

Republic of Lebanon  
National Council for Scientific Research

# Provisional Seismological Bulletin

from the

## NATIONAL SEISMIC NETWORK

August

2016

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	Nov2000-Sep2012
FKH	3414.69N	3624.61E	1152	FAKEHEH	Opened Dec 2004
RCY	3329.79N	3550.14E	1370	RACHAYA	Opened Jun 2006
BEYL	3352.30N	3529.59E	49	BEIRUT	Opened Jul 2006
NAQL	3307.02N	3508.46E	83	NAQOURA	Jul2008-Jan2012
DQRL	3342.34N	3534.21E	963	DEIR QAMAR	Opened Mar 2010
QRWL	3332.86N	3540.93E	875	QARAOUN	Opened Oct 2011
SHBL	3320.90N	3544.63E	1422	CHEBAA	Opened Oct 2011
ZAHL	3351.48N	3553.12E	1211	ZAHLE	Opened Aug 2015

## 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 ( $0.5 * (\text{peak to peak})$ ), (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.

August 1 2016 Hour: 7:42 50.5 Agency: REL Distant  
 EMSC OT=07:42:50.5 23.96S 2.47E 10Km M=5.7 SOUTH INDIAN OCEAN  
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT  
 BHL BZ EP 754 19.84  
 HWQ BZ EP 754 20.33

August 1 2016 Hour: 15:14 34.1 Lat: 33.79N Lon: 35.78E Depth: 12 Agency: REL Local  
 Magnitudes: 2.8MC REL Rms: 0.0 secs

**ALEY REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	13	53	EP		1514	37.11	0.02							1.0
BHL	BZ	17	318	EP		1514	37.56	-0.06							1.0
BHL	BN	17	318	ES		1514	40.19	-0.01							1.0
DQRL	SZ	21	244	EP		1514	38.20	0.02	48						1.0
DQRL	SN	21	244	ES		1514	41.20	0.03							1.0
RCY	SZ	33	171	EP		1514	39.84	-0.03							1.0
HWQ	BZ	56	16	EP		1514	43.51	0.03							1.0

August 2 2016 Hour: 1:17 3.9 Lat: 33.68N Lon: 35.79E Depth: 18 Agency: REL Local  
 Magnitudes: 2.4MC REL Rms: 0.0 secs

**WEST BEKAA REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
QRWL	SZ	18	215	EP		117	8.21	0.04							1.0
DQRL	SZ	21	277	EP		117	8.56	0.08							1.0
DQRL	SN	21	277	ES		117	11.78	-0.06							1.0
RCY	SZ	21	169	EP		117	8.47	-0.06							1.0
RCY	SN	21	169	ES		117	11.94	0.02							1.0
ZAHL	SZ	21	23	EP		117	8.49	-0.05							1.0
ZAHL	SN	21	23	ES		117	11.97	0.03							1.0
BHL	BZ	28	332	EP		117	9.31	-0.01	27						1.0

August 2 2016 Hour: 6:11 44.8 Lat: 33.88N Lon: 35.84E Depth: 0 Agency: REL Local  
 Magnitudes: 2.7MC REL Rms: 0.1 secs

**BAABDA REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	5	119	EP		611	45.60	-0.02							1.0
BHL	BZ	18	279	EP		611	47.66	0.00	38						1.0
BHL	BN	18	279	ES		611	49.73	-0.02							1.0
DQRL	SZ	32	233	EP		611	49.99	0.07							1.0
DQRL	SN	32	233	ES		611	53.69	0.00							1.0
QRWL	SZ	40	202	EP		611	51.11	-0.10							1.0
RCY	SZ	42	181	EP		611	51.61	-0.06							1.0
RCY	SN	42	181	ES		611	56.81	0.08							1.0
HWQ	BZ	45	12	EP		611	52.19	0.04							1.0

August 2 2016 Hour: 15: 5 2.8 Lat: 33.78N Lon: 35.78E Depth: 7 Agency: REL Local  
 Magnitudes: 3.1MC REL Rms: 0.0 secs

**ALEY REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	13	49	EP		15	5	5.39	0.01	72					1.0
BHL	BZ	18	321	EP		15	5	5.97	-0.05	63					1.0
BHL	BN	18	321	ES		15	5	8.37	-0.00						1.0
DQRL	SZ	21	247	EP		15	5	6.52	0.09						1.0
DQRL	SN	21	247	ES		15	5	9.09	-0.01						1.0
QRWL	SZ	27	199	EP		15	5	7.33	-0.06						1.0
RCY	SZ	32	170	EP		15	5	8.13	-0.01						1.0
RCY	SN	32	170	ES		15	5	12.09	0.02						1.0
HWQ	BZ	58	16	EP		15	5	12.23	0.02						1.0

August 2 2016 Hour: 15:49 11.4 Lat: 33.80N Lon: 35.77E Depth: 4 Agency: REL Local  
Magnitudes: 2.6MC REL Rms: 0.1 secs

