

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

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

JUNE 2002 UPDATED 10.OCTOBER.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		
2002/06/01	00:47:29.4	47.850N	151.640E	33.0N	5.1			SZGRF		
2002/06/01	00:48:20.8	47.857N	145.954E	457	4.2			NEIC		
Kuril Islands, Russia										
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
	GRA1	e P	Z 00:59:17.4	74.9	29.6	0.7	13	5.1		
Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source		
2002/06/01	11:21:41.7	18.677S	169.308E	300G	4.4			NEIC		
Vanuatu Islands										
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
	GRA1	e PKP	Z 11:40:43.7	144.4	37.4					
Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source		
2002/06/01	16:12:54.5	31.800N	50.780E	12.8	5.1			SZGRF		
2002/06/01	16:12:37.1	29.604N	51.319E	33N	4.9			NEIC		
Northern and central Iran										
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
	GRA1	e P	Z 16:19:38.5	36.2	108.5	1.0	28	5.1		
		e pP	Z 16:19:41.8							
	CLL	i P	Z 16:19:34.2			1.1	24	4.9		
		e S	Z 16:25:22.5							
		e LR	Z 16:29:55.4							
		e L	Z 16:36:45.2			18.0	237		4.0	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/01	21:08: 4.1	48.500N	145.730E	43.6	5.0			SZGRF
2002/06/01	21:07:28.9	43.287N	147.943E	33N	4.9			NEIC

Sea of Okhotsk

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i P	+ Z	21:19:25.2	77.7	31.8	0.6	17	5.4		
	e pP	Z	21:19:37.6							
	e L	Z	21:58:00.4			20.0	106		4.2	
BRG	e P	Z	21:19:25.8	77.7	32.4					
CLZ	e P	Z	21:19:27.9	78.0	30.1					
IBBN	e P	Z	21:19:29.6	78.4	28.4					
MOX	e P	Z	21:19:30.9	78.7	30.8					
BUG	e P	Z	21:19:34.6	79.3	28.0					
GEC2	e P	Z	21:19:35.7	79.5	32.0					
WET	e P	Z	21:19:36.4	79.5	31.5					
GRA1	e P	Z	21:19:37.1	79.6	30.5	0.9	11	5.0		
	e		21:19:39.0							
	e pP	Z	21:19:49.4							
TNS	e P	Z	21:19:39.0	80.0	28.7					
FUR	e P	Z	21:19:44.0	80.9	30.4					
STU	e P	Z	21:19:45.0	81.1	29.1					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/02	00:52: 7.5	6.500N	37.650W	33.0N	5.0	4.4		SZGRF
2002/06/02	00:52:10.0	7.602N	37.387W	10G	4.8	4.7		NEIC

Central Mid-Atlantic Ridge

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i P	Z	01:02:07.0	58.3	240.9	1.3	22	5.0		
	e L	Z	01:22:39.0			20.6	315		4.4	
CLL	e P	Z	01:02:20.2							
	e S	R	01:10:34.8							
	e LQ	T	01:17:05.4							
	e LR	Z	01:20:00.3							
	e L	Z	01:23:37.7			22.0	581		4.7	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/02	02:58:01.5	35.865N	92.906W	33N	4.5			NEIC

Qinghai, China

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
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CLL	e P	Z	03:07:46.1				1.3	6	4.5		
	e PcP	Z	03:08:41.1								
	e S	T	03:15:42.7								
	e ScS	N	03:17:35.3								
	e SS	R	03:19:36.3								
	e LR	Z	03:26:46.5								
	e L	Z	03:33:40.0				22.0	323		4.4	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/02	12:52:39.1			N	4.6			SZGRF
2002/06/02	12:52:25.9	9.305N	83.709W	18	4.7			NEIC

Costa Rica

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 13:05:14.1	86.1	279.8	1.0	5	4.6		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/02	13:37:22.0	45.770N	14.410E	10.0G			4.5	SZGRF
2002/06/02	13:37:18.5	45.621N	14.265E	10G				NEIC

Northwestern Balkan Peninsula

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e Pn	Z 13:38:10.4	3.2	173.0					4.2
	e Sn	E 13:38:48.9							
	e Sg	N 13:39:01.9							
FUR	e Pn	Z 13:38:19.7	3.3	140.1					4.8
	e Sg	E 13:39:03.3							
WET	e Pn	Z 13:38:16.4	3.6	164.6					4.1
	e Sn	E 13:38:58.7							
	e Sg	N 13:39:15.1							
GRA1	e Pn	Z 13:38:30.6	4.6	152.1					4.7
	e Sg	E 13:39:44.2							
STU	e Pn	Z 13:38:30.1	4.7	130.5					5.0
	e Sg	E 13:39:50.6							
BFO	e Pn	Z 13:38:32.7	4.9	121.6					
	e Sn	N 13:39:28.3							
BRG	e Pn	Z 13:38:37.3	5.3	177.5					4.3
	e Sg	E 13:40:03.3							
MOX	e Pn	Z 13:38:38.5	5.3	159.6					4.4
	e Sn	N 13:39:37.6							
CLL	e Pn	Z 13:38:44.9	5.7	171.1					4.7
	e Sg	E 13:40:19.5							
WLF	e Pn	Z 13:39:01.0	6.8	123.4					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/02	20:08:45.3	29.410N	56.820E	33.0N	4.6			SZGRF
2002/06/02	20:08:23.0	27.883N	57.602E	33N	4.7	4.1		NEIC

Southern Iran

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 20:16:15.2	41.3	104.2	1.1	18	4.6		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/02	21:46:57.6	26.891S	176.230W	33N	5.1	5.0		NEIC

South of Fiji Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 22:06:49.8	156.5	16.9					
	e pPKPdf	Z 22:07:01.7							
	e PKPab	Z 22:07:18.6							
	e PP	Z 22:10:51.1							
CLL	i PKPdf	- Z 22:06:47.5			1.6	16			
	i PKPbc	+ Z 22:06:56.3			1.1	18			
	i PKPab	Z 22:07:10.4			1.1	13			
	e PP	Z 22:10:57.6							
	e L	Z 23:25:20.3			18.0	240			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/03	09:15:00.7	27.583N	139.775W	489D	5.0			NEIC

Bonin Isl, Japan region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 09:27:10.4							
CLL	i P	Z 09:27:01.3			0.4	19	5.7		
	e pP	Z 09:28:50.3							
	e sP	Z 09:29:40.0							
	e PP	Z 09:30:39.0							
	e sPP	Z 09:33:05.2							
	e SKSac	R 09:36:39.0							
	e S	T 09:36:59.9							
	e SP	Z 09:38:10.4							
	e sS	T 09:40:13.9							
	e sSP	Z 09:41:19.3							
	e SS	T 09:43:09.2							
	e SSSS	E 09:50:09.9							
	e L	Z 10:13:34.1			18.0	558		5.0	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/03	15:21:40.3	17.957S	173.496W	43D	5.0	4.6		NEIC

Tonga Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	15:41:11.4	143.9	6.2					
RUE	e PKPbc	Z	15:41:14.6	145.0	12.1					
CLZ	e PKPbc	Z	15:41:18.4	146.0	6.6					
CLL	e PKPbdf	Z	15:41:17.5							
	i PKPbc	+ Z	15:41:18.8			1.0	274			
	e		15:41:26.4							
BRG	e PKPbc	Z	15:41:20.0	146.6	12.9					
MOX	e PKPdf	Z	15:41:19.2	147.1	9.0					
	e PKPbc	Z	15:41:21.3							
TNS	e PKPbc	Z	15:41:23.1	147.7	3.5					
GRA1	e PKPbc	Z	15:41:24.6	148.0	8.5					
	e PKPab	Z	15:41:30.5							
WET	e PKPdf	Z	15:41:21.1	148.4	11.6					
	e PKPbc	Z	15:41:25.4							
STU	e PKPbc	Z	15:41:27.0	149.1	5.0					
FUR	e PKPbc	Z	15:41:28.0	149.5	9.0					
BFO	e PKPbc	Z	15:41:28.0	149.6	3.4					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/03	20:19:10.9	33.990N	53.680E	37.0	4.9			SZGRF
2002/06/03	20:17:29.3	25.422N	63.432E	33N	4.6			NEIC

Northern and central Iran

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z	20:25:58.1	46.7	101.4	1.6	29	4.9		
	e pP	Z	20:26:07.7							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/04	14:36:05.5	30.539N	81.440E	33N	5.4	5.3		NEIC

Xizang

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	i P	Z	14:45:36.3	54.8	82.5	1.7	213	5.9		
	e PP	Z	14:47:42.2							
	e S	E	14:53:21.7							
	e SS	E	14:56:57.6							
	e L	Z	15:11:21.7			20.2	2871		4.5	
CLL	i P	Z	14:45:24.9			1.6	52	5.3		

e PcP	Z	14:46:30.4							
e PP	Z	14:47:24.8							
e S	T	14:52:53.1							
e SS	R	14:56:42.2							
e LQ	T	15:00:26.8							
e LR	Z	15:02:22.9							
e L	Z	15:10:19.1				18.0	5367		5.6

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/04	17:21:11.0	27.080N	123.890E	33.0N	5.6			SZGRF
2002/06/04	17:20:56.8	24.874N	125.316E	46D	5.3	4.4		NEIC

Northeast of Taiwan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e P	Z 17:33:17.7	82.5	58.3	1.2	130	5.7		
BRG	e P	Z 17:33:20.9	83.2	58.3	1.0	16	5.0		
BSEG	e P	Z 17:33:22.7	83.4	55.9	1.4	102	5.7		
CLL	i P	+ Z 17:33:22.4			0.8	27	5.6		
	e pP	Z 17:33:37.0							
	e sP	Z 17:33:43.6							
	e PP	Z 17:36:44.8							
	e S	T 17:43:33.4							
	e (SS)	Z 17:49:44.5							
	e PKKP	Z 17:51:37.8			0.6	5			
	e	17:54:01.2							
	e LR	Z 18:02:08.1							
	e L	Z 18:15:38.3			18.0	514			
GEC2	e P	Z 17:33:27.6	84.4	57.9	1.2	25	5.2		
CLZ	e P	Z 17:33:28.6	84.6	55.7	1.3	168	6.0		
MOX	e P	Z 17:33:28.3	84.6	56.6	1.3	50	5.5		
WET	e P	Z 17:33:28.8	84.7	57.4					
GRA1	e P	Z 17:33:32.3	85.3	56.2	1.5	162	6.0		
FUR	e P	Z 17:33:36.6	86.2	56.1	1.0	101	6.0		
BUG	e P	Z 17:33:37.4	86.4	53.3	1.2	84	5.9		
TNS	e P	Z 17:33:38.5	86.5	54.2	1.1	36	5.5		
STU	e P	Z 17:33:40.2	87.0	54.7	1.1	34	5.5		
BFO	e P	Z 17:33:43.3	87.7	54.0					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/05	02:38:10.3	17.708S	178.603W	550G	4.8			NEIC

Fiji Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKP	Z 02:56:40.7	143.1	14.2					

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GRA1	e PKPbc	Z	02:56:53.6	147.1	17.4				
	e PKPab	Z	02:56:57.3						
	e pPKP	Z	02:59:00.0						
CLL	e PKPdf	Z	02:56:45.6			1.0	3		
	i PKPbc	+ Z	02:56:47.8			0.8	50		
	e pPKPbc	Z	02:58:53.8						
	e SKP	Z	02:59:36.8						
FUR	e PKPbc	Z	02:56:56.8	148.5	18.2				
	e PKPab	Z	02:57:02.7						

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/05	12:45: 8.4	32.600N	35.990W	33.0N	5.1	5.2		SZGRF
2002/06/05	12:45:16.3	35.347N	36.170W	10G	5.5	5.1		NEIC

