

Republic of Lebanon
National Council for Scientific Research

Provisional Seismological Bulletin

from the

NATIONAL SEISMIC NETWORK

June

2011

Prepared by
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GENERAL BULLETIN INFORMATION

The National Centre for Geophysical Research is a governmental agency established 1975 in Lebanon by the National Council for Scientific Research (CNRS). The mission of the Centre, among other assignments, is the monitoring of seismic activity within the national territory. Currently, the national seismic network is under deployment; it has been officially registered as GRAL, an acronym for Geophysical Research Arrays of Lebanon. Station coordinates and status are given below.

Since 1993, the Centre has been participating in a regional initiative by the UNESCO and the USGS known as RELEMR, i.e. Reducing Earthquake Losses in the Eastern Mediterranean Region.

Within this framework, the Centre routinely contributes to the database set up for this purpose and maintained by the Euro-Mediterranean Seismological Centre (EMSC). For coherence, the Centre has adopted the recommended seismic analysis system SEISAN developed by Jens Havskov and Lars Ottemoller from the University of Bergen, Norway.

The localization program currently used for locating earthquakes is Hypocenter (Lienert et al., 1986). Plane parallel layers are assumed for local and regional events, while the IASPEI travel time tables are used for distant events.

The velocity model used for all local and regional events is the one currently adopted by the RELEMR initiative.

P-wave velocity (km/sec)	depth to top of layer (km)
6.2	0.0
6.8	14.0
8.05	34.0
8.25	50.0
8.5	80.0

Magnitudes are calculated from the coda duration. The coda wave magnitude is estimated via the formula:

$$M_c = 0.08 + 1.63 * \log_{10}(T) + 0.0009 * D.$$

where T is the coda duration (sec) and D is the epicentral distance (km). The coefficients above were adopted at the outset of our Centre in 1980 and thus are still in use for the sake of continuity.

All available coda values are used for magnitude calculations. No station corrections are used for either travel times or magnitudes calculations. The V_p/V_s velocity ratio used in both layered models above is 1.74.

As a general policy, neither depths, nor epicenters, are fixed unless stated otherwise since this might restrict later use of the data. Consequently, some event locations might be unrealistic such as zero depth earthquakes or teleseismic locations off by 1000 km. However, the locations are based on the available data and reflect the localization procedure and the models used.

STATIONS USED

The stations listed below are operated by the National Centre for Geophysical Research. They constitute the basic setup of the National Seismic Network of Lebanon.

However, readings from other cooperating agencies are also used in locating the events and thus more stations may appear in the event lists than in the station list; it is worth mentioning the systematic use of arrival times from the Cypriot seismic network CSS in order to constrain events corresponding to an active zone off the Lebanese shorelines.

STATION	LATITUDE	LONGITUDE	HEIGHT (m)	NAME	COMMENTS
BHL	3354.25N	3539.25E	1000	BHANNES	Opened May 1980
HWQ	3416.68N	3556.78E	1161	HAWQA	Opened Jan 2001
MATL	3329.32N	3519.78E	5	MATARIH	Opened Nov 2000
FKH	3414.69N	3624.61E	1152	FAKEHEH	Opened Dec 2004
RCY	3329.79N	3550.14E	1370	RACHAYA	Opened Jun 2006
DWR	3323.13N	3524.08E	420	DWEIR	Scheduled 2003
BEYL	3352.30N	3529.59E	49	BEIRUT	Opened Jul 2006
NAQL	3307.02N	3508.46E	83	NAQOURA	Opened Jul 2008
DQRL	3342.34N	3534.21E	963	DEIR QAMAR	Opened Mar 2010

REGIONAL AND DISTANT EARTHQUAKES

Because regional events and teleseisms are not localized, but simply identified, EMSC determination data are given along with phase arrivals (in general first arrival) at the stations of our network.

MACROSEISMIC DATA

Macroseismic data, if available, are included in the bulletin.

MONTHLY EPICENTER MAPS

Maps will be found on the last page.

ELECTRONIC PUBLICATION

This provisional bulletin is available for download in pdf format on:
<http://www.cnrs.edu.lb/grdownload.html>

REFERENCES

- Havskov, J. and Ottemoller, L.(2001). SEISAN: The Earthquake Analysis Software. -version 7.2-
Institute of Solid Earth Physics, University of Bergen.
<http://www.ifjf.uib.no/seismo/software/seisan.html>
- Lienert, B.R., Berg, E. and Frazer, L.N.(1986). Hypocenter: An earthquake location method using centered, scaled, and adaptively least squares. Bull. Seism. Soc. Am., 76., pp 771-783.

Abbreviations:

TIME: Origin time in UTC (hr. min. and sec.) or data file onset time if event is not located.

LAT: Latitude of epicenter

LON: Longitude of epicenter

DEPTH: Focal depth in kilometer (trailing F indicates fixed depth)

AGENCY: REL throughout the bulletin, aka. REsearch Lebanon

MAGNITUDES: Up to 3 different magnitudes can be given followed by type and reporting agency, e.g. 3.1 MC REL - coda magnitude calculated according to above mentioned formula.

EMSC: Euro-Mediterranean Seismological Centre.

OT: Origin Time

RMS: Root mean square value of travel time residuals

STAT: Station code

CO: Component; S:short period, L:long period, B:broadband.

DIST: Epicenter distance (km)

AZI: Azimuth from source to station

PHAS: Phase; The first letter characterizes onset E(mergent) or I(mpulsive)

P: Polarity (C for compression, D for dilatation)

HR: Hour

MN: Minute

SECON: Seconds

TRES: Residual (seconds)

CODA: Signal duration in seconds

AMPL: Ground Amplitude ($0.5 \times (\text{peak to peak})$), (nm) at period PERI

PERI: Period where amplitude is measured

BAZ: Back azimuth (station to event)

ARES: Back azimuth residual

VELO: Apparent phase velocity (km/sec)

WT: Weight of phase in the location

*: An asterisk before the phase arrival time implies a potential timing error. If an S phase is read, differential S-P times will be used in the hypocenter location.

June 2 2011 Hour: 8:37 40.9 Lat: 34.30N Lon: 36.56E Depth: 3 Agency: REL Local
Magnitudes: 3.1MC REL Rms: 0.1 secs

HERMEL BAALBEK REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
FKH	SZ	15	245	EP		837	43.36	-0.09	67						1.0
FKH	SN	15	245	ES		837	45.40	0.06							1.0
HWQ	BZ	57	267	EP		837	50.02	-0.03							1.0
HWQ	BN	57	267	ES		837	56.78	-0.03							1.0
BHL	BZ	95	242	EP		837	56.29	0.13							1.0
RCY	SZ	112	217	EP		837	58.93	-0.00							1.0
RCY	SN	112	217	ES		838	12.22	-0.05							1.0
DQRL	SZ	113	234	EP		837	59.14	0.02							1.0

June 3 2011 Hour: 0:5 0.0 Agency: Distant

EMSC OT=00:05:00.0 37.33N 143.92E 10Km M=6.5 COAST OF HONSHU

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		017	24.74								
HWQ	BZ			EP		017	22.49								
DQRL	SZ			EP		017	26.00								
RCY	SZ			EP		017	25.91								
BEYL	BZ			EP		017	25.21								

June 3 2011 Hour: 6:31 1.8 Lat: 33.65N Lon: 35.89E Depth: 20 Agency: REL Local
Magnitudes: 2.3MC REL Rms: 0.0 secs

