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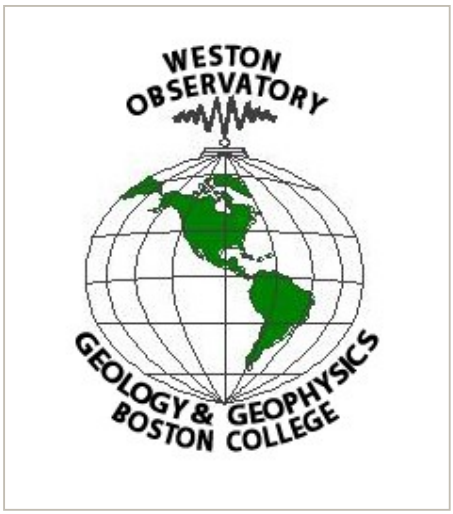
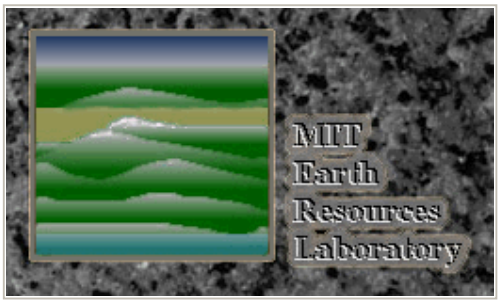
A STUDY OF NEW ENGLAND SEISMICITY

Quarterly Earthquake Report

July - September, 2000

NEW ENGLAND
SEISMIC NETWORK





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NEW ENGLAND SEISMIC NETWORK

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Notice

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Quarterly Earthquake Report
July - September, 2000

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Introduction

The New England Seismic Network (NESN) is operated collaboratively by the Weston Observatory (WES) of Boston College and the Earth Resources Lab (ERL) of the Massachusetts Institute of Technology. The mission of the NESN is to operate and maintain a regional seismic network with digital recording of seismic ground motions for the following purposes: 1) to determine the location and magnitude of earthquakes in and adjacent to New England and report felt events to public safety agencies, 2) to define the crust and upper mantle structure of the northeastern United States, 3) to derive the source parameters of New England earthquakes, and 4) to estimate the seismic hazard in the area.

This report summarizes the work of the NESN for the period July - September, 2000. It includes a brief summary of the network's equipment and operation, and a short discussion of data management procedures. A list of participating personnel is given in Table 1. There were 8 earthquakes that occurred within or near the network during this reporting period. Phase information for these earthquakes is included in this report.

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Current Network Operation and Status

The New England Seismic Network currently consists of 13 broadband three-component, 4 short-period vertical, and 8 strong-motion stations. The coordinates of the stations are given in Table 2, and maps of the weak- and strong-motion networks are shown in Figures 1 and 2, respectively.

WES operates 12 stations with broadband instruments consisting of Guralp CMG-40T three-component sensors. Ground motions recorded by these sensors are digitized at 100 sps with 16-bit resolution. Additional gain-ranging provides 126 dB dynamic range. These stations are operated in dialup mode with waveform segments of suspected events transmitted in digital mode to Weston Observatory for analysis and archiving. WES is continuing to upgrade its recording stations with 2 more broadband instruments scheduled for installation in 2000. WES also maintains 8 SMA-1 strong-motion instruments in New England.

ERL at MIT currently operates 4 short-period stations, all located within 100 km of Boston. The short- period instruments have 1.0 Hz L4C vertical seismometers. Data recorded by these seismometers is transmitted continuously in analog mode to ERL and digitized (12-bit) into a PC at 50 sps. A data acquisition program on the PC triggers on events detected in the short-period data streams and saves them to a disk for manual analysis. Station WFM also has a new three-component, high dynamic range instrument. The instrument has a CMG-40T sensor and transmits 3-channel, 24-bit data at 100 sps continuously to a central processor (Pentium PC) at ERL. Waveform windows of suspected events are extracted from the data stream, analyzed and archived with the short-period data. WES and ERL record some stations in analog format on helicorders to provide additional data for analysis.

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Seismicity

There were 8 earthquakes that occurred in or adjacent to the NESN during this reporting period. A summary of the location data is given in Table 3. Figure 3 shows the locations of these events. Figure 4 shows the locations of all events since the beginning of network operation in October, 1975.

Table 4 gives the station phase data and detailed hypocenter data for each event listed in Table 3. In addition to NESN data, arrival time and magnitude data sometimes are contributed for seismic stations operated by the Geological Survey of Canada (GSC), the Lamont-Doherty Cooperative Seismographic Network., and the US National Seismic Network. Final locations for this section were computed using the program HYPO78. For regional events (those too far from the NESN to obtain accurate locations and magnitudes) phase data are given for NESN stations, but the entry in Table 3 lists the hypocenter and geographic location information adopted from the authoritative network. Accordingly, the epicenter is plotted on the maps using the entry from Table 3.

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Data Management

Recent event locations are available via FTP at: SEISMOEAGLE.BC.EDU. Waveform data are saved in Nanometrics, ASCII, and SEED formats and are available via SEISMOEAGLE.BC.EDU or through personal contact. Earthquake lists can be fingered at QUAKE@SEISMOEAGLE.BC.EDU. Weston Observatory maintains two web pages with information about local earthquakes: "http://www.bc.edu:80/bc_org/avp/cas/wesobs/" and "http://seismoeagle.bc.edu/". The latter page is still under contruction. Currently available on the seismoeagle web page is the full catalog of northeastern U.S. earthquake activity to 1992. This will be updated as new Northeastern U.S. Seismic Network Bulletins are produced.

MIT/ERL provides two internet utilities, the MIT/ERL web-site ("www-erl.mit.edu/NESN/homepage.html") and an anonymous FTP directory, to distribute seismic data. SESAME (Seismic Event Server at MIT/ERL) is the web data server that distributes catalogs, reports, earthquake bulletins, and epicenter and station maps (including an archive of recent seismic events). The FTP site, named "sunda.mit.edu", is the current facility available to download waveform data

recorded by the MIT NESN. The client machine IP number must be forwarded to us for the client to gain access to the anonymous FTP directory. After logging on, the user changes directories to "pub/seismic". Waveforms of individual events for the period April 1995 through the present are accessed as Unix-compressed SAC files, through the anonymous FTP directory. A "readme" file offers further explanation about the data. Older waveform data in SAC format (1981 - March 1995) will be made available on the FTP site upon request.

