

Republic of Lebanon  
National Council for Scientific Research

# Provisional Seismological Bulletin

from the

## NATIONAL SEISMIC NETWORK

September

2018

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
BEIL	3432.50N	3611.08E	572	BEINO	Opened Jan 2017

## 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.

September 1 2018 Hour: 4:35 20.9 Lat: 32.89N Lon: 35.69E Depth: 8 Agency: REL Regional  
Magnitudes: 3.0MC REL Rms: 0.1 secs

DEAD SEA REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
RCY	SZ	69	11	EP		435	32.17	0.02	60						1.0
RCY	SN	69	11	ES		435	40.49	0.04							1.0
QRWL	SZ	73	359	EP		435	32.75	-0.09							1.0
DQRL	SZ	92	353	EP		435	35.87	0.14							1.0
DQRL	SN	92	353	ES		435	46.66	-0.03							1.0
ZAHL	SZ	109	9	EP		435	38.32	-0.03							1.0
BHL	BZ	113	358	EP		435	38.87	-0.01							1.0
HWQ	BZ	156	9	EP		435	45.21	-0.03							1.0
BEIL	SZ	189	14	EP		435	49.62	-0.01							0.2

September 1 2018 Hour: 13:42 3.0

Agency: REL Regional

EMSC OT=13:42:03.0 35.39N 31.49E 10Km M=3.8 CYPRUS REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		1342	59.29								
HWQ	BZ			EP		1343	1.63								
ZAHL	SZ			EP		1343	2.75								
QRWL	SZ			EP		1343	3.12								
BEIL	SZ			EP		1343	3.23								
RCY	SZ			EP		1343	4.48								

September 3 2018 Hour: 1:51 46.9 Lat: 33.64N Lon: 36.09E Depth: 9 Agency: REL Regional  
Magnitudes: 3.2MC REL Rms: 0.1 secs

SYRIA REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
RCY	SZ	29	237	EP		151	51.75	-0.10	78						1.0
RCY	SN	29	237	ES		151	55.59	0.06							1.0
ZAHL	SZ	31	321	EP		151	52.24	0.07							1.0
QRWL	SZ	40	255	EP		151	53.41	-0.08							1.0
QRWL	SN	40	255	ES		151	58.40	0.02							1.0
SHBL	SZ	46	225	EP		151	54.57	0.08							1.0
DQRL	SZ	49	279	EP		151	54.97	-0.02							1.0
DQRL	SN	49	279	ES		152	1.02	0.03							1.0
BHL	BZ	50	306	EP		151	55.04	-0.12							1.0
HWQ	BZ	72	349	EP		151	58.65	0.02							1.0
BEIL	SZ	100	5	EP		152	2.93	0.04							1.0

September 3 2018 Hour: 15:37 21.6 Lat: 33.79N Lon: 35.77E Depth: 9 Agency: REL Local  
Magnitudes: 2.7MC 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	54	EP		1537	24.29	-0.00							1.0
BHL	BZ	17	320	EP		1537	24.75	-0.01	41						1.0
DQRL	SZ	21	244	EP		1537	25.34	0.03							1.0
QRWL	SZ	28	197	EP		1537	26.34	-0.04							1.0
RCY	SZ	33	169	EP		1537	27.17	0.00							1.0
SHBL	SZ	49	183	EP		1537	29.64	-0.02							1.0
SHBL	SN	49	183	ES		1537	35.65	0.03							1.0
HWQ	BZ	57	17	EP		1537	30.88	-0.02							1.0
HWQ	BN	57	17	ES		1537	37.80	0.02							1.0
BEIL	SZ	92	24	EP		1537	36.50	0.09							0.2

September 4 2018 Hour: 12:18 17.3 Lat: 34.60N Lon: 36.87E Depth: 14 Agency: REL Regional  
Magnitudes: 3.2MC REL Rms: 0.0 secs

SYRIA REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ	63	264	EP		1218	27.51	0.03	71						1.0
BEIL	SN	63	264	ES		1218	34.98	-0.05							1.0
HWQ	BZ	92	247	EP		1218	31.82	0.03							1.0
BHL	BZ	136	236	EP		1218	38.30	0.05							1.0

DQRL	SZ	155	231	EP		1218	41.12	-0.01									1.0
DQRL	SN	155	231	ES		1218	58.81	0.04									1.0
RCY	SZ	155	218	EP		1218	41.04	-0.08									1.0
QRWL	SZ	160	223	EP		1218	41.82	0.02									1.0
SHBL	SZ	173	217	EP		1218	43.50	-0.02									1.0

**September 4 2018 Hour: 16:21 43.1 Lat: 34.12N Lon: 36.09E Depth: 10 Agency: REL Local**  
**Magnitudes: 3.1MC 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	22	322	EP		1621	47.07	-0.00							1.0
ZAHL	SZ	35	213	EP		1621	48.89	-0.09	65						1.0
BHL	BZ	47	239	EP		1621	50.84	-0.03							1.0
DQRL	SZ	67	227	EP		1621	54.02	0.05							1.0
RCY	SZ	73	199	EP		1621	54.99	-0.02							1.0
RCY	SN	73	199	ES		1622	3.88	0.02							1.0
QRWL	SZ	74	211	EP		1621	55.23	0.10							1.0
SHBL	SZ	92	201	EP		1621	57.79	0.02							1.0
SHBL	SN	92	201	ES		1622	8.64	-0.03							1.0

**September 4 2018 Hour: 20:56 18.9 Lat: 33.51N Lon: 35.90E Depth: 0 Agency: REL Local**  
**Magnitudes: 2.4MC REL Rms: 0.0 secs**

**RACHAYA REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
RCY	SZ	6	257	EP		2056	19.79	-0.09	25						1.0
QRWL	SZ	21	282	EP		2056	22.22	0.01							1.0
QRWL	SE	21	282	ES		2056	24.69	0.01							1.0
SHBL	SZ	23	219	EP		2056	22.63	0.05							1.0
SHBL	SN	23	219	ES		2056	25.33	0.00							1.0
DQRL	SZ	38	306	EP		2056	24.98	0.04							1.0
ZAHL	SZ	39	358	EP		2056	25.11	-0.01							1.0