CENTRAL BEKAA

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
RCY	SZ	18	196	EP		631	6.26	-0.03	22						1.0
RCY	SN	18	196	ES		631	9.60	0.02							1.0
DQRL	SZ	30	282	EP		631	7.70	0.03							1.0
DQRL	SN	30	282	ES		631	11.97	-0.02							1.0
BHL	BZ	36	322	EP		631	8.42	0.05							0.2
HWQ	BZ	70	4	EP		631	13.20	-0.00							1.0

June 3 2011 Hour: 15:28 47.6 Lat: 33.79N Lon: 35.79E Depth: 0 Agency: REL Local
Magnitudes: 2.9MC REL Rms: 0.0 secs

BEIRUT REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ	18	315	EP		1528	50.48	-0.01							1.0
DQRL	SZ	23	245	EP		1528	51.26	0.00	56						1.0
DQRL	SN	23	245	ES		1528	53.97	0.00							1.0
RCY	SZ	33	173	EP		1528	52.91	-0.01							1.0
RCY	SN	33	173	ES		1528	56.87	0.01							1.0
HWQ	BZ	56	15	EP		1528	56.62	0.01							1.0

June 3 2011 Hour: 16:35 48.8 Lat: 33.78N Lon: 35.78E Depth: 0 Agency: REL Local
Magnitudes: 2.9MC REL Rms: 0.0 secs

BEIRUT REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ	17	319	EP		1635	51.65	0.00							1.0
DQRL	SZ	21	245	EP		1635	52.31	0.07	49						1.0
DQRL	SN	21	245	ES		1635	54.73	-0.04							1.0
RCY	SZ	33	170	EP		1635	54.12	0.05							1.0
RCY	SN	33	170	ES		1635	57.91	-0.05							1.0
HWQ	BZ	57	16	EP		1635	57.97	-0.03							1.0

June 4 2011 Hour: 11:5 0.0 Agency: REL Local

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
RCY	SZ			EP		11	6	7.98							
DQRL	SZ			EP		11	6	10.28							

June 4 2011 Hour: 11:35 0.0 Agency: REL Local
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 HWQ BZ EP 1135 21.52
 RCY SZ EP 1135 24.89

June 4 2011 Hour: 11:41 47.4 Lat: 33.99N Lon: 36.23E Depth: 7 Agency: REL Local
 Magnitudes: 2.8MC REL Rms: 0.0 secs
HERMEL BAALBEK REGION
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 HWQ BZ 42 321 EP 1141 54.28-0.01 42 1.0
 HWQ BN 42 321 ES 1141 59.37-0.00 1.0
 BHL BZ 54 261 EP 1141 56.29 0.06 1.0
 RCY SZ 65 214 EP 1141 58.08 0.02 1.0
 RCY SN 65 214 ES 1142 5.91-0.01 1.0
 DQRL SZ 68 243 EP 1141 58.48-0.06 1.0

June 4 2011 Hour: 14:49 0.0 Agency: REL Local
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 DQRL SZ EP 1450 16.52
 RCY SZ EP 1450 14.45

June 4 2011 Hour: 15: 8 0.0 Agency: REL Local
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 DQRL SZ EP 15 8 54.47
 RCY SZ EP 15 8 52.29

June 4 2011 Hour: 23: 2 39.9 Lat: 33.81N Lon: 35.76E Depth: 28 Agency: REL Local
 Magnitudes: 2.9MC REL Rms: 0.0 secs
BEIRUT REGION
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 BHL BZ 15 316 EP 23 2 44.92-0.07 55 1.0
 BHL BN 15 316 ES 23 2 48.74-0.01 1.0
 DQRL SZ 22 238 EP 23 2 45.58 0.05 1.0
 DQRL SN 22 238 ES 23 2 49.66-0.02 1.0
 BEYL BZ 26 285 EP 23 2 45.92 0.05 1.0
 RCY SZ 35 169 EP 23 2 46.98-0.07 1.0
 RCY SN 35 169 ES 23 2 52.37 0.05 1.0
 HWQ BZ 55 18 EP 23 2 49.46-0.01 1.0
 HWQ BN 55 18 ES 23 2 56.56 0.03 1.0
 FKH SZ 77 51 EP 23 2 52.46-0.06 0.2

June 6 2011 Hour: 15:15 0.8 Lat: 33.79N Lon: 35.78E Depth: 15 Agency: REL Local
 Magnitudes: 2.7MC REL Rms: 0.0 secs
BEIRUT REGION
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 BHL BZ 17 318 EP 1515 4.54 0.01 41 1.0
 BHL BE 17 318 ES 1515 7.26-0.01 1.0
 DQRL SZ 21 243 EP 1515 5.10-0.00 1.0
 DQRL SN 21 243 ES 1515 8.26-0.01 1.0
 RCY SZ 33 170 EP 1515 6.79 0.01 1.0
 RCY SN 33 170 ES 1515 11.18-0.01 1.0
 HWQ BZ 56 16 EP 1515 10.07-0.00 1.0

June 7 2011 Hour: 4:16 57.3 Lat: 33.35N Lon: 35.44E Depth: 6 Agency: REL Local
 Magnitudes: 2.9MC REL Rms: 0.0 secs
SOUTH LEBANON
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 RCY SZ 40 67 EP 417 3.84 0.02 48 1.0
 RCY SN 40 67 ES 417 8.66-0.01 1.0
 DQRL SZ 41 17 EP 417 3.91-0.03 1.0
 DQRL SN 41 17 ES 417 8.89 0.01 1.0
 BHL BZ 64 18 EP 417 7.69 0.02 1.0
 HWQ BZ 113 24 EP 417 15.32-0.00 1.0

June 7 2011 Hour: 4:21 0.0 Agency: REL Local
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 DQRL SZ EP 422 25.27
 RCY SZ EP 422 22.47

June 7 2011 Hour: 9:7 54.7 Lat: 34.47N Lon: 36.54E Depth: 28 Agency: REL Local
 Magnitudes: 3.2MC REL Rms: 0.0 secs
NEBEK REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ	59	249	EP		9 8	4.80	0.00	81						1.0
HWQ	BN	59	249	ES		9 8	12.29	-0.00							1.0
BHL	BZ	103	233	EP		9 8	11.02	0.04							1.0
DQRL	SZ	123	227	EP		9 8	13.43	-0.06							1.0
DQRL	SN	123	227	ES		9 8	27.43	0.00							1.0
RCY	SZ	126	211	EP		9 8	13.89	0.02							1.0

June 7 2011 Hour: 9:33 0.0 Agency: REL Local
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 HWQ BZ EP 933 55.32
 RCY SZ EP 933 54.59

June 7 2011 Hour: 11:1 11.9 Agency: Regional
EMSC OT=11:01:11.9 34.75N 29.09E 40Km M=3.4 EASTERN MED SEA

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ			EP		11 2	34.50								
RCY	SZ			EP		11 2	35.22								

June 7 2011 Hour: 17:49 25.9 Lat: 33.79N Lon: 35.78E Depth: 10 Agency: REL Local
 Magnitudes: 2.7MC REL Rms: 0.0 secs
BEIRUT REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ	17	318	EP		1749	29.14	0.01	38						1.0
DQRL	SZ	21	243	EP		1749	29.83	0.04							1.0
DQRL	SN	21	243	ES		1749	32.66	-0.03							1.0
RCY	SZ	34	170	EP		1749	31.57	-0.04							1.0
RCY	SE	34	170	ES		1749	35.88	0.02							1.0
HWQ	BZ	56	16	EP		1749	35.08	-0.01							1.0

