

Republic of Lebanon
National Council for Scientific Research

Provisional Seismological Bulletin

from the

NATIONAL SEISMIC NETWORK

December

2018

Prepared by
The National Centre for Geophysical Research
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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.

December 1 2018 Hour: 0:35 56.6 Lat: 33.79N Lon: 35.81E 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	11	43	EP		035	58.70	-0.02							1.0
BHL	BZ	19	313	EP		035	59.82	-0.07	28						1.0
BHL	BN	19	313	ES		036	2.43	0.06							1.0
DQRL	SZ	24	248	EP		036	0.52	-0.06							1.0
QRWL	SZ	29	203	EP		036	1.41	0.02							1.0
RCY	SZ	32	175	EP		036	1.91	-0.03							1.0
SHBL	SZ	49	187	EP		036	4.64	0.07							1.0
SHBL	SN	49	187	ES		036	10.51	0.00							1.0
HWQ	BZ	56	13	EP		036	6.02	0.35							0.2

December 1 2018 Hour: 0:43 26.6 Lat: 33.79N Lon: 35.81E Depth: 11 Agency: REL Local
Magnitudes: 2.4MC 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	10	46	EP		043	29.11	-0.06							1.0
BHL	BZ	19	311	EP		043	30.10	-0.07	27						1.0
BHL	BN	19	311	ES		043	32.87	0.04							1.0
DQRL	SZ	24	246	EP		043	30.93	0.01							1.0
QRWL	SZ	30	203	EP		043	31.66	-0.09							1.0
RCY	SZ	33	175	EP		043	32.39	0.09							1.0
SHBL	SZ	50	187	EP		043	34.82	-0.05							1.0
SHBL	SN	50	187	ES		043	41.10	0.10							1.0
HWQ	BZ	55	13	EP		043	36.21	0.52							0.2

December 1 2018 Hour: 7: 8 16.4 Lat: 33.86N Lon: 35.83E Depth: 0 Agency: REL Local
Magnitudes: 2.9MC 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	5	92	EP		7 8	17.09	-0.06							1.0
BHL	BZ	18	287	EP		7 8	19.20	-0.00							1.0
DQRL	SZ	30	235	EP		7 8	21.18	-0.02							1.0
QRWL	SZ	37	202	EP		7 8	22.33	-0.07	54						1.0
RCY	SZ	40	180	EP		7 8	22.87	0.00							1.0
HWQ	BZ	48	12	EP		7 8	24.00	-0.05							1.0
HWQ	BN	48	12	ES		7 8	29.78	0.05							1.0
SHBL	SZ	57	189	EP		7 8	25.72	0.10							1.0
SHBL	SN	57	189	ES		7 8	32.47	0.01							1.0
FKH	SZ	68	51	EP		7 8	27.40	0.03							1.0

December 3 2018 Hour: 0:16 28.9 Lat: 34.62N Lon: 34.28E Depth: 10 Agency: REL Regional
Magnitudes: 3.7MC 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	150	122	EP		016	52.03	-0.12	138						1.0
DQRL	SZ	157	130	EP		016	52.88	-0.28							0.2
HWQ	BZ	158	103	EP		016	53.51	0.12							1.0
HWQ	BN	158	103	ES		017	11.51	0.00							1.0
ZAHL	SZ	171	119	EP		016	55.24	0.07							1.0
BEIL	SZ	175	92	EP		016	55.24	-0.44							0.2
QRWL	SZ	176	132	EP		016	55.77	-0.04							1.0
RCY	SZ	191	130	EP		016	57.73	0.08							1.0
SHBL	SZ	196	136	EP		016	58.32	0.02							1.0
SHBL	SN	196	136	ES		017	20.06	-0.01							1.0
FKH	SZ	201	101	EP		016	58.78	-0.09							1.0

December 3 2018 Hour: 12:17 22.8 Lat: 34.36N Lon: 36.55E Depth: 2 Agency: REL Local
Magnitudes: 2.9MC REL Rms: 0.0 secs

LEBANON - SYRIA BORDER REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
FKH	SZ	18	226	EP		1217	25.62	-0.05							1.0
FKH	SN	18	226	ES		1217	27.84	0.01							1.0
BEIL	SZ	39	302	EP		1217	29.08	-0.01	50						1.0
HWQ	BZ	56	261	EP		1217	31.83	0.02							1.0
RCY	SZ	116	215	EP		1217	41.43	-0.03							1.0
QRWL	SZ	120	222	EP		1217	42.21	0.06							1.0
SHBL	SZ	134	214	EP		1217	44.32	0.03							1.0
SHBL	SN	134	214	ES		1218	0.20	-0.03							1.0

