NESN

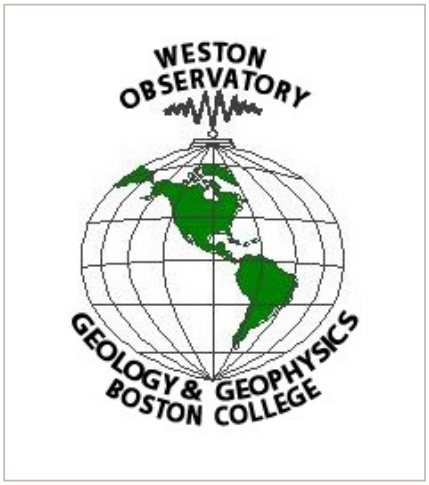
A STUDY OF NEW ENGLAND SEISMICITY

Quarterly Earthquake Report

January-March, 2005

New England

Seismic Network



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NEW ENGLAND SEISMIC NETWORK

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Notice

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Introduction

The New England Seismic Network (NESN) is operated by the Weston Observatory (WES) of Boston College. 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 ofthe 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 January-March, 2005. 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 9 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 of Weston Observatory of Boston College currently consists of 11 broadband three-component and 8 analog 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. The 11 stations consist 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 also maintains 8 SMA-1 strong-motion instruments in New England.

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Seismicity

There were 9 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 at www.bc.edu/research/westonobservatory/northeast/recenteqs/. Waveform data are saved in Nanometrics, ASCII, and SEED formats and are available by contacting, Anastasia Macherides Moulis, via email. Earthquake lists can be found at www.bc.edu/research/westonobservatory/northeast/eqcatalogs/. Currently available on the Weston Observatory web page is the full catalog of northeastern U.S. earthquake activity to the present time. This will be updated as new Northeastern U.S. Seismic Network Quarterly Earthquake Reports are produced.

For more information on matters discussed in this report or general earthquake information (reports, maps, catalogs, etc.) consult our web site www.bc.edu/westonobservatory 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 = st ation 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. D ate = 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 se paration, 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 arr ival

   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 arriva l
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 = sign al 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 = neares t 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@bc.edu
Anastasia Macherides Moulis	Seismic Analyst	617-552-8325	macherid@bc.edu
Dina Smith	Associate Director, Operations	617-552-8335	dina.smith.1@bc.edu
Michael Hagerty	NESN Operator	617-552-8337	hagertmb@bc.edu
Weston Observatory		617-552-8300 617-552-8388 (FAX)	

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
BRYW	41.9178	-71.5388	380.0	Smithfield, RI	WES
FFD	43.4702	-71.6533	131.0	Franklin Falls Dam, NH	
HNH	-72.2860	180.0	Hanover, NH	WES	
QUA2	42.2789	168.0	WES		
TRY *	42.7311	-73.6669	131.0		
44.7100	-67.4583	35.0	Machias, ME	WES	
VT1	44.3317	-72.7536	410.0	Waterbury, VT	WES
-71.3220	60.0	Weston, MA	WES		
WVL	44.5648	-69.6575	85.0	Waterville, ME	
41.3100	-72.9269	10.0	New Haven, CT	WES	
-68.0168	175.0	Presque Isle, ME	WES		

* = not in operation during this quarter

STRONG MOTION STATIONS OF THE NEW ENGLAND SEISMIC NETWORK

Code	Lat	Long	Location	Operator
SM1	44.90	-67.25	Dennysville, ME	WES
44.49	Essex Junction, VT	WES		
SM3	41.45	-71.33	WES	
42.38	-71.32	Weston, MA	WES	
SM5	42.66	Lowell, MA		
SM6	42.30	-71.34	Natick, MA	WES
Huds on, MA	WES			
SM8	44.48	-69.61	North Vassalboro, ME	

WES 43.7050 -72.3525 Belchertown, MATroy, NY WES UMM WES 42.3850 WES YLE PQI 46.6710 SM2 -73.10Newport, RI SM4 -71.30 WES SM7 42.39 -71.54 WES

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TABLE 3

EVENTS IN NEW ENGLAND AND ADJACENT REGIONS

Date	Time (UTC)	Lat	Long	Depth	Mag	Int	Location
M/D/Y	Hr:Mn:Sec			(km)			
01/05/2005	15:32:44.78	47.0135	-66.6108	22.02	3.6		CANADA, 65km ENE of Plaster Rock, N.B.
01/08/2005	20:30:00.92	43.3090	-71.6925	08.89	1.4		NH, 9.7km SSW of Franklin, 16km NW of Concord
01/08/2005	21:11:23.64	47.0593	-66.7002	22.78	3.2		CANADA, 54km ENE of Plaster Rock, N.B.
01/25/2005	07:33:51.19	43.2867	-56.3079	18.00	4.7		**CANADA, 410km SE of Louisbourg, offshore N.S.
01/30/2005	18:06:46.21	48.0477	-77.9733	19.68	3.3		CANADA, 13km WSW of Val-d?Or, Quebec
03/03/2005	02:22:02.16	45.0287	-74.2137	00.32	2.8		CANADA, 8km SSW of Huntingdon, Quebec
03/06/2005	06:17:49.35	47.6315	-69.7420	00.02	5.3		**CANADA, 26km SW of Riviere-Du-Loup, Quebec
03/13/2005	17:08:15.75	46.6757	-80.9203	05.00	3.5		CANADA, 20km NNE of Sudbury, Ontario
03/31/2005	15:13:08.74	46.2765	-75.6429	18.00	3.4		**CANADA, 27km SE of Maniwaki, Quebec

