

Republic of Lebanon  
National Council for Scientific Research

# Provisional Seismological Bulletin

from the

## NATIONAL SEISMIC NETWORK

October

2019

Prepared by  
The National Centre for Geophysical Research  
Bhannes

*P.o.b. : 165432  
Ashrafyeh Beirut 1100-2040*

*Tel : +9614-981885  
Fax : +9614-981886  
Email : [geophys@cnrs.edu.lb](mailto:geophys@cnrs.edu.lb)*

## 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.

October 1 2019 Hour: 18:47 2.2 Lat: 34.18N Lon: 36.36E Depth: 0 Agency: REL Local  
Magnitudes: 3.1MC 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	8	31	EP		1847	3.52	-0.05	71						1.0
HWQ	BZ	40	286	EP		1847	8.56	-0.07							1.0
HWQ	BN	40	286	ES		1847	13.39	-0.01							1.0
BEIL	SZ	43	338	EP		1847	9.24	0.04							1.0
BEIL	SN	43	338	ES		1847	14.41	0.03							1.0
ZAHL	SZ	57	231	EP		1847	11.36	0.02							1.0
ZAHL	SN	57	231	ES		1847	18.08	-0.04							1.0
BHL	BZ	72	245	EP		1847	13.84	-0.00							1.0
RCY	SZ	90	213	EP		1847	16.73	0.00							1.0
DQRL	SZ	90	235	EP		1847	16.77	0.03							1.0
QRWL	SZ	94	222	EP		1847	17.47	0.08							1.0
SHBL	SZ	109	212	EP		1847	19.68	-0.03							1.0

October 3 2019 Hour: 4:44 56.3 Agency: REL Regional  
EMSC OT=04:44:56.3 36.24N 28.59E 20Km M=5.1 DODECANESE-TURKEY BORDER REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		446	25.83								
DQRL	SZ			EP		446	26.93								
HWQ	BZ			EP		446	28.69								
QRWL	SZ			EP		446	29.62								
ZAHL	SZ			EP		446	29.85								
BEIL	SZ			EP		446	30.00								
SHBL	SZ			EP		446	31.66								
RCY	SZ			EP		446	31.78								
FKH	SZ			EP		446	34.17								

October 3 2019 Hour: 15:21 45.3 Lat: 33.97N Lon: 36.16E Depth: 6 Agency: REL Local  
Magnitudes: 3.0MC 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	28	244	EP		1521	50.05	0.06							1.0
FKH	SZ	38	37	EP		1521	51.66	0.06	57						1.0
FKH	SN	38	37	ES		1521	56.24	-0.03							1.0
HWQ	BZ	40	330	EP		1521	51.76	-0.02							1.0
BHL	BZ	47	261	EP		1521	52.95	-0.04							1.0
RCY	SZ	60	210	EP		1521	55.06	-0.03							1.0
RCY	SN	60	210	ES		1522	2.33	-0.03							1.0
DQRL	SZ	62	242	EP		1521	55.34	0.02							1.0
BEIL	SZ	64	2	EP		1521	55.59	-0.01							1.0
QRWL	SZ	64	224	EP		1521	55.77	0.05							1.0
SHBL	SZ	79	209	EP		1521	58.04	-0.02							1.0

October 3 2019 Hour: 19:18 44.1 Lat: 33.10N Lon: 35.16E Depth: 26 Agency: REL Local  
Magnitudes: 3.1MC REL Rms: 0.1 secs

**SOUR REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
SHBL	SZ	61	63	EP		1918	54.46	0.04	67						1.0
QRWL	SZ	70	44	EP		1918	55.62	0.03							1.0
QRWL	SN	70	44	ES		1919	4.06	-0.06							1.0
RCY	SZ	77	55	EP		1918	56.62	-0.03							1.0
RCY	SN	77	55	ES		1919	5.97	0.00							1.0
DQRL	SZ	78	29	EP		1918	56.72	0.01							1.0
DQRL	SN	78	29	ES		1919	6.14	0.07							1.0
BHL	BZ	101	27	EP		1918	59.93	-0.11							1.0
ZAHL	SZ	108	38	EP		1919	1.18	0.06							1.0
HWQ	BZ	150	29	EP		1919	6.46	0.00							1.0

October 5 2019 Hour: 14:10 28.4 Lat: 33.30N Lon: 35.62E Depth: 6 Agency: REL Local  
Magnitudes: 2.5MC REL Rms: 0.1 secs

**MARJAAYOUN REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
SHBL	SZ	13	67	EP		1410	30.79	-0.09	32						1.0
SHBL	SN	13	67	ES		1410	32.76	0.09							1.0
QRWL	SZ	28	12	EP		1410	33.02	-0.06							1.0
QRWL	SE	28	12	ES		1410	36.58	0.07							1.0
RCY	SZ	30	43	EP		1410	33.29	-0.08							1.0
DQRL	SZ	45	354	EP		1410	35.78	0.00							1.0
ZAHL	SZ	66	22	EP		1410	39.19	-0.03							1.0
BHL	BZ	67	3	EP		1410	39.23	-0.04							1.0
HWQ	BZ	112	16	EP		1410	46.53	0.08							1.0
FKH	SZ	128	35	EP		1410	48.71	-0.00							1.0
BEIL	SZ	147	21	EP		1410	51.53	0.01							1.0

October 5 2019 Hour: 14:51 38.1 Agency: REL Regional  
EMSC OT=14:51:38.1 35.94N 28.06E 80Km M=4.5 EASTERN MEDITERRANEAN SEA