Northern Mid-Atlantic Ridge

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z	12:52:29.1	37.0	265.5	1.5	68	5.1		
	e S	E	12:58:22.6							
	e L	Z	13:05:22.8			18.3	3510		5.2	
CLL	e P	Z	12:52:39.4			1.1	29	4.9		
	e PP	Z	12:54:04.4							
	e S	E	12:58:36.2							
	e SS	N	13:01:26.6							
	e LR	Z	13:03:01.8							
	e L	Z	13:05:28.8			20.0	4542		5.3	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/05	20:43:30.9	25.710S	179.470W					GRSN

South of Fiji Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i PKPbc	+ Z	21:03:24.4	152.7	25.1	0.9	20			
	e PKPab	Z	21:03:35.4							
	e pPKPbc	Z	21:05:23.2							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/06	06:41:47.5	4.601S	153.332E	61D	4.9			NEIC

New Ireland, Papua New Guinea, region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e PKP	Z	07:00:38.8	122.7	50.4					
CLL	e PKP	Z	07:00:38.7	122.8	49.2					

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CLZ	e PKP	Z	07:00:41.4	123.7	46.2
WET	e PKP	Z	07:00:41.9	124.3	50.2
GRA1	e PKP	Z	07:00:43.1	124.8	48.2
TNS	e PKP	Z	07:00:45.0	125.7	44.9
STU	e PKP	Z	07:00:46.2	126.4	46.5

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/06	07:14:00.3	21.741S	179.506W	613D	4.6			NEIC

Fiji Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z	07:32:46.0	150.8	20.8					
	e		07:32:56.3							
CLL	i PKPbc	- Z	07:32:41.2			1.1	52			
	i PKPab	Z	07:32:47.3			0.7	16			
	e pPKPbc	Z	07:35:04.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/06	19:30:23.8	24.485S	177.097W	139D	4.5			NEIC

South of Fiji Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i PKPbc	Z	19:50:04.1			0.8	22			
	e PKPab	Z	19:50:13.5			0.7	8			
	e pPKPbc	Z	19:50:44.6							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/06	22:35:48.6	36.850N	25.720E	10.0G	5.2	3.6		SZGRF
2002/06/06	22:35:43.8	35.650N	26.220E	93	5.1			NEIC

Dodecanese Islands, Greece

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WET	e P	Z	22:39:31.0	16.7	139.1	1.5	376			
	e S	E	22:42:34.3							
FUR	e P	Z	22:39:30.8	16.7	133.1					
BRG	e P	Z	22:39:42.3	17.6	145.2	1.0	147	5.1		
	e S	E	22:42:52.3							
GRA1	e P	Z	22:39:44.5	17.8	136.5	1.6	707	5.5		
	e S	E	22:42:59.9							
	e L	Z	22:47:31.2			21.1	409		3.6	
STU	e P	Z	22:39:48.3	18.1	130.1	0.9	156	5.1		
BFO	e P	Z	22:39:49.3	18.3	127.3	1.2	112	4.9		
	e S	E	22:43:09.0							

CLL	e P	Z	22:39:49.7				0.8	332	5.5
	e		22:39:51.5						
	e pP	Z	22:40:09.8						
	e S	T	22:43:06.0						
	e (SS)	Z	22:43:47.9						
	e L	Z	22:46:26.6				20.0	279	3.5
	e ScP	Z	22:47:44.1						
MOX	e P	Z	22:39:51.0	18.3	139.3	1.6		310	5.2
	e S	N	22:43:10.9						
RUE	e P	Z	22:39:56.7	19.0	147.5				
TNS	e P	Z	22:40:02.8	19.4	131.8	1.5		314	5.2
	e S	E	22:43:30.4						
CLZ	e P	Z	22:40:05.2	19.7	138.9	1.5		266	5.3
	e S	E	22:43:39.1						
WLF	e P	Z	22:40:11.8	20.2	126.3	1.1		142	
	e S	N	22:43:48.7						
BUG	e P	Z	22:40:17.2	20.8	132.0	1.3		189	5.2
	e S	E	22:44:02.0						
IBBN	e P	Z	22:40:21.1	21.2	134.6				
BSEG	e P	Z	22:40:21.4	21.4	142.4	0.9		40	4.6

Date 2002/06/06 Origin Time 23:53:51.4 Lat 0.924S Long 148.224E Depth 33N mb 5.7 Ms 6.0 ML Source NEIC
Admiralty Islands, Papua New Guinea, region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z	00:12:38.3	119.0	51.3					
	e PP	Z	00:14:03.1							
CLL	e Pdiff	Z	00:08:52.6							
	e PKPdf	Z	00:12:35.8			0.6	3			
	e PP	Z	00:13:43.8							
	e PPP	Z	00:16:18.8							
	e SKSac	R	00:19:31.3							
	e SKKSac	E	00:20:44.7							
	e Sdiff	T	00:21:28.4							
	e PS	R	00:23:27.5							
	e PPS	Z	00:24:41.4							
	e SS	T	00:29:54.4							
	e LR	Z	00:50:36.7							
	e L	Z	01:06:12.8			20.0	5356		6.2	

Date 2002/06/07 Origin Time 00:05:45.1 Lat 8.180N Long 76.550W Depth 33.0N mb 5.2 Ms Source SZGRF
2002/06/07 Origin Time 00:05:47.4 Lat 8.664N Long 77.561W Depth 86D mb 5.1 Ms Source NEIC
Near north coast of Colombia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 00:18:04.0	82.6	274.7	1.2	26	5.2		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/07	17:00:37.5	12.710N	97.870W	33.0N	5.3	5.2		SZGRF
2002/06/07	17:00:51.0	16.091N	96.637W	33N	5.5	5.0		NEIC

Off coast of Mexico

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z 17:13:30.7	85.8	290.0					
IBBN	e P	Z 17:13:30.7	85.8	291.1					
BUG	e P	Z 17:13:30.6	85.8	290.7					
BSEG	e P	Z 17:13:34.0	86.6	293.0					
TNS	e P	Z 17:13:36.3	87.0	291.7					
CLZ	e P	Z 17:13:38.5	87.5	293.1					
MOX	e P	Z 17:13:43.8	88.7	294.1					
GRA1	e P	Z 17:13:44.3	88.8	293.8	1.6	28	5.3		
	e L	Z 17:52:27.3			21.7	909		5.2	
CLL	i P	+ Z 17:13:45.9			1.1	10	5.0		
	e PP	Z 17:17:21.8							
	e S	R 17:24:23.4							
	e PS	E 17:25:47.9							
	e SS	R 17:30:30.0							
	e LR	Z 17:42:41.7							
	e L	Z 17:52:05.7			22.0	1024		5.2	
BRG	e P	Z 17:13:49.5	89.9	295.9					
WET	e P	Z 17:13:50.7	90.0	295.1					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/07	21:07:04.2	16.188S	173.684W	33N	4.6			NEIC

Tonga Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 21:26:45.2	146.3	8.5					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/08	20:13: 3.7	44.360N	10.650E	10.0G			4.6	SZGRF
2002/06/08	20:13:05.4	44.462N	10.879E	5G				NEIC

Northern Italy

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
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DAVA	e Pn	Z	20:13:53.1	2.9	165.8				
	e Sn	Z	20:14:29.2						
KBA	e Pn	Z	20:13:56.4	3.1	214.2			4.3	
FUR	e Pn	Z	20:14:02.7	3.7	184.4			4.8	
MOA	e Pn	Z	20:14:09.5	4.1	215.9				
BFO	e Pn	Z	20:14:09.2	4.2	154.6			4.7	
	e Sn	E	20:14:54.0						
ARSA	e Pn	Z	20:14:10.4	4.3	230.9				
STU	e Pn	Z	20:14:12.5	4.5	164.3			4.7	
WET	e Pn	Z	20:14:17.1	4.9	197.0				
GRA1	e Pn	Z	20:14:22.2	5.2	182.7			4.8	
MOX	e Pn	Z	20:14:35.0	6.2	184.9				

Date Origin Time Lat Long Depth mb Ms ML Source
 2002/06/09 04:50:25.0 31.672S 179.182E 496* 4.2 NEIC
 Kermadec Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 05:10:10.4	159.9	31.0					

Date Origin Time Lat Long Depth mb Ms ML Source
 2002/06/09 18:52:39.2 6.271S 149.331E 33N 4.8 NEIC
 New Britain Region, P.N.G.

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 19:11:35.7							

Date Origin Time Lat Long Depth mb Ms ML Source
 2002/06/09 21:21: 3.7 84.240N 98.420E 33.0N 4.5 SZGRF
 2002/06/09 21:20:39.0 84.111N 110.814E 10G 4.6 NEIC
 North of Severnaya Zemlya

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 21:28:38.7	41.6	8.8			4.5		

Date Origin Time Lat Long Depth mb Ms ML Source
 2002/06/09 21:40:59.1 59.590N 169.790E 33.0N 4.8 SZGRF
 2002/06/09 21:41:03.8 59.412N 160.466E 33N 4.4 NEIC
 Eastern Siberia, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
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GRA1	e P	Z	21:52:03.7	68.1	16.3	0.9	7	4.8
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Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/09	22:19: 7.0	36.540N	68.980E	33.0N	5.0			SZGRF
2002/06/09	22:18:56.4	36.381N	71.319E	90?	4.9			NEIC

Hindu Kush, Afghanistan, region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z	22:26:48.6	42.8	86.8	1.0	31	5.0		
RUE	e P	Z	22:26:48.4	42.8	88.4					
CLL	e P	Z	22:26:52.6	43.3	86.6	0.9	17	4.8		
MOX	e P	Z	22:27:00.5	44.3	84.9	1.2	22	4.8		
GRA1	e P	Z	22:27:03.5	44.6	83.7	1.7	60	5.1		
FUR	e P	Z	22:27:03.9	44.8	82.2					
BSEG	e P	Z	22:27:05.2	44.8	87.3					
CLZ	e P	Z	22:27:07.0	44.9	85.2	1.4	48	5.0		
IBBN	e P	Z	22:27:18.0	46.5	83.7					
BUG	e P	Z	22:27:21.1	46.9	82.6					
WLF	e P	Z	22:27:30.0	47.9	80.2	1.0	32	5.3		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/10	02:53:47.3	15.524S	167.498E	117D	5.1			NEIC

Vanuatu Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPdf	Z	03:12:59.0	137.7	33.7					
	e		03:16:22.1							
BRG	e		03:16:25.4	138.8	40.6					
CLL	e PKPpre	Z	03:12:51.3			0.7	4			
	e		03:12:55.9							
	i PKPdf	+ Z	03:13:01.1			0.7	18			
	i SKP	Z	03:16:26.1			1.0	22			
	e LR	Z	03:59:27.6							
	e L	Z	04:10:23.2			22.0	225		4.9	
CLZ	e PKPdf	Z	03:13:02.6	139.4	35.1					
	e		03:16:28.1							
GRA1	e PKPdf	Z	03:13:03.4	140.8	37.8					
TNS	e		03:16:32.4	141.4	33.5					
FUR	e PKPdf	Z	03:13:03.7	142.0	39.1					
WLF	e PKPdf	Z	03:13:04.6	142.6	30.5					
	e		03:16:35.7							
BFO	e PKPdf	Z	03:13:05.7	143.0	34.7					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/10	22:19:	37.780N	23.930E	33.0N				SZGRF
2002/06/10	05:20:40.0	34.652N	23.330E	64*	4.2			NEIC

Southern Greece

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 05:24:41.1	17.5	144.9	0.7	30			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/10	22:02:17.7	45.530N	9.880E	10.0G			3.0	SZGRF

Northern Italy

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BFO	e Pn	Z 22:03:04.1	3.0	158.7					3.0
	e Pg	Z 22:03:12.8							
	e Sg	E 22:03:52.2							
STU	e Pg	Z 22:03:18.1	3.3	171.5					
	e Sg	N 22:04:00.9							
WET	e Pn	Z 22:03:19.7	4.1	210.5					
	e Sg	E 22:04:30.0							
GRA1	e Sg	E 22:04:32.8	4.3	192.8					
WLF	e Sg	E 22:04:51.6	4.8	147.3					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/10	22:48:36.0	11.035N	140.566E	33N	5.9	5.9		NEIC