For more information on matters discussed in this report or general earthquake information (reports, maps, catalogs, etc.) consult our web-sites www-erl.mit.edu/NESN and www.bc.edu:80/bc_org/avp/cas/wesobs/ or contact:

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Explanation of Tables

Table 1: List of personnel operating the NESN

Table 2: List of Seismic and Strong Motion Stations

1. Code = station name
2. Lat = station latitude, degrees north
3. Long = station longitude, degrees west
4. Elev = station elevation in meters
5. Location = geographic location
6. Operator = network operator

Table 3: Earthquake Hypocenter List

1. Date = date event occurred, Yr (year)/Mo (month)/Dy (day)
2. Time = origin time of event, Hr (hour):Mn (minute):Sec (second) in UCT (Universal Coordinated Time, same as Greenwich Mean Time)
3. Lat = event location, latitude north in degrees
4. Long = event location, longitude west in degrees
5. Depth = event depth in kilometers
6. Mag = event magnitude
7. Int = event epicentral intensity
8. Location = event geographic location

Table 4: Earthquake detailed hypocenter and phase data list

Table Header: detailed hypocenter data

1. Geographic location
2. DATE = date event occurred, yr/mo/dy (year/month/day)
3. ORIGIN = event origin time (UCT) in hours, minutes, and seconds
4. LAT N = latitude north in degrees and minutes
5. LONG W = longitude west in degrees and minutes
6. DEPTH = event depth in kilometers
7. MN = Nuttli Lg phase magnitude with amplitude divided by period

8. MC = signal duration (coda) magnitude

   WES: 2.23 Log(FMP) + 0.12Log(Dist) - 2.36 (Rosario, 1979)
   MIT: 2.21 Log(FMP) - 1.7 (Chaplin *et al.*, 1980)

9. ML = local magnitude

   WES: calculated from Wood-Anderson seismograms (Ebel, 1982)
   GSC (Geological Survey of Canada): Richter Lg magnitude

10. GAP = largest azimuthal separation, in degrees, between stations
11. RMS = root mean square error of travel time residual in seconds
12. ERH = standard error of epicenter in kilometers
13. ERZ = standard error of event depth in kilometers
14. Q = solution quality of hypocenter

    A = excellent
    B = good
    C = fair
    D = poor

Table Body: earthquake phase data

1. STN = station name
2. DIST = epicentral distance in kilometers
3. AZM = azimuthal angle in degrees measured clockwise between true north and vector pointing from epicenter to station
4. Description of onset of phase arrival

   I = impulsive
   E = emergent

5. R = phase

   P = first P arrival
   S = first S arrival

6. M = first motion direction of phase arrival

   U = up or compression
   D = down or dilatation

7. K = weight of arrival

   0 = full weight (1.0)
   1 = 0.75 weight
   2 = 0.50 weight
   3 = 0.25 weight
   4 = no weight (0.0)

8. HRMN = hour and minute of phase arrival
9. SEC = second of phase arrival
10. TCAL = calculated travel time of phase in seconds
11. RES = travel time residual (error) of phase arrival
12. WT = weight of phase used in hypocentral solution
13. AMX = peak-to-peak ground motion, in millimicrons, of the maximum envelope amplitude of vertical-component signal, corrected for system response
14. PRX = period in seconds of the signal from which amplitude was measured
15. XMAG = Nuttli magnitude recorded at station
16. FMP = signal duration (coda), in seconds, measured from first P arrival
17. FMAG = coda magnitude recorded at station

Table 5: Microearthquakes and other non-locatable events

1. Date = date event occurred, Yr (year)/Mo (month)/Dy (day)
2. Sta = nearest station recording event
3. Arrival Time = phase arrival time, Hr (hour):Mn (minute):Sec (second)

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TABLE 1

WESTON OBSERVATORY PERSONNEL

Name	Network Position	voice phone	email address
John E. Ebel	Principal Investigator	617-552-8319	ebel@bc.edu
Alan Kafka	Research Seismologist	617-552-8300	kafka@bcvms.bc.edu
Susan O'Connor	Seismic Analyst	617-552-8337	dannolfo@bc.edu
Edward Johnson	Project Engineer	617-552-8332	johnson@bcvms.bc.edu
Patricia Tassia	Administrative Secretary	617-552-8311	tassia@bcvms.bc.edu

W. Richard Ott, S.J.	Assistant to the Director	617-552-8335	ottwi@mail1.bc.edu
Weston Observatory		617-552-8300 617-552-8388 (FAX)	

MIT/ERL PERSONNEL

Name	Network Position	voice phone	email address
M. Nafi Toksöz	Principal Investigator	617-253-7852	toksoz@mit.edu
Robert Cicerone	Research Seismologist	617-253-7863	cicerone@erl.mit.edu
Heather Hooper	Seismic Analyst	617-253-6290	
Sara Brydges	Administrator	617-253-7797	sara@erl.mit.edu
Earth Resources Lab		617-253-8027 617-253-6385 (FAX)	

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TABLE 2

SEISMIC STATIONS OF THE NEW ENGLAND SEISMIC NETWORK

Code	Lat	Long	Elev (m)	Location	Operator
BCX	42.3350	-71.1705	61.0	Chestnut Hill, MA	WES
BRY	41.9178	-71.5388	380.0	Smithfield, RI	WES
DNH	43.1225	-70.8948	24.0	Durham, NH	MIT
DXB	42.0610	-70.6992	8.0	Duxbury, MA	MIT
GLO	42.6403	-70.7272	15.2	Gloucester, MA	MIT
HNH	43.7050	-72.2860	180.0	Hanover, NH	WES
MIM	45.2436	-69.0403	140.0	Milo, ME	WES
NH1	43.5473	-71.5743	402.0	Sanbornton, NH	WES
QUA2	42.2789	-72.3525	168.0	Belchertown, MA	WES
TRY	42.7311	-73.6669	131.0	Troy, NY	WES
VT1	44.3317	-72.7536	410.0	Waterbury, VT	WES
WES	42.3850	-71.3220	60.0	Weston, MA	WES
WFM	42.6106	-71.4906	87.5	Westford, MA	MIT
WVL	44.5648	-69.6575	85.0	Waterville, ME	WES
YLE	41.3100	-72.9269	914.0	New Haven, CT	WES
PQI	46.6710	-68.0168	175.0	Presque Isle, ME	WES

