source
 2002/08/24 18:41:5.7 45.340N 146.440E 33.0N 6.1 6.0 SZGRF
 2002/08/24 18:40:48.6 43.114N 146.102E 9D 5.9 5.8 NEIC
 Kuril Islands, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML	
RGN	e P	Z 18:52:30.3	74.4	33.8	0.8	241	6.4			
BSEG	e P	Z 18:52:38.6	75.9	31.7	1.1	243	6.1			
RUE	e P	Z 18:52:39.1	76.0	33.8	1.0	161	6.0			
CLL	i P	+ Z 18:52:45.7			0.9	267	6.4			
	e sP	Z 18:52:59.8								
	e PP	Z 18:55:44.3								
	e PPP	Z 18:57:31.1								
	e S	T 19:02:34.6								
	e SS	R 19:07:47.4								
	e SSS	Z 19:11:16.7								
	e LQ	T 19:14:37.8								
	e LR	Z 19:19:24.7								
	e L	Z 19:31:12.1			20.0	12063		6.2		
	BRG	e P	Z 18:52:46.1	77.2	33.7	0.9	86	5.9		
	MOX	e P	Z 18:52:51.7	78.2	32.1	2.9	852	6.4		
	BUG	e P	Z 18:52:55.4	78.9	29.3	1.0	172	6.2		
GEC2	e P	Z 18:52:56.0	79.0	33.3	0.9	84	5.9			
WET	e P	Z 18:52:56.7	79.1	32.8	0.9	117	6.0			
GRA1	e P	Z 18:52:57.4	79.2	31.8	1.5	436	6.4			
	e SS	N 19:08:57.7								
	e L	Z 19:31:42.9			18.8	6277		6.0		
TNS	e P	Z 18:52:59.4	79.6	30.0	0.8	74	5.9			
FUR	e P	Z 18:53:04.0	80.4	31.7	1.5	305	6.1			
BFO	e P	Z 18:53:08.2	81.3	29.8	1.5	140	5.7			

Date Origin Time Lat Long Depth mb Ms ML Source
 2002/08/24 20:01:30.2 32.160N 33.230E 33.0N 4.3 SZGRF
 2002/08/24 20:01:19.3 30.341N 31.519E 10G 4.0 NEIC

Eastern Mediterranean Sea

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e P	Z	20:06:25.3	22.9	137.3	1.1	17	4.4		
WET	e P	Z	20:06:30.0	23.5	136.2	0.9	5	4.0		
GRA1	e P	Z	20:06:41.4	24.7	134.1	1.0	10	4.3		
CLL	e P	Z	20:06:44.2	25.1	139.7	1.2	9	4.2		
MOX	e P	Z	20:06:45.6	25.2	136.3	1.0	11	4.3		
BFO	e P	Z	20:06:47.9	25.2	127.1	1.0	15	4.7		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/24	20:21:29.3	3.300S	135.800E	33N	5.6	5.5		NEIC
Irian Jaya Reg, Indonesia								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e PKP	Z	20:40:05.7	112.1	66.3					
	e PP	Z	20:40:51.1							
CLL	e PKiKP	Z	20:40:06.4			0.7	10			
	e PP	Z	20:40:53.1							
	e PS	E	20:50:22.4							
	e LR	Z	21:16:57.7							
	e L	Z	21:34:58.8			20.0	1102		5.4	
BSEG	e PKP	Z	20:40:07.4	112.8	61.9					
	e PP	Z	20:40:55.9							
GEC2	e PKP	Z	20:40:07.6	113.1	66.9					
	e PP	Z	20:40:58.7							
WET	e PP	Z	20:41:01.6	113.4	66.0					
MOX	e PP	Z	20:41:01.4	113.5	64.3					
GRA1	e PKP	Z	20:40:09.5	114.2	64.3					
	e PP	Z	20:41:06.7							
FUR	e PKP	Z	20:40:11.0	114.8	65.0					
TNS	e PKP	Z	20:40:12.5	115.5	61.6					
	e PP	Z	20:41:15.7							
BUG	e PKP	Z	20:40:12.6	115.6	60.0					
	e PP	Z	20:41:16.5							
BFO	e PP	Z	20:41:21.9	116.5	62.3					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/24								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z	21:39:32.2							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/25	02:43: 4.3	61.120N	125.160W	33.0N	4.9			SZGRF
2002/08/25	02:43:06.0	62.350N	124.520W	5	4.3			NEIC

