

Republic of Lebanon
National Council for Scientific Research

Provisional Seismological Bulletin

from the

NATIONAL SEISMIC NETWORK

June

2019

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.

June 2 2019 Hour: 10: 5 33.4 Lat: 35.18N Lon: 36.77E Depth: 0 Agency: REL Regional
Magnitudes: 3.1MC 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	89	217	EP		10	5	47.61-0.05	60						1.0
BEIL	SN	89	217	ES		10	5	58.24	0.02						1.0
FKH	SZ	109	198	EP		10	5	50.81-0.09							1.0
FKH	SN	109	198	ES		10	6	3.79-0.07							1.0
HWQ	BZ	125	217	EP		10	5	53.52-0.03							1.0
ZAHL	SZ	167	209	EP		10	5	59.91-0.02							1.0
BHL	BZ	174	216	EP		10	6	0.83-0.12							1.0
DQRL	SZ	197	214	EP		10	6	3.88-0.09							1.0
RCY	SZ	205	205	EP		10	6	4.99-0.06							1.0
RCY	SN	205	205	ES		10	6	28.67	0.18						1.0
QRWL	SZ	207	209	EP		10	6	5.42	0.26						1.0
SHBL	SZ	224	205	EP		10	6	7.44	0.08						1.0

June 2 2019 Hour: 10:36 29.7 Agency: REL Distant

EMSC OT=10:36:29.7 21.30S 173.89W 10Km M=5.9 TONGA

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		1056	19.56								
HWQ	BZ			EP		1056	20.43								
BHL	BZ			EP		1056	20.29								
RCY	SZ			EP		1056	21.01								
QRWL	SZ			EP		1056	21.87								

June 2 2019 Hour: 17:31 48.0 Lat: 33.54N Lon: 35.73E Depth: 6 Agency: REL Local
Magnitudes: 2.4MC REL Rms: 0.1 secs

RACHAYA REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
QRWL	SZ	5	282	EP		1731	49.32-0.08	25							1.0
QRWL	SN	5	282	ES		1731	50.48	0.03							1.0
RCY	SZ	11	116	EP		1731	50.16-0.01								1.0
RCY	SN	11	116	ES		1731	51.80	0.01							1.0
SHBL	SZ	21	176	EP		1731	51.65	0.01							1.0
DQRL	SZ	24	321	EP		1731	52.03	0.04							1.0
BHL	BZ	41	350	EP		1731	54.51-0.21								0.2

June 2 2019 Hour: 17:59 42.3 Lat: 33.78N Lon: 35.77E Depth: 0 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	51	EP		1759	44.40-0.09	55							1.0
BHL	BZ	17	321	EP		1759	45.04-0.09								1.0
DQRL	SZ	21	246	EP		1759	45.70	0.07							1.0
DQRL	SN	21	246	ES		1759	48.07-0.02								1.0
QRWL	SZ	27	198	EP		1759	46.67-0.04								1.0
RCY	SZ	32	169	EP		1759	47.51	0.00							1.0
RCY	SN	32	169	ES		1759	51.38	0.03							1.0
SHBL	SZ	48	183	EP		1759	50.08-0.00								1.0
HWQ	BZ	57	16	EP		1759	51.62	0.06							1.0
FKH	SZ	78	49	EP		1759	54.83-0.09								1.0
BEIL	SZ	93	24	EP		1759	57.41	0.18							1.0

June 2 2019 Hour: 20:14 26.3 Lat: 32.75N Lon: 34.26E Depth: 11 Agency: REL Regional
Magnitudes: 3.0MC REL Rms: 0.0 secs

EASTERN MEDITERRANEAN SEA

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
SHBL	SZ	154	64	EP		2014	50.11	0.04							1.0
SHBL	SN	154	64	ES		2015	7.69-0.01								1.0
QRWL	SZ	160	56	EP		2014	50.84-0.04	52							1.0
DQRL	SZ	162	49	EP		2014	51.22	0.01							1.0
DQRL	SN	162	49	ES		2015	9.69	0.01							1.0

RCY	SZ	169	60	EP		2014	52.20	-0.01										1.0
BHL	BZ	183	45	EP		2014	54.01	0.16										0.2

June 2 2019 Hour: 20:16 48.8 Lat: 33.63N Lon: 35.41E Depth: 0 Agency: REL Local
Magnitudes: 2.7MC REL Rms: 0.1 secs

CHOUF REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
DQRL	SZ	18	60	EP		2016	51.51	-0.09	39						1.0
QRWL	SZ	27	109	EP		2016	53.05	-0.10							1.0
BHL	BZ	38	37	EP		2016	54.88	-0.07							1.0
BHL	BN	38	37	ES		2016	59.65	0.13							1.0
RCY	SZ	42	110	EP		2016	55.64	0.02							1.0
RCY	SN	42	110	ES		2017	0.67	-0.02							1.0
SHBL	SZ	44	135	EP		2016	56.04	0.15							1.0
ZAHL	SZ	51	60	EP		2016	57.04	0.00							1.0
HWQ	BZ	88	35	EP		2017	2.69	-0.23							0.2

June 3 2019 Hour: 14:25 6.2 Lat: 33.99N Lon: 36.10E Depth: 20 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
ZAHL	SZ	25	234	EP		1425	11.25	-0.12							1.0
HWQ	BZ	35	336	EP		1425	12.52	-0.14	38						1.0
HWQ	BN	35	336	ES		1425	17.62	0.16							1.0
FKH	SZ	40	45	EP		1425	13.29	-0.02							1.0
FKH	SN	40	45	ES		1425	18.54	-0.06							1.0
BHL	BZ	43	257	EP		1425	13.75	0.11							1.0
DQRL	SZ	59	238	EP		1425	15.56	-0.32							1.0
RCY	SZ	60	204	EP		1425	16.12	-0.01							1.0
RCY	SN	60	204	ES		1425	23.66	0.16							1.0
BEIL	SZ	62	7	EP		1425	16.44	0.12							1.0
QRWL	SZ	63	219	EP		1425	16.33	-0.14							1.0
SHBL	SZ	79	205	EP		1425	19.06	0.25							1.0

