

MONTHLY TELESEISMIC BULLETIN of SZGRF-ERLANGEN - March 1999

H. Aichele, K. Klinge, R. Hohl

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date          distance backazimut
station time   phase   comp per[s] ampl[nm] magn
. . . . .
SZGRF or NEIC- QED LOCATION
    
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1999-03-01      D108.7
  GRA1 09:09:58.4 e PP      Z
  GRA1 10:04:29.4 e L       Z T21.5 A360 MS4.9
NEIC: OT 08:51:00.7 3S 127E dep 33km mb5.7
  CERAM SEA
    
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1999-03-01      D 86.1 AZ279
  GRA1 17:37:42.6 e P      d Z
  ALIGN 17:37:42.6          T0.9 A8
  GRA1 17:37:46.5 e pP     Z
SZGRF: OT 17:25:05.0 9N 83W dep 14km
  COSTA RICA
    
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1999-03-01      D 39.5
  GRA1 17:54:19.1 e P      Z
  ALIGN 17:54:19.1          T1.8 A43
  GRA1 17:54:25.6 e (pP)   Z
  GRA1 17:54:31.2 e        Z
  GRA1 18:16:17.1 e L      Z T20.3 A550 MS4.4
    
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1999-03-01      D 39.4 AZ 6
  GRA1 20:19:53.8 e P      Z
  BEAM 20:19:53.8          T1.4 A11
  GRA1 20:20:02.1 e pP     Z
  GRA1 20:20:05.4 e sP     Z
  GRA1 20:33:51.3 e L      Z T21.7 A124
    
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1999-03-02      D146.7
  GRA1 05:50:39.5 e PKPdf   Z
NEIC: OT 05:31:57.3 17S 179W dep550km mb5.0
  FIJI ISLANDS REGION
    
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1999-03-02 D 84.0 AZ 40  
GRA1 07:24:52.0 i P c Z mb5.6  
ALIGN 07:24:52.0 T1.7 A76  
GRA1 07:24:59.8 e pP Z  
GRA1 07:25:42.4 e Z  
GRA1 07:28:05.5 e PP Z  
GRA1 08:06:31.5 e L Z T19.8 A4292 MS5.8  
SZGRF: OT 07:12:25.2 35N 140E dep 27km  
NEAR EAST COAST OF HONSHU, JAPAN

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1999-03-02 D147.0  
GRA1 16:27:30.2 e PKPdf Z  
NEIC: OT 16:07:49.9 16S 173W dep 38km mb4.7  
SAMOA ISLANDS REGION

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1999-03-02 D100.1  
GRA1 17:59:31.9 i P d Z mb5.5  
ALIGN 17:59:31.9 T1.2 A15  
GRA1 18:00:01.1 e pP Z  
GRA1 18:00:12.3 e sP Z  
GRA1 18:03:38.4 e PP Z  
GRA1 18:09:32.6 e (S) Z  
GRA1 18:15:45.8 i PKKP d Z  
GRA1 18:16:11.0 e pPKKP Z  
GRA1 18:41:14.1 e L Z T18.8 A800 MS5.2

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1999-03-02 D 79.8 AZ 29  
GRA1 18:57:10.3 e P Z mb4.6  
BEAM 18:57:10.3 T1.2 A10  
SZGRF: OT 18:45:06.9 44N 150E dep 33km  
KURIL ISLANDS REGION

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1999-03-02 D 78.7  
GRA1 21:27:25.3 e P Z mb4.9  
ALIGN 21:27:25.3 T1.1 A16  
GRA1 21:27:48.8 e pP Z  
GRA1 21:27:55.9 e sP Z

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1999-03-02 D 3.6 396km  
GRA1 23:30:17.2 e Pn Z M13.6  
GRA1 23:31:13.5 e Sg N  
SZGRF: OT 23:29:19.2 51N 16E dep 1km  
POLAND

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1999-03-03 D 58.0  
GRA1 04:08:07.8 e P Z mb4.9  
ALIGN 04:08:07.8 T1.2 A16

