

Republic of Lebanon
National Council for Scientific Research

Provisional Seismological Bulletin

from the

NATIONAL SEISMIC NETWORK

October

2017

Prepared by
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GENERAL BULLETIN INFORMATION

The National Centre for Geophysical Research is a governmental agency established 1975 in Lebanon by the National Council for Scientific Research (CNRS). The mission of the Centre, among other assignments, is the monitoring of seismic activity within the national territory. Currently, the national seismic network is under deployment; it has been officially registered as GRAL, an acronym for Geophysical Research Arrays of Lebanon. Station coordinates and status are given below.

Since 1993, the Centre has been participating in a regional initiative by the UNESCO and the USGS known as RELEMR, i.e. Reducing Earthquake Losses in the Eastern Mediterranean Region.

Within this framework, the Centre routinely contributes to the database set up for this purpose and maintained by the Euro-Mediterranean Seismological Centre (EMSC). For coherence, the Centre has adopted the recommended seismic analysis system SEISAN developed by Jens Havskov and Lars Ottemoller from the University of Bergen, Norway.

The localization program currently used for locating earthquakes is Hypocenter (Lienert et al., 1986). Plane parallel layers are assumed for local and regional events, while the IASPEI travel time tables are used for distant events.

The velocity model used for all local and regional events is the one currently adopted by the RELEMR initiative.

P-wave velocity (km/sec)	depth to top of layer (km)
6.2	0.0
6.8	14.0
8.05	34.0
8.25	50.0
8.5	80.0

Magnitudes are calculated from the coda duration. The coda wave magnitude is estimated via the formula:

$$M_c = 0.08 + 1.63 * \log_{10}(T) + 0.0009 * D.$$

where T is the coda duration (sec) and D is the epicentral distance (km). The coefficients above were adopted at the outset of our Centre in 1980 and thus are still in use for the sake of continuity.

All available coda values are used for magnitude calculations. No station corrections are used for either travel times or magnitudes calculations. The V_p/V_s velocity ratio used in both layered models above is 1.74.

As a general policy, neither depths, nor epicenters, are fixed unless stated otherwise since this might restrict later use of the data. Consequently, some event locations might be unrealistic such as zero depth earthquakes or teleseismic locations off by 1000 km. However, the locations are based on the available data and reflect the localization procedure and the models used.

STATIONS USED

The stations listed below are operated by the National Centre for Geophysical Research. They constitute the basic setup of the National Seismic Network of Lebanon.

However, readings from other cooperating agencies are also used in locating the events and thus more stations may appear in the event lists than in the station list; it is worth mentioning the systematic use of arrival times from the Cypriot seismic network CSS in order to constrain events corresponding to an active zone off the Lebanese shorelines.

STATION	LATITUDE	LONGITUDE	HEIGHT (m)	NAME	COMMENTS
BHL	3354.25N	3539.25E	1000	BHANNES	Opened May 1980
HWQ	3416.68N	3556.78E	1161	HAWQA	Opened Jan 2001
MATL	3329.32N	3519.78E	5	MATARIH	Nov2000-Sep2012
FKH	3414.69N	3624.61E	1152	FAKEHEH	Opened Dec 2004
RCY	3329.79N	3550.14E	1370	RACHAYA	Opened Jun 2006
BEYL	3352.30N	3529.59E	49	BEIRUT	Opened Jul 2006
NAQL	3307.02N	3508.46E	83	NAQOURA	Jul2008-Jan2012
DQRL	3342.34N	3534.21E	963	DEIR QAMAR	Opened Mar 2010
QRWL	3332.86N	3540.93E	875	QARAOUN	Opened Oct 2011
SHBL	3320.90N	3544.63E	1422	CHEBAA	Opened Oct 2011
ZAHL	3351.48N	3553.12E	1211	ZAHLE	Opened Aug 2015
BEIL	3432.50N	3611.08E	572	BEINO	Opened Jan 2017

REGIONAL AND DISTANT EARTHQUAKES

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

MACROSEISMIC DATA

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

MONTHLY EPICENTER MAPS

Maps will be found on the last page.

ELECTRONIC PUBLICATION

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

REFERENCES

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

Abbreviations:

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

LAT: Latitude of epicenter

LON: Longitude of epicenter

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

AGENCY: REL throughout the bulletin, aka. REsearch Lebanon

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

EMSC: Euro-Mediterranean Seismological Centre.

OT: Origin Time

RMS: Root mean square value of travel time residuals

STAT: Station code

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

DIST: Epicenter distance (km)

AZI: Azimuth from source to station

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

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

HR: Hour

MN: Minute

SECON: Seconds

TRES: Residual (seconds)

CODA: Signal duration in seconds

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

PERI: Period where amplitude is measured

BAZ: Back azimuth (station to event)

ARES: Back azimuth residual

VELO: Apparent phase velocity (km/sec)

WT: Weight of phase in the location

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

October 1 2017 Hour: 10:22 40.9 Lat: 34.58N Lon: 36.35E Depth: 3 Agency: REL Local
Magnitudes: 2.9MC REL Rms: 0.2 secs

AKKAR REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ	16	254	EP		1022	43.56	0.06	55						1.0
BEIL	SN	16	254	ES		1022	45.50	0.07							1.0
HWQ	BZ	50	228	EP		1022	48.63	-0.35							1.0
HWQ	BN	50	228	ES		1022	54.95	-0.02							1.0
ZAHL	SZ	91	208	EP		1022	55.75	0.19							1.0
BHL	BZ	99	221	EP		1022	56.82	0.01							1.0
DQRL	SZ	121	217	EP		1023	0.36	0.05							1.0

October 2 2017 Hour: 6:57 1.0 Lat: 33.85N Lon: 36.09E Depth: 12 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	19	273	EP		657	4.71	-0.07							1.0
ZAHL	SN	19	273	ES		657	7.69	0.11							1.0
BHL	BZ	41	279	EP		657	7.95	0.01							1.0
BHL	BN	41	279	ES		657	13.01	-0.07							1.0
RCY	SZ	46	211	EP		657	8.70	-0.01							1.0
RCY	SN	46	211	ES		657	14.40	-0.01							1.0
HWQ	BZ	49	344	EP		657	9.21	-0.06	48						1.0
DQRL	SZ	51	252	EP		657	9.52	0.04							1.0
BEIL	SZ	77	6	EP		657	13.51	0.06							1.0

October 2 2017 Hour: 9:48 39.5 Lat: 34.74N Lon: 36.54E Depth: 18 Agency: REL Local
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	39	237	EP		948	46.44	0.03	69						1.0
BEIL	SN	39	237	ES		948	51.56	0.06							1.0
HWQ	BZ	75	227	EP		948	51.43	-0.13							1.0
HWQ	BN	75	227	ES		949	0.34	-0.13							1.0
ZAHL	SZ	115	212	EP		948	57.40	-0.01							1.0
BHL	BZ	123	222	EP		948	58.72	0.05							1.0
BHL	BE	123	222	ES		949	12.92	0.08							1.0
DQRL	SZ	145	218	EP		949	1.94	0.05							1.0

