

## MONTHLY TELESEISMIC BULLETIN of SZGRF-ERLANGEN - February 1999

H. Aichele, K. Klinge, R. Hohl

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date           distance backazimut
station time   phase   comp per[s] ampl[nm] magn
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SZGRF or NEIC-QED LOCATION
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1999-02-01      D 39.7  AZ  7
  GRA1 05:00:13.7 e P      d Z      mb5.1
  ALIGN 05:00:13.7                T1.4  A65
  GRA1 05:00:21.1 i pP     c Z
  GRA1 05:06:19.9 e S      Z
  GRA1 05:14:12.6 e L      Z  T26.9  A870  MS4.5
SZGRF: OT 04:52:45.3 86N  88E  dep 28km
  NORTH OF SEVERNAYA ZEMLYA
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1999-02-01      D 38.9  AZ  7
  GRA1 05:26:43.7 e P      Z      mb4.1
  BEAM 05:26:43.7                T1.1  A6
  GRA1 05:26:48.6 e pP     Z
  NEIC: OT 05:19:09.0 86N  83E  dep 10km  mb4.7
  NORTH OF SEVERNAYA ZEMLYA
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1999-02-01      D 38.4  AZ  7
  GRA1 07:45:24.0 e P      Z      mb4.2
  BEAM 07:45:24.0                T1.1  A6
  GRA1 07:45:29.6 e pP     Z
  GRA1 07:58:52.1 e L      Z  T30.2  A375  MS4.0
SZGRF: OT 07:38:05.3
  NORTH OF SEVERNAYA ZEMLYA
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1999-02-01      D 38.3  AZ  7
  GRA1 07:58:51.0 e P      Z      mb4.5
  BEAM 07:58:51.0                T1.3  A12
  GRA1 07:58:58.3 e pP     Z
  NEIC: OT 07:51:18.3 86N  86E  dep 10km  mb4.3
  NORTH OF SEVERNAYA Z EMLYA
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1999-02-01      D 39.4  AZ  7
  GRA1 07:59:55.5 e P      Z      mb4.7

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      BEAM 07:59:55.5          T1.7  A32
      GRA1 07:59:59.7 e (pP)  Z
SZGRF: OT 07:52:27.5
      NORTH OF SEVERNAYA ZEMLYA
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1999-02-01      D 39.0  AZ  6
      GRA1 08:09:29.9 e P      Z
      BEAM 08:09:29.9          T1.5  A30
      GRA1 08:09:36.0 e pP    Z
      GRA1 08:09:40.3 e (sP)  Z
      GRA1 08:23:55.1 e L      Z  T24.7  A217      MS3.9
SZGRF: OT 08:02:06.5
      NORTH OF SEVERNAYA ZEMLYA
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1999-02-01      D  8.5
      GRA1 08:40:15.7 e Pn     Z
      GRA1 08:41:40.1 e Sn     Z
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1999-02-01      D 78.6  AZ356
      GRA1 09:11:45.4 e P      Z          mb4.7
      ALIGN 09:11:45.4          T1.0  A7
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1999-02-01      D 38.5  AZ  7
      GRA1 10:04:07.8 i P      d Z          mb4.8
      ALIGN 10:04:07.8          T1.1  A26
      GRA1 10:04:17.3 e pP    Z
      GRA1 10:05:37.5 e PP    Z
      GRA1 10:09:50.9 e S      Z
      GRA1 10:17:49.8 e L      Z  T29.3  A2475      MS4.9
NEIC:  OT 09:56:34.7 86N      84E  dep 10km  mb5.1
      NORTH OF SEVERNAYA ZEMLYA
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1999-02-01      D 40.3  AZ  6
      GRA1 10:19:19.4 e P      Z          mb4.5
      BEAM 10:19:19.4          T1.6  A22
      GRA1 10:19:26.8 e pP    Z
SZGRF: OT 10:11:46.0
      NORTH OF SEVERNAYA ZEMLYA
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1999-02-01      D 38.3  AZ  4
      GRA1 10:47:22.0 e P      Z          mb4.2
      BEAM 10:47:22.0          T1.2  A6
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1999-02-01      D 39.6  AZ 10
      GRA1 12:02:49.2 e P      Z          mb4.5
      ALIGN 12:02:49.2          T1.4  A16

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GRA1 12:02:56.5 e pP Z

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 1999-02-01 D 39.4 AZ 7  
 GRA1 12:03:34.7 i P c Z mb5.1  
 ALIGN 12:03:34.7 T1.3 A63  
 GRA1 12:03:44.3 e (pP) Z  
 GRA1 12:03:50.6 e sP Z  
 GRA1 12:05:06.3 e PP Z  
 GRA1 12:09:33.8 e S Z  
 GRA1 12:17:43.3 e L Z T27.1 A3896 MS5.1  
 SZGRF: OT 11:56:09.8 86N 85E dep 39km  
 NORTH OF SEVERNAYA ZEMLYA

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 1999-02-01 D 38.7 AZ 6  
 GRA1 12:43:09.3 e P Z mb4.3  
 BEAM 12:43:09.3 T1.6 A14  
 SZGRF: OT 12:35:49.9  
 NORTH OF SEVERNAYA ZEMLYA

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 1999-02-01 D 39.7 AZ 7  
 GRA1 13:13:52.3 e P Z mb4.5  
 BEAM 13:13:52.3 T1.1 A14  
 GRA1 13:28:01.8 e L Z T21.5 A252 MS4.0

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 1999-02-01 D 25.6  
 GRA1 14:31:59.1 e P Z mb3.9  
 BEAM 14:31:59.1 T1.0 A4  
 GRA1 14:32:04.5 e pP Z  
 NEIC: OT 14:25:56.6 43N 47E dep 34km mb4.4  
 EASTERN CAUCASUS

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 1999-02-01 D 97.2  
 GRA1 16:49:03.0 e P Z mb5.2  
 BEAM 16:49:03.0 T1.2 A7  
 GRA1 16:49:24.4 e pP Z  
 GRA1 16:52:57.2 e PP Z  
 NEIC: OT 16:35:31.3 6S 105E dep 33km mb5.3  
 SUNDA STRAIT

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 1999-02-01  
 GRA1 20:49:12.8 e PKPdf Z  
 GRA1 20:49:37.2 e pPKPdf Z

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 1999-02-01 D 95.5 AZ 89  
 GRA1 22:32:21.0 e P Z mb5.1  
 ALIGN 22:32:21.0 T1.3 A11

GRA1 22:32:35.7 e pP Z  
GRA1 23:15:20.9 e L Z T19.2 A202 MS4.6  
NEIC: OT 22:18:53.5 6S 104E dep 33km mb5.2  
SOUTHERN SUMATERA, INDONESIA

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1999-02-01 D151.6  
GRA1 22:40:43.1 e PKPdf Z  
GRA1 22:40:46.5 e PKPbc Z  
GRA1 22:40:56.6 e pPKPbc Z  
GRA1 22:41:02.9 e PKPab Z  
GRA1 23:47:54.8 e L Z T19.5 A203 MS4.9  
NEIC: OT 22:21:01.3 18S 172W dep 33km mb4.7  
TONGA ISLANDS REGION

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1999-02-02  
GRA1 01:39:23.6 e (PKPdf) Z  
NEIC: OT 02:35:36.6 9S 149E dep101km mb5.7  
EASTERN NEW GUINEA REG., P.N.G.