**September 5 2018 Hour: 18: 8 0.4 Agency: REL Distant**  
**EMSC OT=18:08:00.4 42.71N 142.06E 30Km M=6.6 HOKKAIDO, JAPAN REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ			EP		1819	58.44								
BHL	BZ			EP		1820	0.71								

**September 6 2018 Hour: 9:13 57.0 Lat: 34.02N Lon: 35.73E Depth: 7 Agency: REL Local**  
**Magnitudes: 2.6MC REL Rms: 0.1 secs**

**KESROUAN REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ	15	208	EP		913	59.80	0.05	36						1.0
BHL	BN	15	208	ES		914	1.77	-0.02							1.0
ZAHL	SZ	23	141	EP		914	1.03	0.04							1.0
HWQ	BZ	35	35	EP		914	2.71	-0.11							1.0
RCY	SZ	59	170	EP		914	6.60	-0.01							1.0
RCY	SN	59	170	ES		914	13.72	-0.01							1.0
BEIL	SZ	72	36	EP		914	8.69	0.09							1.0
SHBL	SZ	75	179	EP		914	9.08	-0.03							1.0

**September 6 2018 Hour: 15:49 15.6 Agency: REL Distant**  
**EMSC OT=15:49:15.6 18.46S 179.35E 627Km M=7.8 FIJI**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		16 7	41.68								
HWQ	BZ			EP		16 7	40.56								

**September 6 2018 Hour: 23:25 58.0 Lat: 33.78N Lon: 35.79E Depth: 0 Agency: REL Local**  
**Magnitudes: 2.6MC 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		2325	59.91	-0.02	36						1.0
BHL	BZ	18	316	EP		2326	0.92	-0.07	33						1.0
BHL	BN	18	316	ES		2326	3.18	-0.00							1.0

DQRL	SZ	22	247	EP		2326	1.70	0.06									1.0
QRWL	SZ	28	201	EP		2326	2.54	-0.04									1.0
RCY	SZ	32	173	EP		2326	3.21	-0.02									1.0
RCY	SN	32	173	ES		2326	7.08	-0.01									1.0
SHBL	SZ	49	185	EP		2326	5.91	0.04									1.0
HWQ	BZ	57	15	EP		2326	7.18	0.05									1.0
BEIL	SZ	91	23	EP		2326	12.75	-0.00									1.0

**September 7 2018 Hour: 6:23 38.1 Agency: REL Distant**  
**EMSC OT=06:23:38.1 28.26N 59.40E 10Km M=5.5 SOUTHEASTERN IRAN**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ			EP		628	22.64								
BHL	BZ			EP		628	24.41								

**September 8 2018 Hour: 8:38 48.2 Lat: 33.78N Lon: 35.78E Depth: 6 Agency: REL Local**  
**Magnitudes: 2.6MC 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		838	50.65	0.02							1.0
BHL	BZ	18	320	EP		838	51.28	-0.05	36						1.0
DQRL	SZ	21	247	EP		838	51.81	0.01							1.0
QRWL	SZ	27	199	EP		838	52.80	0.05							1.0
QRWL	SN	27	199	ES		838	56.17	0.03							1.0
RCY	SZ	32	171	EP		838	53.45	-0.03							1.0
SHBL	SZ	48	184	EP		838	56.08	0.05							1.0
SHBL	SN	48	184	ES		839	1.76	-0.08							1.0
HWQ	BZ	57	16	EP		838	57.49	-0.00							1.0

**September 8 2018 Hour: 11:31 55.8 Lat: 33.79N Lon: 35.78E Depth: 10 Agency: REL Local**  
**Magnitudes: 2.6MC 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	54	EP		1131	58.56	-0.02							1.0
BHL	BZ	17	318	EP		1131	59.09	0.00	32						1.0
DQRL	SZ	21	243	EP		1131	59.67	-0.02							1.0
QRWL	SZ	28	198	EP		1132	0.70	-0.03							1.0
QRWL	SN	28	198	ES		1132	4.43	0.05							1.0
RCY	SZ	33	170	EP		1132	1.50	0.02							1.0
SHBL	SZ	49	183	EP		1132	3.99	0.02							1.0
SHBL	SN	49	183	ES		1132	9.97	-0.04							1.0
HWQ	BZ	56	16	EP		1132	5.08	0.01							1.0

**September 10 2018 Hour: 4:19 0.7 Agency: REL Distant**  
**EMSC OT=04:19:00.7 32.11S 179.15W 110Km M=6.9 SOUTH OF KERMADEC ISLANDS**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		438	33.61								
HWQ	BZ			EP		438	32.70								

**September 10 2018 Hour: 15: 7 10.3 Agency: REL Regional**  
**EMSC OT=15:07:10.3 36.98N 27.75E 9Km M=4.8 DODECANESE IS -TURKEY BORDER REG**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ			EP		15	8	55.73							
BEIL	SZ			EP		15	8	56.28							
QRWL	SZ			EP		15	8	57.80							
RCY	SZ			EP		15	8	59.43							
SHBL	SZ			EP		15	8	59.60							

**September 10 2018 Hour: 18: 8 0.1 Lat: 32.39N Lon: 35.24E Depth: 0 Agency: REL Regional**  
**Magnitudes: 3.3MC REL Rms: 0.1 secs**

**DEAD SEA REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
SHBL	SZ	117	23	EP		18	8	18.76	-0.12	80					1.0
SHBL	SN	117	23	ES		18	8	32.80	0.01						1.0
QRWL	SZ	135	17	EP		18	8	21.89	0.01						1.0

RCY	SZ	135	24	EP		18	8	21.85	-0.01								1.0
RCY	SN	135	24	ES		18	8	37.99	0.02								1.0
BHL	BZ	173	13	EP		18	8	27.38	-0.02								1.0
HWQ	BZ	220	17	EP		18	8	33.59	0.05								1.0
FKH	SZ	233	27	EP		18	8	35.22	0.05								1.0

September 10 2018 Hour: 20:24 40.0

Agency: REL Distant

EMSC OT=20:24:40.0 18.00S 177.96W 570Km M=5.1 FIJI REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		2043	15.48								
HWQ	BZ			EP		2043	15.52								