STRONG MOTION STATIONS OF THE NEW ENGLAND SEISMIC NETWORK

Code	Lat	Long	Location	Operator
SM1	44.90	-67.25	Dennysville, ME	WES
SM2	44.49	-73.10	Essex Junction, VT	WES
SM3	41.45	-71.33	Newport, RI	WES
SM4	42.38	-71.32	Weston, MA	WES
SM5	42.66	-71.30	Lowell, MA	WES
SM6	42.30	-71.34	Natick, MA	WES
SM7	42.39	-71.54	Hudson, MA	WES
SM8	44.48	-69.61	North Vassalboro, ME	WES

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TABLE 3

EARTHQUAKE HYPOCENTER LIST
NEW ENGLAND AND ADJACENT REGIONS
July - September, 2000

< /tr>

Date Yr/Mo/Dy	Time Hr:Mn:Sec	Lat	Long	Depth (km)	Mag	Int	Location
2000/07/12	15:01:48.99	47.6075	-71.1273	7.33	3.5		PQ, 45 KM W OF BAIE ST PAUL
2000/08/06	06:21:17.58	44.3948	-74.3575	.22	2.8		NY, ADIRONDACK MTNS
2000/08/06	08:52:23.88	46.3118	-74.9735	.53	4.0		PQ, WESTERN QUEBEC SEISMIC ZONE
2000/08/20	12:40:51.48	42.1040	-72.7543	15.14	1.9		MA, RUSSELL
2000/08/22	05:45:16.03	41.4647	-73.5120	1.55	2.7		CT, 10 MILES WNW OF DANBURY
2000/08/22	06:59:36.23	44.5922	-67.5538	19.95	2.1		ME, 11 KM SE OF MACHIAS
2000/09/07	10:07:42.39	44.3427	-69.4576	2.57	3.2		ME, 20 KM E OF AUGUSTA
2000/09/20	04:59:08.15	44.0105	-73.0832	17.97	2.6		VT, MIDDLEBURY

* indicates Mc rather than Mn.

