

## 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)

MAY 2004 UPDATED 16.FEBRUARY.2006

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
2004/05/01	03:06:40.0	21.580S	174.350W	33.0N				SZGRF

Tonga Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z 03:26:20.3	147.5	8.1					
RUE	e PKPbc	Z 03:26:23.2	148.5	14.6					
NRDL	e PKPbc	Z 03:26:24.1	148.9	8.0					
IBBN	e PKPbc	Z 03:26:24.6	149.2	3.8					
CLL	e PKPbc	Z 03:26:26.5	149.7	13.7					
BRG	e PKPbc	Z 03:26:27.2	150.0	15.6					
MOX	e PKPbc	Z 03:26:28.6	150.6	11.3					
WERD	e PKPbc	Z 03:26:28.9	150.7	12.7					
GUNZ	e PKPbc	Z 03:26:29.1	150.7	12.8					
GRA1	e PKPbc	Z 03:26:31.1	151.5	10.9					
WET	e PKPbc	Z 03:26:31.7	151.8	14.4					
WLF	e PKPbc	Z 03:26:32.6	151.9	1.0					
GEC2	e PKPbc	Z 03:26:31.8	152.0	16.1					
FUR	e PKPbc	Z 03:26:34.4	153.0	11.6					
BFO	e PKPbc	Z 03:26:34.4	153.2	5.5					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/01	07:07:59.0	35.278N	81.341E	27.0	4.4			SZGRF

Southern Xinjiang, China

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 07:17:03.7	51.7	78.1	0.8	4	4.4		
	e pP	Z 07:17:11.2			1.9	25			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/01	07:56:16.9	23.942N	120.049E	33.0N	5.3	5.2		SZGRF

Taiwan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 08:08:40.2	83.2	60.6	1.4	32	5.3		
	e PP	Z 08:11:55.1							
	e L	Z 08:50:40.4			19.3	928		5.2	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/01	14:23:50.3	58.619N	154.875W	33.0N	4.7			SZGRF

Alaska Peninsula, United States

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 14:35:05.7	71.1	352.4	1.3	8	4.7		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/01	19:47:39.4	33.082N	47.678E	33.0N	4.7			SZGRF

Western Iran

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 19:53:58.3	31.5	107.9	1.1	10	4.7		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/02	00:47:46.3	4.061N	96.480E	33.0N	4.7			SZGRF

Northern Sumatera, Indonesia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 01:00:12.9	83.8	91.0	1.0	5	4.7		
	e	01:00:22.6							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/02	04:51:40.7	20.480S	174.790W	33.0N		5.7		SZGRF

Tonga Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z 05:11:17.0	146.3	8.6					
NRDL	e PKPbc	Z 05:11:21.2	147.8	8.6					
IBBN	e PKPbc	Z 05:11:22.9	148.1	4.5					

./2004/bul0405.txt

Thu Apr 23 08:38:25 2020

3

CLL	e	PKPbc	Z	05:11:24.1	148.6	14.1					
BRG	e	PKPbc	Z	05:11:24.9	148.8	16.0					
BUG	e	PKPbc	Z	05:11:25.2	149.0	3.7					
MOX	e	PKPbc	Z	05:11:26.2	149.4	11.9					
WERD	e	PKPbc	Z	05:11:26.7	149.5	13.2					
GUNZ	e	PKPbc	Z	05:11:27.0	149.6	13.3					
GRA1	e	PKPdf	Z	05:11:24.3	150.4	11.5					
	e	PKPbc	Z	05:11:29.1							
	e	L	Z	06:11:10.7			21.2	1245		5.7	
WLF	e	PKPbc	Z	05:11:30.6	150.8	1.8					
GEC2	e	PKPbc	Z	05:11:29.9	150.8	16.5					
STU	e	PKPbc	Z	05:11:31.9	151.5	7.8					
FUR	e	PKPbc	Z	05:11:32.8	151.9	12.1					
BFO	e	PKPbc	Z	05:11:32.4	152.0	6.2					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/02	05:11:22.8	21.720S	170.410W	33.0N				SZGRF
Tonga Islands region								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e	PKPdf	Z 05:31:02.4	147.8	1.3					
	e	PKPbc	Z 05:31:04.6							
RUE	e	PKPbc	Z 05:31:07.6	149.1	7.6					
NRDL	e	PKPbc	Z 05:31:08.6	149.2	0.9					
IBBN	e	PKPdf	Z 05:31:05.5	149.4	356.7					
	e	PKPbc	Z 05:31:09.5							
BUG	e	PKPdf	Z 05:31:07.2	150.2	355.7					
	e	PKPbc	Z 05:31:11.4							
	e	PKPab	Z 05:31:16.6							
CLL	e	PKPdf	Z 05:31:06.4	150.3	6.4					
	e	PKPbc	Z 05:31:10.7							
BRG	e	PKPdf	Z 05:31:07.1	150.6	8.3					
	e	PKPbc	Z 05:31:11.5							
MOX	e	PKPbc	Z 05:31:12.9	151.0	3.9					
	e	PKPab	Z 05:31:18.3							
WERD	e	PKPdf	Z 05:31:07.4	151.2	5.2					
	e	PKPbc	Z 05:31:13.1							
	e	PKPab	Z 05:31:19.8							
GUNZ	e	PKPbc	Z 05:31:13.6	151.3	5.3					
	e	PKPab	Z 05:31:20.0							
WLF	e	PKPbc	Z 05:31:16.3	151.9	353.2					
GRA1	e	PKPdf	Z 05:31:07.7	152.0	3.2					
	e	PKPbc	Z 05:31:15.4							
	e	PKPab	Z 05:31:23.6							
GEC2	e	PKPdf	Z 05:31:10.1	152.7	8.3					
	e	PKPbc	Z 05:31:16.2							
STU	e	PKPdf	Z 05:31:11.3	152.9	359.2					

	e PKPbc	Z	05:31:17.8								
BFO	e PKPdf	Z	05:31:11.2	153.4	357.4						
	e PKPbc	Z	05:31:18.4								
	e PKPab	Z	05:31:29.3								
FUR	e PKPbc	Z	05:31:18.4	153.5	3.5						

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/02	14:07:25.0	43.757N	149.417E	33.0N	4.7			SZGRF

East of Kuril Islands, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 14:19:29.8	79.7	29.3	1.1	12	4.7		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/02	18:11:1.8	24.794N	46.750W	33.0N	4.8			SZGRF

Northern Mid-Atlantic Ridge

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 18:19:59.7	50.9	262.9	1.5	17	4.8		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/03	02:34:46.0	10.201N	97.452E	33.0N	4.7			SZGRF

Andaman Islands, India, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 02:46:51.5	79.8	86.2	1.4	13	4.7		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/03	04:36:51.6	37.160S	73.133W	33.0G		7.3		neic-m

Near coast of central Chile

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 04:55:29.9	114.2	240.4					
	e PP	Z 04:56:22.5							
	e	04:58:44.9							
	e SKSac	R 05:02:17.8							
	e SP	R 05:06:13.4							
	e L	Z 05:44:37.6			19.3	66915		7.3	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/03	05:12:47.8	14.820N	88.640W	128.3	5.2			SZGRF

Honduras

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z 05:24:53.4	81.8	283.3	1.0	21	5.2		
	e pP	Z 05:25:25.8							
BUG	e pP	Z 05:25:26.7	82.1	283.9					
BSEG	e P	Z 05:25:00.6	83.2	285.9	1.0	36	5.5		
	e pP	Z 05:25:33.2							
NRDL	e P	Z 05:25:01.4	83.5	285.9	1.0	21	5.3		
	e pP	Z 05:25:33.6							
BFO	e P	Z 05:25:01.4	83.5	285.0	1.1	12	5.0		
	e pP	Z 05:25:34.0							
MOX	e P	Z 05:25:08.7	84.9	287.2	1.1	18	5.2		
	e pP	Z 05:25:41.6							
GRA1	e P	Z 05:25:09.6	85.0	287.0	1.0	28	5.4		
	e pP	Z 05:25:42.4							
WERD	e P	Z 05:25:11.3	85.4	287.8	1.9	54	5.4		
	e pP	Z 05:25:43.2							
GUNZ	e P	Z 05:25:11.4	85.4	287.8	1.4	25	5.2		
	e pP	Z 05:25:44.4							
CLL	e P	Z 05:25:12.1	85.5	288.2	1.1	19	5.1		
	e pP	Z 05:25:44.7							
BRG	e P	Z 05:25:15.8	86.2	289.0	1.2	13	4.9		
	e pP	Z 05:25:48.0							
GEC2	e P	Z 05:25:17.8	86.8	288.9	1.1	12	4.9		
	e pP	Z 05:25:50.7							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/03	14:20:43.9	40.605N	70.080E	33.0N	4.7			SZGRF

Tajikistan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 14:28:27.2	41.4	79.4	0.6	10	4.7		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/03	17:41:23.9	11.770N	93.270E	33.3	5.4	4.8		SZGRF

Andaman Islands, India, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z 17:52:57.5	74.2	90.7	1.6	58	5.4		
RUE	e P	Z 17:52:58.3	74.3	91.0	1.3	99	5.7		
GEC2	e P	Z 17:52:58.6	74.3	90.0	1.1	31	5.3		
CLL	e P	Z 17:53:00.7	74.8	90.1	1.5	45	5.3		

WET	e P	Z	17:53:01.9	74.9	89.4	1.6	45	5.3		
GUNZ	e P	Z	17:53:03.8	75.2	89.3	1.5	46	5.3		
WERD	e P	Z	17:53:03.6	75.2	89.3	1.1	23	5.1		
MOX	e P	Z	17:53:06.1	75.7	88.8	1.6	48	5.4		
GRA1	e P	Z	17:53:08.3	75.9	88.3	1.5	68	5.5		
	e pP	Z	17:53:17.8							
	e S	E	18:02:45.0							
	e L	Z	18:31:17.9			21.9	469		4.8	
BSEG	e P	Z	17:53:10.3	76.4	88.6	1.4	81	5.7		
NRDL	e P	Z	17:53:11.4	76.5	88.1	1.5	83	5.6		
BFO	e P	Z	17:53:18.3	77.9	85.8	1.3	15	5.0		
IBBN	e P	Z	17:53:19.5	78.0	86.2	1.4	106	5.8		
BUG	e P	Z	17:53:21.5	78.3	85.7	1.6	90	5.6		

Date Origin Time Lat Long Depth mb Ms ML Source  
 2004/05/03 19:33:11.1 19.780S 172.990W 35.0 5.2 SZGRF  
 Tonga Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	19:52:44.9	145.8	5.5					
RUE	e PKPbc	Z	19:52:48.4	146.9	11.7					
NRDL	e PKPbc	Z	19:52:49.4	147.2	5.4					
IBBN	e PKPbc	Z	19:52:50.5	147.5	1.3					
CLL	e PKPdf	Z	19:52:50.7	148.1	10.7					
	e PKPbc	Z	19:52:52.6							
BUG	e PKPdf	Z	19:52:51.4	148.3	0.5					
	e PKPbc	Z	19:52:52.9							
BRG	e PKPdf	Z	19:52:51.6	148.4	12.5					
	e PKPbc	Z	19:52:53.7							
MOX	e PKPdf	Z	19:52:52.5	148.9	8.4					
	e PKPbc	Z	19:52:54.8							
WERD	e PKPdf	Z	19:52:52.2	149.0	9.7					
	e PKPbc	Z	19:52:55.4							
GUNZ	e PKPdf	Z	19:52:52.5	149.1	9.8					
	e PKPbc	Z	19:52:55.9							
GRA1	e PKPdf	Z	19:52:53.8	149.9	7.9					
	e PKPbc	Z	19:52:57.9							
	e pPKPbc	Z	19:53:08.2							
	e L	Z	21:01:07.4			20.2	439		5.2	
WLF	e PKPdf	Z	19:52:54.3	150.1	358.4					
	e PKPbc	Z	19:52:58.5							
WET	e PKPdf	Z	19:52:54.3	150.3	11.2					
	e PKPbc	Z	19:52:58.8							
GEC2	e PKPdf	Z	19:52:54.4	150.4	12.8					
	e PKPbc	Z	19:52:59.2							
STU	e PKPbc	Z	19:53:00.5	151.0	4.2					
FUR	e PKPdf	Z	19:52:56.1	151.4	8.4					

./2004/bul0405.txt

Thu Apr 23 08:38:25 2020

7

	e PKPbc	Z	19:53:01.5									
BFO	e PKPdf	Z	19:52:55.9	151.4	2.6							
	e PKPbc	Z	19:53:01.4									
	e pPKPbc	Z	19:53:12.1									

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/03								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 23:07:21.1							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/04	00:17:14.2	75.924N	24.052E	33.0N				SZGRF
Svalbard, Norway, region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 00:22:51.2	26.7	6.9	1.8	39			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/04	03:29:38.3	53.970N	142.710E	33.0N	5.4			SZGRF
Sakhalin Island, Russia								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e P	Z 03:40:28.2	66.7	29.5	0.5	21	5.6		
IBBN	e P	Z 03:40:32.2	67.3	26.8	0.5	16	5.5		
WERD	e P	Z 03:40:34.6	67.6	29.0	1.2	14	5.1		
MOX	e P	Z 03:40:34.7	67.7	28.6	1.3	21	5.2		
GUNZ	e P	Z 03:40:34.5	67.7	29.0	1.8	39	5.3		
GEC2	e P	Z 03:40:39.9	68.6	29.4	0.9	13	5.2		
WET	e P	Z 03:40:40.5	68.6	29.0	1.1	29	5.4		
GRA1	e P	Z 03:40:40.7	68.6	28.2	0.9	36	5.6		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/04	05:05: 8.3	38.060N	95.810E	33.0N	5.6			SZGRF
Qinghai, China								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e P	Z 05:14:46.9	56.3	69.7	1.1	81	5.7		
BRG	e P	Z 05:14:50.4	56.7	68.8	1.2	78	5.6		
CLL	e P	Z 05:14:52.8	57.1	68.5	1.2	68	5.6		
GEC2	e P	Z 05:14:56.9	57.6	67.4	1.3	56	5.4		

./2004/bul0405.txt

Thu Apr 23 08:38:25 2020

8

BSEG	e P	Z	05:14:57.5	57.7	68.3	1.1	86	5.7
WERD	e P	Z	05:14:58.3	57.9	67.5	1.2	54	5.4
GUNZ	e P	Z	05:14:58.5	57.9	67.5	1.2	68	5.6
WET	e P	Z	05:14:59.7	58.0	67.1	1.3	57	5.4
MOX	e P	Z	05:15:00.6	58.2	67.2	1.4	72	5.5
NRDL	e P	Z	05:15:02.2	58.3	67.3	1.2	147	5.9
GRA1	e P	Z	05:15:05.3	58.8	66.4	1.1	120	5.8
FUR	e P	Z	05:15:09.4	59.4	65.6	1.4	224	6.0
IBBN	e P	Z	05:15:11.2	59.7	65.7	0.9	40	5.4
BUG	e P	Z	05:15:15.6	60.4	64.9	1.4	83	5.4
STU	e P	Z	05:15:15.5	60.4	64.7	1.2	69	5.4
BFO	e P	Z	05:15:20.1	61.1	64.0	1.3	64	5.3
WLF	e P	Z	05:15:25.6	61.8	63.3	1.2	108	6.0