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1999-02-02 D 14.9  
GRA1 13:48:48.7 e Pn Z  
GRA1 13:48:55.0 e P1 Z  
GRA1 13:48:58.4 e (pP1) Z  
GRA1 13:51:51.2 e Sn Z  
GRA1 13:53:18.7 e S1 Z  
GRA1 13:53:54.4 e L Z T19.2 A680 MS3.9

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1999-02-02 D 13.6  
GRA1 14:31:06.5 e P Z

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1999-02-02  
GRA1 22:23:28.5 i PKPdf d Z

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1999-02-03 D150.3  
GRA1 01:33:44.2 i PKPdf c Z  
GRA1 01:33:50.3 i PKPbc c Z  
GRA1 01:33:58.0 e PKPab Z  
GRA1 01:34:03.2 e pPKPbc Z  
GRA1 01:34:13.7 e (pPKPab) Z  
GRA1 01:37:25.8 e PP Z  
GRA1 02:46:48.5 e L Z T20.5 A5350 MS6.3  
NEIC: OT 01:13:57.4 20S 174W dep 33km mb5.8  
TONGA ISLANDS

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1999-02-03 D 96.5  
GRA1 06:49:24.8 i P c Z mb5.7

ALIGN 06:49:24.8 T1.4 A31  
 GRA1 06:49:38.6 e pP Z  
 GRA1 06:53:18.5 e PP Z  
 GRA1 06:53:31.5 e pPP Z  
 GRA1 07:42:11.1 e L Z T20.1 A1650 MS5.5

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 1999-02-03 D149.5  
 GRA1 15:20:29.2 e PKPdf Z  
 GRA1 15:20:30.2 i PKPbc d Z  
 GRA1 15:20:38.0 e PKPab Z  
 NEIC: OT 15:01:38.7 20S 178W dep500km mb4.1  
 FIJI ISLANDS REGION

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 1999-02-03 D 15.0 AZ129  
 GRA1 16:13:32.7 e P Z  
 GRA1 16:13:42.1 e (pP) Z

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 1999-02-03 D 62.1 AZ 32  
 GRA1 19:49:24.7 e P Z

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 1999-02-03 D 3.6 403km  
 GRA1 20:29:14.7 e Pn Z M13.7  
 GRA1 20:30:13.3 e Sg N  
 SZGRF: OT 20:28:17.2 51N 16E dep 1km  
 POLAND

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 1999-02-04 D126.3  
 GRA1 02:54:29.0 e PKPdf Z  
 GRA1 02:54:54.9 e pPKPdf Z  
 GRA1 02:56:26.0 e PP Z  
 GRA1 03:50:05.9 e L Z T21.9 A472 MS5.1  
 SZGRF: OT 02:35:36.0 9S 149E dep 99km  
 EAST PAPUA NEW GUINEA REGION

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 1999-02-04  
 GRA1 07:40:02.2 e PKPab Z  
 GRA1 08:41:13.1 e L Z T19.9 A293

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 1999-02-04 D 75.9 AZ356  
 GRA1 09:24:43.8 i P c Z mb5.8  
 ALIGN 09:24:43.8 T1.1 A75  
 GRA1 09:25:03.4 e pP Z  
 SZGRF: OT 09:13:07.1 55N 162W dep 73km  
 ALASKA PENINSULA

1999-02-04 D102.7  
GRA1 12:52:35.9 e PP Z  
NEIC: OT 12:34:33.5 9S 110E dep 92km mb5.2  
JAWA, INDONESIA

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1999-02-04  
GRA1 14:25:39.1 e PKPdf Z

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1999-02-04 D104.1  
GRA1 15:42:59.4 e Pdiff Z  
GRA1 16:34:26.1 e L Z T18.9 A2019 MS5.7  
NEIC: OT 15:28:57.2 11N 139E dep 33km mb5.3  
WESTERN CAROLINE ISLANDS

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1999-02-04 D 43.8 AZ355  
GRA1 18:59:14.2 e P Z mb4.1  
BEAM 18:59:14.2 T1.1 A4  
SZGRF: OT 18:51:13.1  
ARCTIC OCEAN

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1999-02-04 D 82.6 AZ 90  
GRA1 19:40:23.2 i P d Z mb6.3  
ALIGN 19:40:23.2 T1.4 A301  
GRA1 20:17:27.4 e L Z T21.5 A1109 MS5.2  
SZGRF: OT 19:28:03.2 5N 96E dep 33km  
NORTHERN SUMATERA

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1999-02-04 D 61.7 AZ230  
GRA1 19:53:23.9 e P Z mb5.2  
BEAM 19:53:23.9 T2.0 A32  
NEIC: OT 19:43:14.2 1N 30W dep 10km mb5.0  
CENTRAL MID-ATLANTIC RIDGE

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1999-02-04  
GRA1 21:54:10.5 e PKPab Z

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1999-02-05 D 58.2 AZ210  
GRA1 04:33:12.9 e P Z mb4.9  
BEAM 04:33:12.9 T1.4 A18  
GRA1 04:33:20.2 e pP Z  
GRA1 04:33:26.4 e sP Z  
SZGRF: OT 04:23:20.3 4S 14W dep 30km  
NORTH OF ASCENSION ISLAND

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1999-02-05 D 4.8 538km  
GRA1 05:09:26.1 e Pn Z  
GRA1 05:10:19.4 e Sg E

NEIC: OT 05:08:14.5 45N 9E dep 10km mb3.6  
NORTHERN ITALY

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1999-02-05 D138.1  
GRA1 11:58:38.2 e PKPdf Z  
GRA1 11:58:46.3 e pPKPdf Z  
NEIC: OT 11:39:45.4 13S 167E dep213km mb5.7  
SANTA CRUZ ISLANDS

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1999-02-05 D 76.3  
GRA1 14:48:58.0 i P d Z mb5.9  
ALIGN 14:48:58.0 T0.7 A68  
GRA1 14:50:27.5 e pP Z  
GRA1 14:50:45.7 e sP Z  
NEIC: OT 14:37:53.0 48N 147E dep408km mb5.5  
NORTHWEST OF KURIL ISLANDS

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1999-02-05 D 4.0 449km  
GRA1 15:39:02.2 e Pg Z  
GRA1 15:39:56.6 e Sg N  
NEIC: OT 15:37:39.6 46N 15E dep 10km  
NORTHWESTERN BALKAN REGION

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1999-02-05 D 3.6 401km  
GRA1 16:31:18.3 e Pn Z M14.1  
GRA1 16:32:16.0 e Sg E  
SZGRF: OT 16:30:21.4 51N 16E dep 1km  
POLAND

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1999-02-05 D147.8  
GRA1 17:24:54.5 i PKPdf d Z

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1999-02-05 D 39.2 AZ 7  
GRA1 22:41:31.3 e P Z mb4.4  
ALIGN 22:41:31.3 T1.2 A12  
GRA1 22:55:56.6 e L Z T21.1 A303 MS4.1