December 5 2018 Hour: 4:18 7.9 Agency: REL Distant
EMSC OT=04:18:07.9 21.92S 169.49E 10Km M=7.5 SOUTHEAST LOYALTY ISLANDS

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		437	30.04								
HWQ	BZ			EP		437	28.98								

December 7 2018 Hour: 6:25 30.9 Agency: REL Regional
EMSC OT=06:25:30.9 34.11N 26.16E 10Km M=4.5 CRETE, GREECE

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
QRWL	SZ			EP		627	25.38								
SHBL	SZ			EP		627	26.16								
RCY	SZ			EP		627	26.62								
HWQ	BZ			EP		627	28.34								
BEIL	SZ			EP		627	30.52								
FKH	SZ			EP		627	33.08								

December 8 2018 Hour: 19:0 2.5 Agency: REL Regional
EMSC OT=19:00:02.5 34.20N 26.16E 53Km M=4.5 CRETE, GREECE

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
QRWL	SZ			EP		19 1	52.90								
SHBL	SZ			EP		19 1	54.14								
RCY	SZ			EP		19 1	54.84								
ZAHL	SZ			EP		19 1	55.68								
HWQ	BZ			EP		19 1	55.70								
BEIL	SZ			EP		19 1	58.41								
FKH	SZ			EP		19 2	1.15								

December 8 2018 Hour: 21:9 32.4 Lat: 34.10N Lon: 35.78E Depth: 26 Agency: REL Local
Magnitudes: 2.8MC REL Rms: 0.1 secs

JBEIL REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ	25	208	EP		21 9	37.99	-0.09							1.0
HWQ	BZ	25	38	EP		21 9	38.20	0.10	44						1.0
HWQ	BN	25	38	ES		21 9	42.33	-0.01							1.0
ZAHL	SZ	29	160	EP		21 9	38.44	-0.09							1.0
DQRL	SZ	48	204	EP		21 9	40.97	0.07							1.0
FKH	SZ	60	75	EP		21 9	42.54	-0.02							1.0
BEIL	SZ	61	37	EP		21 9	42.67	-0.01							1.0
QRWL	SZ	62	188	EP		21 9	42.86	0.05							1.0
RCY	SZ	67	176	EP		21 9	43.56	-0.02							1.0
RCY	SN	67	176	ES		21 9	51.97	0.09							1.0
SHBL	SZ	84	182	EP		21 9	45.83	-0.07							1.0

December 9 2018 Hour: 14:21 21.9 Lat: 33.47N Lon: 35.69E Depth: 4 Agency: REL Local
Magnitudes: 2.7MC 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	8	357	EP		1421	23.43	-0.09	39						1.0
RCY	SZ	14	80	EP		1421	24.46	0.05							1.0
SHBL	SZ	15	159	EP		1421	24.47	-0.09							1.0

SHBL	SN	15	159	ES		1421	26.55	0.06									1.0
DQRL	SZ	28	337	EP		1421	26.59	0.07									1.0
DQRL	SN	28	337	ES		1421	29.95	0.05									1.0
ZAHL	SZ	46	23	EP		1421	29.48	0.00									1.0
BHL	BZ	48	356	EP		1421	29.64	-0.06									1.0

December 11 2018 Hour: 15:16 40.1 Lat: 34.22N Lon: 36.49E 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
FKH	SZ	8	291	EP		1516	41.80	-0.10	34						1.0
FKH	SN	8	291	ES		1516	43.28	0.07							1.0
BEIL	SZ	46	322	EP		1516	47.57	0.00							1.0
BEIL	SN	46	322	ES		1516	53.09	0.01							1.0
HWQ	BZ	51	278	EP		1516	48.32	-0.07							1.0
ZAHL	SZ	69	235	EP		1516	51.25	-0.04							1.0
BHL	BZ	85	246	EP		1516	53.91	0.05							1.0
RCY	SZ	100	217	EP		1516	56.48	0.10							1.0
RCY	SN	100	217	ES		1517	8.36	-0.05							1.0
QRWL	SZ	106	225	EP		1516	57.17	0.02							1.0
SHBL	SZ	119	216	EP		1516	59.13	0.00							1.0

December 13 2018 Hour: 10:23 11.2 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	353	EP		1023	12.49	-0.09	34						1.0
RCY	SZ	14	77	EP		1023	13.40	0.03							1.0
SHBL	SZ	14	161	EP		1023	13.48	0.01							1.0
SHBL	SN	14	161	ES		1023	15.16	-0.02							1.0
DQRL	SZ	29	337	EP		1023	15.86	0.08							1.0
DQRL	SN	29	337	ES		1023	19.20	0.01							1.0
BHL	BZ	48	356	EP		1023	18.96	-0.01							1.0