June 4 2019 Hour: 4:39 17.3 Agency: REL Distant
EMSC OT=04:39:17.3 29.07N 139.28E 435Km M=6.3 IZU ISLANDS, JAPAN REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		450	59.67								
FKH	SZ			EP		450	59.67								
HWQ	BZ			EP		451	0.76								
ZAHL	SZ			EP		451	2.51								
BHL	BZ			EP		451	2.55								
RCY	SZ			EP		451	3.30								
DQRL	SZ			EP		451	3.86								
QRWL	SZ			EP		451	3.65								
SHBL	SZ			EP		451	4.17								

June 4 2019 Hour: 9:46 18.2 Agency: REL Distant
EMSC OT=09:46:18.2 22.87N 121.66E 10Km M=5.6 TAIWAN REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
FKH	SZ			EP		957	53.30								
BEIL	SZ			EP		957	53.72								
HWQ	BZ			EP		957	54.94								
ZAHL	SZ			EP		957	56.34								
BHL	BZ			EP		957	56.77								
RCY	SZ			EP		957	57.07								
QRWL	SZ			EP		957	57.81								
SHBL	SZ			EP		957	57.62								
DQRL	SZ			EP		957	58.17								

June 5 2019 Hour: 20:41 49.4 Agency: REL Distant
EMSC OT=20:41:49.4 6.54N 124.17E 470Km M=5.5 MINDANAO, PHILIPPINES

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
FKH	SZ			EP		2053	33.51								
BEIL	SZ			EP		2053	34.04								
HWQ	BZ			EP		2053	34.63								
ZAHL	SZ			EP		2053	35.41								
RCY	SZ			EP		2053	36.05								
BHL	BZ			EP		2053	36.10								
SHBL	SZ			EP		2053	36.34								
QRWL	SZ			EP		2053	36.44								
DQRL	SZ			EP		2053	36.73								

June 7 2019 Hour: 12:21 40.4 Agency: REL Regional
EMSC OT=12:21:40.4 35.73N 28.33E 60Km M=3.9 EASTERN MEDITERRANEAN SEA

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
QRWL	SZ			EP		1223	12.10								
HWQ	BZ			EP		1223	12.18								
BEIL	SZ			EP		1223	13.45								
RCY	SZ			EP		1223	13.78								

June 8 2019 Hour: 14: 0 5.6 Lat: 33.79N Lon: 35.78E Depth: 12 Agency: REL Local
Magnitudes: 2.5MC 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	12	54	EP		14 0	8.58	0.02							1.0
BHL	BZ	17	315	EP		14 0	9.10	-0.04	29						1.0
DQRL	SZ	22	243	EP		14 0	9.85	0.04							1.0
DQRL	SN	22	243	ES		14 0	12.92	0.02							1.0
QRWL	SZ	29	199	EP		14 0	10.65	-0.13							1.0
RCY	SZ	33	172	EP		14 0	11.46	-0.02							1.0
RCY	SN	33	172	ES		14 0	15.80	-0.00							1.0
SHBL	SZ	50	184	EP		14 0	14.05	0.10							1.0
HWQ	BZ	56	16	EP		14 0	14.88	0.00							1.0

June 8 2019 Hour: 14:19 3.5 Agency: REL Distant
EMSC OT=14:19:03.5 25.46S 176.77W 135Km M=5.3 SOUTH OF FIJI ISLANDS

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		1438	40.75								
HWQ	BZ			EP		1438	41.17								
BHL	BZ			EP		1438	42.33								
RCY	SZ			EP		1438	42.17								
QRWL	SZ			EP		1438	42.49								
DQRL	SZ			EP		1438	42.60								
SHBL	SZ			EP		1438	42.60								

June 9 2019 Hour: 9: 7 21.8 Lat: 34.29N Lon: 36.47E Depth: 1 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	8	228	EP		9 7	23.00	-0.11	41						1.0
FKH	SN	8	228	ES		9 7	24.13	0.06							1.0
BEIL	SZ	38	317	EP		9 7	28.02	0.01							1.0
BEIL	SN	38	317	ES		9 7	32.63	0.02							1.0
HWQ	BZ	48	269	EP		9 7	29.65	0.02							1.0
ZAHL	SZ	72	229	EP		9 7	33.33	-0.15							1.0
BHL	BZ	87	241	EP		9 7	35.84	0.03							1.0
RCY	SZ	106	214	EP		9 7	38.90	0.01							1.0
DQRL	SZ	106	232	EP		9 7	38.71	-0.13							1.0
SHBL	SZ	124	213	EP		9 7	42.09	0.23							1.0

June 9 2019 Hour: 12:328.8 Lat: 34.68N Lon: 36.29E Depth: 13 Agency: REL Regional
Magnitudes: 2.5MC 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	18	213	EP		12	3	32.60	0.06	30					1.0
BEIL	SN	18	213	ES		12	3	35.29	-0.03						1.0
FKH	SZ	50	167	EP		12	3	37.09	0.02						1.0
HWQ	BZ	55	216	EP		12	3	37.78	-0.06						1.0
HWQ	BN	55	216	ES		12	3	44.58	0.04						1.0
BHL	BZ	104	214	EP		12	3	45.14	0.04						1.0
RCY	SZ	138	198	EP		12	3	50.15	0.07						1.0
SHBL	SZ	156	199	EP		12	3	52.63	-0.14						1.0

June 9 2019 Hour: 20:1453.6 Lat: 33.89N Lon: 35.10E Depth: 30 Agency: REL Local
Magnitudes: 3.0MC REL Rms: 0.1 secs

OFFSHORE CENTRAL LEBANON

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
DQRL	SZ	48	115	EP		2015		2.55	0.09	55					1.0
DQRL	SN	48	115	ES		2015		9.01	0.02						1.0
BHL	BZ	51	88	EP		2015		2.75	-0.13						1.0
QRWL	SZ	66	125	EP		2015		4.88	0.07						1.0
QRWL	SE	66	125	ES		2015		13.20	0.11						1.0
ZAHL	SZ	73	92	EP		2015		5.82	0.03						1.0
RCY	SZ	81	122	EP		2015		6.94	0.01						1.0
RCY	SN	81	122	ES		2015		16.67	-0.11						1.0
SHBL	SZ	85	135	EP		2015		7.35	-0.11						1.0
HWQ	BZ	89	61	EP		2015		8.17	0.06						1.0
BEIL	SZ	124	54	EP		2015		12.28	-0.02						1.0