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TABLE 4

EARTHQUAKE PHASE DATA LIST FOR EVENTS IN NEW ENGLAND AND ADJACENT REGIONS

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A5105A.XX
NORTHWEST MAINE CRUSTAL STRUCTURE
05JAN05 CANADA, 65KM (40.4MI) ENE OF PLASTER Rock, N.B.
  DATE     ORIGIN     LAT N     LONG W    DEPTH    MN  MC  ML GAP    RMS  ERH   ERZ Q
  50105 1532 44.78 47-   .81   66-36.65   22.02   3.6  .0      134    .44  1.2   1.9 C
  STN   DIST AZM   RMK HRMN    SEC    TOBS    TCAL    RES    WT AMX PRX XMAG FMP FMAG
  PQI 113.9 250 EP 0 1533   3.09   18.31   18.26    .01 1.70
                ES 0 1533 16.89   32.11   32.51   -.45 1.70
  LMN 189.6 133  P 0 1533 12.75   27.97   28.18   -.27 1.41
  GGN 211.4 184  P 0 1533 15.50   30.72   30.88   -.17 1.32
                 S 0 1533 39.77   54.99   54.96    .01 1.32
  GSQ 214.6 350  P 0 1533 16.33   31.55   31.27    .27 1.31
                 S 0 1533 40.07   55.29   55.66   -.39 1.31
  A21 244.8 288  P 0 1533 20.24   35.46   34.99    .45 1.18
                 S 0 1533 48.10   63.32   62.29   1.01 1.14
  A16 262.5 281  P 0 1533 21.49   36.71   37.18   -.47 1.12
                 S 0 1533 50.36   65.58   66.18   -.60 1.12
  A64 263.6 290  P 0 1533 22.30   37.52   37.32    .18 1.12
                 S 0 1533 51.60   66.82   66.43    .35 1.12
  A61 273.4 286  P 0 1533 23.26   38.48   38.53   -.06 1.08
                 S 0 1533 53.16   68.38   68.58   -.22 1.08
  A11 273.5 275  P 0 1533 24.41   39.63   38.54   1.08 1.02
  CNQ 276.8 337  P 0 1533 23.17   38.39   38.94   -.59 1.07
                 S 0 1533 54.02   69.24   69.32   -.14 1.07
  ICQ 283.2 350  P 0 1533 24.57   39.79   39.73    .04 1.04
                 S 0 1533 55.25   70.47   70.73   -.28 1.04
  LMQ 287.3 282  P 0 1533 25.20   40.42   40.24    .11 1.03
                 S 0 1533 56.42   71.64   71.62   -.11 1.03
  A54 292.3 280  P 0 1533 25.65   40.87   40.86   -.05 1.01
                 S 0 1533 58.09   73.31   72.73    .47 1.00
  HAL 353.2 138  P 0 1533 33.55   48.77   48.38    .37  .77
                 S 0 1533 70.92   86.14   86.12   -.01  .77
  SMQ 356.9 359  P 0 1533 33.07   48.29   48.84   -.62  .75
                 S 0 1533 66.37   81.59   86.94  -5.46  .00
  WVL 364.2 221 EP 0 1533 34.57   49.79   49.74    .04  .73
                ES 4 1533 83.13   98.35   88.53   9.80  .00
  DAQ 364.6 287  P 0 1533 35.38   50.60   49.79    .65  .72
                 S 0 1533 73.20   88.42   88.63   -.50  .72
  MNQ 422.0 338  P 0 1533 42.69   57.91   56.88    .94  .48
                 S 3 1533 87.66  102.88  101.24   1.48  .11
  DPQ 472.2 266  P 0 1533 47.48   62.70   63.07   -.38  .30
                 S 0 1533 96.37  111.59  112.27   -.69  .30
  FFD 558.6 225 EP 0 1533 57.67   72.89   73.74   -.87  .00
  HNH 576.7 230 ES 4 1534 84.60  159.82  135.23  24.54  .00
  MIV 631.8 239  P 0 1534  7.75   82.97   82.78    .14  .00
                 S 3 1534 73.62  148.84  147.35   1.40  .00
  WES 635.7 216 EP 0 1533 67.95   83.17   83.25   -.09  .00 188 .61  3.6
  NCB 684.4 240 EP 0 1533 74.30   89.52   89.26    .15  .00
 ACCN 685.7 234  P 0 1534 14.53   89.75   89.43    .26  .00
                 S 3 1534 85.22  160.44  159.18   1.15  .00
 VLDQ 824.6 279  P 0 1534 31.60  106.82  106.57    .23  .00
A5108A.XX
HUGHES AND LUETGERT NH
05JAN08 NH, 9.7KM (6MI) SSW OF FRANKLIN, 16km (10MI) NW OF CONCORD
  DATE     ORIGIN     LAT N     LONG W    DEPTH    MN  MC  ML GAP    RMS  ERH   ERZ Q
  50108 2030    .92 43-18.54   71-41.55    8.89  1.4          154    .44  2.7   3.0 C
  STN   DIST AZM   RMK HRMN    SEC    TOBS    TCAL    RES    WT AMX PRX XMAG FMP FMAG
  FFD   18.2  10 IPC0 2030   4.65    3.73    3.41    .30 1.42
```

