

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

(produced by SZO/BGR - HANNOVER)

December 2018

UPDATED 16.June 2020

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

Event 81201001 Central Alaska, United States

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/01	05:31:58.20			62.2620	-149.5200				33.0				12	64.46	69.44	m i ke	BGR
OrigID 81201007																	

Magnitude	Err	Nsta	Author	OrigID
mb	5.1		BGR	81201007
Ms	4.0		BGR	81201007

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BRG	66.45		P	05:42:42.443		350.4		6.36		TAS		9.8	0.75	m_e mb	5.1
CLL	65.93		P	05:42:38.802		350.4		6.36		TAS		9.6	0.82	m_e mb	5.1
CLZ	65.13		P	05:42:34.219	0.1	350.4		6.36		TAS		16.3	0.82	m_e mb	5.3
FUR	68.86		P	05:42:57.739		350.4		6.36		TAS		18.3	0.76	m_e mb	5.4
GEC2	68.44		P	05:42:55.145		350.4		6.36		TAS		9.3	1.03	m_e mb	5.0
GRA1	67.34		L	06:07:18.427						T__		94.0	19.40	a_e Ms	4.0
MOX	66.45		P	05:42:42.362		350.4		6.36		TAS		15.7	0.83	m_e mb	5.3
MOX	66.45		L	05:54:16.547						T__		73.1	18.00	a_e Ms	3.9
NRDL	64.46		P	05:42:29.859	-0.1	350.4		6.36		TAS		15.1	0.98	m_e mb	5.2
PLN	66.66		P	05:42:43.773		350.4		6.36		TAS		9.7	0.82	m_e mb	5.1
RJOB	69.44		P	05:43:01.301		350.4		6.36		TAS		12.6	0.76	m_e mb	5.2
ROTZ	67.37		P	05:42:48.530		350.4		6.36		TAS		2.4	0.83	m_e mb	4.5
TANN	66.76		P	05:42:44.598		350.4		6.36		TAS		10.4	1.13	m_e mb	5.0
WET	68.06		P	05:42:53.115		350.4		6.36		TAS		10.3	1.07	m_e mb	5.0

Event 81201002 Central Alaska, United States

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
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OrigID  
 2018/12/01 07:07:42.02 62.4960 -150.4210 33.0 13 65.00 69.30 m i ke BGR  
 81201008

Magnitude Err Nsta Author OrigID  
 mb 5.0 BGR 81201008  
 Ms 4.2 BGR 81201008

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BRG	66.30		P	07:18:25.186		350.9		6.37		TAS		10.7	0.81	m_e	mb 5.1
CLL	65.78		P	07:18:21.560	-0.0	350.9		6.37		TAS		8.7	0.91	m_e	mb 5.0
CLZ	65.00		P	07:18:17.103	0.2	350.9		6.37		TAS		15.7	0.84	m_e	mb 5.3
GEC2	68.29		P	07:18:37.999		350.9		6.37		TAS		14.7	1.12	m_e	mb 5.1
GRA1	67.21		L	08:12:37.126						T__		130.5	18.80	a_e	Ms 4.2
MANZ	67.01		P	07:18:29.564		350.9		6.37		TAS		2.1	1.04	m_e	mb 4.3
MOX	66.31		P	07:18:25.155		350.9		6.37		TAS		14.3	0.81	m_e	mb 5.2
MOX	66.31		L	08:34:24.356						T__		130.5	20.60	a_e	Ms 4.1
NEUB	65.78		P	07:18:21.826		350.9		6.37		TAS		16.6	0.85	m_e	mb 5.3
PLN	66.52		P	07:18:26.498		350.9		6.37		TAS		10.2	0.85	m_e	mb 5.1
RJOB	69.30		P	07:18:44.139		350.9		6.37		TAS		15.2	0.83	m_e	mb 5.3
ROTZ	67.24		P	07:18:31.198		350.9		6.37		TAS		3.1	0.96	m_e	mb 4.5
TANN	66.62		P	07:18:27.312		350.9		6.37		TAS		8.6	1.05	m_e	mb 4.9
UBR	69.08		P	07:18:42.867		350.9		6.37		TAS		18.7	0.97	m_e	mb 5.3
WET	67.92		P	07:18:35.666		350.9		6.37		TAS		14.5	1.15	m_e	mb 5.1

Event 81201003 Central Alaska, United States

Date Time Err RMS Latitude Longitude Smaj Smin Az Depth Err Ndef Nsta Gap mdist Mdist Qual Author  
 OrigID  
 2018/12/01 07:57:27.48 62.5160 -150.6150 33.0 28 62.93 69.30 m i ke BGR  
 81201009

Magnitude Err Nsta Author OrigID  
 mb 5.8 BGR 81201009  
 Ms 4.1 BGR 81201009

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	68.23		P	08:08:22.960		351.0		6.37		TAS		46.2	1.06	m_e	mb 5.6
BRG	66.30		P	08:08:10.837	0.0	351.0		6.37		TAS		66.5	0.84	m_e	mb 5.9
BSEG	62.93		P	08:07:49.222	-0.1	351.0		6.37		TAS		60.1	0.89	m_e	mb 5.7
BUG	65.05		P	08:08:02.413	0.1	351.0		6.37		TAS		55.0	0.87	m_e	mb 5.8
CLL	65.78		P	08:08:07.134	0.2	351.0		6.37		TAS		64.2	0.92	m_e	mb 5.8
CLZ	65.00		P	08:08:02.834	-0.3	351.0		6.37		TAS		93.8	0.83	m_e	mb 6.0
FLT1	64.60		P	08:07:59.268	-0.2	351.0		6.37		TAS		44.7	0.90	m_e	mb 5.7
FUR	68.73		P	08:08:26.220		351.0		6.37		TAS		122.0	0.80	m_e	mb 6.2
GEC2	68.29		P	08:08:23.426	-0.1	351.0		6.37		TAS		46.8	0.99	m_e	mb 5.7
GRA1	67.21		P	08:08:16.658	-0.0	351.0		6.37		TAS		56.8	0.91	m_e	mb 5.8

GRA1	67.21	L	08:36:13.104						T__	107.7	21.00	a_e	Ms	4.0
GTTG	65.25	P	08:08:04.407	-0.1	351.0		6.37		TAS	138.0	0.97	m_e	mb	6.2
IBBN	64.25	P	08:07:57.752	0.3	351.0		6.37		TAS	77.7	0.97	m_e	mb	5.9
KAST	65.42	P	08:08:05.025	-0.3	351.0		6.37		TAS	38.7	1.10	m_e	mb	5.5
MANZ	67.01	P	08:08:15.105	0.1	351.0		6.37		TAS	16.3	1.25	m_e	mb	5.1
MOX	66.31	P	08:08:10.809	-0.0	351.0		6.37		TAS	91.9	0.84	m_e	mb	6.0
MOX	66.31	L	08:34:24.347						T__	130.5	20.60	a_e	Ms	4.1
NEUB	65.78	P	08:08:07.496	0.0	351.0		6.37		TAS	93.0	0.88	m_e	mb	6.0
NRDL	64.33	P	08:07:58.089	-0.7	351.0		6.37		TAS	67.3	0.98	m_e	mb	5.8
PLN	66.52	P	08:08:12.129	-0.2	351.0		6.37		TAS	63.9	0.90	m_e	mb	5.8
RETH	64.01	P	08:07:56.087	0.1	351.0		6.37		TAS	25.7	0.99	m_e	mb	5.4
RJOB	69.30	P	08:08:29.724		351.0		6.37		TAS	66.4	0.78	m_e	mb	5.9
ROTZ	67.23	P	08:08:16.762	0.2	351.0		6.37		TAS	15.7	0.90	m_e	mb	5.2
RUE	64.69	P	08:08:00.757	0.4	351.0		6.37		TAS	192.4	0.89	m_e	mb	6.3
TANN	66.62	P	08:08:12.887	0.1	351.0		6.37		TAS	57.8	1.04	m_e	mb	5.7
TNS	66.39	P	08:08:11.210	0.4	351.0		6.37		TAS	65.1	1.17	m_e	mb	5.8
UBBA	65.97	P	08:08:08.394	0.1	351.0		6.37		TAS	23.0	1.01	m_e	mb	5.4
UBR	69.08	P	08:08:28.208		351.0		6.37		TAS	65.2	0.88	m_e	mb	5.9
WET	67.92	P	08:08:21.207	-0.0	351.0		6.37		TAS	62.2	1.05	m_e	mb	5.8
WLF	66.65	P	08:08:13.177	0.1	351.0		6.37		TAS	103.0	1.20	m_e	mb	5.9

Event 81201004 Central Alaska, United States

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/01	12:44:59.30			62.5640	-149.7730				33.0			13		64.11	68.59	m i ke	BGR
OrigID 81201010																	

Magnitude	Err	Nsta	Author	OrigID
mb	5.1		BGR	81201010

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BRG	66.18	P		12:55:41.515		350.6		6.38		TAS		10.8	0.94	m_e	mb 5.1
CLL	65.66	P		12:55:37.608	-0.1	350.6		6.38		TAS		8.1	0.90	m_e	mb 5.0
CLZ	64.86	P		12:55:33.541	0.1	350.6		6.38		TAS		11.9	0.75	m_e	mb 5.2
FUR	68.59	P		12:55:56.895		350.6		6.38		TAS		31.8	1.08	m_e	mb 5.5
GEC2	68.16	P		12:55:54.329		350.6		6.38		TAS		9.8	1.04	m_e	mb 5.0
IBBN	64.11	P		12:55:28.360	-0.2	350.6		6.38		TAS		17.2	0.92	m_e	mb 5.3
KAST	65.27	P		12:55:35.810		350.6		6.38		TAS		11.7	1.19	m_e	mb 5.0
MOX	66.18	P		12:55:41.505		350.6		6.38		TAS		11.9	0.89	m_e	mb 5.1
PLN	66.39	P		12:55:42.727		350.6		6.38		TAS		6.2	0.84	m_e	mb 4.9
ROTZ	67.10	P		12:55:47.648		350.6		6.38		TAS		2.7	0.99	m_e	mb 4.4
RUE	64.57	P		12:55:31.536	-0.1	350.6		6.38		TAS		30.3	1.02	m_e	mb 5.5
TANN	66.49	P		12:55:43.928		350.6		6.38		TAS		12.9	1.17	m_e	mb 5.0
WET	67.79	P		12:55:52.120		350.6		6.38		TAS		17.1	1.22	m_e	mb 5.2

Event 81201006 Banda Sea

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/01	13:27:21.50			-7.3860	128.6900				141.0				23	111.22	116.34	m i ke	NEIC

Magnitude Err Nsta Author OrigID

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	115.44		PKiKP	13:45:45.329		73.2		1.98		TAS					a_e
BRG	111.22		PKiKP	13:45:37.929	0.3	73.2		1.98		TAS					a_e
BUG	115.04		PKiKP	13:45:46.329	0.0	73.2		1.98		TAS					a_e
CLL	111.67		PKiKP	13:45:38.479	0.1	73.2		1.98		TAS					a_e
CLZ	113.08		PKiKP	13:45:41.829	0.2	73.2		1.98		TAS					a_e
FLT1	112.42		PKiKP	13:45:39.979	-0.2	73.2		1.98		TAS					a_e
FUR	113.61		PKiKP	13:45:42.379		73.2		1.98		TAS					a_e
GEC2	111.88		PKiKP	13:45:39.079		73.2		1.98		TAS					a_e
GRA1	113.22		PKiKP	13:45:41.679		73.2		1.98		TAS					a_e
GTTG	113.42		PKiKP	13:45:42.279	-0.2	73.2		1.98		TAS					a_e
HLG	113.69		PKiKP	13:45:43.029	0.1	73.2		1.98		TAS					a_e
KAST	114.45		PKiKP	13:45:44.179	-0.1	73.2		1.98		TAS					a_e
MANZ	112.58		PKiKP	13:45:40.387	0.1	73.2		1.98		TAS					m_e
MOX	112.70		PKiKP	13:45:40.529	0.3	73.2		1.98		TAS					a_e
NEUB	112.44		PKiKP	13:45:40.079	0.0	73.2		1.98		TAS					a_e
NRDL	113.03		PKiKP	13:45:41.779	0.8	73.2		1.98		TAS					a_e
PLN	112.41		PKiKP	13:45:40.129	0.2	73.2		1.98		TAS					a_e
STU	114.76		PKiKP	13:45:44.479		73.2		1.98		TAS					a_e
TANN	112.25		PKiKP	13:45:39.829	-0.2	73.2		1.98		TAS					a_e
TNS	114.76		PKiKP	13:45:44.729	-0.6	73.2		1.98		TAS					a_e
UBR	114.51		PKiKP	13:45:43.929		73.2		1.98		TAS					a_e
WET	112.33		PKiKP	13:45:40.079		73.2		1.98		TAS					a_e
WLF	116.34		PKiKP	13:45:48.229		73.2		1.98		TAS					a_e

Event 81205002 Fiji Islands region

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/04	23:44:11.50			-18.3200	-178.1600				600.0				19	143.85	149.94	m i ke	EMSC

Magnitude Err Nsta Author OrigID

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	149.60		PKPbc	00:02:55.313		16.9		2.74		TAS					m_e
BRG	146.12		PKPbc	00:02:46.757	-0.5	16.9		2.74		TAS					m_e

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BSEG	143.85	PKPbc	00:02:39.308	-0.2	16.9	2.74	TAS	m_e
CLL	145.91	PKPbc	00:02:45.740	0.2	16.9	2.74	TAS	m_e
CLZ	145.88	PKPbc	00:02:45.949	0.4	16.9	2.74	TAS	m_e
FLT1	145.27	PKPbc	00:02:43.526	0.3	16.9	2.74	TAS	m_e
FUR	149.26	PKPbc	00:02:55.044		16.9	2.74	TAS	m_e
GEC2	148.07	PKPbc	00:02:51.753		16.9	2.74	TAS	m_e
KAST	146.78	PKPbc	00:02:48.253	0.5	16.9	2.74	TAS	m_e
MANZ	147.35	PKPbc	00:02:50.108		16.9	2.74	TAS	m_e
NEUB	146.26	PKPbc	00:02:46.967	-0.2	16.9	2.74	TAS	m_e
NRDL	145.29	PKPbc	00:02:43.736	-0.1	16.9	2.74	TAS	m_e
PLN	146.87	PKPbc	00:02:48.761	-0.4	16.9	2.74	TAS	m_e
RETH	145.15	PKPbc	00:02:43.496	0.4	16.9	2.74	TAS	m_e
RJOB	149.32	PKPbc	00:02:54.714		16.9	2.74	TAS	m_e
ROTZ	147.54	PKPbc	00:02:50.490		16.9	2.74	TAS	m_e
TANN	146.87	PKPbc	00:02:48.672		16.9	2.74	TAS	m_e
UBR	149.94	PKPbc	00:02:56.360		16.9	2.74	TAS	m_e
WLF	148.54	PKPbc	00:02:53.518		16.9	2.74	TAS	m_e

Event 81205003 Southeast of Loyalty Islands

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/05	04:18:07.90			-21.9200	169.4900				10.0			31		144.23	149.64	m i ke	EMSC
81205035																	

Magnitude Err Nsta Author OrigID  
Ms 7.4 BGR 81205009

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	149.64		PKPbc	04:37:59.094	-0.0	39.6		2.86		TAS					m_e
BRG	145.36		PKPbc	04:37:46.677	0.4	39.6		2.86		TAS					a_e
BSEG	144.34		PKPbc	04:37:42.640	-0.2	39.6		2.86		TAS					m_e
BUG	147.45		PKPbc	04:37:52.727	-0.5	39.6		2.86		TAS					a_e
CLL	145.43		PKPbc	04:37:46.677	0.3	39.6		2.86		TAS					a_e
CLZ	146.03		PKPbc	04:37:49.127	0.4	39.6		2.86		TAS					a_e
FLT1	145.32		PKPbc	04:37:46.227	0.4	39.6		2.86		TAS					a_e
FUR	148.54		PKPbc	04:37:56.327	-0.7	39.6		2.86		TAS					a_e
GEC2	146.94		PKPbc	04:37:51.777	-0.1	39.6		2.86		TAS					a_e
GOR1	144.77		PKPbc	04:37:44.877	0.0	39.6		2.86		TAS					a_e
GRA1	147.40		PKPbc	04:37:53.227	0.0	39.6		2.86		TAS					a_e
GRA1	147.40		L	05:54:00.365						T__	62578.9	20.30		a_e Ms	7.4
GTTG	146.42		PKPbc	04:37:50.227	-0.0	39.6		2.86		TAS					a_e
HLG	144.90		PKPbc	04:37:44.977	-1.2	39.6		2.86		TAS					a_e
IBBN	146.55		PKPbc	04:37:50.227	-0.5	39.6		2.86		TAS					a_e
KAST	147.26		PKPbc	04:37:52.477	0.1	39.6		2.86		TAS					a_e
MANZ	146.80		PKPbc	04:37:51.577	0.2	39.6		2.86		TAS					a_e
MOX	146.50		PKPbc	04:37:50.577	0.3	39.6		2.86		TAS					a_e



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7

2018/12/05 05:53:05.90

-22.1400 169.6800

10.0

13

144.61 147.22 m i ke EMSC

81205037

Magnitude Err Nsta Author OrigID

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BRG	145.63		PKPbc	06:12:44.443		39.5		3.18		TAS				m_e	
BSEG	144.61		PKPbc	06:12:40.439	0.1	39.5		3.18		TAS				m_e	
CLL	145.70		PKPbc	06:12:44.192	-0.2	39.5		3.18		TAS				m_e	
CLZ	146.30		PKPbc	06:12:46.449	0.1	39.5		3.18		TAS				m_e	
FLT1	145.59		PKPbc	06:12:43.524	0.3	39.5		3.18		TAS				m_e	
GEC2	147.22		PKPbc	06:12:49.124		39.5		3.18		TAS				m_e	
GOR1	145.04		PKPbc	06:12:42.270	-0.1	39.5		3.18		TAS				m_e	
GTTG	146.69		PKPbc	06:12:47.703	0.2	39.5		3.18		TAS				m_e	
IBBN	146.82		PKPbc	06:12:47.798	-0.0	39.5		3.18		TAS				m_e	
MANZ	147.08		PKPbc	06:12:48.873		39.5		3.18		TAS				m_e	
PLN	146.67		PKPbc	06:12:47.452		39.5		3.18		TAS				m_e	
RETH	145.92		PKPbc	06:12:45.112	-0.3	39.5		3.18		TAS				m_e	
ROTZ	147.20		PKPbc	06:12:48.539		39.5		3.18		TAS				m_e	

Event 81205006 Southeast of Loyalty Islands

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
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2018/12/05 06:43:08.90

-21.8400 169.7500

10.0

26

144.79 149.67 m i ke EMSC

81205038

Magnitude Err Nsta Author OrigID

Ms	6.5	BGR	81205012												
Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	149.67		PKPbc	07:02:57.257		39.2		2.77		TAS				m_e	
BRG	145.40		PKPbc	07:02:45.994	0.3	39.2		2.77		TAS				a_e	
BUG	147.46		PKPbc	07:02:52.894	-0.1	39.2		2.77		TAS				a_e	
CLL	145.46		PKPbc	07:02:45.894	0.4	39.2		2.77		TAS				a_e	
CLZ	146.05		PKPbc	07:02:48.144	0.1	39.2		2.77		TAS				a_e	
FLT1	145.34		PKPbc	07:02:45.394	-0.3	39.2		2.77		TAS				a_e	
GEC2	146.99		PKPbc	07:02:50.772		39.2		2.77		TAS				m_e	
GOR1	144.79		PKPbc	07:02:44.144	-0.4	39.2		2.77		TAS				a_e	
GRA1	147.43		PKPbc	07:02:51.933	-0.2	39.2		2.77		TAS				m_e	
GRA1	147.43		L	08:32:04.665						T__		8999.8	19.70	a_e Ms	6.6
GTTG	146.44		PKPbc	07:02:49.244	0.1	39.2		2.77		TAS				a_e	
IBBN	146.56		PKPbc	07:02:49.194	0.9	39.2		2.77		TAS				a_e	
KAST	147.27		PKPbc	07:02:51.444	0.1	39.2		2.77		TAS				a_e	
MANZ	146.84		PKPbc	07:02:50.494	0.1	39.2		2.77		TAS				a_e	
MOX	146.53		PKPbc	07:02:49.294	0.5	39.2		2.77		TAS				a_e	
MOX	146.53		L	08:12:00.035						T__		7711.4	21.40	a_e Ms	6.5

NEUB	146.04	PKPbc	07:02:47.894	0.2	39.2	2.77	TAS	a_e
NRDL	145.61	PKPbc	07:02:45.734	0.2	39.2	2.77	TAS	m_e
PLN	146.43	PKPbc	07:02:49.144	0.5	39.2	2.77	TAS	m_e
RETH	145.67	PKPbc	07:02:46.843	-0.6	39.2	2.77	TAS	m_e
RJOB	148.21	PKPbc	07:02:53.794		39.2	2.77	TAS	a_e
ROTZ	146.96	PKPbc	07:02:50.894	0.2	39.2	2.77	TAS	a_e
TANN	146.36	PKPbc	07:02:49.044	0.3	39.2	2.77	TAS	a_e
TNS	148.08	PKPbc	07:02:53.835	0.3	39.2	2.77	TAS	m_e
UBBA	147.02	PKPbc	07:02:50.994	0.3	39.2	2.77	TAS	a_e
UBR	149.46	PKPbc	07:02:56.218		39.2	2.77	TAS	m_e
WET	147.14	PKPbc	07:02:51.039	-1.1	39.2	2.77	TAS	m_e
WLF	149.35	PKPbc	07:02:57.444	-0.6	39.2	2.77	TAS	a_e

Event 81205007 Loyalty Islands

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/05	07:46:41.40			-21.6200	168.8800				10.0			23		144.82	149.13	m i ke	EMSC
	81205039																

Magnitude Err Nsta Author OrigID

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	149.13		PKPbc	08:06:28.818		40.3		2.74		TAS					m_e
BRG	144.83		PKPbc	08:06:17.819	0.5	40.3		2.74		TAS					a_e
CLL	144.91		PKPbc	08:06:17.819	0.1	40.3		2.74		TAS					a_e
CLZ	145.53		PKPbc	08:06:20.419	-0.1	40.3		2.74		TAS					m_e
FLT1	144.82		PKPbc	08:06:17.248	0.3	40.3		2.74		TAS					m_e
GEC2	146.40		PKPbc	08:06:22.001		40.3		2.74		TAS					m_e
GRA1	146.88		PKPbc	08:06:23.962		40.3		2.74		TAS					m_e
GTTG	145.92		PKPbc	08:06:21.339	0.1	40.3		2.74		TAS					m_e
IBBN	146.07		PKPbc	08:06:21.410	0.3	40.3		2.74		TAS					m_e
KAST	146.76		PKPbc	08:06:23.697	0.3	40.3		2.74		TAS					m_e
MANZ	146.28		PKPbc	08:06:22.342	-0.9	40.3		2.74		TAS					m_e
MOX	145.98		PKPbc	08:06:21.292	0.6	40.3		2.74		TAS					m_e
NEUB	145.50		PKPbc	08:06:20.069	0.3	40.3		2.74		TAS					a_e
NRDL	145.10		PKPbc	08:06:18.443	0.3	40.3		2.74		TAS					m_e
PLN	145.88		PKPbc	08:06:20.893	0.4	40.3		2.74		TAS					m_e
RETH	145.17		PKPbc	08:06:18.647	0.5	40.3		2.74		TAS					m_e
ROTZ	146.40		PKPbc	08:06:22.818	-0.5	40.3		2.74		TAS					m_e
TANN	145.80		PKPbc	08:06:20.926	-0.2	40.3		2.74		TAS					m_e
TNS	147.56		PKPbc	08:06:25.837	-0.3	40.3		2.74		TAS					m_e
UBBA	146.49		PKPbc	08:06:22.655	0.6	40.3		2.74		TAS					m_e
UBR	148.89		PKPbc	08:06:28.529		40.3		2.74		TAS					m_e
WET	146.56		PKPbc	08:06:22.491		40.3		2.74		TAS					m_e
WLF	148.85		PKPbc	08:06:29.783		40.3		2.74		TAS					m_e



Event 81205008 Southeast of Loyalty Islands

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/05	15:40:11.50			-21.9300	169.2600				10.0			18		145.24	149.56	m i ke	EMSC
OrigID 81205040																	

Magnitude Err Nsta Author OrigID

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	149.56		PKPbc	16:00:12.532		40.0		3.32		TAS					m_e
BRG	145.27		PKPbc	16:00:01.650	-1.4	40.0		3.32		TAS					m_e
BUG	147.38		PKPbc	16:00:07.245	0.2	40.0		3.32		TAS					m_e
CLL	145.34		PKPbc	16:00:01.645	1.2	40.0		3.32		TAS					m_e
CLZ	145.96		PKPbc	16:00:03.580	1.2	40.0		3.32		TAS					m_e
FLT1	145.24		PKPbc	16:00:00.669	1.0	40.0		3.32		TAS					m_e
FUR	148.44		PKPbc	16:00:11.010		40.0		3.32		TAS					m_e
GEC2	146.84		PKPbc	16:00:05.752		40.0		3.32		TAS					m_e
GRA1	147.31		PKPbc	16:00:06.594		40.0		3.32		TAS					m_e
MANZ	146.71		PKPbc	16:00:05.391		40.0		3.32		TAS					m_e
NEUB	145.93		PKPbc	16:00:03.344	0.4	40.0		3.32		TAS					m_e
ROTZ	146.84		PKPbc	16:00:05.952		40.0		3.32		TAS					m_e
STU	148.86		PKPbc	16:00:12.060		40.0		3.32		TAS					m_e
TANN	146.24		PKPbc	16:00:03.320		40.0		3.32		TAS					m_e
UBBA	146.91		PKPbc	16:00:06.789	1.0	40.0		3.32		TAS					m_e
UBR	149.32		PKPbc	16:00:12.491		40.0		3.32		TAS					m_e
WET	147.00		PKPbc	16:00:06.471		40.0		3.32		TAS					m_e
WLF	149.26		PKPbc	16:00:11.674		40.0		3.32		TAS					m_e

Event 81205009 Southeast of Loyalty Islands

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/05	21:32:17.60			-21.6600	169.8600				10.0			28		144.22	149.55	m i ke	EMSC
OrigID 81205041																	

Magnitude Err Nsta Author OrigID

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	149.55		PKPbc	21:52:05.237	-0.6	38.9		2.72		TAS					m_e
BRG	145.28		PKPbc	21:51:54.553	0.3	38.9		2.72		TAS					m_e
BSEG	144.22		PKPbc	21:51:51.123	-0.2	38.9		2.72		TAS					m_e
BUG	147.32		PKPbc	21:52:00.484	-0.0	38.9		2.72		TAS					m_e
CLL	145.34		PKPbc	21:51:54.395	-0.1	38.9		2.72		TAS					m_e
CLZ	145.93		PKPbc	21:51:56.863	-0.4	38.9		2.72		TAS					m_e