September 10 2018 Hour: 21:45 46.2 Lat: 33.18N Lon: 35.67E Depth: 2

Agency: REL Regional

Magnitudes: 2.7MC REL

Rms: 0.0 secs

SYRIA REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
SHBL	SZ	20	21	EP		2145	49.58	0.03							1.0
RCY	SZ	39	24	EP		2145	52.45	-0.05							1.0
RCY	SN	39	24	ES		2145	57.12	-0.01							1.0
QRWL	SZ	41	2	EP		2145	52.80	-0.07	36						1.0
ZAHL	SZ	78	15	EP		2145	58.90	0.05							1.0
HWQ	BZ	125	12	EP		2146	6.43	0.07							1.0
HWQ	BN	125	12	ES		2146	21.26	0.01							1.0
FKH	SZ	137	30	EP		2146	8.15	-0.01							1.0

September 10 2018 Hour: 23:2 56.1

Agency: REL Regional

EMSC OT=23:02:56.1 37.19N 30.63E 106Km M=4.9 WESTERN TURKEY

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEYL	SZ			EP		23	4	8.87							
HWQ	BZ			EP		23	4	9.58							
BHL	BZ			EP		23	4	8.85							
BEIL	SZ			EP		23	4	9.58							
ZAHL	SZ			EP		23	4	12.23							
QRWL	SZ			EP		23	4	13.40							
FKH	SZ			EP		23	4	14.54							
RCY	SZ			EP		23	4	15.33							
SHBL	SZ			EP		23	4	16.25							

September 12 2018 Hour: 6:21 48.7

Agency: REL Regional

EMSC OT=06:21:48.7 36.03N 31.08E 60Km M=5.2 WESTERN TURKEY

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		622	51.02								
HWQ	BZ			EP		622	51.59								
BEIL	SZ			EP		622	52.31								
ZAHL	SZ			EP		622	54.13								
QRWL	SZ			EP		622	54.68								
RCY	SZ			EP		622	56.13								
FKH	SZ			EP		622	57.09								
SHBL	SZ			EP		622	57.84								

September 12 2018 Hour: 6:51 40.8

Agency: REL Regional

EMSC OT=06:51:40.8 36.03N 31.14E 10Km M=3.8 WESTERN TURKEY

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ			EP		652	48.45								
BEIL	SZ			EP		652	48.52								
QRWL	SZ			EP		652	50.18								
RCY	SZ			EP		652	51.43								



September 12 2018 Hour: 9:30 9.5

Agency: REL Regional

EMSC OT=09:30:09.5 36.08N 31.14E 2Km M=3.6 WESTERN TURKEY

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		931	17.42								
HWQ	BZ			EP		931	17.61								
RCY	SZ			EP		931	18.32								

September 12 2018 Hour: 15:11 0.2 Lat: 33.85N Lon: 36.09E Depth: 6

Agency: REL Local

Magnitudes: 2.6MC REL

Rms: 0.1 secs

BAALBECK REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	19	274	EP		1511	3.57	0.02							1.0
BHL	BZ	41	279	EP		1511	6.93	-0.01							1.0
RCY	SZ	46	212	EP		1511	7.53	-0.13	33						1.0
RCY	SN	46	212	ES		1511	13.20	0.01							1.0
HWQ	BZ	50	344	EP		1511	8.30	0.00							1.0
DQRL	SZ	51	252	EP		1511	8.48	-0.02							1.0
SHBL	SZ	64	211	EP		1511	10.73	0.12							1.0
SHBL	SN	64	211	ES		1511	18.32	-0.00							1.0

September 12 2018 Hour: 15:35 36.0 Lat: 33.78N 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	52	EP		1535	38.44	0.02							1.0
BHL	BZ	17	321	EP		1535	38.89	-0.08	30						1.0
DQRL	SZ	21	245	EP		1535	39.58	0.08							1.0
QRWL	SZ	28	198	EP		1535	40.55	-0.02							1.0
RCY	SZ	33	169	EP		1535	41.43	0.07							1.0
RCY	SN	33	169	ES		1535	45.30	-0.04							1.0
SHBL	SZ	49	183	EP		1535	43.81	-0.08							1.0
SHBL	SN	49	183	ES		1535	49.77	0.02							1.0
HWQ	BZ	57	16	EP		1535	45.27	0.02							1.0

September 12 2018 Hour: 16:29 25.5 Lat: 33.79N Lon: 35.77E Depth: 0

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	53	EP		1629	27.59	-0.00							1.0
BHL	BZ	17	320	EP		1629	28.15	-0.07	29						1.0
DQRL	SZ	21	244	EP		1629	28.95	0.10							1.0
QRWL	SZ	28	198	EP		1629	29.89	-0.10							1.0
RCY	SZ	33	170	EP		1629	30.80	0.02							1.0
SHBL	SZ	49	183	EP		1629	33.38	0.02							1.0
HWQ	BZ	57	16	EP		1629	34.59	-0.04							1.0
HWQ	BN	57	16	ES		1629	41.41	0.01							1.0
FKH	SZ	78	49	EP		1629	37.94	-0.08							0.2
FKH	SN	78	49	ES		1629	47.28	-0.01							1.0
BEIL	SZ	92	24	EP		1629	40.39	0.09							1.0

September 12 2018 Hour: 18:13 28.2

Agency: REL Regional

EMSC OT=18:13:28.2 36.40N 28.77E 2Km M=4.1 DODECANESE IS-TURKEY BORDER REG

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ			EP		1815	0.32								
QRWL	SZ			EP		1815	1.48								
BEIL	SZ			EP		1815	1.44								
SHBL	SZ			EP		1815	3.25								
RCY	SZ			EP		1815	3.25								
FKH	SZ			EP		1815	5.49								

September 12 2018 Hour: 23: 6 32.9 Lat: 33.78N Lon: 35.79E 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	13	46	EP		23	6	34.93-0.03							1.0
BHL	BZ	19	318	EP		23	6	35.82-0.09	38						1.0
DQRL	SZ	22	248	EP		23	6	36.51 0.09							1.0
QRWL	SZ	27	201	EP		23	6	37.30-0.04							1.0
RCY	SZ	32	172	EP		23	6	37.97-0.05							1.0
SHBL	SZ	48	185	EP		23	6	40.69 0.04							1.0
HWQ	BZ	57	15	EP		23	6	42.11-0.04							1.0
HWQ	BN	57	15	ES		23	6	48.99 0.00							1.0
FKH	SZ	77	48	EP		23	6	45.41 0.02							1.0
FKH	SN	77	48	ES		23	6	54.62-0.00							1.0
BEIL	SZ	92	23	EP		23	6	47.88 0.10							1.0

