

Republic of Lebanon
National Council for Scientific Research

Provisional Seismological Bulletin

from the

NATIONAL SEISMIC NETWORK

January

2021

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 Vp/Vs 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
SAIL	3334.52N	3524.09E	159	SAIDA	Opened Jan 2020
CPTL	3353.47N	3528.60E	32	QRAYTEM	Opened Mar 2020

REGIONAL AND DISTANT EARTHQUAKES

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

MACROSEISMIC DATA

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

MONTHLY EPICENTER MAPS

Maps will be found on the last page.

ELECTRONIC PUBLICATION

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

REFERENCES

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

Abbreviations:

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

LAT: Latitude of epicenter

LON: Longitude of epicenter

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

AGENCY: REL throughout the bulletin, aka. REsearch Lebanon

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

EMSC: Euro-Mediterranean Seismological Centre.

OT: Origin Time

RMS: Root mean square value of travel time residuals

STAT: Station code

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

DIST: Epicenter distance (km)

AZI: Azimuth from source to station

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

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

HR: Hour

MN: Minute

SECON: Seconds

TRES: Residual (seconds)

CODA: Signal duration in seconds

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

PERI: Period where amplitude is measured

BAZ: Back azimuth (station to event)

ARES: Back azimuth residual

VELO: Apparent phase velocity (km/sec)

WT: Weight of phase in the location

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

January 1 2021 Hour: 16:36 21.1

Agency: REL Regional

EMSC OT=16:36:21.1 35.77N 27.92E 50Km M=3.9 DODECANESE ISLANDS

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		1637	54.10								
DQRL	SZ			EP		1637	54.77								
HWQ	BZ			EP		1637	56.75								
QRWL	SZ			EP		1637	56.99								
ZAHL	SZ			EP		1637	57.33								
BEIL	SZ			EP		1637	58.37								
RCY	SZ			EP		1637	58.86								
SHBL	SZ			EP		1637	58.97								

January 3 2021 Hour: 14:17 34.0

Agency: REL Regional

EMSC OT=14:17:34.0 38.34N 39.06E 9Km M=4.4 EASTERN TURKEY

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		1418	43.22								
HWQ	BZ			EP		1418	47.87								
ZAHL	SZ			EP		1418	53.51								
BHL	BZ			EP		1418	54.06								
DQRL	SZ			EP		1418	57.16								
RCY	SZ			EP		1418	58.82								
QRWL	SZ			EP		1418	58.10								
SHBL	SZ			EP		1419	1.31								

January 8 2021 Hour: 0:28 49.0

Agency: REL Distant

EMSC OT=00:28:49.0 29.53S 178.78W 220Km M=6.3 KERMADEC ISLANDS

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		048	8.82								
HWQ	BZ			EP		048	7.30								
ZAHL	SZ			EP		048	9.10								
BHL	BZ			EP		048	8.27								
RCY	SZ			EP		048	9.72								
QRWL	SZ			EP		048	9.86								
DQRL	SZ			EP		048	9.99								
SHBL	SZ			EP		048	9.99								
SAIL	SZ			EP		048	11.52								

January 8 2021 Hour: 1:33 35.2

Agency: REL Regional

EMSC OT=01:33:35.2 37.88N 29.25E 7Km M=3.9 WESTERN TURKEY

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		135	11.19								
HWQ	BZ			EP		135	12.31								
BHL	BZ			EP		135	11.50								
DQRL	SZ			EP		135	12.68								
ZAHL	SZ			EP		135	15.04								
QRWL	SZ			EP		135	15.97								
RCY	SZ			EP		135	17.53								
SHBL	SZ			EP		135	18.71								

January 8 2021 Hour: 5:1 4.8

Agency: REL Distant

EMSC OT=05:01:04.8 20.71S 169.87E 120Km M=6.1 VANUATU

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ			EP		520	13.71								
BEIL	SZ			EP		520	14.30								
BHL	BZ			EP		520	14.81								
RCY	SZ			EP		520	15.20								
SHBL	SZ			EP		520	15.48								