Western Caroline Islands, Micronesia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e Pdiff	Z 23:02:43.3	104.9	51.8					
	e PP	Z 23:07:04.2							
	e SKSac	E 23:13:20.2							
	e SP	E 23:16:12.4							
	e SS	E 23:22:01.6							
	e L	Z 23:56:04.7			18.0	11097		6.4	
CLL	e Pdiff	Z 23:02:34.2			1.5	34			
	e	23:05:46.3							
	e PP	Z 23:06:52.8							
	e PPP	Z 23:09:05.8							
	e SKSac	R 23:13:13.0							
	e Sdiff	T 23:14:19.8							
	e PS	R 23:15:56.5							
	e PPS	R 23:16:46.9							
	e PKKPbc	Z 23:18:29.4							
	e SS	R 23:21:39.7							

e (SSS)	Z	23:25:54.1										
e LQ	T	23:34:13.9										
e LR	Z	23:38:35.7										
e L	Z	23:54:57.3				18.0		13364		6.5		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2002/06/11												

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML			
GRA1	e PKP	Z 02:29:21.3										

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2002/06/11	02:32:19.8	17.670N	94.810W	151.9	5.1			SZGRF				
2002/06/11	02:32:32.3	17.680N	94.305W	155D	4.9			NEIC				

Chiapas, Mexico

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML			
GRA1	e P	Z 02:44:59.7	86.2	293.1	1.2	19	5.1					
	e pP	Z 02:45:37.8										

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2002/06/11	04:19:56.8	21.559S	169.890E	33N	5.1	5.0		NEIC				

Southeast of Loyalty Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML			
CLL	i PKPbc	+ Z 04:39:32.4			1.0	62						
	e pPKPbc	Z 04:39:43.8										
	i	04:40:28.7										
CLZ	e PKP	Z 04:39:34.6	145.8	35.4								
	e	04:40:30.3										
GRA1	e PKP	Z 04:39:39.3	147.2	38.7								
TNS	e PKP	Z 04:39:40.5	147.8	33.8								
	e	04:40:36.8										
BFO	e PKP	Z 04:39:44.5	149.4	35.3								
	e	04:40:41.0										

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2002/06/11	21:04:38.8	50.030N	28.480W	33.0N	4.8	4.2		SZGRF				
2002/06/11	21:04:29.9	50.165N	29.112W	10G	4.7	4.3		NEIC				

Northern Mid-Atlantic Ridge

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML			
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GRA1	e P	Z	21:10:02.7	25.6	286.7	1.2	26	4.8		
	e L	Z	21:18:48.5			21.7	888		4.2	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/12	03:41:45.4	15.282S	178.720W	417D	4.5			NEIC
Fiji Islands region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
TNS	e PKP	Z 04:00:34.1	144.6	12.0					
GRA1	e PKP	Z 04:00:34.9	144.7	16.7					
WET	e PKP	Z 04:00:35.4	144.8	19.7					
WLF	e PKP	Z 04:00:37.1	145.4	8.3					
BFO	e PKP	Z 04:00:39.8	146.4	12.4					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/12	09:10:31.8	11.000N	140.885E	33N	5.3	5.3		NEIC
Western Caroline Islands, Micronesia								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e Pdiff	Z 09:24:33.9							
	e PP	Z 09:28:56.1							
	e SKSac	R 09:35:03.5							
	e PS	R 09:37:47.1							
	e SS	R 09:43:36.8							
	e LR	Z 10:00:48.3							
	e L	Z 10:17:01.8			18.0	3473		5.9	
GRFO	e SKSac	R 09:35:17.7	105.1	51.5					
	e SP	Z 09:38:12.5							
	e SS	Z 09:44:08.7							
	e L	Z 10:14:56.7			19.4	1884		5.6	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/12	12:59:0.8	42.330N	146.760E	33.0N	5.1			SZGRF
2002/06/12	12:59:15.2	43.972N	145.895E	104D	4.9			NEIC
Off southeast coast of Hokkaido, Japan								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i P	- Z 13:10:55.8			1.1	27	5.3		
	e pP	Z 13:11:22.8							
	e sP	Z 13:11:34.0							
GRA1	e P	Z 13:11:07.7	78.3	31.5	0.7	17	5.1		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/12	19:52:45.2	2.100S	19.640W	33.0N	5.7	5.0		SZGRF
2002/06/12	19:52:47.1	0.655S	20.667W	10G	5.4	5.0		NEIC

Central Mid-Atlantic Ridge

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BFO	e P	Z	20:02:20.5	55.0	216.3	1.2	137	5.8		
	e PP	Z	20:04:19.2							
WLF	e P	Z	20:02:22.8	55.3	213.3	1.6	152	5.8		
STU	e P	Z	20:02:25.1	55.7	217.0	1.2	103	5.7		
FUR	e P	Z	20:02:28.2	56.1	219.6	1.3	316	6.2		
TNS	e P	Z	20:02:32.0	56.6	215.6	1.5	190	5.9		
BUG	e P	Z	20:02:36.2	57.2	213.9	1.5	168	5.9		
GRA1	i P	+ Z	20:02:36.4	57.3	218.9	0.9	93	5.8		
	e PP	Z	20:04:45.6							
	e S	N	20:10:29.3							
	e L	Z	20:24:03.8			25.6	1514		5.0	
WET	e P	Z	20:02:38.3	57.6	220.9	1.2	146	5.9		
IBBN	e P	Z	20:02:42.5	58.1	214.1	1.1	101	5.8		
MOX	e P	Z	20:02:42.9	58.2	218.9	1.0	86	5.7		
CLZ	e P	Z	20:02:46.0	58.6	217.1	1.2	31	5.2		
CLL	i P	+ Z	20:02:49.8			1.4	77	5.5		
	e PP	Z	20:04:59.9							
	e PPP	Z	20:06:28.0							
	e S	R	20:10:59.1							
	e SS	R	20:14:53.5							
	e LQ	T	20:17:21.2							
	e LR	Z	20:21:00.9							
	e L	Z	20:25:56.5			22.0	548		4.6	
BRG	e P	Z	20:02:50.5	59.3	221.3	1.1	40	5.3		
BSEG	e P	Z	20:02:57.4	60.3	216.3	1.1	147	5.7		
RUE	e P	Z	20:02:58.8	60.4	220.6	1.1	109	5.6		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/12	21:25:57.7	16.400S	173.040W	33N	5.0			NEIC

Tonga Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z	21:45:38.7	146.5	7.4					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/13	01:27:18.4	47.776S	99.561E	10G	5.4	6.6		NEIC

Southeast Indian Ridge

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Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML			
GRA1	e PKPdf	Z 01:46:18.8	123.5	126.3								
	e PP	Z 01:48:00.8										
	e SP	Z 01:58:10.5										
	e SS	E 02:04:47.3										
	e L	Z 02:38:19.0										
CLL	e PKPdf	Z 01:46:18.8			21.7	5834		6.2				
	e	01:46:41.5										
	e PP	Z 01:48:05.3										
	e	01:49:33.9										
	e SKSac	R 01:53:23.8										
	e SKKSac	R 01:55:01.5										
	e Sdiff	T 01:56:01.7										
	e PS	Z 01:58:01.7										
	e SS	R 02:04:55.1										
	e SSS	T 02:09:17.2										
	e LR	Z 02:27:27.6										
	e L	Z 02:37:30.6								22.0	9834	6.4

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/14	02:11:53.6	10.180N	124.190E	33.0N	5.5			SZGRF
2002/06/14	02:11:37.0	7.587N	123.977E	33N	5.4	5.1		NEIC

Leyte, Philippine Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML			
CLL	e P	Z 02:25:07.6			1.7	29	5.6					
	e SKSac	E 02:35:46.9										
	e S	N 02:36:36.9										
	e PS	Z 02:37:48.5										
	e SS	E 02:43:08.4										
	e LQ	N 02:54:14.3										
	e LR	Z 02:58:21.3										
	e L	Z 03:14:40.9								22.0	868	5.2
	GRB1	e P								Z 02:25:20.2	98.3	67.9
e PP		Z 02:29:14.5										

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/14	02:42:39.4	34.940N	141.100E	33.0N	5.4			SZGRF
2002/06/14	02:42:47.2	36.195N	139.854E	52D	4.9			NEIC

Off east coast of Honshu, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RGN	e P	Z 02:54:46.9	78.3	41.5					
RUE	e P	Z 02:54:52.1	79.7	41.5					
BSEG	e P	Z 02:54:53.4	79.9	39.2	1.3	35	5.3		

BRG	e P	Z	02:54:58.1	80.8	41.5				
CLL	e P	Z	02:54:58.1	80.9	40.8				
CLZ	e P	Z	02:55:02.1	81.5	39.0	1.2	30	5.4	
MOX	e P	Z	02:55:04.1	82.0	39.8				
IBBN	e P	Z	02:55:04.9	82.2	37.2				
WET	e P	Z	02:55:07.7	82.6	40.6				
GRFO	e P	Z	02:55:09.3	82.9	39.4	1.1	26	5.4	
GRB1	e P	Z	02:55:09.4	82.9	39.7	0.9	22	5.4	
FUR	e P	Z	02:55:14.8	84.0	39.4				
STU	e P	Z	02:55:16.6	84.4	38.0				
WLF	e P	Z	02:55:19.4	84.9	35.9				
BFO	e P	Z	02:55:20.0	85.1	37.3				

Date Origin Time Lat Long Depth mb Ms ML Source
 2002/06/14 06:35:17.0 47.239S 101.985E 10G 5.4 5.0
 Southeast Indian Ridge

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRB1	e PKPdf	Z	06:54:16.3	124.1	125.0					
GRFO	e PKPdf	Z	06:54:16.6	124.5	124.6					
BFO	e PKPdf	Z	06:54:17.5	125.3	123.9					
CLZ	e PKPdf	Z	06:54:19.9	126.1	122.9					

Date Origin Time Lat Long Depth mb Ms ML Source
 2002/06/14 15:24:14.0 21.750N 44.400W 33.0N 5.4 4.9
 2002/06/14 15:24:09.3 22.524N 45.078W 10G 5.2 5.2
 Northern Mid-Atlantic Ridge

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z	15:32:52.4	48.2	255.0	1.2	59	5.6		
BFO	e P	Z	15:33:00.5	49.3	258.1	1.3	59	5.5		
BUG	e P	Z	15:33:01.4	49.4	254.5					
TNS	e P	Z	15:33:04.7	49.8	256.6	1.4	49	5.2		
IBBN	e P	Z	15:33:05.2	49.9	254.3					
STU	e P	Z	15:33:05.4	49.9	258.5	1.0	43	5.3		
CLZ	e P	Z	15:33:16.4	51.3	257.0	1.2	34	5.2		
GRFO	e P	Z	15:33:17.1	51.4	259.5					
GRA1	e P	Z	15:33:16.6	51.4	259.5	1.2	55	5.4		
	e		15:33:23.3							
	e S	E	15:40:41.5							
	e L	Z	15:50:48.4			20.8	1122		4.9	
BSEG	e P	Z	15:33:19.3	51.8	255.4	1.4	101	5.6		
MOX	e P	Z	15:33:20.0	51.8	259.1	1.3	35	5.1		
WET	e P	Z	15:33:23.7	52.4	261.3	1.3	40	5.2		
CLL	e P	Z	15:33:26.2			1.4	50	5.3		

	e			15:33:33.6							
	e S	R		15:40:59.7							
	e SS	R		15:44:37.7							
	e LQ	T		15:46:22.7							
	e LR	Z		15:48:07.4							
	e L	Z		15:51:55.4			20.0	1380		5.0	
BRG	e P	Z		15:33:31.0	53.3	260.9	1.4	50		5.3	
RUE	e P	Z		15:33:32.3	53.5	259.6	1.3	85		5.6	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/14	16:15:26.3	21.810N	44.460W	33.0N	5.4	4.7		SZGRF
2002/06/14	16:15:22.8	22.536N	45.081W	10G	5.1	5.1		NEIC