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TABLE 4

EARTHQUAKE PHASE DATA LIST
NEW ENGLAND AND ADJACENT REGIONS
July - September, 2000

```
SOUTHEAST MAINE CRUSTAL MODEL
00JUL12 PQ, 45KM W OF BAIE ST PAUL

 DATE      ORIGIN     LAT N     LONG W    DEPTH    MN  MC   ML GAP    RMS   ERH   ERZ Q
   712 15 1 48.99 47-36.45  71- 7.64    7.33   3.5 3.3        95   0.37   1.7   2.2 C

 STN   DIST AZM   RMK HRMN    SEC    TOBS    TCAL    RES    WT AMX PRX XMAG FMP FMAG
 DAQ   40.6 348 EP 3 15 1 57.76    8.77    6.72   1.88 0.01
                ES 4 15 1 64.13   15.14   11.97   2.88 0.00
 A54   56.4 107 EP 1 15 1 58.31    9.32    9.21   0.04 1.68
                ES 2 15 1 65.29   16.30   16.40  -0.21 1.12
 LMQ   60.6  96 EP 0 15 1 59.10   10.11    9.88   0.16 2.22
                ES 1 15 1 66.60   17.61   17.59  -0.11 1.67
 A61   78.4  83 EP 0 15 2  2.06   13.07   12.70   0.35 2.14
                ES 1 15 2 11.60   22.61   22.61  -0.02 1.62
 A11   81.0 120 EP 1 15 2  1.85   12.86   13.13  -0.28 1.60
 A16   85.6 100 EP 1 15 2  2.89   13.90   13.85   0.04 1.61
                ES 3 15 2 13.12   24.13   24.66  -0.53 0.51
 A64   96.0  75 EP 0 15 2  4.62   15.63   15.50   0.11 2.11
                ES 2 15 2 16.33   27.34   27.58  -0.28 1.04
 A21  108.4  84 EP 0 15 2  6.59   17.60   17.48   0.12 2.07
                ES 2 15 2 19.77   30.78   31.11  -0.34 1.02
 DPQ  162.2 231 EP 1 15 2 14.32   25.33   25.56  -0.23 1.42
                ES 4 15 2 32.67   43.68   45.49  -1.82 0.00
 PQI  258.1 114 EP 2 15 2 27.44   38.45   37.39   1.03 0.58 270 .19   3.3 183   3.2
                ES 4 15 2 58.38   69.39   66.56   2.78 0.00
 MOQ  269.4 199 EP 2 15 2 27.36   38.37   38.79  -0.56 0.74
                ES 4 15 2 67.64   78.65   69.05   9.35 0.00
 CNQ  294.0  50 EP 0 15 2 31.05   42.06   41.82   0.20 1.47
 MNT  302.2 219 EP 1 15 2 31.69   42.70   42.84  -0.15 1.08
                ES 4 15 2 61.42   72.43   76.26  -3.83 0.00
 TRQ  303.3 239 EP 2 15 2 31.34   42.35   42.97  -0.62 0.67
 GSQ  331.5  64 EP 1 15 2 35.96   46.97   46.46   0.50 0.98
 ICQ  355.2  53 EP 1 15 2 38.11   49.12   49.39  -0.28 0.94
                ES 3 15 2 76.37   87.38   87.91  -0.55 0.30
 WVL  360.2 162 EP 2 15 2 40.10   51.11   50.00   1.09 0.42 270 .19   3.6 197   3.3
                ES 4 15 2 83.90   94.91   89.01   5.88 0.00
 MNQ  367.8  28 EP 0 15 2 40.23   51.24   50.94   0.30 1.22
                ES 2 15 2 79.22   90.23   90.67  -0.44 0.60
 GRQ  376.1 253 EP 3 15 2 39.90   50.91   51.97  -1.06 0.19
                ES 4 15 2 79.09   90.10   92.50  -2.40 0.00
 GAC  394.4 238 EP 2 15 2 42.60   53.61   54.22  -0.62 0.54
                ES 4 15 2 83.35   94.36   96.52  -2.16 0.00
 OTT  429.7 235 EP 2 15 2 48.50   59.51   58.58   0.93 0.42
                ES 2 15 2 94.30  105.31  104.28   1.03 0.38
 WBO  431.4 228 EP 1 15 2 47.66   58.67   58.79  -0.12 0.77
                ES 4 15 2 91.21  102.22  104.65  -2.43 0.00
 SMQ  435.7  48 EP 1 15 2 48.19   59.20   59.32  -0.18 0.76
                ES 3 15 2 93.33  104.34  105.59  -1.36 0.06
 HNH  443.0 192 IP 4 15 2 55.90   66.91   60.22   6.65 0.00 195 .28   3.6 198   3.4
                ES 4 15 2 11.99   23.00  107.20-84.26 0.00
 LMN  521.4 112 EP 3 15 2 57.45   68.46   69.90  -1.44 0.03
 WES  580.6 182 IP 4 15 3 12.10   83.11   77.21   5.88 0.00 120 .36   3.5 233   3.5
                ES 4 15 3 87.99  159.00  137.44  21.54 0.00
 EEO  612.7 260 EP 4 15 3  8.13   79.14   81.18  -2.04 0.00
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                ES 4 15 3 10.58  81.59 144.50-62.91 0.00
 BRY 633.1 183 ES 4 15 4 46.72 177.73 148.98 28.75 0.00
 EFO 814.8 232 EP 3 15 3 37.02 108.03 106.13  1.90 0.00
                ES 4 15 3 53.01 124.02 188.91-64.89 0.00

NORTHERN NY AND ADIRONDACKS
00AUG06 NY, ADIRONDACK MTNS

 DATE     ORIGIN    LAT N    LONG W   DEPTH    MN  MC  ML GAP   RMS  ERH  ERZ Q
   806  621 17.58 44-23.69  74-21.45   0.22  2.8 2.6     308  0.26  4.1  5.0 C

 STN  DIST AZM  RMK HRMN   SEC   TOBS   TCAL   RES   WT AMX PRX XMAG FMP FMAG
 VT1 128.0  93 EP 2  621 37.20  19.62  19.88 -0.27 1.00 324 .07  3.1 100  2.5
                ES 3  621 53.77  36.19  35.38  0.78 0.25
 HNH 182.8 115 EP 3  621 45.52  27.94  28.18 -0.26 0.43 193 .22  2.9  56  2.2
                ES 0  621 67.64  50.06  50.15 -0.14 1.77
QUA2 285.9 145 EP 0  621 59.22  41.64  41.58  0.04 1.29  38 .14  2.7 139  3.0
                ES 0  621 91.95  74.37  74.01  0.31 1.26
 WES 332.2 132 EP 4  622  3.58  46.00  47.29 -1.30 0.00  25 .13  2.7  87  2.7
                ES 4  622 47.01  89.43  84.18  5.23 0.00