June 10 2019 Hour: 13:1029.7 Lat: 34.51N Lon: 36.32E Depth: 3 Agency: REL Local
Magnitudes: 2.9MC REL Rms: 0.1 secs

HERMEL REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ	13	284	EP		1310		31.88	0.05	50					1.0
BEIL	SN	13	284	ES		1310		33.42	0.03						1.0
FKH	SZ	31	164	EP		1310		34.76	-0.03						1.0
FKH	SN	31	164	ES		1310		38.58	0.03						1.0
HWQ	BZ	43	232	EP		1310		36.38	-0.31						1.0
DQRL	SZ	113	218	EP		1310		48.21	0.23						1.0
RCY	SZ	121	202	EP		1310		49.20	-0.08						1.0
RCY	SN	121	202	ES		1311		3.79	0.02						1.0
QRWL	SZ	122	209	EP		1310		49.45	0.07						1.0
SHBL	SZ	140	202	EP		1310		51.98	-0.01						1.0

June 10 2019 Hour: 13:3346.8 Lat: 33.70N Lon: 35.63E Depth: 7 Agency: REL Local
Magnitudes: 2.4MC REL Rms: 0.0 secs

CHOUF REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
DQRL	SZ	6	279	EP		1333		48.36	-0.03	27					1.0
DQRL	SN	6	279	ES		1333		49.60	0.02						1.0
QRWL	SZ	17	164	EP		1333		49.84	-0.01						1.0
QRWL	SN	17	164	ES		1333		52.12	-0.01						1.0
BHL	BZ	23	5	EP		1333		50.72	0.00						1.0
RCY	SZ	29	140	EP		1333		51.70	0.01						1.0
ZAHL	SZ	30	53	EP		1333		51.72	-0.00						1.0
SHBL	SZ	40	165	EP		1333		53.63	0.24						0.2

June 11 2019 Hour: 7:46 8.3 Lat: 34.03N Lon: 35.76E Depth: 0 Agency: REL Local
Magnitudes: 2.7MC 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	17	215	EP		746	11.00	-0.14	40						1.0
BHL	BN	17	215	ES		746	13.25	0.03							1.0
ZAHL	SZ	23	149	EP		746	11.83	-0.13							1.0
ZAHL	SN	23	149	ES		746	14.62	-0.03							1.0
HWQ	BZ	32	32	EP		746	13.44	-0.07							1.0
HWQ	BN	32	32	ES		746	17.38	0.04							1.0
DQRL	SZ	40	206	EP		746	14.86	0.01							1.0
QRWL	SZ	54	188	EP		746	17.06	-0.03							1.0
RCY	SZ	60	173	EP		746	18.24	0.25							1.0
BEIL	SZ	69	34	EP		746	19.42	0.03							1.0
SHBL	SZ	76	181	EP		746	20.62	0.04							1.0

June 11 2019 Hour: 17:47 28.9 Lat: 33.79N Lon: 35.78E Depth: 5 Agency: REL Local
Magnitudes: 3.0MC 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	51	EP		1747	31.24	0.01	64						1.0
BHL	BZ	17	317	EP		1747	31.89	-0.08	58						1.0
BHL	BN	17	317	ES		1747	34.22	0.02							1.0
DQRL	SZ	22	245	EP		1747	32.70	0.08							1.0
QRWL	SZ	28	199	EP		1747	33.62	-0.02							1.0
RCY	SZ	33	171	EP		1747	34.30	-0.07							1.0
RCY	SN	33	171	ES		1747	38.39	0.01							1.0
SHBL	SZ	49	184	EP		1747	36.95	0.01							1.0
HWQ	BZ	56	16	EP		1747	38.09	-0.01							1.0
FKH	SZ	77	49	EP		1747	41.48	0.07							1.0
BEIL	SZ	91	24	EP		1747	43.45	-0.27							0.2

June 12 2019 Hour: 20:39 38.6 Lat: 33.58N Lon: 35.47E Depth: 21 Agency: REL Local
Magnitudes: 2.4MC 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	16	33	EP		2039	42.85	-0.03	25						1.0
DQRL	SN	16	33	ES		2039	46.15	0.09							1.0
QRWL	SZ	20	102	EP		2039	43.11	-0.10							1.0
QRWL	SN	20	102	ES		2039	46.56	-0.08							1.0
RCY	SZ	35	106	EP		2039	45.09	0.01							1.0
SHBL	SZ	36	136	EP		2039	45.30	0.05							1.0
SHBL	SN	36	136	ES		2039	50.24	0.05							1.0
BHL	BZ	39	25	EP		2039	45.56	-0.06							1.0
ZAHL	SZ	49	51	EP		2039	47.00	0.06							1.0

June 13 2019 Hour: 6:12 13.7 Lat: 35.78N Lon: 36.24E Depth: 7 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
BEIL	SZ	137	182	EP		612	35.21	-0.07	53						1.0
BEIL	SN	137	182	ES		612	51.05	-0.21							1.0
HWQ	BZ	169	189	EP		612	40.10	0.17							1.0
HWQ	BN	169	189	ES		612	59.36	0.02							1.0
FKH	SZ	171	175	EP		612	40.15	-0.10							1.0
FKH	SN	171	175	ES		613	0.09	0.20							1.0
BHL	BZ	215	195	EP		612	45.74	0.02							1.0
QRWL	SZ	253	192	EP		612	50.55	0.12							1.0
RCY	SZ	256	189	EP		612	50.72	-0.15							1.0

June 14 2019 Hour: 8:57 17.5 Lat: 33.78N Lon: 35.83E Depth: 12 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	10	31	EP		857	20.37	0.09							1.0
BHL	BZ	21	309	EP		857	21.53	-0.08							1.0
BHL	BN	21	309	ES		857	24.63	0.01							1.0
DQRL	SZ	26	250	EP		857	22.31	0.08							1.0
QRWL	SZ	30	208	EP		857	22.89	0.10							1.0
RCY	SZ	32	179	EP		857	23.07	-0.08	50						1.0
RCY	SN	32	179	ES		857	27.32	0.01							1.0
SHBL	SZ	49	190	EP		857	25.66	-0.09							1.0
HWQ	BZ	56	11	EP		857	26.72	-0.11							1.0
FKH	SZ	74	46	EP		857	29.56	0.04							1.0
BEIL	SZ	90	21	EP		857	31.90	0.04							1.0