June 8 2011 Hour: 10:9 49.7 Lat: 33.80N Lon: 35.76E Depth: 19 Agency: REL Local
 Magnitudes: 2.8MC REL Rms: 0.0 secs
BEIRUT REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ	15	318	EP		10 9	53.75	0.03	45						1.0
DQRL	SZ	21	240	EP		10 9	54.30	0.00							1.0
DQRL	SN	21	240	ES		10 9	57.68	-0.02							1.0
RCY	SZ	34	169	EP		10 9	56.04	0.02							1.0
RCY	SN	34	169	ES		1010	0.68	-0.01							1.0
HWQ	BZ	56	17	EP		10 9	58.94	-0.02							1.0

June 8 2011 Hour: 15:30 43.6 Lat: 34.65N Lon: 36.28E Depth: 6 Agency: REL Local
 Magnitudes: 3.2MC REL Rms: 0.0 secs
HERMEL BAALBEK REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ	51	217	EP		1530	51.97	-0.02	76						1.0
HWQ	BN	51	217	ES		1530	58.17	-0.02							1.0
BHL	BZ	101	215	EP		1530	59.98	0.06							1.0
DQRL	SZ	123	212	EP		1531	3.28	-0.01							1.0
DQRL	SN	123	212	ES		1531	17.86	0.01							1.0
RCY	SZ	134	198	EP		1531	4.87	-0.02							1.0
RCY	SN	134	198	ES		1531	20.65	0.01							1.0

June 8 2011 Hour: 21:26 36.5 Lat: 33.39N Lon: 35.80E Depth: 10 Agency: REL Local
Magnitudes: 2.9MC REL Rms: 0.0 secs

MOUNT HERMON REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
RCY	SZ	12	16	EP		2126	39.24	-0.01	53						1.0
RCY	SN	12	16	ES		2126	41.30	0.02							1.0
DQRL	SZ	41	329	EP		2126	43.31	-0.04							1.0
DQRL	SE	41	329	ES		2126	48.48	0.06							1.0
BHL	BZ	59	347	EP		2126	46.11	-0.01							1.0
BHL	BN	59	347	ES		2126	53.18	-0.06							1.0
HWQ	BZ	99	8	EP		2126	52.38	0.03							1.0

June 8 2011 Hour: 22:39 23.2 Lat: 33.81N Lon: 35.79E Depth: 15 Agency: REL Local
Magnitudes: 2.7MC REL Rms: 0.0 secs

BEIRUT REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ	17	311	EP		2239	26.95	-0.01	40						1.0
BHL	BN	17	311	ES		2239	29.74	0.01							1.0
DQRL	SZ	23	241	EP		2239	27.79	0.03							1.0
DQRL	SN	23	241	ES		2239	31.11	-0.02							1.0
RCY	SZ	35	173	EP		2239	29.34	-0.02							1.0
RCY	SN	35	173	ES		2239	33.92	0.01							1.0
HWQ	BZ	54	15	EP		2239	32.22	0.00							1.0

June 9 2011 Hour: 0:58 9.0 Agency: Regional
EMSC OT=00:58:09.0 36.66N 30.04E 71Km M=3.5 WESTERN TURKEY

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
RCY	SZ			EP		059	31.06								
HWQ	BZ			EP		059	27.73								
DQRL	SZ			EP		059	26.00								
BHL	BZ			EP		059	25.71								

June 9 2011 Hour: 8:3 13.0 Lat: 34.79N Lon: 36.46E Depth: 57 Agency: REL Local
Magnitudes: 3.1MC REL Rms: 0.0 secs

NEBEK REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ	74	220	EP		8 3	26.12	0.02	64						1.0
HWQ	BN	74	220	ES		8 3	35.81	-0.01							1.0
BHL	BZ	123	217	EP		8 3	31.60	-0.08							0.2
DQRL	SZ	145	215	EP		8 3	34.33	-0.02							1.0
DQRL	SN	145	215	ES		8 3	50.19	0.01							1.0
RCY	SZ	154	202	EP		8 3	35.47	0.00							1.0
RCY	SN	154	202	ES		8 3	52.12	-0.00							1.0

June 9 2011 Hour: 8:14 26.0 Agency: Regional
EMSC OT=08:14:26.0 34.76N 29.14E 48Km M=4.4 EASTERN MED SEA

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ			EP		815	47.75								
RCY	SZ			EP		815	47.94								

June 9 2011 Hour: 9:39 6.3 Lat: 33.78N Lon: 35.78E Depth: 3 Agency: REL Local
Magnitudes: 2.7MC REL Rms: 0.0 secs

BEIRUT REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ	18	319	EP		939	9.21	-0.01	41						1.0
BHL	BE	18	319	ES		939	11.41	0.00							1.0
DQRL	SZ	21	246	EP		939	9.77	0.02							1.0
DQRL	SN	21	246	ES		939	12.33	-0.01							1.0
RCY	SZ	32	171	EP		939	11.50	-0.02							1.0
RCY	SN	32	171	ES		939	15.42	0.01							1.0
HWQ	BZ	57	16	EP		939	15.51	0.01							1.0

June 9 2011 Hour: 10:3 8.7 Agency: **Regional**
EMSC OT=10:03:08.7 34.78N 29.17E 10Km M=4.2 EASTERN MED SEA
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 RCY SZ EP 10 4 32.48
 HWQ BZ EP 10 4 32.88

June 9 2011 Hour: 20:16 31.0 Agency: **Distant**
EMSC OT=20:16:31.0 30.25S 177.89W 53Km M=5.4 KERMADEC ISLANDS
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 BHL BZ EP 2036 19.10
 HWQ BZ EP 2036 18.63
 RCY SZ EP 2036 18.97
 DQRL SZ EP 2036 19.37

June 11 2011 Hour: 11:25 36.8 Lat: **33.81N** Lon: **35.74E** Depth: **26** Agency: **REL** Local
Magnitudes: 2.7MC REL Rms: **0.0** secs
BEIRUT REGION
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 BHL BZ 13 320 EP 1125 41.55 0.01 1.0
 BHL BE 13 320 ES 1125 45.01-0.00 1.0
 DQRL SZ 20 233 EP 1125 42.12 0.01 1.0
 DQRL SN 20 233 ES 1125 46.00-0.01 1.0
 RCY SZ 36 166 EP 1125 43.93 0.00 41 1.0
 RCY SN 36 166 ES 1125 49.17-0.01 1.0
 HWQ BZ 55 20 EP 1125 46.27-0.01 1.0

June 12 2011 Hour: 2:16 12.6 Lat: **32.90N** Lon: **34.99E** Depth: **1** Agency: **REL** Local
Magnitudes: 3.1MC REL Rms: **0.0** secs
NORTH GALILEE
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 NAQL SZ 27 30 EP 216 16.92-0.07 66 1.0
 NAQL SE 27 30 ES 216 20.31 0.06 1.0
 RCY SZ 102 50 EP 216 29.10 0.01 1.0
 DQRL SZ 104 31 EP 216 29.34 0.01 1.0
 DQRL SN 104 31 ES 216 41.67-0.06 1.0
 BHL BZ 127 29 EP 216 33.09 0.06 1.0
 HWQ BZ 176 30 EP 216 40.36 0.00 1.0