ALEY REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	13	57	EP		1549	13.59	-0.03							1.0
BHL	BZ	16	318	EP		1549	14.00	-0.15	35						1.0
BHL	BN	16	318	ES		1549	16.20	-0.01							1.0
DQRL	SZ	21	242	EP		1549	14.88	-0.04							1.0
DQRL	SN	21	242	ES		1549	17.67	0.12							1.0
HWQ	BZ	56	17	EP		1549	20.38	-0.05							1.0
HWQ	BN	56	17	ES		1549	27.29	0.16							1.0

August 2 2016 Hour: 22:47 50.1 Lat: 33.81N Lon: 35.79E Depth: 10 Agency: REL Local  
Magnitudes: 2.5MC REL Rms: 0.0 secs

ZAHLE REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	10	55	EP		2247	52.54	-0.03							1.0
BHL	BZ	17	311	EP		2247	53.37	0.02	31						1.0
BHL	BN	17	311	ES		2247	55.82	0.03							1.0
DQRL	SZ	23	242	EP		2247	54.16	-0.09							1.0
DQRL	SN	23	242	ES		2247	57.35	-0.01							1.0
QRWL	SZ	30	200	EP		2247	55.36	0.09							1.0
QRWL	SN	30	200	ES		2247	59.13	-0.00							1.0
HWQ	BZ	54	15	EP		2247	59.01	-0.01							1.0

August 3 2016 Hour: 15:34 32.5 Lat: 33.80N Lon: 35.77E Depth: 7 Agency: REL Local  
Magnitudes: 2.6MC REL Rms: 0.1 secs

ALEY REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	13	57	EP		1534	34.95	-0.04							1.0
BHL	BZ	16	318	EP		1534	35.36	-0.09	33						1.0
BHL	BN	16	318	ES		1534	37.66	0.03							1.0
DQRL	SZ	21	242	EP		1534	36.18	-0.02							1.0
DQRL	SN	21	242	ES		1534	38.96	0.03							1.0
RCY	SZ	34	170	EP		1534	38.06	-0.10							1.0
RCY	SN	34	170	ES		1534	42.42	0.08							1.0
HWQ	BZ	56	17	EP		1534	41.72	0.11							1.0

August 4 2016 Hour: 9:30 51.7 Lat: 33.50N Lon: 35.69E Depth: 8 Agency: REL Local  
Magnitudes: 2.5MC REL Rms: 0.1 secs

WEST BEKAA REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
QRWL	SZ	5	357	EP		930	53.35	-0.10	30						1.0
RCY	SZ	14	91	EP		930	54.51	0.07							1.0
RCY	SN	14	91	ES		930	56.49	-0.01							1.0
DQRL	SZ	25	335	EP		930	56.09	0.04							1.0
DQRL	SN	25	335	ES		930	59.32	0.03							1.0
HWQ	BZ	90	16	EP		931	6.18	-0.04							1.0

August 4 2016 Hour: 16:9 13.7 Lat: 33.79N Lon: 35.76E Depth: 5 Agency: REL Local  
Magnitudes: 2.7MC REL Rms: 0.1 secs

ALEY REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	14	56	EP		16 9	16.10	-0.04							1.0
BHL	BZ	16	322	EP		16 9	16.46	-0.04	37						1.0
DQRL	SZ	20	243	EP		16 9	17.06	-0.02							1.0
DQRL	SN	20	243	ES		16 9	19.66	0.04							1.0
RCY	SZ	33	168	EP		16 9	18.98	-0.15							1.0
RCY	SN	33	168	ES		16 9	23.29	0.11							1.0
HWQ	BZ	57	17	EP		16 9	23.00	0.11							1.0

**August 4 2016 Hour: 16:24 34.3** Agency: REL Distant  
**EMSC OT=16:24:34.3 24.98N 141.99E 524Km M=6.3 VOLCANO ISLANDS, JAPAN REGION**  
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT  
 BHL BZ EP 1636 31.55  
 HWQ BZ EP 1636 29.67

**August 5 2016 Hour: 14:29 25.3 Lat: 34.59N Lon: 36.28E Depth: 5 Agency: REL Local**  
**Magnitudes: 3.1MC REL Rms: 0.1 secs**  
**AKKAR REGION**  
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT  
 HWQ BZ 46 222 EP 1429 32.55-0.24 67 1.0  
 HWQ BN 46 222 ES 1429 38.48 0.13 1.0  
 BHL BZ 95 218 EP 1429 40.70 0.02 1.0  
 DQRL SZ 118 214 EP 1429 44.40 0.22 1.0  
 DQRL SN 118 214 ES 1429 58.05-0.12 1.0  
 RCY SZ 128 199 EP 1429 45.68 0.01 1.0  
 RCY SN 128 199 ES 1430 0.76-0.01 1.0