```
                  S 0 2030  6.89   5.97   6.06  -.13 1.42
  HNH  65.1 313 EPC0 2030 11.97  11.05  10.93   .09 1.30  15 .08  1.3
                  S 0 2030 19.88  18.96  19.45  -.55 1.25
  HRV  89.8 173 EP 3 2030 17.70  16.78  14.94  1.81  .03
                  S 2 2030 26.75  25.83  26.60  -.82  .55
  WES 107.1 164 EPC0 2030 19.33  18.41  17.63   .77 1.10  11 .08  1.5
                  S 0 2030 31.88  30.96  31.38  -.44 1.16
  NCB 217.2 290 EP 0 2030 34.40  33.48  33.14   .24  .89
                  S 0 2030 60.29  59.37  58.98   .21  .89
A5108B.XX
NORTHWEST MAINE CRUSTAL STRUCTURE
05JAN08 CANADA, 54KM (33.5MI) ENE OF PLASTER ROCK N.B.
  DATE     ORIGIN    LAT N    LONG W   DEPTH   MN  MC  ML GAP   RMS  ERH  ERZ Q
  50108 2111 23.64 47- 3.56  66-42.01  22.78  3.2  .0      133   .46  1.1  1.7 C
  STN   DIST AZM  RMK HRMN   SEC   TOBS   TCAL   RES   WT AMX PRX XMAG FMP FMAG
  PQI 109.2 247 IPD0 2111 40.38  16.74  17.57  -.86 2.03 920 .13  3.3
                  S 0 2111 55.14  31.51  31.28   .17 2.05
  LMN 197.9 133  P 0 2111 52.75  29.11  29.14  -.08 1.64
                  S 0 2111 75.67  52.03  51.86   .06 1.64
  GSQ 208.5 352  P 2 2111 54.94  31.30  30.45   .84  .79
                  S 1 2111 78.12  54.48  54.20   .26 1.19
  GGN 216.1 182  P 1 2111 54.67  31.03  31.39  -.36 1.17
                  S 0 2111 79.77  56.14  55.87   .25 1.55
  A21 236.8 288  P 0 2111 57.85  34.21  33.94   .26 1.46
                  S 2 2111 84.80  61.16  60.42   .73  .73
  A16 254.4 280  P 0 2111 59.89  36.26  36.12   .14 1.38
                  S 0 2111 88.11  64.47  64.29   .18 1.38
  A64 255.5 290  P 0 2111 59.89  36.26  36.26  -.02 1.37
                  S 0 2111 88.21  64.58  64.54   .00 1.37
  A61 265.5 285  P 0 2112  1.14  37.51  37.49   .01 1.32
                  S 0 2112 30.33  66.70  66.73  -.05 1.32
  A11 265.8 274  P 1 2112  1.63  37.99  37.53   .46  .99
                  S 1 2112 30.77  67.14  66.80   .32  .99
  CNQ 269.5 338  P 1 2112  2.07  38.43  37.98   .42  .98
                  S 1 2112 30.51  66.88  67.61  -.78  .97
  ICQ 277.1 351  P 1 2112  3.05  39.41  38.91   .49  .95
                  S 1 2112 32.27  68.64  69.27  -.65  .94
  LMQ 279.6 281  P 1 2112  2.45  38.82  39.23  -.48  .94
                  S 1 2112 34.05  70.41  69.83   .46  .94
  A54 284.3 279  P 0 2112  3.53  39.90  39.80   .03 1.24
                  S 0 2112 34.57  70.93  70.85  -.02 1.24
  QCQ 350.4 265  P 1 2112 12.15  48.52  47.97   .53  .70
                  S 2 2112 48.10  84.46  85.38  -.95  .45
  SMQ 351.8 360  P 0 2112 11.82  48.18  48.14  -.01  .92
                  S 3 2112 47.98  84.34  85.69 -1.45  .22