June 12 2011 Hour: 14:30 45.8 Lat: **33.79N** Lon: **35.78E** Depth: **6** Agency: **REL** Local
Magnitudes: 2.4MC REL Rms: **0.0** secs
BEIRUT REGION
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 BHL BZ 17 317 EP 1430 48.77-0.00 26 1.0
 BHL BE 17 317 ES 1430 50.98 0.00 1.0
 DQRL SZ 22 244 EP 1430 49.45-0.00 1.0
 RCY SZ 33 171 EP 1430 51.27 0.01 1.0
 RCY SE 33 171 ES 1430 55.29-0.01 1.0
 HWQ BZ 56 16 EP 1430 54.92-0.00 1.0

June 12 2011 Hour: 16:16 35.3 Lat: **33.79N** Lon: **35.77E** Depth: **1** Agency: **REL** Local
Magnitudes: 2.9MC REL Rms: **0.0** secs
BEIRUT REGION
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 BHL BZ 17 319 EP 1616 37.97 0.01 1.0
 BHL BE 17 319 ES 1616 39.95-0.01 1.0
 DQRL SZ 21 243 EP 1616 38.67 0.01 51 1.0
 RCY SZ 33 169 EP 1616 40.62-0.04 1.0
 RCY SE 33 169 ES 1616 44.67 0.02 1.0
 HWQ BZ 56 17 EP 1616 44.38 0.01 1.0

June 12 2011 Hour: 18:3 0.0 Agency: REL Local
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 DQRL SZ EP 18 4 15.50
 RCY SZ EP 18 4 15.69

June 12 2011 Hour: 20:23 11.1 Agency: Distant
EMSC OT=20:23:11.1 14.80N 43.41E 10Km M=4.4 YEMEN
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 BHL BZ EP 2037 27.83
 RCY SZ EP 2037 23.06
 DQRL SZ EP 2037 26.07
 HWQ BZ EP 2037 30.90

June 12 2011 Hour: 21:3 25.0 Agency: Distant
EMSC OT=21:03:25.0 13.50N 41.68E 20Km M=5.6 ERITREA - ETHIOPIA
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 BHL BZ EP 21 8 8.88
 DQRL SZ EP 21 8 7.83
 HWQ BZ EP 21 8 12.01
 RCY SZ EP 21 8 4.57

June 13 2011 Hour: 1:55 57.5 Lat: 33.17N Lon: 34.93E Depth: 16 Agency: REL Local
Magnitudes: 2.7MC REL
OFFSHORE SOUTH LEBANON
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 NAQL SZ 20 106 EP 156 1.65-0.04 38 1.0
 NAQL SN 20 106 ES 156 4.78 0.03 1.0
 DQRL SZ 84 45 EP 156 10.89-0.03 1.0
 DQRL SE 84 45 ES 156 20.80-0.02 1.0
 BHL BZ 106 39 EP 156 14.08-0.01 1.0
 HWQ BZ 155 37 EP 156 21.41 0.07 1.0

June 13 2011 Hour: 2:40 0.0 Agency: Distant
EMSC OT=02:20:50.0 43.46S 172.70E 2Km M=6.0 NEW ZEALAND
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 BHL BZ EP 240 29.98
 DQRL SZ EP 240 30.13
 HWQ BZ EP 240 29.93
 RCY SZ EP 240 29.17

June 13 2011 Hour: 3:33 27.2 Lat: 33.87N Lon: 35.84E Depth: 0 Agency: REL Local
Magnitudes: 3.1MC REL
BEIRUT REGION
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 BHL BZ 18 282 EP 333 30.00-0.01 73 1.0
 BHL BN 18 282 ES 333 32.12 0.01 1.0
 DQRL SZ 31 234 EP 333 32.13-0.04 1.0
 DQRL SN 31 234 ES 333 35.90 0.02 1.0
 RCY SZ 42 181 EP 333 33.79-0.09 1.0
 RCY SN 42 181 ES 333 38.85 0.01 1.0
 HWQ BZ 46 12 EP 333 34.66 0.04 1.0

June 13 2011 Hour: 14:30 10.7 Agency: REL Distant
EMSC OT=14:31:23.0 02.52N 126.48E 60Km M=6.4 MOLUCCA SEA
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 HWQ BZ EP 1444 12.61
 RCY SZ EP 1444 13.49
 BHL BZ EP 1444 14.17
 DQRL SZ EP 1444 14.35
 BEYL BZ EP 1444 14.01

June 13 2011 Hour: 18:43.1 Lat: 33.88N Lon: 35.83E Depth: 6 Agency: REL Local
Magnitudes: 2.7MC REL Rms: 0.0 secs

BEIRUT REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ	17	279	EP		18	4	36.04-0.00	39						1.0
BHL	BN	17	279	ES		18	4	38.20-0.01							1.0
DQRL	SZ	31	231	EP		18	4	38.23-0.01							1.0
DQRL	SN	31	231	ES		18	4	42.05 0.01							1.0
RCY	SZ	43	179	EP		18	4	40.09 0.00							1.0
RCY	SN	43	179	ES		18	4	45.25-0.00							1.0
HWQ	BZ	45	14	EP		18	4	40.55 0.01							1.0

June 13 2011 Hour: 20:28 43.7 Lat: 33.87N Lon: 35.84E Depth: 4 Agency: REL Local
Magnitudes: 2.9MC REL Rms: 0.0 secs

BEIRUT REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ	17	283	EP		2028	46.65-0.00		49						1.0
BHL	BN	17	283	ES		2028	48.85 0.02								1.0
DQRL	SZ	31	234	EP		2028	48.81 0.06								1.0
DQRL	SN	31	234	ES		2028	52.41-0.06								1.0
BEYL	BZ	32	270	EP		2028	48.94 0.05								0.2
RCY	SZ	41	180	EP		2028	50.46-0.01								1.0
RCY	SN	41	180	ES		2028	55.48 0.01								1.0
HWQ	BZ	46	13	EP		2028	51.23-0.02								1.0

June 14 2011 Hour: 11:44 10.8 Lat: 33.76N Lon: 35.94E Depth: 4 Agency: REL Local
Magnitudes: 2.7MC REL Rms: 0.0 secs

CENTRAL BEKAA

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ	31	300	EP		1144	15.83-0.00								1.0
BHL	BN	31	300	ES		1144	19.62 0.03								1.0
RCY	SZ	31	199	EP		1144	15.92-0.01		41						1.0
RCY	SN	31	199	ES		1144	19.76 0.01								1.0
DQRL	SZ	35	259	EP		1144	16.59 0.07								1.0
DQRL	SN	35	259	ES		1144	20.71-0.07								1.0
HWQ	BZ	57	0	EP		1144	19.95-0.03								1.0

June 14 2011 Hour: 16:29 11.5 Lat: 33.80N Lon: 35.78E Depth: 14 Agency: REL Local
Magnitudes: 2.7MC REL Rms: 0.0 secs

BEIRUT REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ	16	315	EP		1629	15.03-0.04		39						1.0
BHL	BN	16	315	ES		1629	17.74 0.01								1.0
DQRL	SZ	22	241	EP		1629	15.75-0.03								1.0
DQRL	SN	22	241	ES		1629	18.99 0.03								1.0
RCY	SZ	34	171	EP		1629	17.54 0.00								1.0
RCY	SN	34	171	ES		1629	22.02-0.00								1.0
HWQ	BZ	55	16	EP		1629	20.62 0.02								1.0