 YLE 362.1 161 EP 4  622 34.42  76.84  50.98 25.86 0.00  24 .18  2.6
                ES 4  622 54.39  96.81  90.75  6.06 0.00
 WVL 373.4  88 EP 4  622 22.07  64.49  52.38 12.10 0.00
                ES 4  622 54.33  96.75  93.24  3.50 0.00

SOUTHEAST MAINE CRUSTAL MODEL
00AUG06 PQ, WESTERN QUEBEC SEISMIC ZONE

 DATE     ORIGIN    LAT N    LONG W   DEPTH    MN  MC  ML GAP   RMS  ERH  ERZ Q
   806  852 23.88 46-18.71  74-58.41   0.53  4.0 3.6     285  0.08  4.9  4.3 C

 STN  DIST AZM  RMK HRMN   SEC   TOBS   TCAL   RES   WT AMX PRX XMAG FMP FMAG
 DPQ 173.5  76  P 0  852 51.47  27.59  27.68 -0.09 1.63
                S 1  852 73.18  49.30  49.28  0.03 1.22
 MOQ 238.8 118  P 0  852 59.72  35.84  35.75 -0.05 1.35
 VT1 280.6 142 EP 0  853  4.78  40.90  40.91 -0.02 1.17
                ES 4  853 37.05  73.17  72.81  0.32 0.00
 HNH 358.9 144 EP 0  853 14.57  50.69  50.58  0.09 0.83 209 .24  3.4 280  3.6
                ES 4  853 59.87  95.99  90.02  5.92 0.00
 LMQ 379.9  69  P 0  852 77.27  53.39  53.16  0.16 0.74
 QUA 475.7 154 EP 0  853 30.76  66.88  64.99  1.87 0.00**** .32  5.4 320  3.7
                ES 4  853 91.33 127.45 115.68 11.72 0.00
 WES 524.7 146 EP 4  853 34.04  70.16  71.04 -0.89 0.00 173 .24  3.8
 PQI 535.5  86 EP 0  853 36.41  72.53  72.38  0.13 0.06 130 .31  3.5
                ES 4  853 82.19 118.31 128.83-10.57 0.00
 YLE 579.7 163 EP 4  853 53.54  89.66  77.83 11.84 0.00 470 .52  3.9

SOUTH & COASTAL NEW ENGLAND, CHIBURIS, 1979
00AUG20 MA, RUSSELL

 DATE     ORIGIN    LAT N    LONG W   DEPTH    MN  MC  ML GAP   RMS  ERH  ERZ Q
   820 1240 51.48 42- 6.24  72-45.26  15.14  1.9         183  0.10  3.7  7.5 C

 STN  DIST AZM  RMK HRMN   SEC   TOBS   TCAL   RES   WT AMX PRX XMAG FMP FMAG
 YLE  89.3 189 ES 1 1241 17.20  25.72  25.73 -0.01 1.35
 WES 122.3  75 EP 0 1241 11.01  19.53  19.47  0.05 1.67  22 .08  1.9
                ES 1 1241 26.12  34.64  34.66 -0.03 1.25
 HNH 182.0  12 EP 2 1241 19.05  27.57  27.54  0.00 0.72
                ES 3 1241 38.07  46.59  49.03 -2.49 0.01

SE OF NEW YORK, HUGHES & LUETGERT
00AUG22 CT, 10 MI WNW OF DANBURY

 DATE     ORIGIN    LAT N    LONG W   DEPTH    MN  MC  ML GAP   RMS  ERH  ERZ Q
   822  545 16.03 41-27.88  73-30.72   1.55  2.7 2.6     273  0.21  0.0  0.0 B

 STN  DIST AZM  RMK HRMN   SEC   TOBS   TCAL   RES   WT AMX PRX XMAG FMP FMAG
 YLE  51.9 109 IP 0  545 23.82   7.79   7.97 -0.18 1.39 149 .11  2.1
                IS 1  545 30.49  14.46  14.19  0.27 1.06
 WES 208.5  61 EP 4  545 45.22  29.19  31.88 -2.70 0.00  40 .08  2.6
                ES 0  545 72.63  56.60  56.75 -0.17 0.95
 HNH 268.5  22 EP 1  545 55.95  39.92  39.67  0.21 0.60  30 .19  2.4  78  2.6
                ES 3  545 88.64  72.61  70.62  1.94 0.00
 VT1 324.5  11 EP 4  546  9.00  52.97  46.58  6.37 0.00 364 .37  3.5
                ES 4  546 43.30  87.27  82.92  4.32 0.00

SOUTHEAST MAINE CRUSTAL MODEL
00AUG22 ME, 11 KM SE OF MACHIAS

 DATE     ORIGIN    LAT N    LONG W   DEPTH    MN  MC  ML GAP   RMS  ERH  ERZ Q
   822  659 36.23 44-35.53  67-33.23  19.95  2.1         174  0.48  1.8  3.2 C

 STN  DIST AZM  RMK HRMN   SEC   TOBS   TCAL   RES   WT AMX PRX XMAG FMP FMAG
 WVL 167.9 268 IP 2  7 0  2.23  26.00  25.00  0.99 1.32  33 .20  2.1
                IS 2  7 0 21.68 ******  44.50  0.93 1.35
 PQI 233.9 351 EP 3  7 0 11.41  35.18  33.15  2.00 0.05  20 .29  2.0
                ES 4  7 0 39.41 ******  59.00  4.13 0.00
 LMN 257.3  57 EP 1  7 0 12.60  36.37  36.04  0.33 1.69
                ES 0  7 0 40.30 ******  64.15 -0.09 2.26
LBNH 350.5 264 EP 1  7 0 23.69  47.46  47.54 -0.15 1.15
                ES 1  7 0 60.68 ******  84.63 -0.29 1.14
 A16 372.0 329 EP 0  7 0 26.41  50.18  50.20 -0.02 1.37
                ES 3  7 0 66.97 ******  89.35  1.39 0.21
 MOQ 379.2 282 EP 2  7 0 26.70  50.47  51.08 -0.75 0.61
                ES 4  7 0 64.42 ******  90.93 -2.99 0.00
 A21 383.3 334 EP 0  7 0 27.84  51.61  51.59  0.02 1.28
                ES 0  7 0 67.98 ******  91.83 -0.08 1.28
 A54 387.9 325 EP 1  7 0 28.00  51.77  52.16 -0.45 0.92
                ES 1  7 0 68.89 ******  92.84 -0.29 0.93
 WES 391.2 231 EP 1  7 0 28.51  52.28  52.57 -0.30 0.91   7 .15  2.3
                ES 2  7 0 69.10 ******  93.57 -0.72 0.58
 LMQ 392.4 327 EP 2  7 0 28.30  52.07  52.71 -0.71 0.58
                ES 0  7 0 70.08 ******  93.82 -0.10 1.21
 A61 396.7 330 EP 1  7 0 29.23  53.00  53.24 -0.25 0.89
```

```
                ES 1  7 0 70.73 ******  94.77 -0.29 0.88
 GSQ 481.7    4 EP 1  7 0 40.32  64.09  63.74  0.34 0.39
                ES 4  7 0 86.74 ****** 113.45 -2.96 0.00