Northwest Territories, Canada

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 02:53:33.6	62.6	338.6	1.3	10	4.9		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/25	03:52:32.2	26.446S	176.324W	33N	5.2	5.0		NEIC

South of Fiji Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 04:12:23.7	156.0	16.8					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/25	04:42:11.9	20.479S	178.425W	554D	5.4			NEIC

Fiji Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e PKPdf	Z 05:00:49.9	146.6	21.1					
	e PKPbc	Z 05:00:52.8							
CLL	e PKPdf	Z 05:00:51.7			1.3	55			
	i PKPbc	- Z 05:00:56.1			0.9	395			
	i PKPab	Z 05:01:00.6			0.7	155			
	e pPKPbc	Z 05:03:02.8							
BRG	e PKPdf	Z 05:00:51.8	148.1	22.3					
	e PKPbc	Z 05:00:56.8							
	e PKPab	Z 05:01:01.6							
BUG	e PKPdf	Z 05:00:52.7	148.7	10.3					
	e PKPbc	Z 05:00:57.7							
	e PKPab	Z 05:01:03.9							
MOX	e PKPdf	Z 05:00:52.8	148.8	18.4					
	e PKPbc	Z 05:00:58.4							
	e PKPab	Z 05:01:04.4							
TNS	e PKPdf	Z 05:00:54.8	149.8	12.9					
	e PKPbc	Z 05:01:00.5							
	e PKPab	Z 05:01:08.3							
GRA1	e PKPdf	Z 05:00:54.6	149.8	18.2					
	e PKPbc	Z 05:01:00.9							
	e PKPab	Z 05:01:09.0							
	e L	Z 05:48:51.4			18.2	297		5.1	
WET	e PKPdf	Z 05:00:54.7	149.9	21.5					
	e PKPbc	Z 05:01:01.0							
	e PKPab	Z 05:01:09.9							

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GEC2	e	PKPdf	Z	05:00:55.0	150.0	23.2
	e	PKPbc	Z	05:01:01.3		
	e	PKPab	Z	05:01:09.9		
WLF	e	PKPdf	Z	05:00:56.3	150.6	8.8
	e	PKPbc	Z	05:01:02.9		
	e	PKPab	Z	05:01:11.9		
FUR	e	PKPdf	Z	05:00:56.7	151.2	19.1
	e	PKPbc	Z	05:01:04.0		
	e	PKPab	Z	05:01:14.8		
BFO	e	PKPdf	Z	05:00:56.8	151.6	13.4
	e	PKPbc	Z	05:01:04.5		
	e	PKPab	Z	05:01:15.9		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/25	05:57:33.5	20.994S	168.592E	33N	5.3	4.7		NEIC

Loyalty Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e	PKP	Z 06:17:06.6	144.1	43.0					
CLL	i	PKP	Z 06:17:06.5			0.9	80			
	e	pPKP	Z 06:17:17.5							
	e		06:17:50.0							
MOX	e	PKP	Z 06:17:10.6	145.3	39.9					
GEC2	e	PKP	Z 06:17:11.6	145.7	44.7					
WET	e	PKP	Z 06:17:11.8	145.9	43.2					
GRA1	e	PKP	Z 06:17:13.2	146.2	40.2					
GRFO	e	PKP	Z 06:17:13.1	146.2	40.2					
	e		06:17:24.0							
BUG	e	PKP	Z 06:17:12.4	146.2	32.6					
TNS	e	PKP	Z 06:17:15.2	146.8	35.4					
FUR	e	PKP	Z 06:17:16.5	147.3	41.8					
WLF	e	PKP	Z 06:17:18.7	148.1	32.2					
BFO	e	PKP	Z 06:17:18.7	148.4	37.0					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/25	13:07:11.4	17.923S	178.615W	600G	4.4			NEIC

Fiji Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i	PKPbc	+ Z 13:25:44.1			0.7	32			
	e	PKPab	Z 13:25:46.0			0.8	12			
BRG	e	PKP	Z 13:25:45.1	145.6	21.5					
MOX	e	PKP	Z 13:25:47.0	146.3	17.7					
TNS	e	PKP	Z 13:25:49.7	147.2	12.5					
GRA1	e	PKP	Z 13:25:49.9	147.3	17.5					