September 13 2018 Hour: 2:43 48.0 Lat: 35.82N Lon: 35.67E Depth: 0 Agency: REL Regional  
 Magnitudes: 3.4MC REL Rms: 0.1 secs

**OFFSHORE SYRIA**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ	149	162	EP		244		11.78-0.02	93						1.0
HWQ	BZ	172	172	EP		244		15.26-0.04							1.0
FKH	SZ	187	159	EP		244		17.36-0.01							1.0
BHL	BZ	212	180	EP		244		20.38-0.10							1.0
ZAHL	SZ	218	175	EP		244		21.32 0.07							1.0
DQRL	SZ	234	182	EP		244		23.18-0.05							1.0
QRWL	SZ	252	180	EP		244		25.42 0.04							1.0
QRWL	SN	252	180	ES		244		53.02-0.01							1.0
RCY	SZ	258	177	EP		244		26.26 0.07							1.0
SHBL	SZ	274	179	EP		244		28.21 0.02							1.0
SHBL	SN	274	179	ES		244		57.95 0.02							1.0

September 13 2018 Hour: 2:43 48.6 Lat: 35.99N Lon: 35.87E Depth: 33 Agency: REL Regional  
 Magnitudes: 3.6MC REL Rms: 0.0 secs

**OFFSHORE TURKEY**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ	163	170	EP		244		11.97 0.07	110						1.0
BEIL	SN	163	170	ES		244		29.11-0.05							1.0
HWQ	BZ	190	178	EP		244		15.29-0.01							1.0
FKH	SZ	200	166	EP		244		16.51 0.01							1.0
FKH	SN	200	166	ES		244		37.17 0.00							1.0
BHL	BZ	232	185	EP		244		20.54 0.01							1.0
ZAHL	SZ	236	180	EP		244		21.07-0.01							1.0
DQRL	SZ	255	186	EP		244		23.29-0.05							1.0
RCY	SZ	276	181	EP		244		26.07-0.01							1.0
SHBL	SZ	293	182	EP		244		28.14-0.01							1.0
SHBL	SE	293	182	ES		244		57.48 0.05							1.0

September 13 2018 Hour: 9:17 25.6 Agency: REL Regional

**EMSC OT=09:17:25.6 36.03N 31.13E 53Km M=3.8 WESTERN TURKEY**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ			EP		918		31.75							
BEIL	SZ			EP		918		33.01							
RCY	SZ			EP		918		35.19							
SHBL	SZ			EP		918		36.66							
FKH	SZ			EP		918		36.69							

September 13 2018 Hour: 23:23.67 Lat: 33.79N Lon: 35.80E Depth: 6 Agency: REL Local  
Magnitudes: 2.6MC 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	11	46	EP		23	2	38.91	0.03						1.0
BHL	BZ	19	312	EP		23	2	39.91	-0.08	34					1.0
DQRL	SZ	24	246	EP		23	2	40.68	-0.06						1.0
DQRL	SN	24	246	ES		23	2	43.80	0.09						1.0
QRWL	SZ	29	203	EP		23	2	41.50	-0.11						1.0
RCY	SZ	33	175	EP		23	2	42.22	0.03						1.0
RCY	SN	33	175	ES		23	2	46.18	-0.05						1.0
SHBL	SZ	49	186	EP		23	2	44.95	0.13						1.0
HWQ	BZ	56	14	EP		23	2	45.84	0.05						1.0
FKH	SZ	75	48	EP		23	2	48.92	-0.03						1.0

September 15 2018 Hour: 12:16.39.8 Lat: 33.47N Lon: 35.69E Depth: 0 Agency: REL Local  
Magnitudes: 2.6MC 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	9	355	EP		1216		41.08	-0.09	36					1.0
RCY	SZ	14	77	EP		1216		42.00	-0.01						1.0
RCY	SN	14	77	ES		1216		43.70	0.02						1.0
SHBL	SZ	14	159	EP		1216		42.08	0.00						1.0
DQRL	SZ	29	337	EP		1216		44.40	0.05						1.0
DQRL	SN	29	337	ES		1216		47.78	0.03						1.0
HWQ	BZ	93	15	EP		1216		54.64	-0.08						0.2

September 15 2018 Hour: 16:39.50.8 Lat: 33.78N Lon: 35.78E Depth: 3 Agency: REL Local  
Magnitudes: 2.9MC 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		1639		52.95	0.02						1.0
BHL	BZ	18	319	EP		1639		53.59	-0.14						1.0
DQRL	SZ	21	247	EP		1639		54.34	0.09						1.0
DQRL	SN	21	247	ES		1639		56.89	0.05						1.0
QRWL	SZ	28	200	EP		1639		55.14	-0.10	54					1.0
RCY	SZ	32	171	EP		1639		55.90	-0.06						1.0
RCY	SN	32	171	ES		1639		59.84	0.02						1.0
SHBL	SZ	48	184	EP		1639		58.59	0.04						1.0
HWQ	BZ	57	15	EP		1640		0.08	0.09						1.0
FKH	SZ	78	48	EP		1640		3.28	0.00						1.0
BEIL	SZ	92	24	EP		1640		5.62	-0.01						1.0

September 15 2018 Hour: 22:50.47.4 Agency: REL Regional

EMSC OT=22:50:47.4 36.06N 31.14E 10Km M=3.6 WESTERN TURKEY

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		2251		54.53							
HWQ	BZ			EP		2251		55.08							
BEIL	SZ			EP		2251		54.17							
ZAHL	SZ			EP		2251		56.12							
QRWL	SZ			EP		2251		55.83							
SHBL	SZ			EP		2251		57.78							
FKH	SZ			EP		2251		58.74							

September 16 2018 Hour: 21:11.51.1 Agency: REL Distant

EMSC OT=21:11:51.1 25.52S 178.22E 605Km M=6.5 SOUTH OF FIJI ISLANDS

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		2130		24.07							
HWQ	BZ			EP		2130		24.36							