  DAQ 356.8 286  P 0 2112 12.71  49.08  48.75   .16  .90
                  S 3 2112 49.56  85.92  86.78 -1.14  .22
  HAL 361.7 138  P 2 2112 13.80  50.16  49.36   .79  .44
                  S 1 2112 51.02  87.39  87.86  -.49  .66
  WVL 363.6 219 EPD1 2112 12.72  49.08  49.60  -.53  .65  64 .17  3.1
                  S 0 2112 60.39  96.76  88.29  8.44  .00
  MNQ 414.9 338  P 2 2112 20.80  57.16  55.93  1.15  .31
                  S 1 2112 62.60  98.96  99.55  -.74  .47
  DPQ 465.0 265  P 0 2112 25.52  61.89  62.12  -.23  .40
                  S 3 2112 72.67 109.03 110.57 -1.53  .09
  FFD 556.8 224  S 0 2113   .62  96.98 130.74-33.79  .00
  MNT 560.7 252  P 0 2112 32.77  69.14  73.94 -4.82  .00
                  S 0 2112   .00  36.36 131.61-95.28  .00
  HNH 574.6 230  S 0 2113 65.38 161.74 134.66 27.04  .00  39 .29  3.1
  TRQ 609.1 261  P 0 2112 42.88  79.24  79.91  -.66  .00
  HRV 635.4 217 EPD0 2113 35.80 132.16  83.16 48.98  .00
                  S 0 2113 77.30 173.66 148.02 25.59  .00
  WES 635.7 215  S 0 2113 79.30 175.66 148.07 27.57  .00  40 .42  3.1
  NCB 680.9 240 EPC0 2112 51.92  88.28  88.78  -.59  .00
  GAC 691.7 257  P 0 2112 53.00  89.36  90.11  -.75  .00
  GRQ 701.1 266  P 0 2112 53.82  90.18  91.27 -1.13  .00
  WBO 702.6 251  P 0 2112 53.92  90.28  91.45 -1.17  .00
 VLDQ 817.2 278  P 0 2113 10.80 107.16 105.59  1.55  .00
                  S 0 2113 91.45 187.82 187.96  -.18  .00
 KGNO 826.4 248  P 0 2113  9.80 106.16 106.73  -.58  .00
                  S 0 2113 90.65 187.02 189.99 -2.99  .00
 CRLO 827.7 262  P 0 2113  9.19 105.55 106.90 -1.37  .00
                  S 0 2113 90.09 186.45 190.28 -3.88  .00
  EEO 944.0 267  P 0 2113 23.56 119.92 121.25 -1.40  .00
 SADO 998.5 255  P 0 2113 26.40 122.77 127.99 -5.26  .00
A5130A.XX
NORTHWEST MAINE CRUSTAL STRUCTURE
05JAN30 CANADA, 13KM (8MI) WSW OF Val-d'Or,QUEBEC
  DATE     ORIGIN    LAT N    LONG W   DEPTH   MN  MC  ML GAP   RMS  ERH  ERZ Q
  50130 18 6 45.77 48- 2.86  77-58.40  19.68  3.3  .0      263   .50  3.5  4.3 D
  STN   DIST AZM  RMK HRMN   SEC   TOBS   TCAL   RES   WT AMX PRX XMAG FMP FMAG
  EEO 177.1 208  P 0 18 7 12.98  27.21  26.86   .28 2.99
  GRQ 226.3 135  P 0 18 7 19.08  33.31  32.93   .33 2.60
                  S 0 18 7 43.98  58.21  58.61  -.50 2.60
 CRLO 228.0 169  P 4 18 7 21.17  35.40  33.14  2.23  .00
  GAC 322.6 144  P 0 18 7 30.93  45.16  44.82   .33 1.83
                  S 0 18 7 65.20  79.43  79.78  -.37 1.83
  TRQ 329.4 128  P 0 18 7 31.39  45.62  45.66  -.04 1.79
                  S 0 18 7 66.18  80.41  81.27  -.87 1.66
  OTT 341.8 150  P 0 18 7 33.41  47.64  47.19   .43 1.67