FUR	148.47	PKPbc	21:52:03.250		38.9	2.72	TAS										m_e
GEC2	146.88	PKPbc	21:51:59.288	-0.1	38.9	2.72	TAS										m_e
GOR1	144.66	PKPbc	21:51:52.946	-0.1	38.9	2.72	TAS										m_e
GRA1	147.32	PKPbc	21:52:00.442	0.2	38.9	2.72	TAS										m_e
GTTG	146.32	PKPbc	21:51:58.198	-0.5	38.9	2.72	TAS										m_e
IBBN	146.43	PKPbc	21:51:58.491	-0.0	38.9	2.72	TAS										a_e
KAST	147.15	PKPbc	21:51:59.350	0.1	38.9	2.72	TAS										m_e
MANZ	146.72	PKPbc	21:51:58.708	0.3	38.9	2.72	TAS										m_e
MOX	146.41	PKPbc	21:51:57.571	0.4	38.9	2.72	TAS										m_e
NEUB	145.92	PKPbc	21:51:56.347	-0.1	38.9	2.72	TAS										m_e
NRDL	145.49	PKPbc	21:51:55.224	0.4	38.9	2.72	TAS										m_e
PLN	146.32	PKPbc	21:51:57.710	0.2	38.9	2.72	TAS										m_e
RETH	145.54	PKPbc	21:51:55.358	0.4	38.9	2.72	TAS										m_e
RJOB	148.10	PKPbc	21:52:02.215		38.9	2.72	TAS										m_e
ROTZ	146.85	PKPbc	21:51:59.749	-0.1	38.9	2.72	TAS										m_e
STU	148.86	PKPbc	21:52:04.514	-0.3	38.9	2.72	TAS										m_e
TANN	146.25	PKPbc	21:51:57.491	0.8	38.9	2.72	TAS										m_e
TNS	147.95	PKPbc	21:52:02.372	0.6	38.9	2.72	TAS										m_e
UBBA	146.90	PKPbc	21:51:59.114	0.2	38.9	2.72	TAS										m_e
UBR	149.35	PKPbc	21:52:05.139		38.9	2.72	TAS										m_e
WET	147.03	PKPbc	21:51:59.308	-1.0	38.9	2.72	TAS										m_e
WLF	149.22	PKPbc	21:52:06.141	0.2	38.9	2.72	TAS										m_e

Event 81205010 Southeast of Loyalty Islands

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/05	21:32:17.60			-21.6600	169.8600				5.0			22		145.28	149.55	m i ke	EMSC
81205042																	

Magnitude	Err	Nsta	Author	OrigID
Ms	4.9		BGR	81205016

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	149.55		PKPbc	21:52:06.784		38.9		2.75		TAS					m_e
BRG	145.28		PKPbc	21:51:55.470	0.3	38.9		2.75		TAS					m_e
BUG	147.32		PKPbc	21:52:01.134	0.0	38.9		2.75		TAS					m_e
CLL	145.34		PKPbc	21:51:55.427	-0.0	38.9		2.75		TAS					m_e
CLZ	145.93		PKPbc	21:51:57.625	0.0	38.9		2.75		TAS					m_e
GEC2	146.88		PKPbc	21:52:00.311		38.9		2.75		TAS					m_e
GRA1	147.32		PKPbc	21:52:01.756		38.9		2.75		TAS					m_e
GRA1	147.32		L	23:03:04.494						T__		194.0	19.60	a_e Ms	4.9
GTTG	146.32		PKPbc	21:51:58.708	-0.2	38.9		2.75		TAS					m_e
IBBN	146.43		PKPbc	21:51:58.708	0.1	38.9		2.75		TAS					m_e
KAST	147.15		PKPbc	21:52:00.889	0.3	38.9		2.75		TAS					m_e
MANZ	146.72		L	21:51:59.935						T__		0.00		a_e	
MOX	146.41		PKPbc	21:51:58.678	0.6	38.9		2.75		TAS					m_e



Magnitude	Err	Nsta	Author	OrigID												
Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude	
BFO	149.38		PKPbc	04:28:23.426		16.8		2.74		TAS				m_e		
BRG	145.90		PKPbc	04:28:14.635	0.3	16.8		2.74		TAS				m_e		
BSEG	143.63		PKPbc	04:28:07.352	-0.4	16.8		2.74		TAS				m_e		
CLL	145.69		PKPbc	04:28:13.877	0.2	16.8		2.74		TAS				m_e		
CLZ	145.66		PKPbc	04:28:13.890	0.2	16.8		2.74		TAS				m_e		
FUR	149.03		PKPbc	04:28:22.866		16.8		2.74		TAS				m_e		
GEC2	147.85		PKPbc	04:28:19.831		16.8		2.74		TAS				m_e		
GOR1	144.40		PKPbc	04:28:10.088	-0.6	16.8		2.74		TAS				m_e		
GTTG	146.00		PKPbc	04:28:14.860	0.3	16.8		2.74		TAS				m_e		
IBBN	145.54		PKPbc	04:28:13.505	0.0	16.8		2.74		TAS				m_e		
KAST	146.55		PKPbc	04:28:16.277	0.2	16.8		2.74		TAS				m_e		
MANZ	147.13		PKPbc	04:28:18.198	-0.4	16.8		2.74		TAS				m_e		
MOX	146.60		PKPbc	04:28:16.478	0.3	16.8		2.74		TAS				m_e		
NEUB	146.04		PKPbc	04:28:15.027	0.3	16.8		2.74		TAS				m_e		
NRDL	145.06		PKPbc	04:28:11.436	0.3	16.8		2.74		TAS				m_e		
PLN	146.64		PKPbc	04:28:16.653	0.4	16.8		2.74		TAS				m_e		
RETH	144.93		PKPbc	04:28:11.269	0.1	16.8		2.74		TAS				m_e		
RJOB	149.10		PKPbc	04:28:22.782		16.8		2.74		TAS				m_e		
ROTZ	147.32		PKPbc	04:28:18.599	-0.1	16.8		2.74		TAS				m_e		
STU	148.82		PKPbc	04:28:22.300		16.8		2.74		TAS				m_e		
TANN	146.65		PKPbc	04:28:16.817	-0.1	16.8		2.74		TAS				m_e		
TNS	147.51		PKPbc	04:28:19.041	-0.0	16.8		2.74		TAS				m_e		
UBR	149.72		PKPbc	04:28:24.356		16.8		2.74		TAS				m_e		
WLF	148.31		PKPbc	04:28:21.488	-0.6	16.8		2.74		TAS				m_e		

Event 81206003 Vanuatu Islands

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/06	18:44:22.10			-19.0300	169.4700				240.0			19		143.38	147.01	m i ke	EMSC

Magnitude	Err	Nsta	Author	OrigID												
Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude	
BFO	147.01		PKPbc	19:03:36.514		37.5		3.13		TAS				m_e		
BUG	144.74		PKPbc	19:03:29.430	0.1	37.5		3.13		TAS				m_e		
GEC2	144.41		PKPbc	19:03:28.817		37.5		3.13		TAS				m_e		
GRA1	144.79		PKPbc	19:03:30.463		37.5		3.13		TAS				m_e		
GTTG	143.75		PKPbc	19:03:26.723	0.2	37.5		3.13		TAS				m_e		
IBBN	143.84		PKPbc	19:03:26.882	0.1	37.5		3.13		TAS				m_e		
KAST	144.57		PKPbc	19:03:29.194	0.6	37.5		3.13		TAS				m_e		
MANZ	144.21		PKPbc	19:03:28.305		37.5		3.13		TAS				m_e		
MOX	143.88		PKPbc	19:03:26.959	-0.3	37.5		3.13		TAS				m_e		

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NEUB	143.38	PKPbc	19:03:25.184	0.2	37.5	3.13	TAS	m_e
PLN	143.79	PKPbc	19:03:26.853	-0.3	37.5	3.13	TAS	m_e
RJOB	145.64	PKPbc	19:03:32.639		37.5	3.13	TAS	m_e
ROTZ	144.34	PKPbc	19:03:28.624		37.5	3.13	TAS	m_e
STU	146.32	PKPbc	19:03:34.815		37.5	3.13	TAS	m_e
TNS	145.39	PKPbc	19:03:32.023	-0.2	37.5	3.13	TAS	m_e
UBBA	144.34	PKPbc	19:03:28.393	0.1	37.5	3.13	TAS	m_e
UBR	146.84	PKPbc	19:03:36.155		37.5	3.13	TAS	m_e
WET	144.54	PKPbc	19:03:29.454		37.5	3.13	TAS	m_e
WLF	146.64	PKPbc	19:03:36.089		37.5	3.13	TAS	m_e

Event 81206004 Southern Alaska, United States

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/06	21:45:10.19			61.7010	-151.9990				33.0			14		65.61	70.23	m i ke	BGR
81206010																	

Magnitude	Err	Nsta	Author	OrigID
mb	5.2		BGR	81206010

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BRG	67.22		P	21:55:59.826		351.5		6.30		TAS		13.6	0.84	m_e mb	5.2
CLL	66.71		P	21:55:56.020	-0.0	351.5		6.30		TAS		10.1	0.81	m_e mb	5.1
CLZ	65.94		P	21:55:51.783	0.1	351.5		6.30		TAS		21.5	0.89	m_e mb	5.4
FUR	69.67		P	21:56:15.120		351.5		6.30		TAS		30.1	0.79	m_e mb	5.5
GEC2	69.21		P	21:56:12.371		351.5		6.30		TAS		10.5	0.99	m_e mb	5.0
GTTG	66.19		P	21:55:53.624	0.5	351.5		6.30		TAS		45.3	1.14	m_e mb	5.6
MOX	67.24		P	21:55:59.897		351.5		6.30		TAS		21.1	0.91	m_e mb	5.4
PLN	67.45		P	21:56:01.293		351.5		6.30		TAS		13.7	0.92	m_e mb	5.2
RJOB	70.23		P	21:56:18.362		351.5		6.30		TAS		14.9	0.77	m_e mb	5.2
ROTZ	68.17		P	21:56:05.746		351.5		6.30		TAS		3.4	0.91	m_e mb	4.6
RUE	65.61		P	21:55:49.184	0.1	351.5		6.30		TAS		56.4	0.97	m_e mb	5.8
TNS	67.34		P	21:56:00.179		351.5		6.30		TAS		26.9	1.35	m_e mb	5.3
UBR	70.03		P	21:56:17.305		351.5		6.30		TAS		17.9	0.92	m_e mb	5.2
WET	68.84		P	21:56:10.398		351.5		6.30		TAS		14.0	1.05	m_e mb	5.1

Event 81206005 Southeast of Loyalty Islands

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/06	23:27:03.60			-22.3300	169.6300				40.0			28		144.65	150.07	m i ke	EMSC
81206037																	

Magnitude	Err	Nsta	Author	OrigID

Ms 5.8 BGR 81206011

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	150.07		PKPbc	23:46:48.848	0.3	39.8		2.80		TAS				a_e	
BRG	145.78		PKPbc	23:46:37.901	1.3	39.8		2.80		TAS				m_e	
BSEG	144.77		PKPbc	23:46:34.274	0.0	39.8		2.80		TAS				m_e	
BUG	147.87		PKPbc	23:46:43.148	0.3	39.8		2.80		TAS				a_e	
CLL	145.85		PKPbc	23:46:37.830	0.4	39.8		2.80		TAS				m_e	
CLZ	146.46		PKPbc	23:46:39.848	-0.5	39.8		2.80		TAS				a_e	
FUR	148.96		PKPbc	23:46:46.698	0.3	39.8		2.80		TAS				a_e	
GEC2	147.36		PKPbc	23:46:40.134	-0.3	39.8		2.80		TAS				m_e	
GOR1	145.19		PKPbc	23:46:35.489	-0.1	39.8		2.80		TAS				m_e	
GRA1	147.82		PKPbc	23:46:43.815	-1.3	39.8		2.80		TAS				m_e	
GRA1	147.82		L	00:57:06.693						T__		1606.5	20.60	a_e Ms	5.8
GTTG	146.85		PKPbc	23:46:40.898	0.5	39.8		2.80		TAS				a_e	
IBBN	146.98		PKPbc	23:46:41.293	0.5	39.8		2.80		TAS				m_e	
KAST	147.68		PKPbc	23:46:43.148	0.8	39.8		2.80		TAS				a_e	
MANZ	147.22		PKPbc	23:46:41.998	0.2	39.8		2.80		TAS				a_e	
MOX	146.92		PKPbc	23:46:41.598	0.3	39.8		2.80		TAS				a_e	
MOX	146.92		L	00:53:58.020						T__		1318.1	20.80	a_e Ms	5.7
NEUB	146.43		PKPbc	23:46:39.398	-1.8	39.8		2.80		TAS				a_e	
NRDL	146.02		PKPbc	23:46:38.051	0.1	39.8		2.80		TAS				m_e	
PLN	146.82		PKPbc	23:46:40.798	0.9	39.8		2.80		TAS				a_e	
RETH	146.08		PKPbc	23:46:38.527	-0.3	39.8		2.80		TAS				m_e	
RJOB	148.57		PKPbc	23:46:45.198		39.8		2.80		TAS				m_e	
ROTZ	147.35		PKPbc	23:46:42.498	-2.3	39.8		2.80		TAS				a_e	
RUE	144.65		PKPbc	23:46:33.733	0.6	39.8		2.80		TAS				m_e	
STU	149.37		PKPbc	23:46:47.498	0.8	39.8		2.80		TAS				a_e	
TNS	148.48		PKPbc	23:46:45.248	1.1	39.8		2.80		TAS				a_e	
UBBA	147.42		PKPbc	23:46:40.117	0.8	39.8		2.80		TAS				m_e	
UBR	149.84		PKPbc	23:46:48.682		39.8		2.80		TAS				m_e	
WET	147.52		PKPbc	23:46:39.898	0.3	39.8		2.80		TAS				a_e	
WLF	149.76		PKPbc	23:46:48.898	-2.0	39.8		2.80		TAS				a_e	

Event 81207001 Tonga Islands

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/07	04:37:13.77			-16.2560	-173.0950				93.2	2.3		17		144.39	148.55	m i ke	BGR
	81207007																

Magnitude Err Nsta Author OrigID

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	147.99		PKPbc	04:56:48.062		7.5		2.99		TAS				m_e	
BRG	145.01		PKPbc	04:56:38.877	0.5	7.5		2.99		TAS				m_e	
BUG	144.90		PKPbc	04:56:38.395	0.5	7.5		2.99		TAS				m_e	

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CLZ	144.39	PKPbc	04:56:36.977	0.1	7.5	2.99	TAS	m_e
GEC2	147.03	PKPbc	04:56:45.317		7.5	2.99	TAS	m_e
GTTG	144.71	PKPbc	04:56:38.401	0.2	7.5	2.99	TAS	m_e
KAST	145.12	PKPbc	04:56:39.485	0.1	7.5	2.99	TAS	m_e
MANZ	146.09	PKPbc	04:56:42.796		7.5	2.99	TAS	m_e
MANZ	146.09	pPKPbc	04:57:07.873				T__	m_e
MOX	145.49	PKPbc	04:56:40.636	-0.4	7.5	2.99	TAS	m_e
NEUB	144.93	PKPbc	04:56:38.760	0.5	7.5	2.99	TAS	m_e
NEUB	144.93	pPKPbc	04:57:04.769				T__	m_e
PLN	145.59	PKPbc	04:56:41.107	-0.4	7.5	2.99	TAS	m_e
PLN	145.59	pPKPbc	04:57:06.406				T__	m_e
RJOB	148.23	PKPbc	04:56:48.419		7.5	2.99	TAS	m_e
ROTZ	146.30	PKPbc	04:56:43.413		7.5	2.99	TAS	m_e
TNS	146.10	PKPbc	04:56:42.684		7.5	2.99	TAS	m_e
UBBA	145.43	PKPbc	04:56:40.309	-0.1	7.5	2.99	TAS	m_e
UBR	148.55	PKPbc	04:56:49.312		7.5	2.99	TAS	m_e
WLF	146.67	PKPbc	04:56:44.985		7.5	2.99	TAS	m_e

Event 81207003 Southeast of Loyalty Islands

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/07	11:14:47.07			-21.3670	170.9200				10.0			24		144.29	149.53	m i ke	BGR
81207009																	

Magnitude Err Nsta Author OrigID

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BRG	145.46		PKPbc	11:34:25.640	-0.0	36.9		2.86		TAS					a_e
BSEG	144.29		PKPbc	11:34:21.795	-0.4	36.9		2.86		TAS					m_e
BUG	147.38		PKPbc	11:34:31.340	-0.7	36.9		2.86		TAS					a_e
CLL	145.50		PKPbc	11:34:25.540	0.2	36.9		2.86		TAS					a_e
CLZ	146.03		PKPbc	11:34:27.840	0.1	36.9		2.86		TAS					a_e
FLT1	145.33		PKPbc	11:34:24.990	0.0	36.9		2.86		TAS					a_e
GEC2	147.10		PKPbc	11:34:30.490	0.2	36.9		2.86		TAS					m_e
GTTG	146.42		PKPbc	11:34:28.840	0.4	36.9		2.86		TAS					a_e
HLG	144.79		PKPbc	11:34:24.442	-0.2	36.9		2.86		TAS					m_e
IBBN	146.48		PKPbc	11:34:28.740	0.0	36.9		2.86		TAS					a_e
KAST	147.23		PKPbc	11:34:31.090	-0.7	36.9		2.86		TAS					a_e
MANZ	146.89		PKPbc	11:34:30.190	0.4	36.9		2.86		TAS					a_e
MOX	146.56		PKPbc	11:34:28.890	0.4	36.9		2.86		TAS					a_e
NEUB	146.06		PKPbc	11:34:27.590	0.3	36.9		2.86		TAS					a_e
NRDL	145.57		PKPbc	11:34:26.190	0.4	36.9		2.86		TAS					a_e
PLN	146.48		PKPbc	11:34:28.790	-0.2	36.9		2.86		TAS					a_e
RETH	145.61		PKPbc	11:34:26.340	0.2	36.9		2.86		TAS					a_e
RJOB	148.33		PKPbc	11:34:33.390		36.9		2.86		TAS					a_e
ROTZ	147.03		PKPbc	11:34:30.590	0.3	36.9		2.86		TAS					a_e

TNS	148.05	PKPbc	11:34:33.280		36.9	2.86	TAS										m_e
UBBA	147.01	PKPbc	11:34:30.540	-0.2	36.9	2.86	TAS										a_e
UBR	149.53	PKPbc	11:34:36.590		36.9	2.86	TAS										a_e
WET	147.23	PKPbc	11:34:31.040	0.1	36.9	2.86	TAS										a_e
WLF	149.28	PKPbc	11:34:37.040		36.9	2.86	TAS										a_e

Event 81208001 Southeast of Loyalty Islands

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/08	07:07:30.23			-21.8340	171.1510				28.3	1.0		22		145.84	150.20	m i ke	BGR
	81208007																

Magnitude Err Nsta Author OrigID

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	150.20		PKPbc	07:27:18.649		36.9		2.79		TAS					a_e
BRG	145.97		PKPbc	07:27:07.199	0.1	36.9		2.79		TAS					a_e
CLL	146.01		PKPbc	07:27:07.099	0.3	36.9		2.79		TAS					a_e
CLZ	146.54		PKPbc	07:27:09.399	0.1	36.9		2.79		TAS					a_e
FLT1	145.84		PKPbc	07:27:06.599	0.3	36.9		2.79		TAS					a_e
GEC2	147.61		PKPbc	07:27:12.099	0.4	36.9		2.79		TAS					m_e
GEC2	147.61		pPKPbc	07:27:20.827	-0.9					T__					m_e
GTTG	146.93		PKPbc	07:27:10.449	0.1	36.9		2.79		TAS					a_e
IBBN	146.99		PKPbc	07:27:10.449	0.3	36.9		2.79		TAS					a_e
IBBN	146.99		pPKPbc	07:27:19.153	-0.9					T__					m_e
KAST	147.74		PKPbc	07:27:12.480	-0.5	36.9		2.79		TAS					m_e
MANZ	147.40		PKPbc	07:27:11.799	0.3	36.9		2.79		TAS					a_e
MANZ	147.40		pPKPbc	07:27:20.205	-0.9					T__					m_e
MOX	147.07		PKPbc	07:27:10.499	-0.0	36.9		2.79		TAS					a_e
NEUB	146.57		PKPbc	07:27:09.149	0.4	36.9		2.79		TAS					a_e
NRDL	146.09		PKPbc	07:27:07.799	-0.2	36.9		2.79		TAS					a_e
PLN	146.99		PKPbc	07:27:10.349	0.0	36.9		2.79		TAS					a_e
RETH	146.12		PKPbc	07:27:07.880	0.1	36.9		2.79		TAS					m_e
ROTZ	147.54		PKPbc	07:27:12.016	0.0	36.9		2.79		TAS					m_e
STU	149.51		PKPbc	07:27:17.299		36.9		2.79		TAS					a_e
TNS	148.56		PKPbc	07:27:14.862		36.9		2.79		TAS					m_e
UBBA	147.52		PKPbc	07:27:11.835	0.1	36.9		2.79		TAS					m_e
UBR	150.04		PKPbc	07:27:18.249		36.9		2.79		TAS					a_e
WET	147.74		PKPbc	07:27:12.649	-0.5	36.9		2.79		TAS					a_e
WLF	149.79		PKPbc	07:27:18.749		36.9		2.79		TAS					a_e
WLF	149.79		pPKPbc	07:27:26.978	-0.9					T__					m_e

Event 81208002 Crete, Greece



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Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/08	19:00:06.21	3.11	0.98	34.3530	25.6120	72.3	65.6	146	33.0			15	346	16.97	22.35	m i ke	BGR

Magnitude	Err	Nsta	Author	OrigID
mb	4.0		BGR	81208008

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	19.00		P	19:04:22.837	-1.2					T__		8.1	0.70	m_e	mb 4.1
BRG	18.57		P	19:04:18.041	-1.0					T__		5.4	0.84	m_e	mb 3.8
BSEG	22.35		P	19:05:02.183	1.7					T__		8.7	0.64	m_e	mb 4.3
BUG	21.63		P	19:04:53.629	0.6					T__		15.3	0.95	m_e	mb 4.4
CLL	19.26		P	19:04:25.987	-1.0					T__		7.3	0.78	m_e	mb 4.0
FLT1	20.72		P	19:04:43.122	-0.2					T__		7.9	0.78	m_e	mb 4.1
GEC2	16.97		P	19:04:01.176	1.7					T__		4.9	0.78	m_e	mb 3.7
GTTG	20.58		P	19:04:42.000	0.2					T__		24.6	0.86	m_e	mb 4.6
MOX	19.22		P	19:04:25.086	-1.5					T__		5.3	0.80	m_e	mb 3.8
ROTZ	18.29		P	19:04:15.386	-0.3					T__		0.8	0.86	m_e	mb 2.9
STU	18.87		P	19:04:22.979	0.4					T__		28.6	0.76	m_e	mb 4.6
TNS	20.24		P	19:04:37.792	-0.3					T__		12.6	0.81	m_e	mb 4.2
UBR	17.68		P	19:04:09.472	1.2					T__		11.7	0.80	m_e	mb 4.1
WET	17.53		P	19:04:06.917	0.4					T__		6.2	0.88	m_e	mb 3.8
WLF	20.96		P	19:04:45.365	-0.6					T__		18.5	0.89	m_e	mb 4.4

Event 81209001 Fiji Islands region

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/09	12:36:48.13			-20.8640	-178.4530				499.9			18		146.31	152.06	m i ke	BGR

Magnitude	Err	Nsta	Author	OrigID

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	152.06		PKPab	12:55:58.151		18.4		2.46		TAS				m_e	
BFO	152.06		pPKPbc	12:57:44.536						T__				m_e	
BRG	148.50		PKPbc	12:55:38.042	0.1	18.4		2.46		TAS				m_e	
BRG	148.50		pPKPbc	12:57:35.360						T__				m_e	
BSEG	146.31		PKPbc	12:55:32.315	0.4	18.4		2.46		TAS				m_e	
CLL	148.32		PKPbc	12:55:37.457	-0.2	18.4		2.46		TAS				m_e	
CLZ	148.32		PKPbc	12:55:37.750	0.1	18.4		2.46		TAS				m_e	
FLT1	147.70		PKPbc	12:55:35.682	0.2	18.4		2.46		TAS				m_e	
GEC2	150.43		PKPbc	12:55:42.625		18.4		2.46		TAS				m_e	
GEC2	150.43		PKPab	12:55:51.698		18.4		2.46		TAS				m_e	
GOR1	147.06		PKPbc	12:55:34.755	-0.2	18.4		2.46		TAS				m_e	
GTTG	148.68		PKPbc	12:55:38.506	0.1	18.4		2.46		TAS				m_e	

HLG	146.38	pPKPbc	12:57:28.442							T__		m_e
IBBN	148.25	PKPbc	12:55:37.533	0.1	18.4		2.46			TAS		m_e
KAST	149.25	PKPbc	12:55:39.746	-0.2	18.4		2.46			TAS		m_e
MANZ	149.76	PKPbc	12:55:41.236		18.4		2.46			TAS		m_e
MOX	149.24	PKPbc	12:55:39.838	0.3	18.4		2.46			TAS		m_e
PLN	149.27	PKPbc	12:55:39.916	-0.4	18.4		2.46			TAS		m_e
PLN	149.27	PKPab	12:55:46.903		18.4		2.46			TAS		m_e
RETH	147.62	PKPbc	12:55:35.635	-0.0	18.4		2.46			TAS		m_e
RJOB	151.69	PKPbc	12:55:45.445		18.4		2.46			TAS		m_e
RJOB	151.69	PKPab	12:55:57.740		18.4		2.46			TAS		m_e
ROTZ	149.94	PKPbc	12:55:41.529		18.4		2.46			TAS		m_e
RUE	147.05	PKPbc	12:55:34.437	-0.3	18.4		2.46			TAS		m_e
STU	151.49	PKPbc	12:55:45.553		18.4		2.46			TAS		m_e
TNS	150.20	PKPab	12:55:50.444		18.4		2.46			TAS		m_e
UBBA	149.37	pPKPbc	12:57:38.620							T__		m_e
WET	150.37	PKPab	12:55:51.250		18.4		2.46			TAS		m_e
WLF	151.03	pPKPbc	12:57:43.261							T__		m_e

Event 81209002 Southeast of Honshu, Japan

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/09	15:21:37.65			32.3400	138.6350				344.0			16	355	83.17	88.22	m i ke	BGR
81209008																	