GEC2	e PKP	Z	13:25:50.2	147.5	22.2
WLF	e PKP	Z	13:25:52.1	148.0	8.6
BFO	e PKP	Z	13:25:54.0	149.1	12.9

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/25								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i PKPbc	- Z 21:10:35.3			1.0	21			
	i PKPab	Z 21:10:41.9			0.8	10			
GRA1	e PKP	Z 21:10:39.6							
	e	21:10:50.9							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/26	02:18:21.2	15.028S	167.499E	130*	4.8			NEIC
Vanuatu Islands								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 02:37:31.8	140.3	37.5					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/26								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 03:08:28.1							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/26	14:55:17.9	4.270S	106.290E	33.0N	5.8	5.2		SZGRF
2002/08/26	14:55:10.2	6.721S	105.682E	33N	5.6	5.3		NEIC
Southern Sumatera, Indonesia								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i P	- Z 15:08:38.8			1.4	14	5.4		
	e PP	Z 15:12:35.1							
	e SKKS	E 15:19:26.3							
	e PS	Z 15:21:12.8							
	e SS	E 15:26:28.1							
	e L	Z 15:57:50.9			22.0	684		5.1	
GRA1	e P	Z 15:08:44.4	98.0	91.0	1.8	46	5.8		
	e L	Z 16:02:51.1			20.5	797		5.2	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/26	19:14:24.4	21.850S	179.572W	600G	4.8			NEIC

Fiji Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	19:33:01.9	147.0	17.0					
	e PKPab	Z	19:33:05.5							
RUE	e PKPbc	Z	19:33:03.5	147.7	23.6					
	e PKPab	Z	19:33:08.3							
CLL	i PKPbc	- Z	19:33:06.6			1.1	46			
	i PKPab	Z	19:33:13.3			0.8	27			
	e pPKPpdf	Z	19:35:25.1							
BRG	e pPKPbc	Z	19:35:29.0							
	e PKPbc	Z	19:33:07.2	149.1	25.0					
MOX	e PKPab	Z	19:33:13.8							
	e PKPbc	Z	19:33:08.6	149.9	21.0					
BUG	e PKPab	Z	19:33:16.7							
	e PKPbc	Z	19:33:08.7	149.9	12.7					
GRA1	e PKPab	Z	19:33:17.7							
	e PKPbc	Z	19:33:11.1	150.9	20.9					
TNS	e PKPab	Z	19:33:22.1							
	e PKPbc	Z	19:33:11.3	150.9	15.5					
WET	e PKPab	Z	19:33:21.3							
	e PKPbc	Z	19:33:11.4	151.0	24.4					
GEC2	e PKPab	Z	19:33:22.1							
	e PKPbc	Z	19:33:11.3	151.0	26.1					
WLF	e PKPab	Z	19:33:22.0							
	e PKPbc	Z	19:33:13.9	151.8	11.3					
BFO	e PKPab	Z	19:33:25.4							
	e PKPbc	Z	19:33:15.4	152.8	16.2					
	e PKPab	Z	19:33:29.1							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/27	10:36:32.7	21.769S	179.415W	600G	4.9			NEIC

Fiji Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e PKPbc	Z	10:55:11.4	147.7	23.3					
CLL	e PKPbc	Z	10:55:14.1	148.9	22.8					
	e PKPab	Z	10:55:21.0							
BRG	e PKPbc	Z	10:55:14.8	149.1	24.7					
	e PKPab	Z	10:55:21.7							
MOX	e PKPbc	Z	10:55:16.6	149.9	20.7					
	e PKPab	Z	10:55:24.6							
GRA1	e PKPbc	Z	10:55:19.1	150.8	20.6					