December 14 2018 Hour: 3:57 47.3

Agency: REL Regional

EMSC OT=03:57:47.3 35.81N 31.98E 12Km M=3.3 CYPRUS REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ			EP		358	44.65								
BEIL	SZ			EP		358	45.34								
DQRL	SZ			EP		358	45.10								
ZAHL	SZ			EP		358	47.12								
QRWL	SZ			EP		358	46.82								
RCY	SZ			EP		358	49.54								
SHBL	SZ			EP		358	50.81								

December 14 2018 Hour: 10:52 19.5 Lat: 34.19N Lon: 36.48E Depth: 5 Agency: REL Local
Magnitudes: 2.9MC 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	312	EP		1052	21.16	-0.05	56						1.0
FKH	SN	9	312	ES		1052	22.50	0.03							1.0
BEIL	SZ	47	325	EP		1052	27.16	-0.02							1.0
BEIL	SN	47	325	ES		1052	32.93	0.08							1.0
HWQ	BZ	50	281	EP		1052	27.46	-0.17							1.0
HWQ	BN	50	281	ES		1052	33.62	-0.01							1.0
BHL	BZ	83	247	EP		1052	32.97	0.10							1.0
DQRL	SZ	100	237	EP		1052	35.64	-0.01							1.0
QRWL	SZ	103	226	EP		1052	36.15	0.04							1.0
SHBL	SZ	116	216	EP		1052	38.16	0.01							1.0
SHBL	SN	116	216	ES		1052	51.94	-0.01							1.0

December 14 2018 Hour: 12:21 59.0 Lat: 34.53N Lon: 36.33E Depth: 4 Agency: REL Local
Magnitudes: 2.8MC 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	14	274	EP		1222	1.38	0.05	48						1.0
BEIL	SN	14	274	ES		1222	3.02	-0.02							1.0
FKH	SZ	33	167	EP		1222	4.34	-0.05							1.0
FKH	SN	33	167	ES		1222	8.39	0.03							1.0
HWQ	BZ	45	231	EP		1222	6.35	-0.04							1.0
HWQ	BN	45	231	ES		1222	11.85	0.00							1.0
BHL	BZ	94	222	EP		1222	14.17	0.02							1.0
QRWL	SZ	125	209	EP		1222	18.95	-0.05							1.0
SHBL	SZ	142	203	EP		1222	21.67	0.06							1.0

December 14 2018 Hour: 15:27 57.5 Lat: 34.46N Lon: 35.95E Depth: 6 Agency: REL Local
Magnitudes: 3.5MC REL Rms: 0.2 secs

Earthquake was felt

MINIEH-DINNIEH REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ	23	68	EP		1528	1.52	0.05	125						1.0
BEIL	SN	23	68	ES		1528	4.41	0.03							1.0
FKH	SZ	49	120	EP		1528	5.49	-0.01							1.0
FKH	SN	49	120	ES		1528	11.32	-0.07							1.0
ZAHL	SZ	67	185	EP		1528	8.38	-0.09							1.0
BHL	BZ	68	204	EP		1528	8.48	-0.04							1.0
DQRL	SZ	91	203	EP		1528	12.35	0.09							1.0
QRWL	SZ	104	194	EP		1528	14.28	-0.09							1.0
RCY	SZ	108	186	EP		1528	14.80	-0.08							1.0
SHBL	SZ	125	189	EP		1528	17.53	0.09							1.0
SHBL	SN	125	189	ES		1528	32.19	0.03							1.0

December 14 2018 Hour: 18:44 53.8 Lat: 34.19N Lon: 35.71E Depth: 23 Agency: REL Local
Magnitudes: 2.5MC REL Rms: 0.1 secs

JBEIL REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ	24	66	EP		1844	59.24	0.08	28						1.0
HWQ	BN	24	66	ES		1845	3.12	-0.00							1.0
BHL	BZ	32	188	EP		1845	0.02	-0.03							1.0
DQRL	SZ	55	193	EP		1845	3.24	0.10							1.0
DQRL	SN	55	193	ES		1845	9.96	-0.09							1.0
BEIL	SZ	59	48	EP		1845	3.53	-0.10							1.0
QRWL	SZ	71	182	EP		1845	5.42	-0.00							1.0
SHBL	SZ	93	178	EP		1845	8.70	0.04							1.0