                  S 3 18 7 68.21  82.44  84.00 -1.59  .15
 SADO 375.3 194  P 0 18 7 37.67  51.90  51.32   .53 1.37
                  S 2 18 7 76.30  90.53  91.36  -.90  .65
  WBO 397.1 149  P 0 18 7 40.27  54.50  54.01   .47 1.21
                  S 0 18 7 81.35  95.58  96.14  -.59 1.21
  DPQ 420.7 111  P 2 18 7 41.76  55.99  56.92  -.94  .47
                  S 3 18 7 85.22  99.45 101.33 -1.88  .03
  MNT 436.3 130  P 0 18 7 44.85  59.08  58.86   .20  .92
                  S 4 18 7 87.32 101.55 104.76 -3.25  .00
 KGNO 439.8 165  P 0 18 7 45.50  59.73  59.29   .43  .88
                  S 0 18 7 91.12 105.35 105.54  -.21  .89
 WLVO 459.6 184  P 0 18 7 48.11  62.34  61.73   .59  .71
                  S 3 18 7 94.28 108.51 109.88 -1.39  .10
 PKRO 461.9 191  P 0 18 7 48.43  62.66  62.01   .61  .68
                  S 3 18 7 94.28 108.51 110.39 -1.93  .02
 BRCO 500.0 212  P 4 18 7 54.67  68.90  66.72  2.12  .00
  DAQ 502.4  91  P 4 18 7 50.61  64.84  67.02 -2.34  .00
 ACTO 519.4 198  P 0 18 7 55.41  69.64  69.12   .46  .24
 ELGO 522.2 201  P 0 18 7 55.74  69.97  69.46   .44  .22
  QCQ 524.6 106  S 4 18 8 45.70 119.93 124.16 -4.27  .00
  MOQ 532.8 125  P 0 18 7 56.42  70.65  70.76  -.26  .14
  NCB 538.3 147 EP 0 18 7 57.16  71.39  71.44  -.16  .10
 STCO 545.9 190  P 0 18 7 58.24  72.47  72.39   .05  .03
 TYNO 570.1 195  S 0 18 8 61.02 135.25 134.16  1.04  .00
  A54 570.2  97  P 0 18 7 58.62  72.85  75.39 -2.60  .00
  LMQ 575.6  96  P 0 18 7 59.25  73.48  76.05 -2.64  .00
 HGVO 589.9 197  P 0 18 8  2.64  76.87  77.82 -1.00  .00
                  S 0 18 8 64.02 138.25 138.52  -.35  .00
```

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   A61 590.7  94  P 0 18 8  1.16  75.39  77.92 -2.54  .00
               S 0 18 8 59.68 133.91 138.69 -4.80  .00
   A16 600.1  96  P 0 18 8  2.02  76.25  79.07 -2.83  .00
               S 0 18 8 93.17 167.40 140.75 26.64  .00
   A64 604.9  92  P 0 18 8  2.71  76.94  79.66 -2.75  .00
               S 0 18 8 61.64 135.87 141.80 -5.97  .00
   A21 620.6  94  P 0 18 8  4.65  78.88  81.60 -2.74  .00
               S 0 18 8 66.40 140.63 145.26 -4.65  .00
   HNH 654.1 138  S 0 18 9 43.78 178.01 152.62 25.34  .00  55 .33  3.4
  BINY 669.2 166 EP 0 18 8 13.52  87.75  87.61   .06  .00
   FFD 707.3 136  S 0 18 9 15.10 149.33 164.32-15.03  .00
   MNQ 724.1  68  P 0 18 8 18.51  92.74  94.39 -1.74  .00
               S 0 18 8 88.07 162.30 168.01 -5.87  .00
   CNQ 742.0  79  P 0 18 8 18.66  92.89  96.59 -3.74  .00
               S 0 18 8 88.87 163.10 171.93 -8.89  .00
   PQI 767.0 102 EP 0 1810  9.86 204.09  99.69104.37  .00
               S 0 1810 53.42 247.65 177.44 70.15  .00