Magnitude	Err	Nsta	Author	OrigID
mb	5.0		BGR	81209008

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	88.22		P	15:33:49.182		42.3		4.86		TAS		4.2	0.73	m_e mb	4.9
BRG	83.88		P	15:33:28.317	0.4	42.3		4.86		TAS		13.0	0.75	m_e mb	5.2
BSEG	83.17		P	15:33:24.604	-0.5	42.3		4.86		TAS		14.0	0.82	m_e mb	5.2
CLL	83.98		P	15:33:28.455	0.5	42.3		4.86		TAS		24.7	0.86	m_e mb	5.5
CLZ	84.70		P	15:33:32.671	-0.1	42.3		4.86		TAS		18.2	0.83	m_e mb	5.3
FLT1	83.98		P	15:33:28.221	0.0	42.3		4.86		TAS		23.9	0.77	m_e mb	5.5
GEC2	85.44		P	15:33:35.730		42.3		4.86		TAS		6.1	0.73	m_e mb	4.9
GTTG	85.09		P	15:33:34.580	-0.4	42.3		4.86		TAS		14.3	0.88	m_e mb	5.2
IBBN	85.41		P	15:33:35.726		42.3		4.86		TAS		20.9	0.69	m_e mb	5.5
MANZ	85.33		P	15:33:34.791	-0.2	42.3		4.86		TAS		1.3	0.70	m_e mb	4.2
MOX	85.07		P	15:33:34.046	0.5	42.3		4.86		TAS		4.4	0.85	m_e mb	4.7
NEUB	84.59		P	15:33:31.722	0.4	42.3		4.86		TAS		25.9	0.84	m_e mb	5.5
RJOB	86.66		P	15:33:42.276		42.3		4.86		TAS		4.9	0.78	m_e mb	4.7
ROTZ	85.45		P	15:33:36.290		42.3		4.86		TAS		1.2	0.69	m_e mb	4.2
UBR	87.93		P	15:33:47.573		42.3		4.86		TAS		4.2	0.68	m_e mb	4.9
WET	85.60		P	15:33:36.681		42.3		4.86		TAS		2.9	0.79	m_e mb	4.5

Event 81209003 Central Alaska, United States

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/09	19:00:35.58			62.5000	-150.5000				33.0			21		64.26	69.08	m i ke	BGR

Magnitude	Err	Nsta	Author	OrigID
mb	5.1		BGR	81209009

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	68.24		P	19:11:32.599		351.0		6.38		TAS		5.8	0.91	m_e mb	4.8
BRG	66.30		P	19:11:20.719	0.7	351.0		6.38		TAS		11.0	0.82	m_e mb	5.1
BUG	65.05		P	19:11:12.581	0.1	351.0		6.38		TAS		12.2	0.76	m_e mb	5.2
CLL	65.79		P	19:11:17.152	-0.1	351.0		6.38		TAS		9.5	0.87	m_e mb	5.0
CLZ	65.00		P	19:11:12.816	-0.6	351.0		6.38		TAS		16.3	0.84	m_e mb	5.3
FLT1	64.61		P	19:11:09.254	-0.2	351.0		6.38		TAS		7.7	0.85	m_e mb	5.0
FUR	68.73		P	19:11:36.056		351.0		6.38		TAS		26.7	0.80	m_e mb	5.5
GEC2	68.29		P	19:11:33.410		351.0		6.38		TAS		7.8	0.86	m_e mb	5.0
GRA1	67.22		P	19:11:26.710		351.0		6.38		TAS				m_e	
GTTG	65.25		P	19:11:14.712	0.1	351.0		6.38		TAS		16.7	0.83	m_e mb	5.3
IBBN	64.26		P	19:11:07.591	-0.0	351.0		6.38		TAS		18.4	0.85	m_e mb	5.3
MANZ	67.01		P	19:11:25.124		351.0		6.38		TAS		1.6	0.95	m_e mb	4.2
MOX	66.31		P	19:11:20.844	-0.4	351.0		6.38		TAS		14.5	0.81	m_e mb	5.2
NEUB	65.78		P	19:11:16.944	0.2	351.0		6.38		TAS		17.2	0.73	m_e mb	5.4
NRDL	64.33		P	19:11:08.271	0.7	351.0		6.38		TAS		11.8	0.95	m_e mb	5.1
ROTZ	67.24		P	19:11:26.790		351.0		6.38		TAS		2.4	0.85	m_e mb	4.5
RUE	64.70		P	19:11:10.310	-0.5	351.0		6.38		TAS		25.0	0.82	m_e mb	5.5
UBBA	65.97		P	19:11:18.012	0.1	351.0		6.38		TAS		5.4	0.84	m_e mb	4.8
UBR	69.08		P	19:11:38.206		351.0		6.38		TAS		10.7	0.85	m_e mb	5.1
WET	67.92		P	19:11:31.673		351.0		6.38		TAS		13.5	1.07	m_e mb	5.1
WLF	66.65		P	19:11:23.056	-0.2	351.0		6.38		TAS		17.2	1.03	m_e mb	5.2

Event 81210006 Southeast of Loyalty Islands

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/10	16:58:39.09			-21.2230	169.5580				20.6	0.6		15		144.71	149.04	m i ke	BGR

Magnitude	Err	Nsta	Author	OrigID
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Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	149.04		pPKPbc	17:18:30.576						T__				m_e	
BRG	144.77		PKPbc	17:18:13.631	0.1	38.9		2.95		TAS				m_e	
CLL	144.83		PKPbc	17:18:13.424	0.5	38.9		2.95		TAS				m_e	

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CLL	144.83	pPKPbc	17:18:19.605							T__							m_e
CLZ	145.42	PKPbc	17:18:16.309	0.0	38.9			2.95		TAS							m_e
FLT1	144.71	PKPbc	17:18:13.013	0.6	38.9			2.95		TAS							m_e
GEC2	146.37	PKPbc	17:18:18.576		38.9			2.95		TAS							m_e
GEC2	146.37	pPKPbc	17:18:24.568							T__							m_e
GTTG	145.81	PKPbc	17:18:17.403	-0.5	38.9			2.95		TAS							m_e
IBBN	145.92	PKPbc	17:18:17.569		38.9			2.95		TAS							m_e
MANZ	146.21	PKPbc	17:18:17.896		38.9			2.95		TAS							m_e
MANZ	146.21	pPKPbc	17:18:24.240							T__							m_e
NEUB	145.41	PKPbc	17:18:16.021	0.3	38.9			2.95		TAS							m_e
NRDL	144.98	PKPbc	17:18:14.116	0.0	38.9			2.95		TAS							m_e
ROTZ	146.34	PKPbc	17:18:18.639		38.9			2.95		TAS							m_e
TANN	145.74	PKPbc	17:18:16.724	0.3	38.9			2.95		TAS							m_e
UBR	148.83	PKPbc	17:18:25.264		38.9			2.95		TAS							m_e
WET	146.52	PKPbc	17:18:19.262		38.9			2.95		TAS							m_e
WLF	148.71	PKPbc	17:18:25.606		38.9			2.95		TAS							m_e

Event 81211001 Hokkaido, Japan, region

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/11	00:26:51.63			44.8660	145.5430				107.7			19		74.43	79.90	m i ke	BGR
81211007																	

Magnitude Err Nsta Author OrigID  
 mb 4.9 BGR 81211007

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	79.90		P	00:38:45.601		31.3		5.57		TAS		13.7	1.18	m_e mb	4.8
BRG	75.83		P	00:38:23.411	-0.0	31.3		5.57		TAS		7.5	0.89	m_e mb	4.8
BSEG	74.43		P	00:38:15.969	0.3	31.3		5.57		TAS		20.7	0.83	m_e mb	5.2
BUG	77.52		P	00:38:32.484		31.3		5.57		TAS		15.6	0.84	m_e mb	5.2
BUG	77.52		pP	00:38:59.067						T__				m_e	
CLL	75.79		P	00:38:23.167	-0.1	31.3		5.57		TAS		30.9	0.74	m_e mb	5.5
CLZ	76.20		P	00:38:25.630	0.4	31.3		5.57		TAS		16.6	0.77	m_e mb	5.2
FLT1	75.51		P	00:38:21.411	-0.1	31.3		5.57		TAS		19.7	0.77	m_e mb	5.3
FLT1	75.51		pP	00:38:48.858						T__				m_e	
FUR	79.05		P	00:38:41.015		31.3		5.57		TAS		10.8	0.79	m_e mb	4.9
GEC2	77.62		P	00:38:33.156		31.3		5.57		TAS		6.2	0.91	m_e mb	4.7
GRA1	77.76		P	00:38:34.995		31.3		5.57		TAS		22.4	0.76	m_e mb	5.4
GTTG	76.59		P	00:38:28.121	-0.3	31.3		5.57		TAS		14.9	0.83	m_e mb	5.2
IBBN	76.61		pP	00:38:52.964						T__				m_e	
MANZ	77.21		P	00:38:31.229	-0.6	31.3		5.57		TAS		1.2	0.85	m_e mb	4.1
MOX	76.82		P	00:38:28.891	-0.5	31.3		5.57		TAS		7.0	0.87	m_e mb	4.8
ROTZ	77.36		P	00:38:32.505		31.3		5.57		TAS		1.9	0.93	m_e mb	4.2
RUE	74.55		P	00:38:15.978	-0.4	31.3		5.57		TAS		34.3	1.04	m_e mb	5.3
TNS	78.22		P	00:38:36.968		31.3		5.57		TAS		6.3	0.83	m_e mb	4.8



Magnitude Err Nsta Author OrigID  
mb 4.7 BGR 81214007

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	26.26		P	06:23:05.179	0.2	303.5		8.80		TAS		19.2	1.01	m_e	mb 4.7
BSEG	24.42		P	06:22:48.920	-0.4	303.5		8.80		TAS		33.7	1.00	m_e	mb 4.8
CLL	27.12		P	06:23:12.989		303.5		8.80		TAS		12.1	0.82	m_e	mb 4.7
CLZ	25.44		P	06:22:58.309	-0.0	303.5		8.80		TAS		18.4	1.08	m_e	mb 4.7
FLT1	25.66		P	06:22:59.542	-0.3	303.5		8.80		TAS		26.9	1.29	m_e	mb 4.7
GEC2	28.86		P	06:23:28.968		303.5		8.80		TAS		8.1	1.20	m_e	mb 4.4
GRA1	27.04		P	06:23:12.676		303.5		8.80		TAS		24.7	0.88	m_e	mb 5.0
GTTG	25.37		P	06:22:57.793	-0.1	303.5		8.80		TAS		17.6	0.87	m_e	mb 4.8
MANZ	27.35		P	06:23:15.194		303.5		8.80		TAS		3.0	1.02	m_e	mb 4.0
MOX	26.73		P	06:23:09.810		303.5		8.80		TAS		44.6	1.45	m_e	mb 5.0
NRDL	24.98		P	06:22:53.963	-0.1	303.5		8.80		TAS		55.7	1.17	m_e	mb 5.2
PLN	27.11		P	06:23:13.155		303.5		8.80		TAS		8.0	0.97	m_e	mb 4.4
RETH	24.46		P	06:22:49.221	-0.1	303.5		8.80		TAS		68.0	1.46	m_e	mb 5.0
TANN	27.31		P	06:23:14.939		303.5		8.80		TAS		17.1	1.27	m_e	mb 4.6
WET	28.24		P	06:23:23.477		303.5		8.80		TAS		10.3	1.03	m_e	mb 4.6

Event 81214002 Off east coast of Honshu, Japan

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/14	08:04:46.14			37.9060	143.9280				33.0					83.29	83.29	m i ke	BGR

Magnitude Err Nsta Author OrigID  
mb 5.2 BGR 81214008

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
GRA1	83.29		P	08:17:08.330		39.9		4.55		TAS		14.2	0.93	m_e	mb 5.2

Event 81214003 Fiji Islands region

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/14	08:11:40.90			-18.4300	-177.9100				500.0				28	144.00	150.10	m i ke	BGR

Magnitude Err Nsta Author OrigID

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	149.75		PKPbc	08:30:33.209	-0.6	15.1		2.76		TAS				m_e	
BFO	149.75		PKPab	08:30:39.793		15.1		2.76		TAS				m_e	

BRG	146.28	PKPbc	08:30:24.420	0.1	15.1	2.76	TAS	m_e
BSEG	144.00	PKPbc	08:30:17.160	-0.1	15.1	2.76	TAS	a_e
BUG	146.81	PKPbc	08:30:25.587	0.0	15.1	2.76	TAS	m_e
CLL	146.07	PKPbc	08:30:23.660	0.2	15.1	2.76	TAS	a_e
CLZ	146.03	PKPbc	08:30:23.835	0.4	15.1	2.76	TAS	m_e
FLT1	145.42	PKPbc	08:30:21.456	0.4	15.1	2.76	TAS	m_e
FUR	149.41	PKPbc	08:30:32.545		15.1	2.76	TAS	m_e
GEC2	148.24	PKPbc	08:30:29.660	-0.5	15.1	2.76	TAS	a_e
GOR1	144.77	PKPbc	08:30:19.824	-0.0	15.1	2.76	TAS	m_e
GRA1	147.96	PKPbc	08:30:29.140	-0.1	15.1	2.76	TAS	m_e
GRA1	147.96	PKPab	08:30:32.910		15.1	2.76	TAS	m_e
GTTG	146.37	PKPbc	08:30:24.760	-0.1	15.1	2.76	TAS	a_e
IBBN	145.90	PKPbc	08:30:23.203	-0.3	15.1	2.76	TAS	m_e
KAST	146.92	PKPbc	08:30:26.110	0.2	15.1	2.76	TAS	a_e
MANZ	147.51	PKPbc	08:30:27.960	0.4	15.1	2.76	TAS	a_e
MOX	146.97	PKPbc	08:30:26.209	0.3	15.1	2.76	TAS	m_e
MOX	146.97	PKPab	08:30:28.449		15.1	2.76	TAS	m_e
NEUB	146.42	PKPbc	08:30:24.710	0.1	15.1	2.76	TAS	a_e
NRDL	145.43	PKPbc	08:30:21.719	-0.4	15.1	2.76	TAS	m_e
PLN	147.02	PKPbc	08:30:26.460	0.2	15.1	2.76	TAS	a_e
RETH	145.29	PKPbc	08:30:21.412	-0.1	15.1	2.76	TAS	m_e
ROTZ	147.70	PKPbc	08:30:28.371	0.3	15.1	2.76	TAS	m_e
RUE	144.81	PKPbc	08:30:19.810	-0.0	15.1	2.76	TAS	a_e
STU	149.19	PKPbc	08:30:32.110	-0.3	15.1	2.76	TAS	a_e
TANN	147.03	PKPbc	08:30:26.560	0.4	15.1	2.76	TAS	a_e
TNS	147.88	PKPbc	08:30:28.810	0.2	15.1	2.76	TAS	a_e
TNS	147.88	PKPab	08:30:32.179		15.1	2.76	TAS	m_e
UBR	150.10	PKPbc	08:30:34.060		15.1	2.76	TAS	a_e
WET	148.15	PKPbc	08:30:29.385	-0.1	15.1	2.76	TAS	m_e
WET	148.15	PKPab	08:30:33.589		15.1	2.76	TAS	m_e
WLF	148.67	PKPbc	08:30:31.310	-0.1	15.1	2.76	TAS	a_e

Event 81214004 Bonin Islands, Japan, region

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/14	16:02:22.34			28.3870	140.7920				500.0			28		87.15	92.56	m i ke	BGR
81214010																	

Magnitude	Err	Nsta	Author	OrigID
mb	5.5		BGR	81214010

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	92.56		P	16:14:37.811		42.7		4.62		TAS		27.0	0.87	a_e mb	5.7
BRG	88.22		P	16:14:18.027	0.1	42.7		4.62		TAS		28.6	0.71	m_e mb	5.7
BSEG	87.52		P	16:14:14.881	-0.1	42.7		4.62		TAS		67.1	0.85	m_e mb	6.0
BUG	90.63		P	16:14:28.811	0.0	42.7		4.62		TAS		25.6	0.81	a_e mb	5.6

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CLL	88.32	P	16:14:18.211	0.0	42.7	4.62	TAS	41.5	0.82	m_e	mb	5.8
CLZ	89.06	P	16:14:22.167	-0.3	42.7	4.62	TAS	25.4	0.71	m_e	mb	5.6
FLT1	88.33	P	16:14:18.087	0.1	42.7	4.62	TAS	25.9	0.73	m_e	mb	5.7
FUR	91.38	P	16:14:32.885		42.7	4.62	TAS	81.7	0.82	m_e	mb	6.1
GEC2	89.77	P	16:14:25.071	0.2	42.7	4.62	TAS	39.6	0.89	m_e	mb	5.7
GOR1	87.82	P	16:14:16.228	-0.1	42.7	4.62	TAS	36.8	1.10	m_e	mb	5.6
GRA1	90.28	P	16:14:27.961	-0.1	42.7	4.62	TAS	38.4	0.90	a_e	mb	5.6
GTTG	89.44	P	16:14:23.773	-0.3	42.7	4.62	TAS	20.4	0.66	m_e	mb	5.5
IBBN	89.77	P	16:14:25.207	0.3	42.7	4.62	TAS	76.2	0.84	m_e	mb	6.0
KAST	90.34	P	16:14:27.842	0.0	42.7	4.62	TAS	14.2	0.68	m_e	mb	5.3
MANZ	89.67	P	16:14:24.911	0.4	42.7	4.62	TAS	8.2	1.15	a_e	mb	4.8
MOX	89.41	P	16:14:23.511	0.1	42.7	4.62	TAS	22.4	1.01	a_e	mb	5.3
NEUB	88.94	P	16:14:21.361	-0.0	42.7	4.62	TAS	50.6	0.84	a_e	mb	5.8
NRDL	88.68	P	16:14:20.028	0.1	42.7	4.62	TAS	25.9	1.13	m_e	mb	5.4
PLN	89.29	P	16:14:23.011	0.2	42.7	4.62	TAS	9.9	1.05	a_e	mb	5.0
RETH	88.80	P	16:14:20.611	0.0	42.7	4.62	TAS	27.6	1.04	a_e	mb	5.4
ROTZ	89.79	P	16:14:25.604	0.0	42.7	4.62	TAS	7.5	0.89	m_e	mb	4.9
RUE	87.15	P	16:14:13.083	-0.5	42.7	4.62	TAS	29.0	0.87	m_e	mb	5.4
STU	91.85	P	16:14:34.711	-0.4	42.7	4.62	TAS	81.8	0.83	a_e	mb	6.1
TANN	89.20	P	16:14:22.611	0.3	42.7	4.62	TAS	21.8	1.06	a_e	mb	5.3
TNS	91.08	P	16:14:31.348	0.4	42.7	4.62	TAS	16.0	0.70	m_e	mb	5.5
UBR	92.26	P	16:14:36.352		42.7	4.62	TAS	10.2	0.72	m_e	mb	5.2
WET	89.93	P	16:14:25.972	-0.3	42.7	4.62	TAS	21.8	1.12	m_e	mb	5.3
WLF	92.45	P	16:14:37.961	-0.1	42.7	4.62	TAS	29.7	0.84	a_e	mb	5.7

Event 81215002 Southeast of Loyalty Islands

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/15	08:29:01.24			-22.0600	170.6300				33.0			19		145.30	150.21	m i ke	BGR
81215008																	

Magnitude Err Nsta Author OrigID

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	150.21		PKPbc	08:48:48.338		36.1		2.77		TAS					m_e
BRG	145.96		PKPbc	08:48:36.834	0.1	36.1		2.77		TAS					m_e
CLL	146.01		PKPbc	08:48:36.713	0.3	36.1		2.77		TAS					m_e
CLZ	146.57		PKPbc	08:48:39.069	-0.3	36.1		2.77		TAS					m_e
FLT1	145.86		PKPbc	08:48:36.274	0.0	36.1		2.77		TAS					m_e
GEC2	147.58		PKPbc	08:48:41.785		36.1		2.77		TAS					m_e
GOR1	145.30		PKPbc	08:48:34.738	0.1	36.1		2.77		TAS					m_e
GRA1	147.99		PKPbc	08:48:43.174		36.1		2.77		TAS					m_e
GTTG	146.96		PKPbc	08:48:40.336	0.1	36.1		2.77		TAS					m_e
IBBN	147.04		PKPbc	08:48:40.252	-0.5	36.1		2.77		TAS					m_e
MANZ	147.40		PKPbc	08:48:41.362		36.1		2.77		TAS					m_e
MOX	147.08		PKPbc	08:48:40.270	-0.5	36.1		2.77		TAS					m_e



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NEUB	146.58	PKPbc	08:48:38.766	0.5	36.1	2.77	TAS	m_e
NRDL	146.12	PKPbc	08:48:37.558	0.4	36.1	2.77	TAS	m_e
PLN	146.99	PKPbc	08:48:40.215	-0.4	36.1	2.77	TAS	m_e
RETH	146.16	PKPbc	08:48:37.552	-0.5	36.1	2.77	TAS	m_e
TANN	146.92	PKPbc	08:48:40.034		36.1	2.77	TAS	m_e
UBR	150.03	PKPbc	08:48:48.029		36.1	2.77	TAS	m_e
WET	147.72	PKPbc	08:48:42.208		36.1	2.77	TAS	m_e

Event 81215005 Taiwan region

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/15	21:21:02.59			23.5070	122.8830				33.0					85.32	85.32	m i ke	BGR
OrigID 81215011																	

Magnitude	Err	Nsta	Author	OrigID
mb	5.1		BGR	81215011

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
GRA1	85.32		P	21:33:35.628		63.3		4.60		TAS		11.3	0.82	m_e mb	5.1

Event 81216001 Yunnan, China

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/16	04:46:14.98			27.8020	104.3920				33.0				27	68.82	74.33	m i ke	BGR
OrigID 81216007																	

Magnitude	Err	Nsta	Author	OrigID
mb	5.5		BGR	81216007
Ms	5.1		BGR	81216007

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	73.55		P	04:57:43.279		69.0		6.06		TAS		28.1	1.00	m_e mb	5.2
BRG	69.23		P	04:57:17.388	-0.1	69.0		6.06		TAS		24.7	0.84	m_e mb	5.5
BSEG	70.31		P	04:57:24.250	0.1	69.0		6.06		TAS		81.9	0.93	m_e mb	5.8
BUG	72.96		P	04:57:39.911	-0.3	69.0		6.06		TAS		43.6	0.98	m_e mb	5.5
CLL	69.65		P	04:57:19.557	-0.2	69.0		6.06		TAS		31.8	0.98	m_e mb	5.4
CLZ	71.01		P	04:57:28.567	-0.2	69.0		6.06		TAS		51.6	0.93	m_e mb	5.7
FLT1	70.34		P	04:57:23.612	0.0	69.0		6.06		TAS		38.4	1.01	m_e mb	5.5
FUR	71.80		P	04:57:33.737		69.0		6.06		TAS		73.6	0.81	m_e mb	5.9
GEC2	70.05		P	04:57:22.778	-0.3	69.0		6.06		TAS		24.2	0.85	m_e mb	5.3
GOR1	70.08		P	04:57:22.762	0.5	69.0		6.06		TAS		103.4	1.25	m_e mb	5.8
GRA1	71.28		P	04:57:30.407	-0.5	69.0		6.06		TAS		52.6	1.01	m_e mb	5.6
GRA1	71.28		L	05:30:22.792						T__		1273.0	21.20	a_e Ms	5.2

GTTG	71.36	P	04:57:30.465	-0.6	69.0	6.06	TAS	44.0	0.90	m_e	mb	5.6
IBBN	72.34	P	04:57:36.288	0.2	69.0	6.06	TAS	51.4	1.00	m_e	mb	5.6
MANZ	70.64	P	04:57:26.342	0.3	69.0	6.06	TAS	5.2	1.10	m_e	mb	4.6
MOX	70.70	P	04:57:26.394	0.2	69.0	6.06	TAS	23.7	1.19	m_e	mb	5.2
MOX	70.70	L	05:30:02.252				T__	1187.2	21.90	a_e	Ms	5.1
NEUB	70.42	P	04:57:24.526	-0.1	69.0	6.06	TAS	56.3	0.93	m_e	mb	5.7
NRDL	70.93	P	04:57:28.224	0.0	69.0	6.06	TAS	63.7	1.01	m_e	mb	5.7
PLN	70.43	P	04:57:24.767	0.4	69.0	6.06	TAS	9.9	1.08	m_e	mb	4.9
RETH	71.27	P	04:57:29.879	-0.3	69.0	6.06	TAS	39.4	1.24	m_e	mb	5.4
ROTZ	70.65	P	04:57:26.626	0.2	69.0	6.06	TAS	10.8	0.92	m_e	mb	5.0
RUE	68.82	P	04:57:14.723	-0.6	69.0	6.06	TAS	76.1	1.18	m_e	mb	5.8
STU	72.85	P	04:57:39.470		69.0	6.06	TAS	98.6	0.88	m_e	mb	6.0
TANN	70.28	P	04:57:23.835	0.1	69.0	6.06	TAS	26.0	1.04	m_e	mb	5.3
TNS	72.74	P	04:57:38.749	0.4	69.0	6.06	TAS	36.2	1.06	m_e	mb	5.4
UBR	72.71	P	04:57:38.365		69.0	6.06	TAS	13.0	0.79	m_e	mb	5.1
WET	70.46	P	04:57:25.325	0.6	69.0	6.06	TAS	31.2	1.11	m_e	mb	5.3
WLF	74.33	P	04:57:48.576	-0.1	69.0	6.06	TAS	70.6	0.96	m_e	mb	5.7

Event 81216003 Western Australia

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/16	14:26:19.60			-23.3300	112.4900				10.0					114.59	114.59	m i ke	NEIC
81216098																	

Magnitude Err Nsta Author OrigID

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
GRA1	114.59		PKiKP	14:45:01.566		97.5		1.17		TAS				m_e	
GRA1	114.59		PP	14:45:59.578		103.1		7.41		TAS				m_e	

Event 81217001 Pakistan

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/17	01:08:06.18			35.9100	71.7000				225.0				31	43.43	48.53	m i ke	BGR
81217007																	

Magnitude Err Nsta Author OrigID

mb 5.2 BGR 81217007

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude	
BFO	47.34		P	01:16:17.086	0.5	85.1		7.80		TAS		16.0	1.17	m_e	mb	5.0
BRG	43.43		P	01:15:47.252	-0.3	85.1		7.80		TAS		39.6	0.77	a_e	mb	5.2
BSEG	45.51		P	01:16:03.652	0.1	85.1		7.80		TAS		56.9	0.79	a_e	mb	5.7