December 14 2018 Hour: 18:46 44.0 Lat: 34.19N Lon: 35.72E Depth: 24 Agency: REL Local
Magnitudes: 2.6MC REL Rms: 0.0 secs

JBEIL REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ	23	66	EP		1846	49.33	-0.02	34						1.0
HWQ	BN	23	66	ES		1846	53.33	0.03							1.0
BHL	BZ	33	190	EP		1846	50.37	-0.04							1.0
DQRL	SZ	56	194	EP		1846	53.57	0.09							1.0
DQRL	SN	56	194	ES		1847	0.45	-0.04							1.0
BEIL	SZ	58	48	EP		1846	53.70	-0.03							1.0
SHBL	SZ	94	178	EP		1846	58.95	-0.00							1.0

December 16 2018 Hour: 1:30 30.5 Lat: 34.57N Lon: 33.40E Depth: 0 Agency: REL Regional
Magnitudes: 3.8MC 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	221	109	EP		131	4.03	-0.03							1.0
BHL	BN	221	109	ES		131	28.79	-0.09							1.0
DQRL	SZ	222	115	EP		131	4.32	0.07							1.0

HWQ	BZ	236	97	EP		131	6.04-0.01	141								1.0
HWQ	BN	236	97	ES		131	32.32-0.01									1.0
QRWL	SZ	240	118	EP		131	6.36-0.04									1.0
ZAHL	SZ	242	108	EP		131	6.79-0.01									1.0
RCY	SZ	255	117	EP		131	8.40 0.06									1.0
SHBL	SZ	256	121	EP		131	8.53 0.05									1.0
BEIL	SZ	256	90	EP		131	8.26-0.12	124								1.0
BEIL	SN	256	90	ES		131	36.49 0.10									1.0
FKH	SZ	279	97	EP		131	11.38 0.02									1.0

December 16 2018 Hour: 1:35 33.5

Agency: REL Regional

EMSC OT=01:35:33.5 34.64N 33.06E 8Km M=3.2 CYPRUS REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
DQRL	SZ			EP		136	11.03								
BHL	BZ			EP		136	10.05								
HWQ	BZ			EP		136	12.68								
ZAHL	SZ			EP		136	12.65								
BEIL	SZ			EP		136	14.62								
SHBL	SZ			EP		136	14.92								
RCY	SZ			EP		136	14.77								

December 16 2018 Hour: 4:46 10.6

Agency: REL Distant

EMSC OT=04:46:10.6 28.27N 105.05E 25Km M=5.4 SICHUAN-GUIZHOU BORDER, CHINA

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		456	5.92								
HWQ	BZ			EP		456	3.85								

December 16 2018 Hour: 14: 9 19.0 Lat: 33.78N Lon: 35.77E 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	13	50	EP		14 9	21.41-0.01								1.0
BHL	BZ	18	321	EP		14 9	22.01-0.03	40							1.0
DQRL	SZ	21	246	EP		14 9	22.57 0.05								1.0
DQRL	SN	21	246	ES		14 9	25.12 0.02								1.0
QRWL	SZ	27	198	EP		14 9	23.48-0.07								1.0
RCY	SZ	32	170	EP		14 9	24.30-0.03								1.0
RCY	SN	32	170	ES		14 9	28.26 0.02								1.0
SHBL	SZ	48	183	EP		14 9	26.89 0.02								1.0
HWQ	BZ	57	16	EP		14 9	28.29-0.04								1.0
FKH	SZ	78	49	EP		14 9	31.72 0.06								1.0
BEIL	SZ	92	24	EP		14 9	34.18 0.21								0.2

December 17 2018 Hour: 23:53 3.3 Lat: 34.62N Lon: 32.89E Depth: 78

Agency: REL Regional

Magnitudes: 3.4MC 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	266	106	EP		2353	39.64 0.05								1.0
DQRL	SZ	267	112	EP		2353	39.71 0.07								1.0
DQRL	SN	267	112	ES		2354	6.44-0.10								1.0
HWQ	BZ	283	97	EP		2353	41.66 0.04								1.0
HWQ	BN	283	97	ES		2354	9.98 0.00								1.0
QRWL	SZ	284	114	EP		2353	41.64 0.01								1.0
ZAHL	SZ	288	106	EP		2353	42.25 0.01								1.0
SHBL	SZ	299	117	EP		2353	43.48-0.00								1.0
RCY	SZ	299	114	EP		2353	43.43-0.06								1.0
RCY	SN	299	114	ES		2354	13.29 0.05								1.0
BEIL	SZ	302	91	EP		2353	43.69-0.11	76							1.0
BEIL	SN	302	91	ES		2354	13.82 0.04								1.0