   HRV 795.2 141 EP 0 18 9  9.80 144.03 103.17 40.83  .00
               S 0 18 9 78.80 213.03 183.64 29.33  .00
   ICQ 803.1  78  P 0 18 8 25.85 100.08 104.14 -4.08  .00
   GSQ 808.6  83  P 0 18 8 27.45 101.68 104.81 -3.15  .00
   WES 818.1 140  S 0 1810 27.70 221.93 188.65 33.25  .00  31 .44  3.2
   SMQ 857.9  74  P 0 18 8 33.06 107.29 110.90 -3.68  .00
   GGN 914.5 111  P 0 18 8 41.35 115.58 117.89 -2.33  .00
   LMN1032.7 104  P 0 18 8 54.12 128.35 132.48 -4.19  .00
A5303A.XX
NORTHERN NY AND ADIRONDACKS
05MAR03 CANADA, 42KM (26MI) EAST OF CORNWALL, QUEBEC
              8km (5MI) SSW OF HUNTINGDON, QUEBEC
   DATE     ORIGIN     LAT N    LONG W   DEPTH   MN  MC  ML GAP   RMS  ERH  ERZ Q
   50303  222  2.20 45- 1.72  74-12.82    .71  2.8 3.3      90   .48  1.1  2.3 C
   STN   DIST AZM  RMK HRMN   SEC   TOBS   TCAL   RES   WT AMX PRX XMAG FMP FMAG
   BGR   25.6 210  P 0  222  6.40   4.20   4.19  -.04 1.66
               S 0  222  9.61   7.41   7.46  -.14 1.66
  MSNY   51.2 266  P 0  222 10.72   8.52   8.22   .29 1.57
               S 0  222 17.19  14.99  14.63   .34 1.57
   LOZ   54.0 213  P 0  222 11.08   8.88   8.64   .17 1.57
               S 0  222 18.04  15.84  15.38   .33 1.57
   NCB 117.5 180 IPD0  222 20.33  18.13  18.27  -.24 1.37              300  3.5
               S 0  222 34.86  32.66  32.51  -.03 1.37
   MIV 119.2 153  P 0  222 20.55  18.35  18.51  -.21 1.36
   GAC 124.2 307  P 0  222 21.70  19.50  19.27   .22 1.34
               S 0  222 36.17  33.97  34.31  -.36 1.34
   TRQ 135.3 349  P 0  222 22.90  20.70  20.96  -.26 1.31
               S 4  222 29.22  27.02  37.31-10.29  .00
   MOQ 157.2  78  P 0  222 26.37  24.17  24.27  -.24 1.24
               S 0  222 45.48  43.28  43.20  -.17 1.24
  ACCN 187.9 167  P 1  222 30.76  28.56  28.92  -.42  .85
               S 3  222 52.66  50.46  51.48 -1.13  .27
  KGNO 201.7 244  S 1  222 56.82  54.62  55.21  -.61  .82
   HNH 212.6 134 EPD0  222 34.80  32.60  32.49   .08 1.07 108 .18  2.8 195  3.2
               S 0  222 59.98  57.78  57.82  -.10 1.07
   GRQ 217.1 324  P 0  222 35.25  33.05  33.04  -.04 1.05
   FFD 268.1 130 EPD2  222 43.07  40.87  39.33  1.52  .42              282  3.5
               S 2  222 75.26  73.06  70.01  3.01  .16
  QUA2 340.4 154 EPD0  222 50.63  48.43  48.26   .14  .66  65 .20  3.0 188  3.2
               S 2  222 93.35  91.15  85.90  5.20  .00
   HRV 352.4 143 EPD2  222 55.70  53.50  49.74  3.73  .02              240  3.4
   WVL 364.0  99 EP 2  222 59.26  57.06  51.17  5.88  .00  32 .14  2.9   0  3.2
   WES 375.0 142 EPD2  222 56.85  54.65  52.53  2.11  .23  31 .22  2.7   0  3.2