 CNQ 525.1  356 ES 4  7 1 37.21 ****** 123.00 -2.08 0.00
 ICQ 548.4    2 EP 4  7 0 43.71  67.48  71.98 -4.51 0.00

SOUTHEAST MAINE CRUSTAL MODEL
 00SEP07 ME, 20 KM E OF AUGUSTA

 DATE      ORIGIN     LAT N     LONG W    DEPTH    MN  MC  ML GAP   RMS  ERH  ERZ Q
   907 10 7 42.39 44-20.56   69-27.46    2.57   3.2 2.7      143  0.51  2.0  1.9 D

 STN   DIST AZM   RMK HRMN    SEC    TOBS    TCAL    RES    WT AMX PRX XMAG FMP FMAG
 WVL   26.7 321 IPD0 10 7 47.06    4.67    4.51   0.16 3.76                 116  2.5
                ES 0 10 7 49.74    7.35    8.02 -0.69 3.64
 DNH 178.3 221 EPC2 10 8 10.84   28.45   28.05   0.41 1.34
                ES 1 10 8 32.16   49.77   49.92 -0.15 2.00
LBNH 197.3 267 EP 2 10 8 13.71   31.32   30.39   0.88 1.23
                ES 0 10 8 36.81   54.42   54.09   0.23 2.54
 GLO 215.2 208 EPC2 10 8 15.40   33.01   32.60   0.42 1.20
                ES 1 10 8 40.08   57.69   58.02 -0.33 1.79
 HNH 237.6 253 EPD0 10 8 17.96   35.57   35.36   0.18 2.25 185 .13  3.2 120  2.8
                ES 4 10 8 48.35   65.96   62.95   2.96 0.00
 MOQ 246.1 296 EP 1 10 8 19.37   36.98   36.41   0.43 1.64
                ES 3 10 8 50.36   67.97   64.81   2.91 0.02
 WFM 253.1 221 EPD3 10 8 20.39   38.00   37.28   0.72 0.53
                ES 2 10 8 48.61   66.22   66.35 -0.15 1.07
 BCX 262.8 212                                          119 .15  3.1  93 2.5
 VT1 263.0 270 EP 4 10 8 25.11   42.72   38.50   4.20 0.001065 .19  3.9
                ES 1 10 8 51.60   69.21   68.53   0.64 1.53
 WES 264.8 215 EPD3 10 8 21.83   39.44   38.72   0.71 0.51 100 .12  3.1 129  2.9
                ES 1 10 8 50.77   68.38   68.92 -0.56 1.51
 PQI 282.2   24 EPD3 10 8 26.04   43.65   40.87   2.75 0.03 108 .31  2.9 120  2.9
                ES 3 10 8 58.31   75.92   72.76   3.11 0.00
 BRY 318.2 212 EPD1 10 8 27.19   44.80   45.32 -0.51 1.24  90 .17  3.1  97  2.7
                ES 2 10 8 61.65   79.26   80.66 -1.40 0.68
 A11 327.4 350 EP 2 10 8 29.00   46.61   46.45   0.15 0.80
                ES 4 10 8 71.14   88.75   82.68   6.05 0.00
 A16 350.0 353 ES 4 10 9 16.75   94.36   87.65   6.71 0.00
 A54 354.0 348 EP 3 10 8 31.69   49.30   49.73 -0.49 0.35
 LMQ 362.6 349 EP 3 10 8 32.52   50.13   50.80 -0.74 0.33
                ES 4 10 8 80.38   97.99   90.42   7.45 0.00
 DPQ 367.2 315 EP 2 10 8 33.84   51.45   51.36   0.09 0.66
 A21 374.0 357 EP 3 10 8 34.21   51.82   52.20 -0.38 0.31
                ES 3 10 8 75.38   92.99   92.92   0.07 0.32
 A61 375.7 352 EP 3 10 8 34.24   51.85   52.41 -0.57 0.31
 A64 388.7 355 ES 4 10 9 29.31 106.92   96.16 10.73 0.00
 LMN 402.7  65 EP 3 10 8 37.84   55.45   55.75 -0.30 0.26
                ES 4 10 8 80.10   97.71   99.24 -1.52 0.00
 DAQ 425.5 341 EP 1 10 8 41.64   59.25   58.56   0.54 0.66
                ES 4 10 8 96.77 114.38 104.23   9.87 0.00
LSCT 426.6 226 EP 2 10 8 41.54   59.15   58.69   0.41 0.44
                ES 3 10 8 85.48 103.09 104.47 -1.46 0.17
 TRQ 451.1 298 EP 3 10 8 43.21   60.82   61.72 -0.90 0.17
 WBO 466.9 279 EP 0 10 8 46.36   63.97   63.67   0.31 0.60
 GAC 498.2 288 EP 3 10 8 49.37   66.98   67.54 -0.56 0.09
 PAL 520.2 225 EP 4 10 8 50.20   67.81   70.25 -2.44 0.00
 GSQ 539.1  19 EP 2 10 8 55.20   72.81   72.59   0.22 0.04
 CNQ 561.4  11 EP 3 10 8 56.78   74.39   75.34 -0.97 0.00
 ICQ 599.4  16 EP 3 10 9  1.72   79.33   80.03 -0.70 0.00
                ES 4 10 9 61.42 139.03 142.45 -3.43 0.00
 SMQ 686.1  18 EP 4 10 9 11.82   89.43   90.73 -1.36 0.00
 EEO 793.8 289 EP 2 10 9 26.11 103.72 104.03 -0.30 0.00

NORTHERN NY AND ADIRONDACKS
 00SEP20 VT, MIDDLEBURY

 DATE      ORIGIN     LAT N     LONG W    DEPTH    MN  MC  ML GAP   RMS  ERH  ERZ Q
   920  459  8.15 44- 0.63   73- 4.99   17.97   2.6 1.8      219  0.38  5.0  4.9 D

 STN   DIST AZM   RMK HRMN    SEC    TOBS    TCAL    RES    WT AMX PRX XMAG FMP FMAG
 VT1   44.3  36 EPC1  459 15.27    7.12    7.36 -0.27 1.44 189 .12  2.2  31  1.4
                ES 0  459 21.51   13.36   13.11   0.22 1.94
 HNH   72.5 118 IPD1  459 19.67   11.52   11.47   0.02 1.38  65 .09  2.0  60  2.0
                ES 0  459 28.51   20.36   20.41 -0.11 1.84
 QUA 181.9 162 EPD2  459 34.48   26.33   27.10 -0.81 0.621799 .08  4.1  45  2.0
                ES 1  459 56.93   48.78   48.24   0.48 1.04
 WES 230.5 142 EPD3  459 43.03   34.88   33.10   1.76 0.01   7 .13  1.8
                ES 3  459 66.35   58.20   58.92 -0.74 0.27
 YLE 300.3 178 EP 2  459 50.57   42.42   41.72   0.70 0.45
                ES 4  459 69.98   61.83   74.27-12.44 0.00
 PQI 495.3  53                                          4 .07  3.1
```