December 18 2018 Hour: 0:44 46.2 Lat: 33.69N Lon: 35.88E 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
ZAHL	SZ	18	3	EP		044	49.20	0.03							1.0
RCY	SZ	22	190	EP		044	49.81	-0.04							1.0
RCY	SN	22	190	ES		044	52.45	-0.08							1.0
QRWL	SZ	24	228	EP		044	50.22	0.05	47						1.0
DQRL	SZ	28	272	EP		044	50.86	0.03							1.0
DQRL	SN	28	272	ES		044	54.21	-0.01							1.0
BHL	BZ	31	318	EP		044	51.15	-0.10							1.0
SHBL	SZ	40	198	EP		044	52.86	0.10							1.0
HWQ	BZ	65	6	EP		044	56.80	0.07							0.2
FKH	SZ	78	39	EP		044	58.83	-0.07							0.2
BEIL	SZ	98	17	EP		045	2.22	0.15							0.2

December 19 2018 Hour: 1:37 40.3 Agency: REL Distant

EMSC OT=01:37:40.3 36.15S 101.03W 10Km M=6.2 SOUTHEAST EASTER ISLAND

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ			EP		157	18.44								
BHL	BZ			EP		157	17.29								

December 20 2018 Hour: 13:30 43.4 Lat: 34.21N Lon: 36.44E Depth: 0 Agency: REL Local
Magnitudes: 2.7MC REL Rms: 0.2 secs

BAALBECK REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
FKH	SZ	5	322	EP		1330	44.19	-0.10	38						1.0
BEIL	SZ	44	327	EP		1330	50.50	-0.04							1.0
BEIL	SN	44	327	ES		1330	55.80	-0.00							1.0
HWQ	BZ	47	280	EP		1330	51.05	0.11							1.0
BHL	BZ	80	245	EP		1330	56.96	0.56							0.2
RCY	SZ	97	216	EP		1330	58.93	-0.14							1.0
RCY	SN	97	216	ES		1331	10.50	-0.15							1.0
QRWL	SZ	102	224	EP		1330	59.94	0.11							1.0
SHBL	SZ	115	214	EP		1331	2.21	0.18							1.0

December 20 2018 Hour: 17:1 54.3 Agency: REL Distant

EMSC OT=17:01:54.3 55.07N 164.77E 10Km M=7.4 KOMANDORSKIYE OSTROVA REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		1714	9.90								
HWQ	BZ			EP		1714	7.58								

December 21 2018 Hour: 23:45 50.9 Lat: 33.78N Lon: 35.79E Depth: 1 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	12	48	EP		2345	52.94	-0.00							1.0
BHL	BZ	18	317	EP		2345	53.81	-0.03	29						1.0
DQRL	SZ	22	246	EP		2345	54.52	0.07							1.0
DQRL	SN	22	246	ES		2345	57.08	-0.00							1.0
QRWL	SZ	28	200	EP		2345	55.39	-0.05							1.0
QRWL	SN	28	200	ES		2345	58.74	-0.06							1.0
RCY	SZ	32	172	EP		2345	56.19	0.05							1.0
SHBL	SZ	49	185	EP		2345	58.79	0.04							1.0
HWQ	BZ	57	15	EP		2346	0.02	-0.04							0.2
FKH	SZ	77	48	EP		2346	3.16	-0.17							0.2

December 22 2018 Hour: 10:56 4.6 Lat: 34.53N Lon: 36.38E Depth: 0 Agency: REL Local
Magnitudes: 3.0MC REL Rms: 0.1 secs

LEBANON - SYRIA BORDER REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ	18	274	EP		1056	7.35	-0.08	57						1.0
BEIL	SN	18	274	ES		1056	9.65	0.09							1.0
FKH	SZ	32	175	EP		1056	9.74	0.07							1.0
HWQ	BZ	49	235	EP		1056	12.35	-0.04							1.0
HWQ	BN	49	235	ES		1056	18.17	-0.01							1.0
BHL	BZ	96	224	EP		1056	20.03	-0.05							1.0
RCY	SZ	125	204	EP		1056	24.72	-0.01							1.0
SHBL	SZ	144	204	EP		1056	27.64	0.03							1.0