**August 7 2016 Hour: 12:9 20.7 Lat: 33.81N Lon: 35.67E Depth: 2 Agency: REL Local**  
**Magnitudes: 2.3MC REL Rms: 0.0 secs**  
**BAABDA REGION**  
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT  
 BHL BZ 10 353 EP 12 9 22.47-0.01 24 1.0  
 BHL BN 10 353 ES 12 9 23.78 0.01 1.0  
 DQRL SZ 15 217 EP 12 9 23.16-0.00 1.0  
 ZAHL SZ 21 76 EP 12 9 24.16 0.02 1.0  
 ZAHL SN 21 76 ES 12 9 26.65-0.01 1.0  
 HWQ BZ 58 26 EP 12 9 30.07-0.00 1.0

**August 7 2016 Hour: 15:47 4.3** Agency: REL Regional  
**EMSC OT=15:47:04.3 37.34N 37.10E 12Km M=3.4 CENTRAL TURKEY**  
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT  
 HWQ BZ EP 1547 57.64  
 BHL BZ EP 1548 1.41  
 DQRL SZ EP 1548 6.44

**August 7 2016 Hour: 16:8 19.3** Agency: REL Regional  
**EMSC OT=16:08:19.3 35.29N 31.60E 40Km M=4.2 CYPRUS REGION**  
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT  
 BHL BZ EP 16 9 12.14  
 DQRL SZ EP 16 9 11.97  
 HWQ BZ EP 16 9 14.18  
 ZAHL SZ EP 16 9 15.02  
 RCY SZ EP 16 9 16.58

**August 9 2016 Hour: 10:51 22.9 Lat: 33.51N Lon: 35.69E Depth: 0 Agency: REL Local**  
**Magnitudes: 2.4MC REL Rms: 0.1 secs**  
**WEST BEKAA REGION**  
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT  
 QRWL SZ 4 347 EP 1051 23.51-0.10 25 1.0  
 RCY SZ 13 96 EP 1051 25.01-0.04 1.0  
 RCY SN 13 96 ES 1051 26.73 0.07 1.0  
 DQRL SZ 25 333 EP 1051 26.91 0.06 1.0  
 DQRL SN 25 333 ES 1051 29.87 0.08 1.0  
 HWQ BZ 89 15 EP 1051 37.08-0.07 1.0

August 9 2016 Hour: 15:17 38.5 Lat: 33.78N Lon: 35.78E Depth: 2 Agency: REL Local  
Magnitudes: 2.7MC REL Rms: 0.1 secs

**ALEY REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	13	48	EP		1517	40.54	-0.06							1.0
ZAHL	SN	13	48	ES		1517	42.20	0.02							1.0
BHL	BZ	18	319	EP		1517	41.33	-0.12	40						1.0
BHL	BN	18	319	ES		1517	43.77	0.10							1.0
DQRL	SZ	22	247	EP		1517	42.05	0.08							1.0
DQRL	SN	22	247	ES		1517	44.48	-0.09							1.0
QRWL	SZ	28	200	EP		1517	43.00	0.07							1.0
HWQ	BZ	57	15	EP		1517	47.71	0.01							1.0

August 10 2016 Hour: 3:28 34.6 Agency: REL Regional  
EMSC OT=03:28:34.6 35.79N 28.23E 2Km M=3.8 EASTERN MEDITERRANEAN SEA

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
RCY	SZ			EP		330	12.98								
HWQ	BZ			EP		330	10.00								

August 10 2016 Hour: 6: 2 13.1 Lat: 33.87N Lon: 35.84E Depth: 0 Agency: REL Local  
Magnitudes: 2.8MC REL Rms: 0.1 secs

**ZAHLE REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	4	110	EP		6 2	13.83	0.00							1.0
BHL	BZ	18	282	EP		6 2	15.96	-0.05	47						1.0
BHL	BN	18	282	ES		6 2	18.13	-0.03							1.0
DQRL	SZ	31	234	EP		6 2	18.14	-0.02							1.0
DQRL	SE	31	234	ES		6 2	22.03	0.13							1.0
QRWL	SZ	39	203	EP		6 2	19.28	-0.10							1.0
QRWL	SN	39	203	ES		6 2	23.97	-0.05							1.0
RCY	SZ	42	181	EP		6 2	19.91	0.09							1.0
RCY	SN	42	181	ES		6 2	24.76	-0.02							1.0
HWQ	BZ	46	12	EP		6 2	20.59	0.03							1.0

August 10 2016 Hour: 22:39 20.4 Lat: 33.78N Lon: 35.80E Depth: 8 Agency: REL Local  
Magnitudes: 3.1MC REL Rms: 0.0 secs

**ALEY REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	12	44	EP		2239	22.84	0.02	67						1.0
BHL	BZ	19	316	EP		2239	23.70	-0.08							1.0
DQRL	SZ	23	248	EP		2239	24.37	0.05							1.0
DQRL	SN	23	248	ES		2239	27.27	0.02							1.0
QRWL	SZ	28	202	EP		2239	25.10	-0.03							1.0
RCY	SZ	32	174	EP		2239	25.74	0.01							1.0
RCY	SN	32	174	ES		2239	29.69	-0.02							1.0
HWQ	BZ	57	14	EP		2239	29.68	0.03							1.0