BUG	47.57	P	01:16:19.452	-0.7	85.1	7.80	TAS	43.7	0.89	a_e	mb	5.6
CLL	44.00	P	01:15:51.252	-0.4	85.1	7.80	TAS	24.8	0.82	a_e	mb	5.0
CLZ	45.60	P	01:16:04.352	0.1	85.1	7.80	TAS	33.6	0.81	a_e	mb	5.4
FLT1	45.04	P	01:15:59.202	0.0	85.1	7.80	TAS	80.0	0.68	a_e	mb	5.8
FUR	45.41	P	01:16:02.917	0.1	85.1	7.80	TAS	81.5	1.34	m_e	mb	5.5
GEC2	43.73	P	01:15:49.475	0.1	85.1	7.80	TAS	12.1	0.93	m_e	mb	4.6
GOR1	44.96	P	01:15:59.131	0.1	85.1	7.80	TAS	80.0	1.19	m_e	mb	5.5
GRA1	45.27	P	01:16:02.502	-0.2	85.1	7.80	TAS	34.1	0.97	a_e	mb	5.2
GTTG	45.88	P	01:16:06.602	-0.2	85.1	7.80	TAS	66.6	0.76	a_e	mb	5.7
IBBN	47.17	P	01:16:16.402	-0.6	85.1	7.80	TAS	69.5	0.82	a_e	mb	5.8
KAST	46.88	P	01:16:13.968	-0.3	85.1	7.80	TAS	11.6	0.98	m_e	mb	5.0
MANZ	44.67	P	01:15:57.452	0.4	85.1	7.80	TAS	6.2	0.84	a_e	mb	4.6
MOX	44.92	P	01:15:59.052	-0.1	85.1	7.80	TAS	22.2	0.79	m_e	mb	5.2
NEUB	44.78	P	01:15:57.652	-0.2	85.1	7.80	TAS	55.0	0.81	a_e	mb	5.5
NRDL	45.72	P	01:16:05.352	-0.7	85.1	7.80	TAS	40.6	0.85	a_e	mb	5.5
PLN	44.59	P	01:15:56.357	-0.0	85.1	7.80	TAS	6.5	0.81	m_e	mb	4.6
RETH	46.15	P	01:16:08.552	0.3	85.1	7.80	TAS	19.7	0.93	a_e	mb	5.1
RGN	43.73	P	01:15:49.626	0.7	85.1	7.80	TAS	116.0	0.95	m_e	mb	5.6
RJOB	44.45	P	01:15:54.877	0.1	85.1	7.80	TAS	15.9	1.01	m_e	mb	4.7
ROTZ	44.62	P	01:15:57.093	0.2	85.1	7.80	TAS	6.6	0.97	m_e	mb	4.5
RUE	43.48	P	01:15:46.902	-0.0	85.1	7.80	TAS	47.5	0.80	a_e	mb	5.3
STU	46.70	P	01:16:12.852	-0.5	85.1	7.80	TAS	74.0	0.82	a_e	mb	5.9
TANN	44.40	P	01:15:55.002	-0.1	85.1	7.80	TAS	20.0	0.95	a_e	mb	4.8
TNS	46.98	P	01:16:15.003	0.4	85.1	7.80	TAS	19.0	0.93	m_e	mb	5.2
UBBA	45.93	P	01:16:06.592	-0.0	85.1	7.80	TAS	10.4	0.74	m_e	mb	5.0
UBR	46.26	P	01:16:09.002		85.1	7.80	TAS	35.8	0.71	a_e	mb	5.5
WET	44.25	P	01:15:53.379	-0.0	85.1	7.80	TAS	6.5	0.91	m_e	mb	4.4
WLF	48.53	P	01:16:27.352	0.8	85.1	7.80	TAS	52.6	0.81	a_e	mb	5.6

Event 81217002 Iran-Armenia-Azerbaijan border region

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/17	10:03:52.42			38.1860	46.5400				33.0			19		25.90	30.91	m i ke	BGR
81217008																	

Magnitude Err Nsta Author OrigID  
 mb 4.8 BGR 81217008

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude	
BSEG	29.26		P	10:09:49.870		101.1		8.95		TAS		17.8	0.88	m_e	mb	4.9
BUG	30.46		P	10:10:01.969		101.1		8.95		TAS		42.1	0.93	m_e	mb	5.3
CLL	26.93		P	10:09:30.126	-0.8	101.1		8.95		TAS		35.7	0.71	m_e	mb	5.2
CLZ	28.66		P	10:09:45.450		101.1		8.95		TAS		19.2	0.75	m_e	mb	5.0
FLT1	28.27		P	10:09:41.373	-0.2	101.1		8.95		TAS		15.8	0.81	m_e	mb	4.9
GEC2	25.90		P	10:09:21.621	0.2	101.1		8.95		TAS		18.9	1.14	m_e	mb	4.6
GOR1	28.41		P	10:09:42.695	-0.0	101.1		8.95		TAS		24.8	1.25	m_e	mb	4.9

GRA1	27.66	P	10:09:36.966	0.2	101.1	8.95	TAS	10.8	0.78	m_e	mb	4.7
IBBN	30.33	P	10:10:00.211		101.1	8.95	TAS	22.7	0.91	m_e	mb	5.0
KAST	29.71	P	10:09:55.431		101.1	8.95	TAS	14.9	0.76	m_e	mb	4.9
MOX	27.61	P	10:09:35.849	-0.1	101.1	8.95	TAS	4.9	0.89	m_e	mb	4.3
NEUB	27.65	P	10:09:37.059	0.7	101.1	8.95	TAS	17.9	0.77	m_e	mb	5.0
RETH	29.48	P	10:09:52.565		101.1	8.95	TAS	16.2	1.15	m_e	mb	4.8
ROTZ	27.05	P	10:09:31.354	-0.2	101.1	8.95	TAS	1.4	1.02	m_e	mb	3.6
RUE	26.83	P	10:09:27.877	-0.3	101.1	8.95	TAS	42.0	0.85	m_e	mb	5.2
TNS	29.52	P	10:09:53.507		101.1	8.95	TAS	8.2	1.12	m_e	mb	4.5
UBR	28.09	P	10:09:40.908	0.1	101.1	8.95	TAS	21.5	1.09	m_e	mb	4.9
WET	26.49	P	10:09:27.012	-0.0	101.1	8.95	TAS	6.4	1.02	m_e	mb	4.2
WLF	30.91	P	10:10:06.115		101.1	8.95	TAS	8.4	0.77	m_e	mb	4.7

Event 81217004 New Britain, Papua New Guinea, region

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/17	11:14:25.20			-5.0400	152.3500				80.0			25		122.33	127.17	m i ke	EMSC
	81217036																

Magnitude Err Nsta Author OrigID

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BRG	122.65		PKPdf	11:33:12.545	0.1	52.1		2.00		TAS					m_e
BSEG	122.33		PKPdf	11:33:11.931	0.0	52.1		2.00		TAS					m_e
CLL	122.84		PKPdf	11:33:12.752	-0.1	52.1		2.00		TAS					m_e
CLZ	123.73		PKPdf	11:33:15.040	0.0	52.1		2.00		TAS					m_e
FLT1	123.01		PKPdf	11:33:13.030	-0.1	52.1		2.00		TAS					m_e
GEC2	124.02		PKPdf	11:33:15.109		52.1		2.00		TAS					m_e
GOR1	122.53		PKPdf	11:33:12.448	0.0	52.1		2.00		TAS					m_e
GTTG	124.12		PKPdf	11:33:15.733	0.1	52.1		2.00		TAS					m_e
IBBN	124.57		PKPdf	11:33:16.410	0.2	52.1		2.00		TAS					m_e
KAST	125.06		PKPdf	11:33:17.472	-0.2	52.1		2.00		TAS					m_e
MANZ	124.12		PKPdf	11:33:15.488	0.1	52.1		2.00		TAS					m_e
MOX	123.94		PKPdf	11:33:14.847	0.2	52.1		2.00		TAS					m_e
NEUB	123.51		PKPdf	11:33:14.244	0.1	52.1		2.00		TAS					m_e
NRDL	123.41		PKPdf	11:33:14.201	-0.3	52.1		2.00		TAS					m_e
PLN	123.78		PKPdf	11:33:14.718	0.0	52.1		2.00		TAS					m_e
RETH	123.57		PKPdf	11:33:14.610	-0.2	52.1		2.00		TAS					m_e
RJOB	125.18		PKPdf	11:33:16.882		52.1		2.00		TAS					m_e
ROTZ	124.22		PKPdf	11:33:15.507	-0.0	52.1		2.00		TAS					m_e
STU	126.36		PKPdf	11:33:19.802		52.1		2.00		TAS					m_e
TANN	123.68		PKPdf	11:33:14.491	0.3	52.1		2.00		TAS					m_e
TNS	125.73		PKPdf	11:33:18.726	0.3	52.1		2.00		TAS					m_e
UBBA	124.59		PKPdf	11:33:16.314	0.0	52.1		2.00		TAS					m_e
UBR	126.62		PKPdf	11:33:19.920		52.1		2.00		TAS					m_e
WET	124.27		PKPdf	11:33:15.800		52.1		2.00		TAS					m_e

WLF 127.17 PKPpdf 11:33:21.991 -0.4 52.1 2.00 TAS m\_e

Event 81217005 Southeast of Loyalty Islands

Date Time Err RMS Latitude Longitude Smaj Smin Az Depth Err Ndef Nsta Gap mdist Mdist Qual Author
2018/12/17 15:52:18.59 -21.7990 171.8840 35.5 1.7 25 144.99 150.43 m i ke BGR
81217011

Magnitude Err Nsta Author OrigID

Table with columns: Sta, Dist, EvAz, Phase, Time, TRes, Azim, AzRes, Slow, SRes, Def, SNR, Amp, Per, Qual, Magnitude. Rows include stations like BFO, BRG, BSEG, BUG, CLL, CLZ, FLT1, GEC2, GEC2, GOR1, GTTG, IBBN, KAST, KAST, MANZ, MOX, NEUB, NEUB, NRDL, NRDL, PLN, RETH, ROTZ, STU, TANN, UBBA, UBR, WET, WLF.

Event 81218002 South of Fiji Islands

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/18	20:38:26.60			-25.9100	-177.3300				80.0			27		151.43	157.49	m i ke	EMSC
81218034																	

Magnitude	Err	Nsta	Author	OrigID
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Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	157.18		PKPbc	20:58:22.637		18.0		2.11		TAS					m_e
BFO	157.18		PKPab	20:58:42.461		16.2		4.37		TAS					m_e
BRG	153.62		PKPdf	20:58:07.287	-0.2	19.9		1.44		TAS					m_e
BRG	153.62		PKPbc	20:58:15.424	0.1	18.0		2.11		TAS					m_e
BRG	153.62		PKPab	20:58:27.604	-0.2	16.2		4.37		TAS					m_e
BSEG	151.43		PKPbc	20:58:10.547	-0.1	18.0		2.11		TAS					m_e
CLL	153.44		PKPbc	20:58:14.905	0.3	18.0		2.11		TAS					m_e
CLL	153.44		PKPab	20:58:26.339	0.1	16.2		4.37		TAS					m_e
CLZ	153.45		PKPdf	20:58:07.257	-0.0	19.9		1.44		TAS					m_e
CLZ	153.45		PKPbc	20:58:15.149	0.1	18.0		2.11		TAS					m_e
CLZ	153.45		PKPab	20:58:26.802	-0.2	16.2		4.37		TAS					m_e
FLT1	152.83		PKPdf	20:58:05.849	0.1	19.9		1.44		TAS					m_e
FLT1	152.83		PKPbc	20:58:13.285	-0.0	18.0		2.11		TAS					m_e
FLT1	152.83		PKPab	20:58:23.651	0.0	16.2		4.37		TAS					m_e
FUR	156.78		PKPbc	20:58:21.841		18.0		2.11		TAS					m_e
FUR	156.78		PKPab	20:58:41.399		16.2		4.37		TAS					m_e
GEC2	155.54		PKPdf	20:58:09.787		19.9		1.44		TAS					m_e
GEC2	155.54		PKPbc	20:58:19.292	-0.1	18.0		2.11		TAS					m_e
GEC2	155.54		PKPab	20:58:35.945		16.2		4.37		TAS					m_e
GOR1	152.19		PKPbc	20:58:12.290	-0.1	18.0		2.11		TAS					m_e
GRA1	155.35		PKPdf	20:58:09.805		19.9		1.44		TAS					m_e
GRA1	155.35		PKPab	20:58:35.236		16.2		4.37		TAS					m_e
GTTG	153.80		PKPbc	20:58:15.680	0.0	18.0		2.11		TAS					m_e
GTTG	153.80		PKPab	20:58:28.200	-0.1	16.2		4.37		TAS					m_e
HLG	151.49		PKPbc	20:58:10.842	0.0	18.0		2.11		TAS					m_e
IBBN	153.36		PKPbc	20:58:14.609	0.1	18.0		2.11		TAS					m_e
KAST	154.37		PKPdf	20:58:08.380		19.9		1.44		TAS					m_e
KAST	154.37		PKPbc	20:58:16.875	0.1	18.0		2.11		TAS					m_e
MANZ	154.88		PKPdf	20:58:09.046		19.9		1.44		TAS					m_e
MANZ	154.88		PKPbc	20:58:18.049	-0.1	18.0		2.11		TAS					m_e
MANZ	154.88		PKPab	20:58:32.728	-0.3	16.2		4.37		TAS					m_e
MOX	154.36		PKPdf	20:58:08.179		19.9		1.44		TAS					m_e
MOX	154.36		PKPbc	20:58:16.807	0.1	18.0		2.11		TAS					m_e
MOX	154.36		PKPab	20:58:30.477	-0.3	16.2		4.37		TAS					m_e
NEUB	153.81		PKPbc	20:58:15.625	0.0	18.0		2.11		TAS					m_e
NEUB	153.81		PKPab	20:58:28.133	0.4	16.2		4.37		TAS					m_e
NRDL	152.86		PKPbc	20:58:13.628	-0.3	18.0		2.11		TAS					m_e
NRDL	152.86		PKPab	20:58:23.828	-0.1	16.2		4.37		TAS					m_e
PLN	154.40		PKPdf	20:58:08.407		19.9		1.44		TAS					m_e
PLN	154.40		PKPbc	20:58:16.995	0.0	18.0		2.11		TAS					m_e
PLN	154.40		PKPab	20:58:30.841	0.2	16.2		4.37		TAS					m_e

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RETH	152.74	PKPbc	20:58:13.285	-0.2	18.0	2.11	TAS	m_e
RJOB	156.80	PKPbc	20:58:21.694		18.0	2.11	TAS	m_e
RJOB	156.80	PKPab	20:58:41.903		16.2	4.37	TAS	m_e
ROTZ	155.06	PKPbc	20:58:18.286	0.3	18.0	2.11	TAS	m_e
RUE	152.17	PKPbc	20:58:12.186	0.1	18.0	2.11	TAS	m_e
STU	156.62	PKPbc	20:58:21.732		18.0	2.11	TAS	m_e
STU	156.62	PKPab	20:58:40.166		16.2	4.37	TAS	m_e
TANN	154.40	PKPpdf	20:58:08.370		19.9	1.44	TAS	m_e
TANN	154.40	PKPbc	20:58:17.018	0.2	18.0	2.11	TAS	m_e
TANN	154.40	PKPab	20:58:30.900	-0.1	16.2	4.37	TAS	m_e
TNS	155.32	PKPbc	20:58:18.909	0.2	18.0	2.11	TAS	m_e
TNS	155.32	PKPab	20:58:34.593		16.2	4.37	TAS	m_e
UBBA	154.50	PKPpdf	20:58:08.310		19.9	1.44	TAS	m_e
UBBA	154.50	PKPab	20:58:30.788	0.2	16.2	4.37	TAS	m_e
UBR	157.49	PKPbc	20:58:23.295		18.0	2.11	TAS	m_e
WET	155.48	PKPpdf	20:58:09.827		19.9	1.44	TAS	m_e
WET	155.48	PKPab	20:58:35.874		16.2	4.37	TAS	m_e
WLF	156.13	PKPpdf	20:58:11.204		19.9	1.44	TAS	m_e
WLF	156.13	PKPbc	20:58:21.135	-0.1	18.0	2.11	TAS	m_e
WLF	156.13	PKPab	20:58:38.541		16.2	4.37	TAS	m_e

Event 81219001 Southeast of Easter Island

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/19	01:37:40.30			-36.1500	-101.0300				10.0			28		127.00	132.25	m i ke	EMSC
81219033																	

Magnitude 5.8  
 Err 5.8  
 Nsta BGR  
 Author  
 OrigID 81219007

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	128.06		PKPpdf	01:56:50.195		258.8		1.78		TAS					m_e
BRG	132.13		PKPpdf	01:56:58.047	0.1	258.8		1.78		TAS					m_e
BSEG	130.38		PKPpdf	01:56:55.110	0.1	258.8		1.78		TAS					m_e
BUG	128.10		PKPpdf	01:56:50.748	-0.0	258.8		1.78		TAS					m_e
CLL	131.61		PKPpdf	01:56:57.008	0.1	258.8		1.78		TAS					m_e
CLZ	130.08		PKPpdf	01:56:54.742	-0.1	258.8		1.78		TAS					m_e
FLT1	130.69		PKPpdf	01:56:54.988	-0.2	258.8		1.78		TAS					m_e
FUR	129.94		PKPpdf	01:56:53.920		258.8		1.78		TAS					m_e
GEC2	131.65		PKPpdf	01:56:56.832	-0.3	258.8		1.78		TAS					m_e
GOR1	130.83		PKPpdf	01:56:55.870	0.1	258.8		1.78		TAS					m_e
GRA1	130.21		PKPpdf	01:56:54.926	-0.4	258.8		1.78		TAS					m_e
GRA1	130.21		PP	01:59:06.109						T__					m_e
GRA1	130.21		PS	02:09:14.088						T__					m_e
GRA1	130.21		SS	02:16:57.130						T__					m_e
GRA1	130.21		L	02:45:46.653						T__	2141.3	21.40	a_e	Ms	5.8

GTTG	129.78	PKPdf	01:56:54.005	0.1	258.8	1.78	TAS	m_e
KAST	128.76	PKPdf	01:56:52.100	0.3	258.8	1.78	TAS	m_e
MANZ	130.83	PKPdf	01:56:55.668	0.0	258.8	1.78	TAS	m_e
MOX	130.64	PKPdf	01:56:55.295	0.2	258.8	1.78	TAS	m_e
MOX	130.64	PP	01:59:08.074				T__	m_e
MOX	130.64	L	02:46:16.325				T__	2127.4 20.60 a_e Ms 5.8
NEUB	130.83	PKPdf	01:56:55.682	-0.0	258.8	1.78	TAS	m_e
NRDL	130.03	PKPdf	01:56:54.558	-0.6	258.8	1.78	TAS	m_e
PLN	130.95	PKPdf	01:56:55.910	0.1	258.8	1.78	TAS	m_e
RETH	129.62	PKPdf	01:56:53.884	-0.2	258.8	1.78	TAS	m_e
RJOB	130.84	PKPdf	01:56:55.298		258.8	1.78	TAS	m_e
RUE	132.25	PKPdf	01:56:58.123	0.3	258.8	1.78	TAS	m_e
STU	128.72	PKPdf	01:56:51.873	0.1	258.8	1.78	TAS	m_e
TANN	131.13	PKPdf	01:56:56.352	-0.2	258.8	1.78	TAS	m_e
TNS	128.57	PKPdf	01:56:51.854	0.4	258.8	1.78	TAS	m_e
UBBA	129.66	PKPdf	01:56:53.882	0.2	258.8	1.78	TAS	m_e
UBR	129.06	PKPdf	01:56:52.527		258.8	1.78	TAS	m_e
WET	131.17	PKPdf	01:56:56.196	-0.0	258.8	1.78	TAS	m_e
WLF	127.00	PKPdf	01:56:48.618	0.1	258.8	1.78	TAS	m_e

Event 81219002 Northern Mid-Atlantic Ridge

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/19	03:38:33.73			29.9100	-42.2500				15.2	0.9		28		41.27	46.43	m i ke	BGR
81219008																	

Magnitude	Err	Nsta	Author	OrigID
mb	5.4		BGR	81219008
Ms	5.4		BGR	81219008

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	42.49		P	03:46:28.413	0.1	263.2		8.03		TAS		96.3	1.47	m_e mb	5.3
BFO	42.49		pP	03:46:32.464	0.6	262.9		7.87		TAS				m_e	
BRG	46.38		P	03:46:59.497		263.2		8.03		TAS		96.8	1.85	m_e mb	5.5
BRG	46.38		pP	03:47:03.579		262.9		7.87		TAS				m_e	
BSEG	44.59		P	03:46:45.372	-0.2	263.2		8.03		TAS		160.8	1.31	m_e mb	5.8
BSEG	44.59		pP	03:46:49.596		262.9		7.87		TAS				m_e	
BUG	42.29		P	03:46:26.645	-0.3	263.2		8.03		TAS		50.8	1.22	m_e mb	5.1
CLZ	44.27		P	03:46:42.981	-0.1	263.2		8.03		TAS		50.0	1.23	m_e mb	5.1
CLZ	44.27		pP	03:46:47.081	0.2	262.9		7.87		TAS				m_e	
FLT1	44.87		P	03:46:47.389	0.2	263.2		8.03		TAS		60.6	1.35	m_e mb	5.3
FLT1	44.87		pP	03:46:51.349		262.9		7.87		TAS				m_e	
GEC2	46.09		P	03:46:57.154	-0.1	263.2		8.03		TAS		119.8	1.64	m_e mb	5.7
GEC2	46.09		pP	03:47:01.233		262.9		7.87		TAS				m_e	
GOR1	45.01		P	03:46:48.721	-0.0	263.2		8.03		TAS		240.2	1.93	m_e mb	5.8
GRA1	44.53		P	03:46:44.842	-0.2	263.2		8.03		TAS		88.3	1.36	m_e mb	5.5



GRA1	44.53	L	04:02:16.436							T__	3385.4	18.50	a_e	Ms	5.3	
GTTG	43.97	P	03:46:40.421	0.5	263.2			8.03		TAS	53.1	1.27	m_e	mb	5.1	
GTTG	43.97	pP	03:46:44.588	-0.2	262.9			7.87		TAS			m_e			
IBBN	42.76	P	03:46:30.649	0.1	263.2			8.03		TAS	269.3	1.95	m_e	mb	5.6	
IBBN	42.76	pP	03:46:34.668	0.1	262.9			7.87		TAS			m_e			
KAST	42.96	P	03:46:32.045	-0.3	263.2			8.03		TAS	266.3	2.62	m_e	mb	5.5	
MANZ	45.13	P	03:46:49.794	-0.3	263.2			8.03		TAS	56.4	2.15	m_e	mb	5.1	
MOX	44.88	P	03:46:47.705	-0.4	263.2			8.03		TAS	35.0	1.27	m_e	mb	5.1	
MOX	44.88	pP	03:46:51.857		262.9			7.87		TAS			m_e			
MOX	44.88	L	04:02:30.219							T__	4893.2	19.00	a_e	Ms	5.5	
NEUB	45.05	P	03:46:48.763	-0.2	263.2			8.03		TAS	171.9	2.04	m_e	mb	5.6	
NEUB	45.05	pP	03:46:53.007		262.9			7.87		TAS			m_e			
NRDL	44.21	P	03:46:42.748	0.2	263.2			8.03		TAS	124.2	1.50	m_e	mb	5.4	
NRDL	44.21	pP	03:46:46.676	-0.1	262.9			7.87		TAS			m_e			
PLN	45.21	P	03:46:50.194	0.7	263.2			8.03		TAS	10.6	1.18	m_e	mb	4.7	
PLN	45.21	pP	03:46:54.274		262.9			7.87		TAS			m_e			
RETH	43.80	P	03:46:39.216	-0.1	263.2			8.03		TAS	178.7	2.00	m_e	mb	5.5	
RETH	43.80	pP	03:46:43.330	-0.1	262.9			7.87		TAS			m_e			
RJOB	45.43	P	03:46:52.225	-0.1	263.2			8.03		TAS	129.3	1.94	m_e	mb	5.5	
ROTZ	45.17	P	03:46:49.961	-0.2	263.2			8.03		TAS	18.3	1.77	m_e	mb	4.7	
RUE	46.43	P	03:47:00.043		263.2			8.03		TAS	48.8	1.07	m_e	mb	5.5	
STU	43.11	P	03:46:33.147	-0.2	263.2			8.03		TAS	127.2	1.35	m_e	mb	5.5	
TANN	45.40	P	03:46:51.770	-0.1	263.2			8.03		TAS	216.4	2.40	m_e	mb	5.7	
TNS	42.82	P	03:46:31.474	0.2	263.2			8.03		TAS	231.7	2.25	m_e	mb	5.5	
UBBA	43.89	P	03:46:39.723	-0.1	263.2			8.03		TAS	78.1	1.79	m_e	mb	5.1	
UBR	43.61	P	03:46:37.908	0.3	263.2			8.03		TAS	135.2	2.07	m_e	mb	5.3	
UBR	43.61	pP	03:46:41.781	-0.3	262.9			7.87		TAS			m_e			
WET	45.56	P	03:46:52.986	-0.4	263.2			8.03		TAS	103.2	1.80	m_e	mb	5.6	
WET	45.56	pP	03:46:56.883		262.9			7.87		TAS			m_e			
WLF	41.27	P	03:46:18.252	-0.5	263.2			8.03		TAS	266.1	2.15	m_e	mb	5.6	

Event 81219005 Southern Greece

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/19	19:35:52.71	0.82	1.33	36.3880	21.4830	54.5	14.5	60	10.0			14	343	13.69	17.52	m i ke	BGR
81219011																	

Magnitude Err Nsta Author OrigID

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	15.37		Sn	19:41:59.204	-1.5					T__				m_e	
BFO	15.37		Pn	19:39:27.406	2.1					T__				m_e	
BRG	15.46		Pn	19:39:26.153	-0.4					T__				m_e	
CLL	16.10		Pn	19:39:32.365	-2.8					T__				m_e	
CLZ	17.35		Pn	19:39:53.324	1.5					T__				m_e	
FUR	13.97		Sn	19:41:28.470	0.2					T__				m_e	

GEC2	13.69	Sn	19:41:22.820	1.0	T__	m_e
GEC2	13.69	Pn	19:39:02.630	-0.3	T__	m_e
GRA1	15.25	Sn	19:41:56.786	-1.1	T__	m_e
GRA1	15.25	Pn	19:39:25.607	1.9	T__	m_e
KAST	17.52	Sn	19:42:48.422	-2.0	T__	m_e
KAST	17.52	Pn	19:39:54.830	0.8	T__	m_e
MANZ	15.20	Sn	19:41:58.395	1.7	T__	m_e
MANZ	15.20	Pn	19:39:22.909	-0.1	T__	m_e
MOX	15.92	Sn	19:42:15.903	2.3	T__	m_e
MOX	15.92	Pn	19:39:31.590	-1.2	T__	m_e
ROTZ	14.97	Pn	19:39:18.862	-1.2	T__	m_e
TANN	15.46	Pn	19:39:25.881	-0.7	T__	m_e
TNS	16.73	Sn	19:42:32.350	0.0	T__	m_e
TNS	16.73	Pn	19:39:43.894	0.3	T__	m_e
WET	14.21	Sn	19:41:33.263	-0.7	T__	m_e
WET	14.21	Pn	19:39:09.898	0.0	T__	m_e

Event 81219006 New Britain, Papua New Guinea, region

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/19	21:37:47.60			-6.0700	149.8600				30.0					124.38	124.38	m i ke	EMSC
81219038																	

Magnitude	Err	Nsta	Author	OrigID
Ms	5.7		BGR	81219012

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
GRA1	124.38		PKPdf	21:56:43.087		42.8		1.04		TAS				m_e	
GRA1	124.38		L	22:51:25.574						T__		1915.4	21.40	a_e Ms	5.7

Event 81220002 Tonga Islands

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author	
2018/12/20	04:00:26.70			-21.5600	-175.9600				33.0					18	147.32	151.90	m i ke	BGR
81220008																		

Magnitude	Err	Nsta	Author	OrigID
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Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BRG	149.73		PKPbc	04:20:13.272	0.1	11.9		2.59		TAS				m_e	
BSEG	147.32		PKPbc	04:20:06.762	-0.1	11.9		2.59		TAS				m_e	
CLL	149.49		PKPbc	04:20:12.420	0.2	11.9		2.59		TAS				m_e	
CLZ	149.38		PKPbc	04:20:12.481	0.0	11.9		2.59		TAS				m_e	