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TABLE 5

MICROEARTHQUAKES AND OTHER NON-LOCATABLE EVENTS

Date Yr/Mo/Dy	Sta	Arrival Time Hr:Mn:Sec
None recorded this period.		

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NESN Station Map

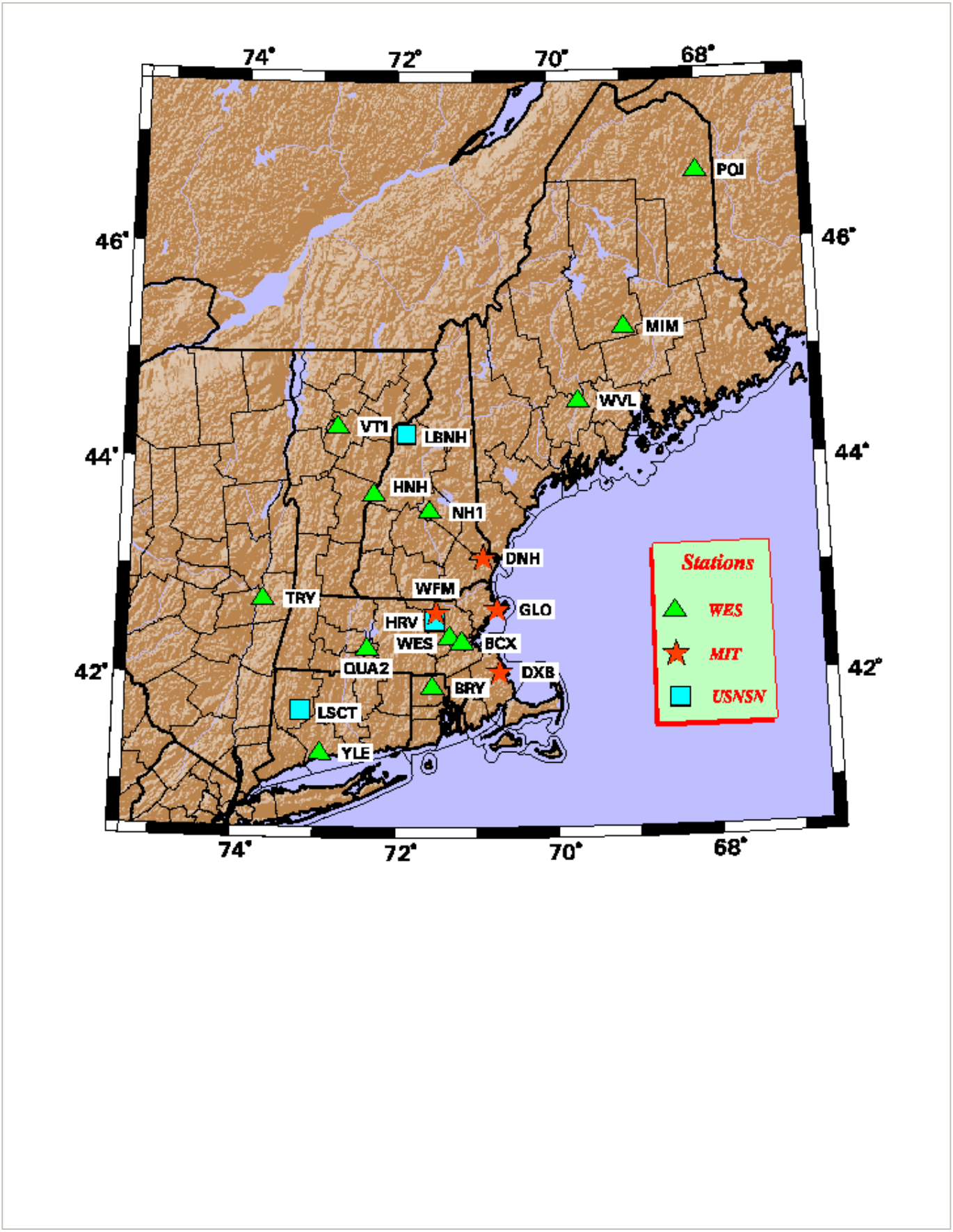

Figure 1: Map of stations of the New England Seismic Network (NESN) in operation during period July - September, 2000. Also included are the US National Seismic Network stations operating in New England during this period.

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NESN Strong-Motion Station Map

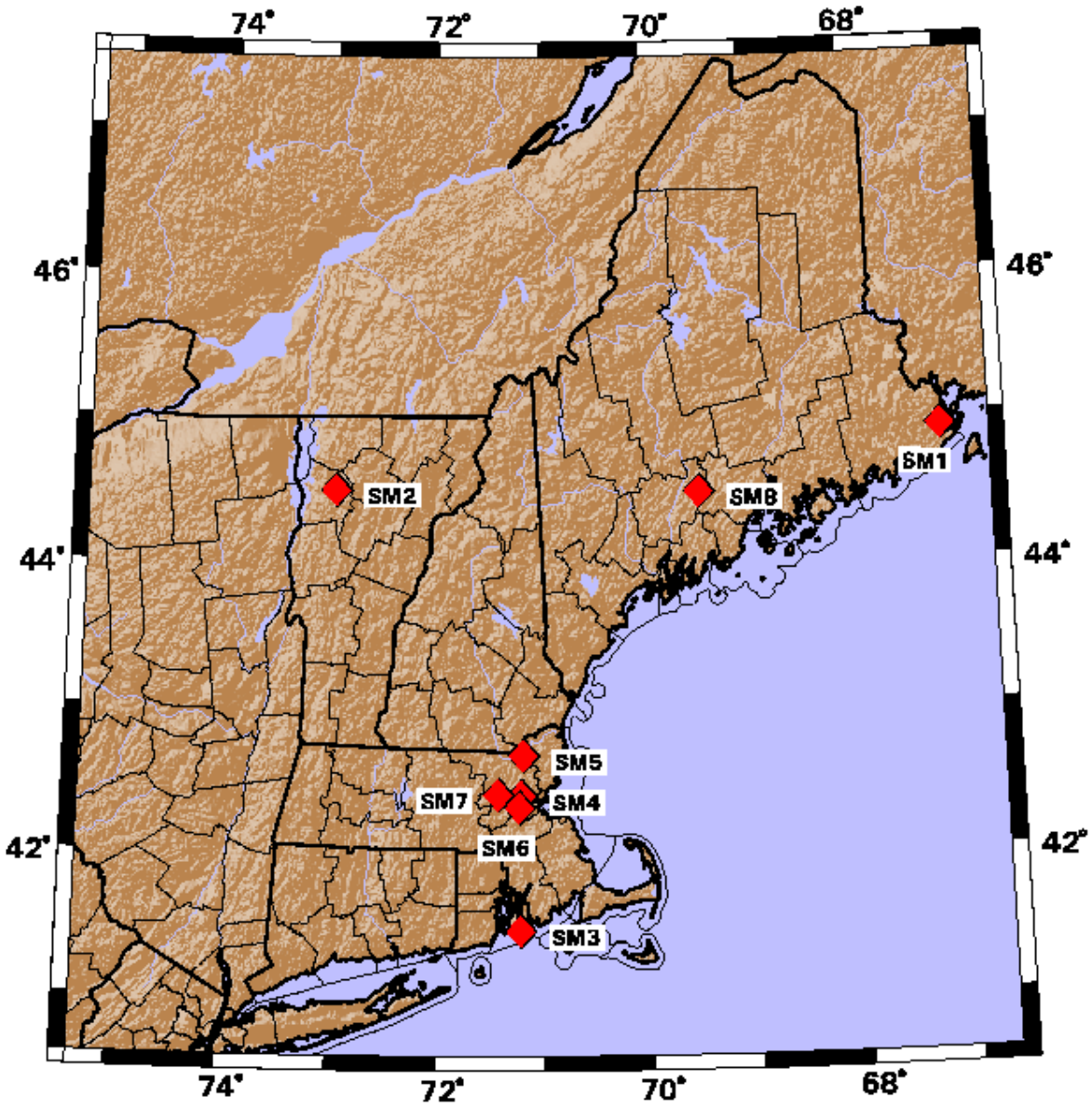

Figure 2: Map of strong-motion stations of the New England Seismic Network (NESN) in operation during period July - September, 2000.