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
DQRL	SZ			EP		1453	10.24								
HWQ	BZ			EP		1453	12.49								
QRWL	SZ			EP		1453	13.47								
ZAHL	SZ			EP		1453	13.28								
BEIL	SZ			EP		1453	14.13								
SHBL	SZ			EP		1453	14.97								
RCY	SZ			EP		1453	14.84								
FKH	SZ			EP		1453	18.30								

October 6 2019 Hour: 5:15 0.6 Lat: 33.04N Lon: 35.63E Depth: 3 Agency: REL Regional  
Magnitudes: 2.6MC REL Rms: 0.0 secs

**DEAD SEA REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
SHBL	SZ	35	18	EP		515	6.38	0.04	34						1.0
SHBL	SN	35	18	ES		515	10.59	-0.01							1.0
RCY	SZ	54	21	EP		515	9.25	-0.02							1.0
QRWL	SZ	56	5	EP		515	9.68	0.04							1.0
QRWL	SN	56	5	ES		515	16.37	0.02							1.0
DQRL	SZ	74	356	EP		515	12.41	-0.05							1.0
ZAHL	SZ	93	15	EP		515	15.66	0.01							1.0
BHL	BZ	95	1	EP		515	15.92	-0.06							1.0
HWQ	BZ	140	12	EP		515	22.93	0.08							1.0
BEIL	SZ	174	17	EP		515	27.72	-0.07							1.0

October 6 2019 Hour: 12:49 16.0 Lat: 34.18N Lon: 36.45E Depth: 0 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
FKH	SZ	8	331	EP		1249	17.23	-0.05	49						1.0
BEIL	SZ	47	328	EP		1249	23.57	0.03							1.0
BEIL	SN	47	328	ES		1249	29.15	0.04							1.0
HWQ	BZ	48	283	EP		1249	23.65	-0.06	44						1.0
HWQ	BN	48	283	ES		1249	29.41	0.02							1.0
ZAHL	SZ	64	235	EP		1249	26.26	-0.02							1.0
BHL	BZ	80	247	EP		1249	28.88	-0.03							1.0
RCY	SZ	95	217	EP		1249	31.45	0.07							1.0
DQRL	SZ	97	237	EP		1249	31.72	0.02							1.0
QRWL	SZ	100	225	EP		1249	32.15	-0.04							1.0
SHBL	SZ	113	215	EP		1249	34.36	0.02							1.0

October 7 2019 Hour: 3:18 25.3 Lat: 33.85N Lon: 35.46E Depth: 3 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
DQRL	SZ	18	148	EP		318	28.35	0.04	33						1.0
BHL	BZ	19	70	EP		318	28.26	-0.09							1.0
QRWL	SZ	39	149	EP		318	31.66	0.11							1.0
QRWL	SN	39	149	ES		318	36.29	0.08							1.0
ZAHL	SZ	39	88	EP		318	31.68	0.09							1.0
ZAHL	SN	39	88	ES		318	36.23	-0.04							1.0
RCY	SZ	52	138	EP		318	33.58	-0.08							1.0
SHBL	SZ	61	155	EP		318	34.96	-0.17							1.0
HWQ	BZ	65	43	EP		318	35.90	0.07							1.0

October 7 2019 Hour: 3:47 43.7 Lat: 33.53N Lon: 35.62E Depth: 2 Agency: REL Local  
Magnitudes: 2.6MC REL Rms: 0.0 secs

CHOUF REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
QRWL	SZ	6	71	EP		347	44.72	-0.02	35						1.0
DQRL	SZ	20	346	EP		347	46.94	0.00							1.0
DQRL	SN	20	346	ES		347	49.38	0.03							1.0
RCY	SZ	20	101	EP		347	47.01	0.03							1.0
SHBL	SZ	23	151	EP		347	47.47	0.02							1.0
SHBL	SN	23	151	ES		347	50.23	-0.02							1.0
BHL	BZ	42	4	EP		347	50.33	-0.07							1.0
ZAHL	SZ	44	34	EP		347	50.78	0.02							1.0

October 7 2019 Hour: 18:46 10.3 Lat: 30.74N Lon: 35.89E Depth: 0 Agency: REL Regional  
Magnitudes: 3.7MC REL Rms: 0.0 secs

JORDAN REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
SHBL	SZ	290	357	EP		1846	52.40	-0.04	123						1.0
SHBL	SN	290	357	ES		1847	23.61	-0.03							1.0
RCY	SZ	306	359	EP		1846	54.38	-0.06							1.0
QRWL	SZ	312	356	EP		1846	55.23	0.06							1.0
DQRL	SZ	330	355	EP		1846	57.45	0.00							1.0
DQRL	SN	330	355	ES		1847	32.38	0.03							1.0
ZAHL	SZ	346	360	EP		1846	59.39	-0.01							1.0
BHL	BZ	352	356	EP		1847	0.10	-0.00							1.0
HWQ	BZ	393	1	EP		1847	5.13	-0.03							1.0
BEIL	SZ	423	4	EP		1847	8.81	0.06							1.0

October 7 2019 Hour: 23:35 7.3 Lat: 33.29N Lon: 34.95E Depth: 19 Agency: REL Local  
Magnitudes: 2.5MC REL Rms: 0.0 secs