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/04	10:33:36.8	22.038S	177.011W	33.0N				SZGRF
South of Fiji Islands								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	10:53:18.0	147.6	12.8					
NRDL	e PKPbc	Z	10:53:21.7	149.1	12.9					
CLL	e PKPbc	Z	10:53:23.0	149.7	18.6					
BRG	e PKPbc	Z	10:53:23.6	149.9	20.6					
BUG	e PKPbc	Z	10:53:24.9	150.4	8.1					
MOX	e PKPbc	Z	10:53:26.4	150.6	16.5					
WERD	e PKPbc	Z	10:53:25.6	150.7	17.8					
GUNZ	e PKPbc	Z	10:53:25.8	150.7	17.9					
GRA1	e PKPbc	Z	10:53:27.7	151.6	16.2					
GEC2	e PKPbc	Z	10:53:27.9	151.9	21.4					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/04	11:36:13.6	38.730N	96.610E	33.0N	5.4	5.0		SZGRF
Qinghai, China								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z	11:45:56.2	56.8	67.7	1.2	48	5.4		
CLL	e P	Z	11:45:58.7	57.1	67.4	1.1	44	5.4		
BSEG	e P	Z	11:46:02.4	57.6	67.2	1.0	42	5.4		
GEC2	e P	Z	11:46:02.7	57.7	66.3	1.8	65	5.3		
WERD	e P	Z	11:46:04.2	57.9	66.4	1.2	30	5.2		
GUNZ	e P	Z	11:46:04.4	57.9	66.4	1.2	47	5.4		
WET	e P	Z	11:46:05.6	58.1	66.0	1.3	32	5.2		
MOX	e P	Z	11:46:05.5	58.2	66.1	1.3	38	5.2		
NRDL	e P	Z	11:46:06.7	58.3	66.2	1.1	75	5.6		
GRA1	e P	Z	11:46:10.4	58.8	65.3	1.2	87	5.7		



	e S	N	11:54:21.6								
	e L	Z	12:12:29.6			22.0	1399		5.0		
BFO	e P	Z	11:46:25.9	61.1	62.9	1.2	31		5.0		
WLF	e P	Z	11:46:31.4	61.8	62.3	1.2	62		5.7		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/04								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BFO	e PKP	Z 22:55:40.6							
BUG	e PKP	Z 22:55:33.6							
CLL	e PKP	Z 22:55:27.1							
FUR	e PKP	Z 22:55:37.9							
GEC2	e PKP	Z 22:55:32.5							
GRA1	e PKP	Z 22:55:33.6							
GUNZ	e PKP	Z 22:55:30.7							
IBBN	e PKP	Z 22:55:31.0							
MOX	e PKP	Z 22:55:30.7							
STU	e PKP	Z 22:55:38.8							
WERD	e PKP	Z 22:55:30.1							
WET	e PKP	Z 22:55:33.0							
WLF	e PKP	Z 22:55:39.9							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/05	05:24: 7.1	8.541S	16.008W	33.0N	4.9			SZGRF
Ascension Island region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 05:34:30.4	62.9	210.6	0.7	8	4.9		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/05	13:39:46.4	39.184N	14.853E	10.0G		4.1		SZGRF
Tyrrhenian Sea								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
FUR	e P	Z 13:42:03.1	9.3	162.7					
WET	e Pn	Z 13:42:11.7	10.1	171.2					
	e S	E 13:44:08.9							
	e L	Z 13:44:17.8			20.5	2633		4.1	
BFO	e P	Z 13:42:13.4	10.3	150.4	0.6	1007			
	e S	N 13:44:13.6							
	e L	Z 13:44:21.9			18.3	4366		4.4	
STU	e P	Z 13:42:16.1	10.4	155.0	0.8	672			

	e S	N	13:44:17.2								
GRA1	e P	Z	13:42:21.3	10.8	164.8	0.7	812				
	e L	Z	13:44:44.8			20.9	2501	4.1			
GUNZ	e P	Z	13:42:27.7	11.3	170.0	1.2	1555				
	e S	E	13:44:37.5								
WERD	e P	Z	13:42:28.3	11.4	170.0	0.9	777				
	e S	E	13:44:39.5								
MOX	e P	Z	13:42:31.6	11.7	167.5	0.7	518				
	e L	Z	13:44:56.9			19.5	1371	3.9			
BRG	e P	Z	13:42:32.5	11.7	176.5	0.7	1226				
	e S	E	13:44:49.0								
WLF	e P	Z	13:42:38.5	12.2	146.2	0.6	434				
CLL	e P	Z	13:42:38.9	12.2	173.2	1.2	2252				
RUE	e P	Z	13:42:53.3	13.3	176.4	0.5	1250				
BUG	e P	Z	13:42:53.3	13.3	153.7	1.3	712				
NRDL	e P	Z	13:42:57.8	13.7	164.3						
IBBN	e P	Z	13:43:01.6	14.0	156.7						

Date Origin Time Lat Long Depth mb Ms ML Source  
 2004/05/05 05:20:53.0 22.165S 169.277E 33.0N  
 Southeast of Loyalty Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPbc	Z 05:40:30.2	147.5	40.1					

Date Origin Time Lat Long Depth mb Ms ML Source  
 2004/05/06 06:33:17.0 35.892N 68.800E 100.5 4.3  
 Hindu Kush, Afghanistan, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 06:41:15.8	43.3	86.0	1.0	7	4.3		
	e pP	Z 06:41:39.2							

Date Origin Time Lat Long Depth mb Ms ML Source  
 2004/05/06

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKP	Z 07:49:58.0							
GRA1	e PKP	Z 07:50:03.5							
GUNZ	e PKP	Z 07:50:00.9							
TANN	e PKP	Z 07:50:01.1							
WERD	e PKP	Z 07:50:00.7							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/06	12:01:39.4	4.707S	149.418E	577.0G				neic-m

Bismarck Sea

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 12:19:31.4	122.9	52.3					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/06	13:40:20.6	43.110N	145.500E	33.0N	5.5			SZGRF

Hokkaido, Japan, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z 13:52:05.1	75.7	32.1	1.1	54	5.6		
RUE	e P	Z 13:52:05.2	75.8	34.2	1.1	67	5.7		
NRDL	e P	Z 13:52:11.8	77.0	31.8	1.4	31	5.3		
CLL	e P	Z 13:52:11.7	77.0	33.5	1.1	62	5.7		
BRG	e P	Z 13:52:12.0	77.0	34.1	1.2	25	5.2		
IBBN	e P	Z 13:52:17.0	77.9	30.1	1.3	61	5.6		
WERD	e P	Z 13:52:17.4	78.0	33.0	1.9	66	5.4		
GUNZ	e P	Z 13:52:17.8	78.0	33.0	1.2	29	5.3		
MOX	e P	Z 13:52:17.7	78.0	32.5	1.4	37	5.3		
BUG	e P	Z 13:52:22.0	78.8	29.7	1.3	47	5.4		
WET	e P	Z 13:52:22.7	78.8	33.2	1.4	62	5.5		
GRA1	e P	Z 13:52:23.2	79.0	32.2	1.6	136	5.7		
FUR	e P	Z 13:52:30.6	80.2	32.1	1.1	70	5.6		
STU	e P	Z 13:52:31.1	80.4	30.8	1.0	30	5.3		
BFO	e P	Z 13:52:34.1	81.1	30.2	1.6	62	5.4		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/06	13:43:17.4	43.460N	145.250E	33.0N	5.8	5.5		SZGRF

Hokkaido, Japan, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RGN	e P	Z 13:54:50.2	73.8	34.2	0.9	167	6.0		
BSEG	e P	Z 13:54:59.5	75.3	32.1	1.0	135	6.0		
RUE	e P	Z 13:54:59.8	75.4	34.2	1.4	252	6.1		
HLG	e P	Z 13:55:02.6	75.8	30.5	1.0	222	6.2		
NRDL	e P	Z 13:55:06.7	76.6	31.8	1.1	57	5.6		
CLL	e P	Z 13:55:06.3	76.6	33.5	1.0	170	6.1		
BRG	e P	Z 13:55:06.7	76.6	34.1	1.1	56	5.6		
IBBN	e P	Z 13:55:11.6	77.5	30.2	1.0	122	6.0		
WERD	e P	Z 13:55:12.1	77.6	33.0	1.2	57	5.6		
GUNZ	e P	Z 13:55:12.5	77.6	33.0	1.0	55	5.6		

./2004/bul0405.txt

Thu Apr 23 08:38:25 2020

12

MOX	e P	Z	13:55:12.5	77.6	32.5	1.1	61	5.6
BUG	e P	Z	13:55:16.4	78.4	29.7	1.1	92	5.7
WET	e P	Z	13:55:17.4	78.4	33.2	1.1	102	5.8
GRA1	e P	Z	13:55:18.1	78.6	32.2	1.0	137	6.0
	e		13:55:29.0					
	e PP	Z	13:58:19.2					
	e S	E	14:05:21.2					
	e L	Z	14:33:44.1			19.3	2007	5.5
FUR	e P	Z	13:55:24.7	79.8	32.1	1.0	142	5.8
STU	e P	Z	13:55:25.5	80.0	30.8	1.0	90	5.6
BFO	e P	Z	13:55:29.2	80.7	30.2	1.8	152	5.7

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/06	15:16:21.0	16.100S	175.900W	287.3				SZGRF
Tonga Islands								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	15:35:16.1	141.9	9.7					
RUE	e PKPbc	Z	15:35:19.4	142.8	15.5					
NRDL	e PKPbc	Z	15:35:21.1	143.3	9.7					
IBBN	e PKPbc	Z	15:35:22.9	143.7	5.9					
CLL	e PKPbc	Z	15:35:23.9	144.1	14.7					
BRG	e PKPbc	Z	15:35:24.9	144.3	16.4					
BUG	e PKPbc	Z	15:35:25.4	144.6	5.3					
MOX	e PKPbc	Z	15:35:27.0	144.9	12.6					
WERD	e PKPbc	Z	15:35:27.5	145.0	13.8					
GUNZ	e PKPbc	Z	15:35:28.0	145.1	13.9					
GRA1	e PKPab	Z	15:35:29.6	145.9	12.3					
	e PKPbc	Z	15:35:31.2							
	e pPKPbc	Z	15:36:41.1							
WET	e PKPab	Z	15:35:29.6	146.2	15.3					
	e PKPbc	Z	15:35:31.3							
WLF	e PKPab	Z	15:35:30.8	146.4	3.6					
	e PKPbc	Z	15:35:32.1							
STU	e PKPab	Z	15:35:31.5	147.1	9.0					
	e PKPbc	Z	15:35:33.8							
FUR	e PKPab	Z	15:35:32.1	147.4	12.9					
	e PKPbc	Z	15:35:34.8							
BFO	e PKPab	Z	15:35:32.2	147.6	7.6					
	e PKPbc	Z	15:35:34.9							
	e pPKPbc	Z	15:36:47.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/07	01:26:40.7	23.510S	172.160E	33.0N		6.3		SZGRF
Southeast of Loyalty Islands								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z 01:46:17.9	146.7	31.3					
RUE	e PKPbc	Z 01:46:17.8	146.7	38.0					
BRG	e PKPbc	Z 01:46:21.8	147.9	39.8					
CLL	e PKPbc	Z 01:46:21.8	147.9	37.9					
IBBN	e PKPbc	Z 01:46:24.8	148.8	28.5					
GUNZ	e PKPbc	Z 01:46:25.0	148.9	37.8					
MOX	e PKPbc	Z 01:46:25.0	149.0	36.3					
GEC2	e PKPbc	Z 01:46:26.4	149.5	41.6					
WET	e PKPbc	Z 01:46:26.9	149.6	39.9					
BUG	e PKPbc	Z 01:46:27.0	149.7	28.3					
GRA1	e PKPbc	Z 01:46:27.8	149.9	36.6					
	e PP	Z 01:50:01.8							
	e SS	E 02:09:17.9							
	e L	Z 03:05:57.3			19.2	4350		6.3	
FUR	e PKPbc	Z 01:46:30.5	151.1	38.4					
STU	e PKPbc	Z 01:46:31.5	151.4	34.1					
WLF	e PKPbc	Z 01:46:32.8	151.6	27.8					
BFO	e PKPbc	Z 01:46:32.8	152.1	33.0					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/07	06:52:14.8	36.520N	71.180E	117.5	5.2			SZGRF
Afghanistan-Tajikistan border region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z 07:00:01.9	42.6	86.8	1.1	43	5.1		
RUE	e P	Z 07:00:01.5	42.6	88.4	1.1	59	5.2		
RGN	e P	Z 07:00:03.9	42.9	90.3	1.0	171	5.7		
	e pP	Z 07:00:32.4							
GEC2	e P	Z 07:00:04.1	42.9	84.4	1.2	10	4.4		
	e pP	Z 07:00:32.0							
CLL	e P	Z 07:00:05.6	43.2	86.5	1.1	33	5.0		
WET	e P	Z 07:00:08.1	43.4	84.2					
GUNZ	e P	Z 07:00:10.4	43.7	85.1	1.2	24	4.8		
MOX	e P	Z 07:00:13.5	44.1	84.8	1.1	24	4.9		
GRA1	e P	Z 07:00:17.3	44.4	83.6	1.2	40	5.2		
	e pP	Z 07:00:45.8							
	e	07:02:02.1							
BSEG	e P	Z 07:00:18.4	44.7	87.2	0.9	50	5.4		
NRDL	e P	Z 07:00:19.8	44.9	85.6	1.1	41	5.3		
IBBN	e P	Z 07:00:31.3	46.3	83.7	1.0	76	5.7		
BFO	e P	Z 07:00:31.9	46.5	80.3	1.1	16	5.0		
BUG	e P	Z 07:00:34.4	46.7	82.5	1.0	41	5.5		
WLF	e P	Z 07:00:42.8	47.7	80.1	0.9	40	5.5		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/07								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 22:19:36.1							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/08	04:04: 9.2	19.000S	173.570W	33.0N				SZGRF
Tonga Islands								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z 04:23:42.2	144.9	6.4					
NRDL	e PKPbc	Z 04:23:46.7	146.4	6.3					
CLL	e PKPbc	Z 04:23:49.1	147.3	11.5					
BRG	e PKPbc	Z 04:23:49.8	147.6	13.3					
MOX	e PKPbc	Z 04:23:51.4	148.1	9.3					
GUNZ	e PKPbc	Z 04:23:52.1	148.3	10.7					
	e PKPab	Z 04:23:55.1							
GRA1	e PKPbc	Z 04:23:54.4	149.1	8.8					
	e PKPab	Z 04:23:58.7							
WET	e PKPbc	Z 04:23:54.7	149.4	12.0					
	e PKPab	Z 04:23:59.7							
GEC2	e PKPbc	Z 04:23:55.1	149.6	13.7					
FUR	e PKPbc	Z 04:23:58.0	150.6	9.4					
	e PKPab	Z 04:24:04.7							
BFO	e PKPbc	Z 04:23:57.2	150.6	3.7					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/08	04:39:44.3	31.840N	49.360E	33.0G	5.0			SZGRF
Western Iran								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e P	Z 04:46:05.4	31.6	109.2	1.5	18	4.8		
BRG	e P	Z 04:46:10.1	32.2	112.5	0.9	14	4.9		
WET	e P	Z 04:46:10.2	32.2	108.8	1.2	23	5.0		
CLL	e P	Z 04:46:16.4	32.9	112.1	1.0	28	5.1		
RUE	e P	Z 04:46:16.5	32.9	114.6	1.0	26	5.1		
FUR	e P	Z 04:46:16.9	33.0	105.6	0.9	93	5.7		
GUNZ	e P	Z 04:46:17.1	33.0	110.0	1.0	8	4.6		
GRA1	e P	Z 04:46:21.2	33.4	107.8	0.9	54	5.5		
MOX	e P	Z 04:46:21.8	33.5	109.6	1.1	11	4.7		
BFO	e P	Z 04:46:34.0	34.9	102.9	0.8	6	4.6		
BSEG	e P	Z 04:46:37.9	35.4	112.6	1.4	19	4.8		
IBBN	e P	Z 04:46:46.6	36.3	107.7	1.4	85	5.4		