June 14 2011 Hour: 21:55 3.0 Agency: Regional
EMSC OT=21:55:03.0 34.75N 29.05E 40Km M=4.2 EASTERN MED SEA

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
RCY	SZ			EP		2156	25.51								
HWQ	BZ			EP		2156	17.97								
DQRL	SZ			EP		2156	21.19								
BHL	BZ			EP		2156	20.16								

June 14 2011 Hour: 23:14 25.0 Agency: **Regional**
EMSC OT=23:14:25.0 34.75N 29.08E 45Km M=4.4 EASTERN MED SEA
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 HWQ BZ EP 2315 46.95
 DQRL SZ EP 2315 44.27
 BHL BZ EP 2315 44.03

June 15 2011 Hour: 1: 5 28.0 Agency: **Distant**
EMSC OT=01:05:28.0 27.97N 57.66E 28Km M=5.3 SOUTHERN IRAN
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 BHL BZ EP 1 9 57.41
 DQRL SZ EP 1 9 58.03
 HWQ BZ EP 1 9 55.87
 RCY SZ EP 1 9 54.71

June 15 2011 Hour: 9:50 41.5 Lat: **33.59N** Lon: **35.96E** Depth: **15** Agency: **REL** Local
Magnitudes: 3.0MC REL Rms: **0.0** secs
MOUNT HERMON REGION
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 RCY SZ 15 226 EP 950 45.16-0.04 59 1.0
 RCY SN 15 226 ES 950 47.93 0.02 1.0
 DQRL SZ 38 290 EP 950 48.13 0.02 1.0
 DQRL SE 38 290 ES 950 53.01 0.02 1.0
 BHL BZ 44 321 EP 950 49.05-0.02 1.0
 BHL BN 44 321 ES 950 54.64-0.01 1.0
 HWQ BZ 76 359 EP 950 53.71-0.02 1.0
 FKH SZ 84 30 EP 950 54.89 0.03 1.0

June 15 2011 Hour: 11:29 27.3 Lat: **34.47N** Lon: **36.72E** Depth: **14** Agency: **REL** Local
Magnitudes: 3.1MC REL Rms: **0.0** secs
NEBEK REGION
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 HWQ BZ 74 254 EP 1129 39.17 0.00 65 1.0
 HWQ BN 74 254 ES 1129 47.96-0.01 1.0
 RCY SZ 135 217 EP 1129 48.16-0.03 1.0
 RCY SN 135 217 ES 1130 3.66 0.00 1.0
 DQRL SZ 136 232 EP 1129 48.24 0.03 1.0

June 15 2011 Hour: 11:32 4.0 Agency: **Regional**
EMSC OT=11:32:04.0 34.41N 32.79E 5Km M=4.0 CYPRUS REGION
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 RCY SZ EP 1132 45.54
 HWQ BZ EP 1132 45.22
 DQRL SZ EP 1132 45.86

June 15 2011 Hour: 12:46 0.0 Agency: **Regional**
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 HWQ BZ EP 1246 47.56
 RCY SZ EP 1246 34.75

June 15 2011 Hour: 13:45 32.2 Lat: **33.88N** Lon: **35.85E** Depth: **2** Agency: **REL** Local
Magnitudes: 2.8MC REL Rms: **0.0** secs
BEIRUT REGION
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 BHL BZ 18 279 EP 1345 35.12-0.03 46 1.0
 BHL BE 18 279 ES 1345 37.39 0.02 1.0
 DQRL SZ 32 234 EP 1345 37.41 0.05 1.0
 DQRL SN 32 234 ES 1345 41.18-0.03 1.0
 RCY SZ 42 182 EP 1345 38.98-0.02 1.0
 RCY SN 42 182 ES 1345 44.08 0.01 1.0
 HWQ BZ 45 11 EP 1345 39.49 0.00 1.0

June 15 2011 Hour: 18:23 12.0 Agency: **Regional**
EMSC OT=18:23:12.0 36.58N 28.88E 2Km M=4.1 DODECANESE ISLANDS
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 RCY SZ EP 1824 45.58
 HWQ BZ EP 1824 42.68

June 15 2011 Hour: 23:27 0.0 Agency: **REL Local**
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 HWQ BZ EP 2327 49.99
 RCY SZ EP 2327 45.26

June 16 2011 Hour: 13:52 22.3 Lat: **33.87N** Lon: **35.84E** Depth: **0** Agency: **REL Local**
Magnitudes: 3.0MC REL Rms: **0.0 secs**
BEIRUT REGION
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 BHL BZ 18 282 EP 1352 25.18-0.03 59 1.0
 BHL BN 18 282 ES 1352 27.32-0.01 1.0
 DQRL SZ 31 234 EP 1352 27.42 0.04 70 1.0
 DQRL SN 31 234 ES 1352 31.13 0.02 1.0
 BEYL BZ 32 270 EP 1352 27.48-0.07 0.2
 RCY SZ 42 181 EP 1352 29.03-0.04 57 1.0
 RCY SN 42 181 ES 1352 34.05 0.00 1.0
 HWQ BZ 46 12 EP 1352 29.78 0.02 1.0

June 17 2011 Hour: 9:16 12.0 Agency: **Distant**
EMSC OT=09:16:12.0 13.23N 41.73E 10Km M=5.6 ERITREA - ETHIOPIA
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 DQRL SZ EP 920 59.78
 RCY SZ EP 920 56.17
 HWQ BZ EP 921 3.12
 BHL BZ EP 921 0.10

June 18 2011 Hour: 10:48 44.2 Lat: **33.78N** Lon: **35.78E** Depth: **0** Agency: **REL Local**
Magnitudes: 2.9MC REL Rms: **0.0 secs**
BEIRUT REGION
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 BHL BZ 18 319 EP 1048 47.13-0.04 1.0
 BHL BN 18 319 ES 1048 49.38 0.01 1.0
 DQRL SZ 22 248 EP 1048 47.71 0.03 1.0
 DQRL SN 22 248 ES 1048 50.24-0.01 1.0
 BEYL BZ 29 291 EP 1048 48.85-0.01 0.2
 RCY SZ 32 171 EP 1048 49.32-0.02 51 1.0
 RCY SN 32 171 ES 1048 53.15 0.01 1.0
 HWQ BZ 57 15 EP 1048 53.47 0.02 1.0

June 18 2011 Hour: 11:45 58.8 Lat: **33.77N** Lon: **35.76E** Depth: **8** Agency: **REL Local**
Magnitudes: 2.6MC REL Rms: **0.1 secs**
BEIRUT REGION
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 BHL BZ 17 327 EP 1146 1.82-0.09 1.0
 DQRL SZ 19 246 EP 1146 2.01-0.11 1.0
 DQRL SN 19 246 ES 1146 4.72 0.11 1.0
 RCY SZ 32 166 EP 1146 4.14 0.04 36 1.0
 RCY SE 32 166 ES 1146 8.01-0.04 1.0
 HWQ BZ 59 18 EP 1146 8.43 0.09 1.0

June 18 2011 Hour: 14:57 20.0 Agency: **Regional**
EMSC OT=14:57:20.0 35.23N 27.77E 30Km M=4.7 DODECANESE ISLANDS
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 DQRL SZ EP 1458 55.31
 HWQ BZ EP 1458 57.05
 RCY SZ EP 1458 58.55