OFFSHORE SOUTH LEBANON

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
DQRL	SZ	73	51	EP		2335	19.17	0.05							1.0
QRWL	SZ	74	67	EP		2335	19.15	0.03	26						1.0
QRWL	SN	74	67	ES		2335	27.83	-0.06							1.0
SHBL	SZ	74	85	EP		2335	19.21	-0.01							1.0
RCY	SZ	85	74	EP		2335	20.83	-0.04							1.0
RCY	SN	85	74	ES		2335	30.98	0.06							1.0
BHL	BZ	94	44	EP		2335	22.12	-0.01							1.0
ZAHL	SZ	107	54	EP		2335	24.02	-0.02							1.0

October 8 2019 Hour: 14:55 39.9 Lat: 35.06N Lon: 34.09E Depth:146 Agency: REL Regional  
Magnitudes: 3.5MC REL Rms: 0.1 secs

CYPRUS REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ	191	116	EP		1456	10.34	-0.08							1.0
HWQ	BN	191	116	ES		1456	32.98	-0.01							1.0
BHL	BZ	192	131	EP		1456	10.53	-0.02							1.0
BEIL	SZ	200	106	EP		1456	11.30	0.04	89						1.0

BEIL	SN	200	106	ES		1456	34.46	0.02									1.0
DQRL	SZ	202	137	EP		1456	11.67	0.12									1.0
ZAHL	SZ	212	128	EP		1456	12.51	-0.02									1.0
QRWL	SZ	222	138	EP		1456	13.51	-0.06									1.0
FKH	SZ	231	112	EP		1456	14.51	0.03									1.0
RCY	SZ	236	137	EP		1456	14.94	-0.11									1.0
RCY	SN	236	137	ES		1456	41.04	-0.00									1.0
SHBL	SZ	243	141	EP		1456	15.90	0.11									1.0

**October 9 2019 Hour: 20:22 51.8**

**Agency: REL Distant**

**EMSC OT=20:22:51.8 35.12S 179.22W 10Km M=5.5 EAST OF NORTH ISLAND, N.Z**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ			EP		2042	34.78								
BHL	BZ			EP		2042	41.61								

**October 10 2019 Hour: 0:18 28.8**

**Lat: 33.22N**

**Lon: 34.29E**

**Depth: 12**

**Agency: REL**

**Local**

**Magnitudes: 2.8MC REL**

**Rms: 0.1 secs**

**OFFSHORE SOUTH LEBANON**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
DQRL	SZ	130	65	EP		018	49.00	-0.06	39						1.0
QRWL	SZ	134	74	EP		018	49.62	-0.01							1.0
QRWL	SN	134	74	ES		019	4.95	-0.09							1.0
SHBL	SZ	136	84	EP		018	49.82	-0.08							1.0
SHBL	SN	136	84	ES		019	5.62	0.10							1.0
RCY	SZ	147	78	EP		018	51.52	0.01							1.0
BHL	BZ	147	59	EP		018	51.61	0.04							1.0
ZAHL	SZ	164	64	EP		018	54.12	0.11							1.0
HWQ	BZ	193	52	EP		018	57.60	-0.02							1.0
BEIL	SZ	228	50	EP		019	2.05	0.10							0.2

**October 10 2019 Hour: 15:44 27.0**

**Lat: 33.98N**

**Lon: 36.13E**

**Depth: 7**

**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
ZAHL	SZ	26	240	EP		1544	31.48	-0.00							1.0
HWQ	BZ	38	333	EP		1544	33.21	-0.02							1.0
HWQ	BN	38	333	ES		1544	37.83	-0.00							1.0
FKH	SZ	39	41	EP		1544	33.50	-0.01	47						1.0
BHL	BZ	45	260	EP		1544	34.31	-0.06							1.0
RCY	SZ	60	207	EP		1544	36.66	-0.11							1.0
RCY	SN	60	207	ES		1544	44.07	0.07							1.0
DQRL	SZ	60	240	EP		1544	36.83	0.05							1.0
BEIL	SZ	63	4	EP		1544	37.29	0.06							1.0
QRWL	SZ	63	221	EP		1544	37.35	0.06							1.0
SHBL	SZ	78	207	EP		1544	39.70	-0.03							1.0

**October 10 2019 Hour: 17:34 30.3**

**Lat: 33.63N**

**Lon: 35.49E**

**Depth: 0**

**Agency: REL**

**Local**

**Magnitudes: 2.6MC REL**

**Rms: 0.1 secs**

**CHOUF REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
DQRL	SZ	12	43	EP		1734	32.19	-0.01	36						1.0
QRWL	SZ	20	116	EP		1734	33.50	-0.12							1.0
QRWL	SN	20	116	ES		1734	36.15	0.08							1.0
BHL	BZ	34	27	EP		1734	35.90	0.05							1.0
BHL	BN	34	27	ES		1734	39.90	-0.04							1.0
RCY	SZ	36	114	EP		1734	36.02	-0.08							1.0
SHBL	SZ	39	142	EP		1734	36.74	0.06							1.0
HWQ	BZ	84	31	EP		1734	43.87	0.06							1.0



October 11 2019 Hour: 14:0 3.0 Lat: 34.58N Lon: 36.39E Depth: 2 Agency: REL Local  
Magnitudes: 2.6MC 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	19	257	EP		14	0	6.21	0.06	35					1.0
BEIL	SN	19	257	ES		14	0	8.44	-0.06						1.0
FKH	SZ	38	177	EP		14	0	9.03	-0.03						1.0
HWQ	BZ	53	231	EP		14	0	11.48	-0.07						1.0
HWQ	BN	53	231	ES		14	0	17.92	0.03						1.0
BHL	BZ	101	222	EP		14	0	19.39	0.06						1.0
DQRL	SZ	123	218	EP		14	0	22.90	0.04						1.0
RCY	SZ	131	203	EP		14	0	23.99	-0.03						1.0
QRWL	SZ	132	210	EP		14	0	24.17	0.00						1.0
SHBL	SZ	149	204	EP		14	0	26.74	-0.00						1.0