./2004/bul0405.txt

Thu Apr 23 08:38:25 2020

15

BUG	e P	Z	04:46:46.5	36.3	106.1	1.0	30	5.1
WLF	e P	Z	04:46:47.3	36.6	102.6	0.8	27	5.0

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/08	08:03:2.2	23.312N	121.407E	33.0N	6.3	5.9		SZGRF

Taiwan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 08:15:31.9	84.4	60.0	1.9	395	6.3		
	e PP	Z 08:19:00.2							
	e SS	N 08:31:56.7							
	e L	Z 08:59:07.1			18.7	4346		5.9	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/08	08:53:20.5	54.590N	93.564E	33.0N	5.0			SZGRF

Southwestern Siberia, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 09:01:55.2	47.8	50.8	1.0	14	5.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/08	16:39:14.2	46.880N	152.254E	33.0N	5.0			SZGRF

Kuril Islands, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 16:51:08.1	77.7	26.1	0.8	10	5.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/08	18:48:35.2	28.673S	24.171W	33.0N	4.8			SZGRF

South Atlantic Ocean

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 19:01:04.9	84.4	210.7	1.0	6	4.8		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/08								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 23:23:27.1							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2004/05/09												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GRA1	e PKP	Z 10:16:41.2									
		e	10:16:48.8									
Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2004/05/09	18:52:20.0	17.807S	168.866E	47.8G				neic-m				
Vanuatu Islands												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GRA1	e PKP	Z 19:11:46.6	143.4	37.4							
Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2004/05/09	19:28:46.2	11.075S	65.669E	33.0N	5.2	4.4		SZGRF				
Mid-Indian Ridge												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GRA1	e P	Z 19:40:36.9	77.1	125.0	2.0	43	5.2				
		e L	Z 20:18:04.7			21.5	184		4.4			
Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2004/05/09	20:06:44.0	23.556N	120.378E	33.0N	4.8			SZGRF				
Taiwan												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GRA1	e P	Z 20:19:09.7	83.7	60.6	1.2	7	4.8				
Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2004/05/09	22:25:22.9	6.976S	105.998E	33.0N		4.3		neic-m				
Sunda Strait, Indonesia												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GRA1	e Pdiff	Z 22:39:01.1	98.4	90.9							
		e PP	Z 22:43:01.4									
		e L	Z 23:29:04.8			21.2	114		4.3			



Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/10	23:27:29.6	37.350N	96.330E	33.0N	5.6	5.6		SZGRF

Qinghai, China

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z 23:37:16.8	57.5	69.1	1.1	75	5.6		
CLL	e P	Z 23:37:19.6	57.9	68.7	1.1	75	5.6		
GEC2	e P	Z 23:37:23.5	58.4	67.8	1.2	47	5.4		
BSEG	e P	Z 23:37:24.2	58.5	68.5	1.1	97	5.8		
GUNZ	e P	Z 23:37:25.1	58.7	67.8	1.1	76	5.6		
WET	e P	Z 23:37:26.1	58.8	67.4	1.2	52	5.4		
MOX	e P	Z 23:37:27.3	59.0	67.5	1.2	56	5.5		
GRA1	e P	Z 23:37:31.6	59.6	66.7	1.1	136	5.9		
	e PP	Z 23:39:43.7							
	e S	N 23:45:41.7							
FUR	e P	Z 23:37:36.2	60.2	65.9	1.2	178	6.0		
IBBN	e P	Z 23:37:38.1	60.5	65.9	1.5	114	5.7		
BUG	e P	Z 23:37:42.4	61.1	65.2	1.2	75	5.4		
BFO	e P	Z 23:37:46.7	61.9	64.3	1.1	58	5.3		
WLF	e P	Z 23:37:52.0	62.6	63.6	1.3	135	6.0		
GRA1	e L	Z 00:04:05.4	59.6	66.7	18.1	3781		5.6	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/10								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 01:50:57.5							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/11								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 05:43:47.7							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/11	08:28:52.0	1.000N	97.000E	10.0N	5.6	5.7		SZGRF

Northern Sumatera, Indonesia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e P	Z 08:41:26.6	84.8	94.4	1.4	71	5.7		
BRG	e P	Z 08:41:26.7	84.8	94.8	4.5	1093	6.4		

RUE	e P	Z	08:41:27.5	85.1	94.8	1.1	79	5.8			
WET	e P	Z	08:41:29.4	85.4	93.8	1.1	32	5.5			
CLL	e P	Z	08:41:29.1	85.5	94.1	1.3	29	5.4			
GUNZ	e P	Z	08:41:31.8	85.8	93.5	1.1	25	5.3			
MOX	e P	Z	08:41:33.7	86.3	92.9	1.5	36	5.3			
GRA1	e P	Z	08:41:35.0	86.5	92.6	1.2	38	5.4			
	e S	N	08:52:14.2								
	e SS	N	08:57:56.2								
	e L	Z	09:30:23.3			21.5	3267			5.7	
NRDL	e P	Z	08:41:38.8	87.3	91.9	1.3	86	5.7			
BFO	e P	Z	08:41:43.2	88.4	90.3	1.1	18	5.3			
IBBN	e P	Z	08:41:45.8	88.7	90.0	1.1	62	5.8			
BUG	e P	Z	08:41:47.1	89.1	89.6	1.1	40	5.6			
WLF	e P	Z	08:41:50.9	89.8	88.7	1.2	50	5.6			

Date Origin Time Lat Long Depth mb Ms ML Source  
2004/05/11

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 20:38:22.9							

Date Origin Time Lat Long Depth mb Ms ML Source  
2004/05/11

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 20:57:46.7							

Date Origin Time Lat Long Depth mb Ms ML Source  
2004/05/11 23:58:55.5 12.310N 44.140W 15.0N 5.0 5.0  
Northern Mid-Atlantic Ridge

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z 00:08:29.4	55.5	245.8	1.1	20	5.1		
BFO	e P	Z 00:08:35.4	56.3	248.7	1.3	29	5.2		
BUG	e P	Z 00:08:39.1	56.9	245.8	1.3	34	5.2		
FUR	e P	Z 00:08:48.4	58.1	251.4	1.3	44	5.3		
GRA1	e P	Z 00:08:50.4	58.5	250.4	2.2	60	5.2		
	e S	E 00:17:09.7							
	e SS	E 00:20:50.1							
	e L	Z 00:29:05.7			21.3	1343			5.0
MOX	e P	Z 00:08:55.1	59.1	250.3	1.1	19	5.0		
WET	e P	Z 00:08:56.9	59.4	252.2	1.3	10	4.7		
GUNZ	e P	Z 00:08:57.6	59.4	251.1	1.4	21	5.0		

GEC2	e P	Z	00:08:59.7	59.8	253.1	1.6	19	4.9
CLL	e P	Z	00:09:02.3	60.1	251.1	1.1	16	5.0
BRG	e P	Z	00:09:05.2	60.6	252.2	1.6	23	4.7
RUE	e P	Z	00:09:08.1	61.0	251.2	1.5	55	5.2

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/12	09:45:23.2	16.226S	27.549E	33.0N	5.0			SZGRF

Zambia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 09:56:16.2	67.5	163.0	1.3	11	5.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/12	15:20:35.6	19.467S	174.038W	52.7				SZGRF

Tonga Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z 15:40:10.0	145.4	7.2					
	e pPKPbc	Z 15:40:25.5							
NRDL	e PKPbc	Z 15:40:13.7	146.8	7.2					
	e pPKPbc	Z 15:40:29.8							
IBBN	e pPKPbc	Z 15:40:31.6	147.1	3.1					
CLL	e PKPbc	Z 15:40:16.0	147.7	12.5					
	e pPKPbc	Z 15:40:32.0							
BRG	e PKPbc	Z 15:40:16.9	148.0	14.3					
MOX	e PKPbc	Z 15:40:18.8	148.5	10.2					
	e pPKPbc	Z 15:40:34.3							
GUNZ	e PKPbc	Z 15:40:19.2	148.7	11.6					
	e pPKPbc	Z 15:40:34.8							
GRA3	e PKPbc	Z 15:40:20.9	149.4	10.0					
GRA1	e PKPbc	Z 15:40:21.3	149.5	9.8					
	e pPKPbc	Z 15:40:37.0							
WLF	e PKPbc	Z 15:40:22.5	149.8	0.4					
WET	e PKPbc	Z 15:40:21.9	149.8	13.0					
	e pPKPbc	Z 15:40:37.8							
GEC2	e PKPbc	Z 15:40:21.8	150.0	14.7					
	e pPKPbc	Z 15:40:37.7							
BFO	e PKPbc	Z 15:40:24.8	151.1	4.6					
	e pPKPbc	Z 15:40:40.1							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/12	18:08:52.2	20.761S	173.403W	33.0G				SZGRF

Tonga Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	18:28:30.6	146.7	6.3					
NRDL	e PKPbc	Z	18:28:34.4	148.2	6.2					
IBBN	e PKPbc	Z	18:28:35.3	148.4	2.1					
CLL	e PKPbc	Z	18:28:36.7	149.0	11.7					
BUG	e PKPbc	Z	18:28:37.8	149.3	1.2					
BRG	e PKPbc	Z	18:28:37.6	149.3	13.6					
MOX	e PKPbc	Z	18:28:38.8	149.9	9.4					
GUNZ	e PKPbc	Z	18:28:39.5	150.1	10.8					
GRA1	e PKPbc	Z	18:28:41.3	150.8	8.9					
WLF	e PKPbc	Z	18:28:42.7	151.1	359.1					
WET	e PKPbc	Z	18:28:41.6	151.2	12.3					
GEC2	e PKPbc	Z	18:28:42.4	151.3	14.0					
STU	e PKPbc	Z	18:28:43.8	151.9	5.2					
FUR	e PKPbc	Z	18:28:44.5	152.3	9.5					
BFO	e PKPbc	Z	18:28:44.5	152.4	3.5					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/12	18:38:47.4	72.968N	6.206E	33.0N	4.0			SZGRF

Norwegian Sea

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z	18:43:53.6	23.4	356.3	1.2	5	4.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/12								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e PKP	Z	20:28:56.2							
CLL	e PKP	Z	20:28:56.0							
MOX	e PKP	Z	20:28:57.7							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/12	23:23:52.3	2.541S	14.650W	33.0N	4.9	4.6		SZGRF

North of Ascension Island

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z	23:33:33.6	56.8	211.4	0.9	11	4.9		
	e S	N	23:41:27.1							
	e L	Z	23:57:16.7			19.5	429		4.6	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/13	01:46:47.9	33.460N	26.850E	10.0G	4.3			SZGRF

Eastern Mediterranean Sea

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e P	Z	01:51:00.9	18.2	142.7	0.8	16	4.2		
FUR	e P	Z	01:51:07.1	18.8	135.9	1.0	24	4.4		
WET	e P	Z	01:51:07.1	18.8	141.3	0.9	11	4.1		
BRG	e P	Z	01:51:17.7	19.8	146.6	1.3	14	4.0		
GRA1	e P	Z	01:51:20.2	19.9	138.7	1.1	43	4.6		
GUNZ	e P	Z	01:51:20.2	20.0	142.3	1.2	18	4.2		
MOX	e P	Z	01:51:25.5	20.5	141.2	1.1	12	4.0		
CLL	e P	Z	01:51:25.2	20.5	145.2	1.1	10	4.0		
WLF	e P	Z	01:51:44.5	22.3	128.9	1.2	16	4.3		
NRDL	e P	Z	01:51:48.3	22.5	141.1	1.3	19	4.5		
BSEG	e P	Z	01:51:58.3	23.6	143.6	1.0	35	4.9		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/13	02:48:25.4	43.183N	14.025E	10.0G				SZGRF

Adriatic Sea

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e Pn	Z	02:49:49.0	5.7	177.6					
	e Sn	N	02:50:52.5							
WET	e Pn	Z	02:49:53.5	6.0	172.0					
	e Sn	N	02:51:00.0							
BFO	e Pn	Z	02:50:01.3	6.5	140.3					
	e Sn	N	02:51:11.5							
GRA1	e Sn	E	02:51:19.0	6.8	162.4					
TANN	e Pn	Z	02:50:10.7	7.3	171.0					
	e Sn	E	02:51:31.6							
MOX	e Pn	Z	02:50:15.5	7.6	166.7					
	e Sn	N	02:51:38.6							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/13	04:01: 2.2	30.750N	67.750E	33.0N	5.0	4.1		SZGRF

Pakistan

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e P	Z	04:09:05.6	44.2	93.6	0.8	6	4.4		
BRG	e P	Z	04:09:06.1	44.2	95.8	1.9	52	4.9		
CLL	e P	Z	04:09:10.8	44.8	95.5					
MOX	e P	Z	04:09:17.6	45.7	93.7	1.7	44	5.2		
GRA1	e P	Z	04:09:19.7	45.9	92.5	0.9	15	5.0		

	e L	Z	04:31:16.1			20.2	226	4.1		
UBBA	e P	Z	04:09:25.4	46.7	92.6	2.0	36	5.2		
BSEG	e P	Z	04:09:25.9	46.7	95.8	0.8	17	5.2		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/13								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 06:56:32.2							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/13	09:58:57.5	2.700S	150.700E	100.0N		6.4		EMSC-A
New Ireland, Papua New Guinea, region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 10:17:39.9	121.8	49.8					
	e PP	Z 10:19:21.7							
	e L	Z 11:11:55.9			19.9	9149		6.4	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/13	13:55:46.5	43.549N	148.042E	33.0N	4.9			SZGRF
East of Kuril Islands, Russia								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 14:07:49.8	79.4	30.3	1.0	17	4.9		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/13	17:18:58.5	30.000S	177.600W	33.0N				GSRC-M
Kermadec Islands, New Zealand								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKP	Z 17:39:14.7	155.4	16.6					
CLL	e PKP	Z 17:39:22.4	157.3	24.4					
IBBN	e PKP	Z 17:39:23.3	157.3	12.1					
BRG	e PKP	Z 17:39:23.6	157.4	26.8					
MOX	e PKP	Z 17:39:26.7	158.2	22.0					
GUNZ	e PKP	Z 17:39:28.0	158.3	23.8					
GRA1	e PKP	Z 17:39:31.9	159.2	22.0					
WET	e PKP	Z 17:39:32.1	159.3	26.4					
GEC2	e PKP	Z 17:39:32.0	159.3	28.7					
STU	e PKP	Z 17:39:37.6	160.5	17.9					