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1999-02-06 D 73.8  
GRA1 13:47:45.0 i P d Z mb5.3  
ALIGN 13:47:45.0 T1.3 A44  
GRA1 14:22:33.5 e L Z T21.3 A180 MS4.3

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1999-02-06 D 88.1  
GRA1 17:58:12.1 i P c Z mb5.5  
ALIGN 17:58:12.1 T2.3 A58  
GRA1 17:58:19.1 e pP Z

GRA1 17:58:23.9 e sP Z  
 GRA1 18:41:03.0 e L Z T18.0 A4499 MS5.9  
 NEIC: OT 17:45:24.3 19N 121E dep 33km mb5.4  
 PHILIPPINE ISLANDS REGION

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 1999-02-06 D138.3  
 GRA1 22:07:08.7 e PKPdf Z  
 GRA1 22:07:17.7 e PKIiKP Z  
 GRA1 22:07:41.6 e pPKPdf Z  
 GRA1 22:08:18.3 e Z  
 GRA1 22:10:06.7 e PP Z  
 GRA1 22:10:29.1 e pPP Z  
 GRA1 22:10:54.7 e Z  
 GRA1 23:13:59.2 e L Z T21.9 A33582 MS7.0  
 NEIC: OT 21:47:59.6 13S 167E dep 90km mb6.3  
 SANTA CRUZ ISLANDS

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 1999-02-06 D 60.0 AZ160  
 GRA1 23:36:50.3 e P Z  
 ALIGN 23:36:50.3 T1.3 A10  
 NEIC: OT 23:26:57.6 6S 29E dep 10km mb4.8  
 LAKE TANGANYIKA REGION

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 1999-02-07 D 23.6 AZ126  
 GRA1 12:06:04.9 e P Z mb3.8  
 BEAM 12:06:04.9 T0.9 A3  
 NEIC: OT 12:00:22.4 36N 44E dep 33km mb4.0  
 IRAQ

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 1999-02-07  
 GRA1 12:14:31.7 e PKPdf Z  
 GRA1 12:14:33.7 e Z  
 NEIC: OT 11:54:11.8 17S 177W dep500km mb4.5  
 FIJI ISLANDS REGION

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 1999-02-07 D146.9  
 GRA1 16:24:58.7 e (PKPdf) Z  
 GRA1 16:25:01.0 e PKPbc Z  
 GRA1 16:25:02.8 e PKPab Z  
 GRA1 17:27:00.5 e L Z T20.4 A206 MS4.9

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 1999-02-07 D 45.2 AZ 84  
 GRA1 20:27:14.1 i P c Z mb4.7  
 ALIGN 20:27:14.1 T1.0 A10  
 NEIC: OT 20:19:25.7 36N 70E dep200km mb4.2  
 HINDU KUSH REGION, AFGHANISTAN

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 1999-02-07 D 13.7



GRA1 22:31:54.2 e P Z  
 GRA1 22:39:06.2 e L Z T16.6 A1787 MS4.2

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 1999-02-08 D 88.0 AZ290  
 GRA1 08:47:25.4 e P Z mb4.9  
 BEAM 08:47:25.4 T1.0 A6  
 NEIC: OT 08:34:52.6 15N 88W dep 33km mb4.7  
 HONDURAS

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 1999-02-08 D 78.3 AZ 39  
 GRA1 09:03:55.0 i P c Z mb4.8  
 BEAM 09:03:55.0 T1.0 A7  
 GRA1 09:04:05.0 e pP Z  
 GRA1 09:04:28.4 e Z  
 SZGRF: OT 08:51:59.8 41N 137E dep 35km  
 EASTERN SEA OF JAPAN

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 1999-02-08 D 68.8 AZ 82  
 GRA1 09:14:04.9 e P Z mb4.4  
 BEAM 09:14:04.9 T1.0 A2

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 1999-02-08 D124.9  
 GRA1 16:41:47.3 i PKPdf c Z  
 GRA1 16:42:09.7 e Z  
 GRA1 16:42:26.8 e pPKPdf Z  
 GRA1 16:42:36.4 e sPKPdf Z  
 GRA1 16:44:55.0 e SKPdf Z  
 GRA1 16:45:15.7 e SKiKP Z  
 GRA1 16:51:30.4 e PKKpbc Z  
 GRA1 17:37:06.2 e L Z T19.7 A573 MS5.2  
 SZGRF: OT 16:22:54.0 8S 148E dep140km  
 EAST PAPUA NEW GUINEA REGION

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 1999-02-08 D144.9  
 GRA1 21:05:04.1 i PKPdf c Z  
 GRA1 21:06:09.0 e pPKPdf Z

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 1999-02-09 D 81.6 AZ 30  
 GRA1 00:31:37.1 i P c Z mb5.5  
 ALIGN 00:31:37.1 T0.9 A40  
 GRA1 00:31:59.8 e pP Z  
 GRA1 00:32:07.7 e sP Z  
 GRA1 01:08:21.0 e L Z T20.7 A91 MS4.1  
 SZGRF: OT 00:19:23.8 42N 150E dep 84km  
 OFF COAST OF HOKKAIDO, JAPAN

1999-02-09 D 60.7 AZ234  
GRA1 02:54:14.6 e P Z mb5.1  
BEAM 02:54:14.6 T1.6 A30  
GRA1 03:02:30.7 e S Z  
GRA1 03:15:06.7 e L Z T21.7 A322 MS4.4  
NEIC: OT 02:44:21.9 4N 32W dep 10km mb4.6  
CENTRAL MID-ATLANTIC RIDGE

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1999-02-09  
GRA1 06:26:33.4 e (PKPab) Z

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1999-02-09 D 92.9 AZ 61  
GRA1 08:40:56.1 e P Z mb4.9  
BEAM 08:40:56.1 T0.9 A5  
GRA1 08:40:59.8 e pP Z  
NEIC: OT 08:28:27.4 22N 119E dep 33km mb4.4  
TAIWAN REGION

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1999-02-09 D145.8  
GRA1 10:58:25.2 e PKPbc Z  
GRA1 10:58:32.2 e (PKPab) Z  
GRA1 10:58:39.3 e pPKPbc Z  
GRA1 12:02:27.7 e L Z T20.5 A232 MS4.9

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1999-02-09 D150.7  
GRA1 14:00:23.6 e PKPdf Z  
GRA1 14:00:35.2 e (PKPab) Z

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1999-02-09 D 25.6  
GRA1 16:52:05.1 e P Z mb4.8  
BEAM 16:52:05.1 T1.1 A30  
GRA1 17:03:57.8 e L Z T14.2 A487 MS4.2

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1999-02-09 D 44.1 AZ 84  
GRA1 17:41:10.9 i P c Z mb5.3  
ALIGN 17:41:10.9 T1.2 A72  
GRA1 17:41:55.0 e pP Z  
GRA1 17:42:15.1 e (sP) Z  
GRA1 17:42:49.7 e PcP Z  
GRA1 17:42:57.7 e PP Z  
GRA1 17:46:22.4 e ScP Z  
GRA1 17:59:05.9 e L Z T18.5 A170 MS4.0  
SZGRF: OT 17:33:23.5 37N 71E dep200km  
HINDU KUSH REGION