FLT1	148.78	PKPbc	04:20:10.352	0.1	11.9	2.59	TAS	m_e
GTTG	149.72	PKPbc	04:20:13.211	-0.3	11.9	2.59	TAS	m_e
KAST	150.22	PKPbc	04:20:14.306	0.1	11.9	2.59	TAS	m_e
MANZ	150.92	PKPbc	04:20:16.314		11.9	2.59	TAS	m_e
MOX	150.37	PKPbc	04:20:14.671	-0.1	11.9	2.59	TAS	m_e
NEUB	149.81	PKPbc	04:20:13.379	0.0	11.9	2.59	TAS	m_e
NRDL	148.77	PKPbc	04:20:10.448	0.2	11.9	2.59	TAS	m_e
PLN	150.43	PKPbc	04:20:15.097		11.9	2.59	TAS	m_e
ROTZ	151.12	PKPbc	04:20:16.557		11.9	2.59	TAS	m_e
RUE	148.23	PKPbc	04:20:09.190	-0.1	11.9	2.59	TAS	m_e
TANN	150.45	PKPbc	04:20:15.097		11.9	2.59	TAS	m_e
TNS	151.19	PKPbc	04:20:16.801		11.9	2.59	TAS	m_e
UBBA	150.43	PKPbc	04:20:14.489	-0.2	11.9	2.59	TAS	m_e
WLF	151.90	PKPbc	04:20:18.724		11.9	2.59	TAS	m_e

Event 81220004 Southern Xinjiang, China

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/20	11:08:18.37			39.3800	74.6000				33.0			31		43.03	48.29	m i ke	BGR
OrigID 81220010																	

Magnitude	Err	Nsta	Author	OrigID
mb	5.2		BGR	81220010
Ms	5.0		BGR	81220010

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	47.25		P	11:16:48.190	-0.1	79.2		7.88		TAS		22.9	1.13	a_e mb	5.2
BRG	43.15		P	11:16:16.140	-0.3	79.2		7.88		TAS		40.0	1.09	a_e mb	5.1
BSEG	44.89		P	11:16:30.290	0.8	79.2		7.88		TAS		46.6	1.02	m_e mb	5.4
BUG	47.17		P	11:16:47.956	-0.3	79.2		7.88		TAS		63.4	1.37	m_e mb	5.6
CLL	43.67		P	11:16:19.840	-0.7	79.2		7.88		TAS		41.6	1.11	a_e mb	5.1
CLZ	45.20		P	11:16:32.490	-0.0	79.2		7.88		TAS		34.0	1.21	a_e mb	5.2
FLT1	44.59		P	11:16:26.940	-0.7	79.2		7.88		TAS		54.5	0.96	a_e mb	5.5
FUR	45.39		P	11:16:34.245	0.6	79.2		7.88		TAS		76.2	0.96	m_e mb	5.6
GEC2	43.66		P	11:16:20.490	0.3	79.2		7.88		TAS		56.4	1.15	m_e mb	5.2
GOR1	44.44		P	11:16:26.619	0.3	79.2		7.88		TAS		60.0	1.22	m_e mb	5.2
GRA1	45.09		P	11:16:32.340	0.7	79.2		7.88		TAS		72.0	1.08	a_e mb	5.5
GRA1	45.09		L	11:36:19.341						T_		1258.2	21.00	a_e Ms	4.8
GTTG	45.50		P	11:16:35.040	0.1	79.2		7.88		TAS		86.2	0.99	a_e mb	5.7
IBBN	46.69		P	11:16:44.140	-0.1	79.2		7.88		TAS		70.7	1.30	a_e mb	5.6
KAST	46.52		P	11:16:42.589	0.2	79.2		7.88		TAS		21.4	1.50	m_e mb	5.0
MANZ	44.46		P	11:16:26.890	0.1	79.2		7.88		TAS		2.9	0.98	a_e mb	4.0
MOX	44.65		P	11:16:28.140	-0.1	79.2		7.88		TAS		27.8	1.08	a_e mb	5.1
MOX	44.65		L	11:36:57.448						T_		2273.8	18.10	a_e Ms	5.1
NRDL	45.24		P	11:16:33.140	0.4	79.2		7.88		TAS		58.6	1.03	a_e mb	5.5
PLN	44.34		P	11:16:25.580	-0.2	79.2		7.88		TAS		12.2	1.37	m_e mb	4.5

RETH	45.65	P	11:16:36.090	0.2	79.2	7.88	TAS	16.8	1.06	a_e	mb	5.0
RGN	43.07	P	11:16:15.668	0.8	79.2	7.88	TAS	98.3	0.99	m_e	mb	5.5
RJOB	44.49	P	11:16:26.354	0.1	79.2	7.88	TAS	10.4	0.95	m_e	mb	4.5
ROTZ	44.44	P	11:16:26.666	0.1	79.2	7.88	TAS	7.2	1.31	m_e	mb	4.2
RUE	43.03	P	11:16:14.523	-0.8	79.2	7.88	TAS	63.9	1.38	m_e	mb	5.2
STU	46.59	P	11:16:43.533	-0.3	79.2	7.88	TAS	85.8	1.03	m_e	mb	5.8
TANN	44.16	P	11:16:24.240	-0.2	79.2	7.88	TAS	28.2	1.20	a_e	mb	4.9
TNS	46.72	P	11:16:44.277	-0.0	79.2	7.88	TAS	27.3	1.26	m_e	mb	5.2
UBBA	45.62	P	11:16:35.564	-0.4	79.2	7.88	TAS	10.2	0.99	m_e	mb	4.8
UBR	46.26	P	11:16:40.740	0.3	79.2	7.88	TAS	45.4	0.99	a_e	mb	5.5
WET	44.14	P	11:16:24.140	0.1	79.2	7.88	TAS	40.6	1.11	a_e	mb	5.1
WLF	48.29	P	11:16:56.940		79.2	7.88	TAS	49.1	1.09	a_e	mb	5.5

Event 81220006 Komandorsky Islands, Russia, region

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/20	17:01:49.33			54.1100	165.5500				21.4	0.9		32		69.31	76.47	m i ke	BGR
81220012																	

Magnitude	Err	Nsta	Author	OrigID
mb	6.8		BGR	81220012
MBB	7.4		BGR	81220012
Ms	7.5		BGR	81220012

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	76.13		P	17:13:36.025	-0.3	15.1		6.00		TAS		585.7	1.20	m_e	MBB 7.4
BFO	76.13		pP	17:13:42.045	-0.4	15.5		5.97		TAS				m_e	
BRG	72.72		P	17:13:15.629	0.2	15.1		6.00		TAS		580.2	1.21	m_e	MBB 7.4
BRG	72.72		pP	17:13:21.578	-0.4	15.5		5.97		TAS				m_e	
BSEG	70.39		P	17:13:01.959	0.1	15.1		6.00		TAS		836.2	1.17	m_e	MBB 7.6
BSEG	70.39		pP	17:13:08.081	-0.0	15.5		5.97		TAS				m_e	
BUG	73.26		P	17:13:18.807	0.1	15.1		6.00		TAS		3374.3	2.26	m_e	MBB 7.4
BUG	73.26		pP	17:13:24.917	-0.3	15.5		5.97		TAS				m_e	
BUG	73.26		PP	17:16:03.050	1.1	17.1		8.72		TAS				m_e	
CLL	72.47		P	17:13:13.904	-0.3	15.1		6.00		TAS		821.9	1.16	m_e	MBB 7.5
CLL	72.47		pP	17:13:20.232	-0.3	15.5		5.97		TAS				m_e	
CLZ	72.40		P	17:13:14.430	-0.6	15.1		6.00		TAS		891.3	1.10	m_e	MBB 7.6
CLZ	72.40		pP	17:13:20.605	0.5	15.5		5.97		TAS				m_e	
CLZ	72.40		PP	17:15:55.909	0.1	17.1		8.72		TAS				m_e	
FLT1	71.79		P	17:13:09.813	-0.2	15.1		6.00		TAS		558.6	1.23	m_e	MBB 7.4
FLT1	71.79		pP	17:13:15.805	-0.7	15.5		5.97		TAS				m_e	
FLT1	71.79		PP	17:15:49.419	1.5	17.1		8.72		TAS				m_e	
FUR	75.80		P	17:13:34.351	0.3	15.1		6.00		TAS		903.1	1.19	m_e	MBB 7.5
FUR	75.80		pP	17:13:40.269	-0.2	15.5		5.97		TAS				m_e	
GEC2	74.70		P	17:13:27.936	0.2	15.1		6.00		TAS		521.7	1.08	m_e	MBB 7.3
GEC2	74.70		pP	17:13:34.184	0.4	15.5		5.97		TAS				m_e	

GEC2	74.70	PP	17:16:14.989		17.1	8.72	TAS			m_e		
GOR1	71.14	P	17:13:06.587	-0.0	15.1	6.00	TAS	2305.4	1.65	m_e	MBB	7.8
GOR1	71.14	pP	17:13:12.823	0.2	15.5	5.97	TAS			m_e		
GRA1	74.34	S	17:22:52.928				T__			m_e		
GRA1	74.34	SS	17:27:40.156				T__			m_e		
GRA1	74.34	P	17:13:26.174	0.4	15.1	6.00	TAS	4190.1	1.88	m_e	mb	7.2
GRA1	74.34	pP	17:13:32.056	0.3	15.5	5.97	TAS			m_e		
GRA1	74.34	L	17:48:15.409				T__	173669.0	19.20	a_e	Ms	7.4
GTTG	72.75	P	17:13:16.344	-0.2	15.1	6.00	TAS	621.4	1.32	m_e	MBB	7.5
GTTG	72.75	pP	17:13:22.400	0.2	15.5	5.97	TAS			m_e		
GTTG	72.75	PP	17:15:58.928	-3.2	17.1	8.72	TAS			m_e		
HLG	70.50	pP	17:13:09.083	0.4	15.5	5.97	TAS			m_e		
IBBN	72.35	P	17:13:13.800	0.4	15.1	6.00	TAS	1007.1	1.19	m_e	MBB	7.6
IBBN	72.35	pP	17:13:19.946	0.2	15.5	5.97	TAS			m_e		
KAST	73.33	P	17:13:19.584	0.0	15.1	6.00	TAS	651.5	1.35	m_e	MBB	7.5
KAST	73.33	pP	17:13:25.825	0.2	15.5	5.97	TAS			m_e		
KAST	73.33	PP	17:16:03.872		17.1	8.72	TAS			m_e		
MANZ	73.90	P	17:13:23.109	0.1	15.1	6.00	TAS	2100.9	3.08	m_e	MBB	6.7
MANZ	73.90	pP	17:13:29.053	-0.0	15.5	5.97	TAS			m_e		
MANZ	73.90	PP	17:16:07.695		17.1	8.72	TAS			m_e		
MOX	73.35	S	17:22:47.044				T__			m_e		
MOX	73.35	SS	17:27:21.233				T__			m_e		
MOX	73.35	P	17:13:19.796	0.1	15.1	6.00	TAS	7425.0	2.74	m_e	MBB	7.5
MOX	73.35	pP	17:13:25.920	0.1	15.5	5.97	TAS			m_e		
MOX	73.35	PP	17:16:03.697		17.1	8.72	TAS			m_e		
MOX	73.35	L	17:49:32.892				T__	262228.0	18.50	a_e	Ms	7.5
NEUB	72.79	P	17:13:16.241	-0.2	15.1	6.00	TAS	1764.4	1.76	m_e	MBB	7.5
NEUB	72.79	pP	17:13:22.362	-0.1	15.5	5.97	TAS			m_e		
NRDL	71.81	P	17:13:10.261	0.3	15.1	6.00	TAS	519.0	1.22	m_e	MBB	7.5
NRDL	71.81	pP	17:13:16.385	-0.2	15.5	5.97	TAS			m_e		
NRDL	71.81	PP	17:15:50.651	0.6	17.1	8.72	TAS			m_e		
PLN	73.41	P	17:13:20.159	0.2	15.1	6.00	TAS	2922.0	2.89	m_e	MBB	7.1
PLN	73.41	pP	17:13:26.384	0.2	15.5	5.97	TAS			m_e		
PLN	73.41	PP	17:16:03.767		17.1	8.72	TAS			m_e		
RETH	71.69	P	17:13:09.640	-0.5	15.1	6.00	TAS	7789.3	3.06	m_e	MBB	7.5
RETH	71.69	pP	17:13:15.900	0.0	15.5	5.97	TAS			m_e		
RETH	71.69	PP	17:15:49.514	1.4	17.1	8.72	TAS			m_e		
RGN	69.31	P	17:12:55.540	0.1	15.1	6.00	TAS	1242.7	0.98	m_e	MBB	7.8
RGN	69.31	pP	17:13:01.390	-0.3	15.5	5.97	TAS			m_e		
RJOB	75.94	P	17:13:35.591	-0.4	15.1	6.00	TAS			m_e		
ROTZ	74.09	P	17:13:24.335	0.0	15.1	6.00	TAS	1311.0	2.41	m_e	MBB	6.8
ROTZ	74.09	pP	17:13:30.446	0.2	15.5	5.97	TAS			m_e		
RUE	71.21	P	17:13:06.874	-0.0	15.1	6.00	TAS	1069.8	1.19	m_e	MBB	7.7
RUE	71.21	pP	17:13:12.814	-0.2	15.5	5.97	TAS			m_e		
STU	75.57	P	17:13:32.877	-0.1	15.1	6.00	TAS	1443.9	1.22	m_e	MBB	7.7
STU	75.57	pP	17:13:38.712	-0.3	15.5	5.97	TAS			m_e		
TANN	73.42	P	17:13:20.359	-0.2	15.1	6.00	TAS	7203.4	2.91	m_e	MBB	7.5
TANN	73.42	pP	17:13:26.497	0.3	15.5	5.97	TAS			m_e		
TANN	73.42	PP	17:16:03.909		17.1	8.72	TAS			m_e		

TNS	74.27	P	17:13:25.235	0.5	15.1	6.00	TAS	548.3	1.19	m_e	MBB	7.3
TNS	74.27	pP	17:13:31.304	-0.0	15.5	5.97	TAS			m_e		
TNS	74.27	PP	17:16:06.559		17.1	8.72	TAS			m_e		
UBBA	73.45	P	17:13:20.079	0.1	15.1	6.00	TAS	3572.4	2.34	m_e	MBB	7.4
UBBA	73.45	pP	17:13:26.236	-0.2	15.5	5.97	TAS			m_e		
UBBA	73.45	PP	17:16:04.328		17.1	8.72	TAS			m_e		
UBR	76.47	P	17:13:38.195		15.1	6.00	TAS	740.9	1.24	m_e	MBB	7.5
UBR	76.47	pP	17:13:44.024		15.5	5.97	TAS			m_e		
WET	74.57	P	17:13:27.462	0.1	15.1	6.00	TAS	886.2	1.19	m_e	MBB	7.4
WET	74.57	pP	17:13:33.718	0.7	15.5	5.97	TAS			m_e		
WET	74.57	PP	17:16:11.465		17.1	8.72	TAS			m_e		
WLF	75.15	P	17:13:30.494	-0.1	15.1	6.00	TAS	7336.3	2.99	m_e	MBB	7.3
WLF	75.15	pP	17:13:36.754	0.3	15.5	5.97	TAS			m_e		

Event 81220007 Komandorsky Islands, Russia, region

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/20	17:09:14.29			55.4990	165.3680				33.0			23		69.85	75.11	m i ke	BGR
81220013																	

Magnitude	Err	Nsta	Author	OrigID
mb	5.7		BGR	81220013

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude	
BFO	74.76		P	17:20:48.220		15.0		5.95		TAS		70.1	1.21	m_e	mb	5.6
BRG	71.36		P	17:20:28.380	0.6	15.0		5.95		TAS		84.5	1.28	m_e	mb	5.7
BUG	71.89		P	17:20:31.879	-0.1	15.0		5.95		TAS		26.1	0.78	m_e	mb	5.4
CLL	71.11		P	17:20:26.850	0.2	15.0		5.95		TAS		71.5	1.01	m_e	mb	5.8
CLZ	71.03		P	17:20:27.004	0.1	15.0		5.95		TAS		127.6	1.26	m_e	mb	5.9
FLT1	70.42		P	17:20:22.415	-0.3	15.0		5.95		TAS		120.3	1.49	m_e	mb	5.8
FUR	74.45		P	17:20:46.094		15.0		5.95		TAS		94.7	1.30	m_e	mb	5.7
GEC2	73.35		P	17:20:40.756		15.0		5.95		TAS		41.6	0.84	m_e	mb	5.6
GRA1	72.98		P	17:20:38.879		15.0		5.95		TAS		165.4	1.09	m_e	mb	6.1
IBBN	70.97		P	17:20:26.537	-0.4	15.0		5.95		TAS		153.3	1.18	m_e	mb	6.0
KAST	71.95		P	17:20:32.356	0.2	15.0		5.95		TAS		198.3	1.70	m_e	mb	6.0
MANZ	72.54		P	17:20:35.889	0.4	15.0		5.95		TAS		11.5	1.15	m_e	mb	4.9
MOX	71.99		P	17:20:32.552	0.2	15.0		5.95		TAS		31.3	0.78	m_e	mb	5.5
NEUB	71.43		P	17:20:28.759	0.5	15.0		5.95		TAS		52.5	0.87	m_e	mb	5.7
PLN	72.05		P	17:20:32.722	-0.3	15.0		5.95		TAS		60.2	1.52	m_e	mb	5.5
RJOB	74.59		P	17:20:48.220		15.0		5.95		TAS		86.3	0.78	m_e	mb	5.8
ROTZ	72.74		P	17:20:37.345	0.0	15.0		5.95		TAS		10.3	0.80	m_e	mb	5.0
RUE	69.85		P	17:20:19.583	0.2	15.0		5.95		TAS		104.0	1.11	m_e	mb	5.9
STU	74.20		P	17:20:45.295		15.0		5.95		TAS		62.2	0.88	m_e	mb	5.7
TNS	72.90		P	17:20:38.039	-0.9	15.0		5.95		TAS		109.7	1.37	m_e	mb	5.8
UBBA	72.08		P	17:20:33.079	0.6	15.0		5.95		TAS		336.5	1.94	m_e	mb	6.1
UBR	75.11		P	17:20:51.018		15.0		5.95		TAS		116.5	1.41	m_e	mb	5.7

WET 73.22 P 17:20:40.269 15.0 5.95 TAS 71.3 1.05 m\_e mb 5.7

Event 81220008 Komandorsky Islands, Russia, region

Date Time Err RMS Latitude Longitude Smaj Smin Az Depth Err Ndef Nsta Gap mdist Mdist Qual Author
OrigID
2018/12/20 17:19:33.14 54.7040 165.4470 33.0 73.75 73.75 m i ke BGR
81220014

Magnitude Err Nsta Author OrigID
mb 5.8 BGR 81220014

Sta Dist EvAz Phase Time TRes Azim AzRes Slow SRes Def SNR Amp Per Qual Magnitude
GRA1 73.75 P 17:31:02.308 13.3 5.14 TAS 166.9 1.58 m\_e mb 5.8

Event 81220009 Komandorsky Islands, Russia, region

Date Time Err RMS Latitude Longitude Smaj Smin Az Depth Err Ndef Nsta Gap mdist Mdist Qual Author
OrigID
2018/12/20 17:35:16.97 55.5600 165.4100 33.0 30 67.89 75.06 m i ke BGR
81220015

Magnitude Err Nsta Author OrigID
mb 5.5 BGR 81220015

Sta Dist EvAz Phase Time TRes Azim AzRes Slow SRes Def SNR Amp Per Qual Magnitude
BFO 74.71 P 17:46:53.570 0.2 15.2 6.00 TAS 37.0 0.91 m\_e mb 5.4
BRG 71.31 P 17:46:33.297 -0.2 15.2 6.00 TAS 43.0 1.11 m\_e mb 5.5
BSEG 68.96 P 17:46:19.609 0.2 15.2 6.00 TAS 66.4 1.02 m\_e mb 5.8
BUG 71.83 P 17:46:36.590 -0.5 15.2 6.00 TAS 41.2 0.94 m\_e mb 5.5
CLL 71.06 P 17:46:31.540 0.1 15.2 6.00 TAS 63.2 1.11 m\_e mb 5.7
CLZ 70.98 P 17:46:32.126 0.2 15.2 6.00 TAS 78.2 1.04 m\_e mb 5.8
FLT1 70.37 P 17:46:27.447 0.5 15.2 6.00 TAS 23.2 0.98 m\_e mb 5.3
FUR 74.39 P 17:46:52.106 -0.3 15.2 6.00 TAS 45.0 0.95 m\_e mb 5.5
GEC2 73.30 P 17:46:45.592 -0.5 15.2 6.00 TAS 48.0 0.99 m\_e mb 5.6
GOR1 69.72 P 17:46:24.264 0.0 15.2 6.00 TAS 115.4 1.39 m\_e mb 5.8
GRA1 72.93 P 17:46:43.762 0.1 15.2 6.00 TAS 62.5 0.84 m\_e mb 5.8
GTTG 71.33 P 17:46:33.955 -0.1 15.2 6.00 TAS 53.5 1.37 m\_e mb 5.5
IBBN 70.92 P 17:46:31.467 -0.5 15.2 6.00 TAS 63.1 0.88 m\_e mb 5.8
KAST 71.90 P 17:46:37.253 -0.2 15.2 6.00 TAS 24.3 0.90 m\_e mb 5.3
MANZ 72.49 P 17:46:40.615 0.0 15.2 6.00 TAS 7.6 0.96 m\_e mb 4.8
MOX 71.94 P 17:46:37.377 0.2 15.2 6.00 TAS 42.6 0.97 m\_e mb 5.5
NEUB 71.38 P 17:46:33.862 -0.2 15.2 6.00 TAS 33.3 0.79 m\_e mb 5.5
NRDL 70.39 P 17:46:27.995 -0.1 15.2 6.00 TAS 25.3 0.93 m\_e mb 5.3
PLN 72.00 P 17:46:37.907 0.1 15.2 6.00 TAS 95.5 2.08 m\_e mb 5.6

RETH	70.27	P	17:46:27.368	-0.1	15.2	6.00	TAS	39.1	1.13	m_e	mb	5.4
RGH	67.89	P	17:46:12.998	-0.1	15.2	6.00	TAS	177.1	0.90	m_e	mb	6.3
RJOB	74.54	P	17:46:53.130		15.2	6.00	TAS	68.0	0.78	m_e	mb	5.7
ROTZ	72.68	P	17:46:41.860	0.5	15.2	6.00	TAS	9.5	0.88	m_e	mb	4.9
RUE	69.80	P	17:46:24.368	0.3	15.2	6.00	TAS	56.0	0.85	m_e	mb	5.7
STU	74.15	P	17:46:50.423	0.0	15.2	6.00	TAS	80.3	0.95	m_e	mb	5.7
TANN	72.02	P	17:46:37.907	0.1	15.2	6.00	TAS	101.7	1.62	m_e	mb	5.7
TNS	72.85	P	17:46:42.884	-0.1	15.2	6.00	TAS	20.7	0.86	m_e	mb	5.3
UBBA	72.03	P	17:46:37.761	0.0	15.2	6.00	TAS	14.4	0.86	m_e	mb	5.1
UBR	75.06	P	17:46:55.838		15.2	6.00	TAS	50.2	0.97	m_e	mb	5.5
WET	73.17	P	17:46:45.080	-0.2	15.2	6.00	TAS	55.9	1.00	m_e	mb	5.7

Event 81220010 Komandorsky Islands, Russia, region

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/20	18:31:10.07			56.4000	165.3500				33.0			24		68.14	74.25	m i ke	BGR
81220016																	

Magnitude	Err	Nsta	Author	OrigID
mb	5.1		BGR	81220016

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude	
BFO	73.89		P	18:42:41.813		14.8		6.03		TAS		9.7	0.88	m_e	mb	4.8
BRG	70.50		P	18:42:21.602	0.0	14.8		6.03		TAS		10.3	1.03	m_e	mb	4.9
BSEG	68.14		P	18:42:07.897	0.1	14.8		6.03		TAS		20.4	1.03	m_e	mb	5.3
BUG	71.01		P	18:42:24.975	-0.1	14.8		6.03		TAS		12.0	0.99	m_e	mb	5.0
CLL	70.25		P	18:42:20.048	0.0	14.8		6.03		TAS		23.2	1.17	m_e	mb	5.2
CLZ	70.16		P	18:42:20.386	-0.4	14.8		6.03		TAS		24.8	1.07	m_e	mb	5.3
FLT1	69.56		P	18:42:15.455	-0.0	14.8		6.03		TAS		16.4	1.19	m_e	mb	5.0
GEC2	72.50		P	18:42:33.828		14.8		6.03		TAS		328.2	3.37	m_e	mb	5.9
GOR1	68.91		P	18:42:12.268	-0.1	14.8		6.03		TAS		27.7	1.17	m_e	mb	5.4
GRA1	72.11		P	18:42:31.950		14.8		6.03		TAS		32.2	1.17	m_e	mb	5.3
KAST	71.08		P	18:42:25.291	0.2	14.8		6.03		TAS		12.5	1.11	m_e	mb	5.0
MANZ	71.68		P	18:42:28.964	-0.5	14.8		6.03		TAS		2.4	0.99	m_e	mb	4.3
MOX	71.12		P	18:42:25.670	0.3	14.8		6.03		TAS		16.3	1.05	m_e	mb	5.1
NEUB	70.57		P	18:42:21.923	0.1	14.8		6.03		TAS		26.7	1.38	m_e	mb	5.2
PLN	71.19		P	18:42:26.195	0.3	14.8		6.03		TAS		9.9	1.41	m_e	mb	4.8
RETH	69.45		P	18:42:15.548	-0.7	14.8		6.03		TAS		18.8	1.27	m_e	mb	5.2
RJOB	73.73		P	18:42:41.489		14.8		6.03		TAS		19.1	0.82	m_e	mb	5.2
ROTZ	71.87		P	18:42:30.450	0.2	14.8		6.03		TAS		3.5	1.03	m_e	mb	4.4
RUE	68.99		P	18:42:12.612	0.2	14.8		6.03		TAS		26.2	1.18	m_e	mb	5.3
TANN	71.20		P	18:42:26.195	0.4	14.8		6.03		TAS		21.2	1.43	m_e	mb	5.1
TNS	72.03		P	18:42:31.068	-0.0	14.8		6.03		TAS		12.1	1.09	m_e	mb	5.0
UBBA	71.21		P	18:42:26.128	-0.0	14.8		6.03		TAS		26.6	1.60	m_e	mb	5.1
UBR	74.25		P	18:42:44.267		14.8		6.03		TAS		15.1	0.99	m_e	mb	5.0
WET	72.36		P	18:42:33.423		14.8		6.03		TAS		16.4	1.00	m_e	mb	5.1



Event 81222001 Mozambique

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/22	05:37:38.15			-20.1580	34.3440				19.8	2.9		31		70.30	76.64	m i ke	BGR
OrigID 81222007																	