./2004/bul0405.txt

Thu Apr 23 08:38:25 2020

23

FUR	e PKP	Z	17:39:38.2	160.6	23.7
BFO	e PKP	Z	17:39:38.8	161.1	16.0

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/13								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e Pdiff	Z 17:48:53.7							
	e PP	Z 17:53:10.6							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/13								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 18:31:00.5							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/13	20:18:15.0	35.110S	18.090W	139.2N	5.3	4.2		SZGRF
Southern Mid-Atlantic Ridge								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BFO	e P	Z 20:30:41.1	86.7	201.4	1.4	23	5.1		
FUR	e P	Z 20:30:44.5	87.3	203.7	1.5	62	5.5		
STU	e P	Z 20:30:44.4	87.3	202.0	1.9	70	5.5		
WLF	e P	Z 20:30:44.9	87.5	199.6	1.3	30	5.3		
GEC2	e P	Z 20:30:50.3	88.6	205.5	1.4	17	5.2		
WET	e P	Z 20:30:50.5	88.6	204.9	1.4	38	5.5		
GRA1	e P	Z 20:30:50.9	88.7	203.6	1.4	47	5.6		
	e L	Z 21:08:13.5			19.2	84		4.2	
BUG	e P	Z 20:30:54.1	89.4	200.5	1.6	43	5.4		
MOX	e P	Z 20:30:55.2	89.7	203.9	1.3	8	4.8		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/14	00:30:33.2	44.995N	7.395E	10.0G			4.2	SZGRF
Northern Italy								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BFO	e Pn	Z 00:31:26.4	3.4	191.2					3.9
	e Sg	N 00:32:21.0							
STU	e Pn	Z 00:31:34.0	4.0	198.7					4.5
	e Sg	E 00:32:38.7							







2004/05/14

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 19:46:37.8							
GUNZ	e PKP	Z 19:46:34.9							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/14	21:05:35.0	44.472N	9.779E	10.0G			2.8	SZGRF

Northern Italy

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
DAVA	e Pn	E 21:06:22.2	2.8	181.5					
WTTA	e Pn	Z 21:06:24.7	3.1	205.5					
	e Sn	N 21:07:01.8							
KBA	e Pn	Z 21:06:30.6	3.6	224.9					2.9
	e Sn	N 21:07:14.5							
BFO	e Pn	Z 21:06:36.3	4.0	164.9					
	e Sn	N 21:07:21.3							
MOA	e Pn	Z 21:06:43.8	4.6	224.3					
WET	e Pn	Z 21:06:50.5	5.1	205.6					2.8
	e Sn	E 21:07:47.9							
GEC2	e Pn	Z 21:06:50.0	5.1	213.1					
	e Sn	N 21:07:47.9							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/14								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 21:38:23.6							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/14	22:11:10.8	36.248N	73.072E	33.0N	4.6			SZGRF

Northwestern Kashmir

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 22:19:29.7	45.8	82.6	0.9	5	4.6		
	e	22:19:33.8							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/15	00:00:11.3	21.144S	176.880W	642.0				SZGRF

Fiji Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z 00:19:49.7	146.8	12.3					
RUE	e PKPbc	Z 00:19:51.9	147.6	18.8					
NRDL	e PKPbc	Z 00:19:53.6	148.2	12.4					
	e PKPab	Z 00:19:57.7							
IBBN	e PKPbc	Z 00:19:55.1	148.6	8.3					
	e PKPab	Z 00:20:00.3							
CLL	e PKPbc	Z 00:19:55.1	148.9	18.0					
	e PKPab	Z 00:20:00.2							
BRG	e PKPbc	Z 00:19:55.8	149.1	19.9					
	e PKPab	Z 00:20:01.2							
BUG	e PKPbc	Z 00:19:56.9	149.5	7.6					
MOX	e PKPbc	Z 00:19:57.4	149.8	15.9					
	e PKPab	Z 00:20:04.2							
GRA1	e PKPbc	Z 00:20:00.1	150.7	15.6					
	e PKPab	Z 00:20:08.9							
	e pPKPbc	Z 00:22:25.4							
WET	e PKPbc	Z 00:20:00.8	150.9	19.0					
	e PKPab	Z 00:20:09.5							
GEC2	e PKPbc	Z 00:20:00.4	151.0	20.7					
	e PKPab	Z 00:20:09.5							
WLF	e PKPbc	Z 00:20:02.4	151.4	5.9					
	e PKPab	Z 00:20:12.2							
STU	e PKPbc	Z 00:20:02.9	151.9	12.1					
	e PKPab	Z 00:20:13.8							
FUR	e PKPbc	Z 00:20:03.1	152.2	16.5					
	e PKPab	Z 00:20:14.7							
BFO	e PKPbc	Z 00:20:03.7	152.5	10.6					
	e PKPab	Z 00:20:16.1							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/15								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 07:47:54.6							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/15	08:19:24.6	29.850N	139.960E	33.0N	5.0			SZGRF
Southeast of Honshu, Japan								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z 08:32:04.8	86.3	44.7	0.9	5	4.7		
CLL	e P	Z 08:32:05.2	86.4	44.0	1.5	15	4.9		
MOX	e P	Z 08:32:10.7	87.5	42.9	1.5	9	4.9		

./2004/bul0405.txt

Thu Apr 23 08:38:25 2020

28

GEC2	e P	Z	08:32:12.1	87.9	44.4	0.8	4	4.8
GRA1	e P	Z	08:32:14.7	88.4	42.6	1.4	14	5.0
FUR	e P	Z	08:32:20.1	89.5	42.6	1.0	28	5.4
BFO	e P	Z	08:32:25.1	90.6	40.4	1.2	12	5.1

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/15	11:09:3.0			N				SZGRF
Southeast of Honshu, Japan								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e (P)	Z 11:21:51.5							
CLL	e (P)	Z 11:21:50.1							
FUR	e (P)	Z 11:22:05.8							
GEC2	e (P)	Z 11:21:59.4							
GRA1	e (P)	Z 11:21:59.3							
MOX	e (P)	Z 11:21:55.2							
WET	e (P)	Z 11:21:59.5							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/15								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPbc	Z 12:10:26.2							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/15	15:37:38.5	36.660N	141.260E	33.0N	5.0			SZGRF
Near east coast of eastern Honshu, Japan								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z 15:49:47.1	80.0	38.0	1.5	36	5.1		
BRG	e P	Z 15:49:52.2	81.0	40.2	1.1	10	4.7		
CLL	e P	Z 15:49:51.8	81.1	39.6	1.1	16	5.0		
NRDL	e P	Z 15:49:53.0	81.2	37.7	1.3	14	4.9		
MOX	e P	Z 15:49:57.8	82.1	38.6	1.4	8	4.7		
IBBN	e P	Z 15:49:58.1	82.3	36.0	0.7	11	5.2		
GEC2	e P	Z 15:50:00.6	82.7	39.9	1.2	8	4.8		
WET	e P	Z 15:50:00.9	82.8	39.3	1.0	6	4.8		
GRA1	e P	Z 15:50:02.9	83.0	38.2	0.4	17	5.6		
BUG	e P	Z 15:50:02.9	83.1	35.5	0.8	6	4.9		
STU	e P	Z 15:50:10.7	84.6	36.7	1.3	22	5.2		
BFO	e P	Z 15:50:13.7	85.3	36.1	1.0	13	5.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/15	19:30:50.0	14.949N	91.433W	33.0N	4.7	5.2		SZGRF
Guatemala								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 19:43:30.3	86.6	289.2	1.6	9	4.7		
	e L	Z 20:19:24.0			20.4	1017		5.2	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/15	20:11:14.8	14.239N	91.001W	32.6	5.0			SZGRF
Guatemala								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 20:23:56.4	86.9	288.4	1.9	24	5.0		
	e pP	Z 20:24:05.9							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/15	21:21:35.1	17.390S	176.280W	33.0N		4.9		SZGRF
Fiji Islands region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
IBBN	e PKPbc	Z 21:41:07.8	144.9	6.7					
CLL	e PKPbc	Z 21:41:08.1	145.3	15.7					
BRG	e PKPbc	Z 21:41:09.7	145.5	17.4					
BUG	e PKPbc	Z 21:41:09.4	145.8	6.0					
MOX	e PKPbc	Z 21:41:10.6	146.2	13.6					
GRA1	e PKPbc	Z 21:41:14.4	147.1	13.3					
	e L	Z 22:50:55.6			20.7	212		4.9	
WET	e PKPbc	Z 21:41:15.2	147.4	16.4					
GEC2	e PKPbc	Z 21:41:15.6	147.5	17.9					
WLF	e PKPbc	Z 21:41:16.4	147.7	4.3					
STU	e PKPbc	Z 21:41:18.4	148.3	10.0					
FUR	e PKPbc	Z 21:41:20.2	148.6	13.9					
BFO	e PKPbc	Z 21:41:19.9	148.8	8.5					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/16	03:30:54.0	40.270N	27.826E	33.0N	4.1			SZGRF
Turkey								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e P	Z 03:34:04.6	13.2	125.3	1.5	9			
WET	e P	Z 03:34:13.8	13.8	124.4	1.1	13			

./2004/bul0405.txt

Thu Apr 23 08:38:25 2020

30

FUR	e P	Z	03:34:18.3	14.2	117.6				
BRG	e P	Z	03:34:18.1	14.3	132.3				
GRA1	e P	Z	03:34:28.4	15.0	122.6	0.8		9	
CLL	e P	Z	03:34:26.8	15.1	131.3				
MOX	e P	Z	03:34:32.2	15.3	126.3				
RUE	e P	Z	03:34:32.2	15.5	136.2				
STU	e P	Z	03:34:37.4	15.7	115.8				
WLF	e P	Z	03:35:06.1	17.9	113.4				
BSEG	e P	Z	03:35:02.5	18.0	132.1	1.0		17	4.1
BUG	e P	Z	03:35:08.2	18.1	120.2				
IBBN	e P	Z	03:35:09.2	18.3	123.3				

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/16	06:04:18.8	25.096N	122.794E	33.0N	5.7	5.5		SZGRF

Taiwan region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e P	Z 06:16:30.9	81.0	60.1					
GRA1	e P	Z 06:16:45.2	83.8	57.9	1.5	71	5.7		
	e L	Z 06:56:59.9			18.0	1677		5.5	
BUG	e P	Z 06:16:51.5	84.9	55.1					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/16	07:07:44.6	35.728N	142.799E	33.0N	5.2			SZGRF

Off east coast of Honshu, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e P	Z 07:19:57.4	81.3	39.7					
BSEG	e P	Z 07:19:58.5	81.4	37.3	0.9	15	5.1		
BRG	e P	Z 07:20:03.4	82.4	39.6					
CLL	e P	Z 07:20:03.4	82.5	39.0					
MOX	e P	Z 07:20:08.9	83.5	37.9					
IBBN	e P	Z 07:20:10.4	83.6	35.3					
GEC2	e P	Z 07:20:11.3	84.1	39.3					
WET	e P	Z 07:20:12.5	84.2	38.7	0.9	6	4.8		
GRA1	e P	Z 07:20:14.3	84.4	37.6	0.9	36	5.6		
BUG	e P	Z 07:20:13.5	84.5	34.8					
FUR	e P	Z 07:20:19.3	85.6	37.6	0.8	19	5.3		
STU	e P	Z 07:20:20.9	86.0	36.1					
WLF	e P	Z 07:20:23.6	86.4	33.9					
BFO	e P	Z 07:20:24.1	86.7	35.5					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
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./2004/bul0405.txt

Thu Apr 23 08:38:25 2020

31

2004/05/16 07:21:12.3 36.895N 143.124E 33.0N 5.1 SZGRF  
Off east coast of Honshu, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z 07:33:22.0	80.5	36.5	1.2	14	4.8		
BRG	e P	Z 07:33:26.4	81.6	38.8					
CLL	e P	Z 07:33:26.4	81.6	38.2					
MOX	e P	Z 07:33:32.2	82.6	37.1					
GEC2	e P	Z 07:33:34.7	83.2	38.5	1.0	9	5.0		
WET	e P	Z 07:33:35.7	83.3	37.9					
GRA1	e P	Z 07:33:37.4	83.6	36.8	1.1	35	5.5		
BUG	e P	Z 07:33:37.1	83.6	34.1					
FUR	e P	Z 07:33:44.0	84.8	36.7					
STU	e P	Z 07:33:44.5	85.1	35.3					
WLF	e P	Z 07:33:47.1	85.5	33.2					
BFO	e P	Z 07:33:47.0	85.8	34.7					

Date Origin Time Lat Long Depth mb Ms ML Source  
2004/05/16 07:50:29.6 15.784S 171.855W 33.0N  
Samoa Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKPbc	Z 08:09:59.7	144.3	8.0					
BUG	e PKPbc	Z 08:10:00.2	144.3	358.6					
MOX	e PKPbc	Z 08:10:01.8	145.0	5.8					
GRA1	e PKPbc	Z 08:10:05.5	146.0	5.3					
	e	08:10:19.6							
WLF	e PKPbc	Z 08:10:06.4	146.1	356.6					
WET	e PKPbc	Z 08:10:07.0	146.4	8.3					
GEC2	e PKPbc	Z 08:10:07.3	146.6	9.8					
STU	e PKPbc	Z 08:10:09.1	147.0	1.9					
BFO	e PKPbc	Z 08:10:09.6	147.5	0.3					
FUR	e PKPbc	Z 08:10:09.6	147.5	5.6					

Date Origin Time Lat Long Depth mb Ms ML Source  
2004/05/16 11:01:36.0 9.890N 122.644E 33.0N 5.9 5.7  
Negros, Philippine Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e P	Z 11:14:47.8	93.3	69.0					
BRG	e P	Z 11:14:50.0	93.8	69.3					
CLL	e P	Z 11:14:51.2	94.2	68.5					
GEC2	e P	Z 11:14:53.9	94.7	69.2					
BSEG	e P	Z 11:14:53.4	94.7	66.1	1.6	57	5.7		
WET	e P	Z 11:14:56.3	95.0	68.5					

./2004/bul0405.txt

Thu Apr 23 08:38:25 2020

32

MOX	e P	Z	11:14:56.5	95.2	67.4	1.5	53	5.7
NRDL	e P	Z	11:14:57.1	95.4	66.1			
GRA1	e P	Z	11:14:59.4	95.8	67.2	1.6	68	5.9
	e PP	Z	11:19:03.7					
	e L	Z	12:04:25.3			21.5	2787	5.7
FUR	e P	Z	11:15:01.6	96.4	67.4	1.9	114	6.2
	e PP	Z	11:19:11.4					
IBBN	e P	Z	11:15:02.8	96.8	64.1			
	e PP	Z	11:19:13.0					
BUG	e P	Z	11:15:05.9	97.4	63.8			
WLF	e P	Z	11:15:13.6	98.8	63.2			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/16	22:06:31.6	34.472N	69.630E	33.0N	5.4			SZGRF
Southeastern Afghanistan								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z	22:14:26.6	42.9	90.3					
	e PP	Z	22:16:07.5							
RUE	e P	Z	22:14:26.7	43.0	91.9					
	e PP	Z	22:16:09.9							
GEC2	e P	Z	22:14:28.4	43.1	87.9					
CLL	e P	Z	22:14:30.8	43.5	90.0	0.9	40	5.1		
MOX	e P	Z	22:14:38.4	44.4	88.3	1.0	30	5.2		
GRA1	e P	Z	22:14:41.6	44.7	87.0	1.7	120	5.6		
	e PP	Z	22:16:26.3							
FUR	e P	Z	22:14:42.5	44.7	85.5					
BSEG	e P	Z	22:14:43.1	45.2	90.6	0.9	58	5.5		
NRDL	e P	Z	22:14:44.9	45.3	89.0					
STU	e P	Z	22:14:52.9	46.1	84.7					
BFO	e P	Z	22:14:57.8	46.7	83.6					
IBBN	e P	Z	22:14:56.2	46.7	87.0					
	e PP	Z	22:16:48.2							
BUG	e P	Z	22:14:59.0	47.1	85.8					
WLF	e P	Z	22:15:06.8	48.0	83.4					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/17	06:45:57.6	23.080S	178.480W	33.0N				SZGRF
South of Fiji Islands								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	07:05:40.7	148.4	15.6					
RUE	e PKPbc	Z	07:05:42.9	149.1	22.4					
NRDL	e PKPbc	Z	07:05:44.3	149.9	15.9					
IBBN	e PKPbc	Z	07:05:45.7	150.4	11.7					



	e	PKPab	Z	07:05:52.0				
CLL	e	PKPbc	Z	07:05:45.7	150.4	21.8		
	e	PKPab	Z	07:05:51.7				
BRG	e	PKPbc	Z	07:05:46.2	150.6	23.8		
	e	PKPab	Z	07:05:52.9				
BUG	e	PKPbc	Z	07:05:47.7	151.3	11.1		
MOX	e	PKPbc	Z	07:05:47.9	151.3	19.6		
	e	PKPab	Z	07:05:56.1				
GRA1	e	PKPbc	Z	07:05:50.4	152.3	19.5		
	e	PKPab	Z	07:06:00.1				
WET	e	PKPbc	Z	07:05:50.5	152.4	23.1		
	e	PKPab	Z	07:06:00.9				
GEC2	e	PKPbc	Z	07:05:50.6	152.5	24.9		
	e	PKPab	Z	07:06:01.0				
WLF	e	PKPbc	Z	07:05:52.8	153.2	9.5		
	e	PKPab	Z	07:06:04.1				
STU	e	PKPbc	Z	07:05:53.4	153.6	16.0		
BFO	e	PKPbc	Z	07:05:54.2	154.2	14.5		
	e	PKPab	Z	07:06:07.8				