Northern Mid-Atlantic Ridge

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z	16:24:05.0	48.2	255.0	1.6	67	5.5		
BFO	e P	Z	16:24:13.1	49.3	258.1	1.4	76	5.5		
BUG	e P	Z	16:24:13.9	49.4	254.5	1.6	80	5.4		
TNS	e P	Z	16:24:17.3	49.8	256.6	1.7	93	5.4		
IBBN	e P	Z	16:24:17.9	49.9	254.3	1.8	174	5.7		
STU	e P	Z	16:24:17.6	49.9	258.5	1.2	61	5.4		
FUR	e P	Z	16:24:28.1	51.2	260.7	1.4	77	5.5		
CLZ	e P	Z	16:24:28.7	51.3	257.0	1.3	50	5.3		
GRA1	e P	Z	16:24:29.4	51.4	259.5	1.5	82	5.4		
	e		16:24:36.4							
	e S	E	16:31:53.4							
	e L	Z	16:42:00.4			19.9	709		4.7	
BSEG	e P	Z	16:24:32.3	51.8	255.4	1.4	134	5.7		
MOX	e P	Z	16:24:32.5	51.8	259.1	1.5	48	5.2		
WET	e P	Z	16:24:36.4	52.4	261.3	1.5	44	5.2		
CLL	i P	+ Z	16:24:40.1			1.1	34	5.2		
	e		16:24:46.5							
	e PcP	Z	16:25:51.2							
	e S	R	16:32:15.3							
	e SS	N	16:35:50.7							
	e LR	Z	16:39:55.6							
	e L	Z	16:44:05.0			18.0	1222		5.0	
BRG	e P	Z	16:24:43.6	53.3	260.9	1.6	47	5.3		
RUE	e P	Z	16:24:44.7	53.5	259.6	1.4	135	5.8		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/15	02:41:28.0	2.630S	34.960W	33.0N	5.5			SZGRF

South Atlantic Ocean

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
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GRA1 e P Z 02:52:09.4 65.6 232.3 1.9 56 5.5

Date Origin Time Lat Long Depth mb Ms ML Source
2002/06/16 00:00:25.5 0.485N 119.927E 33N 5.7 5.5 NEIC
Jawa, Indonesia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i Pdiff	- Z 00:14:08.5			1.8	25			
	e PP	Z 00:18:13.6							
	e PPP	Z 00:20:22.9							
	e PPPP	Z 00:22:18.1							
	e SKSac	R 00:24:43.6							
	e Sdiff	T 00:25:41.5							
	e PS	R 00:27:19.0							
	e (SS)	R 00:32:58.0							
	e LQ	T 00:45:02.6							
	e LR	Z 00:50:17.8							
	e L	Z 01:07:04.9			20.0	2434		5.7	
GRA1	e Pdiff	Z 00:14:18.5	101.6	75.2					
	e PP	Z 00:18:30.3							
	e SKSac	E 00:24:57.5							
	e SP	Z 00:27:29.0							
	e SS	E 00:33:12.0							
	e L	Z 01:03:32.0			22.0	2329		5.7	

Date Origin Time Lat Long Depth mb Ms ML Source
2002/06/16 02:46:27.5 10.540N 82.420W 33.0N 5.8 6.6 SZGRF
2002/06/16 02:46:13.4 8.740N 84.026W 33N 5.4 6.2 NEIC
North of Panama

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z 02:58:39.5	83.5	275.8					
BUG	e P	Z 02:58:42.1	84.0	276.5					
IBBN	e P	Z 02:58:43.3	84.2	276.8					
TNS	e P	Z 02:58:46.6	84.9	277.5	1.9	73	5.6		
BFO	e P	Z 02:58:47.4	85.0	277.6					
BSEG	e P	Z 02:58:50.1	85.5	278.7	2.2	171	5.9		
STU	e P	Z 02:58:50.1	85.5	278.2					
CLZ	e P	Z 02:58:51.7	85.8	278.9	1.7	82	5.7		
GRA1	e P	Z 02:58:56.4	86.7	279.6	3.6	468	6.1		
	e PP	Z 03:02:21.8							
	e SKS	R 03:09:29.7							
	e SS	E 03:14:51.6							
	e L	Z 03:32:50.5			20.5	27275		6.6	
MOX	e P	Z 02:58:56.4	86.8	279.9					

FUR	e P	Z	02:58:57.5	87.0	279.8				
CLL	i P	Z	02:58:59.4			2.2	148	5.9	
	e pP	Z	02:59:07.9						
	e		02:59:16.0						
	e PP	Z	03:02:23.9						
	e SKSac	R	03:09:27.9						
	e S	T	03:09:39.0						
	e PS	R	03:10:41.1						
	e		03:12:25.1						
	e SS	R	03:15:31.3						
	e LQ	T	03:23:12.3						
	e LR	Z	03:27:16.3						
	e L	Z	03:36:19.0			22.0	11369	6.2	
RUE	e P	Z	02:59:01.1	87.8	281.5				
WET	e P	Z	02:59:01.9	87.9	280.9				
BRG	e P	Z	02:59:03.6	88.2	281.7				

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/16	04:02:57.5	20.788S	179.146W	600G	4.7			NEIC

Fiji Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	04:21:31.9	146.1	16.0					
RUE	e PKPbc	Z	04:21:33.7	146.8	22.4					
CLL	i PKPbc	- Z	04:21:36.8			0.9	30			
	i PKPab	Z	04:21:42.1			0.8	16			
	e pPKPbc	Z	04:23:59.6							
CLZ	e PKPbc	Z	04:21:37.3	148.1	17.0					
	e PKPab	Z	04:21:42.3							
BRG	e PKPbc	Z	04:21:37.1	148.2	23.7					
MOX	e PKPbc	Z	04:21:39.0	149.0	19.8					
GRA1	e PKPbc	Z	04:21:42.1	149.9	19.6					
	e PKPab	Z	04:21:50.5							
GRFO	e PKPbc	Z	04:21:41.9	149.9	19.6					
	e PKPab	Z	04:21:50.3							
TNS	e PKPbc	Z	04:21:41.6	150.0	14.3					
	e PKPab	Z	04:21:49.9							
WLF	e PKPbc	Z	04:21:44.1	150.8	10.2					
STU	e PKPbc	Z	04:21:44.3	151.2	16.4					
FUR	e PKPbc	Z	04:21:44.6	151.4	20.7					
	e PKPab	Z	04:21:56.5							
BFO	e PKPbc	Z	04:21:45.5	151.8	14.9					
	e PKPab	Z	04:21:57.4							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/16	06:55:12.7	17.874S	178.694W	565D	5.7			NEIC

Fiji Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPdf	Z	07:13:42.4	143.3	14.4					
	e PKPbc	Z	07:13:43.0							
RUE	e PKPbc	Z	07:13:45.7	144.0	20.5					
IBBN	e PKPbc	Z	07:13:48.9	145.2	10.8					
CLZ	e PKPdf	Z	07:13:48.1	145.3	15.3					
	e PKPbc	Z	07:13:49.3							
CLL	e PKPdf	Z	07:13:47.4			0.7	7			
	i PKPbc	+ Z	07:13:49.1			0.9	1034			
	e pPKPbc	Z	07:15:58.0							
	e sPKPbc	Z	07:16:58.0							
	e PP	Z	07:17:12.0							
	e pPP	Z	07:19:15.7							
	e SKSdf	Z	07:20:06.1							
	e PSKS	N	07:27:31.9							
	e PPS	N	07:30:25.5							
	e SS	E	07:35:22.3							
	BRG	e PKPdf	Z	07:13:48.2	145.5	21.6				
e PKPbc		Z	07:13:49.9							
BUG	e PKPdf	Z	07:13:49.2	146.1	10.2					
	e PKPbc	Z	07:13:51.2							
MOX	e PKPdf	Z	07:13:49.3	146.2	17.8					
	e PKPbc	Z	07:13:51.8							
TNS	e PKPab	Z	07:13:54.5							
	e PKPdf	Z	07:13:51.2	147.1	12.6					
	e PKPbc	Z	07:13:54.4							
GRA1	e PKPab	Z	07:13:58.4							
	e PKPdf	Z	07:13:51.2	147.2	17.6					
	e PKPbc	Z	07:13:54.7							
	e PKPab	Z	07:13:59.1							
	e pPKPbc	Z	07:16:07.0							
WET	e SKSdf	Z	07:19:51.2							
	e SS	E	07:35:34.0							
	e PKPbc	Z	07:13:55.3	147.4	20.7					
WLF	e PKPab	Z	07:13:59.8							
	e PKPbc	Z	07:13:57.0	148.0	8.7					
STU	e PKPab	Z	07:14:01.9							
	e PKPdf	Z	07:13:53.2	148.4	14.5					
	e PKPbc	Z	07:13:57.7							
FUR	e PKPab	Z	07:14:03.4							
	e PKPdf	Z	07:13:53.1	148.6	18.5					
	e PKPbc	Z	07:13:58.2							
	e PKPab	Z	07:14:04.7							

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BFO	e PKPdf	Z	07:13:53.5	149.0	13.1
	e PKPbc	Z	07:13:59.0		
	e PKPab	Z	07:14:05.6		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/16	17:59:20.9	53.301S	23.758E	10G	5.1	5.1		NEIC
South of Africa								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e Pdiff	Z	18:13:34.1							
	e PP	Z	18:17:46.0							
	e PS	N	18:27:06.2							
	e SS	N	18:32:42.6							
	e LR	Z	18:50:00.6							
	e L	Z	19:05:20.6			18.0	592		5.2	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/16	18:30:33.9	5.160S	104.690E	33.0N	5.9			SZGRF
2002/06/16	18:31:09.3	2.340S	102.525E	219*	5.4			NEIC
Southern Sumatera, Indonesia								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z	18:43:50.7	90.9	92.6	1.9	137	6.0		
RUE	e P	Z	18:43:51.3	91.1	92.4					
CLL	i P	+ Z	18:43:52.8			2.2	127	5.9		
	e pP	Z	18:44:48.4							
	e PP	Z	18:47:25.0							
	e S	N	18:54:30.3							
	e sS	N	18:56:06.3							
	e SS	E	19:00:45.1							
WET	e P	Z	18:43:53.5	91.5	91.8	1.3	76	6.0		
MOX	e P	Z	18:43:57.2	92.4	90.8	1.6	50	5.8		
FUR	e P	Z	18:43:57.7	92.6	90.6					
GRA1	e P	Z	18:43:58.8	92.6	90.5	1.1	38	5.8		
CLZ	e P	Z	18:44:00.8	93.2	89.8	1.1	27	5.8		
BSEG	e P	Z	18:44:00.8	93.2	89.6	1.0	27	5.8		
STU	e P	Z	18:44:04.1	94.0	89.0					
TNS	e P	Z	18:44:06.5	94.4	88.4	1.1	30	6.0		
BFO	e P	Z	18:44:06.5	94.5	88.4	1.2	23	5.8		
IBBN	e P	Z	18:44:07.9	94.8	87.7					
BUG	e P	Z	18:44:09.2	95.1	87.3	1.4	21	5.7		
WLF	e P	Z	18:44:13.3	95.9	86.7					

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Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/16	22:31:19.8			N	4.2			SZGRF
2002/06/16	22:30:18.3	29.770N	50.914E	33N	4.5			NEIC

Southern Iran

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 22:37:16.7	35.8	108.7	1.0	8	4.2		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/16	22:43:10.3	9.910N	83.760W	33.0N	5.0			SZGRF
2002/06/16	22:43:03.4	8.917N	84.121W	33N	4.6	4.4		NEIC

Costa Rica

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 22:55:46.0	86.6	279.8	1.7	20	5.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/17	00:58:56.6	23.507S	179.964W	500G	4.2			NEIC