September 17 2018 Hour: 0:24 7.7

Agency: REL Regional

EMSC OT=00:24:07.7 34.33N 26.50E 10Km M=5.0 CRETE, GREECE

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
DQRL	SZ			EP		025	56.39								
BHL	BZ			EP		025	56.50								
QRWL	SZ			EP		025	58.23								
SHBL	SZ			EP		025	59.10								
RCY	SZ			EP		026	0.31								
ZAHL	SZ			EP		026	0.14								
HWQ	BZ			EP		026	0.78								
BEIL	SZ			EP		026	2.57								
FKH	SZ			EP		026	6.34								

September 17 2018 Hour: 12:57 31.0 Lat: 33.78N Lon: 35.76E Depth: 1 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		1257	33.37	0.00							1.0
BHL	BZ	17	324	EP		1257	33.67	-0.09	36						1.0
DQRL	SZ	20	245	EP		1257	34.29	0.11							1.0
QRWL	SZ	27	196	EP		1257	35.27	-0.09							1.0
RCY	SZ	32	167	EP		1257	36.20	-0.04							1.0
RCY	SN	32	167	ES		1257	40.15	0.05							1.0
SHBL	SZ	48	182	EP		1257	38.74	-0.02							1.0
HWQ	BZ	58	17	EP		1257	40.43	0.09							1.0
HWQ	BN	58	17	ES		1257	47.23	-0.02							1.0

September 17 2018 Hour: 14:36 47.3 Lat: 34.23N Lon: 36.38E Depth: 3 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
FKH	SZ	4	55	EP		1436	48.11	-0.09	54						1.0
FKH	SN	4	55	ES		1436	48.93	0.05							1.0
BEIL	SZ	39	333	EP		1436	53.69	0.04							1.0
HWQ	BZ	40	278	EP		1436	53.76	-0.03							1.0
HWQ	BN	40	278	ES		1436	58.61	0.00							1.0
BHL	BZ	76	242	EP		1436	59.52	0.01							1.0
DQRL	SZ	94	233	EP		1437	2.46	-0.05							1.0
RCY	SZ	95	212	EP		1437	2.66	0.01							1.0
QRWL	SZ	99	221	EP		1437	3.31	0.05							1.0
SHBL	SZ	114	211	EP		1437	5.65	0.02							1.0

September 18 2018 Hour: 5:0 23.1

Agency: REL Regional

EMSC OT=05:00:23.1 34.52N 24.55E 10Km M=4.4 CRETE, GREECE

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
QRWL	SZ			EP		5	2	36.58							
SHBL	SZ			EP		5	2	36.49							
RCY	SZ			EP		5	2	37.44							
HWQ	BZ			EP		5	2	37.84							
BEIL	SZ			EP		5	2	39.39							
FKH	SZ			EP		5	2	43.20							

September 18 2018 Hour: 12:38 35.8

Agency: REL Distant

EMSC OT=12:38:35.8 20.53S 178.25W 527Km M=5.5 FIJI REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ			EP		1257	18.98								
BHL	BZ			EP		1257	20.12								

September 19 2018 Hour: 15:44 12.4 Lat: 33.78N Lon: 35.77E 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	13	52	EP		1544	14.98	0.09							1.0
BHL	BZ	17	320	EP		1544	15.40	-0.07	37						1.0
DQRL	SZ	21	245	EP		1544	15.94	-0.05							1.0
QRWL	SZ	28	198	EP		1544	17.06	0.02							1.0
RCY	SZ	32	170	EP		1544	17.87	0.05							1.0
RCY	SN	32	170	ES		1544	21.73	-0.06							1.0
SHBL	SZ	48	183	EP		1544	20.43	0.08							1.0
SHBL	SN	48	183	ES		1544	26.20	-0.00							1.0
HWQ	BZ	57	16	EP		1544	21.84	0.11							1.0
FKH	SZ	78	49	EP		1544	24.83	-0.24							1.0
BEIL	SZ	92	24	EP		1544	27.44	0.08							1.0

September 20 2018 Hour: 19:51 40.1 Lat: 33.59N Lon: 32.53E Depth: 0 Agency: REL Regional  
Magnitudes: 3.4MC REL Rms: 0.1 secs

OFFSHORE CYPRUS

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
DQRL	SZ	282	86	EP		1952	21.09	-0.17							1.0
BHL	BZ	291	82	EP		1952	22.43	0.01							1.0
QRWL	SZ	292	90	EP		1952	22.59	0.05	76						1.0
SHBL	SZ	300	94	EP		1952	23.56	0.07							1.0
SHBL	SN	300	94	ES		1952	55.70	0.09							1.0
RCY	SZ	307	91	EP		1952	24.40	0.01							1.0
RCY	SN	307	91	ES		1952	57.04	-0.13							1.0
HWQ	BZ	325	75	EP		1952	26.60	0.01							1.0
BEIL	SZ	353	72	EP		1952	30.04	-0.04							1.0
BEIL	SN	353	72	ES		1953	7.11	0.04							1.0
FKH	SZ	366	77	EP		1952	31.74	0.05							1.0

September 20 2018 Hour: 23:5 45.4 Lat: 33.78N Lon: 35.79E Depth: 3 Agency: REL Local  
Magnitudes: 2.7MC 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		23 5	47.46	0.01							1.0
BHL	BZ	19	316	EP		23 5	48.42	-0.07	39						1.0
DQRL	SZ	23	248	EP		23 5	49.12	0.04							1.0
QRWL	SZ	28	202	EP		23 5	49.99	0.02							1.0
RCY	SZ	32	173	EP		23 5	50.63	0.03							1.0
SHBL	SZ	48	186	EP		23 5	53.21	-0.02							1.0
SHBL	SN	48	186	ES		23 5	59.01	-0.03							1.0
HWQ	BZ	57	14	EP		23 5	54.58	0.03							1.0
HWQ	BN	57	14	ES		23 6	1.36	0.02							1.0
FKH	SZ	77	48	EP		23 5	57.71	-0.04							1.0

September 21 2018 Hour: 3:41 41.9 Agency: REL Distant

EMSC OT=03:41:41.9 17.81S 179.95W 650Km M=5.9 FIJI REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ			EP		359	2.68								
BHL	BZ			EP		359	3.01								

September 22 2018 Hour: 10:36 38.4 Lat: 35.92N Lon: 35.48E Depth: 0 Agency: REL Regional  
Magnitudes: 3.2MC REL Rms: 0.1 secs