October 2 2017 Hour: 10:38 0.8 Lat: 33.52N Lon: 35.69E Depth: 0 Agency: REL Local
Magnitudes: 2.3MC REL Rms: 0.1 secs

WEST BEKAA REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
QRWL	SZ	3	337	EP		1038	1.13	-0.12	22						1.0
RCY	SZ	13	103	EP		1038	2.81	-0.13							1.0
RCY	SN	13	103	ES		1038	4.65	0.10							1.0
SHBL	SZ	20	167	EP		1038	4.04	0.05							1.0
DQRL	SZ	23	330	EP		1038	4.50	-0.02							1.0
DQRL	SN	23	330	ES		1038	7.42	0.12							1.0

October 2 2017 Hour: 14:10 55.8 Lat: 33.80N Lon: 35.78E Depth: 10 Agency: REL Local
Magnitudes: 2.5MC REL Rms: 0.0 secs

ZAHLE REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	12	58	EP		1410	58.52	-0.01							1.0
BHL	BZ	16	316	EP		1410	59.04	0.02	30						1.0
BHL	BN	16	316	ES		1411	1.39	0.01							1.0
DQRL	SZ	22	241	EP		1410	59.76	-0.03							1.0
RCY	SZ	34	171	EP		1411	1.69	0.03							1.0
RCY	SN	34	171	ES		1411	5.96	-0.00							1.0
HWQ	BZ	55	17	EP		1411	4.95	-0.01							1.0

October 3 2017 Hour: 12: 6 12.1 Lat: 34.01N Lon: 36.05E Depth: 10 Agency: REL Local
Magnitudes: 3.0MC REL Rms: 0.1 secs

Earthquake was felt
BAALBECK REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	23	224	EP		12 6	16.26	0.03							1.0
ZAHL	SN	23	224	ES		12 6	19.22	-0.02							1.0
HWQ	BZ	32	342	EP		12 6	17.58	-0.02	58						1.0
BHL	BZ	39	253	EP		12 6	18.79	0.17							0.2
DQRL	SZ	56	233	EP		12 6	21.30	-0.01							0.2
BEIL	SZ	61	12	EP		12 6	22.01	-0.09							1.0
BEIL	SN	61	12	ES		12 6	29.54	0.07							1.0
SHBL	SZ	78	202	EP		12 6	24.94	0.03							1.0
SHBL	SN	78	202	ES		12 6	34.36	-0.00							1.0

October 3 2017 Hour: 14:50 29.2 Lat: 33.78N Lon: 35.77E Depth: 0 Agency: REL Local
Magnitudes: 2.7MC REL Rms: 0.1 secs

ALEY REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	14	52	EP		1450	31.35	-0.06							1.0
BHL	BZ	17	321	EP		1450	31.91	-0.08	40						1.0
BHL	BE	17	321	ES		1450	34.02	-0.03							1.0
DQRL	SZ	20	245	EP		1450	32.58	0.07							1.0
DQRL	SN	20	245	ES		1450	34.97	0.02							1.0
RCY	SZ	32	169	EP		1450	34.38	-0.06							1.0
RCY	SE	32	169	ES		1450	38.31	0.00							1.0
HWQ	BZ	57	16	EP		1450	38.49	0.03							1.0
BEIL	SZ	92	24	EP		1450	44.24	0.11							1.0

October 4 2017 Hour: 14:30 56.2 Lat: 33.83N Lon: 35.82E Depth: 24 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	7	62	EP		1431	0.42	0.04							1.0
ZAHL	SE	7	62	ES		1431	3.43	-0.05							1.0
BHL	BZ	18	298	EP		1431	1.15	0.10	52						1.0
DQRL	SZ	27	239	EP		1431	1.94	-0.06							1.0
DQRL	SN	27	239	ES		1431	6.32	0.02							1.0
QRWL	SZ	34	202	EP		1431	2.78	-0.01							1.0
QRWL	SN	34	202	ES		1431	7.57	-0.10							1.0
RCY	SZ	37	178	EP		1431	3.22	-0.01							1.0
RCY	SE	37	178	ES		1431	8.55	0.11							1.0
HWQ	BZ	51	13	EP		1431	5.11	0.05							1.0
HWQ	BN	51	13	ES		1431	11.61	-0.01							1.0
BEIL	SZ	86	23	EP		1431	9.85	-0.08							1.0

October 5 2017 Hour: 23: 9 47.0 Lat: 35.53N Lon: 36.61E Depth: 0 Agency: REL Regional
Magnitudes: 3.3MC REL Rms: 0.1 secs

SYRIA REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ	116	200	EP		2310	5.60	-0.13	87						1.0
BEIL	SE	116	200	ES		2310	19.66	0.11							1.0
HWQ	BZ	151	204	EP		2310	11.08	-0.10							1.0
HWQ	BN	151	204	ES		2310	29.02	-0.02							1.0
ZAHL	SZ	197	200	EP		2310	17.70	0.11							1.0
ZAHL	SN	197	200	ES		2310	40.12	-0.07							1.0
BHL	BZ	200	206	EP		2310	18.10	0.10							1.0
DQRL	SZ	223	206	EP		2310	20.88	-0.00							1.0
RCY	SZ	236	198	EP		2310	22.49	-0.02							1.0
SHBL	SZ	254	198	EP		2310	24.80	0.02							1.0

October 6 2017 Hour: 0:6 4.5 Lat: 35.39N Lon: 35.82E Depth: 0 Agency: REL Regional
Magnitudes: 3.0MC REL Rms: 0.2 secs

OFFSHORE SYRIA

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ	100	160	EP		0 6	20.73	0.08	57						1.0
BEIL	SN	100	160	ES		0 6	32.60	0.02							1.0
HWQ	BZ	124	175	EP		0 6	24.15	-0.39							1.0
HWQ	BN	124	175	ES		0 6	39.34	-0.00							1.0
BHL	BZ	166	185	EP		0 6	31.05	0.24							1.0
ZAHL	SZ	170	178	EP		0 6	31.70	0.21							1.0
DQRL	SZ	188	187	EP		0 6	33.91	-0.15							1.0

October 6 2017 Hour: 15:25 10.3 Lat: 33.79N Lon: 35.78E Depth: 8 Agency: REL Local
Magnitudes: 2.8MC REL Rms: 0.1 secs

ALEY REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	13	54	EP		1525	12.84	-0.01							1.0
BHL	BZ	17	319	EP		1525	13.35	-0.03	45						1.0
DQRL	SZ	21	244	EP		1525	13.89	-0.10							1.0
DQRL	SN	21	244	ES		1525	16.83	0.08							1.0
RCY	SZ	33	170	EP		1525	15.87	0.06							1.0
RCY	SN	33	170	ES		1525	19.90	-0.03							1.0
SHBL	SZ	49	183	EP		1525	18.32	-0.01							1.0
HWQ	BZ	56	16	EP		1525	19.53	0.04							1.0
BEIL	SZ	92	24	EP		1525	25.09	0.04							0.2

October 6 2017 Hour: 22:49 41.0 Lat: 33.78N Lon: 35.78E Depth: 0 Agency: REL Local
Magnitudes: 2.6MC REL Rms: 0.0 secs