August 11 2016 Hour: 3:40 17.1 Lat: 33.73N Lon: 35.41E Depth: 6 Agency: REL Local  
Magnitudes: 2.4MC REL Rms: 0.0 secs

**OFFSHORE CENTRAL LEBANON**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
DQRL	SZ	15	101	EP		340	19.78	0.00	27						1.0
DQRL	SN	15	101	ES		340	21.77	-0.01							1.0
BHL	BZ	30	49	EP		340	22.02	0.02							1.0
QRWL	SZ	32	129	EP		340	22.41	-0.01							1.0
QRWL	SN	32	129	ES		340	26.40	0.02							1.0
ZAHL	SZ	46	72	EP		340	24.60	-0.02							1.0



**August 11 2016 Hour: 10:54 15.1 Lat: 33.51N Lon: 35.68E Depth: 0 Agency: REL Local**  
**Magnitudes: 2.8MC REL Rms: 0.1 secs**

**WEST BEKAA REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
QRWL	SZ	4	359	EP		1054	15.71	-0.08							1.0
RCY	SZ	14	95	EP		1054	17.27	-0.09	46						1.0
RCY	SN	14	95	ES		1054	19.12	0.06							1.0
DQRL	SZ	24	335	EP		1054	19.11	0.12							1.0
DQRL	SN	24	335	ES		1054	21.86	-0.04							1.0
ZAHL	SZ	43	26	EP		1054	22.02	-0.00							1.0
BHL	BZ	44	357	EP		1054	22.15	-0.02							1.0
HWQ	SZ	89	16	EP		1054	29.45	0.06							1.0

**August 11 2016 Hour: 15:10 14.8 Lat: 33.78N Lon: 35.78E Depth: 5 Agency: REL Local**  
**Magnitudes: 2.8MC REL Rms: 0.1 secs**

**ALEY REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	13	49	EP		1510	17.19	0.02							1.0
BHL	BZ	18	320	EP		1510	17.75	-0.11	46						1.0
DQRL	SZ	21	247	EP		1510	18.41	0.09							1.0
DQRL	SN	21	247	ES		1510	20.94	0.01							1.0
RCY	SZ	32	170	EP		1510	19.94	-0.11							1.0
RCY	SN	32	170	ES		1510	23.99	0.04							1.0
HWQ	BZ	57	16	EP		1510	24.17	0.07							1.0

**August 12 2016 Hour: 3:29 24.8 Agency: REL Distant**  
**EMSC OT=03:29:24.8 25.34S 176.89W 60Km M=6.0 SOUTH OF FIJI ISLANDS**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ			EP		349	9.82								
BHL	BZ			EP		349	10.38								
DQRL	SZ			EP		349	11.42								
QRWL	SZ			EP		349	11.10								

**August 12 2016 Hour: 22:53 34.0 Lat: 33.79N Lon: 35.79E Depth: 6 Agency: REL Local**  
**Magnitudes: 3.0MC REL Rms: 0.0 secs**

**ALEY REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	12	47	EP		2253	36.29	0.01							1.0
BHL	BZ	18	316	EP		2253	37.18	-0.03							1.0
DQRL	SZ	22	247	EP		2253	37.85	0.02	61						1.0
DQRL	SN	22	247	ES		2253	40.62	-0.01							1.0
QRWL	SZ	28	201	EP		2253	38.73	-0.02							1.0
BEYL	SZ	29	289	EP		2253	38.89	0.03							1.0
RCY	SZ	32	173	EP		2253	39.37	-0.03							1.0
RCY	SN	32	173	ES		2253	43.39	0.02							1.0
HWQ	BZ	56	15	EP		2253	43.21	-0.00							1.0

**August 13 2016 Hour: 14: 2 35.0 Lat: 33.78N Lon: 35.77E Depth: 2 Agency: REL Local**  
**Magnitudes: 2.6MC REL Rms: 0.1 secs**

**ALEY REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	14	53	EP		14 2	37.31	-0.01							1.0
BHL	BZ	17	322	EP		14 2	37.76	-0.07	36						1.0
BHL	BN	17	322	ES		14 2	39.89	0.01							1.0
DQRL	SZ	20	244	EP		14 2	38.28	-0.08							1.0
DQRL	SN	20	244	ES		14 2	40.89	0.08							1.0
HWQ	BZ	57	17	EP		14 2	44.36	0.07							1.0

August 13 2016 Hour: 16:22 50.9 Lat: 33.99N Lon: 36.09E Depth: 35 Agency: REL Local  
Magnitudes: 2.6MC REL Rms: 0.0 secs