OFFSHORE SYRIA

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ	165	157	EP		1037	4.77	0.12	68						1.0
BEIL	SN	165	157	ES		1037	23.99	-0.06							1.0
HWQ	BZ	187	167	EP		1037	7.72	-0.03							1.0
HWQ	BN	187	167	ES		1037	29.26	-0.19							1.0
FKH	SZ	204	155	EP		1037	9.60	-0.30							1.0
FKH	SN	204	155	ES		1037	33.45	0.26							1.0

BHL	BZ	224	176	EP		1037	12.33	-0.01									1.0
DQRL	SZ	245	178	EP		1037	15.06	0.05									1.0
QRWL	SZ	263	176	EP		1037	17.30	0.05									1.0
RCY	SZ	270	173	EP		1037	18.22	0.05									1.0
SHBL	SZ	286	175	EP		1037	20.15	0.06									1.0

**September 22 2018 Hour: 14:16 1.8 Lat: 33.44N Lon: 35.79E Depth: 10 Agency: REL Local**  
**Magnitudes: 2.3MC REL Rms: 0.0 secs**

**RACHAYA REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
RCY	SZ	7	38	EP		1416	4.06	0.03	23						1.0
RCY	SN	7	38	ES		1416	5.66	-0.02							1.0
SHBL	SZ	11	200	EP		1416	4.41	-0.01							1.0
SHBL	SN	11	200	ES		1416	6.37	-0.00							1.0
QRWL	SZ	15	320	EP		1416	4.87	0.06							1.0
DQRL	SZ	35	325	EP		1416	7.71	-0.05							1.0

**September 23 2018 Hour: 8: 8 10.6 Lat: 34.53N Lon: 36.29E Depth: 0 Agency: REL Local**  
**Magnitudes: 2.7MC REL Rms: 0.1 secs**

**AKKAR REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ	9	278	EP		8 8	12.11	0.00	42						1.0
BEIL	SN	9	278	ES		8 8	13.22	-0.01							1.0
FKH	SZ	34	160	EP		8 8	15.98	-0.04							1.0
FKH	SN	34	160	ES		8 8	19.96	-0.08							1.0
HWQ	BZ	42	228	EP		8 8	17.12	-0.24							1.0
BHL	BZ	91	220	EP		8 8	25.16	-0.05							1.0
DQRL	SZ	113	216	EP		8 8	28.87	0.08							1.0
QRWL	SZ	122	207	EP		8 8	30.42	0.09							1.0
RCY	SZ	122	200	EP		8 8	30.35	0.09							1.0
SHBL	SZ	140	201	EP		8 8	33.32	0.15							1.0

**September 23 2018 Hour: 11:43 21.6 Lat: 33.46N Lon: 35.65E 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	11	19	EP		1143	23.43	0.05	26						1.0
SHBL	SZ	15	142	EP		1143	24.00	-0.05							1.0
RCY	SZ	18	75	EP		1143	24.63	0.04							1.0
RCY	SN	18	75	ES		1143	26.76	-0.02							1.0
DQRL	SZ	29	346	EP		1143	26.34	0.09							1.0
DQRL	SN	29	346	ES		1143	29.56	-0.11							1.0

**September 24 2018 Hour: 6: 4 32.6 Lat: 33.05N Lon: 35.43E Depth: 5 Agency: REL Regional**  
**Magnitudes: 2.7MC REL Rms: 0.1 secs**

**DEAD SEA REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
SHBL	SZ	44	41	EP		6 4	39.92	0.09	39						1.0
SHBL	SN	44	41	ES		6 4	45.10	-0.06							1.0
QRWL	SZ	60	23	EP		6 4	42.37	0.00							1.0
QRWL	SN	60	23	ES		6 4	49.62	0.05							1.0
RCY	SZ	62	37	EP		6 4	42.70	-0.03							1.0
DQRL	SZ	74	10	EP		6 4	44.56	-0.05							1.0

**September 24 2018 Hour: 6:57 55.5 Lat: 33.04N Lon: 35.59E Depth: 29 Agency: REL Regional**  
**Magnitudes: 2.7MC REL Rms: 0.1 secs**

**DEAD SEA REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
SHBL	SZ	38	22	EP		658	3.00	-0.02	40						1.0
RCY	SZ	56	24	EP		658	5.34	-0.02							1.0
QRWL	SZ	57	8	EP		658	5.64	0.13							1.0
QRWL	SN	57	8	ES		658	12.85	-0.03							1.0
DQRL	SZ	74	359	EP		658	7.75	-0.09							1.0
DQRL	SN	74	359	ES		658	16.97	0.03							1.0

September 24 2018 Hour: 12:20 39.2 Lat: 33.63N Lon: 37.12E Depth: 5 Agency: REL Regional  
Magnitudes: 3.2MC REL Rms: 0.1 secs

SYRIA REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
FKH	SZ	94	316	EP		1220	54.28	-0.12	74						1.0
FKH	SN	94	316	ES		1221	5.74	0.05							1.0
RCY	SZ	120	263	EP		1220	58.32	-0.05							1.0
HWQ	BZ	130	304	EP		1220	59.92	0.09							1.0
SHBL	SZ	131	257	EP		1220	59.93	-0.14							1.0
QRWL	SZ	133	266	EP		1221	0.42	0.08							1.0
BEIL	SZ	133	320	EP		1221	0.27	0.06							1.0
BEIL	SN	133	320	ES		1221	15.70	-0.10							1.0
BHL	BZ	139	283	EP		1221	1.25	0.11							1.0
DQRL	SZ	144	274	EP		1221	1.87	0.02							1.0

September 24 2018 Hour: 15:39 7.6 Lat: 33.79N Lon: 35.77E Depth: 7 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	55	EP		1539	10.13	0.02							1.0
BHL	BZ	16	319	EP		1539	10.47	-0.10							1.0
DQRL	SZ	21	243	EP		1539	11.27	0.07	43						1.0
QRWL	SZ	28	197	EP		1539	12.43	0.10							1.0
RCY	SZ	33	169	EP		1539	13.06	-0.07							1.0
RCY	SN	33	169	ES		1539	17.27	0.02							1.0
SHBL	SZ	49	183	EP		1539	15.58	-0.06							1.0
SHBL	SN	49	183	ES		1539	21.58	-0.03							1.0
HWQ	BZ	56	17	EP		1539	16.81	0.04							1.0