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1999-02-09 D 74.0 AZ 16  
GRA1 19:31:06.4 e P Z mb4.6  
BEAM 19:31:06.4 T1.5 A9  
GRA1 19:31:16.2 e pP Z  
GRA1 19:31:19.7 e sP Z  
GRA1 20:03:04.7 e L Z T18.4 A159 MS4.3  
SZGRF: OT 19:19:35.7 54N 165E dep 34km  
KOMANDORSKY ISLANDS REGION

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1999-02-10  
GRA1 04:51:24.8 e (PKPdf) Z  
GRA1 04:52:35.2 e (pPKPdf) Z  
GRA1 05:45:31.3 e L Z T20.6 A119

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1999-02-10 D 17.0 AZ169  
GRA1 05:55:48.6 i P c Z mb4.5  
ALIGN 05:55:48.6 T1.0 A43  
GRA1 05:55:56.6 i pP d Z  
GRA1 06:03:36.8 e L Z T17.3 A583 MS3.9

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1999-02-10 D 55.6  
GRA1 08:15:07.1 e P Z mb4.8  
BEAM 08:15:07.1 T1.6 A16  
GRA1 08:41:29.6 e L Z T16.6 A322 MS4.5  
NEIC: OT 08:05:30.1 52N 105E dep 10km mb4.7  
LAKE BAIKAL REGION, RUSSIA

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1999-02-10 D152.6  
GRA1 09:41:20.9 e PKPdf Z  
GRA1 09:41:27.2 i PKPbc d Z  
GRA1 09:41:37.1 e PKPab Z  
GRA1 09:43:36.6 e pPKPbc Z  
NEIC: OT 09:22:36.0 21S 179W dep549km mb5.1  
FIJI ISLANDS REGION

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1999-02-10 D 22.2  
GRA1 11:08:37.8 e P c Z  
ALIGN 11:08:37.8 T1.0 A64  
GRA1 11:16:43.5 e L Z T19.5 A83 MS3.2

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1999-02-10 D 55.6  
GRA1 11:27:41.2 e (P) Z mb5.0  
BEAM 11:27:41.2 T2.6 A39  
GRA1 11:54:11.7 e L Z T16.4 A455 MS4.6  
NEIC: OT 11:18:14.6 52N 105E dep 10km mb4.4  
LAKE BAIKAL REGION, RUSSIA

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1999-02-10      D 41.2  AZ  2
  GRA1 20:46:06.5 e P      Z                mb3.8
  BEAM 20:46:06.5                    T0.8  A1
  GRA1 20:46:13.6 e pP     Z
  GRA1 20:59:39.3 e L      Z  T19.6  A83      MS3.6
SZGRF: OT 20:38:25.5
  LOMONOSOV RIDGE
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1999-02-11      D150.4
  GRA1 13:16:44.9 e (PKPdf) Z
  GRA1 13:16:47.2 i PKPbc d Z
  GRA1 13:16:56.4 e PKPab  Z
NEIC:  OT 12:57:00.9 23S  170E  dep 33km  mb4.7
  LOYALTY ISLANDS REGION
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1999-02-11      D 44.7  AZ 87
  GRA1 14:17:05.3 e P      Z                mb5.7
  ALIGN 14:17:05.3                    T2.3  A236
  GRA1 14:18:53.6 e PP     Z
  GRA1 14:22:51.0 e S      Z
  GRA1 14:27:02.5 e SS     Z
  GRA1 14:40:02.0 e L      Z  T19.3  A6420  MS5.6
SZGRF: OT 14:08:56.1 35N   70E  dep 33km
  AFGHANISTAN
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1999-02-11      D125.5
  GRA1 15:35:45.9 i PKPdf d Z
  GRA1 15:36:00.4 e pPKPdf Z
  GRA1 16:30:15.8 e L      Z  T22.0  A824      MS5.4
NEIC:  OT 15:16:46.0  7S   150E  dep 33km  mb5.4
  NEW BRITAIN REGION, P.N.G.
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1999-02-11
  GRA1 21:34:25.7 e PKPdf  Z
  GRA1 21:34:43.2 e (pPKPdf)Z
  GRA1 22:33:05.5 e L      Z  T18.4  A252
NEIC:  OT 21:14:53.6  9S   158E  dep 84km  mb4.6
  SOLOMON ISLANDS
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1999-02-12
  GRA1 09:46:23.5 e PKPdf  Z
NEIC:  OT 09:26:32.0 21S   174W  dep 33km  mb4.8
  TONGA ISLANDS
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1999-02-12      D 79.4  AZ  3
  GRA1 12:23:35.1 e P      Z                mb5.0
  ALIGN 12:23:35.1                    T0.7  A10
  GRA1 12:23:51.1 e pP     Z
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GRA1 12:23:57.3 e sP Z

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1999-02-12 D 79.4  
GRA1 12:26:06.0 i P c Z mb5.0  
BEAM 12:26:06.0 T1.1 A17  
GRA1 12:26:20.5 e pP Z  
GRA1 12:26:28.2 e sP Z

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1999-02-12 D149.7  
GRA1 14:07:41.8 e PKPdf Z  
GRA1 14:07:50.4 e PKPab Z  
GRA1 15:24:18.0 e L Z T19.2 A83 MS4.5  
NEIC: OT 13:47:49.6 21S 174W dep 33km mb5.0  
TONGA ISLANDS

---

1999-02-12 D 80.5 AZ 27  
GRA1 17:56:53.4 e P c Z mb6.1  
ALIGN 17:56:53.4 T1.5 A286  
GRA1 17:57:05.6 e pP Z  
GRA1 18:36:58.2 e L Z T18.2 A2686 MS5.6  
SZGRF: OT 17:44:47.4 44N 152E dep 42km  
KURIL ISLANDS REGION

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1999-02-12 D 79.4 AZ 26  
GRA1 18:46:37.2 e P Z mb4.7  
BEAM 18:46:37.2 T1.5 A12  
SZGRF: OT 18:34:35.9  
KURIL ISLANDS REGION

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1999-02-13 D151.2  
GRA1 08:36:49.8 e PKPdf Z  
GRA1 08:37:02.4 e PKPab Z  
NEIC: OT 08:17:56.0 12S 167E dep 93km mb5.0  
SANTA CRUZ ISLANDS

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1999-02-13 D137.9  
GRA1 08:37:12.3 e PKPdf Z

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1999-02-13 D 15.0 AZ168  
GRA1 12:35:17.1 e P Z  
ALIGN 12:35:17.1 T1.0 A10  
GRA1 12:41:40.4 e L Z T20.7 A96

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1999-02-13 D118.7  
GRA1 15:04:06.0 e PKPdf Z

GRA1 15:56:30.6 e L Z T21.1 A14847 MS6.6

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1999-02-13 D 84.7 AZ 59  
GRA1 22:00:32.4 e P Z mb4.7  
BEAM 22:00:32.4 T0.9 A5  
SZGRF: OT 21:48:02.7 24N 122E dep 33km  
TAIWAN REGION

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1999-02-14 D 15.0 AZ187  
GRA1 04:44:12.1 e P Z