January 9 2021 Hour: 2:52 20.7 Agency: REL Regional

EMSC OT=02:52:20.7 37.14N 31.10E 80Km M=3.2 WESTERN TURKEY

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		253	29.40								
HWQ	BZ			EP		253	28.93								
BHL	BZ			EP		253	28.66								
DQRL	SZ			EP		253	29.69								
ZAHL	SZ			EP		253	31.85								
QRWL	SZ			EP		253	32.89								
RCY	SZ			EP		253	34.81								
SHBL	SZ			EP		253	35.43								

January 9 2021 Hour: 8:23 1.2 Agency: REL Distant

EMSC OT=08:23:01.2 17.90S 178.50W 576Km M=5.2 FIJI REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		841	34.46								
HWQ	BZ			EP		841	34.65								
ZAHL	SZ			EP		841	35.79								
BHL	BZ			EP		841	35.98								
DQRL	SZ			EP		841	36.76								
RCY	SZ			EP		841	36.21								
QRWL	SZ			EP		841	36.66								
SHBL	SZ			EP		841	36.72								

January 10 2021 Hour: 19:53 1.8 Agency: REL Regional

EMSC OT=19:53:01.8 40.06N 33.32E 7Km M=4.5 CENTRAL TURKEY

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		1954	32.25								
HWQ	BZ			EP		1954	34.53								
BHL	BZ			EP		1954	37.23								
ZAHL	SZ			EP		1954	40.25								
DQRL	SZ			EP		1954	40.31								
QRWL	SZ			EP		1954	42.83								
RCY	SZ			EP		1954	44.18								
SHBL	SZ			EP		1954	45.66								

January 11 2021 Hour: 1:20 38.6 Agency: REL Distant

EMSC OT=01:20:38.6 7.23S 120.39E 626Km M=5.6 FLORES SEA

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		132	30.75								
HWQ	BZ			EP		132	31.20								
RCY	SZ			EP		132	31.52								
ZAHL	SZ			EP		132	31.52								
SHBL	SZ			EP		132	31.90								
QRWL	SZ			EP		132	32.02								
BHL	BZ			EP		132	32.02								
DQRL	SZ			EP		132	32.53								
SAIL	SZ			EP		132	33.99								

January 11 2021 Hour: 21:32 58.9 Agency: REL Distant

EMSC OT=21:32:58.9 51.24N 100.51E 10Km M=6.7 RUSSIA-MONGOLIA REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		2141	41.21								
HWQ	BZ			EP		2141	43.74								
BHL	BZ			EP		2141	46.77								
RCY	SZ			EP		2141	48.10								
DQRL	SZ			EP		2141	48.25								
QRWL	SZ			EP		2141	48.74								
SHBL	SZ			EP		2141	49.09								

January 12 2021 Hour: 2:39 42.1

Agency: REL Distant

EMSC OT=02:39:42.1 43.75N 140.05E 200Km M=5.9 HOKKAIDO, JAPAN REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		251	6.40								
HWQ	BZ			EP		251	7.31								
BHL	BZ			EP		251	10.14								
RCY	SZ			EP		251	11.34								
QRWL	SZ			EP		251	11.82								
DQRL	SZ			EP		251	11.54								
SHBL	SZ			EP		251	12.45								
SAIL	SZ			EP		251	14.27								

January 12 2021 Hour: 19:18 4.4

Agency: REL Regional

EMSC OT=19:18:04.4 34.49N 33.79E 20Km M=2.3 CYPRUS REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ			EP		1918	33.09								
BEIL	SZ			EP		1918	35.64								
RCY	SZ			EP		1918	35.80								