October 14 2019 Hour: 12:56 40.4 Lat: 32.19N Lon: 35.43E Depth: 0 Agency: REL Regional  
Magnitudes: 3.4MC 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	132	13	EP		1257		1.67	0.01	97					1.0
SHBL	SN	132	13	ES		1257		17.38	0.00						1.0
RCY	SZ	150	15	EP		1257		4.20	-0.18						1.0
QRWL	SZ	152	9	EP		1257		4.80	0.07						1.0
DQRL	SZ	169	4	EP		1257		7.10	-0.02						1.0
DQRL	SN	169	4	ES		1257		26.90	0.02						1.0
HWQ	BZ	236	12	EP		1257		15.96	0.02						1.0
FKH	SZ	245	22	EP		1257		17.15	0.10						1.0
BEIL	SZ	270	15	EP		1257		20.04	-0.01						1.0

October 14 2019 Hour: 15:55 54.4 Lat: 32.17N Lon: 35.92E Depth: 13 Agency: REL Regional  
Magnitudes: 3.5MC REL Rms: 0.0 secs

JORDAN REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
SHBL	SZ	132	353	EP		1556		14.80	-0.04						1.0
SHBL	SN	132	353	ES		1556		29.99	0.01						1.0
RCY	SZ	148	357	EP		1556		17.16	0.03						1.0
QRWL	SZ	155	352	EP		1556		18.13	-0.01	109					1.0
DQRL	SZ	174	349	EP		1556		20.72	0.05						1.0
DQRL	SN	174	349	ES		1556		40.13	-0.01						1.0
ZAHL	SZ	188	359	EP		1556		22.48	0.06						1.0
BHL	BZ	194	353	EP		1556		23.15	-0.07						1.0
FKH	SZ	235	11	EP		1556		28.27	-0.02						1.0

October 15 2019 Hour: 1:3 9.0 Lat: 34.27N Lon: 36.97E Depth: 26 Agency: REL Regional  
Magnitudes: 2.7MC 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	51	267	EP		1	3	18.05	0.06	37					1.0
FKH	SN	51	267	ES		1	3	24.64	-0.02						1.0
BEIL	SZ	78	293	EP		1	3	21.56	-0.08						1.0
BEIL	SN	78	293	ES		1	3	31.03	0.01						1.0
HWQ	BZ	94	271	EP		1	3	24.06	0.08						1.0
ZAHL	SZ	110	246	EP		1	3	26.23	-0.05						1.0
RCY	SZ	135	231	EP		1	3	29.58	0.09						1.0
SHBL	SZ	153	228	EP		1	3	31.55	-0.09						1.0

October 15 2019 Hour: 14:57 31.8 Lat: 34.10N Lon: 36.44E Depth: 13 Agency: REL Local  
Magnitudes: 2.5MC 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	16	349	EP		1457		35.31	-0.04	31					1.0
FKH	SN	16	349	ES		1457		37.98	0.02						1.0
HWQ	BZ	50	293	EP		1457		40.20	0.03						1.0

HWQ	BN	50	293	ES		1457	46.34	-0.02									1.0
BEIL	SZ	54	334	EP		1457	40.80	0.00									1.0
RCY	SZ	88	220	EP		1457	45.75	0.00									1.0

**October 15 2019 Hour: 19: 8 11.3 Lat: 33.70N Lon: 35.82E Depth: 9 Agency: REL Local**  
**Magnitudes: 2.3MC REL Rms: 0.1 secs**

**WEST BEKAA REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	19	18	EP		19	8	14.81	-0.02	24					1.0
ZAHL	SN	19	18	ES		19	8	17.46	0.05						1.0
QRWL	SZ	21	218	EP		19	8	15.12	0.02						1.0
RCY	SZ	22	177	EP		19	8	15.22	-0.08						1.0
RCY	SN	22	177	ES		19	8	18.22	-0.02						1.0
BHL	BZ	28	326	EP		19	8	16.09	-0.04						1.0
SHBL	SZ	39	191	EP		19	8	18.00	0.10						1.0
HWQ	BZ	66	10	EP		19	8	22.05	-0.00						1.0

**October 16 2019 Hour: 7:28 6.2 Agency: REL Regional**

**EMSC OT=07:28:06.2 37.33N 30.75E 105Km M=3.5 WESTERN TURKEY**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		729		18.93							
HWQ	BZ			EP		729		19.00							
QRWL	SZ			EP		729		23.45							
RCY	SZ			EP		729		24.80							
SHBL	SZ			EP		729		25.62							

**October 17 2019 Hour: 15:56 31.0 Lat: 34.04N Lon: 35.95E Depth: 0 Agency: REL Local**  
**Magnitudes: 3.0MC REL Rms: 0.0 secs**

**KESROUAN REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	22	197	EP		1556		34.37	-0.09						1.0
ZAHL	SN	22	197	ES		1556		37.06	0.02						1.0
HWQ	BZ	26	359	EP		1556		35.14	-0.02	58					1.0
HWQ	BN	26	359	ES		1556		38.26	-0.00						1.0
BHL	BZ	32	241	EP		1556		36.05	-0.04						1.0
BHL	BN	32	241	ES		1556		39.91	0.03						1.0
FKH	SZ	48	62	EP		1556		38.66	0.00						1.0
BEIL	SZ	59	21	EP		1556		40.56	0.05						1.0
QRWL	SZ	61	205	EP		1556		40.75	0.01						1.0
RCY	SZ	62	190	EP		1556		40.99	0.06						1.0
SHBL	SZ	80	194	EP		1556		43.81	-0.00						1.0