ALEY REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	13	48	EP		2249	42.95	-0.08							1.0
ZAHL	SN	13	48	ES		2249	44.58	0.03							1.0
BHL	BZ	18	318	EP		2249	43.98	0.05	33						1.0
DQRL	SZ	22	247	EP		2249	44.42	-0.05							1.0
DQRL	SN	22	247	ES		2249	47.06	0.01							1.0
RCY	SZ	32	171	EP		2249	46.17	0.03							1.0
RCY	SN	32	171	ES		2249	49.98	0.02							1.0
SHBL	SZ	48	185	EP		2249	48.74	-0.02							1.0
HWQ	BZ	57	15	EP		2249	50.17	-0.02							1.0
BEIL	SZ	92	24	EP		2249	55.87	0.04							1.0

October 7 2017 Hour: 14:5 58.9 Lat: 33.80N Lon: 35.78E Depth: 13 Agency: REL Local
Magnitudes: 2.7MC REL Rms: 0.0 secs

ZAHLE REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	12	55	EP		14 6	1.88	-0.01							1.0
BHL	BZ	17	315	EP		14 6	2.50	0.06	38						1.0
DQRL	SZ	22	242	EP		14 6	3.10	-0.06							1.0
DQRL	SN	22	242	ES		14 6	6.31	-0.01							1.0
RCY	SZ	34	172	EP		14 6	4.79	-0.06							1.0
RCY	SN	34	172	ES		14 6	9.26	0.00							1.0
SHBL	SZ	50	184	EP		14 6	7.40	0.09							1.0
HWQ	BZ	55	16	EP		14 6	8.04	-0.02							1.0
BEIL	SZ	90	24	EP		14 6	13.25	0.07							0.2

October 7 2017 Hour: 18:32 54.8 Lat: 35.24N Lon: 34.88E Depth: 18 Agency: REL Regional
Magnitudes: 3.1MC 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	142	123	EP		1833	16.71	0.11	56						1.0
BEIL	SN	142	123	ES		1833	32.69	-0.06							1.0
HWQ	BZ	144	137	EP		1833	17.07	0.09							1.0
HWQ	BN	144	137	ES		1833	33.37	-0.06							1.0

BHL	BZ	164	154	EP		1833	19.16	-0.27									1.0
ZAHL	SZ	178	149	EP		1833	21.24	-0.02									0.2
RCY	SZ	212	155	EP		1833	25.54	0.10									1.0
RCY	SN	212	155	ES		1833	48.26	0.12									1.0
SHBL	SZ	224	159	EP		1833	26.90	-0.03									1.0

October 8 2017 Hour: 11:22 25.9 Lat: 31.32N Lon: 35.24E Depth: 34 Agency: REL Regional
Magnitudes: 3.5MC REL Rms: 0.4 secs

DEAD SEA REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
RCY	SZ	248	13	EP		1123	0.03	0.17							1.0
RCY	SN	248	13	ES		1123	24.18	-0.81							1.0
DQRL	SZ	267	7	EP		1123	2.59	0.46							1.0
DQRL	SN	267	7	ES		1123	29.24	0.31							1.0
ZAHL	SZ	288	12	EP		1123	5.21	0.38	83						0.2
ZAHL	SN	288	12	ES		1123	33.41	-0.23							1.0
BHL	BZ	289	8	EP		1123	5.47	0.50							1.0
HWQ	BZ	335	11	EP		1123	10.79	0.16							0.2
BEIL	SZ	368	14	EP		1123	14.61	-0.01							0.2

October 8 2017 Hour: 22:14 50.3 Agency: REL Regional
EMSC OT=22:14:50.3 32.95N 27.43E 40Km M=4.6 EASTERN MEDITERRANEAN SEA

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
DQRL	SZ			EP		2216	26.15								
QRWL	SZ			EP		2216	27.80								
BHL	BZ			EP		2216	27.23								
SHBL	SZ			EP		2216	28.05								
RCY	SZ			EP		2216	29.70								
ZAHL	SZ			EP		2216	30.20								
HWQ	BZ			EP		2216	31.66								
BEIL	SZ			EP		2216	35.14								

October 8 2017 Hour: 22:34 33.5 Agency: REL Distant
EMSC OT=22:34:33.5 52.37N 176.83E 121Km M=6.6 RAT ISLANDS, ALEUTIAN ISLANDS

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ			EP		2247	5.81								
BHL	BZ			EP		2247	7.43								

October 9 2017 Hour: 9:39 14.8 Lat: 34.60N Lon: 36.83E Depth: 11 Agency: REL Local
Magnitudes: 2.9MC 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	60	264	EP		939	24.75	0.05	48						1.0
BEIL	SN	60	264	ES		939	31.97	-0.01							1.0
HWQ	BZ	89	247	EP		939	28.98	-0.11							1.0
HWQ	BE	89	247	ES		939	39.66	0.03							1.0
BHL	BZ	133	235	EP		939	35.70	0.13							1.0
DQRL	SZ	153	230	EP		939	38.33	-0.14							1.0
SHBL	SZ	171	216	EP		939	41.17	0.06							1.0

October 9 2017 Hour: 10:43 14.7 Lat: 34.60N Lon: 36.70E Depth: 17 Agency: REL Local
Magnitudes: 2.9MC REL Rms: 0.0 secs

SYRIA REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ	48	263	EP		1043	22.67	-0.00	51						1.0
BEIL	SN	48	263	ES		1043	28.60	0.00							1.0
HWQ	BZ	78	243	EP		1043	27.10	-0.00							1.0
HWQ	BN	78	243	ES		1043	36.31	-0.00							1.0
DQRL	SZ	144	227	EP		1043	36.77	0.00							1.0
SHBL	SZ	164	213	EP		1043	39.49	0.00							1.0

October 10 2017 Hour: 15:32 16.5 Lat: 34.71N Lon: 36.12E Depth: 0 Agency: REL Local
Magnitudes: 2.8MC REL Rms: 0.0 secs

SYRIA REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ	19	163	EP		1532	19.66	0.00	45						1.0
BEIL	SN	19	163	ES		1532	21.99	0.01							1.0
HWQ	BZ	51	199	EP		1532	24.60	-0.08							1.0
HWQ	BN	51	199	ES		1532	30.72	-0.00							1.0
ZAHL	SZ	97	193	EP		1532	32.15	-0.02							1.0
BHL	BZ	99	206	EP		1532	32.57	0.04							1.0
DQRL	SZ	123	205	EP		1532	36.33	0.05							1.0

October 11 2017 Hour: 14: 0 8.2 Lat: 34.23N Lon: 36.15E Depth: 10 Agency: REL Local
Magnitudes: 3.0MC REL Rms: 0.1 secs

BAALBECK REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	BZ	20	285	EP		14 0	11.87	0.02	62						1.0
HWQ	BN	20	285	ES		14 0	14.54	-0.05							1.0
BEIL	SZ	34	5	EP		14 0	14.08	0.11							1.0
BEIL	SN	34	5	ES		14 0	18.21	-0.07							1.0
ZAHL	SZ	48	211	EP		14 0	16.10	-0.09							1.0
ZAHL	SN	48	211	ES		14 0	22.18	0.04							1.0
BHL	BZ	59	232	EP		14 0	17.93	0.11							1.0
DQRL	SZ	80	223	EP		14 0	21.11	0.04							1.0
RCY	SZ	87	200	EP		14 0	22.03	-0.14							1.0
RCY	SN	87	200	ES		14 0	32.41	-0.13							1.0
SHBL	SZ	105	201	EP		14 0	24.95	0.08							1.0
SHBL	SN	105	201	ES		14 0	37.35	0.10							1.0