South of Fiji Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKPdf	Z 01:17:46.9							
	i PKPbc	+ Z 01:17:51.1			0.8	33			
	i PKPab	Z 01:17:59.8			0.9	10			
	e pPKPbc	Z 01:19:58.5							
GRA1	e PKPdf	Z 01:17:55.4	152.4	22.6					
	e	01:18:08.7							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/17	02:55:59.8	36.670N	91.670E	33.0N	4.9	4.2		SZGRF
2002/06/17	02:55:33.5	34.086N	94.497E	33N	4.6	4.2		NEIC

Qinghai, China

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 03:05:44.1	60.7	70.7	1.2	16	4.9		
	e L	Z 03:36:29.5			19.9	196		4.2	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/17	04:43: 0.0	37.380N	23.130E	33.0N				SZGRF
2002/06/17	04:43:55.4	36.684N	22.221E	33N	4.4	3.7		NEIC

Southern Greece

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 04:47:33.9	15.2	144.4	1.2	36			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/17	21:26:23.1	12.581S	166.349E	33N	6.0	6.6		NEIC

Santa Cruz Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e Pdiff	Z 21:42:49.5							
	e PKPpre	Z 21:45:31.6							
	e PKPdf	Z 21:45:43.2							
	e	21:45:56.8							
	e PP	Z 21:48:16.4							
	e	21:48:34.7							
	i SKPbc	Z 21:49:14.1							
	e PKSbc	R 21:49:18.2							
	e PPP	Z 21:51:22.3							
	e PPS	Z 22:00:34.4							
	e SS	T 22:06:27.8							
	e SSS	Z 22:11:36.1							
	e LQ	Z 22:31:16.6							
	e L	Z 22:48:55.9			20.0	19442		6.8	
GRA1	e Pdiff	Z 21:42:59.4	137.6	37.5					
	e PKPdf	Z 21:45:38.9							
	e PP	Z 21:48:25.5							
	e SS	E 22:06:53.4							
	e L	Z 22:44:26.7			20.3	5965		6.3	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/17	22:24:51.2	44.710N	15.410E	10.0G			2.7	SZGRF

Northwestern Balkan Peninsula

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
ARSA	e Pn	Z 22:25:31.9	2.5	181.8					2.4
KBA	e Pn	Z 22:25:36.2	2.8	148.0					2.7
	e Sn	Z 22:26:09.3							
MOA	e Pn	Z 22:25:42.6	3.2	165.4					
	e Sn	Z 22:26:21.4							
WET	e Pn	Z 22:26:02.5	4.8	157.8					
	e Sn	E 22:26:54.9							
MOX	e Pn	Z 22:26:25.6	6.5	155.3					
	e Sn	N 22:27:36.2							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/18	00:12:59.2	34.530N	78.850E	33.0N	4.8			SZGRF
2002/06/18	00:13:40.5	37.261N	72.310E	33N	4.6			NEIC

Kashmir-Xizang border region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 00:21:54.7	44.7	82.0	1.1	13	4.8		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/18	03:20: 3.7	35.630N	41.530E	33.0N	5.0			SZGRF
2002/06/18	03:19:24.1	33.300N	45.842E	33N	5.1	4.0		NEIC

Iraq

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WET	e P	Z 03:25:23.4	29.1	110.6	1.2	11	4.5		
BRG	e P	Z 03:25:23.8	29.1	114.8	1.1	16	4.7		
FUR	e P	Z 03:25:29.9	29.8	107.2	0.9	95	5.4		
CLL	e P	Z 03:25:30.2	29.8	114.3	1.2	26	4.7		
GRA1	e P	Z 03:25:34.8	30.3	109.6	1.1	67	5.2		
STU	e P	Z 03:25:42.2	31.3	105.9	1.5	34	4.9		
CLZ	e P	Z 03:25:45.8	31.5	112.0	0.8	41	5.2		
BFO	e P	Z 03:25:47.9	31.7	104.4	1.2	17	4.7		
TNS	e P	Z 03:25:51.2	32.1	107.4	2.0	61	5.1		
BSEG	e P	Z 03:25:53.7	32.4	115.0	1.1	36	5.1		
IBBN	e P	Z 03:26:01.2	33.2	109.7	1.0	43	5.2		
BUG	e P	Z 03:26:00.8	33.2	107.9					
WLF	e P	Z 03:26:01.5	33.4	104.2	0.9	32	5.1		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/18	05:09:09.8	21.476S	177.915W	361D	4.6			NEIC

Fiji Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKPdf	Z 05:28:16.3			0.7	8			
	i PKPbc	+ Z 05:28:18.3			0.9	25			
	e PKPab	Z 05:28:22.7			0.8	20			
	e pPKPbc	Z 05:29:48.3							
GRA1	e PKPdf	Z 05:28:22.8	150.9	17.7					
	e	05:28:31.5							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/18	07:34:07.4	22.273S	179.717W	600G	4.5			NEIC

South of Fiji Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i PKPbc	- Z	07:52:51.0			0.8	32			
	i PKPab	Z	07:52:58.2			1.0	17			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/18	13:56:22.3	29.060S	73.810W	53.0G		6.4		SZGRF
2002/06/18	13:56:22.4	30.754S	70.964W	53D	6.0			NEIC

Off coast of central Chile

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e Pdiff	Z	14:10:25.8	105.4	240.3					
	e PS	E	14:24:11.1							
BFO	e Pdiff	Z	14:10:28.4	106.0	241.5					
	e PP	Z	14:14:50.9							
STU	e Pdiff	Z	14:10:31.7	106.7	242.1					
	e PP	Z	14:14:56.5							
BUG	e Pdiff	Z	14:10:31.9	106.9	241.6					
	e PP	Z	14:14:55.1							
	e PS	E	14:24:23.9							
TNS	e Pdiff	Z	14:10:32.9	107.0	242.0					
	e PP	Z	14:14:58.9							
	e PS	E	14:24:25.7							
IBBN	e Pdiff	Z	14:10:35.1	107.6	242.1					
	e PP	Z	14:15:02.1							
FUR	e Pdiff	Z	14:10:36.3	107.7	243.3					
	e PP	Z	14:15:02.8							
GRA1	e Pdiff	Z	14:10:39.5	108.3	243.7					
	e PP	Z	14:15:07.0							
	e SKSac	E	14:21:39.4							
	e Sdiff	E	14:22:37.4							
	e PS	E	14:24:42.0							
	e SS	N	14:30:34.8							
	e L	Z	14:58:37.9			21.0	9997		6.4	
CLZ	e Pdiff	Z	14:10:41.6	108.8	243.8					
	e PP	Z	14:15:11.9							
MOX	e Pdiff	Z	14:10:42.5	109.0	244.3					
	e PP	Z	14:15:13.3							
WET	e Pdiff	Z	14:10:42.5	109.1	244.7					
	e PP	Z	14:15:13.3							
	e PS	E	14:24:45.6							
BSEG	e Pdiff	Z	14:10:44.9	109.7	244.4					
	e PP	Z	14:15:13.3							
CLL	e Pdiff	Z	14:10:48.9							
	e sPdiff	Z	14:11:11.0							
	e PKiKP	Z	14:14:50.0							

e PP	Z	14:15:20.1									
e SKSdf	T	14:21:06.7									
e Sdiff	E	14:22:50.2									
e sSdiff	T	14:23:26.0									
e PS	Z	14:24:56.2									
e PKKPab	Z	14:26:03.4									
e pPKKPab	Z	14:26:22.5									
e SS	T	14:30:36.9									
e sSS	R	14:31:34.5									
e SSS	R	14:34:59.9									
e L	Z	14:58:06.1				22.0		14395		6.5	

BRG	e Pdiff	Z	14:10:48.9	110.4	246.0						
	e PP	Z	14:15:20.3								
RUE	e Pdiff	Z	14:10:51.0	111.0	246.4						
	e PP	Z	14:15:26.6								

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2002/06/18	16:31:54.5	16.923S	174.314W	33N	4.6			NEIC				
Tonga Islands												

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML			
GRA1	e PKP	Z 16:51:35.4	146.9	9.7								

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2002/06/18	19:02:54.5	16.929S	174.553W	200G	4.8			NEIC				
Tonga Islands												

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML			
IBBN	e PKPbc	Z 19:22:07.8	144.6	3.8								
CLZ	e PKPbc	Z 19:22:08.9	144.9	8.2								
CLL	e PKPbc	Z 19:22:09.2	145.1	12.7								
BRG	e PKPbc	Z 19:22:10.4	145.4	14.4								
BUG	e PKPbc	Z 19:22:10.3	145.5	3.1								
MOX	e PKPbc	Z 19:22:12.3	145.9	10.6								
TNS	e PKPbc	Z 19:22:14.1	146.6	5.2								
GRA1	e PKPbc	Z 19:22:15.3	146.9	10.2								
WLF	e PKPbc	Z 19:22:16.7	147.3	1.2								
STU	e PKPbc	Z 19:22:18.0	148.0	6.8								
FUR	e PKPbc	Z 19:22:19.3	148.4	10.7								
BFO	e PKPbc	Z 19:22:19.1	148.5	5.3								

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
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2002/06/18 22:23:37.0 44.510N 10.620E 10.0G 4.5 SZGRF
2002/06/18 22:23:36.8 44.412N 10.813E 33N 4.4 NEIC
Northern Italy

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
KBA	e Pn	Z 22:24:28.3	3.2	214.4					4.3
FUR	e Pn	Z 22:24:35.2	3.8	185.0					4.8
MOA	e Pn	Z 22:24:41.6	4.2	216.1					4.4
BFO	e Pn	Z 22:24:41.3	4.3	155.5					4.2
	e Sn	E 22:25:26.4							
ARSA	e Pn	Z 22:24:42.7	4.3	230.9					
WET	e Pn	Z 22:24:50.4	4.9	197.4					4.4
	e Sn	N 22:25:44.1							
	e Sg	E 22:26:13.8							
GRA1	e Pn	Z 22:24:53.6	5.3	183.2					4.8
MOX	e Pn	Z 22:25:06.9	6.3	185.3					
	e Sn	E 22:26:15.0							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/18	23:09:39.7	50.240N	156.950E	33.0N	5.0			SZGRF
2002/06/18	23:09:48.4	50.166N	155.391E	127	4.8			NEIC

Kuril Islands, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 23:21:23.2	75.5	22.8	1.3	18	5.0		
	e	23:21:28.2							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/19	09:16:41.0	37.190N	139.320E	33.0N	5.4	5.2		SZGRF
2002/06/19	09:16:28.0	36.197N	141.654E	33N	5.0	4.9		NEIC

Eastern Honshu, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i P	+ Z 09:28:45.6			0.9	27	5.4		
	e pP	Z 09:28:56.4							
	e PP	Z 09:31:59.0							
	e S	T 09:38:58.1							
	e SS	R 09:44:58.4							
	e LR	R 09:58:46.6							
	e L	Z 10:08:19.1			18.0	1483		5.4	
GRA1	e P	Z 09:28:56.9	83.6	38.2			5.4		
	e L	Z 10:11:43.5			18.8	953		5.2	

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Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/19	21:50:10.5	16.595N	97.822W	33N	5.2			NEIC

Oaxaca, Mexico

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 22:03:05.2	89.1	295.0					
	e	22:03:13.2							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/19	22:11:14.8	44.220N	10.660E	10.0			4.5	SZGRF
2002/06/19	22:11:13.0	44.333N	10.783E	10G				NEIC

Northern Italy

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
FUR	e Pn	Z 22:12:12.8	3.8	185.3					4.7
BFO	e Pn	Z 22:12:18.7	4.3	156.1					4.3
	e Sn	E 22:13:03.3							
WET	e Pn	Z 22:12:27.8	5.0	197.4					
	e Sn	N 22:13:21.4							
GRA1	e Pn	Z 22:12:32.3	5.4	183.4					4.6

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/19	22:45:49.5	19.151S	169.919E	33N	5.0			NEIC

Vanuatu Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 23:05:26.3	145.0	36.8					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/19	23:08:24.8	19.188S	169.604E	33N	5.5	5.2		NEIC