June 14 2019 Hour: 12:38 20.1 Lat: 33.83N Lon: 36.07E Depth: 13 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	17	279	EP		1238	23.72	0.01							1.0
BHL	BZ	39	282	EP		1238	26.73	-0.09							1.0
BHL	BN	39	282	ES		1238	31.85	0.05							1.0
RCY	SZ	43	210	EP		1238	27.38	-0.08	51						1.0
RCY	SN	43	210	ES		1238	32.94	0.04							1.0
QRWL	SZ	48	229	EP		1238	28.12	-0.04							1.0
DQRL	SZ	49	253	EP		1238	28.26	0.03							1.0
HWQ	BZ	51	347	EP		1238	28.58	0.02							1.0
FKH	SZ	55	34	EP		1238	29.35	0.05							1.0
SHBL	SZ	62	209	EP		1238	30.34	0.06							1.0
BEIL	SZ	79	8	EP		1238	32.74	-0.04							1.0

June 14 2019 Hour: 13:30 33.9 Lat: 34.01N Lon: 35.75E Depth: 3 Agency: REL Local
Magnitudes: 2.8MC 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	218	EP		1330	36.28	-0.05							1.0
BHL	BN	15	218	ES		1330	38.18	0.02							1.0
ZAHL	SZ	21	144	EP		1330	37.26	-0.04							1.0
ZAHL	SN	21	144	ES		1330	39.87	0.04							1.0
HWQ	BZ	35	31	EP		1330	39.46	-0.07	47						1.0
DQRL	SZ	38	207	EP		1330	40.05	0.07							1.0
QRWL	SZ	52	187	EP		1330	42.17	-0.05							1.0
RCY	SZ	57	172	EP		1330	43.10	-0.06							1.0
BEIL	SZ	71	34	EP		1330	45.47	0.09							1.0
SHBL	SZ	73	181	EP		1330	45.76	0.04							1.0

June 14 2019 Hour: 15:27 46.4 Lat: 33.69N Lon: 35.86E Depth: 9 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	6	EP		1527	49.97	0.07							1.0
RCY	SZ	22	187	EP		1527	50.29	-0.07	53						1.0
RCY	SN	22	187	ES		1527	53.29	0.01							1.0
QRWL	SZ	23	227	EP		1527	50.60	0.07							1.0
DQRL	SZ	27	273	EP		1527	51.17	0.03							1.0
DQRL	SN	27	273	ES		1527	54.67	0.02							1.0
BHL	BZ	31	321	EP		1527	51.51	-0.13							1.0
SHBL	SZ	40	196	EP		1527	53.02	-0.03							1.0
HWQ	BZ	66	7	EP		1527	57.10	-0.02							1.0
FKH	SZ	80	39	EP		1527	59.39	0.04							1.0
BEIL	SZ	99	17	EP		1528	2.47	0.29							0.2

June 14 2019 Hour: 23:45.3 Lat: 33.65N Lon: 35.85E Depth: 10 Agency: REL Local
Magnitudes: 2.6MC REL Rms: 0.1 secs

WEST BEKAA REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
RCY	SZ	18	185	EP		23	4	58.73-0.08							1.0
RCY	SN	18	185	ES		23	5	1.40 0.02							1.0
QRWL	SZ	20	233	EP		23	4	58.98-0.09	33						1.0
ZAHL	SZ	23	7	EP		23	4	59.55 0.06							1.0
DQRL	SZ	27	282	EP		23	5	0.16 0.08							1.0
DQRL	SN	27	282	ES		23	5	3.60 0.02							1.0
BHL	BZ	33	326	EP		23	5	0.93-0.10							1.0
SHBL	SZ	36	197	EP		23	5	1.49 0.08							1.0

June 15 2019 Hour: 19:36 11.0 Lat: 33.32N Lon: 35.80E Depth: 5 Agency: REL Regional
Magnitudes: 2.6MC 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	6	306	EP		1936		12.45-0.00	34						1.0
SHBL	SN	6	306	ES		1936		13.56 0.00							1.0
RCY	SZ	20	10	EP		1936		14.42 0.00							1.0
RCY	SN	20	10	ES		1936		16.98-0.00							1.0
QRWL	SZ	28	337	EP		1936		15.57 0.01							1.0
DQRL	SZ	48	334	EP		1936		18.77-0.01							1.0

June 15 2019 Hour: 20:42 54.9 Lat: 33.32N Lon: 35.44E Depth: 6 Agency: REL Local
Magnitudes: 2.9MC 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	28	84	EP		2042		59.65 0.03	51						1.0
SHBL	SN	28	84	ES		2043		3.16 0.04							1.0
QRWL	SZ	34	41	EP		2043		0.38-0.07							1.0
QRWL	SN	34	41	ES		2043		4.65 0.09							1.0
RCY	SZ	41	62	EP		2043		1.77 0.07							1.0
RCY	SN	41	62	ES		2043		6.60-0.13							1.0
DQRL	SZ	44	15	EP		2043		2.22 0.07							1.0
DQRL	SN	44	15	ES		2043		7.56 0.04							1.0
BHL	BZ	68	17	EP		2043		5.72-0.16							1.0
HWQ	BZ	116	24	EP		2043		14.06 0.63							0.2

June 15 2019 Hour: 22:54 59.2 Agency: REL Distant
EMSC OT=22:54:59.2 30.84S 178.02W 10Km M=7.2 KERMADEC ISLANDS, NEW ZEALAND

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		2314		44.72							
HWQ	BZ			EP		2314		44.90							
ZAHL	SZ			EP		2314		45.45							
BHL	BZ			EP		2314		45.54							
RCY	SZ			EP		2314		45.73							
QRWL	SZ			EP		2314		45.54							
DQRL	SZ			EP		2314		46.00							
SHBL	SZ			EP		2314		45.91							

June 16 2019 Hour: 5:17 15.1 Agency: REL Distant
EMSC OT=05:17:15.1 31.17S 178.03W 27Km M=6.3 KERMADEC ISLANDS REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		536		59.06							
HWQ	BZ			EP		536		59.74							
SHBL	SZ			EP		536		59.57							
BHL	BZ			EP		536		59.91							