BAALBECK REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	24	231	EP		1622	57.57	0.01							1.0
ZAHL	SN	24	231	ES		1623	2.49	-0.00							1.0
HWQ	BZ	34	337	EP		1622	58.47	0.00							1.0
BHL	BZ	42	256	EP		1622	59.26	-0.01	34						1.0
BHL	BN	42	256	ES		1623	5.46	0.00							1.0
DQRL	SZ	58	236	EP		1623	1.21	0.00							1.0

August 14 2016 Hour: 10:51 40.8 Lat: 33.80N Lon: 35.76E Depth: 6 Agency: REL Local  
Magnitudes: 2.8MC REL Rms: 0.1 secs

ALEY REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	13	60	EP		1051	43.20	-0.01							1.0
BHL	BZ	16	318	EP		1051	43.57	-0.00							1.0
BHL	BN	16	318	ES		1051	45.58	-0.03							1.0
DQRL	SZ	21	240	EP		1051	44.26	-0.13	48						1.0
DQRL	SN	21	240	ES		1051	47.12	0.10							1.0
HWQ	BZ	56	17	EP		1051	49.93	0.06							1.0

August 14 2016 Hour: 12:28 55.2 Lat: 33.83N Lon: 35.72E Depth: 29 Agency: REL Local  
Magnitudes: 2.6MC REL Rms: 0.0 secs

BAABDA REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ	10	326	EP		1229	0.08	-0.04	33						1.0
DQRL	SZ	19	225	EP		1229	0.68	-0.03							1.0
DQRL	SN	19	225	ES		1229	4.82	0.04							1.0
RCY	SZ	39	163	EP		1229	2.80	0.02							1.0
RCY	SN	39	163	ES		1229	8.36	-0.02							1.0
HWQ	BZ	54	23	EP		1229	4.79	0.02							1.0

August 14 2016 Hour: 15:21 52.5 Lat: 33.78N Lon: 35.79E Depth: 9 Agency: REL Local  
Magnitudes: 2.7MC REL Rms: 0.1 secs

ALEY REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	12	49	EP		1521	55.09	0.03							1.0
BHL	BZ	18	317	EP		1521	55.68	-0.12	37						1.0
DQRL	SZ	22	246	EP		1521	56.39	0.04							1.0
DQRL	SN	22	246	ES		1521	59.26	0.05							1.0
RCY	SZ	32	172	EP		1521	57.92	-0.03							1.0
RCY	SN	32	172	ES		1522	1.99	-0.01							1.0
HWQ	BZ	57	15	EP		1522	1.83	0.06							1.0

August 15 2016 Hour: 15:37 5.6 Lat: 34.04N Lon: 36.19E Depth: 43 Agency: REL Local  
Magnitudes: 2.7MC REL Rms: 0.0 secs

BAALBECK REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ	35	319	EP		1537	13.93	-0.01	38						1.0
HWQ	BN	35	319	ES		1537	20.10	0.01							1.0
BHL	BZ	52	253	EP		1537	15.59	-0.06							1.0
DQRL	SZ	69	237	EP		1537	17.56	0.05							1.0
RCY	SZ	69	209	EP		1537	17.58	-0.00							1.0
RCY	SN	69	209	ES		1537	26.43	-0.00							1.0

August 17 2016 Hour: 12:23 0.1 Lat: 33.66N Lon: 35.49E Depth: 2 Agency: REL Local  
Magnitudes: 2.9MC REL Rms: 0.2 secs

CHOUF REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
DQRL	SZ	9	53	EP		1223	1.67	0.01	55						1.0
DQRL	SN	9	53	ES		1223	2.81	-0.01							1.0
QRWL	SZ	21	124	EP		1223	3.55	-0.03							1.0

BEYL	SZ	24	0	EP	1223	4.16	0.19										0.2
BHL	BZ	31	29	EP	1223	5.22	0.04										1.0
RCY	SZ	37	119	EP	1223	5.99	-0.03										1.0
RCY	SN	37	119	ES	1223	10.47	0.07										1.0
ZAHL	SZ	43	58	EP	1223	6.90	-0.12										1.0
HWQ	BZ	81	31	EP	1223	14.16	1.02										0.2

**August 18 2016 Hour: 6:14 14.0 Lat: 33.65N Lon: 35.68E Depth: 10 Agency: REL Local**  
**Magnitudes: 2.7MC REL Rms: 0.1 secs**

**CHOUF REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
QRWL	SZ	12	180	EP		614	16.70	0.06	39						1.0
QRWL	SN	12	180	ES		614	18.57	-0.01							1.0
DQRL	SZ	12	299	EP		614	16.71	0.05							1.0
DQRL	SN	12	299	ES		614	18.62	0.00							1.0
RCY	SZ	23	141	EP		614	18.02	-0.10							1.0
RCY	SN	23	141	ES		614	21.18	0.03							1.0
BHL	BZ	28	355	EP		614	18.71	-0.17							1.0
HWQ	BZ	73	19	EP		614	26.16	0.14							1.0