**October 18 2019 Hour: 4:18 44.3 Lat: 34.00N Lon: 35.94E Depth: 10 Agency: REL Local**  
**Magnitudes: 3.0MC 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	17	198	EP		418		47.62	-0.01						1.0
ZAHL	SN	17	198	ES		418		50.10	-0.00						1.0
BHL	BZ	29	247	EP		418		49.27	-0.01						1.0
HWQ	BZ	30	1	EP		418		49.57	0.02	59					1.0
HWQ	BN	30	1	ES		418		53.46	0.02						1.0
FKH	SZ	51	58	EP		418		52.70	-0.01						1.0
QRWL	SZ	56	205	EP		418		53.45	-0.05						1.0
RCY	SZ	57	190	EP		418		53.69	-0.01						1.0
BEIL	SZ	64	21	EP		418		54.69	-0.03						1.0
SHBL	SZ	75	194	EP		418		56.61	0.08						1.0

**October 18 2019 Hour: 10:46 8.8 Lat: 34.45N Lon: 33.56E Depth:163 Agency: REL Regional**  
**Magnitudes: 3.9MC REL Rms: 0.1 secs**

**CYPRUS REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ	202	107	EP		1046		41.49	-0.07						1.0
HWQ	BZ	220	94	EP		1046		43.34	0.01	162					1.0
HWQ	BN	220	94	ES		1047		8.97	0.09						1.0

QRWL	SZ	220	116	EP		1046	43.22	-0.05									1.0
ZAHL	SZ	224	106	EP		1046	43.63	-0.09									1.0
RCY	SZ	235	116	EP		1046	44.91	0.06									1.0
RCY	SN	235	116	ES		1047	11.52	-0.02									1.0
SHBL	SZ	236	121	EP		1046	45.00	0.07									1.0
BEIL	SZ	241	87	EP		1046	45.43	0.09									1.0
BEIL	SN	241	87	ES		1047	12.32	-0.07									1.0
FKH	SZ	263	94	EP		1046	47.64	-0.03									1.0

**October 20 2019 Hour: 0:12 19.4 Lat: 34.69N Lon: 36.62E Depth: 10 Agency: REL Regional**  
**Magnitudes: 2.6MC REL Rms: 0.1 secs**

**SYRIA REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ	43	247	EP		012	26.63	-0.01	35						1.0
BEIL	SN	43	247	ES		012	31.96	-0.00							1.0
FKH	SZ	53	201	EP		012	28.33	0.09							1.0
FKH	SN	53	201	ES		012	34.68	-0.07							1.0
HWQ	BZ	77	234	EP		012	31.94	-0.08							1.0
HWQ	BN	77	234	ES		012	41.39	0.07							1.0
ZAHL	SZ	115	216	EP		012	37.56	-0.03							1.0
BHL	BZ	125	226	EP		012	38.99	-0.07							1.0
QRWL	SZ	154	215	EP		012	43.40	0.09							1.0

**October 20 2019 Hour: 9:05 57.3 Lat: 34.26N Lon: 36.42E Depth: 0 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
FKH	SZ	2	205	EP		9 0	57.47	-0.16	45						1.0
BEIL	SZ	38	325	EP		9 1	3.36	-0.02							1.0
BEIL	SN	38	325	ES		9 1	7.92	0.01							1.0
HWQ	BZ	44	273	EP		9 1	4.38	0.08							1.0
HWQ	BN	44	273	ES		9 1	9.42	-0.08							1.0
ZAHL	SZ	67	228	EP		9 1	8.10	0.11							1.0
RCY	SZ	100	213	EP		9 1	13.46	-0.01							1.0
QRWL	SZ	104	221	EP		9 1	14.16	0.06							1.0
SHBL	SZ	119	212	EP		9 1	16.44	-0.01							1.0

**October 20 2019 Hour: 22:45 56.7 Lat: 33.55N Lon: 35.55E Depth: 2 Agency: REL Local**  
**Magnitudes: 2.6MC REL Rms: 0.0 secs**

**JEZZINE REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
QRWL	SZ	12	92	EP		2245	58.70	-0.04	33						1.0
QRWL	SN	12	92	ES		2246	0.29	0.01							1.0
DQRL	SZ	17	7	EP		2245	59.54	0.04							1.0
RCY	SZ	27	103	EP		2246	1.14	0.02							1.0
SHBL	SZ	29	141	EP		2246	1.35	-0.02							1.0
BHL	BZ	40	14	EP		2246	3.17	-0.02							1.0
BHL	BN	40	14	ES		2246	7.99	-0.04							1.0
ZAHL	SZ	46	42	EP		2246	4.17	0.04							1.0

**October 21 2019 Hour: 0:30 40.6 Lat: 33.78N Lon: 35.80E Depth: 12 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	42	EP		030	43.48	-0.01	33						1.0
ZAHL	SN	12	42	ES		030	45.63	-0.02							1.0
BHL	BZ	19	316	EP		030	44.30	-0.07							1.0
BHL	BN	19	316	ES		030	47.25	0.07							1.0
DQRL	SZ	23	249	EP		030	44.76	-0.06							1.0
QRWL	SZ	28	203	EP		030	45.56	0.02							1.0
RCY	SZ	31	174	EP		030	46.11	-0.00							1.0
RCY	SN	31	174	ES		030	50.22	0.01							1.0
SHBL	SZ	48	186	EP		030	48.66	0.03							1.0
HWQ	BZ	57	14	EP		030	50.07	0.03							1.0