June 16 2019 Hour: 17:40 5.1 Lat: 34.03N Lon: 35.97E Depth: 10 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
ZAHL	SZ	20	203	EP		1740	8.84	0.01							1.0
HWQ	BZ	28	356	EP		1740	9.81	-0.15							1.0
HWQ	BN	28	356	ES		1740	13.60	0.03							1.0
BHL	BZ	32	245	EP		1740	10.53	-0.04	53						1.0
BHL	BN	32	245	ES		1740	14.70	0.06							1.0
DQRL	SZ	51	226	EP		1740	13.56	0.01							1.0
QRWL	SZ	59	207	EP		1740	14.74	-0.08							1.0
RCY	SZ	60	192	EP		1740	14.98	0.04							1.0
RCY	SN	60	192	ES		1740	22.21	-0.03							1.0
BEIL	SZ	61	19	EP		1740	15.10	0.10							1.0
SHBL	SZ	78	196	EP		1740	17.85	0.05							1.0

June 16 2019 Hour: 20:58 24.3 Agency: REL Distant
 EMSC OT=20:58:24.3 31.85S 177.79W 30Km M=5.5 KERMADEC ISLANDS REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		2118	16.66								
HWQ	BZ			EP		2118	16.36								
ZAHL	SZ			EP		2118	17.35								
RCY	SZ			EP		2118	16.99								
BHL	BZ			EP		2118	16.94								
QRWL	SZ			EP		2118	17.75								
SHBL	SZ			EP		2118	17.45								
DQRL	SZ			EP		2118	17.91								

June 16 2019 Hour: 23:20 0.9 Agency: REL Distant
 EMSC OT=23:20:00.9 32.11S 178.06W 30Km M=5.0 SOUTH OF KERMADEC ISLANDS

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		2339	51.81								
HWQ	BZ			EP		2339	52.64								
ZAHL	SZ			EP		2339	52.64								
RCY	SZ			EP		2339	53.00								
BHL	BZ			EP		2339	52.76								
QRWL	SZ			EP		2339	52.64								
SHBL	SZ			EP		2339	52.94								
DQRL	SZ			EP		2339	52.94								

June 17 2019 Hour: 2: 5 41.4 Agency: REL Distant
 EMSC OT=02:05:41.4 31.40S 177.81W 30Km M=4.9 KERMADEC ISLANDS REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		225	33.18								
RCY	SZ			EP		225	33.82								
BHL	BZ			EP		225	33.71								
QRWL	SZ			EP		225	34.06								
SHBL	SZ			EP		225	34.06								
DQRL	SZ			EP		225	34.53								

June 17 2019 Hour: 14:55 45.1 Agency: REL Distant
 EMSC OT=14:55:45.1 28.43N 104.99E 10Km M=5.9 EASTERN SICHUAN, CHINA

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
FKH	SZ			EP		15 5	37.42								
BEIL	SZ			EP		15 5	38.07								
HWQ	BZ			EP		15 5	38.94								
ZAHL	SZ			EP		15 5	41.39								
BHL	BZ			EP		15 5	40.30								
RCY	SZ			EP		15 5	41.17								

June 17 2019 Hour: 16:53 2.2

Agency: REL Distant

EMSC OT=16:53:02.2 30.98S 177.50W 10Km M=5.4 KERMADEC ISLANDS, NEW ZEALAND

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		1712	57.48								
HWQ	BZ			EP		1712	57.41								
RCY	SZ			EP		1712	58.25								
SHBL	SZ			EP		1712	58.46								
QRWL	SZ			EP		1712	58.53								
BHL	BZ			EP		1712	58.32								
DQRL	SZ			EP		1712	59.30								

June 18 2019 Hour: 0:41 30.1

Lat: 33.78N

Lon: 35.78E

Depth: 3

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	47	EP		041	32.37	0.03							1.0
BHL	BZ	18	320	EP		041	33.00	-0.15	36						1.0
DQRL	SZ	21	248	EP		041	33.65	0.05							1.0
DQRL	SN	21	248	ES		041	36.27	0.08							1.0
QRWL	SZ	27	200	EP		041	34.45	-0.10							1.0
RCY	SZ	32	171	EP		041	35.19	-0.08							1.0
RCY	SN	32	171	ES		041	39.10	0.01							1.0
SHBL	SZ	48	184	EP		041	37.98	0.12							1.0
HWQ	BZ	58	15	EP		041	39.38	-0.03							1.0
FKH	SZ	78	48	EP		041	42.49	-0.18							1.0
FKH	SN	78	48	ES		041	52.05	0.08							1.0
BEIL	SZ	93	24	EP		041	45.21	0.18							1.0

June 18 2019 Hour: 5:14 47.7

Agency: REL Distant

EMSC OT=05:14:47.7 25.51S 178.29E 609Km M=5.5 SOUTH OF FIJI ISLANDS

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
FKH	SZ			EP		533	21.41								
BEIL	SZ			EP		533	21.83								
HWQ	BZ			EP		533	21.91								
BHL	BZ			EP		533	22.96								
RCY	SZ			EP		533	22.96								
QRWL	SZ			EP		533	23.17								
DQRL	SZ			EP		533	23.40								
SHBL	SZ			EP		533	23.34								

June 18 2019 Hour: 19:22 34.5

Lat: 33.80N

Lon: 35.78E

Depth: 12

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	55	EP		1922	37.25	-0.02							1.0
BHL	BZ	17	314	EP		1922	37.82	-0.06							1.0
DQRL	SZ	23	242	EP		1922	38.63	-0.03							1.0
DQRL	SN	23	242	ES		1922	41.89	0.13							1.0
QRWL	SZ	30	199	EP		1922	39.48	-0.19							1.0
RCY	SZ	34	172	EP		1922	40.32	-0.04	41						1.0
RCY	SN	34	172	ES		1922	44.88	0.16							1.0
SHBL	SZ	50	184	EP		1922	42.90	0.05							1.0
HWQ	BZ	55	16	EP		1922	43.53	-0.06							1.0
BEIL	SZ	90	24	EP		1922	49.90	1.10							0.2

June 19 2019 Hour: 0:45 31.7

Agency: REL Regional

EMSC OT=00:45:31.7 39.58N 38.60E 5Km M=4.2 EASTERN TURKEY

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		046	53.45								
HWQ	BZ			EP		046	58.90								
ZAHL	SZ			EP		047	5.55								
BHL	BZ			EP		047	5.79								
DQRL	SZ			EP		047	9.66								