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TNS	e	PKPbc	Z	10:55:19.2	150.9	15.1
WET	e	PKPbc	Z	10:55:19.4	150.9	24.0
	e	PKPab	Z	10:55:30.0		
GEC2	e	PKPbc	Z	10:55:19.2	151.0	25.7
	e	PKPab	Z	10:55:30.0		
FUR	e	PKPbc	Z	10:55:22.0	152.3	21.7
	e	PKPab	Z	10:55:35.3		
BFO	e	PKPbc	Z	10:55:22.8	152.7	15.8
	e	PKPab	Z	10:55:36.8		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/28	07:43:57.5	43.316N	140.462E	193	4.4			NEIC
Hokkaido, Japan, region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 07:55:32.7	77.0	35.3					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/28	17:05:32.4	21.790N	122.660E	33.0N	6.0	5.4		SZGRF
Taiwan region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RGN	e P	Z 17:17:53.7	82.9	62.0	1.2	95	5.9		
RUE	e P	Z 17:17:57.3	83.6	62.1	1.3	210	6.2		
BRG	e P	Z 17:18:00.5	84.3	62.1	1.2	98	5.9		
CLL	i P	+ Z 17:18:01.9			1.0	168	6.2		
	e PP	Z 17:21:17.0							
	e SKSac	R 17:28:20.5							
	e S	T 17:28:22.9							
	e PS	R 17:29:21.5							
	e SS	T 17:33:38.1							
	e LR	Z 17:45:56.3							
	e L	Z 18:00:27.8			18.0	3768		5.8	
BSEG	e P	Z 17:18:03.1	84.7	59.6	1.2	114	6.0		
GEC2	e P	Z 17:18:06.0	85.4	61.8	1.0	206	6.2		
MOX	e P	Z 17:18:07.6	85.7	60.4	1.1	90	5.8		
WET	e P	Z 17:18:08.0	85.7	61.2	1.4	92	5.7		
GRA1	e P	Z 17:18:11.6	86.4	60.0	1.6	179	6.0		
	e PP	Z 17:21:37.4							
	e S	E 17:28:35.1							
	e SS	N 17:35:16.6							
	e L	Z 18:00:11.1			21.7	1488		5.4	
IBBN	e P	Z 17:18:13.6	86.9	57.5	0.8	150	6.2		
BUG	e P	Z 17:18:17.1	87.6	57.1	1.2	135	6.2		
TNS	e P	Z 17:18:17.5	87.6	58.0	1.3	66	5.8		

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BFO	e P	Z	17:18:21.6	88.7	57.8	2.6	200	5.9
WLF	e P	Z	17:18:24.9	89.2	56.2	1.0	138	6.2

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/29	04:38:15.6	24.025S	179.815E	600G	4.4			NEIC
South of Fiji Islands								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i PKPbc	+ Z 04:57:02.9			0.7	21			
	e pPKPbc	Z 04:59:17.7							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/29	05:36:54.1	3.325S	145.783E	33N	5.2	5.7		NEIC
Near north coast of New Guinea, Papua New Guinea								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PP	Z 05:56:59.7							
	e PPP	Z 05:59:25.7							
	e SKSac	T 06:02:34.1							
	e PS	R 06:06:38.9							
	e PPS	R 06:08:35.6							
	e SS	R 06:13:19.9							
	e SSS	R 06:17:46.0							
	e LQ	T 06:28:33.4							
	e LR	Z 06:34:10.9							
	e L	Z 06:48:08.4			22.0	3376		5.9	
GRA1	e L	Z 06:50:16.9	119.8	55.1	19.3	2598		5.9	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/29	09:04:20.1	44.810N	142.760E	33.0N	5.0	4.1		SZGRF
2002/08/29	09:04:08.3	41.899N	142.193E	73D	4.6			NEIC
Hokkaido, Japan, region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e P	Z 09:15:49.3	75.6	37.0	1.2	25	5.1		
CLL	e P	Z 09:15:55.4	76.9	36.3	0.9	14	5.0		
MOX	e P	Z 09:16:01.8	77.9	35.3	1.4	12	4.8		
GEC2	e P	Z 09:16:04.9	78.6	36.5	1.3	11	4.9		
WET	e P	Z 09:16:06.2	78.7	36.0	1.0	11	5.0		
BUG	e P	Z 09:16:07.0	78.8	32.5	0.8	14	5.1		
GRA1	e P	Z 09:16:07.4	78.8	34.9	1.4	48	5.4		
	e L	Z 09:51:27.3			20.4	93		4.1	
TNS	e P	Z 09:16:10.2	79.4	33.2	1.4	18	5.0		

BFO e P Z 09:16:18.6 81.0 32.9 1.5 19 4.9

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/29	20:40:42.4	55.700N	162.270W	33.0N	5.3			SZGRF
2002/08/29	20:40:26.6	53.529N	163.751W	36D	4.9			NEIC