GRA1 04:40:00.6 e L Z T18.9 A295 MS4.4

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1999-03-03 D147.4

GRA1 17:10:44.0 e PKPbc Z

GRA1 17:10:47.0 e PKPab Z

NEIC: OT 16:51:25.7 18S 175W dep244km mb4.7

TONGA ISLANDS

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1999-03-03 D 3.6 402km

GRA1 20:49:20.6 e Pn Z M13.4

GRA1 20:50:20.1 e Sg N

SZGRF: OT 20:48:23.5 51N 16E dep 1km

POLAND

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1999-03-04

GRA1 03:55:52.8 e (P) Z

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1999-03-04 D 43.8 AZ104

GRA1 05:46:06.9 i P c Z mb6.2

ALIGN 05:46:06.9 T1.0 A565

GRA1 05:46:17.2 e pP Z

GRA1 05:47:53.7 e PP Z

GRA1 05:49:55.5 e PPP Z

GRA1 06:06:43.2 e L Z T21.2 A35352 MS6.2

SZGRF: OT 05:38:04.6 26N 60E dep 39km

SOUTHERN IRAN

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1999-03-04 D 42.5 AZ105

GRA1 05:55:30.4 i P c Z mb5.8

ALIGN 05:55:30.4 T1.1 A206

GRA1 05:58:08.4 e PP Z

SZGRF: OT 05:47:38.3 27N 58E dep 33km

SOUTHERN IRAN

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1999-03-04 D 42.1 AZ104

GRA1 07:24:14.8 e P Z mb4.6

BEAM 07:24:14.8 T0.9 A11

GRA1 07:24:23.9 e pP Z

SZGRF: OT 07:16:26.4 28N 59E dep 34km

SOUTHERN IRAN

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1999-03-04 D 42.9 AZ104

GRA1 07:26:59.5 e P Z mb5.2

ALIGN 07:26:59.5 T1.0 A54

GRA1 07:27:07.8 e pP Z

SZGRF: OT 07:19:04.0 27N 59E dep 32km

SOUTHERN IRAN

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1999-03-04      D 40.3  AZ104
  GRA1 07:33:41.9 i P      c Z                      mb4.7
  BEAM 07:33:41.9                      T1.2  A26
SZGRF: OT 07:26:08.3 29N    57E    dep 33km
  SOUTHERN IRAN
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1999-03-04      D 39.2
  GRA1 08:00:20.3 e P      d Z                      mb4.7
  BEAM 08:00:20.3                      T1.5  A29
  GRA1 08:00:25.2 e (pP)   Z
  GRA1 08:00:30.4 e (sP)   Z
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1999-03-04      D 99.1
  GRA1 09:05:43.7 e Pdiff  Z
  GRA1 09:09:51.8 e PP     Z
  GRA1 09:22:10.2 e PKKpdf Z
  GRA1 09:22:38.4 e PKKpbc Z
  GRA1 09:54:36.0 e L      Z  T19.0 A23649  MS6.7
NEIC: OT 08:52:01.4 5N    122E    dep 33km  mb6.4
  CELEBES SEA
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1999-03-04      D 43.8  AZ104
  GRA1 09:59:42.4 i P      c Z                      mb5.3
  ALIGN 09:59:42.4                      T1.0  A65
SZGRF: OT 09:51:40.1 26N    60E    dep 33km
  SOUTHERN IRAN
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1999-03-04      D 41.0  AZ103
  GRA1 11:20:38.3 e P      c Z                      mb4.6
  BEAM 11:20:38.3                      T0.9  A12
SZGRF: OT 11:12:58.5 29N    58E    dep 33km
  SOUTHERN IRAN
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1999-03-04      D 77.9  AZ360
  GRA1 12:38:39.3 e P      Z                      mb5.1
  BEAM 12:38:39.3                      T1.7  A29
  GRA1 12:38:52.2 e (pP)   Z
  GRA1 13:18:51.1 e L      Z  T18.8 A608  MS4.9
SZGRF: OT 12:26:48.0 53N    168W    dep 45km
  FOX ISLANDS, ALEUTIAN ISLANDS
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1999-03-04
  GRA1 13:12:50.2 e PKPpdf  Z
  GRA1 13:12:57.5 e (PKPab) Z
NEIC: OT 12:53:34.0 7S    155E    dep 33km  mb4.7
  SOLOMON ISLANDS
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1999-03-04 D 44.8 AZ 81  
GRA1 15:23:55.5 e P Z mb4.7  
BEAM 15:23:55.5 T1.6 A18  
NEIC: OT 15:16:00.5 39N 71E dep 33km mb4.2  
TAJIKISTAN

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1999-03-04 D 41.2 AZ106  
GRA1 19:33:33.8 e P Z mb4.7  
ALIGN 19:33:33.8 T1.0 A14  
GRA1 19:33:40.4 e (pP) Z  
SZGRF: OT 19:25:51.2 27N 57E dep 25km  
SOUTHERN IRAN

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1999-03-05 D 97.2 AZ249  
GRA1 00:47:44.8 e P Z T1.7 A46 mb5.8  
GRA1 00:51:15.8 e PP Z  
GRA1 00:57:39.0 e SKS E  
GRA1 01:00:07.0 e SP Z  
GRA1 01:05:28.4 e SS E  
GRA1 01:28:54.9 e L Z T22.0 A392 MS4.8  
SZGRF: OT 00:34:14.7 19S 67W dep 33km  
SOUTHERN BOLIVIA

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1999-03-05  
GRA1 01:17:58.8 e PKP Z

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1999-03-05 D 24.5  
GRA1 04:04:42.0 e P Z  
GRA1 04:09:43.3 e S N  
GRA1 04:41:49.1 e L Z T18.2 A2254 MS4.7

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1999-03-05 D 83.3 AZ 9  
GRA1 06:36:30.6 e P Z T1.1 A8 mb4.9

