Geospatial Dataset for Wells in the New England Groundwater Level Network, through Water Year 2017

Laura Hayes
Ann Chalmers
John Mullaney
Jeff Barbaro

USGS New England Water Science Center

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426 wells in database (network and study wells; currently active and discontinued)

90 attributes for each well:

- Basic site information (17)
- Groundwater level statistics through w.y. 2017 (16)
- Well construction (9)
- Topographic setting (11)
- Land use and cover (17)
- Climate (2)
- Soils (4)
- Geology (14)

381 Active Wells in 2017

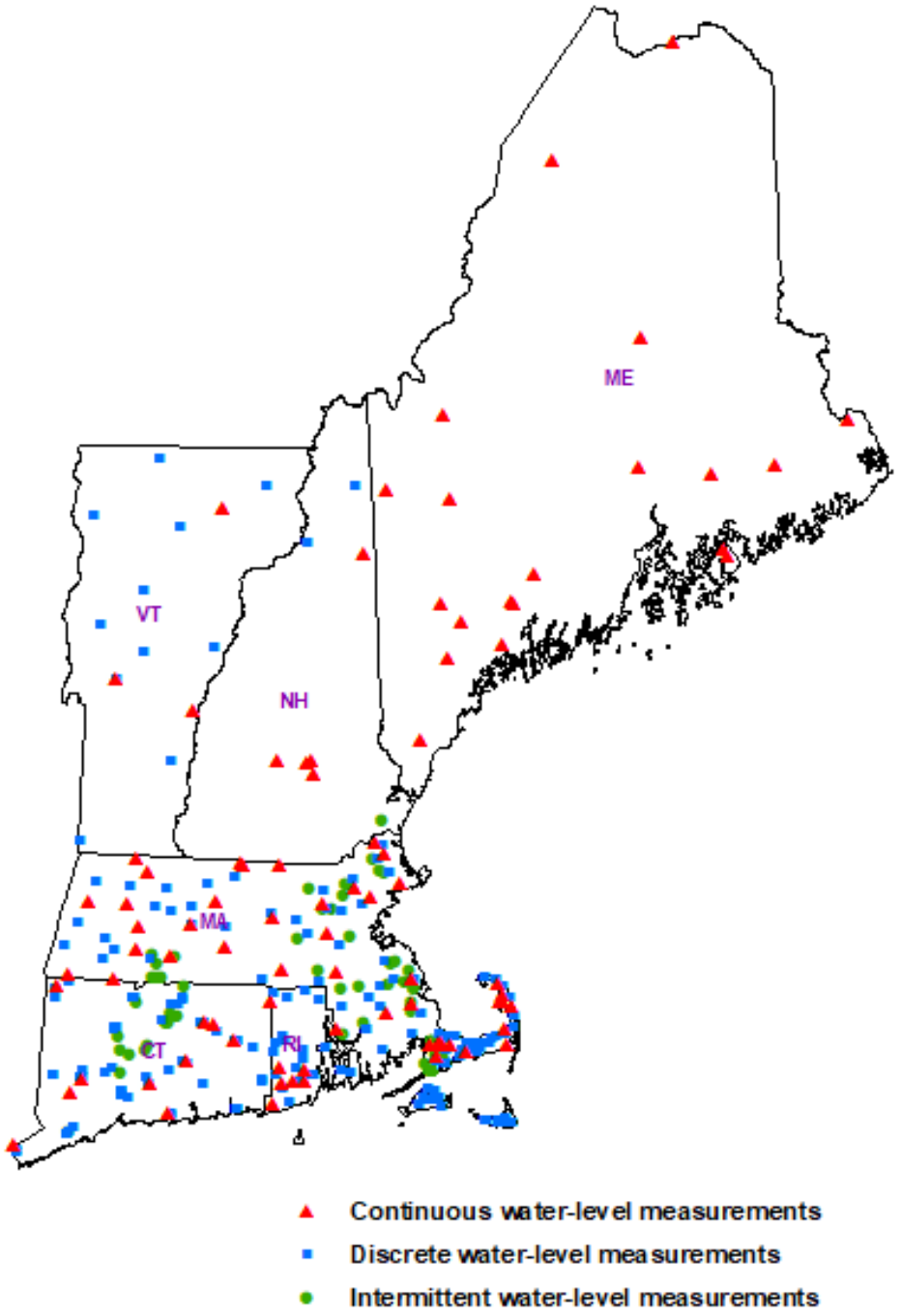
87 Continuous Wells

166 Discrete Wells

95 Intermittent Wells

33 Replaced Wells (in progress)

(45 Discontinued and
Replaced Wells, not shown)