Alaska Peninsula, United States

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RGN	e P	Z 20:51:49.5	71.9	358.2	1.7	147	5.8		
IBBN	e P	Z 20:52:01.5	73.9	354.8	1.4	57	5.5		
RUE	e P	Z 20:52:01.6	74.0	358.5	1.4	65	5.6		
BUG	e P	Z 20:52:05.8	74.8	354.5	1.4	46	5.4		
CLL	i P	+ Z 20:52:08.1			1.3	29	5.1		
	e pP	Z 20:52:19.1							
	e SS	Z 21:07:01.1							
	e LR	Z 21:12:21.1							
	e L	Z 21:13:35.5			22.0	202		4.4	
MOX	e P	Z 20:52:11.9	75.8	357.2	1.4	50	5.3		
TNS	e P	Z 20:52:13.6	76.0	355.2	1.4	29	5.1		
WLF	e P	Z 20:52:16.0	76.5	353.8	1.4	40	5.3		
GRA1	e P	Z 20:52:17.8	76.7	356.9	1.4	49	5.3		
	e	20:52:28.8							
WET	e P	Z 20:52:21.0	77.3	357.9	1.4	19	4.9		
GEC2	e P	Z 20:52:22.5	77.6	358.4	1.5	32	5.2		
BFO	e P	Z 20:52:24.1	77.9	355.2	1.7	38	5.3		
FUR	e P	Z 20:52:26.1	78.2	357.0	1.8	99	5.6		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/29	21:41:04.1	15.166S	178.510W	400G	4.4			NEIC

Fiji Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 21:59:55.1	144.6	16.3					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/30	05:07:32.9	20.670S	174.125W	33N	5.0	4.3		NEIC

Tonga Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKPdf	Z 05:27:15.9							
	i PKPbc	Z 05:27:20.1			1.2	38			
	e (PKPab)	Z 05:27:24.0							
GRA1	e PKP	Z 05:27:24.1	150.7	10.3					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/30	05:58:37.7	47.120N	149.390E	33.0N	5.8	4.8		SZGRF
2002/08/30	05:58:23.7	44.405N	149.116E	57	5.6			NEIC

Northwest of Kuril Islands, Russia

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RGN	e P	Z	06:09:58.2	74.2	31.2	0.8	249	6.4		
RUE	e P	Z	06:10:07.2	75.8	31.2	0.9	145	6.0		
CLL	i P	+ Z	06:10:13.8			0.7	211	6.4		
	e PP	R	06:13:05.7							
	e S	T	06:19:54.9							
	e SS	Z	06:25:38.4							
	e LQ	T	06:31:25.3							
	e LR	Z	06:35:42.6							
	e L	Z	06:43:30.7			22.0	282		4.5	
BRG	e P	Z	06:10:14.3	77.1	31.1	0.8	33	5.4		
IBBN	e P	Z	06:10:18.0	77.7	27.2	0.7	51	5.7		
MOX	e P	Z	06:10:19.7	78.1	29.6	0.7	32	5.5		
BUG	e P	Z	06:10:22.8	78.6	26.8	0.7	36	5.6		
GEC2	e P	Z	06:10:24.7	78.9	30.7	0.7	66	5.9		
WET	e P	Z	06:10:25.2	78.9	30.2	0.8	71	5.8		
GRA1	e P	Z	06:10:25.7	79.0	29.2	0.7	132	6.2		
	e L	E	06:43:40.8			19.8	426		4.8	
TNS	e P	Z	06:10:27.2	79.4	27.4	0.7	38	5.6		
FUR	e P	Z	06:10:32.7	80.3	29.1	0.8	129	6.1		
WLF	e P	Z	06:10:33.8	80.5	25.9	0.9	26	5.4		
BFO	e P	Z	06:10:36.1	81.1	27.2	0.8	57	5.6		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/30	06:19:02.8	20.933S	168.709E	33N	5.2			NEIC