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1999-03-05 D 96.7 AZ 69  
GRA1 13:14:51.7 e P Z T2.1 A75 mb6.0  
GRA1 14:01:26.2 e L Z T20.3 A572 MS5.0  
SZGRF: OT 13:01:24.8 8N 121E dep 33km  
MINDANAO, PHILIPPINE ISLANDS

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1999-03-05 D 1.7 191km  
GRA1 13:39:56.4 e Sg N  
NEIC: OT 20:28:54.0 22S 180W dep602km mb5.4  
FIJI ISLANDS REGION

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1999-03-05

GRA1 21:29:52.3 e P Z

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1999-03-06

GRA1 02:46:12.3 e PKP Z  
NEIC: OT 02:26:50.8 18S 177W dep189km mb4.5  
FIJI ISLANDS REGION

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1999-03-06 D 78.9 AZ 34

GRA1 04:06:30.5 i P Z T0.8 A17 mb5.1  
SZGRF: OT 03:54:31.6 42N 143E dep 33km  
HOKKAIDO, JAPAN REGION

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1999-03-06 D 39.1 AZ 7

GRA1 07:29:10.2 e P Z T1.6 A64 mb5.0  
GRA1 07:29:30.7 e Z  
SZGRF: OT 07:21:47.6 85N 81E dep 33km  
NORTH OF SEVERNAYA ZEMLYA

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1999-03-06

GRA1 11:47:39.0 e PKP Z  
NEIC: OT 11:28:05.2 29S 180W dep500km mb4.7  
KERMADEC ISLANDS REGION

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1999-03-06 D152.1

GRA1 20:47:33.2 e PKPdf Z  
GRA1 20:47:40.1 e PKPbc Z  
GRA1 20:47:47.1 e PKPab Z  
GRA1 20:50:02.1 e pPKPbc Z

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1999-03-06 D 24.3

GRA1 21:05:35.5 i P c Z T2.0 A108 mb5.0  
SZGRF: OT 21:00:21.3 50N 27W dep 33km  
NORTH ATLANTIC RIDGE

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1999-03-07 D 80.0 AZ 33

GRA1 01:15:47.7 i P d Z T1.1 A37 mb5.2  
GRA1 01:15:56.0 e pP Z  
SZGRF: OT 01:03:42.9 42N 146E dep 29km  
HOKKAIDO, JAPAN REGION

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1999-03-07

GRA1 07:02:35.6 e PKP Z  
GRA1 07:02:44.2 e Z

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1999-03-07 D 75.0 AZ 19

GRA1 11:06:52.6 i P c Z T0.8 A19 mb5.2

SZGRF: OT 10:55:16.4 52N 161E dep 33km  
OFF EAST COAST OF KAMCHATKA

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1999-03-07

GRA1 12:00:51.9 e (P) Z  
NEIC: OT 11:56:27.7 34N 26E dep 10km mb3.9  
CRETE

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1999-03-07 D145.3

GRA1 20:55:22.8 e PKP Z  
GRA1 21:17:27.3 e SS E  
GRA1 21:55:55.1 e L Z T21.8 A1545 MS5.7  
NEIC: OT 20:35:43.9 16S 179W dep 33km mb5.4  
FIJI ISLANDS REGION

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1999-03-08

GRA1 01:58:31.6 e P Z

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1999-03-08

GRA1 05:13:35.8 e Pn Z  
NEIC: OT 05:10:16.3 38N 22E dep 33km mb4.4  
SOUTHERN GREECE

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1999-03-08 D 74.4

GRA1 05:51:38.9 i P c Z T1.5 A144 mb5.8  
GRA1 05:51:53.2 e pP Z  
GRA1 06:01:28.7 e S E  
GRA1 06:29:56.6 e L Z T18.8 A3183 MS5.6  
SZGRF: OT 05:40:05.8 53N 159E dep 51km  
OFF EAST COAST OF KAMCHATKA

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1999-03-08 D 74.6

GRA1 05:51:38.8 i P c Z T1.5 A144  
GRA1 05:51:53.0 e pP Z  
SZGRF: OT 05:40:04.6 53N 160E dep 51km  
OFF EAST COAST OF KAMCHATKA

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1999-03-08 D 74.2

GRA1 05:57:20.1 e P Z T1.5 A19 mb4.9  
GRA1 05:57:35.1 e pP Z  
NEIC: OT 05:45:39.4 52N 159E dep 33km mb4.9  
OFF EAST COAST OF KAMCHATKA

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1999-03-08 D 75.3 AZ 19

GRA1 06:09:30.5 i P c Z T1.1 A55 mb5.5  
GRA1 06:09:45.9 e pP Z  
SZGRF: OT 05:57:52.5 52N 161E dep 55km  
OFF EAST COAST OF KAMCHATKA