October 11 2017 Hour: 15:29 30.2 Lat: 33.97N Lon: 36.17E Depth: 7 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	29	244	EP		1529	35.13	0.00							1.0
HWQ	BZ	40	329	EP		1529	36.64	-0.08	51						1.0
HWQ	BN	40	329	ES		1529	41.55	0.02							1.0
BHL	BZ	48	261	EP		1529	38.17	0.05							1.0
RCY	SZ	61	210	EP		1529	40.13	-0.08							1.0
RCY	SN	61	210	ES		1529	47.57	-0.04							1.0
BEIL	SZ	63	1	EP		1529	40.44	0.00							1.0
BEIL	SN	63	1	ES		1529	48.04	0.04							1.0
DQRL	SZ	63	242	EP		1529	40.41	-0.05							1.0
SHBL	SZ	80	210	EP		1529	43.26	0.08							1.0
SHBL	SN	80	210	ES		1529	52.83	0.06							1.0

October 11 2017 Hour: 17:21 17.8 Lat: 33.47N Lon: 35.68E Depth: 1 Agency: REL Local
Magnitudes: 2.4MC 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	1	EP		1721	19.24	-0.05	27						1.0
QRWL	SN	9	1	ES		1721	20.39	0.01							1.0
SHBL	SZ	15	156	EP		1721	20.20	-0.00							1.0
SHBL	SN	15	156	ES		1721	21.97	0.00							1.0
RCY	SZ	15	78	EP		1721	20.25	0.01							1.0
DQRL	SZ	28	339	EP		1721	22.43	0.04							1.0
BHL	BZ	48	357	EP		1721	25.53	-0.11							0.2

October 11 2017 Hour: 19:28 22.0 Lat: 34.66N Lon: 36.13E Depth: 6 Agency: REL Local
Magnitudes: 2.4MC REL Rms: 0.2 secs

SYRIA REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ	15	158	EP		1928	24.59	0.03	27						1.0
BEIL	SN	15	158	ES		1928	26.48	-0.01							1.0
HWQ	BZ	46	201	EP		1928	29.37	-0.08							1.0
HWQ	BN	46	201	ES		1928	35.01	0.02							1.0
ZAHL	SZ	92	194	EP		1928	36.17	-0.69							0.2
BHL	BZ	95	207	EP		1928	37.36	0.07							1.0
DQRL	SZ	118	206	EP		1928	40.79	-0.02							1.0
RCY	SZ	132	192	EP		1928	42.77	-0.17							1.0
SHBL	SZ	150	194	EP		1928	45.77	0.20							1.0

October 12 2017 Hour: 10:41 40.3 Lat: 33.55N Lon: 35.72E Depth: 0 Agency: REL Local
Magnitudes: 2.6MC REL Rms: 0.2 secs

WEST BEKAA REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
QRWL	SZ	4	262	EP		1041	40.63	-0.26	34						1.0
RCY	SZ	12	120	EP		1041	42.29	-0.01							1.0
DQRL	SZ	22	321	EP		1041	43.91	0.06							1.0
DQRL	SN	22	321	ES		1041	46.70	0.22							1.0
SHBL	SZ	23	174	EP		1041	43.95	-0.01							1.0
SHBL	SN	23	174	ES		1041	46.82	0.14							1.0
BHL	BZ	40	351	EP		1041	46.52	-0.15							1.0

October 12 2017 Hour: 13:40 39.0 Lat: 34.47N Lon: 36.03E Depth: 10 Agency: REL Local
Magnitudes: 3.0MC 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	16	61	EP		1340	42.08	-0.04	58						1.0
BEIL	SN	16	61	ES		1340	44.47	0.06							1.0
HWQ	BZ	23	200	EP		1340	43.01	-0.09							1.0
HWQ	BN	23	200	ES		1340	46.07	-0.06							1.0
ZAHL	SZ	69	191	EP		1340	50.35	0.01							1.0
BHL	BZ	72	209	EP		1340	50.78	0.04							1.0
BHL	BN	72	209	ES		1340	59.53	0.12							1.0
DQRL	SZ	95	207	EP		1340	54.20	-0.03							1.0
DQRL	SN	95	207	ES		1341	5.50	0.00							1.0
RCY	SZ	110	190	EP		1340	56.40	-0.01							1.0

October 13 2017 Hour: 2:36 41.7 Agency: REL Regional
EMSC OT=02:36:41.7 34.61N 25.44E 54Km M=4.3 CRETE, GREECE

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
SHBL	SZ			EP		238	41.46								
RCY	SZ			EP		238	41.83								
HWQ	BZ			EP		238	42.31								
BEIL	SZ			EP		238	44.28								

October 13 2017 Hour: 18:41 41.0 Lat: 33.47N Lon: 35.70E Depth: 0 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	9	352	EP		1841	42.25	-0.15							1.0
RCY	SZ	13	78	EP		1841	43.21	0.05	42						1.0
SHBL	SZ	14	162	EP		1841	43.29	-0.04							1.0
SHBL	SN	14	162	ES		1841	45.09	0.05							1.0
DQRL	SZ	29	336	EP		1841	45.57	-0.04							1.0
DQRL	SN	29	336	ES		1841	49.15	0.13							1.0
ZAHL	SZ	46	22	EP		1841	48.46	-0.03							1.0
BHL	BZ	48	355	EP		1841	48.80	0.02							1.0
BEIL	SZ	127	21	EP		1842	1.53	0.03							1.0

October 14 2017 Hour: 15:48 3.5 Lat: 33.78N Lon: 35.78E Depth: 0 Agency: REL Local
Magnitudes: 2.7MC REL Rms: 0.1 secs

ALEY REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	13	50	EP		1548	5.67	0.04							1.0
BHL	BZ	18	319	EP		1548	6.29	-0.11	42						1.0
DQRL	SZ	21	246	EP		1548	7.02	0.06							1.0
DQRL	SE	21	246	ES		1548	9.49	-0.00							1.0
RCY	SZ	32	171	EP		1548	8.66	-0.09							1.0
RCY	SE	32	171	ES		1548	12.54	-0.07							1.0
SHBL	SZ	48	184	EP		1548	11.50	0.15							1.0
HWQ	BZ	57	16	EP		1548	12.75	0.02							1.0

October 14 2017 Hour: 15:52 5.7 Lat: 34.04N Lon: 35.74E Depth: 2 Agency: REL Local
Magnitudes: 3.0MC 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	209	EP		1552	8.58	0.06	60						1.0
BHL	BN	17	209	ES		1552	10.58	-0.02							1.0
ZAHL	SZ	24	147	EP		1552	9.56	-0.07							1.0
ZAHL	SN	24	147	ES		1552	12.53	-0.01							1.0
HWQ	BZ	33	35	EP		1552	11.05	0.07							1.0
HWQ	BN	33	35	ES		1552	14.88	0.00							1.0
DQRL	SZ	40	203	EP		1552	12.15	-0.09							1.0
RCY	SZ	61	172	EP		1552	15.57	0.03							1.0
RCY	SN	61	172	ES		1552	22.86	0.05							1.0
BEIL	SZ	69	36	EP		1552	16.80	-0.05							1.0
SHBL	SZ	77	180	EP		1552	18.12	0.03							1.0