Magnitude	Err	Nsta	Author	OrigID
mb	5.5		BGR	81222007
Ms	5.1		BGR	81222007

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	72.04		P	05:49:02.181	-0.5	157.3		5.94		TAS		31.2	1.24	m_e	mb 5.3
BRG	72.97		P	05:49:07.922	-0.3	157.3		5.94		TAS		18.7	0.93	m_e	mb 5.2
BSEG	76.64		P	05:49:29.346	-0.7	157.3		5.94		TAS		90.7	0.94	m_e	mb 5.9
BSEG	76.64		pP	05:49:35.515						T__				m_e	
BUG	75.14		P	05:49:21.256	0.1	157.3		5.94		TAS		70.1	0.91	m_e	mb 5.7
BUG	75.14		pP	05:49:26.776						T__				m_e	
CLL	73.58		P	05:49:11.951	0.1	157.3		5.94		TAS		42.4	0.94	m_e	mb 5.5
CLL	73.58		pP	05:49:17.498						T__				m_e	
CLZ	74.70		P	05:49:18.557	0.0	157.3		5.94		TAS		19.2	1.05	m_e	mb 5.1
FLT1	74.94		P	05:49:19.694	-0.3	157.3		5.94		TAS		28.5	0.90	m_e	mb 5.3
FLT1	74.94		pP	05:49:24.830						T__				m_e	
FUR	71.08		P	05:48:57.480	0.4	157.3		5.94		TAS		134.7	1.02	m_e	mb 6.0
FUR	71.08		pP	05:49:03.020						T__				m_e	
GEC2	71.12		P	05:48:57.182	-0.1	157.3		5.94		TAS		136.5	1.61	m_e	mb 5.8
GEC2	71.12		pP	05:49:02.199						T__				m_e	
GOR1	75.53		P	05:49:24.029	0.5	157.3		5.94		TAS		148.4	1.14	m_e	mb 6.0
GRA1	72.50		P	05:49:05.688	0.2	157.3		5.94		TAS		90.1	0.98	m_e	mb 5.9
GRA1	72.50		pP	05:49:11.208						T__				m_e	
GRA1	72.50		L	06:20:16.082						T__		1075.2	20.40	a_e	Ms 5.1
GTTG	74.53		P	05:49:17.748	0.2	157.3		5.94		TAS		37.9	0.87	m_e	mb 5.4
GTTG	74.53		pP	05:49:23.710						T__				m_e	
IBBN	75.79		P	05:49:24.674	-0.3	157.3		5.94		TAS		43.9	0.97	m_e	mb 5.6
IBBN	75.79		pP	05:49:31.057						T__				m_e	
KAST	74.62		P	05:49:18.544	0.5	157.3		5.94		TAS		46.2	1.06	m_e	mb 5.4
KAST	74.62		pP	05:49:24.076						T__				m_e	
MANZ	72.56		P	05:49:05.842	0.0	157.3		5.94		TAS		15.8	1.01	m_e	mb 5.1
MANZ	72.56		pP	05:49:11.266						T__				m_e	
MOX	73.29		P	05:49:10.273	0.1	157.3		5.94		TAS		35.5	0.88	m_e	mb 5.5
MOX	73.29		pP	05:49:15.562						T__				m_e	
MOX	73.29		L	06:26:20.343						T__		1099.3	19.00	a_e	Ms 5.2
NEUB	73.76		P	05:49:13.587	0.6	157.3		5.94		TAS		29.9	0.79	m_e	mb 5.4
NEUB	73.76		pP	05:49:18.971						T__				m_e	
NRDL	75.36		P	05:49:22.497	0.0	157.3		5.94		TAS		27.5	0.96	m_e	mb 5.3
PLN	73.01		P	05:49:08.732	0.2	157.3		5.94		TAS		17.5	0.97	m_e	mb 5.2

PLN	73.01	pP	05:49:14.907							T__						m_e	
RETH	75.77	P	05:49:24.954	0.1	157.3			5.94		TAS	53.7	1.08	m_e	mb			5.6
RETH	75.77	pP	05:49:30.927							T__						m_e	
RGN	76.55	P	05:49:28.865	-0.6	157.3			5.94		TAS	495.2	1.25	m_e	mb			6.5
RGN	76.55	pP	05:49:33.663							T__						m_e	
RJOB	70.30	P	05:48:51.870	-0.6	157.3			5.94		TAS	37.6	1.37	m_e	mb			5.3
RJOB	70.30	pP	05:48:58.326							T__						m_e	
ROTZ	72.33	P	05:49:04.262	-0.2	157.3			5.94		TAS	21.7	0.97	m_e	mb			5.2
ROTZ	72.33	pP	05:49:10.161							T__						m_e	
RUE	74.51	P	05:49:17.902	0.6	157.3			5.94		TAS	178.9	1.16	m_e	mb			6.0
RUE	74.51	pP	05:49:23.201							T__						m_e	
STU	72.20	P	05:49:03.877	0.2	157.3			5.94		TAS						m_e	
STU	72.20	pP	05:49:09.749							T__						m_e	
TANN	72.87	P	05:49:08.115	0.4	157.3			5.94		TAS	69.3	1.02	m_e	mb			5.7
TANN	72.87	pP	05:49:14.115							T__						m_e	
TNS	73.72	P	05:49:12.932	0.2	157.3			5.94		TAS	88.5	1.58	m_e	mb			5.5
TNS	73.72	pP	05:49:18.573							T__						m_e	
UBBA	73.85	P	05:49:13.124	-0.4	157.3			5.94		TAS	23.5	1.08	m_e	mb			5.1
UBR	70.95	P	05:48:56.247	0.0	157.3			5.94		TAS	92.2	0.98	m_e	mb			5.9
UBR	70.95	pP	05:49:02.098							T__						m_e	
WET	71.59	P	05:48:59.599	-0.5	157.3			5.94		TAS	24.9	0.97	m_e	mb			5.3
WET	71.59	pP	05:49:04.448							T__						m_e	
WLF	73.88	P	05:49:13.236	-0.3	157.3			5.94		TAS	36.4	1.02	m_e	mb			5.3
WLF	73.88	pP	05:49:19.345							T__						m_e	

Event 81223001 Romania

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/23	06:33:07.68	1.50	0.79	45.2070	21.3020	32.2	24.5	16	10.0				12 334	4.50	8.19	m i ke	BGR
81223007																	

Magnitude	Err	Nsta	Author	OrigID
ML	4.0		BGR	81223007

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
ARSA	4.50		Sn	06:35:02.518	0.0					T__					m_e
ARSA	4.50		Pn	06:34:13.025	-1.2					T__					m_e ML 3.9
DAVA	8.19		Pn	06:35:05.205	1.3					T__					m_e ML 4.3
GEC2	6.34		Pn	06:34:39.030	-0.0					T__					m_e ML 3.9
MANZ	7.84		Pn	06:34:59.742	0.5					T__					m_e ML 4.1
MOA	5.53		Pn	06:34:28.399	0.3					T__					m_e ML 4.0
OBKA	4.89		Pn	06:34:17.709	-1.9					T__					m_e ML 4.2
PLN	8.10		Pn	06:35:02.753	-0.0					T__					m_e ML 3.7
RJOB	6.40		Pn	06:34:40.145	0.3					T__					m_e ML 4.1
ROTZ	7.66		Pn	06:34:56.684	-0.2					T__					m_e
TANN	7.91		Pn	06:34:59.916	-0.2					T__					m_e ML 4.1

WET	6.96	Pn	06:34:47.468	0.1	T__	m_e	ML	4.0
WTTA	7.01	Pn	06:34:49.066	1.0	T__	m_e	ML	4.2

Event 81223002 Xizang

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/23	19:32:24.95			30.2900	86.9700				10.0			29		56.63	61.89	m i ke	BGR
81223008																	

Magnitude	Err	Nsta	Author	OrigID
mb	5.5		BGR	81223008
Ms	5.4		BGR	81223008

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude	
BRG	56.75		P	19:42:08.577	0.0	79.4		6.95		TAS		50.7	1.16	m_e	mb	5.4
BSEG	58.48		P	19:42:21.126	0.1	79.4		6.95		TAS		48.0	0.97	m_e	mb	5.5
BUG	60.78		P	19:42:36.606	0.6	79.4		6.95		TAS		33.9	0.90	m_e	mb	5.2
CLL	57.27		P	19:42:12.127	-0.5	79.4		6.95		TAS		41.5	1.19	m_e	mb	5.3
CLZ	58.80		P	19:42:23.322	-0.2	79.4		6.95		TAS		57.4	0.89	m_e	mb	5.6
FLT1	58.19		P	19:42:18.283	-0.0	79.4		6.95		TAS		52.4	1.06	m_e	mb	5.5
FUR	58.95		P	19:42:24.238		79.4		6.95		TAS		85.9	1.10	m_e	mb	5.7
GEC2	57.23		P	19:42:12.328	0.3	79.4		6.95		TAS		113.2	1.45	m_e	mb	5.7
GOR1	58.05		P	19:42:18.005	-0.0	79.4		6.95		TAS		114.0	1.21	m_e	mb	5.8
GRA1	58.67		P	19:42:22.874	0.2	79.4		6.95		TAS		98.6	1.28	m_e	mb	5.7
GRA1	58.67		L	20:09:24.630						T__		2932.8	21.60	a_e	Ms	5.4
GTTG	59.11		P	19:42:25.230	-0.4	79.4		6.95		TAS		193.8	1.68	m_e	mb	5.9
IBBN	60.30		P	19:42:33.208	0.2	79.4		6.95		TAS		59.4	1.16	m_e	mb	5.5
KAST	60.13		P	19:42:32.931	-0.3	79.4		6.95		TAS		53.1	1.46	m_e	mb	5.4
MANZ	58.06		P	19:42:18.120	0.1	79.4		6.95		TAS		18.6	1.39	m_e	mb	4.9
MOX	58.25		P	19:42:19.352	-0.1	79.4		6.95		TAS		41.7	1.09	m_e	mb	5.4
MOX	58.25		L	20:08:30.478						T__		3936.0	21.50	a_e	Ms	5.5
NEUB	58.06		P	19:42:17.497	-0.5	79.4		6.95		TAS		49.1	0.95	m_e	mb	5.5
NRDL	58.85		P	19:42:23.311	-0.2	79.4		6.95		TAS		113.2	1.05	m_e	mb	5.8
PLN	57.94		P	19:42:17.138	-0.2	79.4		6.95		TAS		44.9	1.78	m_e	mb	5.2
RETH	59.25		P	19:42:26.136	-0.4	79.4		6.95		TAS		131.1	1.99	m_e	mb	5.6
RJOB	58.03		P	19:42:17.689		79.4		6.95		TAS		34.9	1.38	m_e	mb	5.2
ROTZ	58.03		P	19:42:18.120	0.6	79.4		6.95		TAS		52.6	1.78	m_e	mb	5.3
RUE	56.63		P	19:42:07.602	-0.5	79.4		6.95		TAS		59.8	1.09	m_e	mb	5.5
STU	60.17		P	19:42:32.407	0.2	79.4		6.95		TAS		233.2	1.49	m_e	mb	6.0
TANN	57.76		P	19:42:15.785	0.2	79.4		6.95		TAS		34.2	1.07	m_e	mb	5.3
TNS	60.32		P	19:42:33.505	0.3	79.4		6.95		TAS		39.4	0.94	m_e	mb	5.4
UBBA	59.23		P	19:42:25.574	0.0	79.4		6.95		TAS		85.6	1.72	m_e	mb	5.5
UBR	59.82		P	19:42:29.249		79.4		6.95		TAS		28.8	1.13	m_e	mb	5.2
WET	57.71		P	19:42:15.764	-0.2	79.4		6.95		TAS		114.8	1.65	m_e	mb	5.6
WLF	61.89		P	19:42:44.709	0.3	79.4		6.95		TAS		204.6	1.76	m_e	mb	6.1

Event 81224002 Off east coast of Honshu, Japan

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/24	00:18:06.80			34.0800	141.7700				15.0			28		82.60	88.02	m i ke	EMSC
OrigID 81224034																	

Magnitude	Err	Nsta	Author	OrigID
mb	5.5		BGR	81224008
Ms	6.2		BGR	81224008

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	88.02		P	00:30:55.212		39.2		4.59		TAS		29.3	1.29	m_e mb	5.5
BRG	83.74		P	00:30:34.602	-0.5	39.2		4.59		TAS		19.2	1.03	m_e mb	5.3
BSEG	82.82		P	00:30:30.294	-0.7	39.2		4.59		TAS		47.7	1.22	m_e mb	5.6
BUG	85.94		P	00:30:45.395	-0.3	39.2		4.59		TAS		67.7	1.22	m_e mb	5.6
CLL	83.80		P	00:30:34.744	-0.3	39.2		4.59		TAS		64.5	1.23	m_e mb	5.7
CLZ	84.44		P	00:30:38.813	-0.1	39.2		4.59		TAS		61.6	1.12	m_e mb	5.7
FLT1	83.72		P	00:30:36.499	-0.0	39.2		4.59		TAS		43.5	1.20	m_e mb	5.6
GEC2	85.37		P	00:30:42.612	0.1	39.2		4.59		TAS		25.1	1.14	m_e mb	5.3
GOR1	83.18		P	00:30:34.194	-0.7	39.2		4.59		TAS		68.3	1.41	m_e mb	5.7
GRA1	85.77		P	00:30:45.659	-0.5	39.2		4.59		TAS		138.6	1.24	m_e mb	6.0
GRA1	85.77		L	01:13:19.585						T__		7774.2	18.30	a_e Ms	6.1
GTTG	84.83		P	00:30:40.452	-1.1	39.2		4.59		TAS		47.2	1.11	m_e mb	5.6
IBBN	85.06		P	00:30:41.956	0.1	39.2		4.59		TAS		74.5	1.24	m_e mb	5.8
KAST	85.69		P	00:30:44.172	-1.0	39.2		4.59		TAS		46.9	1.25	m_e mb	5.5
MANZ	85.18		P	00:30:42.205	-0.4	39.2		4.59		TAS		7.9	1.13	m_e mb	4.8
MOX	84.87		P	00:30:40.257	-0.4	39.2		4.59		TAS		42.7	1.28	m_e mb	5.5
MOX	84.87		L	01:16:55.841						T__		8872.8	19.00	a_e Ms	6.2
NEUB	84.39		P	00:30:38.183	-0.2	39.2		4.59		TAS		81.9	1.17	m_e mb	5.8
NRDL	84.03		P	00:30:36.109	0.5	39.2		4.59		TAS		17.7	1.30	m_e mb	5.1
PLN	84.77		P	00:30:40.115	0.5	39.2		4.59		TAS		9.2	1.24	m_e mb	4.9
RETH	84.12		P	00:30:36.499	1.7	39.2		4.59		TAS		29.6	1.29	m_e mb	5.4
RJOB	86.61		P	00:30:48.834		39.2		4.59		TAS		22.6	1.14	m_e mb	5.2
ROTZ	85.31		P	00:30:42.713	0.8	39.2		4.59		TAS		20.0	1.28	m_e mb	5.2
RUE	82.60		P	00:30:31.996	1.1	39.2		4.59		TAS		46.1	1.13	m_e mb	5.6
STU	87.32		P	00:30:52.589	0.1	39.2		4.59		TAS		119.8	1.21	m_e mb	5.9
TANN	84.71		P	00:30:39.583	0.1	39.2		4.59		TAS		24.6	1.28	m_e mb	5.3
TNS	86.46		P	00:30:48.444	-0.0	39.2		4.59		TAS		28.9	1.16	m_e mb	5.3
UBBA	85.38		P	00:30:42.845	-0.2	39.2		4.59		TAS				m_e	
WET	85.50		P	00:30:43.942	0.6	39.2		4.59		TAS		18.7	1.17	m_e mb	5.1
WLF	87.79		P	00:30:53.652	0.3	39.2		4.59		TAS		48.1	1.21	m_e mb	5.7

Event 81224003 Off east coast of Honshu, Japan

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/24	00:43:11.00			34.0900	141.6500				10.0			26		82.77	87.96	m i ke	EMSC
81224035																	

Magnitude	Err	Nsta	Author	OrigID
mb	5.4		BGR	81224009
Ms	6.1		BGR	81224009

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude	
BFO	87.96		P	00:56:00.737		39.3		4.94		TAS		52.2	1.79	m_e	mb	5.6
BRG	83.68		P	00:55:39.595	0.1	39.3		4.94		TAS		122.1	2.34	m_e	mb	5.7
BSEG	82.77		P	00:55:34.896	0.1	39.3		4.94		TAS		23.5	1.23	m_e	mb	5.3
BUG	85.88		P	00:55:50.655	0.2	39.3		4.94		TAS		60.0	1.33	m_e	mb	5.5
CLL	83.74		P	00:55:39.624	-0.2	39.3		4.94		TAS		42.4	1.33	m_e	mb	5.5
CLZ	84.38		P	00:55:43.765	-0.5	39.3		4.94		TAS				m_e		
FLT1	83.67		P	00:55:38.856	0.1	39.3		4.94		TAS				m_e		
GEC2	85.31		P	00:55:47.755		39.3		4.94		TAS		20.3	1.29	m_e	mb	5.2
GOR1	83.13		P	00:55:37.213	0.5	39.3		4.94		TAS		94.6	1.84	m_e	mb	5.7
GRA1	85.71		P	00:55:50.477	-0.2	39.3		4.94		TAS		80.9	1.30	m_e	mb	5.7
GRA1	85.71		L	01:38:32.995						T__		7316.6	18.40	a_e	Ms	6.1
GTTG	84.77		P	00:55:45.503	0.0	39.3		4.94		TAS		36.5	1.16	m_e	mb	5.5
IBBN	85.01		P	00:55:45.905	0.4	39.3		4.94		TAS		92.6	1.66	m_e	mb	5.8
KAST	85.64		P	00:55:49.410	-0.1	39.3		4.94		TAS		18.4	1.15	m_e	mb	5.1
MANZ	85.12		P	00:55:46.973	0.4	39.3		4.94		TAS		7.0	1.36	m_e	mb	4.7
MOX	84.82		P	00:55:45.427	-0.2	39.3		4.94		TAS		37.3	1.40	m_e	mb	5.4
MOX	84.82		L	01:39:50.450						T__		7143.9	19.10	a_e	Ms	6.1
NEUB	84.33		P	00:55:43.153	0.0	39.3		4.94		TAS		55.7	1.26	m_e	mb	5.7
NRDL	83.98		P	00:55:41.626	-0.8	39.3		4.94		TAS		42.0	1.73	m_e	mb	5.4
PLN	84.72		P	00:55:45.042	0.0	39.3		4.94		TAS		14.0	1.49	m_e	mb	5.0
RETH	84.07		P	00:55:41.684	-0.3	39.3		4.94		TAS		22.6	1.37	m_e	mb	5.2
RJOB	86.55		P	00:55:54.003		39.3		4.94		TAS				m_e		
ROTZ	85.25		P	00:55:47.769	-0.2	39.3		4.94		TAS		13.5	1.35	m_e	mb	5.0
STU	87.26		P	00:55:57.206		39.3		4.94		TAS		97.4	1.40	m_e	mb	5.7
TANN	84.65		P	00:55:44.428	0.2	39.3		4.94		TAS		24.5	1.41	m_e	mb	5.2
TNS	86.41		P	00:55:52.995	0.6	39.3		4.94		TAS		16.8	1.18	m_e	mb	5.0
UBBA	85.33		P	00:55:47.773	-0.2	39.3		4.94		TAS		30.7	1.57	m_e	mb	5.3
WET	85.44		P	00:55:48.971	-0.1	39.3		4.94		TAS		69.4	2.00	m_e	mb	5.5

Event 81224005 Komandorsky Islands, Russia, region

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/24	10:41:50.71			55.3580	164.2120				36.7	0.8		28		68.97	75.05	m i ke	BGR
81224011																	

Magnitude	Err	Nsta	Author	OrigID
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mb 5.3 BGR 81224011  
 Ms 4.5 BGR 81224011

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	74.72		P	10:53:24.197		15.7		5.97		TAS		26.3	1.18	m_e	mb 5.2
BFO	74.72		pP	10:53:34.642						T__		26.3	1.18	m_e	
BRG	71.28		P	10:53:03.827	0.0	15.7		5.97		TAS				m_e	
BRG	71.28		pP	10:53:14.325						T__		81.8	1.75	m_e	
BSEG	68.97		P	10:52:50.315	-0.1	15.7		5.97		TAS		19.7	0.98	m_e	mb 5.3
BSEG	68.97		pP	10:53:00.720						T__		42.3	1.26	m_e	
BUG	71.86		P	10:53:07.318	-0.2	15.7		5.97		TAS				m_e	
BUG	71.86		pP	10:53:17.724						T__		17.4	0.87	m_e	
CLL	71.04		P	10:53:02.365	-0.3	15.7		5.97		TAS				m_e	
CLL	71.04		pP	10:53:12.734						T__		92.1	1.60	m_e	
CLZ	70.98		P	10:53:02.706	-0.3	15.7		5.97		TAS				m_e	
CLZ	70.98		pP	10:53:13.075						T__		36.5	1.10	m_e	
FLT1	70.37		P	10:52:57.813	-0.1	15.7		5.97		TAS				m_e	
FLT1	70.37		pP	10:53:08.470						T__		36.2	1.57	m_e	
FUR	74.38		P	10:53:22.412		15.7		5.97		TAS		15.3	0.63	m_e	mb 5.2
FUR	74.38		pP	10:53:32.928						T__		60.4	1.43	m_e	
GEC2	73.27		P	10:53:16.158	-0.2	15.7		5.97		TAS				m_e	
GEC2	73.27		pP	10:53:26.548						T__		98.1	1.84	m_e	
GOR1	69.72		P	10:52:54.967	-0.1	15.7		5.97		TAS		115.1	1.81	m_e	mb 5.7
GOR1	69.72		pP	10:53:05.327						T__		51.0	1.19	m_e	
GRA1	72.91		P	10:53:14.353	-0.2	15.7		5.97		TAS		29.2	1.45	m_e	mb 5.2
GRA1	72.91		pP	10:53:24.831						T__		29.1	1.45	m_e	
GRA1	72.91		L	11:26:31.720						T__		205.5	19.00	a_e	Ms 4.4
GTTG	71.34		P	10:53:04.651	0.1	15.7		5.97		TAS				m_e	
GTTG	71.34		pP	10:53:14.948						T__		49.4	1.62	m_e	
IBBN	70.94		P	10:53:02.365	0.2	15.7		5.97		TAS				m_e	
IBBN	70.94		pP	10:53:12.616						T__		66.5	1.24	m_e	
KAST	71.92		P	10:53:07.879	-0.2	15.7		5.97		TAS				m_e	
KAST	71.92		pP	10:53:18.428						T__		84.8	1.92	m_e	
MANZ	72.47		P	10:53:11.285	0.5	15.7		5.97		TAS				m_e	
MANZ	72.47		pP	10:53:21.765						T__		3.5	0.90	m_e	
MOX	71.93		P	10:53:08.016	-0.1	15.7		5.97		TAS				m_e	
MOX	71.93		pP	10:53:18.368						T__		47.1	1.34	m_e	
MOX	71.93		L	11:34:54.927						T__		252.7	19.30	a_e	Ms 4.5
NEUB	71.37		P	10:53:04.449	0.1	15.7		5.97		TAS				m_e	
NEUB	71.37		pP	10:53:14.842						T__		26.6	0.92	m_e	
NRDL	70.40		P	10:52:58.715	-0.8	15.7		5.97		TAS		32.6	1.54	m_e	mb 5.2
NRDL	70.40		pP	10:53:09.021						T__		12.2	0.85	m_e	
PLN	71.98		P	10:53:08.337	0.1	15.7		5.97		TAS				m_e	
PLN	71.98		pP	10:53:18.822						T__		6.4	0.99	m_e	
RETH	70.28		P	10:52:58.033	0.4	15.7		5.97		TAS		63.0	1.81	m_e	mb 5.4
RETH	70.28		pP	10:53:08.430						T__		33.9	1.49	m_e	
ROTZ	72.66		P	10:53:12.548	0.5	15.7		5.97		TAS				m_e	
ROTZ	72.66		pP	10:53:23.199						T__		5.4	0.98	m_e	
STU	74.15		P	10:53:20.989	-0.2	15.7		5.97		TAS		62.2	1.16	m_e	mb 5.5

STU	74.15	pP	10:53:31.366						T__	62.2	1.16	m_e		
TANN	71.99	P	10:53:08.518	0.2	15.7		5.97		TAS			m_e		
TANN	71.99	pP	10:53:18.982						T__	11.1	0.90	m_e		
TNS	72.86	P	10:53:13.430	0.3	15.7		5.97		TAS			m_e		
TNS	72.86	pP	10:53:23.917						T__	56.5	1.70	m_e		
UBBA	72.03	P	10:53:08.377	0.1	15.7		5.97		TAS			m_e		
UBBA	72.03	pP	10:53:19.005						T__	27.6	1.28	m_e		
UBR	75.05	P	10:53:26.363		15.7		5.97		TAS	29.3	0.98	m_e	mb	5.3
UBR	75.05	pP	10:53:36.763						T__	29.3	0.98	m_e		
WET	73.14	P	10:53:15.676	-0.4	15.7		5.97		TAS			m_e		
WET	73.14	pP	10:53:26.074						T__	38.2	1.20	m_e		
WLF	73.75	P	10:53:19.005	0.2	15.7		5.97		TAS			m_e		
WLF	73.75	pP	10:53:29.584						T__	49.2	1.63	m_e		

Event 81224001 Komandorsky Islands, Russia, region

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/24	12:41:22.68			55.2500	164.6200				42.8	8.8		28		68.06	75.22	m i ke	BGR
	81224007																

Magnitude	Err	Nsta	Author	OrigID
mb	5.9		BGR	81224007
MBB	6.3		BGR	81224007
Ms	5.8		BGR	81224007

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	74.89		P	12:52:59.640		12.1		5.90		TAS		94.7	1.23	m_e	MBB 6.2
BFO	74.89		pP	12:53:10.066						T__				m_e	
BFO	74.89		PcP	12:53:11.867						T__				m_e	
BFO	74.89		S	13:02:38.849						T__				m_e	
BRG	71.46		P	12:52:38.716	-0.6	12.1		5.90		TAS		105.9	1.27	m_e	MBB 6.2
BRG	71.46		pP	12:52:51.825						T__				m_e	
BRG	71.46		S	13:01:54.155						T__				m_e	
BSEG	69.14		P	12:52:25.337	0.3	12.1		5.90		TAS		132.4	1.01	m_e	MBB 6.4
BSEG	69.14		pP	12:52:37.770						T__				m_e	
BSEG	69.14		S	13:01:30.868						T__				m_e	
BUG	72.02		P	12:52:41.941	-0.2	12.1		5.90		TAS		81.4	1.01	m_e	MBB 6.3
BUG	72.02		pP	12:52:54.991						T__				m_e	
BUG	72.02		S	13:02:02.787						T__				m_e	
CLL	71.22		P	12:52:37.378	0.3	12.1		5.90		TAS		245.0	1.45	m_e	MBB 6.4
CLL	71.22		pP	12:52:49.987						T__				m_e	
CLL	71.22		S	13:01:50.448						T__				m_e	
CLZ	71.15		P	12:52:37.755	-0.5	12.1		5.90		TAS		139.2	1.10	m_e	MBB 6.5
CLZ	71.15		pP	12:52:49.934						T__				m_e	
CLZ	71.15		S	13:01:47.342						T__				m_e	
FLT1	70.54		P	12:52:33.056	0.4	12.1		5.90		TAS		114.3	1.42	m_e	MBB 6.2