June 18 2011 Hour: 18:32 20.3 Lat: 34.53N Lon: 36.25E Depth: 6 Agency: REL Local
Magnitudes: 3.1MC REL Rms: 0.1 secs

AKKAR

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ	39	225	EP		1832	26.69	-0.08	64						1.0
HWQ	BN	39	225	ES		1832	31.63	0.07							1.0
BHL	BZ	88	219	EP		1832	34.56	-0.04							1.0
DQRL	SZ	111	215	EP		1832	38.20	0.15							1.0
DQRL	SN	111	215	ES		1832	51.09	-0.09							1.0
RCY	SZ	121	199	EP		1832	39.51	-0.03							1.0
RCY	SN	121	199	ES		1832	53.80	0.03							1.0

June 18 2011 Hour: 19:45 38.9 Lat: 33.01N Lon: 35.97E Depth: 0 Agency: REL Local
Magnitudes: 2.6MC REL Rms: 0.0 secs

NORTH GALILEE

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
RCY	SZ	56	348	EP		1945	47.79	-0.04	33						1.0
RCY	SE	56	348	ES		1945	54.46	-0.01							1.0
DQRL	SZ	86	335	EP		1945	52.69	-0.00							1.0
DQRL	SN	86	335	ES		1946	2.95	0.02							1.0
HWQ	BZ	141	359	EP		1946	1.56	0.04							1.0

June 18 2011 Hour: 20: 4 16.0

Agency: Distant

EMSC OT=20:04:16.0 19.32S 175.81W 200Km M=5.3 TONGA

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		2023	39.61								
HWQ	BZ			EP		2023	38.44								
FKH	SZ			EP		2023	38.12								
DQRL	SZ			EP		2023	40.29								

June 19 2011 Hour: 0:49 53.5 Lat: 32.94N Lon: 35.74E Depth: 8 Agency: REL Local
Magnitudes: 2.7MC REL Rms: 0.0 secs

NORTH GALILEE

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
RCY	SZ	63	9	EP		050	3.76	-0.02	36						1.0
RCY	SE	63	9	ES		050	11.34	-0.00							1.0
DQRL	SZ	87	350	EP		050	7.60	0.02							1.0
DQRL	SN	87	350	ES		050	17.97	0.00							1.0
BHL	BZ	107	356	EP		050	10.65	-0.04							1.0
HWQ	BZ	150	7	EP		050	16.99	0.04							1.0

June 19 2011 Hour: 9:38 0.0

Agency: REL Local

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
DQRL	SZ			EP		939	7.57								
RCY	SZ			EP		939	5.63								

June 19 2011 Hour: 9:58 59.8 Lat: 33.72N Lon: 37.18E Depth: 16 Agency: REL Local
Magnitudes: 3.2MC REL Rms: 0.0 secs

DAMASCUS REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
RCY	SZ	127	259	EP		959	19.59	0.03	73						1.0
RCY	SE	127	259	ES		959	34.18	-0.01							1.0
HWQ	BZ	130	299	EP		959	19.88	0.02							1.0
HWQ	BE	130	299	ES		959	34.72	0.01							1.0
BHL	BZ	143	278	EP		959	21.72	-0.08							1.0
DQRL	SZ	149	270	EP		959	22.79	0.03							1.0

June 19 2011 Hour: 11: 4 12.7 Lat: 34.52N Lon: 36.76E Depth: 14 Agency: REL Local
Magnitudes: 2.8MC REL Rms: 0.0 secs

NEBEK REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ	79	251	EP		11	4	25.37-0.00	42						1.0
HWQ	BE	79	251	ES		11	4	34.68-0.04							1.0
BHL	BZ	122	236	EP		11	4	31.76 0.05							1.0
DQRL	SZ	142	231	EP		11	4	34.60 0.03							1.0
RCY	SZ	142	217	EP		11	4	34.52-0.07							1.0
DQRL	SN	142	231	ES		11	4	50.75 0.03							1.0

June 20 2011 Hour: 10: 0 12.1 Lat: 35.06N Lon: 35.34E Depth: 8 Agency: REL Local
Magnitudes: 3.1MC REL Rms: 0.0 secs

OFFSHORE SYRIA

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ	103	147	EP		10	0	28.67-0.02	67						1.0
HWQ	BN	103	147	ES		10	0	40.97 0.01							1.0
BHL	BZ	132	167	EP		10	0	32.86 0.02							1.0
BHL	BN	132	167	ES		10	0	48.17-0.01							1.0
RCY	SZ	180	165	EP		10	0	39.73-0.00							1.0
RCY	SE	180	165	ES		10	1	0.17 0.00							1.0

June 20 2011 Hour: 10:13 33.5 Lat: 34.50N Lon: 36.72E Depth: 23 Agency: REL Local
Magnitudes: 3.1MC REL Rms: 0.0 secs

NEBEK REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ	76	251	EP		1013	45.74-0.03	64							1.0
HWQ	BE	76	251	ES		1013	54.87 0.02								1.0
BHL	BZ	119	236	EP		1013	52.03-0.00								1.0
DQRL	SZ	138	231	EP		1013	54.64-0.00								1.0
RCY	SZ	138	217	EP		1013	54.74 0.04								1.0
RCY	SE	138	217	ES		1014	10.36-0.02								1.0

June 20 2011 Hour: 13:41 10.3 Lat: 34.68N Lon: 36.34E Depth: 20 Agency: REL Local
Magnitudes: 3.0MC REL Rms: 0.0 secs

HERMEL BAALBEK REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ	57	219	EP		1341	19.82 0.04	61							1.0
HWQ	BE	57	219	ES		1341	26.80-0.02								1.0
BHL	BZ	106	217	EP		1341	26.89-0.06								1.0
DQRL	SZ	129	214	EP		1341	30.27 0.02								1.0
DQRL	SN	129	214	ES		1341	45.07 0.03								1.0
RCY	SZ	139	200	EP		1341	31.74 0.00								1.0
RCY	SN	139	200	ES		1341	47.62-0.01								1.0

June 20 2011 Hour: 23: 3 3.6 Lat: 33.80N Lon: 35.74E Depth: 22 Agency: REL Local
Magnitudes: 2.8MC REL Rms: 0.0 secs

BEIRUT REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ	14	328	EP		23	3	7.97 0.04							1.0
BHL	BE	14	328	ES		23	3	11.10-0.02							1.0
DQRL	SZ	18	237	EP		23	3	8.26-0.03							1.0
BEYL	BZ	24	291	EP		23	3	8.78 0.01							1.0
RCY	SZ	34	164	EP		23	3	10.16-0.01	43						1.0
RCY	SE	34	164	ES		23	3	15.02 0.01							1.0
HWQ	BZ	57	20	EP		23	3	13.19-0.01							1.0

June 22 2011 Hour: 5:52 51.4 Lat: 33.79N Lon: 35.76E Depth: 5 Agency: REL Local
Magnitudes: 2.6MC REL Rms: 0.0 secs

BEIRUT REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ	16	323	EP		552	54.20	-0.01							1.0
DQRL	SZ	20	243	EP		552	54.75	0.01							1.0
DQRL	SE	20	243	ES		552	57.21	0.00							1.0
RCY	SZ	33	167	EP		552	56.82	-0.02	35						1.0
RCY	SE	33	167	ES		553	0.88	0.01							1.0
HWQ	BZ	57	18	EP		553	0.70	0.02							1.0