Date Origin Time Lat Long Depth mb Ms ML Source  
 2004/05/17 08:11:51.8 6.350N 123.600E 33.0N 5.6  
 Mindanao, Philippine Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e P	Z 08:25:21.2	97.2	70.6	1.2	15	5.5		
CLL	e P	Z 08:25:24.3	97.6	69.8	1.2	18	5.7		
GEC2	e P	Z 08:25:25.3	98.0	70.7	1.4	18	5.6		
BSEG	e P	Z 08:25:26.4	98.2	67.3	0.4	7	5.7		
WET	e P	Z 08:25:27.3	98.4	70.0	1.5	14	5.5		
MOX	e P	Z 08:25:28.0	98.7	68.8	1.5	17	5.5		
NRDL	e P	Z 08:25:28.7	98.8	67.3	1.2	18	5.7		
GRA1	e P	Z 08:25:30.9	99.2	68.6	0.7	7	5.5		
BUG	e P	Z 08:25:37.7	100.9	65.1	0.6	11	5.6		

Date Origin Time Lat Long Depth mb Ms ML Source  
 2004/05/17 15:10:43.0 5.957S 69.892E 23.7 4.5  
 Chagos Archipelago region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 15:22:22.8	75.2	118.5	1.3	7	4.5		
	e pP	Z 15:22:29.5							
	e	15:22:35.9							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/17	17:41:18.9	45.910N	147.290E	33.0N	4.9			SZGRF

Kuril Islands, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z 17:52:51.7	73.7	29.7	1.0	10	4.8		
NRDL	e P	Z 17:52:59.1	75.0	29.3	1.2	9	4.7		
CLL	e P	Z 17:52:59.8	75.1	31.0	1.0	17	5.0		
BRG	e P	Z 17:53:00.0	75.2	31.6	1.2	6	4.7		
CLZ	e P	Z 17:53:02.5	75.5	29.4	1.1	15	5.0		
MOX	e P	Z 17:53:05.6	76.1	30.1	1.2	9	4.8		
GEC2	e P	Z 17:53:10.5	77.0	31.1	0.7	4	4.7		
WET	e P	Z 17:53:11.3	77.0	30.7	1.0	13	5.0		
GRA1	e P	Z 17:53:11.5	77.1	29.7	0.9	21	5.3		
BFO	e P	Z 17:53:22.5	79.2	27.7	0.9	8	4.6		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/18	02:31:17.5	33.043N	34.392E	33.0N	4.3			SZGRF

Eastern Mediterranean Sea

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 02:36:28.8	23.9	125.5	0.9	9	4.3		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/18	02:58: 1.6	5.691N	94.801E	33.0N	5.0			SZGRF

Northern Sumatera, Indonesia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 03:10:16.2	81.5	91.2	0.9	11	5.0		
	e	03:10:34.0							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/18								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 15:53:55.1							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/18	15:47:36.2	51.926N	158.874E	33.0N	5.1			SZGRF

Near east coast of Kamchatka Peninsula, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 15:59:13.2	74.7	20.0	0.7	14	5.1		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/18								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPbc	Z 18:31:59.8							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/19	07:04:12.5	22.820N	121.860E	33.0N	6.1	6.7		SZGRF
Taiwan region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e P	Z 07:16:32.9	82.3	62.1					
BRG	e P	Z 07:16:36.3	83.0	62.1					
CLL	e P	Z 07:16:37.5	83.3	61.4	1.4	160	6.1		
BSEG	e P	Z 07:16:38.7	83.4	59.7	1.2	112	6.0		
GEC2	e P	Z 07:16:41.9	84.1	61.7	1.6	132	5.9		
GUNZ	i P	Z 07:16:42.2	84.1	60.8					
NRDL	e P	Z 07:16:43.2	84.3	59.4					
MOX	e P	Z 07:16:43.4	84.4	60.3	1.5	144	6.0		
WET	e P	Z 07:16:43.9	84.4	61.1	2.5	452	6.3		
CLZ	e P	Z 07:16:44.2	84.5	59.5	1.2	130	6.0		
GRA1	e P	Z 07:16:47.4	85.1	60.0	1.5	200	6.1		
	e PP	Z 07:20:10.9							
	e S	E 07:27:04.2							
	e L	Z 07:59:41.4			18.7	28857		6.7	
IBBN	e P	Z 07:16:49.5	85.6	57.5					
FUR	e P	Z 07:16:50.9	85.8	59.9	2.4	577	6.3		
BUG	e P	Z 07:16:52.9	86.3	57.1	1.4	183	6.0		
STU	e P	Z 07:16:54.8	86.7	58.4					
BFO	e P	Z 07:16:57.7	87.4	57.8					
WLF	e P	Z 07:17:01.0	87.9	56.2					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/19	18:23:54.6	41.097N	77.317E	11.9				SZGRF
Kyrgyzstan-Xinjiang border region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 18:32:12.5	45.7	74.4					
	e pP	Z 18:32:15.7							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/19	21:04: 8.1	27.180N	129.490E	33.0N	5.7			SZGRF

Ryukyu Islands, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e P	Z 21:16:30.1	82.7	53.9					
BSEG	e P	Z 21:16:34.2	83.5	51.4	0.9	73	5.9		
BRG	e P	Z 21:16:34.4	83.6	53.9					
CLL	e P	Z 21:16:35.2	83.8	53.2	0.7	55	5.9		
NRDL	e P	Z 21:16:39.4	84.5	51.1					
GUNZ	e P	Z 21:16:40.2	84.7	52.6					
CLZ	e P	Z 21:16:41.0	84.7	51.3	0.9	99	6.0		
MOX	e P	Z 21:16:41.1	84.9	52.1	2.2	106	5.7		
GEC2	e P	Z 21:16:40.9	84.9	53.5	1.5	35	5.4		
WET	e P	Z 21:16:42.6	85.1	53.0	1.9	54	5.5		
GRA1	i P	Z 21:16:45.5	85.7	51.8	1.0	68	5.7		
IBBN	e P	Z 21:16:45.2	85.7	49.4					
BUG	e P	Z 21:16:49.1	86.5	48.9					
FUR	e P	Z 21:16:50.0	86.6	51.7	1.0	80	5.8		
STU	e P	Z 21:16:52.9	87.3	50.3					
BFO	e P	Z 21:16:56.5	88.0	49.6					
WLF	e P	Z 21:16:57.0	88.2	48.0					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/19	21:49:17.7	19.626S	171.313E	33.0N				SZGRF

Vanuatu Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKPbc	Z 22:08:46.6	144.0	36.3					
CLZ	e PKPbc	Z 22:08:48.8	144.5	32.0					
IBBN	e PKPbc	Z 22:08:50.4	144.9	27.6					
GUNZ	e PKPbc	Z 22:08:50.5	145.0	36.1					
MOX	e PKPbc	Z 22:08:50.3	145.1	34.8					
GEC2	e PKPbc	Z 22:08:52.1	145.7	39.5					
WET	e PKPbc	Z 22:08:52.2	145.8	38.0					
BUG	e PKPbc	Z 22:08:52.6	145.8	27.4					
GRA1	e PKPbc	Z 22:08:53.6	146.0	35.0					
STU	e PKPbc	Z 22:08:57.8	147.5	32.6					
WLF	e PKPbc	Z 22:08:59.1	147.7	26.8					
BFO	e PKPbc	Z 22:08:59.8	148.2	31.5					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
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./2004/bul0405.txt

Thu Apr 23 08:38:25 2020

37

2004/05/20 07:57:50.0  
Southwest of Africa

56.375S

18.517E 33.0N

5.0

SZGRF

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
FUR	e PP	Z	08:16:14.2	104.7	175.9					
BFO	e PP	Z	08:16:16.0	105.0	174.2					
	e SP	Z	08:25:28.2							
GEC2	e PP	Z	08:16:19.5	105.3	177.2					
STU	e PP	Z	08:16:22.2	105.4	174.7					
WET	e PP	Z	08:16:24.0	105.6	176.8					
GRA1	e PP	Z	08:16:24.0	106.2	175.8					
	e SS	Z	08:30:58.6							
	e L	Z	09:04:05.4			18.5	378		5.0	
WLF	e SP	Z	08:25:39.1	106.5	172.9					
MOX	e PP	Z	08:16:38.2	107.2	176.0					
BRG	e PP	Z	08:16:33.7	107.3	177.3					
BUG	e PP	Z	08:16:40.8	108.2	173.5					
	e SP	Z	08:25:58.7							
CLZ	e SP	Z	08:25:58.7	108.4	175.3					
RUE	e PP	Z	08:16:44.4	108.9	177.2					
NRDL	e PP	Z	08:16:47.9	109.1	175.1					

Date Origin Time  
2004/05/20 08:45:25.2  
Azores Islands region

Lat 35.670N

Long 32.840W

Depth 33.0N

mb 4.7

Ms

ML

Source  
SZGRF

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z	08:51:44.8	31.4	258.5					
BUG	e P	Z	08:51:54.2	32.5	256.8					
BFO	e P	Z	08:51:55.6	32.6	262.6	1.2	16	4.8		
IBBN	e P	Z	08:51:58.5	33.0	256.0					
STU	e P	Z	08:52:00.7	33.3	262.7					
NRDL	e P	Z	08:52:11.2	34.4	258.1					
CLZ	e P	Z	08:52:11.5	34.5	259.3	1.2	16	4.8		
GRA1	e P	Z	08:52:13.6	34.7	263.1	1.3	27	5.0		
MOX	e P	Z	08:52:16.5	35.1	262.1	1.1	12	4.8		
GUNZ	e P	Z	08:52:19.8	35.5	263.2					
WET	e P	Z	08:52:21.8	35.7	265.3	1.6	12	4.5		
GEC2	e P	Z	08:52:26.4	36.2	266.4					
BRG	e P	Z	08:52:29.1	36.5	263.9	0.9	7	4.4		
RUE	e P	Z	08:52:30.3	36.6	261.6					

Date Origin Time  
2004/05/20 11:26:11.1  
Eastern Mediterranean Sea

Lat 32.315N

Long 30.149E

Depth 33.0N

mb 4.2

Ms

ML

Source  
SZGRF

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e P	Z	11:30:48.1	20.6	137.2					
WET	e P	Z	11:30:54.3	21.2	136.1					
BRG	e P	Z	11:31:03.0	22.1	141.1	0.9	10	4.2		
TANN	e P	Z	11:31:05.9	22.3	137.5					
GUNZ	e P	Z	11:31:06.6	22.3	137.1					
GRA1	e P	Z	11:31:06.8	22.4	133.9	1.0	8	4.1		
CLL	e P	Z	11:31:10.2	22.8	139.9	1.1	14	4.4		
MOX	e P	Z	11:31:12.4	22.9	136.2					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/20	14:41:12.2	45.923N	7.940E	10.0G			1.9	SZGRF

Northern Italy

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
SULZ	e Pn	Z	14:41:40.6	1.6	184.3					
	e Sg	E	14:42:03.7							
WILA	e Sg	E	14:42:05.0	1.6	204.3					
SLE	e Pn	Z	14:41:44.1	1.9	191.8					
	e Sg	N	14:42:11.0							
BFO	e Pn	Z	14:41:50.7	2.4	186.4					1.9

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/20	14:42:48.6	44.451N	137.807E	33.0N	5.6			SZGRF

Eastern Sea of Japan

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e P	Z	14:54:08.4	71.8	38.5	0.9	86	5.9		
BSEG	e P	Z	14:54:09.5	71.9	36.6	0.9	70	5.8		
BRG	e P	Z	14:54:15.0	73.0	38.3					
CLL	e P	Z	14:54:14.9	73.0	37.8					
NRDL	e P	Z	14:54:16.4	73.2	36.2					
GUNZ	e P	Z	14:54:21.2	74.0	37.2					
MOX	e P	Z	14:54:21.5	74.1	36.8	0.9	28	5.3		
	e PP	Z	14:57:07.6							
IBBN	e P	Z	14:54:22.0	74.1	34.6	0.8	59	5.6		
GEC2	e P	Z	14:54:24.5	74.7	37.8	0.8	27	5.3		
WET	e P	Z	14:54:25.6	74.8	37.3	0.9	38	5.4		
GRA1	i P	Z	14:54:27.1	75.0	36.4	0.9	109	5.9		
BUG	e P	Z	14:54:26.9	75.0	34.2					
FUR	e P	Z	14:54:33.5	76.2	36.2	0.9	58	5.7		
STU	e P	Z	14:54:35.0	76.5	35.0	1.0	59	5.7		
BFO	e P	Z	14:54:38.9	77.2	34.4					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/20	15:38:52.2	29.654N	72.108E	33.0N	4.8			SZGRF

India-Pakistan border region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 15:47:39.0	49.4	90.2	0.9	12	4.8		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/20								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP e	Z 22:51:16.1 22:51:29.8							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/21	01:34:14.2	23.809N	121.134E	33.0N	4.5			SZGRF

Taiwan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 01:46:41.1	83.9	59.9	1.2	4	4.5		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/21	02:26:37.9	37.915N	21.479E	10.0G				SZGRF

Southern Greece

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
ARSA	e Pn	Z 02:29:06.5	10.3	152.8					
KBA	e Pn	Z 02:29:11.5	10.9	144.0					
MOA	e Pn	Z 02:29:14.7	11.2	149.5					
	e Sn	N 02:31:17.7							
WTTA	e Pn	Z 02:29:24.3	11.8	138.8					
GEC2	e Pn	Z 02:29:31.8	12.3	149.9					
	e Sn	E 02:31:42.1							
DAVA	e Pn	Z 02:29:37.5	12.7	133.6					
	e Sn	E 02:31:50.1							
STU	e Pn	Z 02:29:53.8	14.0	136.2					
MOX	e Pn	Z 02:30:00.6	14.5	147.4					
WLF	e Pn	Z 02:30:24.3	16.1	131.2					