December 22 2018 Hour: 11:13 8.9 Lat: 33.47N Lon: 35.68E Depth: 1 Agency: REL Local
Magnitudes: 2.7MC 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	359	EP		1113	10.34	-0.05	38						1.0
RCY	SZ	15	78	EP		1113	11.32	-0.00							1.0
SHBL	SZ	15	157	EP		1113	11.29	-0.05							1.0
SHBL	SN	15	157	ES		1113	13.18	0.06							1.0
DQRL	SZ	28	338	EP		1113	13.51	0.01							1.0
BHL	BZ	48	357	EP		1113	16.78	0.05							1.0
HWQ	BZ	93	15	EP		1113	23.93	0.00							1.0
HWQ	BN	93	15	ES		1113	35.08	0.06							1.0
FKH	SZ	109	38	EP		1113	26.49	-0.06							1.0

December 22 2018 Hour: 14:53 56.5 Lat: 33.79N Lon: 35.78E Depth: 9 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	51	EP		1453	59.07	-0.04							1.0
BHL	BZ	18	319	EP		1453	59.77	0.03	36						1.0
DQRL	SZ	21	245	EP		1454	0.29	0.01							1.0
DQRL	SN	21	245	ES		1454	3.11	0.01							1.0
QRWL	SZ	28	199	EP		1454	1.21	-0.05							1.0
RCY	SZ	33	171	EP		1454	1.93	-0.06							1.0
SHBL	SZ	49	184	EP		1454	4.55	0.05							1.0
SHBL	SN	49	184	ES		1454	10.46	0.02							1.0
HWQ	BZ	57	16	EP		1454	5.68	-0.09							1.0
FKH	SZ	77	49	EP		1454	9.20	0.14							1.0
BEIL	SZ	92	24	EP		1454	10.95	-0.32							0.2

December 23 2018 Hour: 13: 8 45.1 Lat: 33.97N Lon: 36.20E Depth: 13 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
ZAHL	SZ	31	246	EP		13 8	50.68	0.00							1.0
FKH	SZ	36	33	EP		13 8	51.35	-0.02							1.0
FKH	SN	36	33	ES		13 8	56.05	0.03							1.0
HWQ	BZ	41	326	EP		13 8	52.06	-0.05	63						1.0
HWQ	BN	41	326	ES		13 8	57.31	0.00							1.0
BHL	BZ	51	262	EP		13 8	53.61	0.02							1.0
RCY	SZ	62	212	EP		13 8	55.29	-0.05							1.0
DQRL	SZ	65	243	EP		13 8	55.74	0.04							1.0
QRWL	SZ	67	225	EP		13 8	56.00	0.02							1.0
SHBL	SZ	81	211	EP		13 8	58.09	0.03							1.0
SHBL	SN	81	211	ES		13 9	7.64	-0.02							1.0

December 23 2018 Hour: 23:027.3 Lat: 33.42N Lon: 35.58E Depth: 7 Agency: REL Local
Magnitudes: 2.5MC 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	17	33	EP		23	0	30.34	0.06		31				1.0
SHBL	SZ	17	119	EP		23	0	30.34	-0.02						1.0
SHBL	SN	17	119	ES		23	0	32.68	0.02						1.0
RCY	SZ	25	70	EP		23	0	31.50	-0.02						1.0
RCY	SN	25	70	ES		23	0	34.64	-0.04						1.0
DQRL	SZ	32	358	EP		23	0	32.49	-0.04						1.0
BHL	BZ	54	7	EP		23	0	36.02	-0.05						1.0
ZAHL	SZ	56	30	EP		23	0	36.48	0.09						1.0

December 23 2018 Hour: 23:842.7 Agency: REL Distant

EMSC OT=23:08:42.7 20.30S 175.39W 111Km M=6.4 TONGA

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		2328	13.71								
HWQ	BZ			EP		2328	12.55								

December 24 2018 Hour: 8:933.1 Lat: 33.86N Lon: 35.84E Depth: 1 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	91	EP		8	9	33.90	-0.01						1.0
BHL	BZ	18	286	EP		8	9	36.01	-0.08						1.0
BHL	BN	18	286	ES		8	9	38.32	0.04						1.0
DQRL	SZ	30	236	EP		8	9	38.09	0.04						1.0
QRWL	SZ	38	203	EP		8	9	39.22	0.02						1.0
RCY	SZ	40	181	EP		8	9	39.67	0.05	45					1.0
RCY	SN	40	181	ES		8	9	44.45	0.02						1.0
HWQ	BZ	48	12	EP		8	9	41.02	0.21						0.2
SHBL	SZ	57	189	EP		8	9	42.29	-0.10						1.0
FKH	SZ	68	51	EP		8	9	44.18	0.12						0.2
BEIL	SZ	82	22	EP		8	9	46.52	0.14						0.2