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1999-02-14 D 3.8 420km  
GRC1 05:58:49.4 e Pn Z M14.7  
GRA1 05:58:52.9 e Pn Z M14.8  
GRA1 06:00:00.2 e Sg N  
SZGRF: OT 05:57:52.2 47N 7E dep 10km  
SWITZERLAND

-----  
1999-02-14 D147.5  
GRA1 09:16:28.6 i PKPbc d Z  
GRA1 09:16:31.8 e (PKPab) Z  
GRA1 09:17:04.1 i pPKPbcc Z

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1999-02-14 D 86.2 AZ 37  
GRA1 10:04:03.4 e P Z mb4.6  
BEAM 10:04:03.4 T1.4 A7  
SZGRF: OT 09:51:26.3  
OFF EAST COAST OF HONSHU, JAPAN

-----  
1999-02-14 D 80.1 AZ357  
GRA1 10:21:10.4 e P Z mb4.5  
BEAM 10:21:10.4 T1.2 A7  
GRA1 10:21:17.7 e pP Z  
NEIC: OT 10:09:09.9 52N 169W dep 33km mb4.3  
FOX ISLANDS, ALEUTIAN ISLANDS

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1999-02-14 D 76.4 AZ124  
GRA1 11:04:25.3 e P Z mb4.9  
BEAM 11:04:25.3 T1.1 A11  
GRA1 11:04:32.7 e pP Z  
GRA1 11:04:37.8 e sP Z  
NEIC: OT 10:52:42.8 7S 68E dep 10km mb4.7  
CHAGOS ARCHIPELAGO REGION

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1999-02-14 D 80.4 AZ 27  
GRA1 11:13:57.0 i P c Z mb5.3

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ALIGN 11:13:57.0          T1.4  A51
GRA1 11:14:10.6 e pP      Z
SZGRF: OT 11:01:52.5 44N 152E dep 47km
KURIL ISLANDS REGION
-----
1999-02-14      D 80.3  AZ 27
GRA1 11:34:42.8 i P      c Z          mb6.0
ALIGN 11:34:42.8          T1.4  A263
GRA1 11:35:09.7 e (pP)   Z
SZGRF: OT 11:22:45.4 44N 152E dep105km
KURIL ISLANDS REGION
-----
1999-02-14      D 11.8
GRA1 11:48:42.7 e P      Z
BEAM 11:48:42.7          T0.9  A4
GRA1 11:54:16.3 e L      Z  T18.7  A1032  MS3.8
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1999-02-14
GRA1 17:02:13.9 e PKPdf  Z
GRA1 17:02:19.3 e (pPKPdf)Z
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1999-02-14      D 15.0  AZ212
GRA1 19:56:36.5 e P      Z
BEAM 19:56:36.5          T0.9  A2
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1999-02-14      D140.9
GRA1 21:31:50.0 e PKPdf  Z
GRA1 21:32:21.6 e pPKPdf Z
GRA1 21:34:58.5 e PP     Z
GRA1 21:35:31.6 e pPP    Z
GRA1 22:36:48.8 e L      Z  T21.4  A847  MS5.5
NEIC: OT 21:12:27.9 16S 168E dep 33km mb5.8
VANUATU ISLANDS
-----
1999-02-15      D 82.9
GRA1 05:58:34.7 e P      Z          mb5.4
ALIGN 05:58:34.7          T1.2  A33
GRA1 06:42:36.5 e L      Z  T20.3  A791  MS5.1
NEIC: OT 05:46:12.3 5N 96E dep 33km mb5.3
NORTHERN SUMATERA, INDONESIA
-----
1999-02-15      D147.2
GRA1 10:00:30.1 i PKPdf c Z
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1999-02-15      D149.7
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GRA1 19:06:08.0 i PKPbc d Z  
 GRA1 19:06:13.1 e PKPab Z  
 GRA1 19:08:09.8 e pPKPbc Z

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 1999-02-15 D 40.1 AZ 5  
 GRA1 23:17:07.6 e P Z mb4.4  
 BEAM 23:17:07.6 T1.6 A16  
 GRA1 23:17:17.3 e pP Z  
 NEIC: OT 23:09:39.6 86N 82E dep 33km mb4.6  
 NORTH OF SEVERNAYA ZEMLYA

-----  
 1999-02-16 D 38.1 AZ 7  
 GRA1 11:21:55.7 i P c Z mb4.8  
 ALIGN 11:21:55.7 T1.9 A34  
 GRA1 11:22:01.5 e pP Z  
 NEIC: OT 11:14:23.4 86N 85E dep 10km mb4.4  
 NORTH OF SEVERNAYA ZEMLYA

-----  
 1999-02-16 D 83.5  
 GRA1 15:09:10.6 i P d Z mb5.6  
 ALIGN 15:09:10.6 T1.9 A74

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 1999-02-16 D 38.1 AZ 4  
 GRA1 21:56:38.6 e P d Z mb4.7  
 ALIGN 21:56:38.6 T1.4 A24  
 GRA1 21:56:43.2 e pP Z  
 GRA1 21:56:46.6 e (sP) Z  
 SZGRF: OT 21:49:21.9 87N 54E dep 19km  
 NORTH OF FRANZ JOSEF LAND

-----  
 1999-02-17 D145.4  
 GRA1 13:37:36.0 e PKPdf Z

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 1999-02-17 D100.0  
 GRA1 22:16:42.9 e PP Z  
 GRA1 22:16:58.2 e (pPP) Z  
 GRA1 22:54:54.3 e L Z T21.7 A1024 MS5.3  
 NEIC: OT 21:58:54.4 21S 70W dep 33km mb5.7  
 NEAR COAST OF NORTHERN CHILE

-----  
 1999-02-18 D149.7  
 GRA1 04:49:08.1 e PKPdf Z  
 GRA1 04:49:24.0 e PKPab Z  
 GRA1 04:52:47.6 e PP Z  
 GRA1 05:37:33.4 e L Z T18.3 A124 MS4.7



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1999-02-18 D 87.7 AZ 46  
GRA1 07:32:04.5 i P c Z mb5.7  
ALIGN 07:32:04.5 T1.3 A56  
GRA1 08:13:41.8 e L Z T20.0 A811 MS5.1  
SZGRF: OT 07:19:20.0 29N 136E dep 33km  
EAST OF RYUKYU ISLANDS

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1999-02-19 D 15.1 AZ 87  
GRA1 00:22:09.8 e P Z

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1999-02-19  
GRA1 03:03:17.9 e PKPdf Z  
GRA1 03:03:35.2 e (pPKPdf)Z

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1999-02-19 D 55.6 AZ236  
GRA1 05:32:01.9 e P Z mb4.9  
BEAM 05:32:01.9 T1.8 A22  
GRA1 05:50:31.2 e L Z T22.0 A111 MS3.9  
SZGRF: OT 05:22:28.5  
CENTRAL MID-ATLANTIC RIDGE

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1999-02-19 D123.0  
GRA1 07:44:45.0 e PKPdf Z  
GRA1 08:38:35.0 e L Z T20.8 A215 MS4.8  
NEIC: OT 07:25:51.4 6S 148E dep 33km mb5.3  
EASTERN NEW GUINEA REG., P.N.G.