Loyalty Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e PKP	Z	06:38:35.0	144.1	42.8					
	e pPKP	Z	06:38:48.0							
CLL	e PKP	Z	06:38:35.1	144.2	41.1					
	e pPKP	Z	06:38:48.3							
MOX	e PKP	Z	06:38:38.8	145.3	39.6					
IBBN	e PKP	Z	06:38:39.1	145.3	32.4					
	e pPKP	Z	06:38:52.2							
GEC2	e PKP	Z	06:38:40.4	145.7	44.4					
	e pPKP	Z	06:38:53.6							
WET	e PKP	Z	06:38:40.7	145.9	43.0					
GRA1	e PKP	Z	06:38:41.8	146.2	40.0					

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BUG	e PKP	Z	06:38:42.0	146.2	32.3
TNS	e PKP	Z	06:38:43.8	146.8	35.2
FUR	e PKP	Z	06:38:45.1	147.3	41.6
WLF	e PKP	Z	06:38:47.6	148.1	32.0
	e pPKP	Z	06:39:01.5		
BFO	e PKP	Z	06:38:47.7	148.4	36.8

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/30	09:55:52.2	57.610N	30.400W	33.0N	5.1	3.7		SZGRF
2002/08/30	09:55:31.8	57.527N	33.118W	10G	4.8	4.2		NEIC

North Atlantic Ocean

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 10:01:17.5	26.9	304.0	1.5	67	5.1		
	e L	Z 10:10:36.5			21.1	271		3.7	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/31	05:27:38.4	2.950N	81.260W	33.0N	6.3	5.3		SZGRF
2002/08/31	05:27:18.5	2.777N	84.312W	23D	5.6	5.1		NEIC

South of Panama

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z 05:40:09.6	88.2	272.2	1.3	129	6.9		
BUG	e P	Z 05:40:12.2	88.8	273.0	1.8	160	6.7		
IBBN	e P	Z 05:40:13.4	89.1	273.3	2.0	119	6.5		
TNS	e P	Z 05:40:16.2	89.6	273.9	2.0	85	6.4		
BFO	e P	Z 05:40:15.6	89.7	273.8	1.9	39	6.1		
GRFO	e P	Z 05:40:25.0	91.5	276.0					
GRA1	e pP	Z 05:40:31.8	91.5	276.0					
	e P	Z 05:40:31.9			1.8	72	6.2		
	e SS	E 05:57:54.0							
	e L	Z 06:15:15.8			21.8	974		5.3	
MOX	e P	Z 05:40:25.5	91.6	276.3	1.7	52	6.1		
FUR	e P	Z 05:40:26.4	91.6	276.0	1.7	86	6.4		
CLL	i P	Z 05:40:29.0			1.9	88			
	i pP	Z 05:40:36.0							
	e	05:40:42.8							
	e PP	Z 05:44:03.9							
	e PPP	Z 05:46:05.1							
	e SKSac	R 05:50:57.7							
	e S	T 05:51:28.5							
	e PS	R 05:52:44.2							
	e SS	R 05:57:41.1							
	e LR	Z 06:10:48.6							
	e L	Z 06:17:57.0			20.0	821		5.2	

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WET	e P	Z	05:40:30.4	92.6	277.3	1.4	72	6.2
BRG	e P	Z	05:40:31.5	93.0	278.2	1.8	72	6.0
GEC2	e P	Z	05:40:32.7	93.2	277.9	1.8	93	6.2

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/31	06:48:35.9	17.393S	174.701W	150G	5.2			NEIC

Tonga Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e PKP	Z 07:07:53.5	144.3	14.0					
IBBN	e PKP	Z 07:07:56.5	145.0	4.1					
CLL	e PKP	Z 07:07:57.9	145.5	13.1					
BRG	e PKP	Z 07:07:58.0	145.8	14.8					
BUG	e PKP	Z 07:07:58.9	145.9	3.4					
MOX	e PKP	Z 07:08:00.5	146.4	10.9					
TNS	e PKP	Z 07:08:02.7	147.1	5.5					
GRA1	e PKP	Z 07:08:03.7	147.3	10.5					
WET	e PKP	Z 07:08:03.6	147.7	13.6					
WLF	e PKP	Z 07:08:04.8	147.7	1.5					
GEC2	e PKP	Z 07:08:04.7	147.8	15.2					
FUR	e PKP	Z 07:08:07.2	148.8	11.1					
BFO	e PKP	Z 07:08:07.4	149.0	5.6					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/31	12:40:41.2	31.420N	88.930E	33.0N	5.0			SZGRF
2002/08/31	12:40:35.3	29.832N	87.852E	33N	4.9			NEIC