**August 19 2016 Hour: 21:51 19.6 Lat: 33.99N Lon: 34.88E Depth: 10 Agency: REL Local**  
**Magnitudes: 3.3MC REL Rms: 0.1 secs**

**OFFSHORE CENTRAL LEBANON**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEYL	SZ	58	103	EP		2151	29.31	0.13							0.2
DQRL	SZ	71	116	EP		2151	31.28	0.00	89						1.0
DQRL	SE	71	116	ES		2151	40.01	0.12							1.0
BHL	BZ	72	97	EP		2151	31.31	-0.12							1.0
BHL	BN	72	97	ES		2151	40.09	-0.06							1.0
QRWL	SZ	89	123	EP		2151	33.98	0.03							1.0
QRWL	SN	89	123	ES		2151	44.50	-0.03							1.0
ZAHL	SZ	94	99	EP		2151	34.86	0.15							1.0
HWQ	BZ	103	72	EP		2151	36.12	0.06							1.0
HWQ	BN	103	72	ES		2151	48.19	-0.02							1.0
RCY	SZ	104	122	EP		2151	36.06	-0.13							1.0
RCY	SN	104	122	ES		2151	48.44	-0.00							1.0

**August 20 2016 Hour: 9:1 26.2 Agency: REL Distant**  
**EMSC OT=09:01:26.2 40.39N 143.67E 10Km M=6.0 OFF EAST COAST OF HONSHU, JAPAN**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		913	38.76								
HWQ	BZ			EP		913	37.04								

**August 20 2016 Hour: 14:21 8.8 Lat: 33.78N Lon: 35.77E Depth: 0 Agency: REL Local**  
**Magnitudes: 2.7MC REL Rms: 0.1 secs**

**ALEY REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	14	49	EP		1421	11.05	-0.03							1.0
BHL	BZ	18	322	EP		1421	11.66	-0.06	42						1.0
DQRL	SZ	20	247	EP		1421	12.31	0.21							1.0
DQRL	SN	20	247	ES		1421	14.42	-0.11							1.0
RCY	SZ	32	169	EP		1421	13.90	-0.03							1.0
RCY	SN	32	169	ES		1421	17.70	-0.01							1.0
HWQ	BZ	58	16	EP		1421	18.20	0.03							1.0

**August 21 2016 Hour: 22:55 23.8 Lat: 33.78N Lon: 35.80E Depth: 4 Agency: REL Local**  
**Magnitudes: 2.8MC REL Rms: 0.0 secs**

**ALEY REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	12	45	EP		2255	25.90	0.00							1.0
BHL	BZ	19	315	EP		2255	26.88	-0.07	43						1.0
BHL	BN	19	315	ES		2255	29.28	0.01							1.0
DQRL	SZ	23	247	EP		2255	27.60	0.02							1.0
DQRL	SN	23	247	ES		2255	30.39	0.02							1.0

QRWL	SZ	28	202	EP		2255	28.46	-0.01									1.0
RCY	SZ	32	173	EP		2255	29.07	-0.02									1.0
RCY	SN	32	173	ES		2255	33.00	0.00									1.0
HWQ	BZ	56	14	EP		2255	33.00	0.04									1.0

**August 22 2016 Hour: 19: 9 32.6 Lat: 34.22N Lon: 35.55E Depth: 13 Agency: REL Local**  
**Magnitudes: 2.6MC REL Rms: 0.0 secs**

**OFFSHORE CENTRAL LEBANON**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ	37	164	EP		19	9	38.99	0.03						1.0
BHL	BE	37	164	ES		19	9	43.66	-0.02						1.0
HWQ	BZ	37	81	EP		19	9	39.01	-0.01	33					1.0
HWQ	BN	37	81	ES		19	9	43.78	0.01						1.0
DQRL	SZ	58	178	EP		19	9	42.11	-0.02						1.0
DQRL	SN	58	178	ES		19	9	49.19	0.01						1.0

**August 23 2016 Hour: 10:14 11.5 Lat: 33.53N Lon: 35.71E Depth: 1 Agency: REL Local**  
**Magnitudes: 2.6MC REL Rms: 0.1 secs**

**RACHAYA REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
QRWL	SZ	3	295	EP		1014	12.12	-0.04							1.0
RCY	SZ	12	111	EP		1014	13.58	0.06	37						1.0
RCY	SN	12	111	ES		1014	14.99	-0.00							1.0
DQRL	SZ	23	325	EP		1014	15.29	-0.00							1.0
DQRL	SN	23	325	ES		1014	18.15	0.08							1.0
BHL	BZ	41	352	EP		1014	18.12	-0.09							1.0
BHL	BN	41	352	ES		1014	23.17	0.02							1.0
HWQ	BZ	85	15	EP		1014	25.25	-0.03							1.0