October 16 2017 Hour: 11:1 2.9 Lat: 34.55N Lon: 36.91E Depth: 5 Agency: REL Local
Magnitudes: 3.0MC REL Rms: 0.2 secs

SYRIA REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ	66	269	EP		11	1	13.69	0.09	61					1.0
BEIL	SN	66	269	ES		11	1	21.46	-0.08						1.0
HWQ	BZ	93	251	EP		11	1	18.00	0.04						1.0
ZAHL	SZ	121	231	EP		11	1	23.31	0.98						0.2
BHL	BZ	136	238	EP		11	1	24.45	0.02						1.0
RCY	SZ	153	221	EP		11	1	26.79	-0.21						1.0
RCY	SN	153	221	ES		11	1	44.92	0.07						1.0
SHBL	SZ	171	219	EP		11	1	29.68	0.01						1.0

October 16 2017 Hour: 14:16 42.4 Lat: 33.62N Lon: 35.48E Depth: 7 Agency: REL Local
Magnitudes: 2.8MC 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	13	39	EP		1416	44.90	0.02	49						1.0
DQRL	SN	13	39	ES		1416	46.72	0.00							1.0
QRWL	SZ	20	112	EP		1416	45.83	-0.07							1.0
QRWL	SN	20	112	ES		1416	48.50	0.01							1.0
RCY	SZ	35	112	EP		1416	48.32	0.04							1.0
BHL	BZ	36	26	EP		1416	48.31	-0.01							1.0
BHL	BN	36	26	ES		1416	52.68	-0.01							1.0
ZAHL	SZ	46	54	EP		1416	49.92	-0.02							1.0
HWQ	BZ	85	30	EP		1416	56.21	0.03							1.0

October 17 2017 Hour: 15:0 27.9 Lat: 34.30N Lon: 36.36E Depth: 8 Agency: REL Local
Magnitudes: 3.0MC REL Rms: 0.1 secs

BAALBECK REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ	32	329	EP		15	0	33.27	0.07	61					1.0
BEIL	SN	32	329	ES		15	0	37.04	-0.08						1.0
HWQ	BZ	38	267	EP		15	0	34.25	-0.00						1.0

ZAHL	SZ	66	222	EP		15	0	38.54	-0.05							1.0
BHL	BZ	78	236	EP		15	0	40.71	0.07							1.0
DQRL	SZ	98	228	EP		15	0	43.79	0.10							1.0
RCY	SZ	101	209	EP		15	0	44.09	-0.08							1.0
RCY	SN	101	209	ES		15	0	56.16	-0.04							1.0

October 17 2017 Hour: 15:31 11.4 Lat: 33.80N Lon: 35.78E Depth: 1 Agency: REL Local
Magnitudes: 2.3MC 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	58	EP		1531	13.44	-0.01							1.0
ZAHL	SN	12	58	ES		1531	14.96	0.02							1.0
BHL	BZ	16	316	EP		1531	13.96	-0.10	23						1.0
DQRL	SZ	22	241	EP		1531	15.02	0.06							1.0
DQRL	SN	22	241	ES		1531	17.59	0.03							1.0
RCY	SZ	34	170	EP		1531	16.91	-0.06							1.0
HWQ	BZ	55	17	EP		1531	20.43	0.06							1.0

October 18 2017 Hour: 3:22 57.7 Lat: 33.78N Lon: 35.77E Depth: 3 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	14	51	EP		323	0.12	0.04							1.0
BHL	BZ	17	323	EP		323	0.50	-0.10	27						1.0
BHL	BE	17	323	ES		323	2.75	0.00							1.0
DQRL	SZ	20	246	EP		323	1.13	0.09							1.0
RCY	SZ	32	169	EP		323	2.92	-0.02							1.0
RCY	SN	32	169	ES		323	6.79	-0.03							1.0
HWQ	BZ	58	17	EP		323	7.05	0.02							1.0

October 18 2017 Hour: 12:1 0.4 Agency: REL Distant

EMSC OT=12:01:00.4 20.47S 174.03W 15Km M=6.0 TONGA

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		1220	45.87								
HWQ	BZ			EP		1220	45.55								

October 18 2017 Hour: 16:26 35.3 Lat: 36.35N Lon: 35.87E Depth: 33 Agency: REL Regional
Magnitudes: 3.4MC REL Rms: 0.2 secs

SYRIA REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ	202	172	EP		1627	3.57	0.03	89						1.0
BEIL	SN	202	172	ES		1627	24.42	-0.03							1.0
HWQ	BZ	229	178	EP		1627	6.69	-0.30							1.0
HWQ	BN	229	178	ES		1627	30.44	-0.01							1.0
BHL	BZ	272	184	EP		1627	11.94	-0.25							1.0
ZAHL	SZ	276	180	EP		1627	12.79	0.03							0.2
DQRL	SZ	294	185	EP		1627	14.82	-0.17							1.0
DQRL	SN	294	185	ES		1627	44.42	0.04							1.0
RCY	SZ	316	181	EP		1627	18.11	0.35							1.0
SHBL	SZ	333	182	EP		1627	20.17	0.34							1.0

October 19 2017 Hour: 7:46 6.3 Lat: 33.83N Lon: 36.01E Depth: 14 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	12	287	EP		746	9.40	-0.11	43						1.0
ZAHL	SN	12	287	ES		746	11.92	0.06							1.0
BHL	BZ	34	285	EP		746	12.32	0.02							1.0
RCY	SZ	40	203	EP		746	13.23	0.01							1.0
DQRL	SZ	43	252	EP		746	13.60	0.01							1.0
HWQ	BZ	50	354	EP		746	14.77	0.02							1.0
HWQ	BN	50	354	ES		746	20.90	-0.07							1.0
BEIL	SZ	81	12	EP		746	19.19	-0.02							1.0
BEIL	SN	81	12	ES		746	28.81	0.07							1.0

October 19 2017 Hour: 9: 2 1.6

Agency: REL Distant

EMSC OT=09:02:01.6 28.35N 131.17E 10Km M=5.8 SOUTHEAST OF RYUKYU ISLANDS

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		914	2.36								
HWQ	BZ			EP		914	3.27								
BHL	BZ			EP		914	5.19								
RCY	SZ			EP		914	6.01								

October 19 2017 Hour: 11:45 28.8 Lat: 33.85N Lon: 35.95E Depth: 6 Agency: REL Local
Magnitudes: 2.9MC REL Rms: 0.0 secs