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 1999-03-08 D 75.7  
 GRA1 12:37:26.3 e P Z T2.8 A2336 mb6.8  
 GRA1 12:37:41.7 e pP Z  
 GRA1 12:47:14.0 e S E  
 GRA1 13:13:07.0 e L Z T21.7 A55592 MS6.8  
 SZGRF: OT 12:25:48.7 52N 161E dep 54km  
 OFF EAST COAST OF KAMCHATKA  
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1999-03-09 D146.4  
 GRA1 09:52:51.7 e PKPbc Z  
 GRA1 09:54:18.2 e pPKPbc Z  
 NEIC: OT 09:33:28.1 16S 176W dep135km mb5.0  
 TONGA ISLANDS  
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1999-03-10  
 GRA1 05:30:16.6 e PKP Z  
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1999-03-10 D 78.8 AZ\*\*\*  
 GRA1 07:57:57.9 i P Z T0.9 A26 mb5.3  
 SZGRF: OT 07:46:00.2 52N 169W dep 33km  
 FOX ISLANDS, ALEUTIAN ISLANDS  
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1999-03-10 D 38.8 AZ 6  
 GRA1 09:14:37.5 e P Z T1.6 A23 mb4.6  
 GRA1 09:14:48.4 e Z  
 SZGRF: OT 09:07:16.9 86N 75E dep 42km  
 NORTH OF SEVERNAYA ZEMLYA  
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1999-03-10 D 26.9 AZ293  
 GRA1 13:18:38.9 e P Z T1.2 A69 mb5.3  
 GRA1 13:23:09.1 e S E  
 GRA1 13:29:35.5 e L Z T14.3 A4040 MS5.1  
 SZGRF: OT 13:13:01.4 53N 32W dep 33km  
 NORTH ATLANTIC RIDGE  
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1999-03-11 D 81.9 AZ 36  
 GRA1 11:18:15.4 e P Z T0.8 A14 mb5.1  
 SZGRF: OT 11:06:00.2 39N 143E dep 33km  
 NEAR EAST COAST OF HONSHU, JAPAN  
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1999-03-11 D 66.7  
 GRA1 13:29:04.2 i P Z T1.4 A99 mb5.9  
 GRA1 13:38:06.0 e S N  
 GRA1 14:00:25.3 e L Z T18.8 A2638 MS5.5  
 SZGRF: OT 13:18:17.6 42N 115E dep 33km  
 NORTHEASTERN CHINA  
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1999-03-11