./2004/bul0405.txt

Thu Apr 23 08:38:25 2020

40

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/21	03:09:14.6	50.425N	174.151W	33.0N	4.5			SZGRF

Andreanof Islands, Aleutian Islands, United States

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 03:21:19.9	79.8	3.5	1.2	8	4.5		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/21	04:09:46.3	16.080N	104.780W	33.0G	5.2			SZGRF

Off coast of Michoacan, Mexico

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
IBBN	e P	Z 04:22:44.8	90.3	297.4	1.1	19	5.3		
WLF	e P	Z 04:22:46.1	90.6	296.2	1.1	20	5.4		
BSEG	e P	Z 04:22:47.3	90.9	299.5	1.3	25	5.4		
NRDL	e P	Z 04:22:50.2	91.5	299.3	1.2	16	5.2		
CLZ	e P	Z 04:22:52.4	92.0	299.5	1.1	23	5.4		
BFO	e P	Z 04:22:54.2	92.5	297.8	1.2	8	5.0		
STU	e P	Z 04:22:56.3	92.8	298.5	1.1	13	5.2		
MOX	e P	Z 04:22:57.5	93.3	300.4	1.3	15	5.3		
GRA1	e P	Z 04:23:00.0	93.5	300.1	1.0	13	5.2		
CLL	e P	Z 04:22:59.7	93.7	301.6	1.4	11	5.0		
GUNZ	e P	Z 04:23:00.6	93.8	301.0	1.5	20	5.2		
BRG	e P	Z 04:23:03.5	94.4	302.3	1.8	23	5.3		
GEC2	e P	Z 04:23:07.9	95.3	302.0	1.5	13	5.2		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/21	15:43:32.0	32.478S	178.250W	43.7				gsr-c-m

South of Kermadec Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPab	Z 16:04:16.1	161.4	25.8					
	e pPKPab	Z 16:04:28.9							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/21	15:59:49.2	32.670S	178.529W	10.0G		5.6		gsr-c-m

South of Kermadec Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
CLL	e PKPab	Z 16:20:24.6	159.5	28.8					
BRG	e PKPab	Z 16:20:25.4	159.6	31.5					
IBBN	e PKPab	Z 16:20:27.4	159.8	15.5					
MOX	e PKPab	Z 16:20:29.1	160.5	26.4					



./2004/bul0405.txt

Thu Apr 23 08:38:25 2020

41

GEC2	e	PKPab	Z	16:20:33.6	161.4	34.0						
GRA1	e	PKPab	Z	16:20:34.7	161.5	26.7						
	e	L	Z	17:48:06.8			18.2	729		5.6		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/21								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BRG	e	PKPab	Z	19:12:06.4					
CLL	e	PKPab	Z	19:12:05.3					
CLZ	e	PKPab	Z	19:12:04.6					
GRA1	e	PKPab	Z	19:12:13.1					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/21	19:47:32.3	12.830N	120.476E	33.0N	4.7			SZGRF
Mindoro, Philippine Islands								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e	P	Z	20:00:39.0	92.2	67.1	1.3	4	4.7

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/22	06:28: 9.3	22.330S	173.600W	33.0G		5.4		SZGRF
Tonga Islands region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e	PKPbc	Z	06:47:51.4	148.3	6.9			
NRDL	e	PKPbc	Z	06:47:55.2	149.7	6.8			
IBBN	e	PKPbc	Z	06:47:56.2	150.0	2.5			
CLZ	e	PKPbc	Z	06:47:57.0	150.3	7.4			
CLL	e	PKPbc	Z	06:47:57.5	150.6	12.5			
BRG	e	PKPbc	Z	06:47:58.4	150.9	14.4			
BUG	e	PKPbc	Z	06:47:58.1	150.9	1.7			
MOX	e	PKPbc	Z	06:47:59.7	151.4	10.1			
GUNZ	e	PKPbc	Z	06:48:00.4	151.6	11.6			
GRA1	e	PKPbc	Z	06:48:02.0	152.4	9.7			
	e	L	Z	08:00:10.1			19.8	572	5.4
WLF	e	PKPbc	Z	06:48:03.3	152.7	359.5			
GEC2	e	PKPbc	Z	06:48:03.0	152.9	14.9			
STU	e	PKPbc	Z	06:48:04.3	153.5	5.8			
FUR	e	PKPbc	Z	06:48:05.5	153.9	10.3			
BFO	e	PKPbc	Z	06:48:05.1	154.0	4.1			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/22	07:36:55.3	21.520S	173.990W	33.0N				SZGRF

Tonga Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	07:56:35.4	147.4	7.5					
NRDL	e PKPbc	Z	07:56:39.5	148.9	7.4					
	e PKPab	Z	07:56:41.8							
IBBN	e PKPbc	Z	07:56:40.2	149.2	3.2					
	e PKPab	Z	07:56:43.2							
CLZ	e PKPbc	Z	07:56:41.4	149.5	8.0					
	e PKPab	Z	07:56:44.8							
CLL	e PKPpdf	Z	07:56:37.3	149.7	13.0					
	e PKPbc	Z	07:56:41.6							
	e PKPab	Z	07:56:45.0							
BRG	e PKPpdf	Z	07:56:38.1	150.0	14.9					
	e PKPbc	Z	07:56:42.5							
BUG	e PKPbc	Z	07:56:42.3	150.1	2.3					
	e PKPab	Z	07:56:46.2							
MOX	e PKPbc	Z	07:56:43.7	150.5	10.6					
GUNZ	e PKPbc	Z	07:56:44.6	150.7	12.1					
GRA1	e PKPbc	Z	07:56:46.4	151.5	10.2					
	e PKPab	Z	07:56:52.9							
WLF	e PKPpdf	Z	07:56:42.8	151.9	0.3					
	e PKPbc	Z	07:56:47.5							
	e PKPab	Z	07:56:54.5							
GEC2	e PKPbc	Z	07:56:47.3	152.0	15.4					
STU	e PKPpdf	Z	07:56:42.2	152.6	6.5					
	e PKPbc	Z	07:56:48.8							
FUR	e PKPbc	Z	07:56:49.5	153.0	10.8					
BFO	e PKPbc	Z	07:56:49.7	153.1	4.8					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/22	10:48:43.0	16.906S	172.465W	28.2				SZGRF

Samoa Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
NRDL	e PKPbc	Z	11:08:13.4	144.4	4.2					
IBBN	e PKPbc	Z	11:08:14.4	144.6	0.4					
CLZ	e PKPbc	Z	11:08:15.5	145.0	4.7					
CLL	e PKPbc	Z	11:08:16.1	145.3	9.2					
BUG	e PKPbc	Z	11:08:17.3	145.5	359.6					
BRG	e PKPbc	Z	11:08:17.9	145.6	10.9					
MOX	e PKPbc	Z	11:08:18.8	146.1	7.0					
GUNZ	e PKPbc	Z	11:08:19.7	146.3	8.3					
GRA1	e PKPbc	Z	11:08:22.0	147.1	6.5					



BRG	e P	Z	07:47:44.5	57.3	76.5	1.3	24	5.1	
CLL	e P	Z	07:47:49.2	57.8	76.1	0.9	11	4.9	
GEC2	e P	Z	07:47:49.2	58.0	75.1	2.2	108	5.5	
GUNZ	e P	Z	07:47:52.7	58.5	75.1	2.3	96	5.4	
BSEG	e P	Z	07:47:54.7	58.8	75.8	1.3	21	5.0	
MOX	e P	Z	07:47:55.1	58.8	74.8	2.3	81	5.3	
NRDL	e P	Z	07:47:57.9	59.2	74.8	0.9	22	5.2	
CLZ	e P	Z	07:47:58.4	59.3	74.6	0.8	29	5.4	
GRA1	e P	Z	07:47:59.1	59.3	74.0	0.9	32	5.3	
	e L	Z	08:14:16.6			21.3	1227		5.0
FUR	e P	Z	07:48:01.7	59.7	73.1	1.5	107	5.6	
STU	e P	Z	07:48:09.4	60.9	72.2	1.8	84	5.3	
BUG	e P	Z	07:48:11.7	61.2	72.3	1.3	22	4.8	
BFO	e P	Z	07:48:13.0	61.5	71.4	1.3	24	5.3	
WLF	e P	Z	07:48:20.7	62.4	70.6	1.8	80	5.6	

Date Origin Time Lat Long Depth mb Ms ML Source  
 2004/05/23 14:28:57.4 6.175S 151.263E 300.0G  
 New Britain, Papua New Guinea, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPdf	Z 14:47:25.8	125.1	51.3					

Date Origin Time Lat Long Depth mb Ms ML Source  
 2004/05/23 14:46: 9.6 32.246N 91.769E 33.0N 4.9  
 Xizang

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 14:56:14.8	60.2	74.0	1.5	20	4.9		

Date Origin Time Lat Long Depth mb Ms ML Source  
 2004/05/23 15:19: 5.9 43.281N 17.838E 10.0G  
 Northwestern Balkan Peninsula

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
ARSA	e Pn	Z 15:20:10.0	4.3	156.9					4.9
	e Sn	N 15:21:00.1							
KBA	e Pn	Z 15:20:20.3	4.9	138.6					5.1
	e Sn	E 15:21:14.7							
MOA	e Pn	Z 15:20:23.8	5.2	150.0					5.3
	e Sn	E 15:21:21.2							
WTTA	e Pn	Z 15:20:32.7	5.9	130.1					
	e Sn	N 15:21:40.5							

GEC2	e Pn	Z	15:20:38.3	6.3	151.2						5.4
	e Sn	N	15:21:46.9								
	e L	Z	15:23:02.1			11.9	13274		4.7		
FUR	e Pn	Z	15:20:43.7	6.7	134.4						
	e L	Z	15:23:21.3			12.1	9868		4.6		
DAVA	e Pn	Z	15:20:46.2	6.9	122.7						
	e Sn	N	15:22:02.0								
GRA1	e Pn	Z	15:20:59.3	7.9	142.2						
	e L	Z	15:24:12.4			12.9	12254		4.8		
TANN	e Pn	Z	15:20:58.3	8.0	150.7						
	e L	Z	15:23:59.7								
	e L	Z	15:24:05.4								
BRG	e Pn	Z	15:21:03.7	8.0	159.3						
	e L	Z	15:24:04.9			14.0	5026		4.4		
	e L	Z	15:24:04.9								
STU	e Pn	Z	15:21:02.0	8.1	129.3						
	e L	Z	15:24:19.9			12.6	5080		4.4		
BFO	e Pn	Z	15:21:04.4	8.3	123.8						
MOX	e Pn	Z	15:21:07.9	8.5	147.7						
	e Sn	N	15:22:39.2								
	e L	Z	15:24:29.4			15.6	4684		4.3		
CLL	e Pn	Z	15:21:11.2	8.7	156.0						
	e L	Z	15:24:36.1			13.0	6243		4.5		
CLZ	e Pn	Z	15:21:29.5	9.9	146.7						
WLF	e Pn	Z	15:21:32.7	10.3	124.1						
	e L	Z	15:25:34.7			12.0	4255		4.5		

Date  
2004/05/23

Origin Time

Lat

Long

Depth

mb

Ms

ML

Source

Sta  
GRA1

Phase  
e PKP

Time  
Z 16:37:22.2

Dist

BAz

T[s]

A[nm]

mb

MS

ML

Date  
2004/05/23

Origin Time

Lat

Long

Depth

mb

Ms

ML

Source

Sta  
GRA1

Phase  
e PKPbc

Time  
Z 19:30:38.8

Dist

BAz

T[s]

A[nm]

mb

MS

ML

Date  
2004/05/23  
Southern Sumatera, Indonesia

Origin Time  
20:24:24.7

Lat  
4.548S

Long  
102.419E

Depth  
33.0N

mb  
4.7

Ms

ML

Source  
SZGRF



Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 03:13:59.4							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/24	07:09:21.3	41.300N	77.800E	33.0N	4.5			GSRC-M

Kyrgyzstan-Xinjiang border region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 07:17:43.4	45.9	73.9	1.1	6	4.5		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/24	19:10:10.9	32.400S	178.300W	10.0N		6.0		NEIC-M

South of Kermadec Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKPab	Z 19:30:55.4	161.3	25.8					
	e PP	Z 19:34:36.9							
	e SS	N 19:54:58.4							
	e L	Z 20:49:01.0			18.5	1816		6.0	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/24	22:01:12.4	27.772N	96.820E	33.0N	5.5			SZGRF

Myanmar-India border region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 22:11:59.1	66.5	74.2	1.8	59	5.5		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/24								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 23:01:02.7							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/24	23:54:55.9	39.429N	21.055E	10.0G				SZGRF

Greece

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
ARSA	e Pn	Z 23:57:01.5	8.8	150.8					

./2004/bul0405.txt

Thu Apr 23 08:38:25 2020

48

KBA	e Sn	E	23:58:53.4	9.5	141.0
MOA	e Pn	Z	23:57:14.3	9.7	147.3
	e Sn	E	23:58:59.1		
WTTA	e Pn	Z	23:57:23.5	10.4	135.5
	e Sn	E	23:59:15.0		
DAVA	e Pn	Z	23:57:36.1	11.3	130.1
	e Sn	N	23:59:35.9		
WET	e Pn	Z	23:57:36.3	11.3	146.0
MOX	e Pn	Z	23:57:59.3	13.0	145.8

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/25	02:04:30.1	22.350S	170.300E	33.0N				SZGRF

Southeast of Loyalty Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	02:24:02.4	145.0	33.5					
BRG	e PKPbc	Z	02:24:06.0	146.1	41.6					
CLL	e PKPbc	Z	02:24:06.1	146.1	39.8					
NRDL	e PKPbc	Z	02:24:06.8	146.2	34.3					
CLZ	e PKPbc	Z	02:24:08.4	146.7	35.3					
GUNZ	e PKPbc	Z	02:24:09.7	147.1	39.7					
IBBN	e PKPbc	Z	02:24:09.5	147.2	30.8					
MOX	e PKPbc	Z	02:24:09.5	147.2	38.3					
GEC2	e PKPbc	Z	02:24:11.0	147.7	43.4					
WET	e PKPbc	Z	02:24:11.6	147.8	41.8					
GRA1	e PKPbc	Z	02:24:12.5	148.1	38.7					
FUR	e PKPbc	Z	02:24:15.2	149.2	40.3					
STU	e PKPbc	Z	02:24:16.3	149.6	36.3					
WLF	e PKPbc	Z	02:24:17.8	150.0	30.3					
BFO	e PKPbc	Z	02:24:17.5	150.3	35.3					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/25	05:34: 8.1	34.440N	28.568E	10.0G		3.4		SZGRF