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NESN Quarterly Seismicity Map

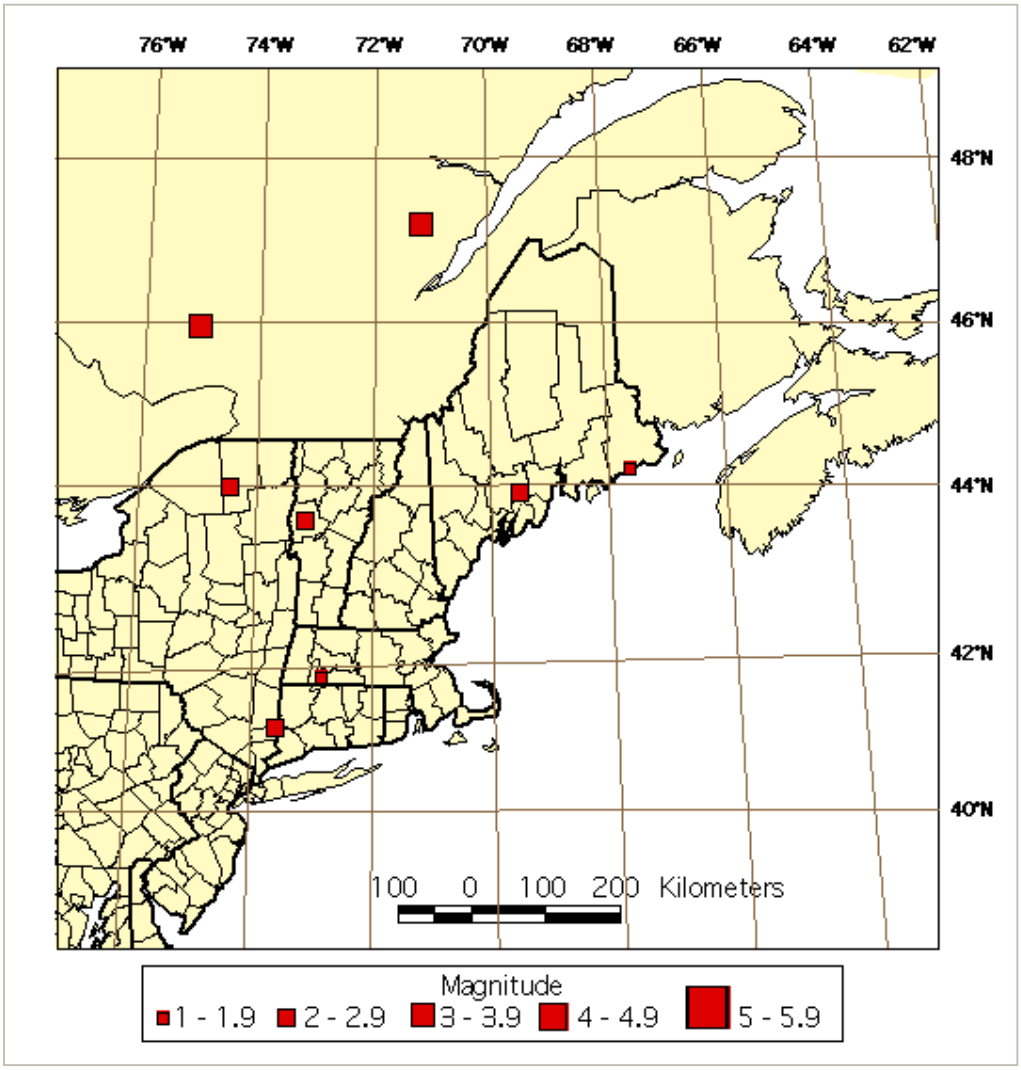

Figure 3: Earthquake epicenters located by the NESN during period July - Spetember, 2000.

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NESN Cumulative Seismicity Map

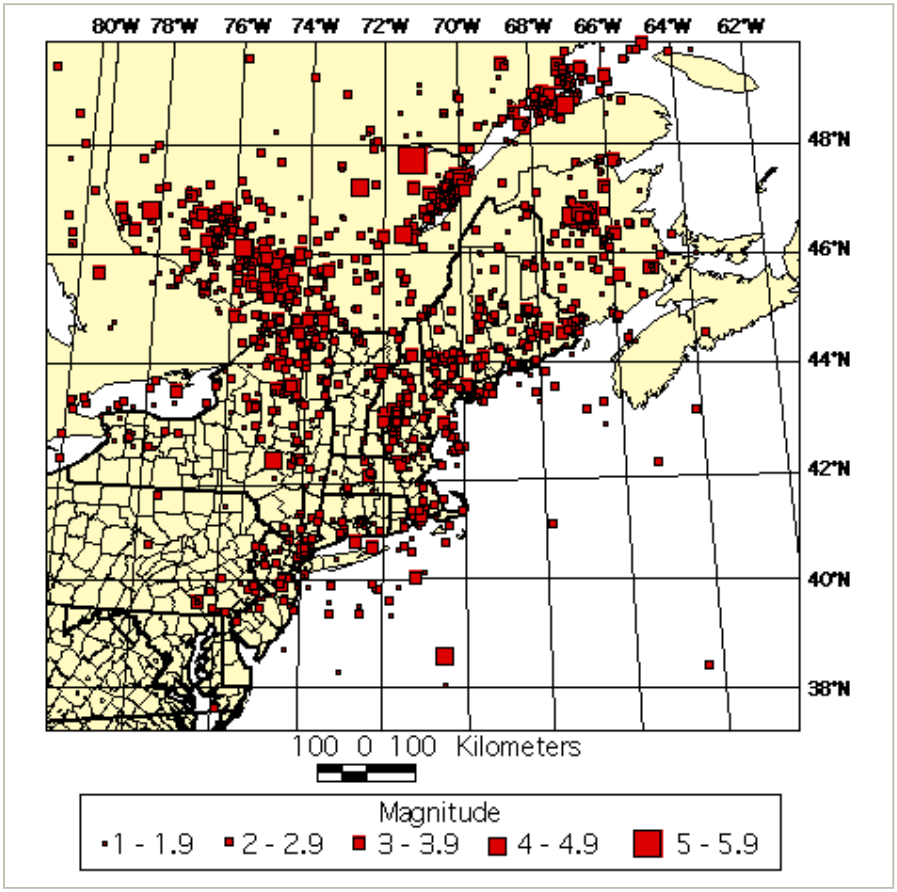

Figure 4: Seismicity for period October, 1975 - September, 2000.

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Acknowledgments

We would like to thank the Undergraduate Research Opportunities Program (UROP) of MIT for its support to the network. Our map database has been developed in-house using ARCINFO and in part basemap data provided by ESRI, Inc. (Arcdata Online), USGS GTOPO30 Elevation Data, and TIGER/Line '94, '95, and '97 (US Census Bureau) spatial data.

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