GRA1 23:43:30.5 e PKP Z

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1999-03-12

GRA1 00:47:46.7 e PKP Z

GRA1 00:49:14.9 e Z

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1999-03-12

GRA1 09:12:24.0 e P Z

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1999-03-12 D149.4

GRA1 11:35:18.9 e PKPdf Z

GRA1 11:35:24.7 e PKPbc Z

GRA1 11:35:31.3 e PKPab Z

GRA1 11:37:41.3 e pPKPbc Z

NEIC: OT 11:16:39.5 20S 178W dep586km mb5.1

FIJI ISLANDS REGION

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1999-03-12 D 39.3 AZ 7

GRA1 16:07:45.8 e P Z T1.8 A39 mb4.7

SZGRF: OT 16:00:21.2 85N 83E dep 33km

NORTH OF SEVERNAYA ZEMLYA

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1999-03-12

GRA1 19:54:04.5 e P Z T1.1 A13

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1999-03-12 D 40.1

GRA1 21:17:04.8 e P Z T1.2 A19 mb4.6

NEIC: OT 21:09:31.7 86N 85E dep 10km mb4.4

NORTH OF SEVERNAYA ZEMLYA

-----  
1999-03-12 D 3.7 408km

GRA1 22:05:00.4 e Pn Z M13.8

GRA1 22:05:59.0 e Sg E

SZGRF: OT 22:04:02.4 52N 16E dep 1km

POLAND

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1999-03-13 D 39.2 AZ 7

GRA1 01:34:04.4 e P Z T1.8 A195 mb5.4

GRA1 01:34:12.0 e pP Z

GRA1 01:35:33.6 e PP Z

GRA1 01:40:10.0 e S N

GRA1 01:48:33.8 e L Z T25.9 A1436

SZGRF: OT 01:26:40.2 86N 82E dep 29km

NORTH OF SEVERNAYA ZEMLYA

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 1999-03-14 D 84.1 AZ 39  
 GRA1 00:17:16.7 e P Z T1.0 A42 mb5.6  
 GRA1 01:02:47.8 e L Z T18.4 A193 MS4.5  
 SZGRF: OT 00:04:50.2 36N 141E dep 33km  
 NEAR EAST COAST OF HONSHU, JAPAN  
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1999-03-14  
 GRA1 11:45:15.0 e P Z T1.5 A42  
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1999-03-14 D151.7  
 GRA1 12:51:50.0 e PKPbc Z  
 GRA1 12:52:00.1 e PKPab Z  
 NEIC: OT 12:32:40.3 22S 178W dep377km mb4.8  
 FIJI ISLANDS REGION  
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1999-03-14  
 GRA1 15:24:45.5 e (Pn) Z  
 GRA1 15:24:55.9 e Z  
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1999-03-14 D 75.3 AZ124  
 GRA1 18:04:41.3 e P Z T1.5 A51 mb5.3  
 SZGRF: OT 17:53:00.3 9S 66E dep 33km  
 MID-INDIAN RISE  
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1999-03-15 D 80.0 AZ 28  
 GRA1 04:03:14.3 e P Z T1.4 A21 mb4.9  
 GRA1 04:03:21.1 e Z  
 GRA1 04:37:30.4 e L Z T21.3 A72 MS4.0  
 SZGRF: OT 03:51:10.0 44N 151E dep 33km  
 KURIL ISLANDS REGION  
 -----

1999-03-15 D 81.2 AZ 31  
 GRA1 09:56:46.5 i P c Z T0.9 A22 mb5.2  
 GRA1 09:56:54.6 e Z  
 NEIC: OT 09:44:56.7 44N 139E dep 28km mb4.8  
 EASTERN SEA OF JAPAN  
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1999-03-15 D 48.0 AZ 70  
 GRA1 10:51:43.0 e P Z T0.9 A69 mb5.8  
 GRA1 10:51:47.2 e Z  
 GRA1 11:12:12.7 e L Z T20.6 A1340 MS4.9  
 SZGRF: OT 10:43:08.1 43N 82E dep 33km  
 NORTHERN SINKIANG PROV., CHINA  
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1999-03-16  
 GRA1 03:46:06.0 e P Z T1.1 A15  
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 1999-03-16           D 84.9  AZ 40  
       GRA1  07:55:56.9  i P       c Z  T1.3  A41           mb5.5  
 SZGRF: OT 07:43:26.5  35N    141E  dep 33km  
       NEAR EAST COAST OF HONSHU, JAPAN  
 -----

1999-03-16           D 55.1  
       GRA1  14:52:27.4  i P       c Z  T1.2  A25           mb5.1  
       GRA1  14:54:27.3  e PP       Z  
 SZGRF: OT 14:42:57.0   S    17W  dep 33km  
       NORTH OF ASCENSION ISLAND  
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1999-03-17  
       GRA1  02:06:03.0  e (P)       Z  
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1999-03-17  
       GRA1  17:02:37.4  e PKP       Z  
 NEIC:  OT 16:43:06.0  19S    175W  dep159km  mb4.4  
       TONGA ISLANDS  
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1999-03-17           D  4.4  488km  
       GRA1  22:28:32.4  e Sg       E  
 SZGRF: OT 22:26:13.0  46N    16E  dep 10km  
       YUGOSLAVIA  
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1999-03-17           D  3.4  383km  
       GRA1  23:02:28.3  e Sg       N                   M13.0  
 SZGRF: OT 23:00:38.0  48N    16E  dep 10km  
       AUSTRIA  
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1999-03-18  
       GRA1  02:17:14.7  e P       Z  T1.6  A37  
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1999-03-18           D 79.7  AZ 33  
       GRA1  18:07:51.2  i P       c Z  T1.3  A290           mb6.1  
       GRA1  18:08:01.7  e pP       Z  
       GRA1  18:17:54.8  e S       E  
       GRA1  18:46:40.3  e L       Z  T19.7  A10444       MS6.2  
 SZGRF: OT 17:55:48.8  42N    145E  dep 36km  
       HOKKAIDO, JAPAN REGION  
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1999-03-19  
       GRA1  00:06:14.6  e PKP       Z  
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1999-03-20

GRA1 05:20:44.3 e (P) Z

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1999-03-20

D 79.2

GRA1 10:59:46.8 e P Z T1.7 A859 mb6.5

GRA1 11:00:00.9 e Z

GRA1 11:02:44.0 e PP Z

GRA1 11:09:36.5 e S E

GRA1 11:14:42.4 e SS E

GRA1 11:34:46.3 e L Z T21.7 A36544 MS6.7

SZGRF: OT 10:47:47.0 51N 178W dep 33km

ANDREANOF ISLANDS, ALEUTIAN IS.