ZAHLE REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	6	283	EP		1145	30.51	0.04							1.0
ZAHL	SN	6	283	ES		1145	31.64	-0.03							1.0
BHL	BZ	28	283	EP		1145	33.55	0.02							1.0
BHL	BN	28	283	ES		1145	37.02	0.01							1.0
DQRL	SZ	38	246	EP		1145	35.09	-0.07							1.0
RCY	SZ	40	195	EP		1145	35.45	-0.00							1.0
RCY	SN	40	195	ES		1145	40.36	0.01							1.0
QRWL	SZ	41	217	EP		1145	35.63	0.01							1.0
HWQ	BZ	48	360	EP		1145	36.75	0.08	52						1.0
SHBL	SZ	58	199	EP		1145	38.36	0.01							1.0
BEIL	SZ	80	16	EP		1145	41.74	-0.08							1.0

October 20 2017 Hour: 15:55 4.1 Lat: 33.78N Lon: 35.78E Depth: 4 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	49	EP		1555	6.40	0.04							1.0
BHL	BZ	18	319	EP		1555	7.03	-0.09	33						1.0
DQRL	SZ	21	247	EP		1555	7.68	0.05							1.0
DQRL	SN	21	247	ES		1555	10.23	0.00							1.0
QRWL	SZ	28	199	EP		1555	8.64	0.02							1.0
QRWL	SN	28	199	ES		1555	11.96	0.01							1.0
RCY	SZ	32	171	EP		1555	9.25	-0.10							1.0
RCY	SN	32	171	ES		1555	13.22	-0.01							1.0
SHBL	SZ	48	184	EP		1555	11.97	0.04							1.0
HWQ	BZ	57	16	EP		1555	13.53	0.16							0.2
BEIL	SZ	92	24	EP		1555	19.27	0.27							0.2

October 22 2017 Hour: 15: 9 38.0 Lat: 33.74N Lon: 35.43E Depth: 4 Agency: REL Local
Magnitudes: 2.7MC 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	14	108	EP		15 9	40.30	-0.06	38						1.0
DQRL	SN	14	108	ES		15 9	42.19	0.06							1.0
BEYL	SZ	15	23	EP		15 9	40.60	0.05							1.0
BHL	BZ	27	49	EP		15 9	42.34	-0.13							1.0
ZAHL	SZ	44	73	EP		15 9	45.04	-0.10							1.0
RCY	SZ	47	126	EP		15 9	45.56	0.01							1.0
RCY	SN	47	126	ES		15 9	51.19	0.02							1.0
HWQ	BZ	76	39	EP		15 9	50.40	0.13							1.0
BEIL	SZ	113	38	EP		15 9	56.47	0.36							0.2

October 22 2017 Hour: 15:13 30.3 Lat: 33.97N Lon: 36.19E Depth: 11 Agency: REL Local
Magnitudes: 3.0MC REL Rms: 0.1 secs

BAALBECK REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	31	246	EP		1513	35.70	0.02							1.0
ZAHL	SN	31	246	ES		1513	39.72	0.04							1.0
HWQ	BZ	41	326	EP		1513	37.05	-0.10	62						1.0
HWQ	BN	41	326	ES		1513	42.21	-0.02							1.0
BHL	BZ	50	261	EP		1513	38.50	-0.13							1.0

BHL	BN	50	261	ES		1513	44.89	0.08									1.0
RCY	SZ	62	212	EP		1513	40.50	-0.03									1.0
BEIL	SZ	63	359	EP		1513	40.76	0.13									1.0
DQRL	SZ	65	243	EP		1513	40.91	0.00									1.0
SHBL	SZ	81	211	EP		1513	43.38	0.02									1.0
SHBL	SN	81	211	ES		1513	53.05	0.00									1.0

October 22 2017 Hour: 20:45 51.7 Lat: 34.03N Lon: 35.95E Depth: 0 Agency: REL Local
Magnitudes: 2.9MC REL Rms: 0.1 secs

KESROUAN REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	21	198	EP		2045	54.92	-0.07	56						1.0
ZAHL	SN	21	198	ES		2045	57.41	-0.04							1.0
HWQ	BZ	27	358	EP		2045	55.92	-0.11							1.0
HWQ	BN	27	358	ES		2045	59.27	0.01							1.0
BHL	BZ	31	243	EP		2045	56.64	-0.07	51						1.0
DQRL	SZ	51	224	EP		2045	59.97	0.09							1.0
DQRL	SN	51	224	ES		2046	6.02	0.07							1.0
BEIL	SZ	60	21	EP		2046	1.47	0.10							1.0
BEIL	SN	60	21	ES		2046	8.55	0.01							1.0
RCY	SZ	61	190	EP		2046	1.50	0.05							1.0
RCY	SN	61	190	ES		2046	8.73	0.04							1.0
SHBL	SZ	79	194	EP		2046	4.26	-0.08							1.0

October 23 2017 Hour: 0:24 17.8 Agency: REL Distant

EMSC OT=00:24:17.8 27.94N 57.15E 30Km M=5.2 SOUTHERN IRAN

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		028	41.21								
HWQ	BZ			EP		028	39.68								

October 23 2017 Hour: 10:43 24.8 Lat: 34.71N Lon: 36.17E Depth: 6 Agency: REL Local
Magnitudes: 2.8MC REL Rms: 0.2 secs

SYRIA REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ	19	177	EP		1043	28.22	0.21	47						1.0
BEIL	SN	19	177	ES		1043	30.30	-0.09							1.0
HWQ	BZ	52	204	EP		1043	33.01	-0.30							1.0
HWQ	BN	52	204	ES		1043	39.75	0.14							1.0
DQRL	SZ	125	207	EP		1043	44.73	0.12							1.0
RCY	SZ	138	193	EP		1043	46.61	-0.04							1.0
RCY	SN	138	193	ES		1044	2.78	-0.04							1.0

October 23 2017 Hour: 14:58 53.5 Lat: 33.44N Lon: 35.65E Depth: 0 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
QRWL	SZ	12	14	EP		1458	55.23	-0.14	34						1.0
SHBL	SZ	14	141	EP		1458	55.70	-0.01							1.0
RCY	SZ	18	72	EP		1458	56.43	0.03							1.0
RCY	SN	18	72	ES		1458	58.58	0.02							1.0
DQRL	SZ	30	345	EP		1458	58.36	0.07							1.0
DQRL	SN	30	345	ES		1459	1.89	0.03							1.0

October 23 2017 Hour: 17:34 24.6 Lat: 34.77N Lon: 37.12E Depth: 11 Agency: REL Local
Magnitudes: 3.3MC REL Rms: 0.1 secs

SYRIA REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ	89	253	EP		1734	38.97	0.09	86						1.0
BEIL	SN	89	253	ES		1734	49.43	-0.03							1.0
HWQ	BZ	121	243	EP		1734	43.43	-0.12							1.0
HWQ	BN	121	243	ES		1734	57.52	-0.06							1.0
ZAHL	SZ	152	228	EP		1734	48.14	-0.05							1.0
BHL	BZ	166	235	EP		1734	50.27	0.13							1.0
BHL	BN	166	235	ES		1735	9.11	0.06							1.0

DQRL	SZ	185	231	EP		1734	52.67	0.06									1.0
DQRL	SN	185	231	ES		1735	13.38	0.04									1.0
RCY	SZ	185	220	EP		1734	52.48	-0.07									1.0
RCY	SN	185	220	ES		1735	13.23	-0.01									1.0
SHBL	SZ	203	219	EP		1734	54.78	-0.03									1.0