  GENY 383.4 229  P 3  222 53.94  51.74  53.56 -1.82  .11
               S 3  222 96.23  94.03  95.34 -1.31  .12
   PAL 447.8 177  P 4  222 66.19  63.99  61.51  2.46  .00
  SSPA 573.2 212  P 3  222 80.45  78.25  76.99  1.23  .00
A5306A.XX
NORTHWEST MAINE CRUSTAL STRUCTURE
05MAR06 CANADA, 26KM (16MI) SW OF RIVIERE-DU-LOUP, QUEBEC
   DATE     ORIGIN     LAT N    LONG W   DEPTH   MN  MC  ML GAP   RMS  ERH  ERZ Q
   50306  617 49.35 47-37.89  69-44.52    .02   .0  .0     256   .12 16.6 14.8 D
   STN   DIST AZM  RMK HRMN   SEC   TOBS   TCAL   RES   WT AMX PRX XMAG FMP FMAG
   PQI 168.8 129 EPC0  618 16.73  27.38  27.40  -.05 3.11
               S 3  618 38.29  48.94  48.77   .12  .76
   WVL 344.8 179 EPC3  618 38.59  49.24  49.60  -.36  .23
               S 4  618 86.10  96.75  88.28  8.45  .00
   HNH 479.3 204 EPD4  618 29.73  40.38  66.20-25.85  .00
               S 4  618 98.30 108.95 117.84 -8.93  .00
   FFD 486.0 198 EPD4  618 30.38  41.03  67.03-26.02  .00
  MSNY 491.2 233 EP 0  618 57.23  67.88  67.67   .20  .44
   MIV 492.7 217 EP 0  618 57.36  68.01  67.86   .10  .46
   NCB 535.7 221 EPD2  619  2.05  72.70  73.17  -.56  .00
               S 4  619 75.10 145.75 130.24 15.34  .00
  ACCN 563.1 213 EP 3  618 65.41  76.06  76.55  -.54  .00
   HRV 587.2 194 EP 2  619  8.35  79.00  79.53  -.56  .00
               S 4  619 97.00 167.65 141.56 26.04  .00
   WES 596.3 192 EP 4  618 43.11  53.76  80.64-26.89  .00
  QUA2 629.5 199 EP 4  618 46.97  57.62  84.74-27.15  .00
   BRY 650.7 193 EP 4  619  3.56  74.21  87.36-13.21  .00
               S 4  619 99.10 169.75 155.51 14.14  .00
   PAL 808.0 204 EP 3  618 96.33 106.98 106.78   .18  .00
  CPNY 831.5 204 EP 0  618 99.64 110.29 109.68   .61  .00
  GENY 833.6 230 EP 3  618 97.81 108.46 109.94 -1.48  .00
  BRNJ 863.0 207 EP 0  619 43.89 114.54 113.58   .96  .00
A5313A.XX
NORTHERN NY AND ADIRONDACKS
05MAR13, CANADA, 20KM (12.4MI) NNE OF SUDBURY, ONTARIO
   DATE     ORIGIN     LAT N    LONG W   DEPTH   MN  MC  ML GAP   RMS  ERH  ERZ Q
   50313 17 8 15.75 46-40.54  80-55.22   5.00  3.5 4.1     230   .48  7.5 12.7 D
   STN   DIST AZM  RMK HRMN   SEC   TOBS   TCAL   RES   WT AMX PRX XMAG FMP FMAG
  SADO 253.2 147 EP 3 17 8 51.55  35.80  37.04 -1.29  .39
  BRCO 273.1 188 EP 0 17 8 55.29  39.54  39.51  -.02 1.72
  CRLO 281.3 105 EP 0 17 8 57.04  41.29  40.52   .74 1.60
               ES 0 17 8 88.06  72.31  72.13   .12 1.67
  VLDQ 306.6  59  P 0 17 8 59.08  43.33  43.64  -.33 1.51
               S 3 17 8 91.13  75.38  77.68 -2.33  .03
   GRQ 387.8  91  P 0 17 9  9.85  54.10  53.67   .38 1.00
               S 0 17 9 51.24  95.49  95.53  -.13 1.01