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1999-03-20

GRA1 11:18:41.2 e PKP Z

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1999-03-20

D 43.1

GRA1 16:29:08.2 e P Z T1.1 A32 mb5.0

SZGRF: OT 16:21:11.7 37N 69E dep 33km

HINDU KUSH REGION

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1999-03-21

D 3.6 399km

GRA1 00:33:42.8 e Pn Z M13.2

GRA1 00:34:41.1 e Sg E

SZGRF: OT 00:32:46.2 51N 16E dep 1km

POLAND

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1999-03-21

D 3.6 396km

GRA1 04:08:39.6 e Pn Z M13.9

GRA1 04:09:36.7 e Sg E

SZGRF: OT 04:07:43.6 46N 13E dep 1km

AUSTRIA

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1999-03-21

D 82.6

GRA1 10:30:04.1 e P Z T0.9 A14 mb5.2

GRA1 10:30:18.0 e pP Z

SZGRF: OT 10:17:45.4 39N 144E dep 48km

OFF EAST COAST OF HONSHU, JAPAN

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1999-03-21

D 71.4

GRA1 13:44:33.5 e P Z T1.2 A14 mb5.0

NEIC: OT 13:32:38.8 45N 150E dep100km mb4.3

KURIL ISLANDS

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1999-03-21

D 39.7 AZ 6

GRA1 15:31:41.1 i P c Z

GRA1 15:31:47.4 e pP Z  
 GRA1 15:49:12.7 e L Z T18.6 A805 MS4.6  
 SZGRF: OT 15:24:13.3 86N 88E dep 24km  
 NORTH OF SEVERNAYA ZEMLYA

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 1999-03-21 D 55.3  
 GRA1 16:25:36.8 e P Z T1.1 A97 mb5.7  
 GRA1 16:33:28.0 e S N  
 GRA1 16:52:23.2 e L Z T18.0 A18881 MS6.2  
 SZGRF: OT 16:16:08.3 56N 111E dep 33km  
 LAKE BAIKAL REGION

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 1999-03-21 D 56.9  
 GRA1 16:26:38.3 e P Z T1.4 A234 mb6.0  
 SZGRF: OT 16:16:57.9 55N 113E dep 33km  
 LAKE BAIKAL REGION

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 1999-03-21  
 GRA1 16:52:13.2 e P Z  
 NEIC: OT 16:42:38.1 56N 110E dep 10km mb3.9  
 LAKE BAYKAL REGION, RUSSIA

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 1999-03-21 D 55.0  
 GRA1 21:23:53.5 e P Z T1.1 A12 mb4.9  
 SZGRF: OT 21:14:27.0 58N 112E dep 33km  
 LAKE BAIKAL REGION

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 1999-03-21 D 56.4  
 GRA1 22:52:07.7 e P Z T2.5 A92 mb5.4  
 SZGRF: OT 22:42:31.3 55N 112E dep 33km  
 LAKE BAIKAL REGION

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 1999-03-22 D 3.6 398km  
 GRC1 00:04:10.1 e Pn Z  
 GRA1 00:04:33.5 e Pg Z M13.4  
 GRA1 00:05:30.4 e Sg E  
 SZGRF: OT 00:03:15.1 46N 15E dep 10km  
 YUGOSLAVIA

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 1999-03-22 D 55.5  
 GRA1 12:38:41.5 e P Z T0.6 A17 mb5.2  
 SZGRF: OT 12:29:11.1 56N 111E dep 33km  
 LAKE BAIKAL REGION

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 1999-03-22  
 GRA1 21:53:35.7 e PKP Z  
 GRA1 21:53:45.1 e Z  
 NEIC: OT 21:34:56.5 21S 179W dep669km mb4.6  
 FIJI ISLANDS REGION

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1999-03-23 D 89.6  
GRA1 04:36:13.5 e P Z T1.3 A38 mb5.5  
SZGRF: OT 04:23:20.0 30N 143E dep 33km  
SOUTH OF HONSHU, JAPAN

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1999-03-23  
GRA1 08:59:15.4 e PKP Z

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1999-03-23  
GRA1 11:04:59.7 e PKP Z

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1999-03-23 D151.5  
GRA1 11:42:25.3 e PKPdf Z  
GRA1 11:42:32.0 e PKPbc Z  
GRA1 11:42:39.2 e PKPab Z  
GRA1 11:44:49.1 e pPKPbc Z

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1999-03-23  
GRA1 15:41:31.3 e (P) Z

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1999-03-23 D 81.1  
GRA1 17:42:52.5 e P Z T1.6 A16 mb4.8  
SZGRF: OT 17:30:40.5 16N 84W dep 33km  
CARIBBEAN SEA

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1999-03-23 D 83.9 AZ 49  
GRA1 20:27:54.5 i P Z T1.2 A50 mb5.6  
GRA1 20:38:21.6 e S N  
GRA1 21:09:39.4 e L Z T19.1 A4909 MS5.9  
SZGRF: OT 20:15:28.7 30N 131E dep 33km  
KYUSHU, JAPAN

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1999-03-23 D 46.5  
GRA1 22:24:18.2 e P Z T0.8 A7 mb4.7  
NEIC: OT 22:14:41.3 56N 111E dep 10km mb4.6  
LAKE BAYKAL REGION, RUSSIA

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1999-03-23  
GRA1 22:42:43.3 e PKP Z

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1999-03-24 D 6.3  
GRA1 05:23:16.4 e Sn N M13.7  
NEIC: OT 05:20:30.8 43N 12E dep 10km

## CENTRAL ITALY

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1999-03-24

GRA1 15:13:58.0 e PKP Z  
 NEIC: OT 14:55:19.9 18S 179W dep600km mb4.7  
 FIJI ISLANDS REGION