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1999-02-19 D 26.3  
GRA1 18:05:42.8 e P Z mb4.6  
ALIGN 18:05:42.8 T1.3 A19  
GRA1 18:18:15.9 e L Z T18.0 A314 MS3.9

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1999-02-19 D 39.6  
GRA1 19:15:10.0 e P Z mb4.6  
ALIGN 19:15:10.0 T1.2 A17  
GRA1 19:15:16.8 e pP Z  
GRA1 19:15:21.1 e (sP) Z

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1999-02-19 D 39.7  
GRA1 19:17:34.0 e P Z mb5.0  
ALIGN 19:17:34.0 T1.2 A43  
GRA1 19:17:42.2 e pP Z  
GRA1 19:17:47.1 e sP Z  
GRA1 19:38:21.0 e L Z T18.7 A485 MS4.4

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1999-02-19 D 37.6 AZ 6  
GRA1 23:03:12.9 e P Z mb4.4  
ALIGN 23:03:12.9 T1.0 A8  
GRA1 23:03:19.6 e pP Z  
SZGRF: OT 22:56:01.5  
NORTH OF FRANZ JOSEF LAND

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1999-02-19 D 34.9 AZ237  
GRA1 23:14:43.9 e (P) Z

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1999-02-20  
GRA1 02:04:05.4 e PKPdf Z

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1999-02-20 D 83.9 AZ 40  
GRA1 02:10:40.7 e P Z mb5.0  
BEAM 02:10:40.7 T1.1 A13  
GRA1 02:11:16.8 e Z  
GRA1 02:57:37.5 e L Z T18.3 A1203 MS5.3  
SZGRF: OT 01:58:15.5 35N 140E dep 33km  
NEAR EAST COAST OF HONSHU, JAPAN

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1999-02-20 D 84.7 AZ 61  
GRA1 03:06:05.3 e P Z mb4.7  
BEAM 03:06:05.3 T1.7 A9  
SZGRF: OT 02:53:35.2 22N 120E dep 33km  
TAIWAN

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1999-02-20 D126.8  
GRA1 05:19:17.1 e PKPdf Z  
GRA1 05:19:32.5 e (pPKPdf) Z  
GRA1 06:15:03.7 e L Z T21.9 A423 MS5.1

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1999-02-20  
GRA1 07:29:24.1 e PKPdf Z  
GRA1 07:29:31.7 e (pPKPdf) Z

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1999-02-20  
GRA1 08:14:15.2 e PKPdf Z

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1999-02-20 D 73.7 AZ 14  
GRA1 08:29:19.1 e P Z mb4.8  
ALIGN 08:29:19.1 T1.1 A12

SZGRF: OT 08:17:50.3 55N 167E dep 33km  
KOMANDORSKY ISLANDS REGION

-----  
1999-02-20 D 84.9  
GRA1 11:02:47.6 e P Z T1.8 A112 mb5.8  
GRA1 11:48:03.6 e L Z T21.3 A668 MS5.0

-----  
1999-02-20 D 40.4 AZ 5  
GRA1 18:44:23.7 e P Z mb4.4  
BEAM 18:44:23.7 T1.7 A19  
GRA1 18:44:35.2 e pP Z  
SZGRF: OT 18:36:51.7  
NORTH OF SEVERNAYA ZEMLYA

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1999-02-21 D 14.1  
GRA1 00:16:50.1 e P Z  
GRA1 00:16:56.5 e Z

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1999-02-21 D 60.1 AZ 41  
GRA1 04:01:39.8 e P Z mb5.1  
ALIGN 04:01:39.8 T1.9 A40  
GRA1 04:01:44.8 e pP Z  
GRA1 04:27:24.4 e L Z T18.7 A859 MS4.9  
SZGRF: OT 03:51:34.9 54N 118E dep 18km  
EAST OF LAKE BAIKAL

-----  
1999-02-21 D 59.0 AZ 40  
GRA1 04:02:50.4 e P Z mb4.6  
ALIGN 04:02:50.4 T1.0 A7  
NEIC: OT 03:52:02.6 56N 111E dep 10km mb4.6  
LAKE BAIKAL REGION, RUSSIA

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1999-02-21 D 23.6 AZ129  
GRA1 17:52:18.9 e P Z mb4.4  
ALIGN 17:52:18.9 T1.1 A14  
GRA1 17:52:22.6 e pP Z  
GRA1 18:04:37.4 e L Z T18.2 A666 MS4.1  
NEIC: OT 17:47:57.2 37N 31E dep 82km mb4.1  
TURKEY

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1999-02-21 D 25.4  
GRA1 18:20:00.3 e Pn Z  
GRA1 18:20:01.1 e P Z T0.7 A6 mb4.5  
GRA1 18:24:46.3 e S Z  
GRA1 18:31:51.2 e L Z T14.4 A5031

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1999-02-21 D 38.5 AZ 6  
GRA1 19:02:12.3 e P Z mb4.5  
ALIGN 19:02:12.3 T1.4 A16  
GRA1 19:16:44.8 e L Z T23.5 A427 MS4.2  
NEIC: OT 18:54:40.3 86N 84E dep 10km mb4.7  
NORTH OF SEVERNAYA ZEMLYA

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1999-02-22 D147.1  
GRA1 01:20:11.7 i PKPdf c Z  
GRA1 01:20:15.1 e PKPbc Z  
GRA1 01:20:18.1 e (PKPab) Z  
GRA1 02:28:54.6 e L Z T21.1 A5416 MS6.3

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1999-02-22 D 18.9  
GRA1 04:58:29.6 e (Pn) Z  
GRA1 04:58:32.6 e P d Z

---

1999-02-22 D 37.3 AZ 5  
GRA1 08:09:38.6 i P d Z mb5.0  
ALIGN 08:09:38.6 T1.1 A32  
GRA1 08:09:42.1 e pP Z  
GRA1 08:09:45.7 e sP Z  
GRA1 08:32:05.4 e L Z T18.0 A693 MS4.5  
NEIC: OT 08:02:11.0 86N 73E dep 10km mb5.4  
NORTH OF SEVERNAYA ZEMLYA

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1999-02-22 D146.0  
GRA1 09:37:04.7 e PKPdf Z

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1999-02-22 D147.1  
GRA1 10:29:51.7 e PKPdf Z

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1999-02-22  
GRA1 11:32:44.2 e PKPdf Z

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1999-02-22 D 67.2 AZ 81  
GRA1 11:48:43.6 i P d Z mb5.5  
ALIGN 11:48:43.6 T1.3 A46  
GRA1 11:48:58.1 e (pP) Z  
GRA1 12:20:35.2 e L Z T32.0 A304 MS4.3  
SZGRF: OT 11:37:55.7 23N 92E dep 52km  
INDIA-BANGLADESH BORDER REGION