June 22 2011 Hour: 21:50 47.0 Agency: Distant

EMSC OT=21:50:47.0 39.93N 142.27E 3Km M=6.7 COAST OF HONSHU

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		22 2	59.01								
HWQ	BZ			EP		22 2	56.87								
RCY	SZ			EP		22 3	0.39								
DQRL	SZ			EP		22 3	0.51								
BEYL	BZ			EP		22 2	59.41								

June 23 2011 Hour: 7:34 43.0 Agency: Regional

EMSC OT=07:34:43.0 38.58N 39.60E 5Km M=5.2 EASTERN TURKEY

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		736	9.07								
RCY	SZ			EP		736	13.74								
DQRL	SZ			EP		736	13.74								

June 23 2011 Hour: 10: 2 58.7 Lat: 34.36N Lon: 36.65E Depth: 8 Agency: REL Local
Magnitudes: 3.0MC REL Rms: 0.0 secs

NEBEK REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ	66	262	EP		10 3	9.38	-0.02	58						1.0
HWQ	BN	66	262	ES		10 3	17.32	0.01							1.0
BHL	BZ	105	242	EP		10 3	15.53	0.00							1.0
RCY	SZ	122	219	EP		10 3	18.05	0.02							1.0
RCY	SN	122	219	ES		10 3	32.33	-0.01							1.0
DQRL	SZ	123	234	EP		10 3	18.24	-0.00							1.0

June 23 2011 Hour: 12: 0 5.0 Agency: Regional

EMSC OT=12:00:05.0 38.57N 39.66E 8Km M=3.9 EASTERN TURKEY

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
FKH	SZ			EP		12 1	23.85								
HWQ	BZ			EP		12 1	26.80								

June 24 2011 Hour: 3: 9 40.0 Agency: Distant

EMSC OT=03:09:40.0 52.11N 171.83W 60Km M=7.3 FOX ISLANDS

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEYL	BZ			EP		322	39.39								
BHL	BZ			EP		322	38.16								
DQRL	SZ			EP		322	39.45								
HWQ	BZ			EP		322	36.05								
RCY	SZ			EP		322	39.93								

June 24 2011 Hour: 14:44 32.7 Lat: 33.87N Lon: 35.84E Depth: 0 Agency: REL Local
Magnitudes: 2.5MC REL Rms: 0.0 secs

BEIRUT REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ	17	282	EP		1444	35.46	-0.04	30						1.0
BHL	BN	17	282	ES		1444	37.56	-0.00							1.0
DQRL	SZ	31	233	EP		1444	37.77	0.07							1.0
RCY	SZ	42	180	EP		1444	39.43	-0.03							1.0
RCY	SN	42	180	ES		1444	44.45	-0.00							1.0
HWQ	BZ	46	13	EP		1444	40.17	0.02							1.0

June 24 2011 Hour: 17:39 27.0

Agency: Distant

EMSC OT=17:39:27.0 42.10N 142.49E 60Km M=5.6 HOKKAIDO

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		1751	25.46								
DQRL	SZ			EP		1751	26.82								
FKH	SZ			EP		1751	22.37								
HWQ	BZ			EP		1751	23.24								
RCY	SZ			EP		1751	26.95								

June 24 2011 Hour: 23: 7 0.1

Lat: 34.26N Lon: 36.38E Depth: 0 Agency: REL Local

Magnitudes: 3.4MC REL

Rms: 0.1 secs

HERMEL BAALBEK REGION

Earthquake was felt

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
FKH	SZ	3	124	EP		23 7	0.54-0.09		108						1.0
HWQ	BZ	40	273	EP		23 7	6.68 0.02		108						1.0
HWQ	BN	40	273	ES		23 7	11.52 0.03								1.0
BHL	BZ	78	240	EP		23 7	12.67-0.06								1.0
DQRL	SZ	97	231	EP		23 7	15.87 0.07								1.0
DQRL	SN	97	231	ES		23 7	27.22-0.18								1.0
RCY	SZ	99	211	EP		23 7	16.07 0.02								1.0
RCY	SN	99	211	ES		23 7	27.95 0.12								1.0
NAQL	SZ	171	223	EP		23 7	27.20 0.01								0.2

June 24 2011 Hour: 23:49 16.4

Lat: 33.11N Lon: 35.46E Depth: 0 Agency: REL Local

Magnitudes: 3.1MC REL

Rms: 0.1 secs

SOUTH LEBANON

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
NAQL	SZ	30	271	EP		2349	21.29 0.01								1.0
RCY	SZ	55	39	EP		2349	25.23-0.05		69						1.0
RCY	SE	55	39	ES		2349	31.85 0.02								1.0
DQRL	SZ	67	9	EP		2349	27.19 0.04								1.0
DQRL	SE	67	9	ES		2349	35.09-0.00								1.0
BEYL	BZ	84	2	EP		2349	30.39 0.38								0.2
BHL	BZ	90	11	EP		2349	30.77-0.10								1.0
HWQ	BZ	137	19	EP		2349	38.48 0.01								1.0
FKH	SZ	153	35	EP		2349	40.92 0.04								1.0

June 25 2011 Hour: 11: 6 57.3

Lat: 33.33N Lon: 35.83E Depth: 0 Agency: REL Local

Magnitudes: 2.8MC REL

Rms: 0.0 secs

MOUNT HERMON REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
RCY	SZ	18	0	EP		11 7	0.29 0.02		43						1.0
RCY	SE	18	0	ES		11 7	2.41-0.03								1.0
DQRL	SZ	48	329	EP		11 7	5.03-0.05								1.0
DQRL	SN	48	329	ES		11 7	10.86 0.03								1.0
HWQ	BZ	105	6	EP		11 7	14.35 0.03								1.0

June 25 2011 Hour: 11:39 2.3

Lat: 34.64N Lon: 36.87E Depth: 14 Agency: REL Local

Magnitudes: 3.1MC REL

Rms: 0.1 secs

NEBEK REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ	94	245	EP		1139	17.02-0.02								1.0
HWQ	BN	94	245	ES		1139	27.94-0.03								1.0
BHL	BZ	138	234	EP		1139	23.78 0.17								1.0
DQRL	SZ	158	229	EP		1139	26.47-0.06								1.0
RCY	SZ	159	217	EP		1139	26.52-0.09		56						1.0
RCY	SE	159	217	ES		1139	44.66 0.03								1.0

June 25 2011 Hour: 11:52 47.7 Lat: 34.43N Lon: 36.75E Depth: 5 Agency: REL Local
Magnitudes: 3.1MC REL Rms: 0.0 secs

NEBEK REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ	76	258	EP		1152	59.87	-0.05	63						1.0
HWQ	BE	76	258	ES		1153	9.00	0.03							1.0
BHL	BZ	116	240	EP		1153	6.41	0.07							1.0
RCY	SZ	133	219	EP		1153	8.87	0.01							1.0
RCY	SN	133	219	ES		1153	24.54	0.01							1.0
DQRL	SZ	135	234	EP		1153	9.05	-0.03							1.0
DQRL	SE	135	234	ES		1153	24.88	-0.04							1.0

June 25 2011 Hour: 13:39 56.2 Lat: 33.88N Lon: 35.84E Depth: 4 Agency: REL Local
Magnitudes: 2.7MC REL Rms: 0.0 secs