Eastern Mediterranean Sea

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
ARSA	e Pn	Z	05:37:55.0	16.1	137.9					
KBA	e Pn	Z	05:38:02.0	17.0	132.4					
MOA	e P	Z	05:38:07.7	17.1	136.3					
GEC2	e P	Z	05:38:17.7	18.1	137.1					
WET	e P	Z	05:38:24.9	18.7	136.0					
FUR	e P	Z	05:38:27.6	18.8	130.5					
DAVA	e P	Z	05:38:29.5	19.0	125.8					
GUNZ	e P	Z	05:38:37.9	19.8	137.2					
GRA1	e P	Z	05:38:38.8	19.9	133.6					



	e L	Z	05:45:53.9			21.7	186	3.4
CLL	e P	Z	05:38:41.1	20.3	140.3			
MOX	e P	Z	05:38:45.5	20.4	136.3			
BFO	e P	Z	05:38:45.3	20.5	125.3			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/25	10:42:54.4	43.350N	17.887E	10.0G			3.8	SZGRF
Northwestern Balkan Peninsula								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
ARSA	e Pn	Z	10:43:58.0	4.2	156.1					3.5
	e Sn	E	10:44:44.7							
KBA	e Pn	Z	10:44:07.8	4.9	137.7					
MOA	e Pn	N	10:44:11.5	5.2	149.3					
	e Sn	E	10:45:08.5							
WTTA	e Pn	Z	10:44:20.5	5.9	129.4					
GEC2	e Pn	Z	10:44:25.9	6.2	150.6					
	e Sn	N	10:45:34.9							
DAVA	e Pn	Z	10:44:35.0	6.9	122.1					
MOX	e Pn	Z	10:44:56.6	8.4	147.3					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/25	21:08:20.3	18.217S	179.367W	33.0N				SZGRF
Fiji Islands region								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPbc	Z	21:27:48.0	143.5	15.6					
RUE	e PKPbc	Z	21:27:50.6	144.2	21.7					
NRDL	e PKPbc	Z	21:27:52.7	144.9	15.8					
IBBN	e PKPbc	Z	21:27:54.4	145.5	12.0					
CLL	e PKPbc	Z	21:27:54.4	145.5	21.0					
CLZ	e PKPbc	Z	21:27:54.9	145.5	16.5					
BRG	e PKPbc	Z	21:27:55.0	145.7	22.8					
MOX	e PKPbc	Z	21:27:57.2	146.4	19.1					
GUNZ	e PKPbc	Z	21:27:57.8	146.5	20.4					
GRA1	e PKPbc	Z	21:28:00.2	147.4	18.9					
WET	e PKPbc	Z	21:28:00.4	147.5	22.0					
GEC2	e PKPbc	Z	21:28:00.4	147.6	23.6					
WLF	e PKPbc	Z	21:28:03.0	148.2	10.0					
STU	e PKPbc	Z	21:28:03.8	148.7	15.8					
FUR	e PKPbc	Z	21:28:03.7	148.8	19.8					
	e PKPab	Z	21:28:09.2							
BFO	e PKPbc	Z	21:28:04.7	149.2	14.4					
	e PKPab	Z	21:28:10.1							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/25	22:35:34.3	34.941N	142.080E	33.0N	4.7			SZGRF

Off east coast of Honshu, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 22:48:06.0	84.8	38.5	1.1	6	4.7		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/25	22:46:43.7	15.496N	92.305W	33.0N	4.8			SZGRF

Mexico-Guatemala border region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 22:59:24.5	86.7	290.2	1.1	8	4.8		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/26	03:52:59.1	6.540S	71.630W	33.0N	5.3			SZGRF

Western Brazil

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
WLF	e P	Z 04:05:42.0	87.2	256.5	1.0	62	5.7		
BUG	e P	Z 04:05:47.1	88.3	257.3	1.2	62	5.8		
BFO	e P	Z 04:05:46.7	88.3	258.2	1.5	15	5.1		
IBBN	e P	Z 04:05:49.1	88.8	257.6	1.0	37	5.6		
STU	e P	Z 04:05:50.2	88.9	258.8	1.0	26	5.4		
NRDL	e P	Z 04:05:56.3	90.2	259.5	1.3	22	5.2		
CLZ	e P	Z 04:05:56.5	90.2	259.7	1.0	14	5.2		
GRA1	e P	Z 04:05:57.6	90.4	260.3	1.2	18	5.2		
BSEG	e P	Z 04:05:57.8	90.6	259.7	0.9	18	5.4		
MOX	e P	Z 04:05:58.9	90.8	260.6	2.0	47	5.5		
WET	e P	Z 04:06:01.6	91.4	261.6	1.7	27	5.3		
CLL	e P	Z 04:06:03.3	91.8	261.7	0.9	9	5.1		
GEC2	e P	Z 04:06:04.0	91.9	262.2	1.5	16	5.1		
BRG	e P	Z 04:06:05.8	92.3	262.4	1.1	14	5.2		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/26								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BFO	e Pg	Z 09:38:10.9							
	e Sn	E 09:38:23.5							
GRA1	e Sg	E 09:39:08.7							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/26	13:27:10.3	37.926N	70.656E	33.0N	4.4			SZGRF
Afghanistan-Tajikistan border region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 13:35:09.0	43.3	82.3	0.8	6	4.4		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/26	17:52:17.8	43.348N	17.432E	10.0G				SZGRF
Northwestern Balkan Peninsula								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e Pn	Z 17:53:46.5	6.1	153.4					
	e Sn	E 17:54:53.7							
WET	e Pn	Z 17:53:53.5	6.6	149.8					
	e Sn	E 17:55:05.8							
BFO	e Pn	Z 17:54:14.8	8.1	124.8					
	e Sn	N 17:55:41.0							
MOX	e Pn	Z 17:54:17.2	8.3	149.3					
	e Sn	N 17:55:48.8							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/26								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BFO	e Pn	Z 20:17:00.6							
	e Sn	N 20:17:19.3							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/26	22:24:57.0	32.100S	179.900W	33.0N				MIX-A
South of Kermadec Islands								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 22:45:34.4	160.6	29.4					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/26	23:56:57.3	54.348N	112.011E	33.0N	4.7			SZGRF
Lake Baykal, Russia, region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 00:06:38.0	56.7	43.2	1.1	9	4.7		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/27	02:19:1.7	56.557S	143.715E	33.0N				gsrc-m

West of Macquarie Island

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 02:38:52.9	151.3	122.2					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/27	03:52:23.5	15.660N	53.340E	33.0N	5.3	4.0		SZGRF

Arabian Sea

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e P	Z 04:00:45.6	46.3	121.8	1.7	33	5.1		
WET	e P	Z 04:00:50.3	46.9	121.1	2.7	63	5.3		
BRG	e P	Z 04:00:53.7	47.2	123.7	1.6	29	5.1		
GUNZ	e P	Z 04:00:58.2	47.8	121.5	1.5	55	5.5		
CLL	e P	Z 04:00:59.5	48.0	123.0	1.8	51	5.4		
GRA1	e P	Z 04:00:59.7	48.1	119.8	1.2	35	5.4		
	e	04:02:25.6							
	e L	Z 04:18:36.7			21.7	176		4.0	
MOX	e P	Z 04:01:01.9	48.4	121.0	2.5	102	5.5		
BFO	e P	Z 04:01:08.4	49.1	115.8	1.3	35	5.2		
CLZ	e P	Z 04:01:12.4	49.6	120.5	1.6	44	5.1		
NRDL	e P	Z 04:01:16.1	50.1	120.7	1.3	48	5.3		
BSEG	e P	Z 04:01:19.5	50.8	122.0	1.4	22	4.9		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/27	10:10:34.5	6.439N	126.512E	48.0G	5.1	4.9		neic-m

Mindanao, Philippine Islands

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e P	Z 10:24:07.3	98.3	67.9	0.4	26	5.8		
BRG	e P	Z 10:24:08.9	98.8	68.2	1.2	23	5.3		
CLL	e P	Z 10:24:10.4	99.2	67.4	1.4	18	5.1		
GEC2	e P	Z 10:24:12.6	99.7	68.3	1.5	20	5.0		
GUNZ	e P	Z 10:24:14.3	100.0	67.0	1.1	18	5.1		
WET	e P	Z 10:24:14.9	100.1	67.6	0.9	8	4.9		
MOX	e P	Z 10:24:15.2	100.3	66.4	1.3	15	5.0		
NRDL	e P	Z 10:24:16.3	100.4	64.8	1.4	17	5.0		

./2004/bul0405.txt

Thu Apr 23 08:38:25 2020

53

CLZ	e P	Z	10:24:16.9	100.5	65.1	1.2	14	4.9			
GRA1	e P	Z	10:24:19.0	100.9	66.2	0.9	13	5.0			
	e		10:24:42.1								
	e L	Z	11:13:25.0			20.3	456			4.9	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/27	15:11:59.1	11.321S	13.485W	33.2	4.8	5.2		SZGRF
Ascension Island region								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 15:22:34.6	64.8	206.9	1.1	7	4.8		
	e pP	Z 15:22:43.9							
	e L	Z 15:50:17.2			21.2	1808		5.2	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/27	19:20:15.1	42.739N	16.457E	10.0G				SZGRF
Adriatic Sea								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e Pn	Z 19:21:48.6	6.4	161.5					
	e Sn	E 19:22:59.5							
WET	e Pn	Z 19:21:54.9	6.9	157.5					
	e Sn	E 19:23:10.1							
GUNZ	e Pn	Z 19:22:12.4	8.1	158.1					
MOX	e Pn	Z 19:22:18.2	8.6	155.4					
	e Sn	N 19:23:51.2							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/27	20:36:50.7	35.745N	71.707E	33.0N	4.7			SZGRF
Pakistan								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 20:45:05.1	45.2	84.1	1.5	15	4.7		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/27	22:35:23.4	9.709N	40.969W	33.0N	4.7			SZGRF
Central Mid-Atlantic Ridge								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 22:45:18.1	58.7	245.7	1.1	8	4.7		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/28								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 05:21:59.5							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/28	12:38:50.9	36.040N	50.640E	29.7		6.1		szgrf
Northern and central Iran								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GEC2	e P	Z 12:44:55.6	29.7	101.6	1.2	1054			
BRG	e P	Z 12:44:57.8	30.1	105.2	1.9	670			
WET	e P	Z 12:45:00.0	30.3	101.3	1.4	625			
RUE	e P	Z 12:45:01.8	30.6	107.7	1.1	722			
CLL	e P	Z 12:45:03.7	30.7	105.0	1.0	861			
GUNZ	e P	Z 12:45:05.3	30.9	102.7	2.0	506			
FUR	e P	Z 12:45:08.0	31.2	98.1	1.7	1420			
MOX	e P	Z 12:45:09.6	31.4	102.5	1.2	202			
GRA1	e P	Z 12:45:10.7	31.5	100.6	1.3	568			
	e PP	Z 12:46:29.7							
	e S	N 12:50:21.8							
	e L	Z 13:03:04.7			21.5	46955		6.1	
RGN	e P	Z 12:45:10.2	31.5	110.4	1.1	1213			
CLZ	e P	Z 12:45:19.3	32.5	103.1	1.5	1314			
STU	e P	Z 12:45:19.9	32.7	97.2	1.2	740			
NRDL	e P	Z 12:45:21.8	32.8	103.8	2.0	1252			
BSEG	e P	Z 12:45:23.6	33.0	106.2	1.4	656			
BFO	e P	Z 12:45:24.3	33.2	95.8	1.7	398			
IBBN	e P	Z 12:45:33.7	34.1	101.2	1.5	1136			
BUG	e P	Z 12:45:35.2	34.3	99.5	1.2	1037			
HLG	e P	Z 12:45:36.3	34.5	104.0	1.5	829			
WLF	e P	Z 12:45:38.9	34.7	95.9	1.1	412			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/28	19:47:11.0	36.527N	51.631E	33.0N	4.4			SZGRF
Northern and central Iran								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 19:53:33.1	31.8	98.9	1.2	6	4.4		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/29	02:53:50.4	22.400S	170.400E	33.0N				SZGRF

Southeast of Loyalty Islands

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e PKPbc	Z	03:13:23.0	145.0	39.8					
BSEG	e PKPbc	Z	03:13:23.1	145.1	33.4					
BRG	e PKPbc	Z	03:13:26.7	146.1	41.5					
CLL	e PKPbc	Z	03:13:26.6	146.2	39.7					
NRDL	e PKPbc	Z	03:13:27.1	146.3	34.2					
CLZ	e PKPbc	Z	03:13:28.6	146.8	35.2					
GUNZ	e PKPbc	Z	03:13:30.0	147.2	39.6					
IBBN	e PKPbc	Z	03:13:30.2	147.3	30.7					
MOX	e PKPbc	Z	03:13:29.9	147.3	38.2					
GEC2	e PKPbc	Z	03:13:31.3	147.8	43.3					
WET	e PKPbc	Z	03:13:31.7	147.9	41.7					
GRA1	e PKPbc	Z	03:13:32.6	148.2	38.5					
	e PKPab	Z	03:13:36.2							
FUR	e PKPbc	Z	03:13:36.1	149.3	40.2					
	e PKPab	Z	03:13:40.8							
WLF	e PKPbc	Z	03:13:37.8	150.0	30.2					
	e PKPab	Z	03:13:43.6							
BFO	e PKPbc	Z	03:13:38.3	150.4	35.2					
	e PKPab	Z	03:13:44.5							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/29	03:47:17.9	38.340N	140.930E	46.1	6.1	5.6		SZGRF

Eastern Honshu, Japan

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RGN	e P	Z	03:59:07.2	76.8	39.7	1.3	378	6.4		
RUE	e P	Z	03:59:15.0	78.3	39.7	1.3	240	6.0		
BSEG	e P	Z	03:59:15.6	78.4	37.4	1.2	209	5.9		
HLG	e P	Z	03:59:19.7	79.1	35.7	1.0	119	5.9		
BRG	e P	Z	03:59:21.1	79.4	39.6	1.2	119	5.8		
CLL	e P	Z	03:59:21.0	79.5	39.0	1.1	217	6.1		
	e PP	Z	04:02:22.2							
NRDL	e P	Z	03:59:22.1	79.6	37.1	1.4	115	5.7		
CLZ	e P	Z	03:59:24.7	80.1	37.2	1.3	259	6.2		
GUNZ	e P	Z	03:59:26.9	80.5	38.4	1.2	113	5.9		
MOX	e P	Z	03:59:27.0	80.5	38.0	1.3	124	5.9		
IBBN	e P	Z	03:59:27.6	80.6	35.4	1.4	266	6.2		
GEC2	e P	Z	03:59:29.9	81.1	39.2	1.2	92	5.9		
WET	e P	Z	03:59:30.9	81.2	38.7	1.3	137	6.0		
GRA1	e P	Z	03:59:31.8	81.4	37.6	1.3	350	6.4		
	e pP	Z	03:59:45.2							
	e L	Z	04:41:15.9			20.2	2605		5.6	

./2004/bul0405.txt

Thu Apr 23 08:38:25 2020

56

BUG	e P	Z	03:59:31.6	81.5	35.0	1.2	105	5.9
FUR	e P	Z	03:59:38.1	82.6	37.5	1.2	287	6.4
STU	e P	Z	03:59:39.6	83.0	36.1	1.3	239	6.3
WLF	e P	Z	03:59:41.7	83.4	34.1	1.7	296	6.2
BFO	e P	Z	03:59:43.0	83.7	35.5	1.2	250	6.3

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/29	09:24:33.3	36.799N	50.955E	33.0N	4.5	4.3		SZGRF
Northern and central Iran								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 09:30:20.1	31.2	99.1	1.2	8	4.5		
	e L	Z 09:48:01.1			19.1	671		4.3	