October 21 2019 Hour: 2:540.2 Lat: 34.15N Lon: 36.06E Depth: 14 Agency: REL Local  
Magnitudes: 2.5MC 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	18	322	EP		2 5	43.84	-0.09	29						1.0
HWQ	BN	18	322	ES		2 5	46.76	0.03							1.0
FKH	SZ	34	72	EP		2 5	46.11	0.03							1.0
ZAHL	SZ	36	207	EP		2 5	46.61	0.09							1.0
BEIL	SZ	45	14	EP		2 5	47.75	0.04							1.0
BEIL	SN	45	14	ES		2 5	53.28	-0.02							1.0
BHL	BZ	47	234	EP		2 5	48.06	0.04							1.0
RCY	SZ	76	196	EP		2 5	52.27	-0.01							1.0
SHBL	SZ	94	199	EP		2 5	54.87	-0.10							1.0

October 21 2019 Hour: 3:10 21.0 Lat: 33.56N Lon: 35.71E Depth: 0 Agency: REL Local  
Magnitudes: 2.3MC 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	3	240	EP		310	21.55	-0.02	22						1.0
RCY	SZ	14	122	EP		310	23.19	-0.05							1.0
RCY	SN	14	122	ES		310	24.93	0.05							1.0
DQRL	SZ	21	321	EP		310	24.41	0.04							1.0
SHBL	SZ	24	173	EP		310	24.91	0.02							1.0
SHBL	SN	24	173	ES		310	27.74	-0.01							1.0
ZAHL	SZ	37	26	EP		310	26.91	-0.03							1.0

October 21 2019 Hour: 2:52 30.0 Agency: REL Distant

EMSC OT=02:52:30.0 19.04S 169.47E 237Km M=6.4 VANUATU

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		314	34.54								
HWQ	BZ			EP		314	34.00								

October 21 2019 Hour: 10:30 43.8 Agency: REL Regional

EMSC OT=10:30:43.8 35.32N 29.47E 40Km M=3.5 EASTERN MEDITERRANEAN SEA

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ			EP		1032	2.07								
QRWL	SZ			EP		1032	2.42								
BEIL	SZ			EP		1032	3.58								
SHBL	SZ			EP		1032	4.19								
RCY	SZ			EP		1032	4.06								

October 21 2019 Hour: 10:58 52.6 Agency: REL Distant

EMSC OT=10:58:52.6 27.22N 55.10E 10Km M=5.4 SOUTHERN IRAN

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ			EP		11 3	1.28								
BHL	BZ			EP		11 3	2.61								

October 21 2019 Hour: 17:40 51.6 Lat: 33.87N Lon: 35.85E Depth: 3 Agency: REL Local  
Magnitudes: 3.0MC 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	112	EP		1740	52.45	-0.08							1.0
ZAHL	SN	4	112	ES		1740	53.26	0.04							1.0
BHL	BZ	18	282	EP		1740	54.58	-0.03							1.0
BHL	BN	18	282	ES		1740	56.86	0.01							1.0
QRWL	SZ	39	203	EP		1740	57.83	-0.08							1.0
RCY	SZ	42	182	EP		1740	58.29	-0.04							1.0
RCY	SN	42	182	ES		1741	3.42	0.10							1.0
HWQ	BZ	46	11	EP		1740	59.10	0.05	62						1.0
SHBL	SZ	59	189	EP		1741	1.11	0.02							1.0
FKH	SZ	66	51	EP		1741	2.22	-0.11							1.0
BEIL	SZ	81	23	EP		1741	4.71	0.11							1.0

October 21 2019 Hour: 23:54 35.1 Lat: 34.23N Lon: 36.32E Depth: 11 Agency: REL Local  
Magnitudes: 2.7MC 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	9	80	EP		2354	37.62	-0.02							1.0
FKH	SN	9	80	ES		2354	39.53	0.04							1.0
HWQ	BZ	35	279	EP		2354	41.03	-0.06	41						1.0
HWQ	BN	35	279	ES		2354	45.55	0.05							1.0
BEIL	SZ	37	340	EP		2354	41.34	-0.01							1.0
ZAHL	SZ	58	224	EP		2354	44.58	-0.06							1.0
BHL	BZ	71	240	EP		2354	46.80	0.06							1.0
RCY	SZ	93	209	EP		2354	49.92	-0.04							1.0
QRWL	SZ	96	218	EP		2354	50.33	-0.04							1.0
SHBL	SZ	111	209	EP		2354	52.78	0.09							1.0

October 22 2019 Hour: 21: 6 39.3 Lat: 33.91N Lon: 36.97E Depth: 0 Agency: REL Regional  
Magnitudes: 3.0MC 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	64	306	EP		21 6	49.46	-0.08	57						1.0
FKH	SN	64	306	ES		21 6	57.10	-0.03							1.0
ZAHL	SZ	101	267	EP		21 6	55.58	0.06							1.0
ZAHL	SN	101	267	ES		21 7	7.52	-0.00							1.0
BEIL	SZ	101	314	EP		21 6	55.54	0.02							1.0
HWQ	BZ	103	294	EP		21 6	55.96	0.07							1.0
RCY	SZ	115	247	EP		21 6	57.77	-0.05							1.0
BHL	BZ	122	270	EP		21 6	58.91	-0.02							1.0
QRWL	SZ	126	252	EP		21 6	59.70	0.07							1.0
SHBL	SZ	130	242	EP		21 7	0.20	-0.04							1.0