**August 23 2016 Hour: 19:39 44.5 Agency: REL Distant**  
**EMSC OT=19:39:44.5 7.32S 122.44E 539Km M=6.1 FLORES SEA**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		1951	53.87								
HWQ	BZ			EP		1951	53.17								

**August 24 2016 Hour: 1:36 32.3 Agency: REL Distant**  
**EMSC OT=01:36:32.3 42.71N 13.22E 4Km M=6.2 CENTRAL ITALY**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		141	2.61								
HWQ	BZ			EP		141	2.71								
QRWL	SZ			EP		141	5.53								
RCY	SZ			EP		141	6.84								

**August 24 2016 Hour: 2:33 29.4 Agency: REL Distant**  
**EMSC OT=02:33:29.4 42.79N 13.15E 9Km M=5.5 CENTRAL ITALY**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		237	59.95								
HWQ	BZ			EP		238	0.31								

**August 24 2016 Hour: 10:34 54.7 Agency: REL Distant**  
**EMSC OT=10:34:54.7 20.95N 94.61E 85Km M=6.8 MYANMAR**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ			EP		1044	3.98								
RCY	SZ			EP		1044	4.23								
QRWL	SZ			EP		1044	5.04								
BHL	BZ			EP		1044	5.20								
DQRL	SZ			EP		1044	6.02								

August 24 2016 Hour: 12:48 43.5 Lat: 33.96N Lon: 36.36E Depth: 0 Agency: REL Local  
Magnitudes: 2.8MC REL Rms: 0.0 secs

SYRIA REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	46	256	EP		1248	50.81	-0.02							1.0
HWQ	BZ	52	313	EP		1248	51.88	-0.04	45						1.0
HWQ	BN	52	313	ES		1248	58.21	0.03							1.0
QRWL	SZ	78	234	EP		1248	56.10	0.07							1.0
QRWL	SN	78	234	ES		1249	5.29	-0.02							1.0
DQRL	SZ	79	249	EP		1248	56.13	-0.02							1.0

August 24 2016 Hour: 13:49 22.0 Lat: 34.71N Lon: 36.18E Depth: 0 Agency: REL Local  
Magnitudes: 2.9MC REL Rms: 0.1 secs

SYRIA REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ	52	204	EP		1349	30.37	-0.04	47						1.0
HWQ	BN	52	204	ES		1349	36.49	-0.16							1.0
ZAHL	SZ	98	196	EP		1349	37.86	0.06							1.0
BHL	BZ	101	209	EP		1349	38.22	-0.12							1.0
DQRL	SZ	125	207	EP		1349	42.17	0.10							1.0
DQRL	SN	125	207	ES		1349	57.10	0.16							1.0

August 24 2016 Hour: 13:48 45.5 Agency: REL Distant  
EMSC OT=13:48:45.5 2.9IS 100.11E 20Km M=5.7 KEP. MENTAWAI REGION, INDONESIA

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ			EP		14 0	1.13								
BHL	BZ			EP		14 0	1.90								

August 24 2016 Hour: 16: 4 26.2 Lat: 33.78N Lon: 35.76E Depth: 6 Agency: REL Local  
Magnitudes: 2.7MC REL Rms: 0.1 secs

ALEY REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	14	54	EP		16 4	28.75	0.01							1.0
ZAHL	SN	14	54	ES		16 4	30.63	0.01							1.0
BHL	BZ	17	323	EP		16 4	29.02	-0.10	42						1.0
DQRL	SZ	20	244	EP		16 4	29.68	0.06							1.0
DQRL	SN	20	244	ES		16 4	32.17	0.02							1.0
RCY	SZ	33	168	EP		16 4	31.53	-0.08							1.0
RCY	SN	33	168	ES		16 4	35.63	0.02							1.0
HWQ	BZ	57	17	EP		16 4	35.56	0.06							1.0

August 25 2016 Hour: 0:28 25.8 Agency: REL Regional  
EMSC OT=00:28:25.8 36.33N 28.44E 60Km M=4.0 DODECANESE IS-TURKEY BORDER REG

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		029	55.34								
DQRL	SZ			EP		029	56.47								
HWQ	BZ			EP		029	57.93								
ZAHL	SZ			EP		029	59.13								
QRWL	SZ			EP		029	59.21								
RCY	SZ			EP		030	0.76								

August 26 2016 Hour: 16:33 28.4 Lat: 33.84N Lon: 35.79E Depth: 21 Agency: REL Local  
Magnitudes: 2.5MC REL Rms: 0.1 secs

BAABDA REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	9	75	EP		1633	32.25	0.07							1.0
ZAHL	SN	9	75	ES		1633	34.95	-0.04							1.0
BHL	BZ	15	300	EP		1633	32.71	0.15	28						1.0
BHL	BN	15	300	ES		1633	35.59	-0.06							1.0
DQRL	SZ	25	235	EP		1633	33.51	-0.13							1.0
DQRL	SN	25	235	ES		1633	37.56	0.04							1.0
HWQ	BZ	51	16	EP		1633	37.03	-0.04							1.0