Vanuatu Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 23:27:59.6	144.9	37.3					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/19	23:34:32.2	38.970N	131.150E	33.0N	4.8			SZGRF
2002/06/19	23:33:51.5	35.629N	140.933E	33N	4.9			NEIC

Sea of Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
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GRA1 e P Z 23:46:20.9 83.8 39.0 4.8

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/20	00:00:36.6	44.740N	10.630E	10.0G			3.2	SZGRF
2002/06/20	00:00:30.5	44.233N	10.805E	10G				NEIC

Northern Italy

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BFO	e Pn	Z 00:01:37.2	4.4	156.4					3.2
	e Sn	E 00:02:21.8							
WET	e Pn	Z 00:01:46.4	5.1	196.9					
	e Sn	N 00:02:39.8							
MOX	e Sn	E 00:03:09.9	6.4	185.2					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/19	23:54:13.2	19.647S	169.427E	33N	5.5	5.0		NEIC

Vanuatu Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 00:13:45.7	145.3	37.9					
	e	00:13:52.8							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/20	05:26:12.0	23.466S	175.393W	33N	4.9	4.8		NEIC

Tonga Islands Region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	i PKPbc	+ Z 05:46:02.4			1.1	35			
	e pPKPbc	Z 05:46:15.0							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/20	09:04:53.8	15.159S	173.439W	33N	4.9	5.0		NEIC

Tonga Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 09:24:31.9							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/20	11:42:50.5	19.431S	169.104E	200G	4.8			NEIC

Vanuatu Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 12:02:05.7	145.0	38.2					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/20	20:35:30.4	14.020S	70.680W	33.0N	5.1			SZGRF
2002/06/20	20:35:12.7	17.809S	71.220W	25D	5.2	4.5		NEIC

Central Peru

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 20:48:52.4	98.8	252.7	0.9	7	5.1		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/21	00:05:45.1	4.468S	146.758E	33N	5.9	5.5		NEIC

Eastern New Guinea, Papua New Guinea, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKPdf	Z 00:24:32.8			1.0	20			
	e (PP)	Z 00:26:02.1							
	e PPP	Z 00:28:26.1							
	e SKKSac	Z 00:32:53.3							
	e PS	Z 00:35:53.9							
	e PPS	E 00:37:10.2							
	e SS	T 00:42:17.0							
	e SSS	N 00:46:51.6							
	e LQ	T 00:53:44.8							
	e LR	R 01:00:21.9							
	e L	Z 01:16:58.6			22.0	1665		5.6	
GRA1	e PKPdf	Z 00:24:35.4	121.3	54.8					
	e L	Z 01:22:33.8			18.8	933		5.5	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/21	14:15:25.0	41.830N	137.720E	33.0N	5.1			SZGRF
2002/06/21	14:15:05.7	40.338N	142.191E	50D	4.5			NEIC

Eastern Sea of Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 14:27:16.0	80.2	35.7	0.5	8	5.1		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
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2002/06/21 14:21:43.7
Tonga Islands

15.045S 175.900W 308D 5.8

NEIC

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
TNS	e PKPbc	Z	14:40:45.2	144.6	7.3					
GRA1	e PKPbc	Z	14:40:46.0	144.9	12.0					
	e pPKPpdf	Z	14:41:58.9							
	e PP	Z	14:43:59.0							
	e PKPbc	Z	14:40:46.6	145.2	14.9					
WLF	e PKPbc	Z	14:40:47.8	145.3	3.5					
BFO	e PKPbc	Z	14:40:50.9	146.5	7.4					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/22	02:58:25.7	35.300N	48.700E	33.0N	6.5	5.9		SZGRF
2002/06/22	02:58:20.8	35.616N	49.050E	10G	6.2	6.4		NEIC

Western Iran

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z	03:04:26.7	29.4	107.6	2.7	1467	6.3		
	e S	R	03:09:22.7							
WET	e P	Z	03:04:28.3	29.6	103.5	2.4	2540	6.6		
RUE	e P	Z	03:04:32.0	30.0	110.1	2.0	2445	6.7		
CLL	e P	Z	03:04:32.9			2.6	2524	6.6		
	e PP	Z	03:05:36.9							
	e PcP	Z	03:07:36.3							
	e S	R	03:09:32.9							
	e L	Z	03:17:25.3			22.0	37748		6.0	
FUR	e P	Z	03:04:35.7	30.4	100.3	1.8	1862	6.6		
MOX	e P	Z	03:04:38.5	30.7	104.7	1.6	221	5.7		
GRA1	e P	Z	03:04:39.4	30.7	102.8	2.4	2737	6.7		
	e L	Z	03:18:34.9			19.6	32358		5.9	
GRFO	e P	Z	03:04:39.3	30.7	102.8	2.4	2452	6.6		
RGN	e P	Z	03:04:41.2	31.0	112.8					
STU	e P	Z	03:04:47.8	31.9	99.3	1.6	697	6.2		
BFO	e P	Z	03:04:52.3	32.4	97.8	1.8	377	6.0		
BSEG	e P	Z	03:04:54.2	32.4	108.5	1.8	1714	6.7		
TNS	e P	Z	03:04:55.8	32.6	100.9	1.7	1810	6.7		
BUG	e P	Z	03:05:04.5	33.6	101.6	2.3	3180	6.8		
	e S	R	03:10:22.7							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/22	04:01:48.7	40.840N	144.460E	33.0N	4.7			SZGRF
2002/06/22	04:01:44.8	40.042N	142.906E	33N	4.5			NEIC

Off east coast of Honshu, Japan

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Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 04:13:58.3	80.7	35.4	1.1	9	4.7		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/22	06:45:35.9	34.630N	48.710E	37.6	5.0			SZGRF
2002/06/22	06:45:33.9	35.637N	48.907E	10G	5.1	4.4		NEIC

Western Iran

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e P	Z 06:51:46.8			1.8	24	4.7		
	e PcP	Z 06:54:49.2							
	e S	N 06:56:47.7							
GRA1	e P	Z 06:51:52.2	30.6	102.9	1.7	32	5.0		
	e pP	Z 06:52:01.9							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/22	15:22: 5.3	39.290N	145.050E	33.0N	5.0			SZGRF
2002/06/22	15:22:08.9	40.007N	143.180E	33N	4.6			NEIC

Off east coast of Honshu, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 15:34:23.3	80.9	35.2	1.0	12	5.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/23	00:29:52.1	16.488S	173.779W	84D	4.4			NEIC

Tonga Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 00:49:27.2	146.5	8.7					
	e	00:49:53.2							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/23	11:10:42.1	30.801S	71.034W	67D	5.7			NEIC

Near coast of central Chile

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PP	Z 11:29:26.2	108.4	243.8	1.2	15			
CLL	e pPKP	Z 11:29:26.4							
	e PP	Z 11:29:38.3							
	e PS	Z 11:39:04.0							
	e PKKPab	Z 11:40:21.0							

e LR	Z	12:03:12.4								
e L	Z	12:12:55.8			22.0		238			4.7

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/23	22:22:57.6	35.060N	142.610E	33.0N	5.2			SZGRF
2002/06/23	22:23:00.9	36.048N	141.608E	33N	4.8	4.4		NEIC

Off east coast of Honshu, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 22:35:29.8	83.7	38.3	1.0	16	5.2		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/24	01:20: 7.5	33.500N	11.500E	33.0N		4.2		SZGRF
2002/06/24	01:20:35.6	35.767N	9.870E	10G	5.0	4.7		NEIC

Tunisia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BFO	e P	Z 01:23:37.0	12.6	174.3					
	e S	Z 01:25:58.8							
STU	e P	Z 01:23:41.7	13.0	177.6					
WET	e P	Z 01:23:48.8	13.6	190.5					
GRA1	e P	Z 01:23:52.8	14.0	184.6					
	e S	N 01:26:35.0							
	e L	Z 01:29:30.1			18.0	1381		4.2	
WLF	e P	Z 01:23:58.4	14.2	167.6					
	e S	E 01:26:38.5							
TNS	e P	Z 01:24:02.6	14.5	175.4					
	e S	Z 01:26:53.7							
BRG	e P	Z 01:24:13.7	15.4	192.5					
CLL	e P	Z 01:24:17.5	15.7	189.4					
BUG	e P	Z 01:24:19.8	15.8	172.2					
	e S	Z 01:27:25.3							
CLZ	e P	Z 01:24:22.6	16.1	181.5					
IBBN	e S	E 01:27:37.0	16.6	174.0					
RUE	e S	N 01:27:55.7	16.9	190.9					
BSEG	e P	Z 01:24:48.8	18.2	181.2					
	e S	E 01:28:14.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/25	04:49:42.7	15.152S	173.589W	33N	4.9	4.6		NEIC

Tonga Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 05:09:19.4	145.2	8.2					

e 05:09:31.0

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/25	07:02:20.1	40.250S	178.700W	33N	4.8			NEIC

Off E. coast of N. Island

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKPab	Z 07:23:18.4			1.1	14			
	e pPKPab	Z 07:23:27.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/25	08:15:50.1	14.930N	91.050W	72.0	5.1			SZGRF
2002/06/25	08:15:44.6	14.038N	91.133W	70D	5.1			NEIC

Guatemala

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 08:28:24.2	87.1	288.4	1.0	17	5.1		
	e pP	Z 08:28:43.0							
	e sP	Z 08:28:53.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/25	19:56: 2.7	4.840S	12.720W	33.0N	5.2	4.7		SZGRF
2002/06/25	19:55:58.8	4.800S	12.294W	10G	4.8			NEIC

North of Ascension Island

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 20:05:55.0	58.2	207.9	1.7	40	5.2		
	e S	N 20:14:02.5							
	e L	Z 20:31:20.7			18.7	567		4.7	
CLL	e P	Z 20:06:06.5			1.2	9	4.7		
	e PP	Z 20:08:21.3							
	e S	N 20:14:27.1							
	e SS	E 20:18:20.2							
	e SSS	E 20:21:01.0							
	e LR	Z 20:25:45.7							
	e L	Z 20:32:29.3			20.0	569		4.7	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/25	20:15:58.6	5.060S	12.770W	33.0N	5.3	4.7		SZGRF
2002/06/25	20:15:57.8	5.007S	12.330W	10G	5.1	4.9		NEIC

Ascension Island region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 20:25:52.4	58.4	207.9	1.7	57	5.3		
	e PcP	Z 20:26:49.1							
	e PP	Z 20:28:04.6							
	e L	Z 20:49:12.5			21.9	649		4.7	
CLL	e P	Z 20:26:08.9			1.6	47	5.3		
	e PP	Z 20:28:19.3							
	e LR	Z 20:45:21.8							
	e L	Z 20:52:27.2			20.0	786		4.8	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/25	20:50:41.6	5.630S	12.390W	24.5	4.7			SZGRF
2002/06/25	20:50:43.5	4.873S	12.404W	10G	4.7			NEIC

Ascension Island region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 21:00:38.3	58.3	208.0	0.8	6	4.7		
	e pP	Z 21:00:44.8							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/25	21:47:22.6	6.060S	10.980W	19.4	5.3	5.2		SZGRF
2002/06/25	21:47:23.2	4.975S	12.332W	10G	5.2	5.3		NEIC