   GAC 433.7 104  P 0 17 9 14.49  58.74  59.34  -.61  .71
               S 4 17 9 58.71 102.96 105.62 -2.68  .00
   TRQ 492.1  96  P 0 17 9 22.06  66.31  66.54  -.23  .36
               S 3 17 9 71.65 115.90 118.44 -2.54  .00
   NCB 605.2 120 EPC3 17 9 34.90  79.15  80.50 -1.46  .00              481  4.1
   DPQ 622.8  90  P 3 17 9 36.61  80.86  82.68 -1.82  .00
               S 4 17 9 99.71 143.96 147.17 -3.21  .00
   HNH 754.5 116 ES 0 1711 39.28 203.53 176.11 27.36  .00 122 .70  3.5
   FFD 811.8 116 ES 0 1711 55.60 219.85 188.69 31.12  .00
  QUA2 838.4 126 ES 0 1711 61.20 225.45 194.56 30.84  .00  95 .60  3.6
   HRV 875.9 122 ES 0 1711 75.00 239.25 202.79 36.40  .00
   WES 900.1 122 ES 0 1711 76.10 240.35 208.11 32.22  .00  35 .50  3.3
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BRY 916.5 125 ES 0 1711 87.30 251.55 211.71 39.73  .00  43 .50  3.4
MNQ 993.5  64  P 0 1710 21.54 125.79 128.44 -2.74  .00
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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

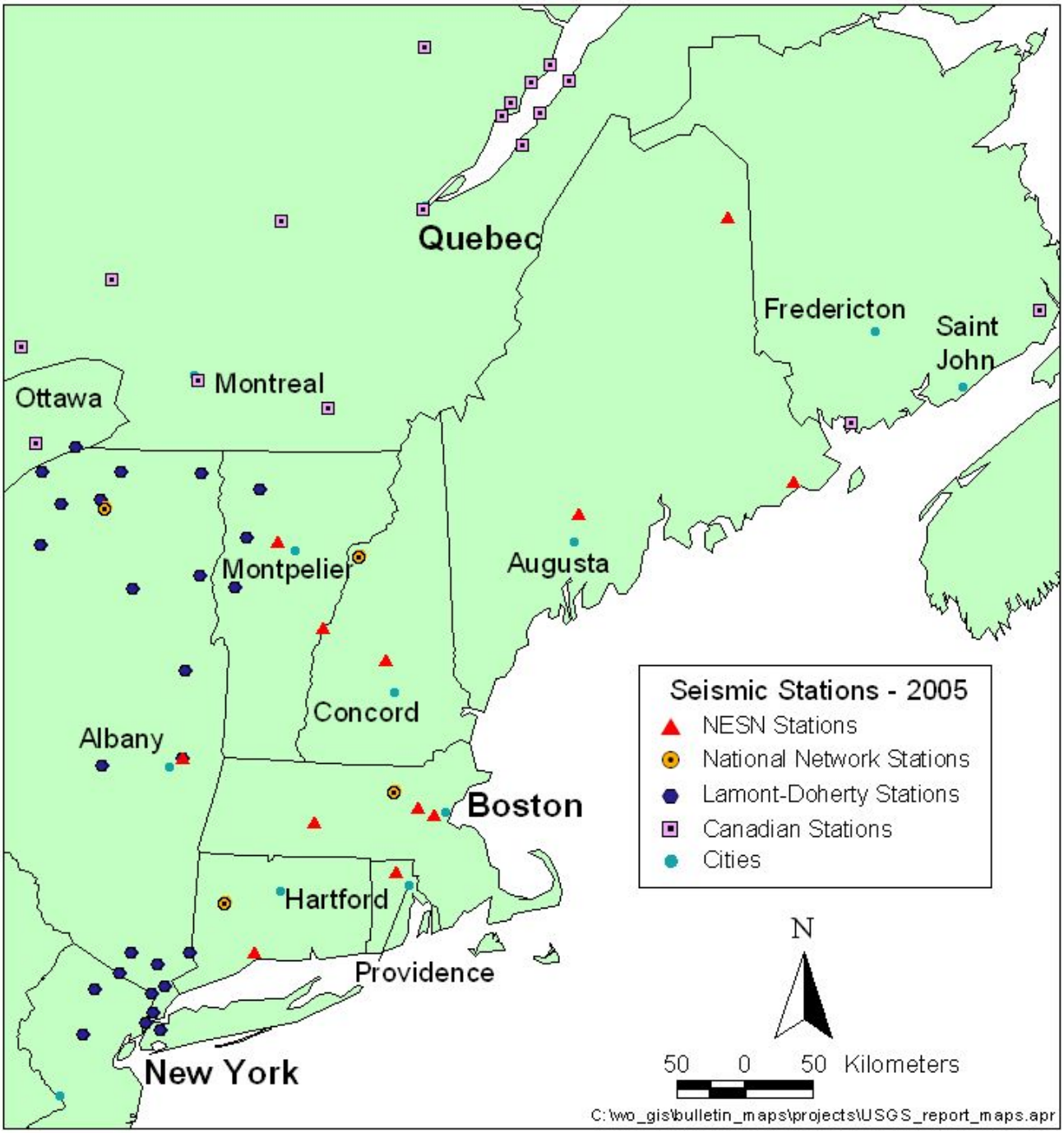

Figure 1: Map of stations of the New England Seismic Network (NESN) in operation during the period of this report. Also included are other Northeast U.S. and Canadian seismic stations in operation during this period.

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NESN Strong-Motion Station Map

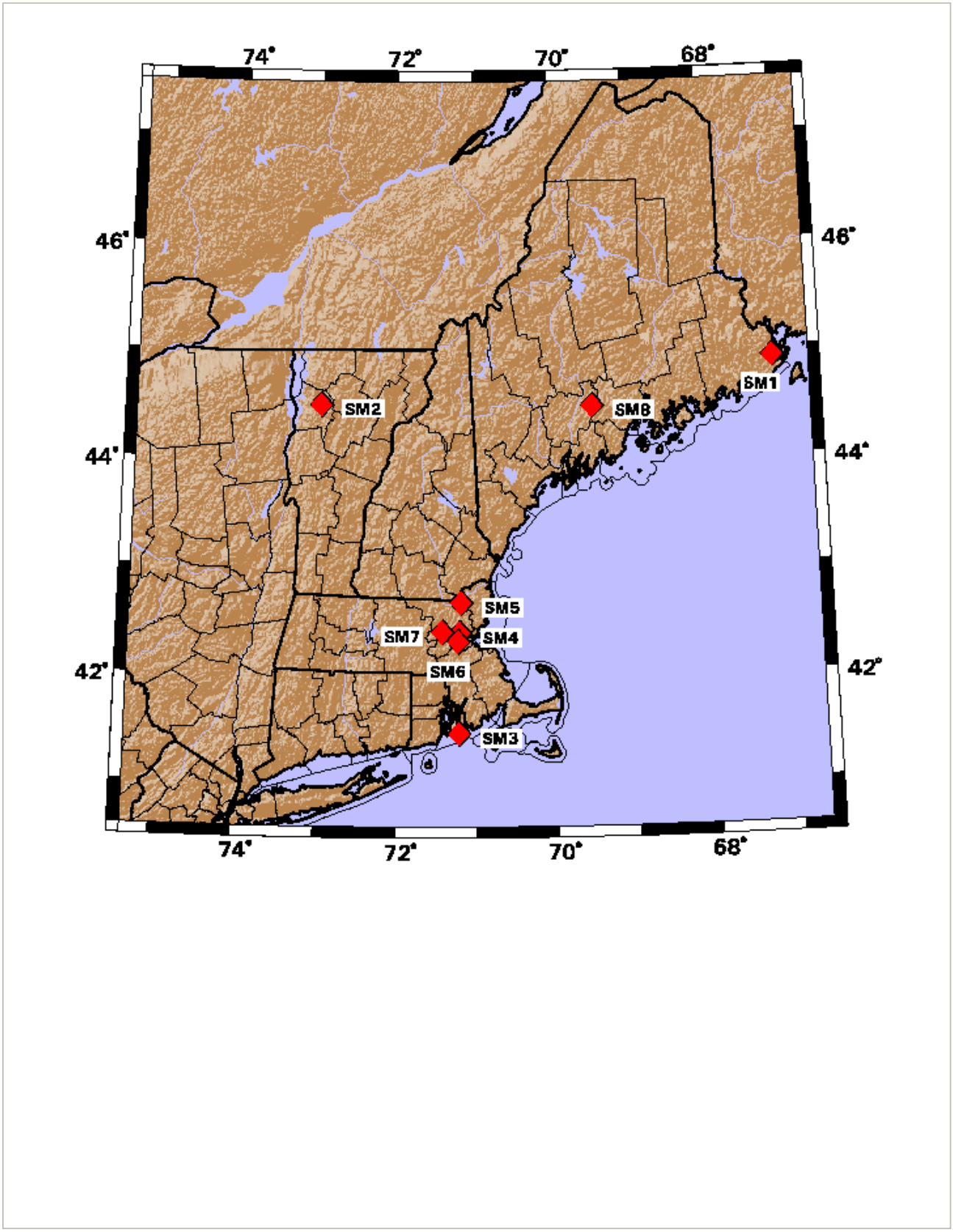

Figure 2: Map of strong-motion stations of the New England Seismic Network (NESN) in operation during the period of this report.

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NESN Quarterly Seismicity Map

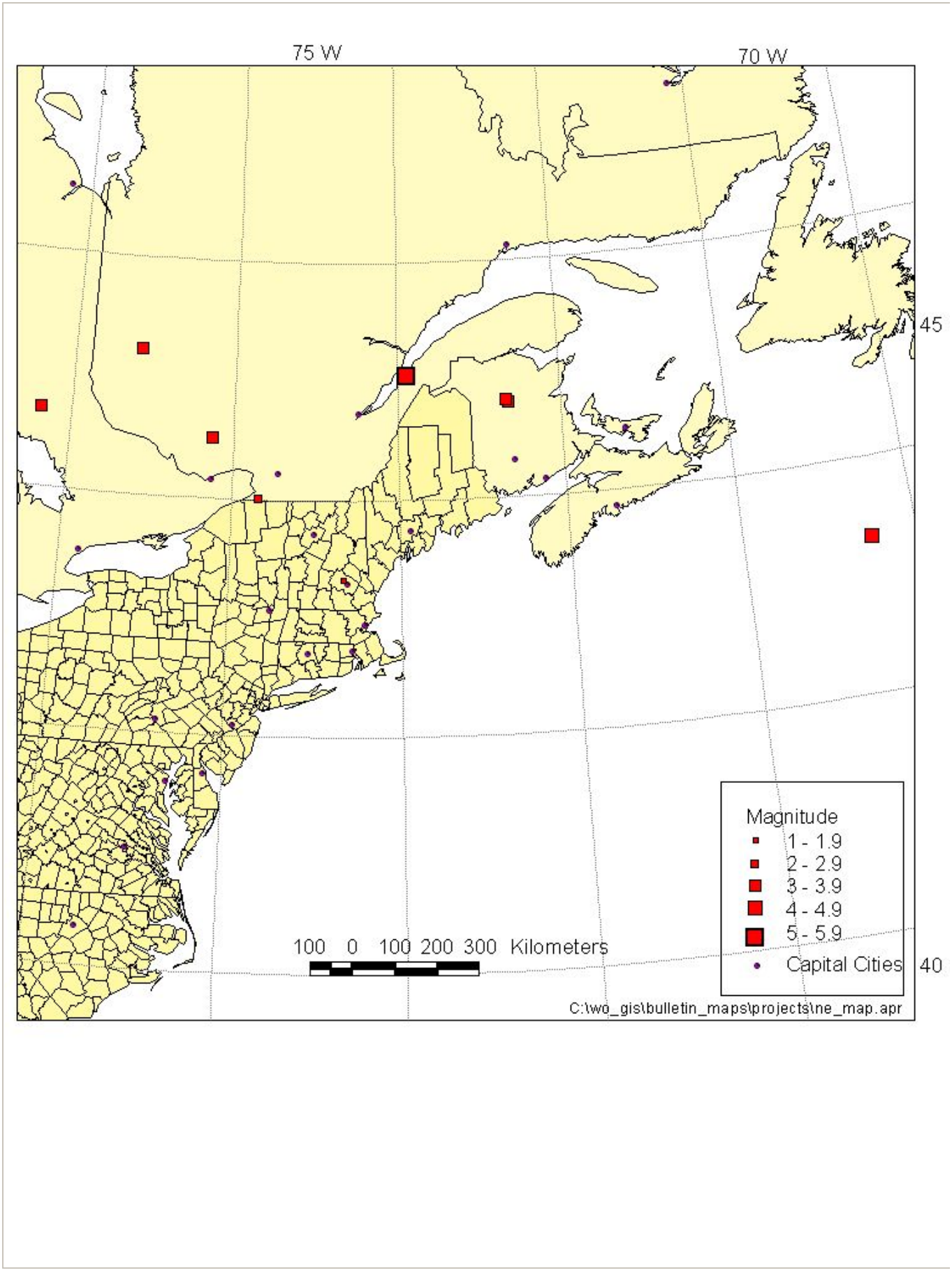

Figure 3: Earthquake epicenters located by the NESN during the period of this report.

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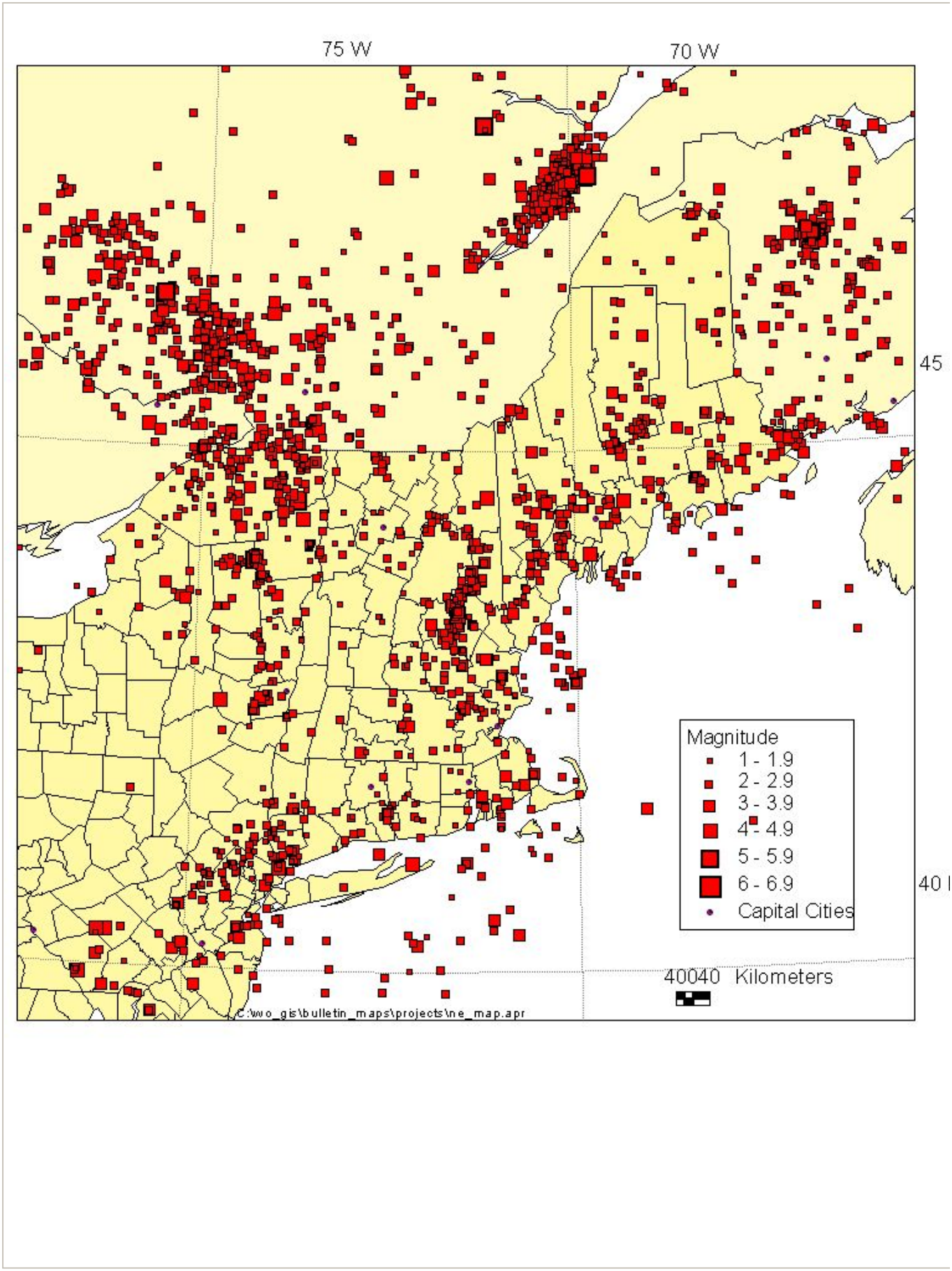
NESN Cumulative Seismicity Map

Figure 4: Seismicity for period October, 1975 - March, 2005.



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Acknowledgments

Our map database has been developedin-house using ArcView and in part basemap data provided byESRI, Inc. (Arcdata Online), USGS GTOPO30 Elevation Data, and TIGER/Line '94, '95, and '97 (US Census Bureau) spatial data.

References

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Ebel, J.E. (1982), M_L measurements for northeastern UnitedStates earthquakes, *Bull. Seism. Soc. Am., 72,* 1367-1378.

Rosario, M. (1979), A coda duration magnitude scale for the New EnglandSeismic Network, *Master's Thesis,* Boston College, 82 pp.

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