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1999-03-24

GRA1 18:50:23.0 e PKP Z

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1999-03-24

GRB5 20:50:13.6 e PKP Z  
 GRA1 20:50:14.7 e PKP Z

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1999-03-25

GRA1 02:24:36.6 e PKP Z

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1999-03-25

GRA1 08:30:22.8 e PKP Z  
 GRA1 08:30:26.7 e Z  
 NEIC: OT 08:11:08.0 16S 168E dep111km mb5.0  
 VANUATU ISLANDS

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1999-03-25 D 51.6 AZ 74

GRA1 08:41:53.0 i P c Z T1.0 A54 mb5.4  
 GRA1 09:03:19.1 e L Z T21.5 A985 MS4.8  
 NEIC: OT 08:33:24.4 39N 77E dep 33km mb5.2  
 SOUTHERN XINJIANG, CHINA

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1999-03-25 D 38.7

GRA1 20:41:53.5 e P Z T2.3 A78 mb4.9

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1999-03-25

GRA1 22:52:12.1 e (P) Z

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1999-03-25 D 84.7 AZ 36

GRA1 23:43:30.7 i P c Z T0.9 A50 mb5.7  
 GRA1 23:43:39.3 e pP Z  
 GRA1 23:43:44.4 e sP Z  
 SZGRF: OT 23:31:01.1 37N 145E dep 32km  
 OFF EAST COAST OF HONSHU, JAPAN

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1999-03-26

GRA1 08:23:46.3 e PKP Z

GRA1 08:23:50.6 e Z  
NEIC: OT 08:04:46.9 18S 178W dep400km mb4.9  
FIJI ISLANDS REGION

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1999-03-26 D 52.3  
GRA1 15:38:41.7 i P d Z  
GRA1 15:38:46.3 e pP Z  
SZGRF: OT 15:29:33.5 21N 45W dep 17km  
NORTH ATLANTIC RIDGE

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1999-03-26  
GRA1 20:39:07.1 e PKP Z  
GRA1 20:39:18.9 e Z

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1999-03-26 D 44.4  
GRA1 23:32:15.6 e P Z T1.3 A22 mb4.7  
SZGRF: OT 23:24:08.8 37N 71E dep 33km  
AFGHANISTAN-USSR BORDER REGION

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1999-03-27  
GRA1 08:22:02.2 e P Z T1.5 A53

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1999-03-27  
GRA1 16:49:35.6 e P Z  
NEIC: OT 16:37:04.7 34N 139E dep 33km mb4.8  
NEAR S. COAST OF HONSHU, JAPAN

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1999-03-27  
GRA1 17:33:17.2 e (P) Z

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1999-03-28  
GRA1 00:22:48.5 e (P) Z

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1999-03-28 D 3.7 409km  
GRA1 02:24:22.2 e Pn Z M14.0  
GRA1 02:25:21.2 e Sg E  
SZGRF: OT 02:23:24.0 52N 16E dep 1km  
POLAND

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1999-03-28  
GRA1 05:47:09.1 e P Z

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1999-03-28  
GRA1 06:13:29.5 e P Z



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1999-03-28 D 36.0  
GRA1 08:34:59.3 e P Z  
GRA1 08:35:17.9 e Z

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1999-03-28  
GRA1 08:46:29.8 e P Z

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1999-03-28  
GRA1 09:20:40.9 e P Z

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1999-03-28 D 3.7 412km  
GRA1 14:32:33.2 e Pn Z M14.0  
GRA1 14:33:32.4 e Sg E  
SZGRF: OT 14:31:34.5 52N 16E dep 1km  
POLAND

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1999-03-28 D 15.0  
GRA1 16:24:18.1 i P Z T2.0 A288

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1999-03-28 D 54.9  
GRA1 19:14:34.9 e P Z T1.7 A2416 mb7.0  
GRA1 19:22:10.0 e S N  
GRA1 19:41:10.8 e L Z T18.3 A36790 MS6.5  
SZGRF: OT 19:05:08.4 29N 80E dep 33km  
NEPAL-INDIA BORDER REGION

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1999-03-28 D 67.7  
GRA1 19:45:31.1 e P Z T1.6 A133 mb5.9  
SZGRF: OT 19:34:36.9 15N 84E dep 33km  
BAY OF BENGAL

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1999-03-28 D 56.2 AZ 85  
GRA1 19:56:29.7 e P Z  
GRA1 19:56:34.1 e pP Z  
SZGRF: OT 19:46:53.4 28N 81E dep 16km  
NORTHERN INDIA

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1999-03-28 D 42.5  
GRA1 21:41:16.7 e P Z T1.1 A48 mb5.1  
NEIC: OT 21:33:43.8 86N 86E dep 10km mb4.9  
NORTH OF SEVERNAYA Z EMLYA