Ascension Island region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BFO	e P	Z 21:57:04.6	56.3	205.0	1.4	42	5.3		
	e pP	Z 21:57:10.0							
STU	e P	Z 21:57:09.0	56.9	205.9	1.2	20	5.0		
WLF	e P	Z 21:57:09.7	56.9	202.1	1.6	38	5.2		
FUR	e P	Z 21:57:10.0	57.0	208.4	1.5	96	5.6		
TNS	e P	Z 21:57:17.2	58.0	204.6	1.4	39	5.3		
GRA1	e P	Z 21:57:19.4	58.4	207.9	1.7	49	5.3		
	e S	N 22:05:21.5							
	e L	Z 22:22:55.4			18.8	1654		5.2	
WET	e P	Z 21:57:19.6	58.4	209.9	1.4	61	5.4		
BUG	e P	Z 21:57:23.0	58.9	203.0	1.5	29	5.1		
MOX	e P	Z 21:57:26.0	59.3	208.0	1.5	51	5.3		
IBBN	e P	Z 21:57:29.6	59.8	203.3	2.0	110	5.5		
CLZ	e P	Z 21:57:31.2	60.0	206.4	1.5	38	5.0		
BRG	e P	Z 21:57:32.3	60.2	210.5	1.5	38	5.0		
CLL	e P	Z 21:57:31.4			1.5	31	5.1		
	e PcP	Z 21:58:19.0							
	e PPP	Z 22:01:15.4							
	e S	R 22:05:49.1							

	e SS	T	22:09:39.2							
	e SSS	T	22:12:25.8							
	e LR	Z	22:16:56.6							
	e L	Z	22:23:54.3			22.0	1522		5.1	
RUE	e P	Z	21:57:41.6	61.6	209.9	1.3	62		5.7	
BSEG	e P	Z	21:57:43.7	61.9	205.8	1.6	72		5.7	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/25	21:48:41.6	25.460S	70.690E	33.0N	5.4			SZGRF
2002/06/25	21:48:40.1	26.930S	67.101E	10G	5.0			NEIC

Mid-Indian Ridge

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 22:01:46.4	91.3	132.4	1.2	25	5.4		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/25	22:59:12.5	5.140S	12.860W	19.0		4.5		SZGRF
2002/06/25	22:59:11.7	4.927S	12.407W	10G	5.0	4.7		NEIC

Ascension Island region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 23:09:07.0	58.3	208.0					
	e pP	Z 23:09:12.3							
	e L	Z 23:34:42.7			18.4	378		4.5	
CLL	i P	Z 23:09:19.8			1.5	26	5.0		
	e	23:09:25.8							
	e PcP	Z 23:10:04.4							
	e PP	Z 23:11:31.8							
	e S	N 23:17:40.1							
	e SS	Z 23:21:42.5							
	e LR	Z 23:28:44.7							
	e L	Z 23:35:41.0			22.0	303		4.4	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/26	01:00: 3.8	5.950S	13.370W	33.0N	4.8	4.4		SZGRF
2002/06/26	01:00:11.0	4.717S	12.341W	10G	4.8	4.7		NEIC

Ascension Island region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 01:10:04.7	58.1	208.0	1.1	11	4.8		
	e L	Z 01:33:32.0			20.6	300		4.4	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/26	01:25:24.3	5.420S	12.830W	16.7	4.7			SZGRF
2002/06/26	01:25:27.4	4.934S	12.321W	10G	4.8	4.5		NEIC

Ascension Island region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 01:35:22.9	58.3	207.9	1.6	14	4.7		
	e pP	Z 01:35:27.6							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/26	03:24:46.5	5.740S	12.720W	33.0N	5.0	4.5		SZGRF
2002/06/26	03:24:50.2	4.916S	12.327W	10G	4.6			NEIC

Ascension Island region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 03:34:44.8	58.3	207.9	1.5	22	5.0		
	e S	N 03:42:41.7							
	e L	Z 04:00:12.2			18.9	333		4.5	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/26	07:14: 7.8	15.150N	98.000W	33.0N	5.6	4.9		SZGRF
2002/06/26	07:14:12.1	14.690N	94.388W	33N	5.1			NEIC

Off coast of Guerrero, Mexico

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 07:27:06.0	88.6	291.3	0.9	28	5.6		
	e S	E 07:37:57.4							
	e L	Z 08:04:41.8			21.2	510		4.9	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/27	05:50:47.5	6.280S	102.370E	33.0N	6.2	6.7		SZGRF
2002/06/27	05:50:33.4	7.013S	103.855E	10G	6.2	6.5		NEIC

Southwest of Sumatera, Indonesia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z 06:04:02.2	95.4	94.5	1.7	106	5.9		
RUE	e P	Z 06:04:03.1	95.6	94.2	2.7	585	6.4		
WET	e P	Z 06:04:04.6	95.9	93.9	1.5	82	5.8		
CLL	e P	Z 06:04:03.7			1.7	72	5.9		
	e PP	Z 06:07:53.8							
	e PPP	Z 06:09:45.7							
	e SKSac	R 06:14:37.0							

	e S	T	06:15:23.1								
	e PS	Z	06:16:39.2								
	e SS	R	06:21:50.2								
	e LR	R	06:43:00.2								
	e L	Z	06:58:37.1			18.0	35489		6.9		
MOX	e P	Z	06:04:08.7	96.8	92.7	1.7	70		5.8		
FUR	e P	Z	06:04:08.4	96.9	92.8	2.6	357		6.3		
GRA1	e P	Z	06:04:09.4	97.0	92.6	2.1	243		6.3		
	e PP	Z	06:08:03.9								
	e SKS	R	06:14:44.8								
	e SS	E	06:21:50.6								
	e L	Z	06:54:25.1			21.7	28296		6.7		
CLZ	e P	Z	06:04:12.4	97.7	91.6	2.7	251		6.3		
BSEG	e P	Z	06:04:12.8	97.7	91.3	2.6	219		6.2		
STU	e P	Z	06:04:15.2	98.3	91.1	1.7	107		6.2		
TNS	e P	Z	06:04:17.8	98.8	90.4	2.6	269		6.4		
BFO	e P	Z	06:04:17.6	98.9	90.6	2.6	122		6.1		
IBBN	e P	Z	06:04:19.5	99.3	89.5	2.5	242		6.5		
BUG	e P	Z	06:04:20.9	99.6	89.2	3.2	273		6.4		
WLF	e P	Z	06:04:24.6	100.3	88.7	3.3	396		6.6		

Date Origin Time Lat Long Depth mb Ms ML Source
 2002/06/27 07:16:10.8 13.293S 167.042E 188D 5.9 NEIC
 Vanuatu Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKPpre	Z	07:35:02.8							
	i PKPdf	+ Z	07:35:12.0			1.1	135			
	e pPKPdf	Z	07:35:59.1							
	e SKPbc	Z	07:38:28.4			1.7	77			
	e SKPab	Z	07:38:37.4							
	i PKSbc	N	07:38:45.9							
RUE	e PKPdf	Z	07:35:10.0	135.4	38.6					
BSEG	e PKPdf	Z	07:35:10.3	135.4	33.2					
	e pPKPdf	Z	07:38:23.9							
GRA1	e PKPdf	Z	07:35:15.9	138.6	37.0					
TNS	e PKPdf	Z	07:35:16.6	139.2	32.9					
STU	e PKPdf	Z	07:35:18.0	140.1	34.9					

Date Origin Time Lat Long Depth mb Ms ML Source
 2002/06/27 07:37:08.3 19.652S 173.281W 33N 5.2 NEIC
 Tonga Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKP	Z	07:56:45.6	145.6	6.0					

GRA1	e PKP	Z	07:56:57.1	149.7	8.4
	e		07:57:03.1		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/27	19:47:39.3	4.233S	152.669E	33N	4.9			NEIC
New Britain, Papua New Guinea, region								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z	20:06:36.1	124.1	48.7					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/28	17:19:32.0	43.740N	130.250E	558.0G	7.5			SZGRF
2002/06/28	17:19:30.3	43.747N	130.702E	566G	6.8			NEIC
Priamurye-Northeastern China border region								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e P	Z	17:29:45.8	69.6	43.4	0.9	4457	7.6		
	e pP	Z	17:31:42.2							
	e		17:33:24.3							
	e S	Z	17:38:10.5							
BSEG	e P	Z	17:29:47.9	69.9	41.6	1.0	5814	7.7		
	e pP	Z	17:31:44.8							
	e		17:33:26.4							
	e S	Z	17:38:14.9							
BRG	e P	Z	17:29:52.4	70.7	43.1	0.8	2885	7.5		
	e pP	Z	17:31:49.8							
	e		17:33:29.3							
	e S	Z	17:38:23.1							
CLL	e P	Z	17:29:52.5			1.2	1520			
	e pP	Z	17:31:48.5							
	e PP	Z	17:32:45.1							
	e pPP	Z	17:34:25.9							
	e S	E	17:38:20.6							
	e SKSac	N	17:38:57.5							
	e sS	E	17:41:53.8							
	e SS	E	17:43:06.8							
	e P'P'bc	Z	17:57:37.3							
	e		17:57:50.1							
	e SKPPKPbc	Z	18:00:23.2			2.3	562			
	e L	Z	18:00:49.7			18.0	34015		6.6	
CLZ	e P	Z	17:29:57.2	71.4	41.1	0.9	5519	7.7		
	e pP	Z	17:31:54.8							
	e		17:33:32.9							
	e S	Z	17:38:32.4							

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MOX	e P	Z	17:29:59.3	71.8	41.6	1.1	2550	7.3
	e pP	Z	17:31:55.9					
	e		17:33:33.6					
WET	e S	Z	17:38:36.6	72.4	42.1	0.9	1978	7.2
	e P	Z	17:30:02.8					
	e pP	Z	17:32:00.5					
GRA1	e		17:33:37.2	72.7	41.2	1.0	9992	7.8
	e S	Z	17:38:44.2					
	e P	Z	17:30:04.8					
	e pP	Z	17:32:02.1					
	e PP	Z	17:32:57.8					
	e		17:33:38.7					
	e pPP	Z	17:34:46.0					
	e S	Z	17:38:47.5					
	e ScS	Z	17:39:17.3					
	e sS	E	17:42:07.8					
	e P'P'bc	Z	17:57:32.8					
	e P'P'ab	Z	17:57:42.6					
	e		18:00:18.1					
BUG	e P	Z	17:30:05.6	73.0	39.1	0.9	2719	7.3
	e pP	Z	17:32:03.3					
	e		17:33:40.1					
TNS	e S	Z	17:38:49.2	73.5	39.6	1.1	2300	7.1
	e P	Z	17:30:08.8					
	e pP	Z	17:32:06.5					
FUR	e		17:33:42.3	73.8	40.9	1.1	6174	7.6
	e S	Z	17:38:56.4					
	e P	Z	17:30:10.9					
STU	e pP	Z	17:32:08.6	74.3	39.8	1.0	4446	7.6
	e		17:33:44.5					
	e S	Z	17:38:59.8					
BFO	e P	Z	17:30:13.0	75.0	39.2	1.0	6103	7.7
	e pP	Z	17:32:11.2					
	e		17:33:46.6					
	e S	Z	17:39:03.4					
	e P	Z	17:30:16.9					
	e pP	Z	17:32:16.8					
	e		17:33:49.5					
	e S	Z	17:39:10.1					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/29	02:39:24.7	8.010S	166.660E	33.0N		6.0		SZGRF
2002/06/29	02:39:00.8	12.438S	166.579E	33N	5.9	5.9		NEIC

Santa Cruz Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e PP	Z 03:00:45.6	134.4	38.7					

BSEG	e PP	Z	03:00:45.9	134.5	33.4					
BRG	e PP	Z	03:00:53.4	135.6	39.9					
CLL	e PKPpre	Z	02:58:06.1							
	e PKPdf	Z	02:58:18.6			0.9		52		
	e PP	Z	03:00:54.9							
	i SKPbc	Z	03:01:49.2			1.5		41		
	e PKS	E	03:01:54.5							
	e PPP	Z	03:03:59.3							
	e PPS	Z	03:13:10.6							
	e SS	T	03:19:00.0							
	e SSS	E	03:23:44.6							
	e LR	R	03:42:37.1							
	e L	Z	04:01:31.3			20.0		2404		5.9
CLZ	e PP	Z	03:00:57.1	136.2	34.7					
MOX	e PP	Z	03:01:00.5	136.7	37.0					
WET	e PP	Z	03:01:04.9	137.4	39.7					
BUG	e PP	Z	03:01:06.2	137.5	30.7					
GRA1	e PKPdf	Z	02:58:14.2	137.6	37.1					
	e PP	Z	03:01:06.4							
	e SKP	Z	03:01:53.0							
	e SS	E	03:19:34.9							
	e L	Z	04:02:18.3			20.7		2943		6.0
TNS	e PP	Z	03:01:09.8	138.2	33.1					
FUR	e PP	Z	03:01:13.6	138.8	38.3					
STU	e PP	Z	03:01:15.5	139.1	35.0					
BFO	e PP	Z	03:01:19.7	139.8	34.1					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/29	06:54:58.2	35.750N	93.610E	33.0N	5.4	5.6		SZGRF
2002/06/29	06:54:43.4	34.128N	94.465E	33N	5.3	5.4		NEIC