January 14 2021 Hour: 9:21 59.8

Lat: 34.01N

Lon: 35.95E

Depth: 9

Agency: REL

Local

Magnitudes: 3.2MC 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	30	359	EP		922	4.81-0.08		74						1.0
HWQ	BN	30	359	ES		922	8.66 0.02								1.0
BHL	BZ	30	247	EP		922	4.84-0.07								1.0
BEYL	SZ	45	250	EP		922	7.30 0.07								1.0
DQRL	SZ	49	226	EP		922	7.88 0.02								1.0
QRWL	SZ	57	206	EP		922	9.17-0.00								1.0
RCY	SZ	58	190	EP		922	9.34-0.00								1.0
BEIL	SZ	63	20	EP		922	9.95-0.11								1.0
BEIL	SN	63	20	ES		922	17.75 0.11								1.0
SHBL	SZ	76	195	EP		922	12.23 0.04								1.0

January 20 2021 Hour: 20:35 39.5

Agency: REL Regional

EMSC OT=20:35:39.5 36.07N 28.16E 74Km M=4.0 DODECANESE-TURKEY BORDER REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		2037	10.54								
DQRL	SZ			EP		2037	10.70								
QRWL	SZ			EP		2037	12.84								
BEIL	SZ			EP		2037	14.62								
RCY	SZ			EP		2037	15.60								
SHBL	SZ			EP		2037	15.53								

January 21 2021 Hour: 14:27 7.4

Lat: 34.90N

Lon: 33.85E

Depth: 20

Agency: REL

Regional

Magnitudes: 5.4MC REL

Rms: 0.4 secs

Earthquake was felt

CYPRUS REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEYL	SZ	189	127	EP		1427	34.91-0.15								1.0
BHL	BZ	199	123	EP		1427	35.97-0.42								1.0
BHL	BN	199	123	ES		1427	57.49-0.34								1.0
DQRL	SZ	207	129	EP		1427	36.84-0.44								1.0
BEIL	SZ	218	100	EP		1427	38.53-0.08		1300						1.0
BEIL	SN	218	100	ES		1428	1.88 0.20								1.0
QRWL	SZ	226	131	EP		1427	39.76 0.08								1.0
RCY	SZ	240	130	EP		1427	42.13 0.61								1.0
SHBL	SZ	245	134	EP		1427	42.76 0.61								1.0

January 21 2021 Hour: 16:14 28.7

Agency: REL Regional

EMSC OT=16:14:28.7 35.10N 33.84E 47Km M=2.3 CYPRUS REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		1614	57.99								
DQRL	SZ			EP		1614	59.74								
QRWL	SZ			EP		1615	2.31								
BEIL	SZ			EP		1615	3.55								
RCY	SZ			EP		1615	4.05								
SHBL	SZ			EP		1615	4.99								

January 22 2021 Hour: 0:0 39.2

Agency: REL Regional

EMSC OT=00:00:39.2 35.94N 32.07E 80Km M=2.5 CYPRUS REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
RCY	SZ			EP		0 1	36.69								
SHBL	SZ			EP		0 1	37.42								

January 22 2021 Hour: 6:57 27.9

Agency: REL Regional

EMSC OT=06:57:27.9 35.65N 26.48E 28Km M=4.6 CRETE, GREECE

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
QRWL	SZ			EP		659	20.66								
SHBL	SZ			EP		659	21.43								
RCY	SZ			EP		659	21.58								
BEIL	SZ			EP		659	23.08								

January 22 2021 Hour: 17:55 50.6 Lat: 34.88N Lon: 34.04E Depth: 0 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
BHL	BZ	184	125	EP		1756	18.90	-0.64							0.2
DQRL	SZ	192	132	EP		1756	20.43	-0.13							1.0
BEIL	SZ	200	100	EP		1756	21.71	0.14	97						1.0
BEIL	SN	200	100	ES		1756	44.40	-0.07							1.0
QRWL	SZ	211	134	EP		1756	22.92	-0.07							1.0
RCY	SZ	226	132	EP		1756	24.83	0.03							1.0
RCY	SN	226	132	ES		1756	50.18	0.08							1.0
SHBL	SZ	231	137	EP		1756	25.58	0.06							1.0