December 26 2018 Hour: 0:5356.1 Lat: 32.84N Lon: 35.69E Depth: 0 Agency: REL Regional
Magnitudes: 3.0MC REL Rms: 0.2 secs

GOLAN REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
SHBL	SZ	56	6	EP		054	5.07	-0.10							1.0
SHBL	SN	56	6	ES		054	11.87	-0.01							1.0
RCY	SZ	74	11	EP		054	7.95	-0.04	57						1.0
RCY	SE	74	11	ES		054	16.76	-0.03							1.0
QRWL	SZ	78	360	EP		054	8.72	0.03							1.0
DQRL	SZ	96	354	EP		054	11.56	-0.05							1.0
DQRL	SN	96	354	ES		054	23.16	0.07							1.0
ZAHL	SZ	114	9	EP		054	14.53	0.04							1.0
BHL	BZ	118	359	EP		054	15.05	-0.02							1.0
HWQ	BZ	161	9	EP		054	21.91	0.22							0.2
FKH	SZ	169	23	EP		054	23.77	0.84							0.2
BEIL	SZ	194	14	EP		054	26.98	0.71							0.2

December 26 2018 Hour: 3:397.9 Lat: 31.88N Lon: 35.46E Depth: 10 Agency: REL Regional
Magnitudes: 3.7MC REL Rms: 0.2 secs

DEAD SEA REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
SHBL	SZ	166	9	EP		339	32.82	-0.62	135						0.2
SHBL	SN	166	9	ES		339	52.38	0.02							1.0
RCY	SZ	183	11	EP		339	35.37	-0.31							0.2
RCY	SN	183	11	ES		339	56.23	-0.02							1.0
QRWL	SZ	187	6	EP		339	36.10	0.05							1.0
DQRL	SZ	203	3	EP		339	38.15	0.02							1.0
ZAHL	SZ	223	10	EP		339	40.73	0.07							1.0

BHL	BZ	226	4	EP	339	40.92-0.01	1.0
HWQ	BZ	270	9	EP	339	46.39-0.09	1.0
FKH	SZ	277	18	EP	339	47.94 0.59	0.2
BEIL	SZ	303	13	EP	339	50.50-0.02	1.0

December 26 2018 Hour: 15:11 58.8 Lat: 32.25N Lon: 35.56E Depth: 0 Agency: REL Regional
Magnitudes: 2.9MC 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	123	8	EP		1512	18.55	0.03	49						1.0
SHBL	SN	123	8	ES		1512	33.15	-0.00							1.0
RCY	SZ	140	10	EP		1512	21.30	-0.01							1.0
RCY	SN	140	10	ES		1512	37.96	-0.04							1.0
QRWL	SZ	144	4	EP		1512	21.80	-0.03							1.0
DQRL	SZ	161	0	EP		1512	24.26	-0.09							1.0
DQRL	SN	161	0	ES		1512	43.33	0.04							1.0
ZAHL	SZ	180	10	EP		1512	27.26	0.04							1.0
BHL	BZ	183	3	EP		1512	27.63	0.01							1.0
HWQ	BZ	227	9	EP		1512	33.67	0.54							0.2

December 26 2018 Hour: 15:42 35.3 Lat: 32.99N Lon: 35.27E Depth: 0 Agency: REL Regional
Magnitudes: 2.9MC REL Rms: 0.2 secs

DEAD SEA REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
SHBL	SZ	59	48	EP		1542	44.80	-0.05							1.0
QRWL	SZ	73	31	EP		1542	47.00	-0.01	52						1.0
RCY	SZ	77	43	EP		1542	47.77	0.08							1.0
RCY	SN	77	43	ES		1542	56.84	-0.04							1.0
DQRL	SZ	84	19	EP		1542	48.81	-0.05							1.0
DQRL	SN	84	19	ES		1542	58.96	0.05							1.0
BHL	BZ	108	19	EP		1542	52.52	-0.10							1.0
ZAHL	SZ	112	30	EP		1542	53.49	0.15							0.2
HWQ	BZ	156	23	EP		1543	1.07	0.92							0.2
FKH	SZ	175	37	EP		1543	3.76	0.86							0.2
BEIL	SZ	192	26	EP		1543	5.13	-0.06							0.2

December 29 2018 Hour: 3:39 10.9 Agency: REL Distant
EMSC OT=03:39:10.9 5.96N 126.76E 66Km M=7.0 MINDANAO, PHILIPPINES

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ			EP		351	49.10								
BHL	BZ			EP		351	50.63								