October 23 2019 Hour: 16: 8 14.6 Agency: REL Distant  
**EMSC OT=16:08:14.6 1.14S 13.84W 10Km M=6.3 NORTH OF ASCENSION ISLAND**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ			EP		1618	9.89								
BHL	BZ			EP		1618	7.64								

October 23 2019 Hour: 20:57 30.6 Lat: 33.33N Lon: 35.44E Depth: 2 Agency: REL Local  
Magnitudes: 2.7MC REL Rms: 0.1 secs

**NABATIYE REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
SHBL	SZ	29	85	EP		2057	35.27	0.02							1.0
QRWL	SZ	34	43	EP		2057	35.93	-0.09	38						1.0
QRWL	SN	34	43	ES		2057	39.99	-0.05							1.0
RCY	SZ	42	63	EP		2057	37.28	-0.05							1.0
RCY	SN	42	63	ES		2057	42.37	0.06							1.0
BHL	BZ	67	17	EP		2057	41.43	-0.01							1.0
BHL	BN	67	17	ES		2057	49.48	0.00							1.0
ZAHL	SZ	72	35	EP		2057	42.27	0.02							1.0
HWQ	BZ	116	24	EP		2057	49.35	0.10							1.0
FKH	SZ	136	41	EP		2057	52.33	-0.02							1.0
BEIL	SZ	152	27	EP		2057	54.75	0.16							0.2

October 24 2019 Hour: 19:14 16.5 Agency: REL Distant  
**EMSC OT=19:14:16.5 28.85S 176.95W 80Km M=5.7 KERMADEC ISLANDS REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		1934	2.16								
FKH	SZ			EP		1934	2.11								
ZAHL	SZ			EP		1934	3.78								
BHL	BZ			EP		1934	3.29								
DQRL	SZ			EP		1934	3.72								
RCY	SZ			EP		1934	4.11								
QRWL	SZ			EP		1934	4.20								
SHBL	SZ			EP		1934	4.33								

October 24 2019 Hour: 21: 6 47.2

Agency: REL Regional

EMSC OT=21:06:47.2 36.37N 28.72E 10Km M=4.6 DODECANESE-TURKEY BORDER REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		21 8	17.46								
HWQ	BZ			EP		21 8	18.83								
BEIL	SZ			EP		21 8	20.15								
ZAHL	SZ			EP		21 8	19.65								
SHBL	SZ			EP		21 8	22.22								
RCY	SZ			EP		21 8	21.75								
FKH	SZ			EP		21 8	24.13								

October 25 2019 Hour: 14:36 4.3

Lat: 34.53N

Lon: 36.36E

Depth: 0

Agency: REL

Local

Magnitudes: 3.2MC REL

Rms: 0.1 secs

Earthquake was felt

LEBANON - SYRIA BORDER REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ	16	275	EP		1436	7.00	0.03							1.0
BEIL	SN	16	275	ES		1436	8.80	-0.11							1.0
FKH	SZ	32	172	EP		1436	9.47	-0.02	82						1.0
FKH	SN	32	172	ES		1436	13.19	-0.12							1.0
HWQ	BZ	47	234	EP		1436	11.97	-0.00							1.0
HWQ	BN	47	234	ES		1436	17.65	0.03							1.0
ZAHL	SZ	87	211	EP		1436	18.19	-0.10							1.0
BHL	BZ	95	223	EP		1436	19.76	0.06							1.0
RCY	SZ	125	203	EP		1436	24.54	0.12							1.0
RCY	SN	125	203	ES		1436	39.31	0.03							1.0
QRWL	SZ	126	210	EP		1436	24.64	0.02							1.0
SHBL	SZ	143	204	EP		1436	27.38	0.07							1.0

October 26 2019 Hour: 17:13 26.9

Lat: 35.19N

Lon: 37.91E

Depth: 1

Agency: REL

Regional

Magnitudes: 3.5MC 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	172	233	EP		1713	54.19	0.06							1.0
FKH	SN	172	233	ES		1714	14.19	-0.06							1.0
BEIL	SZ	173	246	EP		1713	54.12	-0.06	98						1.0
BEIL	SN	173	246	ES		1714	14.41	0.06							1.0
HWQ	BZ	206	241	EP		1713	58.47	-0.07							1.0
ZAHL	SZ	237	232	EP		1714	2.52	0.11							1.0
BHL	BZ	251	236	EP		1714	4.08	-0.04							1.0
RCY	SZ	267	226	EP		1714	6.19	0.00							1.0
QRWL	SZ	274	229	EP		1714	6.96	0.03							1.0
SHBL	SZ	285	225	EP		1714	8.37	-0.03							1.0

October 27 2019 Hour: 3:14 43.8

Lat: 34.99N

Lon: 38.09E

Depth: 0

Agency: REL

Regional

Magnitudes: 3.3MC 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	175	242	EP		315	11.27	-0.10							1.0
FKH	SN	175	242	ES		315	31.76	-0.04							1.0
BEIL	SZ	181	255	EP		315	12.22	-0.07	76						1.0
BEIL	SN	181	255	ES		315	33.48	0.08							1.0
HWQ	BZ	212	249	EP		315	16.18	-0.01							1.0
ZAHL	SZ	238	239	EP		315	19.60	0.10							1.0
BHL	BZ	254	242	EP		315	21.44	0.00							1.0
RCY	SZ	265	232	EP		315	22.94	0.04							1.0
QRWL	SZ	273	235	EP		315	23.83	0.01							1.0
SHBL	SZ	283	231	EP		315	25.04	0.01							1.0