RCY SZ EP 047 10.99
 SHBL SZ EP 047 12.81

June 19 2019 Hour: 7:14 2.1

Agency: REL Distant

EMSC OT=07:01:42.1 30.75S 177.78W 11Km M=6.5 KERMADEC ISLANDS, NEW ZEALAND

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		721	29.93								
HWQ	BZ			EP		721	29.93								

June 19 2019 Hour: 18:36 4.1

Lat: 33.78N Lon: 35.83E Depth: 13 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	9	30	EP		1836	6.93	0.02							1.0
BHL	BZ	21	308	EP		1836	8.21	-0.04							1.0
BHL	BN	21	308	ES		1836	11.30	-0.04							1.0
DQRL	SZ	26	250	EP		1836	8.98	0.07							1.0
QRWL	SZ	30	208	EP		1836	9.52	0.07							1.0
QRWL	SN	30	208	ES		1836	13.39	-0.03							1.0
RCY	SZ	32	180	EP		1836	9.78	-0.01	47						1.0
SHBL	SZ	49	190	EP		1836	12.32	-0.05							1.0
HWQ	BZ	56	11	EP		1836	13.44	0.15							1.0
BEIL	SZ	90	21	EP		1836	18.15	-0.14							1.0

June 20 2019 Hour: 12:12 50.5

Lat: 33.84N Lon: 35.84E Depth: 11 Agency: REL Local

Magnitudes: 2.5MC 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	70	EP		1212	52.76	0.06							1.0
BHL	BZ	18	292	EP		1212	53.97	-0.09							1.0
BHL	BN	18	292	ES		1212	56.71	0.01							1.0
DQRL	SZ	29	238	EP		1212	55.68	0.09							1.0
QRWL	SZ	36	204	EP		1212	56.65	0.05	28						1.0
QRWL	SN	36	204	ES		1213	1.09	-0.03							1.0
RCY	SZ	38	180	EP		1212	56.89	-0.15							1.0
HWQ	BZ	49	12	EP		1212	58.68	-0.03							1.0
SHBL	SZ	56	189	EP		1212	59.78	0.08							1.0
BEIL	SZ	84	22	EP		1213	4.31	0.34							0.2

June 21 2019 Hour: 8:37 16.3

Agency: REL Distant

EMSC OT=08:37:16.3 30.94S 177.42W 10Km M=6.2 KERMADEC ISLANDS, NEW ZEALAND

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		857	8.16								
HWQ	BZ			EP		857	7.81								

June 21 2019 Hour: 19:4 5.1

Agency: REL Regional

EMSC OT=19:04:05.1 36.24N 30.95E 30Km M=3.7 WESTERN TURKEY

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		19 5	10.81								
DQRL	SZ			EP		19 5	11.75								
HWQ	BZ			EP		19 5	13.01								
ZAHL	SZ			EP		19 5	13.38								
BEIL	SZ			EP		19 5	13.59								
RCY	SZ			EP		19 5	16.19								
SHBL	SZ			EP		19 5	16.46								
FKH	SZ			EP		19 5	18.00								

June 21 2019 Hour: 21:51 28.7

Lat: 33.78N Lon: 35.78E Depth: 0 Agency: REL Local

Magnitudes: 3.0MC 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	47	EP		2151	30.87	-0.03							1.0
BHL	BZ	18	320	EP		2151	31.52	-0.20	60						1.0
DQRL	SZ	21	248	EP		2151	32.19	0.04							1.0

DQRL	SN	21	248	ES		2151	34.75	0.09											1.0
QRWL	SZ	27	200	EP		2151	33.04	-0.06											1.0
RCY	SZ	32	171	EP		2151	33.80	-0.03											1.0
RCY	SN	32	171	ES		2151	37.62	0.03											1.0
SHBL	SZ	48	184	EP		2151	36.46	0.03											1.0
HWQ	BZ	58	15	EP		2151	37.98	-0.07											1.0
HWQ	BN	58	15	ES		2151	45.10	0.16											1.0
FKH	SZ	78	48	EP		2151	41.29	-0.03											1.0
BEIL	SZ	93	24	EP		2151	43.76	0.06											1.0

June 21 2019 Hour: 22:49 23.2 Agency: REL Distant
EMSC OT=22:49:23.2 30.86S 177.43W 2Km M=5.1 KERMADEC ISLANDS, NEW ZEALAND

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ			EP		23	9	18.71							
BEIL	SZ			EP		23	9	19.15							
BHL	BZ			EP		23	9	20.30							
SHBL	SZ			EP		23	9	20.49							

June 21 2019 Hour: 23: 0 25.7 Agency: REL Distant
EMSC OT=23:00:25.7 30.90S 177.60W 2Km M=5.3 KERMADEC ISLANDS, NEW ZEALAND

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		2320		21.19							
HWQ	BZ			EP		2320		21.09							
BHL	BZ			EP		2320		21.79							
DQRL	SZ			EP		2320		22.64							
SHBL	SZ			EP		2320		22.39							

June 21 2019 Hour: 23:25 19.1 Lat: 33.70N Lon: 35.90E Depth: 11 Agency: REL Local
Magnitudes: 3.1MC REL
WEST BEKAA REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	18	356	EP		2325		22.65	0.07						1.0
RCY	SZ	23	194	EP		2325		23.34	-0.06	71					1.0
RCY	SN	23	194	ES		2325		26.50	-0.07						1.0
QRWL	SZ	26	230	EP		2325		23.80	0.03						1.0
DQRL	SZ	30	271	EP		2325		24.40	0.01						1.0
DQRL	SN	30	271	ES		2325		28.27	-0.02						1.0
BHL	BZ	32	315	EP		2325		24.58	-0.04						1.0
SHBL	SZ	42	200	EP		2325		26.25	0.13						1.0
HWQ	BZ	64	4	EP		2325		29.66	-0.00						1.0
FKH	SZ	77	38	EP		2325		31.54	-0.04						1.0
BEIL	SZ	97	16	EP		2325		34.46	-0.06						0.2