October 23 2017 Hour: 20:46 6.8 Lat: 33.58N Lon: 35.56E Depth: 1 Agency: REL Local
Magnitudes: 2.5MC REL Rms: 0.1 secs

JEZZINE REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
QRWL	SZ	12	108	EP		2046	8.66	-0.09							1.0
DQRL	SZ	14	4	EP		2046	9.06	-0.00	28						1.0
DQRL	SN	14	4	ES		2046	10.77	0.04							1.0
RCY	SZ	27	110	EP		2046	11.27	0.06							1.0
RCY	SN	27	110	ES		2046	14.48	0.01							1.0
SHBL	SZ	31	147	EP		2046	11.84	0.03							1.0
BHL	BZ	37	14	EP		2046	12.67	-0.08							1.0
HWQ	BZ	85	25	EP		2046	20.57	0.04							1.0

October 23 2017 Hour: 23:14 43.7 Lat: 33.79N Lon: 35.80E Depth: 5 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	11	45	EP		2314	45.90	0.06							1.0
BHL	BZ	19	314	EP		2314	46.82	-0.09	33						1.0
BHL	BN	19	314	ES		2314	49.22	-0.06							1.0
DQRL	SZ	23	247	EP		2314	47.62	0.05							1.0
DQRL	SN	23	247	ES		2314	50.52	0.10							1.0
QRWL	SZ	29	202	EP		2314	48.37	-0.07							1.0
RCY	SZ	32	174	EP		2314	49.04	-0.01							1.0
RCY	SN	32	174	ES		2314	52.96	-0.04							1.0
SHBL	SZ	49	186	EP		2314	51.72	0.05							1.0
SHBL	SN	49	186	ES		2314	57.54	-0.03							1.0
HWQ	BZ	56	14	EP		2314	53.06	0.22							0.2
BEIL	SZ	91	23	EP		2314	58.78	0.36							0.2

October 24 2017 Hour: 1:15 34.2 Lat: 33.65N Lon: 35.57E Depth: 9 Agency: REL Local
Magnitudes: 2.7MC 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	359	EP		115	36.15	0.03	42						1.0
DQRL	SN	6	359	ES		115	37.51	-0.02							1.0
QRWL	SZ	15	138	EP		115	37.06	-0.09							1.0
QRWL	SN	15	138	ES		115	39.35	0.03							1.0
BHL	BZ	29	15	EP		115	39.15	-0.05							0.2
BHL	BN	29	15	ES		115	42.90	-0.00							1.0
RCY	SZ	30	125	EP		115	39.34	0.04							1.0
SHBL	SZ	37	154	EP		115	40.46	0.04							1.0
SHBL	SN	37	154	ES		115	44.98	-0.03							1.0
ZAHL	SZ	37	51	EP		115	40.38	-0.05							0.2
HWQ	BZ	78	26	EP		115	46.76	-0.12							0.2

October 24 2017 Hour: 3:32 54.4 Agency: REL Regional

EMSC OT=03:32:54.4 35.04N 32.21E 36Km M=3.1 CYPRUS REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		333	39.27								
HWQ	BZ			EP		333	41.16								
QRWL	SZ			EP		333	41.79								
ZAHL	SZ			EP		333	41.79								
BEIL	SZ			EP		333	42.69								
SHBL	SZ			EP		333	43.74								
RCY	SZ			EP		333	43.67								

October 24 2017 Hour: 9:36 25.8

Agency: REL Regional

EMSC OT=09:36:25.8 36.98N 27.35E 10Km M=4.6 DODECANESE-TURKEY BORDER REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		938	13.92								
HWQ	BZ			EP		938	14.71								
RCY	SZ			EP		938	16.02								

October 24 2017 Hour: 15:20 55.7 Lat: 33.78N Lon: 35.79E Depth: 9 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		1520	58.36	-0.02							1.0
BHL	BZ	18	318	EP		1520	58.95	-0.15	31						1.0
DQRL	SZ	22	247	EP		1520	59.59	-0.04							1.0
DQRL	SN	22	247	ES		1521	2.58	0.05							1.0
RCY	SZ	32	172	EP		1521	1.20	-0.01							1.0
RCY	SE	32	172	ES		1521	5.39	0.11							1.0
SHBL	SZ	49	185	EP		1521	3.75	0.02							1.0
HWQ	BZ	57	15	EP		1521	5.21	0.18							0.2
BEIL	SZ	92	24	EP		1521	10.76	0.32							0.2

October 25 2017 Hour: 20:27 11.4 Lat: 34.61N Lon: 36.59E Depth: 0 Agency: REL Local
Magnitudes: 2.5MC REL Rms: 0.5 secs

SYRIA REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ	38	259	EP		2027	17.40	-0.12	30						1.0
BEIL	SE	38	259	ES		2027	21.90	-0.14							1.0
HWQ	BZ	70	238	EP		2027	22.64	0.02							1.0
HWQ	BE	70	238	ES		2027	30.96	0.04							1.0
BHL	BZ	116	228	EP		2027	30.25	0.09							1.0
DQRL	SZ	137	224	EP		2027	34.48	0.97							1.0
RCY	SZ	142	210	EP		2027	33.31	-0.85							1.0

October 26 2017 Hour: 1:40 9.1 Lat: 33.80N Lon: 35.78E Depth: 15 Agency: REL Local
Magnitudes: 2.3MC 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		140	12.30	0.04							1.0
BHL	BZ	17	315	EP		140	12.74	-0.03	21						1.0
DQRL	SZ	22	243	EP		140	13.38	-0.03							1.0
DQRL	SN	22	243	ES		140	16.69	0.05							1.0
RCY	SZ	34	171	EP		140	14.99	-0.05							1.0
RCY	SN	34	171	ES		140	19.49	0.02							1.0
HWQ	BZ	56	16	EP		140	18.42	0.19							0.2

October 26 2017 Hour: 15:58 35.1 Lat: 33.79N Lon: 35.79E Depth: 9 Agency: REL Local
Magnitudes: 2.4MC REL Rms: 0.0 secs

ALEY REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	12	50	EP		1558	37.74	0.02							1.0
BHL	BZ	18	316	EP		1558	38.42	-0.06	25						1.0
DQRL	SZ	22	245	EP		1558	39.18	0.06							1.0
DQRL	SN	22	245	ES		1558	42.08	0.00							1.0
QRWL	SZ	29	200	EP		1558	40.01	-0.04							1.0
RCY	SZ	33	172	EP		1558	40.71	-0.00							1.0
RCY	SN	33	172	ES		1558	44.85	-0.00							1.0
HWQ	BZ	56	15	EP		1558	44.35	0.02							1.0

October 26 2017 Hour: 18:27 45.4 Lat: 33.47N Lon: 35.70E Depth: 4 Agency: REL Local
Magnitudes: 2.6MC REL Rms: 0.2 secs