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1999-02-22 D 25.4

GRA1 13:39:13.9 e P Z mb4.4  
 BEAM 13:39:13.9 T1.1 A10  
 GRA1 13:49:11.7 e L Z T21.7 A156 MS3.5

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 1999-02-22 D 86.3 AZ 58  
 GRA1 14:01:32.2 e P c Z mb5.7  
 BEAM 14:01:32.2 T2.0 A138  
 GRA1 14:44:17.6 e L Z T18.4 A6503 MS6.1  
 SZGRF: OT 13:48:54.4 23N 124E dep 33km  
 SOUTHWESTERN RYUKYU ISLANDS

-----  
 1999-02-22 D 40.6 AZ133  
 GRA1 18:45:29.0 e P Z mb4.5  
 BEAM 18:45:29.0 T1.8 A16  
 GRA1 19:04:20.8 e L Z T18.4 A208 MS4.0

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 1999-02-22 D 21.9  
 GRA1 21:11:28.4 e P Z mb4.1  
 BEAM 21:11:28.4 T0.9 A6  
 NEIC: OT 21:06:36.2 34N 33E dep 33km mb4.2  
 CYPRUS REGION

-----  
 1999-02-23 D 79.9 AZ358  
 GRA1 05:14:55.4 e P Z  
 NEIC: OT 05:02:44.1 51N 168W dep 33km mb4.3  
 SOUTH OF ALEUTIAN ISLANDS

-----  
 1999-02-23 D124.8  
 GRA1 07:31:04.4 e PKPdf Z  
 GRA1 07:31:15.3 e (pPKPdf)Z  
 GRA1 07:33:59.7 e PP Z  
 NEIC: OT 07:12:20.3 6S 151E dep150km mb5.0  
 NEW BRITAIN REGION, P.N.G.

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 1999-02-23 D101.7  
 GRA1 07:41:50.6 e Pdiff Z  
 GRA1 07:46:00.6 e PP Z  
 GRA1 08:31:05.1 e L Z T21.9 A2563 MS5.7  
 NEIC: OT 07:27:56.0 N 120E dep 33km mb5.9  
 MINAHASSA PENINSULA, SULAWESI

-----  
 1999-02-23 D 81.0 AZ 2  
 GRA1 09:13:27.8 e P Z mb4.3  
 BEAM 09:13:27.8 T0.9 A3  
 SZGRF: OT 09:01:18.2 50N 171W dep 33km  
 ALEUTIAN ISLANDS REGION

1999-02-23 D 14.6  
GRA1 09:49:25.3 e P Z

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1999-02-23 D150.7  
GRA1 19:16:46.6 e PKPdf Z  
GRA1 19:16:55.7 e pPKPdf Z  
GRA1 20:29:30.8 e L Z T20.4 A757 MS5.5

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1999-02-23 D 3.6 404km  
GRA1 20:10:03.2 e Pn Z M13.5  
GRA1 20:11:01.5 e Sg N  
SZGRF: OT 20:09:05.6 52N 16E dep 1km  
POLAND

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1999-02-23  
GRA1 20:13:50.5 e PKPdf Z  
GRA1 20:14:00.3 e (pPKPdf) Z  
NEIC: OT 19:54:10.8 21S 169E dep 33km mb4.5  
LOYALTY ISLANDS REGION

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1999-02-24 D146.9  
GRA1 01:22:52.7 e (PKPbc) Z  
GRA1 01:22:54.7 e PKPab Z

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1999-02-24 D101.8  
GRA1 05:36:56.4 e PP Z  
GRA1 06:22:05.3 e L Z T20.7 A1624 MS5.5  
NEIC: OT 05:18:56.0 18N 146E dep 48km mb5.4  
MARIANA ISLANDS

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1999-02-24 D 84.1 AZ 90  
GRA1 07:33:18.7 e P Z mb5.1  
ALIGN 07:33:18.7 T1.9 A21  
GRA1 07:33:26.3 e Z  
GRA1 07:33:30.0 e pP Z  
GRA1 07:33:38.4 e (sP) Z  
NEIC: OT 07:20:48.2 3N 96E dep 33km mb4.9  
NORTHERN SUMATERA, INDONESIA

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1999-02-24 D 84.1  
GRA1 07:45:35.7 i P d Z mb5.0  
ALIGN 07:45:35.7 T0.9 A10

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1999-02-24 D 16.1  
GRA1 16:12:53.3 e P Z

GRA1 16:12:58.3 e Z  
 GRA1 16:20:22.5 e L Z T15.7 A158 MS3.3

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 1999-02-24 D 87.9 AZ288  
 GRA1 19:24:13.0 e P Z mb5.2  
 ALIGN 19:24:13.0 T0.9 A12  
 GRA1 20:04:04.9 e L Z T19.6 A294 MS4.7  
 SZGRF: OT 19:11:27.0 13N 91W dep 33km  
 OFF COAST OF CENTRAL AMERICA

-----  
 1999-02-25 D 62.2 AZ 38  
 GRA1 03:16:07.3 i P d Z mb5.2  
 ALIGN 03:16:07.3 T1.0 A17  
 GRA1 03:16:10.9 e pP Z  
 NEIC: OT 03:06:17.0 56N 116E dep 10km mb4.7  
 EAST OF LAKE BAIKAL, RUSSIA

-----  
 1999-02-25 D144.5  
 GRA1 07:05:09.1 e PKPdf Z  
 GRA1 07:05:18.0 e Z

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 1999-02-25 D 3.7 412km  
 GRA1 07:39:09.1 e Pn Z M13.7  
 GRA1 07:40:08.6 e Sg E  
 SZGRF: OT 07:38:10.6 52N 16E dep 1km  
 POLAND

-----  
 1999-02-25 D 77.8 AZ 3  
 GRA1 08:53:10.8 i P c Z mb5.1  
 ALIGN 08:53:10.8 T1.0 A17  
 GRA1 08:53:22.2 e (pP) Z  
 GRA1 09:22:05.2 e L Z T21.1 A193 MS4.4  
 SZGRF: OT 08:41:19.5 53N 173W dep 40km  
 ANDREANOF ISLANDS, ALEUTIAN IS.

-----  
 1999-02-25 D 73.2 AZ123  
 GRA1 10:07:13.2 i P c Z mb5.4  
 ALIGN 10:07:13.2 T1.6 A53  
 SZGRF: OT 09:55:44.2 7S 65E dep 33km  
 SOUTH INDIAN OCEAN

-----  
 1999-02-25 D 37.8 AZ 7  
 GRA1 14:39:29.1 e P Z mb4.8  
 BEAM 14:39:29.1 T1.2 A25  
 GRA1 14:39:35.9 e pP Z  
 NEIC: OT 14:31:56.7 86N 85E dep 10km mb4.9  
 NORTH OF SEVERNAYA ZEMLYA

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1999-02-25 D 40.8 AZ 4  
GRA1 14:44:09.8 e P Z mb4.1  
BEAM 14:44:09.8 T1.1 A5  
GRA1 14:44:15.9 e pP Z  
SZGRF: OT 14:36:31.9 87N 105E dep 23km  
LOMONOSOV RIDGE

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1999-02-25 D 39.2  
GRA1 15:42:49.5 i P d Z mb4.8  
ALIGN 15:42:49.5 T1.5 A39  
GRA1 15:42:58.7 e pP Z