BEIRUT REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ	18	281	EP		1339	59.21	-0.03							1.0
DQRL	SZ	32	233	EP		1340	1.35	-0.05							1.0
DQRL	SN	32	233	ES		1340	5.27	0.05							1.0
RCY	SZ	42	181	EP		1340	3.09	0.01	41						1.0
RCY	SE	42	181	ES		1340	8.13	-0.01							1.0
HWQ	BZ	46	12	EP		1340	3.69	0.03							1.0

June 25 2011 Hour: 13:57 3.7 Lat: 33.32N Lon: 35.65E Depth: 0 Agency: REL Local
Magnitudes: 2.6MC REL Rms: 0.1 secs

MOUNT HERMON REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
RCY	SZ	27	41	EP		1357	7.98	0.01	32						1.0
RCY	SN	27	41	ES		1357	11.12	-0.03							1.0
DQRL	SZ	44	351	EP		1357	10.66	-0.08							1.0
DQRL	SN	44	351	ES		1357	15.97	0.02							1.0
BHL	BZ	65	1	EP		1357	14.38	0.19							0.2
HWQ	BZ	110	14	EP		1357	21.52	0.07							1.0

June 25 2011 Hour: 17:42 22.3 Lat: 33.79N Lon: 35.75E Depth: 8 Agency: REL Local
Magnitudes: 3.0MC REL Rms: 0.0 secs

BEIRUT REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ	15	324	EP		1742	25.23	-0.00							1.0
BHL	BE	15	324	ES		1742	27.35	-0.02							1.0
DQRL	SZ	20	240	EP		1742	25.86	0.02							1.0
BEYL	BZ	25	290	EP		1742	26.68	0.01							1.0
RCY	SZ	34	167	EP		1742	28.02	-0.04	62						1.0
RCY	SN	34	167	ES		1742	32.31	0.02							1.0
HWQ	BZ	57	19	EP		1742	31.57	-0.03							1.0
HWQ	BN	57	19	ES		1742	38.48	0.03							1.0

June 26 2011 Hour: 12:59 37.4 Lat: 33.79N Lon: 35.77E Depth: 0 Agency: REL Local
Magnitudes: 2.7MC REL Rms: 0.0 secs

BEIRUT REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ	17	320	EP		1259	40.05	-0.03							1.0
DQRL	SZ	21	244	EP		1259	40.74	0.03							1.0
DQRL	SN	21	244	ES		1259	43.17	-0.01							1.0
RCY	SZ	33	169	EP		1259	42.62	-0.05	38						1.0
RCY	SE	33	169	ES		1259	46.61	0.02							1.0
HWQ	BZ	57	17	EP		1259	46.54	0.03							1.0

June 26 2011 Hour: 14:40 31.2 Lat: 33.78N Lon: 35.74E Depth: 7 Agency: REL Local
Magnitudes: 2.6MC REL Rms: 0.0 secs

BEIRUT REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ	16	328	EP		1440	34.08	-0.02							1.0
DQRL	SZ	18	242	EP		1440	34.45	-0.01							1.0
DQRL	SN	18	242	ES		1440	36.89	0.02							1.0
RCY	SZ	33	165	EP		1440	36.69	-0.01	36						1.0
RCY	SE	33	165	ES		1440	40.76	0.00							1.0
HWQ	BZ	58	19	EP		1440	40.68	0.02							1.0

June 27 2011 Hour: 21:14 1.0 Agency: Regional
EMSC OT=21:14:01.0 39.15N 29.07E 15Km M=4.8 WESTERN TURKEY

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
RCY	SZ			EP		2115	54.47								
HWQ	BZ			EP		2115	48.69								
DQRL	SZ			EP		2115	50.59								

June 28 2011 Hour: 8:38 0.0 Agency: REL Local

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ			EP		839	17.57								
RCY	SZ			EP		839	26.23								

June 28 2011 Hour: 9:29 17.0 Agency: Regional
EMSC OT=09:29:17.0 35.97N 35.85E 2Km M=3.6 COAST OF SYRIA

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		929	53.67								
HWQ	BZ			EP		929	48.77								
RCY	SZ			EP		929	59.78								
DQRL	SZ			EP		929	56.93								

June 28 2011 Hour: 16:22 14.2 Lat: 33.79N Lon: 35.79E Depth: 0 Agency: REL Local
Magnitudes: 2.7MC REL Rms: 0.0 secs

BEIRUT REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ	18	316	EP		1622	17.05	-0.02							1.0
DQRL	SZ	22	246	EP		1622	17.77	0.01							1.0
DQRL	SN	22	246	ES		1622	20.41	0.01							1.0
RCY	SZ	33	172	EP		1622	19.48	0.03	37						1.0
RCY	SN	33	172	ES		1622	23.32	-0.03							1.0
HWQ	BZ	56	15	EP		1622	23.28	0.01							1.0

June 29 2011 Hour: 19:48 5.0 Agency: Regional
EMSC OT=19:48:05.0 37.36N 35.90E 5Km M=4.5 CENTRAL TURKEY

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		1949	0.48								
DQRL	SZ			EP		1949	3.27								
HWQ	BZ			EP		1948	55.72								
RCY	SZ			EP		1949	6.75								

June 29 2011 Hour: 22:53 52.6 Lat: 33.79N Lon: 35.80E Depth: 0 Agency: REL Local
Magnitudes: 2.7MC REL Rms: 0.0 secs

BEIRUT REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ	19	313	EP		2253	55.67	0.01							1.0
DQRL	SZ	23	247	EP		2253	56.45	0.03							1.0
DQRL	SN	23	247	ES		2253	59.21	-0.02							1.0
RCY	SZ	33	175	EP		2253	57.88	-0.02	40						1.0
RCY	SE	33	175	ES		2254	1.82	0.01							1.0
HWQ	BZ	56	14	EP		2254	1.63	-0.01							1.0

June 30 2011 Hour: 13:39 59.2 Lat: 33.79N Lon: 35.77E Depth: 0 Agency: REL Local
 Magnitudes: 2.9MC REL Rms: 0.0 secs

BEIRUT REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ	17	320	EP		1340	1.99	-0.03	52						1.0
BHL	BE	17	320	ES		1340	4.09	0.02							1.0
DQRL	SZ	21	245	EP		1340	2.58	-0.03							1.0
DQRL	SN	21	245	ES		1340	5.10	-0.00							1.0
BEYL	BZ	28	290	EP		1340	3.73	0.03							1.0
RCY	SZ	33	170	EP		1340	4.53	0.01							1.0
RCY	SE	33	170	ES		1340	8.43	0.01							1.0
HWQ	BZ	57	16	EP		1340	8.42	-0.01							1.0

June 30 2011 Hour: 15:26 5.5 Lat: 33.79N Lon: 35.78E Depth: 11 Agency: REL Local
 Magnitudes: 2.6MC REL Rms: 0.0 secs

BEIRUT REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ	17	318	EP		1526	8.88	-0.00	35						1.0
DQRL	SZ	22	244	EP		1526	9.43	-0.03							1.0
DQRL	SN	22	244	ES		1526	12.45	0.02							1.0
RCY	SZ	33	171	EP		1526	11.14	-0.02							1.0
RCY	SE	33	171	ES		1526	15.39	0.01							1.0
HWQ	BZ	56	16	EP		1526	14.82	0.05							1.0
HWQ	BN	56	16	ES		1526	21.63	-0.03							1.0

Epicentral Map of Lebanon

JUNE 2011