Qinghai, China

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e P	Z 07:04:37.9	58.2	73.9	1.7	87	5.5		
BRG	e P	Z 07:04:40.6	58.6	73.1	1.0	36	5.4		
CLL	i P	Z 07:04:41.2			1.1	45	5.4		
	e PP	Z 07:06:53.6							
	e S	T 07:12:51.5							
	e SS	R 07:16:47.6							
	e LR	R 07:23:31.2							
	e L	Z 07:34:39.5			20.0	3550		5.5	
WET	e P	Z 07:04:49.1	59.8	71.4	1.1	36	5.3		
BSEG	e P	Z 07:04:49.6	59.8	72.3	1.1	66	5.6		
MOX	e P	Z 07:04:51.0	60.1	71.4	1.1	33	5.3		
CLZ	e P	Z 07:04:53.6	60.4	71.2	1.0	96	5.8		
GRA1	e P	Z 07:04:55.0	60.6	70.7	1.1	74	5.6		

	e S	E	07:13:07.6							
	e L	Z	07:35:41.3			19.5	4464		5.6	
FUR	e P	Z	07:04:58.1	61.1	69.9	1.1	114	5.8		
TNS	e P	Z	07:05:04.8	62.1	69.1	1.1	44	5.2		
STU	e P	Z	07:05:05.1	62.2	68.9	1.0	54	5.3		
BUG	e P	Z	07:05:06.7	62.4	69.0	1.1	46	5.2		
BFO	e P	Z	07:05:09.6	62.9	68.1	1.1	59	5.3		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/29	08:45:34.4	44.420N	11.520E	10.0G				SZGRF
2002/06/29	08:45:29.3	44.093N	11.676E	10G				NEIC

Northern Italy

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BFO	e Pn	Z 08:46:42.8	4.8	150.1					
	e Sn	E 08:47:33.0							
WET	e Sn	N 08:47:41.5	5.1	189.7					
MOX	e Pn	Z 08:47:04.9	6.6	179.6					
	e Sn	E 08:48:13.8							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/29	11:13:55.9	21.075S	179.219W	600G	4.8			NEIC

Fiji Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z 11:32:31.1	146.3	16.2					
CLL	e PKPdf	Z 11:32:31.4							
	i PKPbc	- Z 11:32:36.0			1.0	62			
	i PKPab	Z 11:32:41.8			0.8	18			
	e pPKPbc	Z 11:35:01.0							
IBBN	e PKPbc	Z 11:32:36.0	148.3	12.5					
	e PKPab	Z 11:32:41.8							
CLZ	e PKPbc	Z 11:32:36.5	148.3	17.2					
GRA1	e PKPbc	Z 11:32:40.8	150.2	19.9					
TNS	e PKPbc	Z 11:32:40.7	150.2	14.5					
	e PKPab	Z 11:32:49.9							
FUR	e PKPbc	Z 11:32:43.9	151.6	21.0					
	e PKPab	Z 11:32:56.2							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/29	11:50:29.1	3.310N	37.700W	33.0N	5.4	4.3		SZGRF
2002/06/29	11:50:53.5	7.394N	36.330W	10G	4.8			NEIC

North Atlantic Ocean

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 12:00:46.9	57.9	239.7	1.5	37	5.4		
	e L	Z 12:21:58.0			21.0	228		4.3	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/29	16:11:3.1	35.090N	71.750E	200.0G	5.3			SZGRF
2002/06/29	16:11:27.9	36.490N	70.881E	199*	4.8			NEIC

Pakistan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z 16:19:05.4	42.4	87.0	1.7	70	5.1		
RUE	e P	Z 16:19:05.1	42.5	88.7	1.0	44	5.1		
CLL	i P	+ Z 16:19:09.7			1.1	24	4.8		
	e sP	Z 16:20:15.2							
	e PcP	Z 16:20:53.9							
	e PPP	Z 16:21:48.5							
	i ScP	Z 16:24:26.5			1.2	11			
	e SS	Z 16:28:46.1							
WET	e P	Z 16:19:12.0	43.2	84.4	1.7	14	4.6		
MOX	e P	Z 16:19:17.0	43.9	85.1					
GRA1	e P	Z 16:19:20.9	44.3	83.8	1.6	85	5.5		
	e PcP	Z 16:20:58.2							
	e PP	Z 16:21:07.2							
	e PcS	Z 16:24:30.7							
FUR	e P	Z 16:19:21.3	44.4	82.3	2.0	141	5.6		
BSEG	e P	Z 16:19:22.0	44.5	87.5	0.9	46	5.5		
	e PP	Z 16:21:11.7							
CLZ	e P	Z 16:19:22.6	44.6	85.4	1.1	41	5.4		
STU	e P	Z 16:19:31.2	45.7	81.5	2.2	127	5.7		
	e PcP	Z 16:21:03.8							
TNS	e P	Z 16:19:33.5	46.0	82.4	2.1	59	5.4		
IBBN	e P	Z 16:19:34.8	46.1	83.9	1.6	91	5.7		
	e PcP	Z 16:21:04.7							
BFO	e P	Z 16:19:35.5	46.3	80.6	1.0	8	4.8		
BUG	e P	Z 16:19:37.8	46.5	82.8	1.7	69	5.5		
	e PP	Z 16:21:31.1							
WLF	e P	Z 16:19:45.7	47.5	80.4	1.9	116	5.6		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/29	21:05:47.2	19.680S	169.470E	33N	4.8			NEIC

Vanuatu Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
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GRA1 e PKP Z 21:25:23.1 145.3 37.8

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/30	01:24:30.7	39.930N	89.260E	33.0G	4.8			SZGRF
2002/06/30	01:25:04.2	42.204N	83.616E	33N	4.7			NEIC

Southern Xinjiang, China

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 01:33:51.7	48.9	69.5	1.3	14	4.8		
	e	01:33:57.6							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/30								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRC1	e P	Z 02:03:44.6							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/30	03:10:4.0	38.340N	70.380E	33.0N	4.7			SZGRF
2002/06/30	03:09:47.4	37.858N	72.349E	33N	4.4			NEIC

Afghanistan-Tajikistan border region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 03:17:59.3	44.4	81.3	1.3	22	4.7		
	e P	Z 03:17:59.3			1.3	22	4.7		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/30	04:08:51.3	13.350N	53.890E	33.0N	5.0	4.1		SZGRF
2002/06/30	04:08:00.9	8.686N	58.209E	10G	5.0	4.9		NEIC

Socotra region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z 04:17:39.0	55.7	123.3					
FUR	e P	Z 04:17:39.2	55.8	119.1					
CLL	e P	Z 04:17:43.7	56.4	122.6					
GRA1	e P	Z 04:17:44.9	56.5	120.0	0.9	16	5.0		
	e L	Z 04:45:16.7			21.1	205		4.1	
RUE	e P	Z 04:17:46.3	56.7	124.1					
BFO	e P	Z 04:17:51.8	57.6	116.4					
CLZ	e P	Z 04:17:56.9	58.1	120.3					
TNS	e P	Z 04:17:58.9	58.4	117.6					

WLF	e P	Z	04:18:07.1	59.4	115.1
BUG	e P	Z	04:18:07.5	59.6	117.1

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/30	04:18:0.8	16.770N	58.190E	33.0N	4.9			SZGRF
2002/06/30	04:17:08.3	8.635N	58.155E	10G	5.0			NEIC

Arabian Sea

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 04:26:52.2	56.5	120.0	1.0	18	4.9		
	e	04:27:01.7							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/30	19:51:06.3	26.327S	178.209E	642?	4.9			NEIC

South of Fiji Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPdf	Z 20:09:43.6	151.0	22.8					
	e PKPbc	Z 20:09:48.9							
	e PKPab	Z 20:09:59.7							
RUE	e PKPbc	Z 20:09:49.6	151.4	30.1					
	e PKPab	Z 20:10:01.3							
CLL	e PKPdf	Z 20:09:44.8			1.8	15			
	i PKPbc	Z 20:09:52.6			0.7	44			
	e PKPab	Z 20:10:06.9			0.6	38			
	e pPKPbc	Z 20:12:21.9							
BRG	e PKPbc	Z 20:09:53.1	152.7	32.0					
CLZ	e PKPbc	Z 20:09:53.9	152.9	24.5					
	e PKPab	Z 20:10:08.1							
GRA1	e PKPbc	Z 20:09:57.3	154.6	28.0					
	e PKPab	Z 20:10:15.7							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2002/06/30	21:28:25.0	23.790S	179.380W	646.8				SZGRF
2002/06/30	21:29:36.7	22.007S	179.139E	620D	5.4			NEIC

South of Fiji Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPdf	Z 21:48:09.3	147.0	19.3					
	e PKPbc	Z 21:48:11.9							
	e pPKPbc	Z 21:50:37.5							
RUE	e PKPdf	Z 21:48:10.1	147.5	25.9					

	e	PKPbc	Z	21:48:13.3		
CLL	i	PKPdf	Z	21:48:12.2	1.4	109
	i	PKPbc	Z	21:48:16.5	0.9	836
	e	PKPab	Z	21:48:23.5	0.7	215
	e	pPKPdf	Z	21:50:39.2		
	e	pPKPbc	Z	21:50:43.2		
	e	SKPbc	Z	21:50:58.8		
	e	PP	Z	21:51:35.5		
	e	PPP	Z	21:55:30.9		
	e	SKSP	Z	22:01:30.3		
	e	PPS	Z	22:05:00.3		
	e	SS	T	22:10:16.2		
	e	SSS	T	22:15:51.2		
	e	sSSS	N	22:19:29.7		
BRG	e	PKPdf	Z	21:48:12.6	148.9	27.3
	e	PKPbc	Z	21:48:17.1		
CLZ	e	PKPdf	Z	21:48:12.2	148.9	20.5
	e	PKPbc	Z	21:48:17.1		
IBBN	e	PKPdf	Z	21:48:12.7	149.0	15.6
	e	PKPbc	Z	21:48:17.3		
	e	PKPab	Z	21:48:24.9		
	e	pPKPbc	Z	21:50:43.5		
MOX	e	PKPdf	Z	21:48:13.7	149.7	23.4
	e	PKPbc	Z	21:48:19.0		
BUG	e	PKPdf	Z	21:48:14.2	149.9	15.2
	e	PKPbc	Z	21:48:19.3		
GRA1	e	PKPdf	Z	21:48:15.7	150.7	23.4
	e	PKPbc	Z	21:48:21.8		
	e	PKPab	Z	21:48:32.0		
	e	pPKPbc	Z	21:50:49.8		
WET	e	PKPdf	Z	21:48:15.6	150.8	26.8
TNS	e	PKPdf	Z	21:48:15.9	150.9	17.9
	e	PKPbc	Z	21:48:21.8		
	e	PKPab	Z	21:48:32.2		
WLF	e	PKPdf	Z	21:48:17.3	151.8	13.9
	e	PKPbc	Z	21:48:24.2		
STU	e	PKPdf	Z	21:48:17.4	152.1	20.2
	e	PKPbc	Z	21:48:24.4		
	e	PKPab	Z	21:48:37.3		
FUR	e	PKPdf	Z	21:48:17.4	152.1	24.6
	e	PKPbc	Z	21:48:24.4		
	e	PKPab	Z	21:48:38.0		
BFO	e	PKPdf	Z	21:48:18.0	152.7	18.8
	e	PKPbc	Z	21:48:25.7		

Format description

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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