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1999-02-25 D 36.0 AZ 9  
GRA1 15:55:25.5 e P Z mb4.3  
BEAM 15:55:25.5 T1.0 A5  
SZGRF: OT 15:48:29.0  
FRANZ JOSEF LAND

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1999-02-25 D148.5  
GRA1 16:49:52.7 e (PKPdf) Z  
GRA1 16:49:54.1 e PKPbc Z  
GRA1 16:49:58.8 e PKPab Z  
NEIC: OT 16:30:08.9 22S 171E dep 33km mb4.5  
LOYALTY ISLANDS REGION

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1999-02-25 D148.7  
GRA1 16:58:50.6 e PKPbc Z  
GRA1 16:58:54.4 e PKPab Z  
NEIC: OT 16:39:05.8 22S 171E dep 33km mb4.8  
LOYALTY ISLANDS REGION

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1999-02-25 D 36.8 AZ 6  
GRA1 17:32:06.8 e P Z mb4.7  
BEAM 17:32:06.8 T1.3 A22  
GRA1 17:32:13.6 e pP Z  
GRA1 17:32:19.7 e sP Z  
SZGRF: OT 17:25:02.8 85N 56E dep 30km  
NORTH OF FRANZ JOSEF LAND

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1999-02-25 D 47.9 AZ 86  
GRA1 18:36:25.9 e P Z mb4.9  
BEAM 18:36:25.9 T1.8 A18  
SZGRF: OT 18:27:51.2  
PAKISTAN

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1999-02-25 D 22.9 AZ138  
GRA1 18:46:30.1 e P Z



SZGRF: OT 18:41:28.3 31N 29E dep 33km  
UNITED ARAB REPUBLIC

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1999-02-25 D 55.6  
GRA1 19:08:05.7 i P d Z mb5.3  
ALIGN 19:08:05.7 T1.1 A36  
GRA1 19:08:10.9 e pP Z  
GRA1 19:08:15.1 e sP Z  
GRA1 19:08:18.1 e Z  
NEIC: OT 18:58:29.3 52N 105E dep 10km mb5.8  
LAKE BAIKAL REGION, RUSSIA

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1999-02-25 D 55.6  
GRA1 19:20:43.0 e P Z mb5.4  
ALIGN 19:20:43.0 T1.3 A52  
NEIC: OT 19:11:08.3 52N 105E dep 10km mb5.1  
LAKE BAIKAL REGION, RUSSIA

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1999-02-25 D 58.1 AZ 46  
GRA1 20:34:06.9 e P Z mb4.8  
BEAM 20:34:06.9 T1.7 A17  
GRA1 20:34:12.9 e pP Z  
SZGRF: OT 20:24:16.6 52N 111E dep 22km  
LAKE BAIKAL REGION

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1999-02-25  
GRA1 23:24:49.5 e PKPdf Z

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1999-02-25  
GRA1 23:27:50.0 i PKPdf c Z  
GRA1 23:27:53.3 i (pPKPdd)Z

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1999-02-26 D 53.1 AZ 48  
GRA1 00:22:03.5 e P Z mb4.9  
BEAM 00:22:03.5 T1.3 A20  
GRA1 00:22:08.6 e pP Z  
GRA1 00:48:36.0 e L Z T17.0 A609 MS4.7  
SZGRF: OT 00:12:48.7 54N 103E dep 19km  
LAKE BAIKAL REGION

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1999-02-26 D148.8  
GRA1 04:56:51.8 e PKPdf Z  
GRA1 04:56:58.4 e PKPab Z  
NEIC: OT 04:37:16.4 21S 169E dep 70km mb4.7  
LOYALTY ISLANDS REGION

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1999-02-26 D 81.9 AZ 35

GRA1 05:30:29.2 i P c Z mb5.1  
BEAM 05:30:29.2 T1.0 A15  
GRA1 05:30:31.1 e pP Z  
GRA1 06:08:19.8 e L Z T20.5 A278 MS4.6  
SZGRF: OT 05:18:10.5 40N 144E dep 7km  
OFF EAST COAST OF HONSHU, JAPAN

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1999-02-26

GRA1 11:22:40.2 e PKPdf Z  
GRA1 11:22:46.4 e PKPbc Z  
NEIC: OT 11:03:06.4 22S 170E dep 70km mb4.5  
LOYALTY ISLANDS REGION

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1999-02-26

D 89.1 AZ 44  
GRA1 15:47:42.9 i P c Z mb5.1  
ALIGN 15:47:42.9 T1.2 A15  
GRA1 15:48:04.1 e pP Z  
SZGRF: OT 15:34:57.6 29N 139E dep 78km  
BONIN ISLANDS REGION

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1999-02-27

D 22.4 AZ245  
GRA1 03:26:40.4 e P Z mb4.0  
BEAM 03:26:40.4 T1.9 A12  
GRA1 03:26:50.0 e pP Z  
SZGRF: OT 03:21:45.1  
NORTH ATLANTIC OCEAN

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1999-02-27

D 88.5 AZ146  
GRA1 07:34:30.8 e P Z mb4.9  
ALIGN 07:34:30.8 T1.2 A10  
SZGRF: OT 07:21:39.7  
SOUTH INDIAN OCEAN

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1999-02-27

D153.0  
GRA1 07:38:06.9 e PKPdf Z  
GRA1 07:38:13.6 i PKPbc c Z  
GRA1 07:38:24.3 e PKPab Z  
GRA1 08:50:31.7 e L Z T19.3 A862 MS5.6  
NEIC: OT 07:18:37.4 23S 177W dep181km mb4.7  
SOUTH OF FIJI ISLANDS

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1999-02-27

D 56.5 AZ 46  
GRA1 15:07:14.1 e P Z mb4.2  
BEAM 15:07:14.1 T1.0 A2  
GRA1 15:07:20.0 e pP Z  
SZGRF: OT 14:57:34.7  
LAKE BAIKAL REGION

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1999-02-27

D 74.7 AZ 19

GRA1 16:15:26.6 i P c Z mb5.3  
ALIGN 16:15:26.6 T1.0 A28  
GRA1 16:15:41.3 e (pP) Z  
SZGRF: OT 16:03:54.8 53N 160E dep 52km  
OFF EAST COAST OF KAMCHATKA

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1999-02-27 D 45.5  
GRA1 17:23:35.2 e P Z mb3.8  
BEAM 17:23:35.2 T0.6 A8e-001  
GRA1 17:23:39.6 e (pP) Z  
NEIC: OT 17:15:18.2 41N 77E dep 33km mb4.6  
KYRGYZSTAN-XINJIANG BORDER REG.

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1999-02-27 D 18.2  
GRA1 19:14:32.8 e P Z mb3.9  
BEAM 19:14:32.8 T1.0 A10

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1999-02-27 D151.8  
GRA1 18:54:36.3 i PKPbc d Z  
GRA1 18:54:45.1 e PKPab Z

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1999-02-27 D 3.7 410km  
GRA1 19:25:37.7 e Pn Z M13.9  
GRA1 19:26:35.8 e Sg E  
SZGRF: OT 19:24:39.0 51N 16E dep 1km  
POLAND

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1999-02-28 D150.9  
GRA1 16:13:25.5 e PKPdf Z  
GRA1 16:13:34.8 e PKPab Z

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