WEST BEKAA REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
QRWL	SZ	9	349	EP		1827	46.82	-0.25							1.0
RCY	SZ	13	76	EP		1827	47.72	0.05	33						1.0
RCY	SN	13	76	ES		1827	49.35	-0.02							1.0
SHBL	SZ	14	163	EP		1827	47.86	0.03							1.0
DQRL	SZ	29	335	EP		1827	50.26	0.13							1.0
DQRL	SN	29	335	ES		1827	53.73	0.09							1.0
ZAHL	SZ	46	22	EP		1827	53.73	0.81							0.2
BHL	BZ	48	355	EP		1827	53.20	-0.04							1.0
HWQ	BZ	93	14	EP		1828	0.26	-0.07							0.2
BEIL	SZ	127	20	EP		1828	5.13	-0.52							0.2

October 26 2017 Hour: 18:28 39.6 Lat: 33.46N Lon: 35.69E Depth: 3 Agency: REL Local
Magnitudes: 2.6MC REL Rms: 0.2 secs

HASBAYA REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
QRWL	SZ	10	358	EP		1828	41.23	-0.16							1.0
RCY	SZ	15	72	EP		1828	42.05	-0.02	34						1.0
RCY	SN	15	72	ES		1828	43.93	-0.00							1.0
DQRL	SZ	30	339	EP		1828	44.59	0.16							1.0
DQRL	SN	30	339	ES		1828	48.03	-0.01							1.0
ZAHL	SZ	48	22	EP		1828	48.19	0.78							0.2
BHL	BZ	50	357	EP		1828	47.66	0.01							1.0
HWQ	BZ	94	15	EP		1828	54.53	-0.28							0.2
BEIL	SZ	129	21	EP		1828	59.86	-0.31							0.2

October 27 2017 Hour: 2:22 56.0 Agency: REL Regional
EMSC OT=02:22:56.0 36.35N 35.67E 10Km M=3.0 CENTRAL TURKEY

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BEIL	SZ			EP		223	26.74								
HWQ	BZ			EP		223	29.79								
BHL	BZ			EP		223	34.81								
ZAHL	SZ			EP		223	35.95								
DQRL	SZ			EP		223	37.54								
RCY	SZ			EP		223	40.47								
SHBL	SZ			EP		223	42.56								

October 27 2017 Hour: 15:14 30.6 Lat: 33.78N Lon: 35.76E Depth: 4 Agency: REL Local
Magnitudes: 2.8MC REL Rms: 0.1 secs

ALEY REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	15	56	EP		1514	33.14	-0.00							1.0
BHL	BZ	16	325	EP		1514	33.32	-0.09	43						1.0
BHL	BE	16	325	ES		1514	35.50	0.03							1.0
DQRL	SZ	19	243	EP		1514	33.94	0.07							1.0
QRWL	SZ	27	195	EP		1514	34.95	-0.14							1.0
RCY	SZ	33	167	EP		1514	35.97	-0.02							1.0
RCY	SN	33	167	ES		1514	39.99	0.02							1.0
SHBL	SZ	48	181	EP		1514	38.59	0.11							1.0
HWQ	BZ	58	18	EP		1514	39.89	-0.05							1.0
HWQ	BN	58	18	ES		1514	46.87	0.03							1.0
BEIL	SZ	93	25	EP		1514	45.66	0.04							1.0

October 28 2017 Hour: 1:21 23.4 Agency: REL Regional
EMSC OT=01:21:23.4 36.27N 35.01E 20Km M=2.7 CENTRAL TURKEY

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ			EP		122	3.48								
DQRL	SZ			EP		122	5.62								
QRWL	SZ			EP		122	8.39								
RCY	SZ			EP		122	10.03								

SHBL SZ EP 122 11.53

October 28 2017 Hour: 1:47 58.9 Lat: 33.78N Lon: 35.77E Depth: 6 Agency: REL Local
Magnitudes: 2.6MC REL Rms: 0.1 secs

ALEY REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ZAHL	SZ	14	50	EP		148	1.44	0.00							1.0
BHL	BZ	18	321	EP		148	1.92	-0.11	35						1.0
DQRL	SZ	21	246	EP		148	2.55	0.09							1.0
DQRL	SN	21	246	ES		148	5.12	0.04							1.0
QRWL	SZ	27	198	EP		148	3.34	-0.12							1.0
RCY	SZ	32	170	EP		148	4.36	0.12							1.0
SHBL	SZ	48	183	EP		148	6.74	-0.02							1.0
SHBL	SN	48	183	ES		148	12.52	-0.05							1.0
HWQ	BZ	58	16	EP		148	8.33	0.04							1.0

October 28 2017 Hour: 8:30 53.2 Lat: 34.02N Lon: 35.75E Depth: 5 Agency: REL Local
Magnitudes: 2.9MC REL Rms: 0.0 secs

KESROUAN REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	BZ	16	213	EP		830	55.86	-0.06	50						1.0
BHL	BN	16	213	ES		830	57.98	0.04							1.0
ZAHL	SZ	22	145	EP		830	56.86	-0.06							1.0
HWQ	BZ	34	33	EP		830	58.78	0.06							1.0
HWQ	BN	34	33	ES		831	2.79	-0.02							1.0
DQRL	SZ	39	205	EP		830	59.50	-0.03							1.0
RCY	SZ	59	172	EP		831	2.80	0.05							1.0
RCY	SN	59	172	ES		831	9.86	0.03							1.0
BEIL	SZ	70	35	EP		831	4.53	-0.02							1.0
BEIL	SN	70	35	ES		831	12.97	0.01							1.0

October 30 2017 Hour: 11:32 59.5 Lat: 33.55N Lon: 35.71E 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	2	269	EP		1132	59.82	-0.12	32						1.0
RCY	SZ	13	115	EP		1133	1.57	-0.11							1.0
RCY	SN	13	115	ES		1133	3.31	0.04							1.0
DQRL	SZ	22	324	EP		1133	2.93	-0.09							1.0
DQRL	SN	22	324	ES		1133	5.74	0.13							1.0
SHBL	SZ	22	171	EP		1133	3.30	0.15							1.0

October 31 2017 Hour: 4: 1 53.8 Lat: 33.76N Lon: 35.69E Depth: 5 Agency: REL Local
Magnitudes: 2.8MC REL Rms: 0.1 secs

ALEY REGION

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
DQRL	SZ	12	244	EP		4	1	56.08	0.01	45					1.0
DQRL	SN	12	244	ES		4	1	57.80	0.05						1.0
BHL	BZ	17	348	EP		4	1	56.69	-0.05						1.0
BHL	BN	17	348	ES		4	1	58.87	-0.03						1.0
ZAHL	SZ	21	57	EP		4	1	57.36	-0.06						1.0
QRWL	SZ	23	182	EP		4	1	57.52	-0.14						1.0
RCY	SZ	32	155	EP		4	1	58.95	-0.08						1.0
RCY	SN	32	155	ES		4	2	2.99	0.09						1.0
SHBL	SZ	45	174	EP		4	2	1.19	-0.02						1.0
SHBL	SN	45	174	ES		4	2	6.72	0.04						1.0
HWQ	BZ	63	22	EP		4	2	4.13	0.16						1.0
BEIL	SZ	99	27	EP		4	2	10.01	0.29						0.2

Epicentral Map of Lebanon

OCTOBER 2017