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/29	10:14:33.8	38.372N	131.837E	33.0N	5.4			SZGRF
Sea of Japan								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e P	Z 10:26:09.1	74.5	45.9	1.2	50	5.4		
BSEG	e P	Z 10:26:12.0	74.9	43.8	1.0	29	5.2		
BRG	e P	Z 10:26:14.6	75.5	45.7	1.8	47	5.3		
CLL	e P	Z 10:26:15.4	75.6	45.2	0.8	51	5.7		
NRDL	e P	Z 10:26:18.1	76.0	43.4					
CLZ	e P	Z 10:26:20.2	76.4	43.5	1.2	60	5.6		
GUNZ	e P	Z 10:26:21.3	76.6	44.5	0.8	24	5.4		
MOX	e P	Z 10:26:21.9	76.7	44.1	1.4	30	5.2		
GEC2	e P	Z 10:26:23.0	77.1	45.2	1.4	19	5.0		
IBBN	e P	Z 10:26:24.1	77.1	41.8	1.3	46	5.4		
WET	e P	Z 10:26:24.1	77.2	44.7	1.4	20	5.1		
GRA1	e P	Z 10:26:27.0	77.6	43.7	1.0	85	5.8		
BUG	e P	Z 10:26:28.4	78.0	41.3					
FUR	e P	Z 10:26:32.1	78.7	43.5	1.0	45	5.5		
STU	e P	Z 10:26:34.6	79.2	42.2	1.1	37	5.3		
WLF	e P	Z 10:26:39.1	79.8	40.3					
BFO	e P	Z 10:26:38.8	79.9	41.6	1.1	61	5.4		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/29								

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e PKP	Z 12:54:56.9							



Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/29	20:56:5.1	33.483N	143.473E	33.0N	6.2	6.9		SZGRF

Off east coast of Honshu, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e P	Z 21:08:30.8	83.5	40.2	2.0	374	6.3		
BSEG	e P	Z 21:08:31.2	83.7	37.7	2.2	306	6.1		
BRG	e P	Z 21:08:35.8	84.7	40.2	2.2	425	6.3		
CLL	e P	Z 21:08:36.0	84.7	39.6	1.9	293	6.2		
NRDL	e P	Z 21:08:36.6	84.9	37.5					
CLZ	e P	Z 21:08:39.1	85.3	37.7	1.9	310	6.1		
GUNZ	e P	Z 21:08:41.0	85.7	39.0					
MOX	e P	Z 21:08:41.8	85.8	38.5	2.0	281	6.0		
IBBN	e P	Z 21:08:42.5	85.9	35.7					
GEC2	e P	Z 21:08:44.3	86.3	40.0					
WET	e P	Z 21:08:45.2	86.4	39.4					
GRA1	e P	Z 21:08:45.9	86.7	38.2	1.8	486	6.3		
	e PP	Z 21:12:07.6							
	e S	E 21:19:16.1							
	e L	Z 21:52:21.3			20.0	43386		6.9	
BUG	e P	Z 21:08:46.5	86.8	35.3	1.5	130	5.8		
FUR	e P	Z 21:08:52.8	87.9	38.2	2.3	661	6.6		
STU	e P	Z 21:08:53.8	88.2	36.7	2.3	372	6.2		
WLF	e P	Z 21:08:56.0	88.6	34.4					
BFO	e P	Z 21:08:56.6	88.9	36.0	2.0	211	6.0		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/29	21:32:37.0	34.083N	140.587E	33.0N	5.3			SZGRF

Near east coast of eastern Honshu, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 21:45:09.4	85.0	40.0	1.6	34	5.3		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/29	22:26:52.3	34.648N	138.641E	33.0N	5.5			SZGRF

Near south coast of eastern Honshu, Japan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 22:39:18.1	83.7	41.1	1.8	50	5.5		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
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./2004/bul0405.txt

Thu Apr 23 08:38:25 2020

58

2004/05/30 02:51:52.5 46.232N 152.527E 33.0N 5.0 SZGRF  
Kuril Islands, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 03:03:50.1	78.4	26.2	1.2	20	5.0		

Date Origin Time Lat Long Depth mb Ms ML Source  
2004/05/30 06:59: 7.6 37.026N 22.366E 33.0N 4.3 SZGRF  
Southern Greece

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
FUR	e P	Z 07:02:28.0	13.8	139.8	1.0	36			
WET	e P	Z 07:02:30.7	13.9	146.9					
GRA1	e P	Z 07:02:42.8	15.0	143.4	1.2	74			
GUNZ	e P	Z 07:02:45.0	15.2	147.8					
STU	e P	Z 07:02:44.6	15.2	135.9					
CLL	e P	Z 07:02:51.7	15.8	151.4	1.4	51	4.5		
RUE	e P	Z 07:03:01.1	16.6	155.3					
WLF	e P	Z 07:03:07.6	17.2	131.1					
BUG	e P	Z 07:03:15.5	17.9	137.6					
IBBN	e P	Z 07:03:21.5	18.4	140.4	1.1	17			
BSEG	e P	Z 07:03:24.3	18.8	148.9	1.0	17	4.2		

Date Origin Time Lat Long Depth mb Ms ML Source  
2004/05/30 10:40: 2.9 46.900N 147.479E 33.0N 5.2 SZGRF  
Northwest of Kuril Islands, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e P	Z 10:51:29.0	72.8	29.1	0.9	13	5.1		
RUE	e P	Z 10:51:29.6	73.0	31.1					
NRDL	e P	Z 10:51:36.5	74.1	28.8					
CLL	e P	Z 10:51:36.7	74.3	30.4	0.7	45	5.6		
BRG	e P	Z 10:51:37.2	74.4	31.0	0.9	9	4.8		
CLZ	e P	Z 10:51:39.6	74.6	28.8	0.8	33	5.4		
IBBN	e P	Z 10:51:41.0	75.0	27.2					
MOX	e P	Z 10:51:42.8	75.3	29.5	1.3	22	5.1		
GUNZ	e P	Z 10:51:43.2	75.3	29.9					
BUG	e P	Z 10:51:46.1	75.9	26.8	0.9	23	5.3		
GEC2	e P	Z 10:51:47.4	76.2	30.5	0.7	10	5.0		
WET	e P	Z 10:51:48.0	76.2	30.1	1.0	26	5.3		
GRA1	e P	Z 10:51:48.7	76.3	29.1	0.8	49	5.7		
FUR	e P	Z 10:51:55.6	77.6	29.0	1.0	36	5.4		
STU	e P	Z 10:51:55.9	77.7	27.7					
BFO	e P	Z 10:51:59.4	78.4	27.1	0.9	13	4.9		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/30	11:03:20.3	61.374N	150.159W	33.0N	6.0			SZGRF

Southern Alaska, United States

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	i P	- Z	11:13:48.7	63.7	349.7	0.9	107	6.1		
IBBN	i P	- Z	11:13:57.2	65.0	348.5					
NRDL	i P	- Z	11:13:57.6	65.1	349.7					
RUE	i P	- Z	11:14:00.0	65.4	351.6					
CLZ	i P	- Z	11:14:02.4	65.7	349.9	0.7	188	6.5		
BUG	i P	- Z	11:14:02.0	65.8	348.4					
CLL	i P	- Z	11:14:06.5	66.5	351.3	0.7	78	6.0		
BRG	i P	- Z	11:14:09.9	67.0	351.8	0.9	98	6.0		
MOX	i P	- Z	11:14:10.1	67.0	350.6	0.7	148	6.3		
WLF	i P	- Z	11:14:12.6	67.3	348.0					
GUNZ	i P	- Z	11:14:12.5	67.4	351.0					
GRA1	i P	- Z	11:14:16.2	67.9	350.5	0.8	80	6.0		
STU	i P	- Z	11:14:20.0	68.6	349.5	1.1	63	5.7		
WET	i P	- Z	11:14:20.6	68.6	351.4	1.0	58	5.8		
BFO	i P	- Z	11:14:22.2	68.9	349.1	1.2	67	5.7		
GEC2	i P	- Z	11:14:22.6	69.0	351.8	0.8	48	5.8		
FUR	i P	- Z	11:14:25.3	69.4	350.6	0.7	154	6.2		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/30	12:32:59.0	53.187N	158.677E	33.0N	4.9			SZGRF

Near east coast of Kamchatka Peninsula, Russia

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z	12:44:28.9	73.5	19.6	0.9	10	4.9		

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/30	16:43:57.3	14.582S	70.494W	33.0N	5.3			SZGRF

Central Peru

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z	16:57:20.6	95.8	254.3	0.9	9	5.3		
	e		16:57:49.9							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/30	21:23:16.4	36.059N	19.838E	33.0N				SZGRF

Central Mediterranean Sea

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z	21:26:51.5	15.0	152.1					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/30	21:11:26.5	31.500S	176.360W	33.0N		6.1		SZGRF

Kermadec Islands region

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e PKPdf	Z	21:31:20.0	157.1	14.7					
	e PKPab	Z	21:31:48.6							
RUE	e PKPdf	Z	21:31:21.0	157.8	23.4					
	e PKPab	Z	21:31:51.9							
NRDL	e PKPdf	Z	21:31:22.2	158.5	15.2					
	e PKPab	Z	21:31:55.0							
IBBN	e PKPdf	Z	21:31:22.6	159.0	9.8					
	e PKPab	Z	21:31:57.6							
CLL	e PKPdf	Z	21:31:23.1	159.0	22.8					
	e PKPab	Z	21:31:57.5							
CLZ	e PKPdf	Z	21:31:22.9	159.1	16.2					
	e PKPab	Z	21:31:57.8							
BRG	e PKPdf	Z	21:31:22.6	159.2	25.4					
	e PKPab	Z	21:31:58.0							
BUG	e PKPdf	Z	21:31:23.1	159.9	9.0					
	e PKPab	Z	21:32:02.2							
MOX	e PKPdf	Z	21:31:23.6	160.0	20.2					
	e PKPab	Z	21:32:01.7							
GUNZ	e PKPdf	Z	21:31:23.6	160.1	22.2					
	e PKPab	Z	21:32:02.4							
GRA1	e PKPdf	Z	21:31:25.0	160.9	20.2					
	e PKPab	Z	21:32:06.1							
	e L	Z	22:47:05.5			20.2	2798		6.1	
WET	e PKPdf	Z	21:31:25.3	161.0	24.9					
	e PKPab	Z	21:32:06.4							
GEC2	e PKPdf	Z	21:31:24.1	161.1	27.3					
	e PKPab	Z	21:32:06.4							
WLF	e PKPdf	Z	21:31:27.2	161.7	6.9					
	e PKPab	Z	21:32:10.1							
STU	e PKPdf	Z	21:31:26.2	162.2	15.7					
	e PKPab	Z	21:32:11.4							
FUR	e PKPdf	Z	21:31:25.7	162.4	21.9					
	e PKPab	Z	21:32:12.3							
BFO	e PKPdf	Z	21:31:26.4	162.8	13.6					
	e PKPab	Z	21:32:14.2							

./2004/bul0405.txt

Thu Apr 23 08:38:25 2020

61

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/30	23:49:36.4			N				SZGRF

Kermadec Islands region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 23:54:45.8			1.0	12			

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/31	01:51:44.4	13.012N	92.850E	33.0N	4.8			SZGRF

Andaman Islands, India, region

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 02:03:21.4	74.7	87.8	1.5	15	4.8		
	e	02:03:30.0							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/31	02:19:45.3	27.450N	124.110E	33.0N	5.1			SZGRF

Northeast of Taiwan

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
RUE	e P	Z 02:31:52.1	79.8	57.7	1.1	23	5.1		
BRG	e P	Z 02:31:55.8	80.5	57.6					
BSEG	e P	Z 02:31:56.7	80.7	55.4	0.9	44	5.4		
CLL	e P	Z 02:31:57.1	80.8	57.0					
NRDL	e P	Z 02:32:01.5	81.6	55.0					
GUNZ	e P	Z 02:32:01.9	81.7	56.4					
GEC2	e P	Z 02:32:02.4	81.8	57.2	1.5	12	4.7		
CLZ	e P	Z 02:32:03.0	81.9	55.1	1.2	47	5.4		
MOX	e P	Z 02:32:03.0	81.9	55.9	1.8	24	4.9		
WET	e P	Z 02:32:03.7	82.0	56.6	2.3	38	5.0		
GRA1	e P	Z 02:32:07.0	82.6	55.5	1.0	26	5.3		
IBBN	e P	Z 02:32:08.1	82.9	53.3					
FUR	e P	Z 02:32:11.1	83.5	55.4	1.0	22	5.3		
BUG	e P	Z 02:32:12.3	83.6	52.8					
STU	e P	Z 02:32:15.2	84.2	54.0					
BFO	e P	Z 02:32:19.1	85.0	53.3					

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/31	02:56:30.6	44.417N	149.272E	191.1	5.1			SZGRF

Kuril Islands, Russia

Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
GRA1	e P	Z 03:08:31.9	79.0	29.1	1.7	32	5.1		

e pP Z 03:09:18.1

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2004/05/31												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GRA1	e PKP	Z 04:11:52.4									

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2004/05/31	06:30:38.2	36.495N	21.073E	33.0N				SZGRF				
Southern Greece												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GRA1	e P	Z 06:34:13.4	15.0	147.9							

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2004/05/31	06:59:42.2	12.521N	36.632W	33.0N	4.9			SZGRF				
North Atlantic Ocean												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GRA1	e P	Z 07:09:02.7	53.9	243.6	1.0	12	4.9				

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2004/05/31	13:12:36.0	48.313N	98.725E	33.0N	4.9			SZGRF				
Mongolia												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	GRA1	e P	Z 13:21:57.0	54.0	55.2	0.8	12	4.9				

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source				
2004/05/31	17:41:29.0	17.021S	177.639W	33.0N				SZGRF				
Fiji Islands region												
	Sta	Phase	Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML		
	BSEG	e PKPbc	Z 18:00:53.8	142.6	12.6							
	RUE	e PKPbc	Z 18:00:56.2	143.4	18.5							
	NRDL	e PKPbc	Z 18:00:58.4	144.0	12.7							
	IBBN	e PKPbc	Z 18:00:59.9	144.5	8.9							
	CLZ	e PKPbc	Z 18:01:00.7	144.6	13.3							

CLL	e	PKPbc	Z	18:01:00.4	144.7	17.8
BRG	e	PKPbc	Z	18:01:00.9	144.9	19.5
GUNZ	e	PKPbc	Z	18:01:03.7	145.7	17.1
GRA1	e	PKPbc	Z	18:01:06.5	146.6	15.5
GEC2	e	PKPbc	Z	18:01:06.8	146.9	20.1
WLF	e	PKPbc	Z	18:01:08.7	147.2	6.7
STU	e	PKPbc	Z	18:01:09.2	147.8	12.3
FUR	e	PKPbc	Z	18:01:09.9	148.0	16.2
BFO	e	PKPbc	Z	18:01:10.6	148.3	10.9

Date	Origin Time	Lat	Long	Depth	mb	Ms	ML	Source
2004/05/31	21:46:25.5	19.554S	178.708W	33.0N				SZGRF
Fiji Islands region								

Sta	Phase		Time	Dist	BAz	T[s]	A[nm]	mb	MS	ML
BSEG	e	PKPbc	Z 22:05:58.1	144.9	14.9					
NRDL	e	PKPbc	Z 22:06:02.7	146.4	15.1					
IBBN	e	PKPbc	Z 22:06:05.6	146.9	11.2					
CLL	e	PKPbc	Z 22:06:04.1	146.9	20.5					
CLZ	e	PKPbc	Z 22:06:04.1	146.9	15.8					
BRG	e	PKPbc	Z 22:06:05.0	147.1	22.3					
MOX	e	PKPbc	Z 22:06:07.0	147.9	18.5					
GRA1	e	PKPbc	Z 22:06:09.5	148.8	18.3					
GEC2	e	PKPbc	Z 22:06:10.2	149.1	23.2					
WLF	e	PKPbc	Z 22:06:12.1	149.6	9.1					
FUR	e	PKPbc	Z 22:06:13.0	150.3	19.2					
BFO	e	PKPbc	Z 22:06:13.7	150.7	13.6					

## 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