FLT1	70.54	pP	12:52:45.562				T__				m_e	
FLT1	70.54	S	13:01:41.988				T__				m_e	
FUR	74.55	P	12:52:57.959	-0.4	12.1	5.90	TAS	163.1	1.15	m_e	MBB	6.4
FUR	74.55	pP	12:53:10.285				T__				m_e	
FUR	74.55	S	13:02:34.089				T__				m_e	
GEC2	73.45	P	12:52:51.509	-0.1	12.1	5.90	TAS	86.8	1.03	m_e	MBB	6.2
GEC2	73.45	pP	12:53:03.873				T__				m_e	
GEC2	73.45	S	13:02:19.467				T__				m_e	
GOR1	69.89	P	12:52:30.071	-0.1	12.1	5.90	TAS	215.2	1.37	m_e	MBB	6.7
GOR1	69.89	pP	12:52:42.378				T__				m_e	
GOR1	69.89	S	13:01:37.266				T__				m_e	
GRA1	73.09	SS	13:07:01.258				T__				m_e	
GRA1	73.09	P	12:52:49.538	0.3	12.1	5.90	TAS	326.9	1.33	m_e	mb	6.3
GRA1	73.09	pP	12:53:01.948				T__				m_e	
GRA1	73.09	S	13:02:13.516				T__				m_e	
GRA1	73.09	L	13:25:57.352				T__	5849.7	21.20	a_e	Ms	5.8
GTTG	71.51	P	12:52:39.882	-0.6	12.1	5.90	TAS	142.0	1.43	m_e	MBB	6.3
GTTG	71.51	pP	12:52:51.996				T__				m_e	
GTTG	71.51	S	13:02:03.199				T__				m_e	
HLG	69.26	S	13:01:31.692				T__				m_e	
IBBN	71.11	P	12:52:37.412	-0.4	12.1	5.90	TAS	408.5	1.49	m_e	MBB	6.6
IBBN	71.11	pP	12:52:49.222				T__				m_e	
IBBN	71.11	S	13:01:54.344				T__				m_e	
KAST	72.08	P	12:52:43.107	0.1	12.1	5.90	TAS	110.4	1.37	m_e	MBB	6.4
KAST	72.08	pP	12:52:55.221				T__				m_e	
KAST	72.08	S	13:02:04.247				T__				m_e	
MANZ	72.65	P	12:52:46.588	0.1	12.1	5.90	TAS	23.5	1.17	m_e	MBB	5.7
MANZ	72.65	pP	12:52:56.595				T__				m_e	
MANZ	72.65	S	13:02:13.516				T__				m_e	
MOX	72.10	SS	13:06:48.689				T__				m_e	
MOX	72.10	P	12:52:42.917	-0.1	12.1	5.90	TAS	90.8	1.03	m_e	MBB	6.4
MOX	72.10	pP	12:52:55.676				T__				m_e	
MOX	72.10	S	13:02:08.573				T__				m_e	
MOX	72.10	L	13:33:39.496				T__	5456.2	18.80	a_e	Ms	5.8
NEUB	71.54	P	12:52:39.162	0.1	12.1	5.90	TAS	94.8	1.00	m_e	MBB	6.4
NEUB	71.54	pP	12:52:51.867				T__				m_e	
NEUB	71.54	S	13:02:00.728				T__				m_e	
NRDL	70.57	P	12:52:34.016	0.3	12.1	5.90	TAS	172.4	1.39	m_e	MBB	6.4
NRDL	70.57	pP	12:52:46.227				T__				m_e	
NRDL	70.57	S	13:01:42.621				T__				m_e	
PLN	72.16	P	12:52:43.569	0.1	12.1	5.90	TAS	42.8	1.19	m_e	MBB	6.0
PLN	72.16	pP	12:52:56.125				T__				m_e	
PLN	72.16	S	13:02:07.337				T__				m_e	
RETH	70.45	P	12:52:32.991	0.2	12.1	5.90	TAS	135.1	1.35	m_e	MBB	6.4
RETH	70.45	pP	12:52:45.823				T__				m_e	
RETH	70.45	PcP	12:52:54.773				T__				m_e	
RETH	70.45	S	13:01:42.194				T__				m_e	
RGN	68.06	S	13:01:18.924				T__				m_e	
ROTZ	72.84	P	12:52:48.097	0.4	12.1	5.90	TAS	142.9	2.10	m_e	MBB	5.8



ROTZ	72.84	pP	12:53:00.487							T__						m_e	
ROTZ	72.84	S	13:02:15.781							T__						m_e	
RUE	69.96	P	12:52:30.071	-0.6	12.1		5.90			TAS	181.5	1.22	m_e	MBB		6.6	
RUE	69.96	pP	12:52:42.594							T__						m_e	
RUE	69.96	S	13:01:36.634							T__						m_e	
STU	74.32	P	12:52:56.484	-0.4	12.1		5.90			TAS	260.3	1.25	m_e	MBB		6.6	
STU	74.32	pP	12:53:08.539							T__						m_e	
STU	74.32	S	13:02:34.706							T__						m_e	
TNS	73.03	P	12:52:48.886	0.6	12.1		5.90			TAS	142.1	1.32	m_e	MBB		6.2	
TNS	73.03	pP	12:53:00.705							T__						m_e	
TNS	73.03	S	13:02:13.907							T__						m_e	
UBBA	72.20	P	12:52:43.622	0.5	12.1		5.90			TAS	791.9	2.90	m_e	MBB		6.3	
UBBA	72.20	pP	12:52:56.098							T__						m_e	
UBBA	72.20	S	13:02:07.337							T__						m_e	
UBR	75.22	P	12:53:01.630		12.1		5.90			TAS	135.3	1.16	m_e	MBB		6.5	
UBR	75.22	pP	12:53:11.283							T__						m_e	
UBR	75.22	PcP	12:53:14.455							T__						m_e	
UBR	75.22	S	13:02:44.204							T__						m_e	
WET	73.32	P	12:52:51.048	0.2	12.1		5.90			TAS	139.0	1.17	m_e	MBB		6.4	
WET	73.32	pP	12:53:03.522							T__						m_e	
WET	73.32	S	13:02:17.408							T__						m_e	
WLF	73.91	P	12:52:54.238	-0.0	12.1		5.90			TAS	105.2	1.20	m_e	MBB		6.3	
WLF	73.91	pP	12:53:06.106							T__						m_e	
WLF	73.91	S	13:02:29.558							T__						m_e	

Event 81224006 Kuril Islands, Russia

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/24	18:54:18.90			44.0400	148.3500				60.0				13	77.13	81.54	m i ke	EMSC
81224038																	

Magnitude	Err	Nsta	Author	OrigID
mb	4.8		BGR	81224012
Ms	4.1		BGR	81224012

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	81.54		P	19:06:31.175		29.9		5.95		TAS		9.7	0.97	m_e	mb 4.9
BUG	79.10		P	19:06:16.112	-0.4	29.9		5.95		TAS		60.3	1.88	m_e	mb 5.3
CLL	77.45		P	19:06:07.267	0.8	29.9		5.95		TAS				m_e	
CLZ	77.82		P	19:06:10.227	-0.6	29.9		5.95		TAS		7.3	0.69	m_e	mb 4.9
FLT1	77.13		P	19:06:05.405	0.1	29.9		5.95		TAS		7.7	0.65	m_e	mb 5.0
FUR	80.73		P	19:06:28.138		29.9		5.95		TAS		18.4	0.84	m_e	mb 5.1
GEC2	79.32		P	19:06:20.040		29.9		5.95		TAS		7.6	0.65	m_e	mb 4.9
GRA1	79.43		P	19:06:19.439		29.9		5.95		TAS		20.1	0.71	m_e	mb 5.2
GRA1	79.43		L	19:34:09.479						T__		80.6	18.00	a_e	Ms 4.1
GTTG	78.21		P	19:06:11.913	0.7	29.9		5.95		TAS		5.6	0.77	m_e	mb 4.8

MANZ	78.88	P	19:06:15.665	29.9	5.95	TAS	1.2	0.91	m_e	mb	3.9
MOX	78.47	L	19:34:47.329			T__	77.7	18.90	a_e	Ms	4.1
PLN	78.43	P	19:06:12.800	29.9	5.95	TAS	1.0	0.83	m_e	mb	4.0
ROTZ	79.04	P	19:06:17.241	29.9	5.95	TAS	2.1	1.04	m_e	mb	4.1
WET	79.35	P	19:06:18.736	29.9	5.95	TAS	12.3	0.81	m_e	mb	5.0

Event 81225001 Off east coast of Honshu, Japan

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
OrigID																	
2018/12/25	00:10:33.40			34.0600	141.8100				10.0			15		82.64	88.05	m i ke	BGR
81225007																	

Magnitude	Err	Nsta	Author	OrigID
mb	5.5		BGR	81225007
Ms	5.5		BGR	81225007

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude	
BFO	88.05	P		00:23:20.245		39.0		4.97		TAS		28.0	1.22	m_e	mb	5.5
BFO	88.05	S		00:34:10.586		49.6		16.54		TAS				m_e		
BRG	83.78	P		00:22:59.319	0.1	39.0		4.97		TAS		27.2	1.18	m_e	mb	5.4
BSEG	82.86	P		00:22:54.782	-0.7	39.0		4.97		TAS		54.1	1.28	m_e	mb	5.6
BUG	85.97	P		00:23:09.988	0.3	39.0		4.97		TAS		54.8	1.16	m_e	mb	5.6
BUG	85.97	S		00:33:47.162		49.6		16.54		TAS				m_e		
CLL	83.84	P		00:22:59.327	-0.0	39.0		4.97		TAS		51.9	1.15	m_e	mb	5.7
CLZ	84.47	P		00:23:03.377	-0.2	39.0		4.97		TAS		62.4	1.17	m_e	mb	5.7
FLT1	83.76	P		00:22:58.701	0.2	39.0		4.97		TAS		43.1	1.22	m_e	mb	5.5
FUR	86.97	P		00:23:15.407		39.0		4.97		TAS		35.2	1.11	m_e	mb	5.4
FUR	86.97	S		00:33:54.519		49.6		16.54		TAS				m_e		
GEC2	85.41	P		00:23:07.296	-0.4	39.0		4.97		TAS		17.6	1.06	m_e	mb	5.2
GEC2	85.41	S		00:33:42.988		49.6		16.54		TAS				m_e		
GOR1	83.22	P		00:22:56.875	-0.3	39.0		4.97		TAS		99.7	1.66	m_e	mb	5.8
GRA1	85.81	P		00:23:09.942	-0.2	39.0		4.97		TAS		92.8	1.22	m_e	mb	5.8
GRA1	85.81	S		00:33:47.988		49.6		16.54		TAS				m_e		
GRA1	85.81	L		01:05:43.850						T__		2655.4	18.00	a_e	Ms	5.7
GTTG	84.86	P		00:23:05.000	-0.4	39.0		4.97		TAS		43.1	1.10	m_e	mb	5.6
IBBN	85.09	P		00:23:05.939	0.6	39.0		4.97		TAS		84.1	1.38	m_e	mb	5.8
KAST	85.73	P		00:23:09.317	-0.1	39.0		4.97		TAS		34.7	1.14	m_e	mb	5.4
KAST	85.73	S		00:33:41.098		49.6		16.54		TAS				m_e		
MANZ	85.21	P		00:23:06.856	0.2	39.0		4.97		TAS		6.4	1.13	m_e	mb	4.8
MANZ	85.21	S		00:33:45.446		49.6		16.54		TAS				m_e		
MOX	84.91	P		00:23:05.118	0.0	39.0		4.97		TAS		53.8	1.37	m_e	mb	5.6
MOX	84.91	S		00:33:26.625	-14.5	49.6		16.54		TAS				m_e		
MOX	84.91	L		01:09:09.535						T__		1440.5	21.00	a_e	Ms	5.3
NEUB	84.42	P		00:23:02.555	-0.0	39.0		4.97		TAS		70.3	1.10	m_e	mb	5.8
NRDL	84.06	P		00:23:00.494	0.1	39.0		4.97		TAS		21.3	1.20	m_e	mb	5.2
PLN	84.81	P		00:23:04.609	0.3	39.0		4.97		TAS		13.6	1.33	m_e	mb	5.0

RETH	84.15	P	00:23:00.532	0.2	39.0	4.97	TAS	56.8	1.51	m_e	mb	5.6
ROTZ	85.34	P	00:23:07.660	0.5	39.0	4.97	TAS	16.5	1.29	m_e	mb	5.1
ROTZ	85.34	S	00:33:44.122		49.6	16.54	TAS			m_e		
RUE	82.64	P	00:22:53.956	-0.6	39.0	4.97	TAS	35.9	0.99	m_e	mb	5.6
STU	87.36	P	00:23:16.989	0.1	39.0	4.97	TAS	107.7	1.28	m_e	mb	5.8
STU	87.36	S	00:34:03.988		49.6	16.54	TAS			m_e		
TNS	86.50	P	00:23:12.883	0.5	39.0	4.97	TAS			m_e		
TNS	86.50	S	00:33:52.818		49.6	16.54	TAS			m_e		
UBBA	85.42	P	00:23:07.481	0.1	39.0	4.97	TAS	42.3	1.49	m_e	mb	5.5
UBBA	85.42	S	00:33:44.311		49.6	16.54	TAS			m_e		
UBR	87.84	S	00:34:10.586		49.6	16.54	TAS			m_e		
WET	85.54	P	00:23:07.582	-0.2	39.0	4.97	TAS	18.6	1.16	m_e	mb	5.1
WET	85.54	S	00:33:47.918		49.6	16.54	TAS			m_e		
WLF	87.83	P	00:23:19.632	-0.6	39.0	4.97	TAS	62.9	1.33	m_e	mb	5.8
WLF	87.83	S	00:35:10.128		49.6	16.54	TAS			m_e		

Event 81226001 Tonga Islands

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/26	14:11:15.83			-16.2900	-174.3100			139.7		3.8		28		143.12	148.49	m i ke	BGR
81226007																	

Magnitude Err Nsta Author OrigID

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BE1	148.14		PKPbc	14:30:56.668		9.6		3.02		TAS				m_e	
BFO	147.97		PKPbc	14:30:56.093	-0.2	9.6		3.02		TAS				m_e	
BFO	147.97		pPKPbc	14:31:32.403						T__				m_e	
BRG	144.87		PKPbc	14:30:47.246	0.5	9.6		3.02		TAS				m_e	
BUG	144.91		PKPbc	14:30:46.993	0.1	9.6		3.02		TAS				m_e	
CLL	144.58		PKPbc	14:30:46.598	-0.7	9.6		3.02		TAS				m_e	
CLZ	144.34		PKPbc	14:30:46.019	0.1	9.6		3.02		TAS				m_e	
FLT1	143.77		PKPbc	14:30:43.430	0.4	9.6		3.02		TAS				m_e	
FUR	147.88		PKPbc	14:30:55.932		9.6		3.02		TAS				m_e	
FUR	147.88		pPKPbc	14:31:32.867						T__				m_e	
GEC2	146.88		PKPbc	14:30:53.551	-0.3	9.6		3.02		TAS				m_e	
GOR1	143.12		PKPbc	14:30:41.033	0.1	9.6		3.02		TAS				m_e	
GRA1	146.38		PKPbc	14:30:52.569	-0.5	9.6		3.02		TAS				m_e	
GTTG	144.66		PKPbc	14:30:46.870	0.3	9.6		3.02		TAS				m_e	
IBBN	144.03		PKPbc	14:30:44.917	-0.5	9.6		3.02		TAS				m_e	
KAST	145.10		PKPbc	14:30:48.035	0.7	9.6		3.02		TAS				m_e	
MANZ	145.99		PKPbc	14:30:49.014	0.5	9.6		3.02		TAS				m_e	
MOX	145.40		PKPbc	14:30:49.414	0.8	9.6		3.02		TAS				m_e	
NEUB	144.84		PKPbc	14:30:47.255	-0.9	9.6		3.02		TAS				m_e	
NRDL	143.71		PKPbc	14:30:43.553	0.5	9.6		3.02		TAS				m_e	
PLN	145.49		PKPbc	14:30:48.050	0.6	9.6		3.02		TAS				m_e	

PLN	145.49	pPKPbc	14:31:25.665							T__						m_e
RETH	143.52	PKPbc	14:30:43.115	-0.3	9.6		3.02			TAS						m_e
RJOB	148.10	PKPbc	14:30:56.861		9.6		3.02			TAS						m_e
ROTZ	146.19	PKPbc	14:30:51.903	0.3	9.6		3.02			TAS						m_e
STU	147.48	PKPbc	14:30:54.866	-0.1	9.6		3.02			TAS						m_e
TNS	146.08	PKPbc	14:30:51.398	0.9	9.6		3.02			TAS						m_e
UBBA	145.38	PKPbc	14:30:47.927	-1.5	9.6		3.02			TAS						m_e
UBBA	145.38	pPKPbc	14:31:24.092							T__						m_e
UBR	148.49	PKPbc	14:30:57.755		9.6		3.02			TAS						m_e
UBR	148.49	pPKPbc	14:31:34.205							T__						m_e
WET	146.71	PKPbc	14:30:53.183	-0.3	9.6		3.02			TAS						m_e
WLF	146.71	PKPbc	14:30:53.639	-0.1	9.6		3.02			TAS						m_e

Event 81227001 Near coast of Venezuela

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/27	08:59:17.86			10.4910	-67.9090				10.0				15	72.63	76.80	m i ke	BGR
81227007																	

Magnitude	Err	Nsta	Author	OrigID
mb	4.8		BGR	81227007
Ms	4.7		BGR	81227007

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BRG	76.80		P	09:11:05.725		268.6		5.77		TAS		16.0	1.34	m_e mb	5.0
BUG	72.63		P	09:10:41.266	0.6	268.6		5.77		TAS		29.2	1.33	m_e mb	5.2
CLL	76.21		P	09:11:02.439	-0.1	268.6		5.77		TAS		25.9	1.53	m_e mb	5.1
CLZ	74.59		P	09:10:53.158	-0.0	268.6		5.77		TAS		7.9	0.85	m_e mb	4.8
FLT1	75.14		P	09:10:55.434	0.4	268.6		5.77		TAS		11.5	1.07	m_e mb	4.8
GEC2	76.67		P	09:11:04.982		268.6		5.77		TAS		10.6	1.00	m_e mb	4.9
GRA1	75.05		L	09:51:21.292						T__		380.1	19.40	a_e Ms	4.7
IBBN	73.00		P	09:10:44.071	-0.3	268.6		5.77		TAS		10.4	0.74	m_e mb	5.0
MANZ	75.63		P	09:10:59.367		268.6		5.77		TAS		2.9	0.98	m_e mb	4.4
MOX	75.32		L	09:40:01.728						T__		405.5	21.80	a_e Ms	4.7
NRDL	74.45		P	09:10:52.960	-0.6	268.6		5.77		TAS		17.2	1.11	m_e mb	5.0
PLN	75.67		P	09:10:59.862		268.6		5.77		TAS		7.3	1.54	m_e mb	4.6
RETH	74.01		P	09:10:50.313	0.0	268.6		5.77		TAS		15.3	1.17	m_e mb	4.9
RJOB	76.07		P	09:11:01.743		268.6		5.77		TAS		5.0	1.07	m_e mb	4.6
ROTZ	75.69		P	09:11:00.159		268.6		5.77		TAS		7.0	1.90	m_e mb	4.5
TNS	73.28		P	09:10:45.688		268.6		5.77		TAS		10.8	0.91	m_e mb	5.0
WET	76.12		P	09:11:01.989		268.6		5.77		TAS		5.7	1.09	m_e mb	4.6

Event 81227002 Alaska Peninsula, United States

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/27	13:37:09.80			56.3720	-156.2500				33.0			28		69.51	75.86	m i ke	BGR
81227008																	

Magnitude	Err	Nsta	Author	OrigID
mb	5.3		BGR	81227008
Ms	3.8		BGR	81227008

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude	
BFO	74.88		P	13:48:44.847	-0.0	352.8		5.89		TAS		13.6	0.81	m_e	mb	5.0
BRG	72.81		P	13:48:32.998	0.1	352.8		5.89		TAS		21.0	0.93	m_e	mb	5.3
BSEG	69.51		P	13:48:13.492	-0.1	352.8		5.89		TAS		33.1	0.92	m_e	mb	5.5
BUG	71.69		P	13:48:26.142	-0.3	352.8		5.89		TAS		56.4	0.87	m_e	mb	5.7
CLL	72.32		P	13:48:29.774	-0.0	352.8		5.89		TAS		22.3	0.96	m_e	mb	5.3
CLZ	71.59		P	13:48:26.112	-0.0	352.8		5.89		TAS		29.6	0.79	m_e	mb	5.5
FLT1	71.17		P	13:48:22.789	-0.2	352.8		5.89		TAS		23.7	0.93	m_e	mb	5.3
FUR	75.32		P	13:48:47.807		352.8		5.89		TAS		36.2	0.72	m_e	mb	5.5
GEC2	74.82		P	13:48:44.794	-0.2	352.8		5.89		TAS		18.3	0.77	m_e	mb	5.2
GOR1	70.52		P	13:48:19.894	0.0	352.8		5.89		TAS				m_e		
GRA1	73.79		P	13:48:39.164	-0.1	352.8		5.89		TAS		25.4	0.81	m_e	mb	5.3
GRA1	73.79		L	14:19:43.559						T__		80.8	21.40	a_e	Ms	4.0
GTTG	71.85		P	13:48:27.652	0.0	352.8		5.89		TAS		47.0	0.88	m_e	mb	5.6
IBBN	70.89		P	13:48:21.645	-0.6	352.8		5.89		TAS		41.4	0.92	m_e	mb	5.5
KAST	72.04		P	13:48:28.465	-0.1	352.8		5.89		TAS		25.1	0.96	m_e	mb	5.3
MANZ	73.57		P	13:48:37.382	0.2	352.8		5.89		TAS		11.9	1.91	m_e	mb	4.6
MOX	72.88		P	13:48:33.558	0.2	352.8		5.89		TAS		34.9	0.76	m_e	mb	5.6
MOX	72.88		L	14:19:51.128						T__		44.6	21.70	a_e	Ms	3.7
NEUB	72.34		P	13:48:30.318	0.1	352.8		5.89		TAS		34.6	0.67	m_e	mb	5.6
NRDL	70.92		P	13:48:21.785	0.3	352.8		5.89		TAS		35.9	0.81	m_e	mb	5.5
PLN	73.08		P	13:48:34.655	0.3	352.8		5.89		TAS		6.4	0.86	m_e	mb	4.8
RETH	70.61		P	13:48:20.010	-0.1	352.8		5.89		TAS		33.3	1.23	m_e	mb	5.3
RJOB	75.86		P	13:48:50.968		352.8		5.89		TAS		33.5	0.75	m_e	mb	5.5
ROTZ	73.80		P	13:48:38.949	-0.1	352.8		5.89		TAS		5.0	0.74	m_e	mb	4.6
STU	74.53		P	13:48:43.063	0.0	352.8		5.89		TAS		46.5	0.58	m_e	mb	5.7
TNS	73.02		P	13:48:34.352	-0.1	352.8		5.89		TAS		37.3	0.68	m_e	mb	5.6
UBBA	72.57		P	13:48:31.565	0.1	352.8		5.89		TAS		7.3	0.76	m_e	mb	4.9
UBR	75.69		P	13:48:49.848		352.8		5.89		TAS		18.1	0.83	m_e	mb	5.2
WET	74.46		P	13:48:42.971	-0.3	352.8		5.89		TAS		14.3	0.98	m_e	mb	5.0
WLF	73.32		P	13:48:36.113	0.1	352.8		5.89		TAS		21.4	0.79	m_e	mb	5.3

Event 81227003 Southern Alaska, United States

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/27	14:21:12.42			61.8000	-150.5800				45.7	3.8		25		64.94	70.00	m i ke	BGR
81227009																	

Magnitude	Err	Nsta	Author	OrigID
mb	5.3		BGR	81227009
Ms	3.7		BGR	81227009

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude	
BFO	68.92		P	14:32:13.997		351.0		6.33		TAS		17.9	1.12	m_e	mb	5.2
BRG	67.00		P	14:32:02.114	-0.3	351.0		6.33		TAS		17.6	0.90	m_e	mb	5.3
BUG	65.74		P	14:31:53.735	-0.2	351.0		6.33		TAS		29.9	1.02	m_e	mb	5.5
CLL	66.48		P	14:31:58.562	0.1	351.0		6.33		TAS		19.3	1.05	m_e	mb	5.3
CLZ	65.70		P	14:31:54.276	0.0	351.0		6.33		TAS		28.8	0.89	m_e	mb	5.5
CLZ	65.70		pP	14:32:08.241						T__				m_e		
FLT1	65.30		P	14:31:50.794	0.0	351.0		6.33		TAS		13.3	1.01	m_e	mb	5.1
FUR	69.43		P	14:32:17.398		351.0		6.33		TAS		31.9	0.81	m_e	mb	5.6
GEC2	68.99		P	14:32:14.709		351.0		6.33		TAS		11.9	1.10	m_e	mb	5.0
GRA1	67.91		P	14:32:08.086	-0.2	351.0		6.33		TAS		13.2	0.92	m_e	mb	5.2
GRA1	67.91		L	14:59:19.038						T__		47.9	20.40	a_e	Ms	3.7
GTTG	65.94		P	14:31:55.821	0.1	351.0		6.33		TAS		44.9	1.01	m_e	mb	5.7
IBBN	64.94		P	14:31:49.090	-0.2	351.0		6.33		TAS		33.9	1.12	m_e	mb	5.5
KAST	66.11		P	14:31:56.505	0.0	351.0		6.33		TAS		16.9	1.18	m_e	mb	5.2
MANZ	67.71		P	14:32:06.320	0.1	351.0		6.33		TAS		3.7	1.22	m_e	mb	4.5
MOX	67.01		P	14:32:02.237	0.4	351.0		6.33		TAS		29.6	0.98	m_e	mb	5.5
MOX	67.01		pP	14:32:14.315						T__				m_e		
MOX	67.01		L	14:58:37.391						T__		53.4	21.10	a_e	Ms	3.7
NEUB	66.48		P	14:31:58.836	0.0	351.0		6.33		TAS		37.6	1.03	m_e	mb	5.6
NRDL	65.03		P	14:31:49.468	0.4	351.0		6.33		TAS		26.8	1.12	m_e	mb	5.4
PLN	67.22		P	14:32:03.499	0.2	351.0		6.33		TAS		7.9	1.02	m_e	mb	4.9
RJOB	70.00		P	14:32:20.929		351.0		6.33		TAS		16.4	0.79	m_e	mb	5.2
ROTZ	67.93		P	14:32:08.124	-0.3	351.0		6.33		TAS		4.3	0.95	m_e	mb	4.7
RUE	65.40		P	14:31:52.052	-0.3	351.0		6.33		TAS		52.9	0.77	m_e	mb	5.8
TNS	67.08		P	14:32:02.585	0.2	351.0		6.33		TAS		20.5	1.15	m_e	mb	5.2
UBBA	66.67		P	14:31:59.835	0.1	351.0		6.33		TAS		20.2	1.40	m_e	mb	5.2
UBBA	66.67		pP	14:32:12.484						T__				m_e		
UBR	69.77		P	14:32:19.649		351.0		6.33		TAS		20.0	0.89	m_e	mb	5.2
WET	68.62		P	14:32:12.538	-0.0	351.0		6.33		TAS		15.8	1.03	m_e	mb	5.2
WLF	67.34		P	14:32:04.507	-0.1	351.0		6.33		TAS		28.4	1.14	m_e	mb	5.4