Xizang

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z 12:50:23.9	57.5	81.3	1.5	21	5.0		
GEC2	e P	Z 12:50:27.5	58.0	79.9	1.0	25	5.2		
CLL	e P	Z 12:50:28.3	58.0	80.9	0.9	6	4.6		
WET	e P	Z 12:50:30.8	58.4	79.5	1.1	12	4.8		
MOX	e P	Z 12:50:34.3	59.0	79.5	3.0	83	5.2		
GRA1	e P	Z 12:50:38.0	59.4	78.7	1.5	34	5.1		
	e	12:50:42.9							
FUR	e P	Z 12:50:39.4	59.7	77.8	1.2	36	5.3		
TNS	e P	Z 12:50:48.5	61.0	77.1	1.1	14	4.7		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/08/31	14:50:55.9	17.946S	175.381W	200G	4.8			NEIC

Tonga Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e PKP	Z	15:10:09.1	144.7	15.2					
IBBN	e PKP	Z	15:10:11.8	145.6	5.3					
CLL	e PKP	df	Z 15:10:12.1							
	i PKP	bc -	Z 15:10:13.0			1.1	88			
	e pPKP		Z 15:11:15.0							
BRG	e PKP	Z	15:10:14.2	146.2	16.1					
BUG	e PKP	Z	15:10:14.3	146.4	4.6					
MOX	e PKP	Z	15:10:15.6	146.8	12.2					
TNS	e PKP	Z	15:10:17.5	147.6	6.8					
GRA1	e PKP	Z	15:10:18.8	147.8	11.9					
WET	e PKP	Z	15:10:18.9	148.1	15.0					
GEC2	e PKP	Z	15:10:19.6	148.2	16.6					
WLF	e PKP	Z	15:10:20.0	148.3	2.8					
FUR	e PKP	Z	15:10:22.1	149.3	12.5					
BFO	e PKP	Z	15:10:22.4	149.5	7.0					

Format description

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(K. Klinge Email:klinge@szgrf.bgr.de and A. Schick)

In general all regional and teleseismic events clearly recorded with GRF-Array stations and stronger events recorded with stations of the German Regional Seismological Network (GRSN) are included in this bulletin. Additionally, some selected events are analysed more comprehensively at CLL-station and included in the bulletin (ISOP-analyses).

Each event is reported by several EPICENTER LINES with possible COMMENT LINES, a REGION LINE and a block of PHASE LINES.

EPICENTER LINES:

The epicenter locations of several authorities can be reported. The epicenter location with the highest priority (i.e. the most reliable one) is written in the undermost EPICENTER LINE. The REGION LINE and all origin related parameter in the PHASE LINES (i.e. Def, Dist, EvAz) are determined regarding this epicenter location with the highest priority.

Date	Date of the event
Origin Time	Origin time of the event
Lat	Geographic latitude (N/S) of epicenter in degree
Long	Geographic longitude (E/W) of epicenter in degree
Depth	Depth of the hypocenter beneath the surface in kilometer
	Appended flag indicates the method by which the depth was determined:
	BLANK - free

N - preset depth of 33 kilometer
 G - geophysicist preset depth
 mb, Ms, ML Magnitudes of the event and magnitude type
 Source Abbreviations for the authority (e.g. SZGRF, NEIC, PIDC, SED)

COMMENT LINE:

Each EPICENTER LINE can be followed by a COMMENT LINE about interesting topics submitted by the preceding authority.

REGION LINE:

The region name of the epicenter location with the highest priority (undermost EPICENTER LINE).

PHASE LINE:

Sta Station code of the reported phase
 Phase Preceded flag for the sharpness of the onset of the phase
 e - emergent
 i - impulsive
 w - weak
 ISC phase code
 Flag for the direction of the first motion
 '+' - compression
 '-' - dilatation
 Component where the phase was picked

Time Arrival time of the reported phase
 Dist Distance from the epicenter location with the highest priority to the station in kilometer
 BAz Backazimuth from the epicenter location with the highest priority to the station in degree
 T[s] Phase Period
 A[nm] Phase Amplitude
 mb Body wave magnitude
 MS Surface wave magnitude
 ML Local Richter magnitude