October 27 2019 Hour: 9:51 13.0 Lat: 34.18N Lon: 36.47E Depth: 5 Agency: REL Local  
Magnitudes: 3.1MC 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	9	324	EP		951	14.88	-0.00	66						1.0
BEIL	SZ	48	327	EP		951	20.91	0.03							1.0
BEIL	SN	48	327	ES		951	26.69	0.01							1.0
HWQ	BZ	50	283	EP		951	20.99	-0.11							1.0
HWQ	BN	50	283	ES		951	27.09	0.03							1.0
ZAHL	SZ	65	237	EP		951	23.46	-0.05							1.0
BHL	BZ	81	248	EP		951	26.18	0.01							1.0
RCY	SZ	96	218	EP		951	28.51	0.01							1.0
QRWL	SZ	101	226	EP		951	29.41	0.06							1.0

October 27 2019 Hour: 17:56 49.1 Agency: REL Distant

**EMSC OT=17:56:49.1 35.10N 102.69E 10Km M=5.3 GANSU-QINGHAI BORDER REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ			EP		18 6	13.67								
BHL	BZ			EP		18 6	15.80								

October 27 2019 Hour: 23:23 9.3 Lat: 33.67N Lon: 35.81E Depth: 0 Agency: REL Local  
Magnitudes: 2.3MC 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	221	EP		2323	12.30	0.04	23						1.0
QRWL	SN	18	221	ES		2323	14.45	-0.01							1.0
RCY	SZ	20	173	EP		2323	12.47	-0.01							1.0
RCY	SN	20	173	ES		2323	14.80	-0.05							1.0
ZAHL	SZ	22	19	EP		2323	12.83	0.05							1.0
BHL	BZ	29	330	EP		2323	13.98	-0.06							1.0
SHBL	SZ	37	190	EP		2323	15.24	0.04							1.0

October 29 2019 Hour: 1: 4 44.9 Agency: REL Distant

**EMSC OT=01:04:44.9 6.83N 125.12E 20Km M=6.6 MINDANAO, PHILIPPINES**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ			EP		117	21.58								
BHL	BZ			EP		117	23.04								

October 29 2019 Hour: 2:42 37.9 Agency: REL Distant

**EMSC OT=02:42:37.9 6.89N 125.08E 10Km M=5.8 MINDANAO, PHILIPPINES**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		255	17.87								
HWQ	BZ			EP		255	16.49								

October 29 2019 Hour: 13:1 54.5 Agency: REL Regional

**EMSC OT=13:01:54.5 35.67N 25.16E 62Km M=4.1 CRETE, GREECE**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
QRWL	SZ			EP		13 3	56.14								
HWQ	BZ			EP		13 3	56.63								
SHBL	SZ			EP		13 3	57.31								
RCY	SZ			EP		13 3	57.93								
BEIL	SZ			EP		13 3	58.47								

October 30 2019 Hour: 16:48 56.8 Lat: 33.54N Lon: 35.60E Depth: 0 Agency: REL Local  
Magnitudes: 2.8MC REL Rms: 0.1 secs

**JEZINE REGION**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
QRWL	SZ	8	85	EP		1648	57.97	-0.06	45						1.0
QRWL	SN	8	85	ES		1648	58.90	-0.04							1.0
RCY	SZ	22	103	EP		1649	0.37	-0.04							1.0
RCY	SN	22	103	ES		1649	3.15	0.07							1.0
SHBL	SZ	25	148	EP		1649	0.86	-0.00							1.0
SHBL	SN	25	148	ES		1649	3.89	0.02							1.0



BHL	BZ	41	7	EP	1649	3.27	-0.07										1.0
ZAHL	SZ	44	37	EP	1649	3.86	-0.02										1.0
HWQ	BZ	88	21	EP	1649	11.09	0.14										1.0

October 31 2019 Hour: 1:22 0.0 Agency: REL Distant

EMSC OT=01:11:18.6 6.96N 125.22E 10Km M=6.5 MINDANAO, PHILIPPINES

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ			EP		123	57.49								
BHL	BZ			EP		123	58.93								

October 31 2019 Hour: 15:7 20.4 Lat: 33.72N Lon: 35.77E Depth: 5 Agency: REL Local

Magnitudes: 2.9MC REL

Rms: 0.1 secs

WEST BEKAA REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	19	33	EP		15	7	23.67	0.05						1.0
QRWL	SZ	21	205	EP		15	7	23.93	0.04	53					1.0
QRWL	SN	21	205	ES		15	7	26.50	0.04						1.0
BHL	BZ	24	332	EP		15	7	24.29	-0.07						1.0
BHL	BN	24	332	ES		15	7	27.26	-0.01						1.0
RCY	SZ	25	167	EP		15	7	24.51	-0.10						1.0
RCY	SN	25	167	ES		15	7	27.69	-0.01						1.0
SHBL	SZ	41	184	EP		15	7	27.13	0.02						1.0
HWQ	BZ	64	14	EP		15	7	30.81	-0.03						1.0
FKH	SZ	83	45	EP		15	7	33.81	-0.03						1.0
BEIL	SZ	99	22	EP		15	7	36.52	0.10						1.0



# Epicentral Map of Lebanon

## OCTOBER 2019