Event 81228001 Iceland

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/28	01:16:45.34			64.8060	-15.5870				33.0			26		17.55	22.93	m i ke	BGR
81228007																	

Magnitude	Err	Nsta	Author	OrigID
mb	4.8		BGR	81228007
Ms	3.6		BGR	81228007

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	20.90		P	01:21:25.292	-2.9	327.0		10.81		TAS		49.5	1.40	m_e	mb 4.7
BRG	20.74		P	01:21:24.222	-0.1	327.0		10.81		TAS		82.3	1.59	m_e	mb 4.8
BUG	17.88		P	01:20:52.596	0.3	327.0		10.81		TAS		360.1	2.76	m_e	mb 5.0
CLL	20.04		P	01:21:15.915	1.0	327.0		10.81		TAS		31.3	1.21	m_e	mb 4.4
CLZ	18.64		P	01:21:00.632	-0.2	327.0		10.81		TAS		155.9	2.01	m_e	mb 4.9
FLT1	18.56		P	01:21:00.037	1.0	327.0		10.81		TAS		78.7	1.57	m_e	mb 4.7
FUR	22.03		P	01:21:37.948		327.0		10.81		TAS		416.3	2.40	m_e	mb 5.4
GEC2	22.32		P	01:21:40.440		327.0		10.81		TAS		64.4	1.56	m_e	mb 4.8
GOR1	18.07		P	01:20:54.609	-0.4	327.0		10.81		TAS		388.1	1.96	m_e	mb 5.2
GRA1	20.72		P	01:21:22.597	1.0	327.0		10.81		TAS		97.8	1.62	m_e	mb 4.9
GRA1	20.72		L	01:31:11.715						T__		233.0	18.00	a_e	Ms 3.6
GTTG	18.73		P	01:21:01.748	0.5	327.0		10.81		TAS		91.0	1.59	m_e	mb 4.8
KAST	18.47		P	01:20:57.753	0.3	327.0		10.81		TAS		27.7	1.34	m_e	mb 4.2
MANZ	20.79		P	01:21:25.069	-0.3	327.0		10.81		TAS		6.3	1.24	m_e	mb 3.8
MOX	20.07		P	01:21:16.712	0.7	327.0		10.81		TAS		55.2	1.37	m_e	mb 4.6
MOX	20.07		L	01:30:08.237						T__		326.9	19.30	a_e	Ms 3.7
NEUB	19.67		P	01:21:11.884	-1.1	327.0		10.81		TAS		112.4	1.54	m_e	mb 4.9
NRDL	18.01		P	01:20:54.460	-0.4	327.0		10.81		TAS		84.2	1.46	m_e	mb 4.7
PLN	20.39		P	01:21:20.053	1.0	327.0		10.81		TAS		117.6	2.48	m_e	mb 4.7
RETH	17.55		P	01:20:47.312	-1.5	327.0		10.81		TAS				m_e	
RJOB	22.93		P	01:21:44.613		327.0		10.81		TAS		146.3	2.44	m_e	mb 5.1
ROTZ	21.01		P	01:21:26.188		327.0		10.81		TAS		29.0	2.10	m_e	mb 4.2
STU	20.80		P	01:21:24.920	0.2	327.0		10.81		TAS		65.0	1.06	m_e	mb 4.9
TANN	20.56		P	01:21:22.508	-0.5	327.0		10.81		TAS		232.7	2.39	m_e	mb 5.1
TNS	19.31		P	01:21:08.392	0.8	327.0		10.81		TAS		680.9	3.74	m_e	mb 5.3
UBBA	19.34		P	01:21:09.796	1.4	327.0		10.81		TAS		49.7	1.63	m_e	mb 4.5
UBR	22.05		P	01:21:38.394		327.0		10.81		TAS		124.8	1.62	m_e	mb 5.1
WET	21.77		P	01:21:34.821		327.0		10.81		TAS		71.3	1.78	m_e	mb 4.8

Event 81229001 South China Sea

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/29	03:40:12.49			15.2870	115.1910				33.0			29		84.81	90.31	m i ke	BGR
81229007																	

Magnitude	Err	Nsta	Author	OrigID
mb	6.4		BGR	81229007
Ms	6.8		BGR	81229007

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	89.52		P	03:53:07.104	-0.9	69.6		4.83		TAS		2215.3	3.78	m_e	mb 6.8
BRG	85.21		P	03:52:45.108	-1.1	69.6		4.83		TAS		268.1	1.10	m_e	mb 6.4
BSEG	86.28		P	03:52:50.040	0.7	69.6		4.83		TAS		223.5	1.22	m_e	mb 6.2
BUG	88.94		P	03:53:04.268	0.2	69.6		4.83		TAS		156.3	1.11	m_e	mb 6.2

CLL	85.64	P	03:52:46.985	0.1	69.6	4.83	TAS	255.3	1.37	m_e	mb	6.2
CLZ	87.00	P	03:52:55.321	-0.5	69.6	4.83	TAS	223.0	1.05	m_e	mb	6.2
FLT1	86.33	P	03:52:52.047	1.0	69.6	4.83	TAS	124.0	1.01	m_e	mb	6.0
FUR	87.75	P	03:53:00.034	0.5	69.6	4.83	TAS	4342.6	3.31	m_e	mb	7.2
GEC2	86.00	P	03:52:49.953	-0.4	69.6	4.83	TAS	251.6	1.47	m_e	mb	6.1
GOR1	86.06	P	03:52:49.691	-0.8	69.6	4.83	TAS	359.7	1.18	m_e	mb	6.4
GRA1	87.25	P	03:52:55.364	0.8	69.6	4.83	TAS	969.5	2.15	m_e	mb	6.5
GRA1	87.25	L	04:43:03.705				T__	35315.9	19.90	a_e	Ms	6.8
GTTG	87.34	P	03:52:55.626	-0.3	69.6	4.83	TAS	1591.0	2.12	m_e	mb	6.8
IBBN	88.32	P	03:53:01.495	-0.0	69.6	4.83	TAS	282.4	1.11	m_e	mb	6.5
KAST	88.37	P	03:53:01.232	1.4	69.6	4.83	TAS	1111.7	2.23	m_e	mb	6.8
MANZ	86.61	P	03:52:52.309	-0.8	69.6	4.83	TAS	199.4	1.97	m_e	mb	5.9
MOX	86.69	P	03:52:52.397	1.2	69.6	4.83	TAS	232.7	1.36	m_e	mb	6.1
MOX	86.69	L	04:42:05.301				T__	50843.5	21.70	a_e	Ms	6.9
NEUB	86.41	P	03:52:52.746	-0.9	69.6	4.83	TAS	2184.5	2.37	m_e	mb	6.9
NRDL	86.92	P	03:52:55.495	0.7	69.6	4.83	TAS	232.6	1.06	m_e	mb	6.2
PLN	86.41	P	03:52:50.956	0.3	69.6	4.83	TAS	345.3	2.02	m_e	mb	6.1
RETH	87.25	P	03:52:56.630	-0.7	69.6	4.83	TAS	1431.5	2.38	m_e	mb	6.7
ROTZ	86.63	P	03:52:52.047	-0.8	69.6	4.83	TAS	249.5	2.03	m_e	mb	6.0
RUE	84.81	P	03:52:46.156	-0.9	69.6	4.83	TAS	408.0	0.93	m_e	mb	6.6
STU	88.83	P	03:53:02.391	0.2	69.6	4.83	TAS	1286.3	1.90	m_e	mb	6.8
TANN	86.26	P	03:52:50.302	-1.1	69.6	4.83	TAS	305.3	1.57	m_e	mb	6.2
TNS	88.73	P	03:53:02.958	-1.1	69.6	4.83	TAS	574.6	1.89	m_e	mb	6.5
UBBA	87.58	P	03:52:57.197	1.7	69.6	4.83	TAS	503.1	1.71	m_e	mb	6.6
UBR	88.66	P	03:53:04.049	-0.1	69.6	4.83	TAS	112.0	1.13	m_e	mb	6.0
WET	86.42	P	03:52:52.178	-0.5	69.6	4.83	TAS	454.9	1.65	m_e	mb	6.3
WLF	90.31	P	03:53:09.723		69.6	4.83	TAS	329.4	1.39	m_e	mb	6.4

Event 81229002 Hokkaido, Japan, region

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/29	19:08:30.04			42.7670	143.7350				33.0			26		75.74	81.15	m i ke	BGR
81229008																	

Magnitude	Err	Nsta	Author	OrigID
mb	5.5		BGR	81229008
Ms	4.7		BGR	81229008

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude	
BFO	81.15		P	19:20:40.158		33.5		5.50		TAS		21.6	0.81	m_e	mb	5.2
BRG	77.01		P	19:20:17.512	-0.1	33.5		5.50		TAS		16.5	0.71	m_e	mb	5.3
BSEG	75.74		P	19:20:10.709	-0.2	33.5		5.50		TAS		55.7	0.78	m_e	mb	5.8
BUG	78.84		P	19:20:27.732	-0.3	33.5		5.50		TAS		52.1	0.79	m_e	mb	5.6
CLL	77.00		P	19:20:17.438	-0.2	33.5		5.50		TAS		75.1	0.75	m_e	mb	5.9
CLZ	77.47		P	19:20:20.747	0.2	33.5		5.50		TAS		63.1	0.63	m_e	mb	5.9
FUR	80.23		P	19:20:35.746		33.5		5.50		TAS		83.2	0.82	m_e	mb	5.7



GEC2	78.76	P	19:20:27.217	-0.4	33.5	5.50	TAS	16.8	0.61	m_e	mb	5.2
GRA1	78.97	P	19:20:29.129	0.2	33.5	5.50	TAS	82.5	0.75	m_e	mb	5.8
GRA1	78.97	L	19:58:30.130				T__	414.2	20.90	a_e	Ms	4.8
GTTG	77.86	P	19:20:22.585	-0.1	33.5	5.50	TAS	60.7	0.87	m_e	mb	5.7
IBBN	77.94	P	19:20:22.953	-0.3	33.5	5.50	TAS	54.0	0.76	m_e	mb	5.8
KAST	78.67	P	19:20:27.070	-0.0	33.5	5.50	TAS	26.3	0.78	m_e	mb	5.3
MANZ	78.41	P	19:20:25.526	-0.2	33.5	5.50	TAS	5.0	0.65	m_e	mb	4.8
MOX	78.04	P	19:20:23.468	0.0	33.5	5.50	TAS	23.9	0.66	m_e	mb	5.5
MOX	78.04	L	19:56:56.580				T__	407.4	20.40	a_e	Ms	4.7
NEUB	77.53	P	19:20:20.526	-0.1	33.5	5.50	TAS	87.0	0.77	m_e	mb	6.0
NRDL	77.02	P	19:20:17.859	0.1	33.5	5.50	TAS	25.6	0.81	m_e	mb	5.4
PLN	77.98	P	19:20:23.026	0.3	33.5	5.50	TAS	6.3	0.69	m_e	mb	4.9
RJOB	80.01	P	19:20:34.643		33.5	5.50	TAS	40.1	0.79	m_e	mb	5.4
ROTZ	78.55	P	19:20:26.629	-0.2	33.5	5.50	TAS	8.1	0.97	m_e	mb	4.7
RUE	75.76	P	19:20:10.782	-0.1	33.5	5.50	TAS	67.7	0.75	m_e	mb	5.8
STU	80.47	P	19:20:36.629		33.5	5.50	TAS	130.7	0.79	m_e	mb	5.9
TANN	77.93	P	19:20:22.732	0.5	33.5	5.50	TAS	10.1	0.79	m_e	mb	5.0
TNS	79.49	P	19:20:31.555	0.4	33.5	5.50	TAS	19.5	0.74	m_e	mb	5.2
UBBA	78.46	P	19:20:25.526	0.1	33.5	5.50	TAS	15.8	0.66	m_e	mb	5.3
UBR	81.06	P	19:20:39.705		33.5	5.50	TAS	12.3	0.73	m_e	mb	5.0
WET	78.82	P	19:20:28.173	0.3	33.5	5.50	TAS	40.5	0.93	m_e	mb	5.4

Event 81230001 Southern Sumatera, Indonesia

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/30	08:38:57.97			-5.1530	104.4280				169.0			28		94.26	99.26	m i ke	BGR
81230007																	

Magnitude	Err	Nsta	Author	OrigID
mb	6.1		BGR	81230007

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude	
BFO	97.88	P		08:52:13.320	-0.0	90.9		4.45		TAS		45.3	1.06	m_e	mb	6.1
BRG	94.26	P		08:51:57.680	-0.0	90.9		4.45		TAS		67.9	0.78	m_e	mb	6.0
BSEG	96.56	P		08:52:08.106	-0.1	90.9		4.45		TAS		79.4	0.98	m_e	mb	6.3
BUG	98.47	P		08:52:16.415	0.8	90.9		4.45		TAS		46.1	1.18	m_e	mb	6.1
CLL	94.88	P		08:51:59.880	0.4	90.9		4.45		TAS		66.9	1.23	m_e	mb	5.9
CLZ	96.53	P		08:52:07.618	0.0	90.9		4.45		TAS		50.0	0.97	m_e	mb	6.1
FUR	95.91	P		08:52:04.848		90.9		4.45		TAS		100.9	1.01	m_e	mb	6.3
GEC2	94.32	P		08:51:57.843	-0.4	90.9		4.45		TAS		141.5	1.12	m_e	mb	6.2
GOR1	95.96	P		08:52:04.848	-0.1	90.9		4.45		TAS		54.6	1.12	m_e	mb	6.0
GRA1	95.97	P		08:52:05.663	-0.1	90.9		4.45		TAS		81.6	0.86	m_e	mb	6.3
GTTG	96.78	P		08:52:08.595	-0.5	90.9		4.45		TAS		60.7	1.03	m_e	mb	6.2
IBBN	98.13	P		08:52:14.949	-0.3	90.9		4.45		TAS		90.7	1.07	m_e	mb	6.4
KAST	97.76	P		08:52:13.971	0.0	90.9		4.45		TAS		49.5	1.11	m_e	mb	6.2
MANZ	95.40	P		08:52:03.295	-0.1	90.9		4.45		TAS		31.0	1.20	m_e	mb	5.6

MOX	95.73	P	08:52:04.197	-0.3	90.9	4.45	TAS	35.6	0.89	m_e	mb	5.9
NEUB	95.65	P	08:52:04.197	-0.2	90.9	4.45	TAS	103.6	0.93	m_e	mb	6.3
NRDL	96.69	P	08:52:08.432	0.0	90.9	4.45	TAS	69.5	1.01	m_e	mb	6.2
PLN	95.38	P	08:52:02.730	0.2	90.9	4.45	TAS	13.3	0.88	m_e	mb	5.4
RETH	97.14	P	08:52:10.387	0.0	90.9	4.45	TAS	40.4	1.10	m_e	mb	6.0
ROTZ	95.33	P	08:52:02.649	0.4	90.9	4.45	TAS	12.5	0.90	m_e	mb	5.3
RUE	94.44	P	08:51:58.495	-0.1	90.9	4.45	TAS	403.5	1.54	m_e	mb	6.5
STU	97.30	P	08:52:10.957	-0.1	90.9	4.45	TAS	180.4	1.18	m_e	mb	6.6
TANN	95.19	P	08:52:01.427	0.6	90.9	4.45	TAS	63.6	1.34	m_e	mb	5.9
TNS	97.76	P	08:52:13.401	0.2	90.9	4.45	TAS	80.4	0.94	m_e	mb	6.4
UBBA	96.76	P	08:52:08.595	0.1	90.9	4.45	TAS	17.8	0.98	m_e	mb	5.7
UBR	96.69	P	08:52:08.432		90.9	4.45	TAS	60.6	1.01	m_e	mb	6.2
WET	94.87	P	08:52:00.531	-0.2	90.9	4.45	TAS	154.2	1.17	m_e	mb	6.3
WLF	99.26	P	08:52:19.836	0.2	90.9	4.45	TAS	32.3	0.99	m_e	mb	6.0

Event 81231002 Alaska Peninsula, United States

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/31	02:35:44.56			55.3960	-161.4610				33.0			29		70.34	77.05	m i ke	BGR
81231008																	

Magnitude	Err	Nsta	Author	OrigID
mb	6.2		BGR	81231008
Ms	5.5		BGR	81231008

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude	
BFO	76.29		P	02:47:27.846	-0.3	355.7		5.79		TAS		259.5	1.63	m_e	mb	6.1
BRG	74.03		P	02:47:15.282	0.0	355.7		5.79		TAS		271.7	1.42	m_e	mb	6.1
BSEG	70.82		P	02:46:56.537	0.4	355.7		5.79		TAS		418.9	1.43	m_e	mb	6.4
BUG	73.12		P	02:47:09.886	-0.3	355.7		5.79		TAS		548.1	1.57	m_e	mb	6.4
CLL	73.57		P	02:47:12.222	0.2	355.7		5.79		TAS		285.9	1.43	m_e	mb	6.1
CLZ	72.92		P	02:47:09.242	0.4	355.7		5.79		TAS		495.8	1.45	m_e	mb	6.4
FLT1	72.47		P	02:47:05.537	0.4	355.7		5.79		TAS		338.4	1.48	m_e	mb	6.3
FUR	76.63		P	02:47:30.101	-0.2	355.7		5.79		TAS		193.7	1.06	m_e	mb	6.2
GEC2	76.05		P	02:47:26.799	-0.4	355.7		5.79		TAS		89.4	0.98	m_e	mb	5.9
GOR1	71.82		P	02:47:02.833	0.1	355.7		5.79		TAS		380.9	1.50	m_e	mb	6.3
GRA1	75.10		P	02:47:21.564	0.7	355.7		5.79		TAS		375.6	1.50	m_e	mb	6.2
GRA1	75.10		L	03:24:30.147						T__		2321.9	21.20	a_e	Ms	5.5
GTTG	73.19		P	02:47:10.852	-0.1	355.7		5.79		TAS		198.0	0.92	m_e	mb	6.2
IBBN	72.29		P	02:47:04.990	-0.7	355.7		5.79		TAS		459.2	1.47	m_e	mb	6.4
KAST	73.44		P	02:47:11.980	0.1	355.7		5.79		TAS		110.4	1.12	m_e	mb	5.9
MANZ	74.85		P	02:47:20.034	0.1	355.7		5.79		TAS		49.2	1.48	m_e	mb	5.3
MOX	74.17		P	02:47:16.248	0.4	355.7		5.79		TAS		353.3	1.41	m_e	mb	6.2
MOX	74.17		L	03:30:55.657						T__		3096.2	19.10	a_e	Ms	5.6
NEUB	73.63		P	02:47:13.027	0.0	355.7		5.79		TAS		794.7	1.69	m_e	mb	6.5
NRDL	72.25		P	02:47:04.605	-0.1	355.7		5.79		TAS		339.5	1.45	m_e	mb	6.3

RETH	71.97	P	02:47:03.461	-0.4	355.7	5.79	TAS	272.4	1.42	m_e	mb	6.2
RGN	70.34	P	02:46:53.720	-0.1	355.7	5.79	TAS	1112.8	1.52	m_e	mb	6.8
ROTZ	75.07	P	02:47:21.403	0.6	355.7	5.79	TAS	53.1	1.33	m_e	mb	5.4
RUE	72.42	P	02:47:05.876	-0.2	355.7	5.79	TAS	689.4	1.45	m_e	mb	6.6
STU	75.91	P	02:47:25.752	-0.5	355.7	5.79	TAS	238.4	1.05	m_e	mb	6.3
TANN	74.44	P	02:47:18.020	-0.0	355.7	5.79	TAS	317.7	1.63	m_e	mb	6.1
TNS	74.42	P	02:47:17.456	0.0	355.7	5.79	TAS	132.9	1.11	m_e	mb	5.9
UBBA	73.92	P	02:47:14.638	0.1	355.7	5.79	TAS	220.8	1.67	m_e	mb	5.9
UBR	77.05	P	02:47:32.597		355.7	5.79	TAS	216.0	1.50	m_e	mb	6.1
WET	75.72	P	02:47:25.752	-0.1	355.7	5.79	TAS	269.0	1.50	m_e	mb	6.2
WLF	74.80	P	02:47:20.195	0.1	355.7	5.79	TAS	208.2	1.22	m_e	mb	6.0

Event 81231003 Chiapas, Mexico

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/31	10:13:15.69			17.4170	-93.8980				33.0			8		83.23	88.13	m i ke	BGR
81231009																	

Magnitude	Err	Nsta	Author	OrigID
mb	5.2		BGR	81231009

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude	
CLZ	84.99		P	10:25:47.415		292.6		4.92		TAS		13.1	1.03	m_e	mb	5.1
FLT1	85.30		P	10:25:48.016		292.6		4.92		TAS		10.7	0.93	m_e	mb	5.1
GEC2	88.13		P	10:26:55.711		292.6		4.92		TAS				m_e		
GTTG	84.86		P	10:25:46.791		292.6		4.92		TAS		16.6	0.77	m_e	mb	5.3
NRDL	84.60		P	10:25:45.318	0.3	292.6		4.92		TAS		12.0	0.82	m_e	mb	5.2
RETH	84.09		P	10:25:42.912	0.2	292.6		4.92		TAS		16.3	0.95	m_e	mb	5.2
TNS	84.44		P	10:25:44.763		292.6		4.92		TAS		20.5	0.79	m_e	mb	5.4
WET	87.51		P	10:25:59.630		292.6		4.92		TAS		3.2	0.72	m_e	mb	4.8
WLF	83.23		P	10:25:38.212		292.6		4.92		TAS		10.7	0.74	m_e	mb	5.2

Event 81231004 Fiji Islands region

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/31	13:15:17.10			-20.5000	-178.0900				512.0			22		146.01	152.08	m i ke	EMSC
81231036																	

Magnitude	Err	Nsta	Author	OrigID

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BRG	148.24		PKPbc	13:34:04.465	-0.9	17.6		3.07		TAS				m_e	
BSEG	146.01		PKPbc	13:33:57.943	0.5	17.6		3.07		TAS				m_e	

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BUG	148.84	PKPbc	13:34:05.535	-0.1	17.6	3.07	TAS	m_e
CLL	148.04	PKPbc	13:34:03.752	-0.7	17.6	3.07	TAS	m_e
CLZ	148.03	PKPbc	13:34:04.183	-0.5	17.6	3.07	TAS	m_e
FLT1	147.41	PKPbc	13:34:02.041	0.0	17.6	3.07	TAS	m_e
GEC2	150.18	PKPbc	13:34:08.989		17.6	3.07	TAS	m_e
GTTG	148.38	PKPbc	13:34:04.312	0.1	17.6	3.07	TAS	m_e
IBBN	147.93	PKPbc	13:34:03.395	-0.2	17.6	3.07	TAS	m_e
KAST	148.94	PKPbc	13:34:06.146	-0.7	17.6	3.07	TAS	m_e
MANZ	149.48	PKPbc	13:34:07.620	8.5	17.6	3.07	TAS	m_e
NEUB	148.40	PKPbc	13:34:04.974	-0.6	17.6	3.07	TAS	m_e
NRDL	147.44	PKPbc	13:34:02.121	0.3	17.6	3.07	TAS	m_e
RETH	147.31	PKPbc	13:34:01.939	0.6	17.6	3.07	TAS	m_e
ROTZ	149.67	PKPbc	13:34:07.773	-2.9	17.6	3.07	TAS	m_e
RUE	146.78	PKPbc	13:34:00.440	0.7	17.6	3.07	TAS	m_e
TANN	149.00	PKPbc	13:34:06.442	-1.5	17.6	3.07	TAS	m_e
TNS	149.89	PKPbc	13:34:08.378	-2.4	17.6	3.07	TAS	m_e
UBR	152.08	PKPbc	13:34:13.318		17.6	3.07	TAS	m_e
WET	150.10	PKPbc	13:34:09.295		17.6	3.07	TAS	m_e
WLF	150.70	PKPbc	13:34:10.976		17.6	3.07	TAS	m_e

Event 81231005 Tonga Islands

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author
2018/12/31	20:22:18.10			-17.4900	-174.6900				219.8	8.4		24		144.46	149.63	m i ke	EMSC
	81231037																

Magnitude Err Nsta Author OrigID

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude
BFO	149.14		PKPbc	20:41:43.494		10.5		3.00		TAS				m_e	
BRG	145.99		PKPbc	20:41:34.130	0.7	10.5		3.00		TAS				m_e	
BUG	146.09		PKPbc	20:41:33.936	0.3	10.5		3.00		TAS				m_e	
BUG	146.09		pPKPbc	20:42:30.270		10.5		3.00		TAS				m_e	
CLL	145.71		PKPbc	20:41:33.402	0.5	10.5		3.00		TAS				m_e	
CLZ	145.49		PKPbc	20:41:33.402	0.7	10.5		3.00		TAS				m_e	
FLT1	144.92		PKPbc	20:41:30.625	-0.0	10.5		3.00		TAS				m_e	
FUR	149.02		PKPbc	20:41:43.440		10.5		3.00		TAS				m_e	
GEC2	147.99		PKPbc	20:41:40.556		10.5		3.00		TAS				m_e	
GRA1	147.53		PKPbc	20:41:39.574	-0.3	10.5		3.00		TAS				m_e	
GTTG	145.82		PKPbc	20:41:33.669	-0.1	10.5		3.00		TAS				m_e	
GTTG	145.82		pPKPbc	20:42:30.245		10.5		3.00		TAS				m_e	
IBBN	145.21		PKPbc	20:41:32.281	0.1	10.5		3.00		TAS				m_e	
KAST	146.28		PKPbc	20:41:35.251	0.4	10.5		3.00		TAS				m_e	
KAST	146.28		pPKPbc	20:42:31.585		10.5		3.00		TAS				m_e	
MANZ	147.12		PKPbc	20:41:35.838	-0.3	10.5		3.00		TAS				m_e	
MANZ	147.12		pPKPbc	20:42:34.398		10.5		3.00		TAS				m_e	

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MOX	146.54	PKPbc	20:41:36.158	0.8	10.5	3.00	TAS	m_e
MOX	146.54	pPKPbc	20:42:32.251		10.5	3.00	TAS	m_e
NEUB	145.98	PKPbc	20:41:34.898	-1.8	10.5	3.00	TAS	m_e
NRDL	144.87	PKPbc	20:41:30.661	-0.1	10.5	3.00	TAS	m_e
RJOB	149.21	PKPbc	20:41:43.425		10.5	3.00	TAS	m_e
ROTZ	147.32	PKPbc	20:41:38.881	0.1	10.5	3.00	TAS	m_e
RUE	144.46	PKPbc	20:41:29.290	-1.0	10.5	3.00	TAS	m_e
STU	148.64	PKPbc	20:41:42.266		10.5	3.00	TAS	m_e
TANN	146.66	PKPbc	20:41:36.660	0.3	10.5	3.00	TAS	m_e
TANN	146.66	pPKPbc	20:42:32.825		10.5	3.00	TAS	m_e
TNS	147.25	PKPbc	20:41:38.583	0.0	10.5	3.00	TAS	m_e
UBR	149.63	PKPbc	20:41:44.882		10.5	3.00	TAS	m_e
WLF	147.90	PKPbc	20:41:40.986	-0.5	10.5	3.00	TAS	m_e
WLF	147.90	pPKPbc	20:42:36.861		10.5	3.00	TAS	m_e