June 23 2019 Hour: 13: 8 40.5 Lat: 34.22N Lon: 36.49E Depth: 7 Agency: REL Local
Magnitudes: 2.5MC REL
BAALBECK REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
FKH	SZ	8	291	EP		13	8	42.29	-0.08	31					1.0
FKH	SN	8	291	ES		13	8	43.75	0.01						1.0
BEIL	SZ	46	322	EP		13	8	48.08	0.09						1.0
HWQ	BZ	51	278	EP		13	8	48.79	-0.01						1.0
HWQ	BN	51	278	ES		13	8	54.91	-0.02						1.0
ZAHL	SZ	69	235	EP		13	8	51.74	0.04						1.0
ZAHL	SN	69	235	ES		13	9	0.02	0.05						1.0
BHL	BZ	85	246	EP		13	8	54.26	-0.01						1.0
RCY	SZ	100	217	EP		13	8	56.86	0.08						1.0
DQRL	SZ	102	237	EP		13	8	56.93	-0.11						1.0
QRWL	SZ	106	225	EP		13	8	57.47	-0.03						1.0

June 23 2019 Hour: 18:42 7.0 **Agency: REL Distant**
EMSC OT=18:42:07.0 22.39S 178.85W 499Km M=4.9 SOUTH OF FIJI ISLANDS
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 BEIL SZ EP 19 0 54.67
 HWQ BZ EP 19 0 54.73
 BHL BZ EP 19 0 55.62
 QRWL SZ EP 19 0 56.10
 SHBL SZ EP 19 0 56.31

June 24 2019 Hour: 2:53 40.1 **Agency: REL Distant**
EMSC OT=02:53:40.1 6.42S 129.18E 214Km M=7.3 BANDA SEA
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 BEIL SZ EP 3 6 43.46
 HWQ BZ EP 3 6 44.01
 ZAHL SZ EP 3 6 44.56
 RCY SZ EP 3 6 44.63
 SHBL SZ EP 3 6 45.11
 QRWL SZ EP 3 6 44.97
 BHL BZ EP 3 6 44.97
 DQRL SZ EP 3 6 45.52

June 24 2019 Hour: 13:53 33.7 Lat: 33.98N Lon: 36.22E Depth: 4 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 33 247 EP 1353 39.12-0.07 43 1.0
 FKH SZ 35 31 EP 1353 39.32-0.11 1.0
 FKH SN 35 31 ES 1353 43.72 0.08 1.0
 HWQ BZ 42 323 EP 1353 40.51-0.04 1.0
 BHL BZ 53 261 EP 1353 42.31 0.04 1.0
 BHL BN 53 261 ES 1353 48.58-0.00 1.0
 BEIL SZ 63 357 EP 1353 43.93 0.01 1.0
 RCY SZ 64 214 EP 1353 44.05-0.03 1.0
 DQRL SZ 67 244 EP 1353 44.63 0.06 1.0
 QRWL SZ 69 226 EP 1353 44.88 0.04 1.0
 SHBL SZ 82 212 EP 1353 47.21 0.17 0.2

June 26 2019 Hour: 2:18 7.9 **Agency: REL Distant**
EMSC OT=02:18:07.9 56.19N 164.13E 10Km M=6.4 KOMANDORSKIYE OSTROVA REGION
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 BEIL SZ EP 230 14.36
 FKH SZ EP 230 15.75
 HWQ BZ EP 230 15.92
 BHL BZ EP 230 18.36
 DQRL SZ EP 230 19.75
 QRWL SZ EP 230 20.16
 RCY SZ EP 230 20.16
 SHBL SZ EP 230 20.97

June 26 2019 Hour: 8:53 43.4 Lat: 31.17N Lon: 35.47E Depth: 7 Agency: REL Regional
Magnitudes: 4.1MC REL Rms: 0.3 secs
DEAD SEA REGION
 STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT
 SHBL SZ 243 6 EP 854 18.62-0.28 218 1.0
 SHBL SN 243 6 ES 854 45.60 0.40 1.0
 RCY SZ 260 8 EP 854 21.07 0.02 1.0
 QRWL SZ 264 4 EP 854 21.75 0.24 0.2
 DQRL SZ 281 2 EP 854 24.40 0.78 0.2
 BHL BZ 304 3 EP 854 26.50 0.10 1.0
 BHL BN 304 3 ES 854 57.91-0.35 1.0
 HWQ BZ 347 7 EP 854 32.28 0.41 0.2
 BEIL SZ 380 10 EP 854 36.08 0.27 0.2

June 26 2019 Hour: 11:46 52.7 Lat: 34.58N Lon: 36.37E Depth: 1 Agency: REL Local
Magnitudes: 2.9MC 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	17	256	EP		1146	55.59	0.08	51						1.0
BEIL	SN	17	256	ES		1146	57.61	0.02							1.0
FKH	SZ	38	174	EP		1146	58.75	-0.01							1.0
FKH	SN	38	174	ES		1147	3.25	0.00							1.0
HWQ	BZ	51	229	EP		1147	0.69	-0.29							1.0
BHL	BZ	100	221	EP		1147	8.82	0.02							1.0
DQRL	SZ	122	217	EP		1147	12.42	0.07							1.0
RCY	SZ	130	202	EP		1147	13.76	0.10							1.0
QRWL	SZ	131	209	EP		1147	13.87	0.09							1.0
SHBL	SZ	148	203	EP		1147	16.29	-0.09							1.0

June 26 2019 Hour: 12:20 52.1 Agency: REL Regional

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
SHBL	SZ			EP		1220	57.29								
RCY	SZ			EP		1220	59.70								
QRWL	SZ			EP		1221	1.48								
DQRL	SZ			EP		1221	3.32								
BHL	BZ			EP		1221	6.74								
HWQ	BZ			EP		1221	11.40								
FKH	SZ			EP		1221	14.03								
BEIL	SZ			EP		1221	16.36								

June 26 2019 Hour: 18: 6 29.3 Agency: EL Distant
EMSC OT=18:06:29.3 31.03S 177.35W 10Km M=5.3 KERMADEC ISLANDS REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
RCY	SZ			EP		1826	25.38								
BEIL	SZ			EP		1826	24.90								
HWQ	BZ			EP		1826	25.86								
SHBL	SZ			EP		1826	25.54								
BHL	BZ			EP		1826	25.70								
DQRL	SZ			EP		1826	25.94								