December 29 2018 Hour: 4:17 41.2 Lat: 33.25N Lon: 34.65E Depth: 16 Agency: REL Local
Magnitudes: 3.0MC 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	99	60	EP		417	56.93	0.07	52						1.0
DQRL	SN	99	60	ES		418	8.40	-0.02							1.0
QRWL	SZ	102	71	EP		417	57.21	0.01							1.0
SHBL	SZ	103	84	EP		417	57.34	-0.04							1.0
SHBL	SN	103	84	ES		418	9.35	0.02							1.0
BHL	BZ	118	52	EP		417	59.59	-0.02							1.0
ZAHL	SZ	133	59	EP		418	1.82	-0.02							1.0
HWQ	BZ	166	46	EP		418	6.26	-0.05							1.0
FKH	SZ	197	56	EP		418	10.22	0.01							1.0
BEIL	SZ	202	44	EP		418	10.78	0.05							1.0

December 29 2018 Hour: 11:42 7.3 Lat: 33.47N Lon: 35.69E Depth: 0 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	355	EP		1142	8.71	-0.11	31						1.0
SHBL	SZ	14	159	EP		1142	9.62	0.05							1.0
SHBL	SN	14	159	ES		1142	11.21	-0.02							1.0

DQRL	SZ	29	337	EP		1142	11.93	-0.07									1.0
DQRL	SN	29	337	ES		1142	15.56	0.10									1.0
BHL	BZ	49	356	EP		1142	15.18	-0.03									1.0
HWQ	BZ	93	15	EP		1142	22.43	0.06									1.0
FKH	SZ	109	37	EP		1142	24.94	0.00									1.0

December 29 2018 Hour: 19: 8 29.8

Agency: REL Distant

EMSC OT=19:08:29.8 42.32N 143.14E 54Km M=5.5 HOKKAIDO, JAPAN REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		1920	28.71								
FKH	SZ			EP		1920	26.26								

December 30 2018 Hour: 8:39 12.5

Agency: REL Distant

EMSC OT=08:39:12.5 2.67S 102.31E 169Km M=5.8 SOUTHERN SUMATRA, INDONESIA

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		850	21.12								
HWQ	BZ			EP		850	19.97								

December 30 2018 Hour: 13:33 14.8

Agency: REL Regional

EMSC OT=13:33:14.8 35.80N 27.33E 10Km M=4.2 DODECANESE ISLANDS, GREECE

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
QRWL	SZ			EP		1334	59.11								
SHBL	SZ			EP		1334	59.81								
HWQ	BZ			EP		1335	0.07								
ZAHL	SZ			EP		1335	0.28								
BEIL	SZ			EP		1335	1.41								
FKH	SZ			EP		1335	3.64								

December 31 2018 Hour: 11: 4 20.6 Lat: 33.56N Lon: 36.45E Depth: 27 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
SHBL	SZ	70	250	EP		11 4	32.19	-0.01	54						1.0
SHBL	SN	70	250	ES		11 4	40.92	0.15							1.0
QRWL	SZ	71	269	EP		11 4	32.29	-0.09							1.0
FKH	SZ	76	357	EP		11 4	33.10	0.03							1.0
FKH	SN	76	357	ES		11 4	42.35	0.07							1.0
BHL	BZ	83	298	EP		11 4	33.98	-0.07							1.0
DQRL	SZ	83	281	EP		11 4	34.01	-0.06							1.0
HWQ	BZ	92	330	EP		11 4	35.28	-0.10							1.0
BEIL	SZ	111	347	EP		11 4	38.14	0.07							1.0

December 31 2018 Hour: 13:22 57.6 Lat: 35.79N Lon: 35.88E Depth: 17 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
BEIL	SZ	142	168	EP		1323	19.48	0.10	70						1.0
BEIL	SN	142	168	ES		1323	35.45	-0.06							1.0
HWQ	BZ	168	178	EP		1323	22.86	-0.02							1.0
FKH	SZ	179	164	EP		1323	24.07	-0.09							1.0
FKH	SN	179	164	ES		1323	43.90	0.06							1.0
BHL	BZ	210	186	EP		1323	28.12	-0.00							1.0
DQRL	SZ	233	187	EP		1323	30.98	0.04							1.0
QRWL	SZ	250	184	EP		1323	32.94	-0.04							1.0
SHBL	SZ	271	183	EP		1323	35.74	0.01							1.0

December 31 2018 Hour: 20:22 18.1

Agency: REL Distant

EMSC OT=20:22:18.1 17.49S 174.69W 195Km M=5.4 TONGA

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ			EP		2041	40.43								
BHL	BZ			EP		2041	41.64								

Epicentral Map of Lebanon

DECEMBER 2018