January 23 2021 Hour: 11:47 37.5

Agency: REL Distant

EMSC OT=11:47:37.5 24.42S 179.51W 473Km M=5.5 SOUTH OF FIJI ISLANDS

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		12 6	27.80								
BHL	BZ			EP		12 6	28.82								
RCY	SZ			EP		12 6	29.58								
DQRL	SZ			EP		12 6	29.63								
QRWL	SZ			EP		12 6	29.33								
SHBL	SZ			EP		12 6	29.33								

January 24 2021 Hour: 1:1 2.3

Agency: REL Distant

EMSC OT=01:01:02.3 17.89S 178.10W 504Km M=5.2 FIJI REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		119	43.66								
BHL	BZ			EP		119	45.21								
RCY	SZ			EP		119	45.33								
DQRL	SZ			EP		119	45.90								
QRWL	SZ			EP		119	45.79								
SHBL	SZ			EP		119	45.90								

January 26 2021 Hour: 2:11 2.7 Agency: REL Regional

EMSC OT=02:11:02.7 37.81N 21.25E 28Km M=3.1 SOUTHERN GREECE

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		212	38.49								
SHBL	SZ			EP		212	39.77								
RCY	SZ			EP		212	39.91								

January 26 2021 Hour: 10:2 10.9 Agency: REL Regional

EMSC OT=10:02:10.9 36.01N 41.15E 10Km M=4.5 SYRIA-IRAQ BORDER REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		10	3	20.74							
RCY	SZ			EP		10	3	27.65							
QRWL	SZ			EP		10	3	30.84							
SHBL	SZ			EP		10	3	29.51							
DQRL	SZ			EP		10	3	33.01							

January 26 2021 Hour: 11:17 42.3 Agency: REL Regional

EMSC OT=11:17:42.3 36.15N 41.29E 10Km M=4.9 SYRIA-IRAQ BORDER REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		1118	50.46								
BHL	BZ			EP		1118	59.15								
RCY	SZ			EP		1119	0.47								
DQRL	SZ			EP		1119	1.75								
QRWL	SZ			EP		1119	2.08								
SHBL	SZ			EP		1119	2.35								

January 26 2021 Hour: 12:50 13.1 Lat: 33.77N Lon: 35.83E Depth: 9 Agency: REL Local
Magnitudes: 2.7MC REL Rms: 0.2 secs

ZAHLE REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	11	27	EP		1250	15.66	0.16							1.0
BHL	BZ	22	311	EP		1250	16.90	-0.13	37						1.0
BHL	BE	22	311	ES		1250	19.82	-0.13							1.0
DQRL	SZ	26	253	EP		1250	17.73	0.20							1.0
QRWL	SZ	29	210	EP		1250	18.18	0.19							1.0
RCY	SZ	31	180	EP		1250	18.44	0.13							1.0
RCY	SN	31	180	ES		1250	21.89	-0.30							1.0
SHBL	SZ	48	190	EP		1250	20.94	-0.04							1.0
BEIL	SZ	91	21	EP		1250	27.67	-0.09							1.0

January 26 2021 Hour: 19:49 12.4 Lat: 33.67N Lon: 35.83E Depth: 9 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	19	225	EP		1949	15.85	-0.02	25						1.0
QRWL	SN	19	225	ES		1949	18.47	0.02							1.0
RCY	SZ	19	178	EP		1949	15.81	-0.11							1.0
ZAHL	SZ	21	14	EP		1949	16.30	0.11							1.0
DQRL	SZ	24	279	EP		1949	16.66	0.06							1.0
DQRL	SN	24	279	ES		1949	19.74	0.02							1.0
BHL	BZ	30	328	EP		1949	17.38	-0.16							1.0
SHBL	SZ	37	192	EP		1949	18.61	0.08							1.0
BEIL	SZ	102	19	EP		1949	28.81	0.14							0.2

Epicentral Map of Lebanon

JANUARY 2021