September 25 2018 Hour: 11:46 21.6 Lat: 33.47N Lon: 35.68E Depth: 1 Agency: REL Local  
Magnitudes: 2.4MC REL Rms: 0.1 secs

ZAHLE REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
QRWL	SZ	9	0	EP		1146	23.04	-0.07	28						1.0
SHBL	SZ	15	156	EP		1146	23.99	-0.03							1.0
SHBL	SN	15	156	ES		1146	25.83	0.03							1.0
RCY	SZ	15	78	EP		1146	23.95	-0.09							1.0
RCY	SN	15	78	ES		1146	25.90	0.07							1.0
DQRL	SZ	28	339	EP		1146	26.29	0.09							1.0

September 25 2018 Hour: 15:9 34.2

Agency: REL Regional

EMSC OT=15:09:34.2 34.66N 33.17E 8Km M=3.1 CYPRUS REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ			EP		1510	10.26								
BEIL	SZ			EP		1510	12.59								
SHBL	SZ			EP		1510	14.52								

September 25 2018 Hour: 15:44 52.5

Agency: REL Regional

EMSC OT=15:44:52.5 34.72N 33.05E 12Km M=3.0 CYPRUS REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ			EP		1545	29.75								
RCY	SZ			EP		1545	31.33								
SHBL	SZ			EP		1545	32.03								
BEIL	SZ			EP		1545	31.87								

September 25 2018 Hour: 17:6 13.3 Lat: 33.09N Lon: 35.42E Depth: 0 Agency: REL Local  
Magnitudes: 3.2MC REL Rms: 0.1 secs

BENT JBEIL REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
SHBL	SZ	41	47	EP		17 6	19.97	0.00	77						1.0
SHBL	SN	41	47	ES		17 6	24.96	0.07							1.0
QRWL	SZ	56	26	EP		17 6	22.28	-0.04							1.0
QRWL	SN	56	26	ES		17 6	28.90	-0.10							1.0

RCY	SZ	59	41	EP	17	6	22.80	-0.03								1.0
DQRL	SZ	69	12	EP	17	6	24.47	-0.01								1.0
DQRL	SN	69	12	ES	17	6	32.79	0.04								1.0
BHL	BZ	92	13	EP	17	6	28.31	0.09								1.0
ZAHL	SZ	95	27	EP	17	6	28.62	-0.03								1.0
HWQ	BZ	140	20	EP	17	6	35.91	0.07								1.0
FKH	SZ	157	35	EP	17	6	38.39	0.03								1.0
BEIL	SZ	175	24	EP	17	6	40.91	-0.09								1.0

September 26 2018 Hour: 2:52 18.1

Agency: REL Regional

EMSC OT=02:52:18.1 35.27N 26.59E 47Km M=4.7 CRETE, GREECE

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
DQRL	SZ			EP		254	2.97								
BHL	BZ			EP		254	2.93								
QRWL	SZ			EP		254	5.29								
HWQ	BZ			EP		254	5.93								
SHBL	SZ			EP		254	6.41								
ZAHL	SZ			EP		254	6.66								
RCY	SZ			EP		254	7.21								
BEIL	SZ			EP		254	7.81								
FKH	SZ			EP		254	11.54								

September 26 2018 Hour: 15:22 42.4 Lat: 33.79N Lon: 35.77E Depth: 9 Agency: REL Local  
Magnitudes: 2.7MC 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	55	EP		1522	44.97	-0.04							1.0
BHL	BZ	17	319	EP		1522	45.52	0.02							1.0
DQRL	SZ	21	243	EP		1522	46.12	-0.00	40						1.0
QRWL	SZ	28	197	EP		1522	47.17	-0.03							1.0
RCY	SZ	33	170	EP		1522	47.95	-0.03							1.0
RCY	SN	33	170	ES		1522	52.23	0.08							1.0
SHBL	SZ	49	183	EP		1522	50.53	0.05							1.0
SHBL	SN	49	183	ES		1522	56.42	-0.07							1.0
HWQ	BZ	56	17	EP		1522	51.59	0.01							1.0

September 27 2018 Hour: 13:9 41.7 Lat: 33.79N Lon: 35.78E 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	12	54	EP		13	9	43.98	-0.00						1.0
BHL	BZ	17	317	EP		13	9	44.59	-0.05						1.0
DQRL	SZ	22	244	EP		13	9	45.42	0.08	38					1.0
QRWL	SZ	29	198	EP		13	9	46.36	-0.07						1.0
RCY	SZ	33	171	EP		13	9	47.12	-0.07						1.0
RCY	SN	33	171	ES		13	9	51.28	0.05						1.0
SHBL	SZ	49	184	EP		13	9	49.75	-0.00						1.0
SHBL	SN	49	184	ES		13	9	55.72	0.03						1.0
HWQ	BZ	56	16	EP		13	9	50.89	0.05						1.0

September 27 2018 Hour: 14:52 6.4 Lat: 34.00N Lon: 36.11E Depth: 27 Agency: REL Local  
Magnitudes: 2.8MC 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	26	232	EP		1452	12.35	-0.06							1.0
HWQ	BZ	34	334	EP		1452	13.31	0.02							1.0
FKH	SZ	39	46	EP		1452	13.85	0.01	43						1.0
BHL	BZ	44	256	EP		1452	14.42	-0.01							1.0
DQRL	SZ	60	237	EP		1452	16.60	0.00							1.0
RCY	SZ	62	204	EP		1452	16.85	-0.03							1.0
RCY	SN	62	204	ES		1452	24.65	0.03							1.0
QRWL	SZ	64	218	EP		1452	17.25	0.06							1.0
SHBL	SZ	80	205	EP		1452	19.42	-0.06							1.0
SHBL	SN	80	205	ES		1452	29.17	0.03							1.0



September 28 2018 Hour: 0:26 30.3

Agency: REL Regional

EMSC OT=00:26:30.3 37.15N 30.45E 104Km M=4.0 WESTERN TURKEY

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		027	45.24								
HWQ	BZ			EP		027	45.54								
BHL	BZ			EP		027	45.05								
DQRL	SZ			EP		027	46.13								
ZAHL	SZ			EP		027	48.27								
QRWL	SZ			EP		027	49.38								
RCY	SZ			EP		027	51.29								
SHBL	SZ			EP		027	51.58								