August 27 2016 Hour: 14: 2 29.7 Lat: 33.78N Lon: 35.76E Depth: 4 Agency: REL Local  
Magnitudes: 2.9MC REL Rms: 0.0 secs

**ALEY REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	14	55	EP		14	2	32.16	-0.00						1.0
ZAHL	SN	14	55	ES		14	2	33.98	0.00						1.0
BHL	BZ	17	323	EP		14	2	32.54	0.01	53					1.0
DQRL	SZ	20	244	EP		14	2	33.05	0.02						1.0
DQRL	SN	20	244	ES		14	2	35.48	-0.01						1.0
HWQ	BZ	57	17	EP		14	2	38.99	-0.01						1.0

August 29 2016 Hour: 4:29 59.6 Agency: REL Distant  
EMSC OT=04:29:59.6 0.05S 17.82W 20Km M=7.1 NORTH OF ASCENSION ISLAND

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
QRWL	SZ			EP		440		7.34							
RCY	SZ			EP		440		7.66							
BHL	BZ			EP		440		7.80							
HWQ	BZ			EP		440		10.33							

August 29 2016 Hour: 9:11 39.2 Lat: 34.07N Lon: 35.99E Depth: 46 Agency: REL Local  
Magnitudes: 2.9MC REL Rms: 0.0 secs

**BAALBECK REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ	24	350	EP		911		47.01	0.00	47					1.0
HWQ	BN	24	350	ES		911		52.75	-0.00						1.0
BHL	BZ	36	240	EP		911		47.92	0.01						1.0
DQRL	SZ	56	224	EP		911		49.85	0.00						1.0
DQRL	SN	56	224	ES		911		57.68	-0.01						1.0
RCY	SZ	65	193	EP		911		50.87	-0.01						1.0
RCY	SN	65	193	ES		911		59.50	0.01						1.0

August 29 2016 Hour: 16:11 16.9 Lat: 33.99N Lon: 36.18E Depth: 26 Agency: REL Local  
Magnitudes: 2.8MC REL Rms: 0.1 secs

**BAALBECK REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ	38	327	EP		1611		24.21	-0.03	42					1.0
HWQ	BN	38	327	ES		1611		29.68	0.04						1.0
BHL	BZ	49	259	EP		1611		25.48	-0.14						1.0
RCY	SZ	63	210	EP		1611		27.59	0.03						1.0
RCY	SN	63	210	ES		1611		35.40	-0.02						1.0
DQRL	SZ	64	241	EP		1611		27.82	0.12						1.0
DQRL	SN	64	241	ES		1611		35.67	0.01						1.0

August 29 2016 Hour: 16:48 5.0 Lat: 33.79N Lon: 35.77E Depth: 6 Agency: REL Local  
Magnitudes: 2.5MC REL Rms: 0.1 secs

**ALEY REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	13	55	EP		1648		7.36	-0.00						1.0
BHL	BZ	17	318	EP		1648		7.83	-0.10	32					1.0
BHL	BN	17	318	ES		1648		10.15	0.05						1.0
DQRL	SZ	21	243	EP		1648		8.69	0.09						1.0
DQRL	SN	21	243	ES		1648		11.23	-0.05						1.0
HWQ	BZ	56	16	EP		1648		14.14	0.00						1.0

August 29 2016 Hour: 20: 5 9.1 Agency: REL Regional  
EMSC OT=20:05:09.1 36.49N 27.64E 80Km M=3.9 DODECANESE IS-TURKEY BORDER REG

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		20	6	48.98							
HWQ	BZ			EP		20	6	48.82							
QRWL	SZ			EP		20	6	50.20							
RCY	SZ			EP		20	6	51.83							

August 30 2016 Hour: 15:16 26.6 Lat: 33.79N Lon: 35.79E Depth: 14 Agency: REL Local  
Magnitudes: 2.8MC REL Rms: 0.0 secs

**ALEY REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	12	50	EP		1516	29.70	-0.01							1.0
BHL	BZ	18	316	EP		1516	30.28	-0.05	43						1.0
BHL	BN	18	316	ES		1516	33.13	0.02							1.0
DQRL	SZ	22	245	EP		1516	30.96	0.05							1.0
QRWL	SZ	29	200	EP		1516	31.72	-0.07							1.0
RCY	SZ	33	172	EP		1516	32.46	0.01							1.0
RCY	SN	33	172	ES		1516	36.81	0.03							1.0
HWQ	SZ	56	15	EP		1516	35.86	0.02							1.0

August 31 2016 Hour: 22: 4 34.7 Agency: REL Distant  
**EMSC OT=22:04:34.7 37.26S 179.15E 20Km M=5.8 OFF EAST COAST OF N. ISLAND N.Z**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		2224	24.64								
HWQ	BZ			EP		2224	23.59								





# Epicentral Map of Lebanon

## August 2016