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1999-03-29 D 87.1 AZ288

GRA1 01:39:44.6 e P Z T1.5 A42 mb5.3  
 SZGRF: OT 01:27:02.3 14N 91W dep 33km  
 NEAR COAST OF GUATEMALA

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 1999-03-29 D 35.9 AZ107  
 GRA1 04:07:41.9 e P Z T0.7 A12 mb4.8  
 GRA1 04:07:45.6 e Z  
 SZGRF: OT 04:00:44.8 30N 52E dep 33km  
 IRAN

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 1999-03-29  
 BEAM 06:30:31.4 e P Z  
 GRA1 06:30:31.8 e P Z  
 GRA1 06:30:41.3 e pP Z  
 GRA1 06:30:48.4 e sP Z  
 GRA1 06:40:48.4 e S E  
 GRA1 07:12:39.0 e L Z T19.5 A1082 MS5.2  
 SZGRF: OT 06:18:16.4 4S 84E dep 37km  
 SOUTH INDIAN OCEAN

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 1999-03-29 D 39.5 AZ 6  
 GRA1 13:26:28.0 e P Z  
 GRA1 13:26:36.2 e pP Z  
 GRA1 13:26:41.1 e sP Z  
 SZGRF: OT 13:19:01.4 86N 85E dep 32km  
 NORTH OF SEVERNAYA ZEMLYA

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 1999-03-29  
 GRA1 16:54:53.0 e PKP Z

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 1999-03-30  
 GRA1 02:03:28.2 e P Z

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 1999-03-30 D 75.2  
 GRA1 10:10:59.9 e P Z T1.5 A65 mb5.4  
 GRA1 10:20:49.7 e S E  
 GRA1 10:42:17.9 e L Z T21.0 A2869 MS5.6  
 SZGRF: OT 09:59:20.6 12N 69W dep 33km  
 NEAR COAST OF VENEZUELA

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 1999-03-30  
 GRA1 10:39:57.3 e PKP Z  
 GRA1 10:40:19.4 e Z  
 NEIC: OT 10:20:20.2 17S 173W dep 79km mb4.9  
 TONGA ISLANDS

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 1999-03-30 D 75.3 AZ 19

GRA1 15:52:40.6 e P Z T1.0 A16 mb5.0  
SZGRF: OT 15:41:02.5 52N 161E dep 33km  
OFF EAST COAST OF KAMCHATKA

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1999-03-30 D 54.0  
GRA1 21:11:35.7 i P c Z T1.4 A76 mb5.5  
SZGRF: OT 21:02:15.0 30N 80E dep 33km  
TIBET-INDIA BORDER REGION

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1999-03-31 D 11.3  
GRB5 00:03:04.5 e Pn Z  
GRA1 00:03:12.2 e Pn Z

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1999-03-31  
BEAM 06:07:34.6 e P Z  
GRA1 06:07:34.7 e P Z  
GRA1 06:11:01.0 e PP Z  
GRA1 06:17:03.6 e E  
GRA1 06:18:04.9 e S E  
GRA1 06:24:00.2 e SS E  
GRA1 06:27:43.6 e SSS E  
GRA1 06:41:26.8 e L E T22.0 A9550 MS6.1  
SZGRF: OT 05:54:57.7 7N 81W dep 33km  
SOUTH OF PANAMA

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1999-03-31  
GRA1 07:25:10.2 e PKPbc Z  
NEIC: OT 07:06:25.8 17S 179W dep530km mb4.3  
FIJI ISLANDS REGION

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1999-03-31  
GRA1 08:49:36.3 e Pn Z  
NEIC: OT 08:46:24.1 39N 21E dep 33km mb4.3  
GREECE-ALBANIA BORDER REGION

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1999-03-31 D 66.1 AZ209  
GRA1 09:11:55.8 e P Z T0.9 A18 mb5.3  
SZGRF: OT 09:01:10.0 12S 16W dep 33km  
SOUTH ATLANTIC RIDGE

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1999-03-31 D 15.0  
GRA1 09:46:11.2 e P Z T1.7 A81  
NEIC: OT 09:42:17.1 33N 15E dep 33km mb4.5  
CENTRAL MEDITERRANEAN SEA

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1999-03-31 D 39.5 AZ 7  
GRA1 12:53:10.4 e P Z T1.8 A60 mb4.9  
GRA1 12:53:17.6 e pP Z

SZGRF: OT 12:45:44.2 85N 86E dep 27km

NORTH OF SEVERNAYA ZEMLYA

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1999-03-31 D 2.7 303km

GRA1 13:00:46.5 e Pn Z

M13.9

GRA1 13:00:52.5 e Pg Z

GRA1 13:01:30.6 e Sg N

SZGRF: OT 13:00:02.5 48N 14E dep 10km

Kirchdorf a. d. Krems/A, SW of Steyr

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1999-03-31 D 39.4 AZ 7

GRA1 16:54:40.4 e P Z T1.6 A36

mb4.7

SZGRF: OT 16:47:14.8 86N 85E dep 33km

NORTH OF SEVERNAYA ZEMLYA  
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