June 27 2019 Hour: 14:14 3.4 Agency: REL Distant
EMSC OT=14:14:03.4 20.74S 178.02W 537Km M=5.2 FIJI REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		1432	47.92								
FKH	SZ			EP		1432	47.62								
HWQ	BZ			EP		1432	48.08								
BHL	BZ			EP		1432	49.25								
RCY	SZ			EP		1432	49.41								
DQRL	SZ			EP		1432	50.09								
QRWL	SZ			EP		1432	49.75								
SHBL	SZ			EP		1432	49.78								

June 27 2019 Hour: 20:58 24.3 Agency: REL Distant
EMSC OT=20:58:24.3 20.73S 173.99W 10Km M=5.2 TONGA

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		2118	16.21								
FKH	SZ			EP		2118	16.26								
HWQ	BZ			EP		2118	16.21								
BHL	BZ			EP		2118	17.64								
RCY	SZ			EP		2118	17.86								
DQRL	SZ			EP		2118	17.99								
QRWL	SZ			EP		2118	18.03								
SHBL	SZ			EP		2118	18.16								

June 28 2019 Hour: 9:11 36.0 Lat: 36.07N Lon: 35.63E Depth: 1 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	177	163	EP		912	3.87	0.05	66						1.0
BEIL	SN	177	163	ES		912	24.38	-0.02							1.0
HWQ	BZ	201	172	EP		912	6.89	-0.09							1.0
HWQ	BN	201	172	ES		912	29.93	0.03							1.0
FKH	SZ	214	160	EP		912	8.72	0.04							1.0
RCY	SZ	286	176	EP		912	17.40	-0.19							1.0
SHBL	SZ	302	178	EP		912	19.79	0.20							1.0

June 28 2019 Hour: 15:51 33.2 Agency: REL Distant

EMSC OT=15:51:33.2 19.90N 144.41E 446Km M=6.4 MAUG ISLANDS REG, N. MARIANA IS

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		16	3	57.54							
HWQ	BZ			EP		16	3	58.23							
BHL	BZ			EP		16	4	0.06							
QRWL	SZ			EP		16	4	1.35							
DQRL	SZ			EP		16	4	1.73							
SHBL	SZ			EP		16	4	1.12							

June 29 2019 Hour: 5:43 19.4 Lat: 31.90N Lon: 35.72E Depth: 0 Agency: REL Regional
Magnitudes: 3.2MC 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	161	1	EP		543	45.03	0.03	65						1.0
SHBL	SN	161	1	ES		544	3.92	-0.02							1.0
RCY	SZ	177	3	EP		543	47.46	-0.00							1.0
QRWL	SZ	183	359	EP		543	48.14	-0.08							1.0
DQRL	SZ	201	356	EP		543	50.42	-0.08							1.0
DQRL	SN	201	356	ES		544	13.54	0.04							1.0
BHL	BZ	222	358	EP		543	53.29	0.11							1.0
HWQ	BZ	265	4	EP		543	58.45	0.01							1.0

June 29 2019 Hour: 14: 2 25.1 Lat: 33.69N Lon: 35.69E Depth: 11 Agency: REL Local
Magnitudes: 2.5MC 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	277	EP		14	2	27.74	-0.08	31					1.0
DQRL	SN	12	277	ES		14	2	29.92	0.07						1.0
QRWL	SZ	16	184	EP		14	2	28.23	-0.13						1.0
BHL	BZ	24	351	EP		14	2	29.38	-0.04						1.0
BHL	BN	24	351	ES		14	2	32.64	0.02						1.0
RCY	SZ	25	149	EP		14	2	29.64	-0.04						1.0
ZAHL	SZ	26	44	EP		14	2	29.72	0.03						1.0
SHBL	SZ	38	173	EP		14	2	31.78	0.16						1.0

June 30 2019 Hour: 13:17 35.5 Lat: 34.89N Lon: 33.85E Depth: 73 Agency: REL Regional
Magnitudes: 3.1MC 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	203	109	EP		1318	4.30	0.08	53						1.0
BEIL	SZ	217	99	EP		1318	5.74	-0.01							1.0
BEIL	SN	217	99	ES		1318	28.10	-0.02							1.0
ZAHL	SZ	219	121	EP		1318	6.02	-0.04							1.0
QRWL	SZ	225	131	EP		1318	6.60	-0.09							1.0
RCY	SZ	239	130	EP		1318	8.47	-0.00							1.0
SHBL	SZ	244	134	EP		1318	9.12	0.06							1.0
SHBL	SN	244	134	ES		1318	33.90	0.02							1.0

June 30 2019 Hour: 20:25 17.9 Lat: 34.42N Lon: 34.83E Depth: 18 Agency: REL Local
 Magnitudes: 2.9MC REL Rms: 0.1 secs

OFFSHORE NORTH LEBANON

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ	95	127	EP		2025	32.89	-0.09							1.0
HWQ	BZ	104	98	EP		2025	34.46	0.17							1.0
HWQ	BN	104	98	ES		2025	46.41	0.01							1.0
BEIL	SZ	126	83	EP		2025	37.30	-0.08	46						1.0
BEIL	SN	126	83	ES		2025	51.74	-0.02							1.0
RCY	SZ	139	137	EP		2025	39.24	-0.10							1.0
SHBL	SZ	146	144	EP		2025	40.57	0.12							1.0

June 30 2019 Hour: 21:31 46.4 Lat: 33.38N Lon: 36.22E Depth: 0 Agency: REL Regional
 Magnitudes: 3.1MC 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	38	289	EP		2131	52.56	-0.03	72						1.0
RCY	SN	38	289	ES		2131	57.20	0.03							1.0
SHBL	SZ	45	265	EP		2131	53.68	0.02							1.0
QRWL	SZ	54	290	EP		2131	54.91	-0.15							1.0
ZAHL	SZ	61	329	EP		2131	56.23	-0.09							1.0
DQRL	SZ	71	301	EP		2131	58.02	0.23							1.0
DQRL	SN	71	301	ES		2132	6.21	-0.00							1.0
BHL	BZ	78	318	EP		2131	59.02	-0.04							1.0
HWQ	BZ	103	346	EP		2132	2.88	-0.09							1.0
BEIL	SZ	129	358	EP		2132	7.29	0.13							1.0

Epicentral Map of Lebanon

JUNE 2019