September 28 2018 Hour: 10: 2 15.2

Agency: REL Regional

EMSC OT=10:02:15.2 36.05N 34.70E 20Km M=3.7 CENTRAL TURKEY

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		10 2	49.41								
HWQ	BZ			EP		10 2	51.01								
BHL	BZ			EP		10 2	53.94								
FKH	SZ			EP		10 2	54.63								
ZAHL	SZ			EP		10 2	55.63								
DQRL	SZ			EP		10 2	55.98								
QRWL	SZ			EP		10 2	58.53								
RCY	SZ			EP		10 2	59.95								
SHBL	SZ			EP		10 3	1.43								

September 28 2018 Hour: 10: 2 43.6

Agency: REL Distant

EMSC OT=10:02:43.6 0.20S 119.88E 10Km M=7.5 MINAHASA, SULAWESI INDONESIA

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		1015	21.63								
HWQ	BZ			EP		1015	20.41								

September 28 2018 Hour: 12:20 60.0 Lat: 33.47N Lon: 35.68E Depth: 3 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	9	0	EP		1221	1.49-0.08	29							1.0
QRWL	SN	9	0	ES		1221	2.76 0.02								1.0
SHBL	SZ	14	156	EP		1221	2.43 0.02								1.0
RCY	SZ	15	77	EP		1221	2.38-0.08								1.0
RCY	SN	15	77	ES		1221	4.34 0.05								1.0
DQRL	SZ	29	339	EP		1221	4.69 0.07								1.0

September 28 2018 Hour: 14:33 44.4 Lat: 34.61N Lon: 36.41E Depth: 5 Agency: REL Local

Magnitudes: 3.1MC REL

Rms: 0.0 secs

AKKAR REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ	22	250	EP		1433	48.17 0.07	68							1.0
BEIL	SN	22	250	ES		1433	50.80-0.02								1.0
FKH	SZ	41	180	EP		1433	51.04-0.01								1.0
FKH	SN	41	180	ES		1433	55.95-0.00								1.0
HWQ	BZ	56	229	EP		1433	53.53-0.05								1.0
BHL	BZ	105	222	EP		1434	1.37 0.01								1.0
DQRL	SZ	127	218	EP		1434	4.63-0.03								1.0
RCY	SZ	135	203	EP		1434	5.86 0.04								1.0
RCY	SN	135	203	ES		1434	21.69 0.03								1.0
QRWL	SZ	136	210	EP		1434	5.90-0.07								1.0
SHBL	SZ	153	204	EP		1434	8.56 0.02								1.0

September 29 2018 Hour: 1:55 40.2 Lat: 33.85N Lon: 35.88E Depth: 5 Agency: REL Local  
Magnitudes: 3.4MC REL Rms: 0.0 secs

Earthquake was felt  
ZAHLE REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	1	7	EP		155	41.23	-0.01	104						1.0
BHL	BZ	22	285	EP		155	43.87	0.00							1.0
BHL	BN	22	285	ES		155	46.62	0.00							1.0
DQRL	SZ	33	241	EP		155	45.63	0.00							1.0
QRWL	SZ	39	209	EP		155	46.47	0.01							1.0
RCY	SZ	40	187	EP		155	46.73	0.09							1.0
RCY	SN	40	187	ES		155	51.44	-0.00							1.0
HWQ	BZ	48	7	EP		155	47.90	-0.02							1.0
SHBL	SZ	57	193	EP		155	49.37	-0.10							1.0
FKH	SZ	65	48	EP		155	50.74	-0.00							1.0
BEIL	SZ	81	20	EP		155	53.35	0.02							1.0

September 29 2018 Hour: 6:42 48.6 Lat: 34.21N Lon: 36.24E Depth: 0 Agency: REL Local  
Magnitudes: 3.0MC REL Rms: 0.1 secs

BAALBECK REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
FKH	SZ	16	77	EP		642	51.15	-0.09							1.0
HWQ	BZ	28	285	EP		642	52.91	-0.16							1.0
BEIL	SZ	37	353	EP		642	54.62	0.08	61						1.0
BEIL	SN	37	353	ES		642	58.99	0.05							1.0
ZAHL	SZ	51	220	EP		642	56.86	0.04							1.0
BHL	BZ	64	238	EP		642	58.84	-0.03							1.0
DQRL	SZ	83	228	EP		643	2.08	0.04							1.0
RCY	SZ	88	205	EP		643	2.79	0.06							1.0
RCY	SN	88	205	ES		643	13.19	-0.00							1.0
QRWL	SZ	90	215	EP		643	3.09	0.01							1.0
SHBL	SZ	106	206	EP		643	5.72	0.01							1.0

September 29 2018 Hour: 15: 2 26.5 Lat: 33.81N Lon: 35.78E Depth: 14 Agency: REL Local  
Magnitudes: 2.6MC 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	12	61	EP		15	2	29.65	0.00						1.0
BHL	BZ	16	314	EP		15	2	30.05	0.02	33					1.0
DQRL	SZ	22	240	EP		15	2	30.76	-0.07						1.0
DQRL	SN	22	240	ES		15	2	34.09	0.03						1.0
QRWL	SZ	30	197	EP		15	2	31.88	-0.02						1.0
RCY	SZ	35	171	EP		15	2	32.59	-0.03						1.0
RCY	SN	35	171	ES		15	2	37.19	0.00						1.0
SHBL	SZ	51	183	EP		15	2	35.04	0.06						1.0

September 30 2018 Hour: 10:52 22.6

Agency: REL Distant

EMSC OT=10:52:22.6 18.34S 178.11W 546Km M=6.6 FIJI REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		1110	58.88								
HWQ	BZ			EP		1110	58.02								

September 30 2018 Hour: 13:15 56.4

Agency: REL Regional

EMSC OT=13:15:56.4 34.99N 26.23E 80Km M=4.7 CRETE, GREECE

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
DQRL	SZ			EP		1317	44.11								
QRWL	SZ			EP		1317	46.14								
SHBL	SZ			EP		1317	47.60								
HWQ	BZ			EP		1317	47.89								
ZAHL	SZ			EP		1317	47.86								
RCY	SZ			EP		1317	48.27								
BEIL	SZ			EP		1317	49.75								
FKH	SZ			EP		1317	53.39								





# Epicentral Map of Lebanon

## SEPTEMBER 2018