Other basic well information:

Location: Lat/Longs, HUC, County, State….
Land and datum altitude
Well construction details
Begin date for discrete measurements
End date (blank if active)
Begin date of continuous monitoring
End date of cont. monitoring (blank if active)

Average period of data collection: 31 yrs

Earliest water-level measurement: 1913
(CT-WY 1, Litchfield CT)

227 Active MA Wells in Geodatabase in 2017

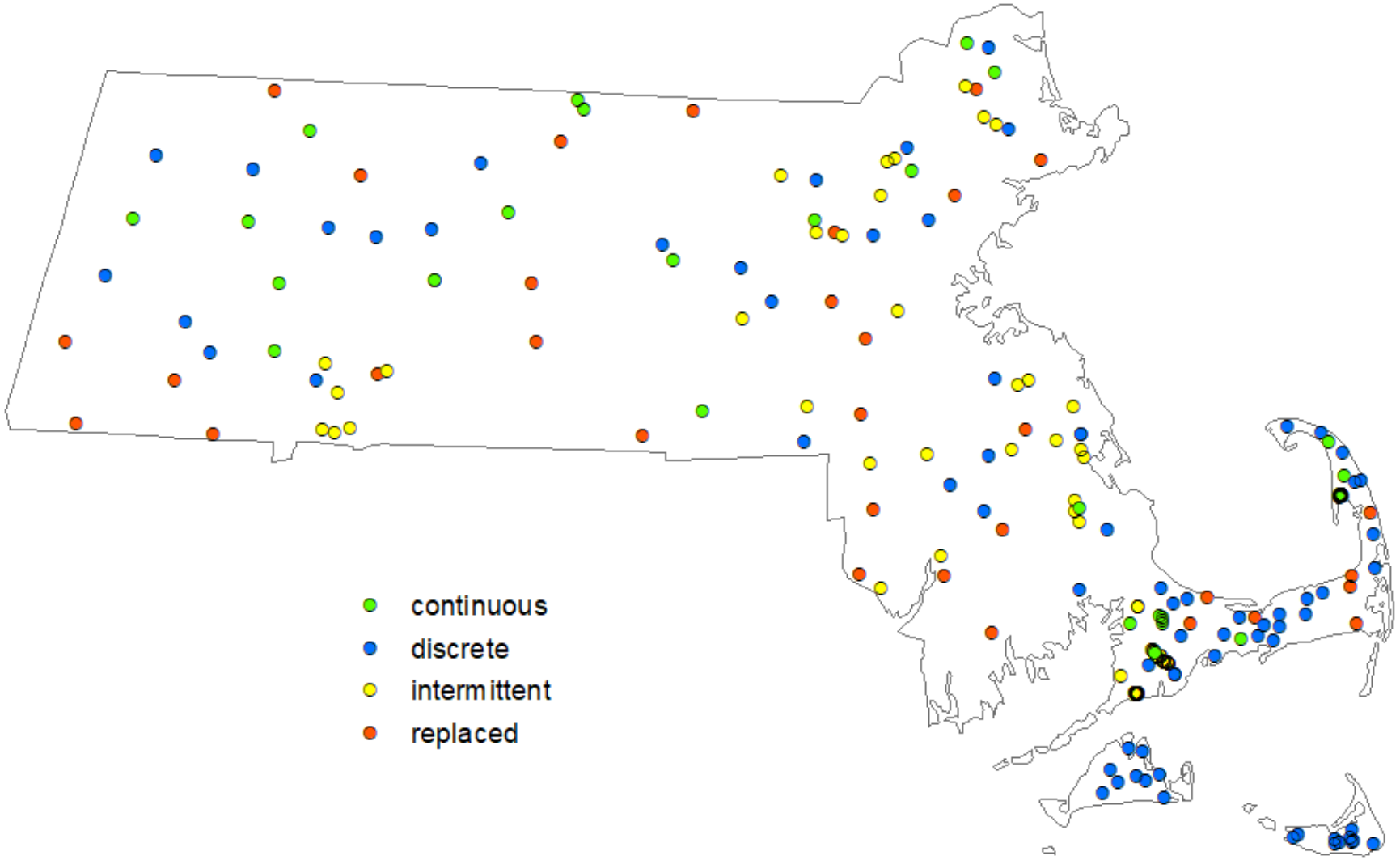
42 Continuous Wells

72 Discrete Wells

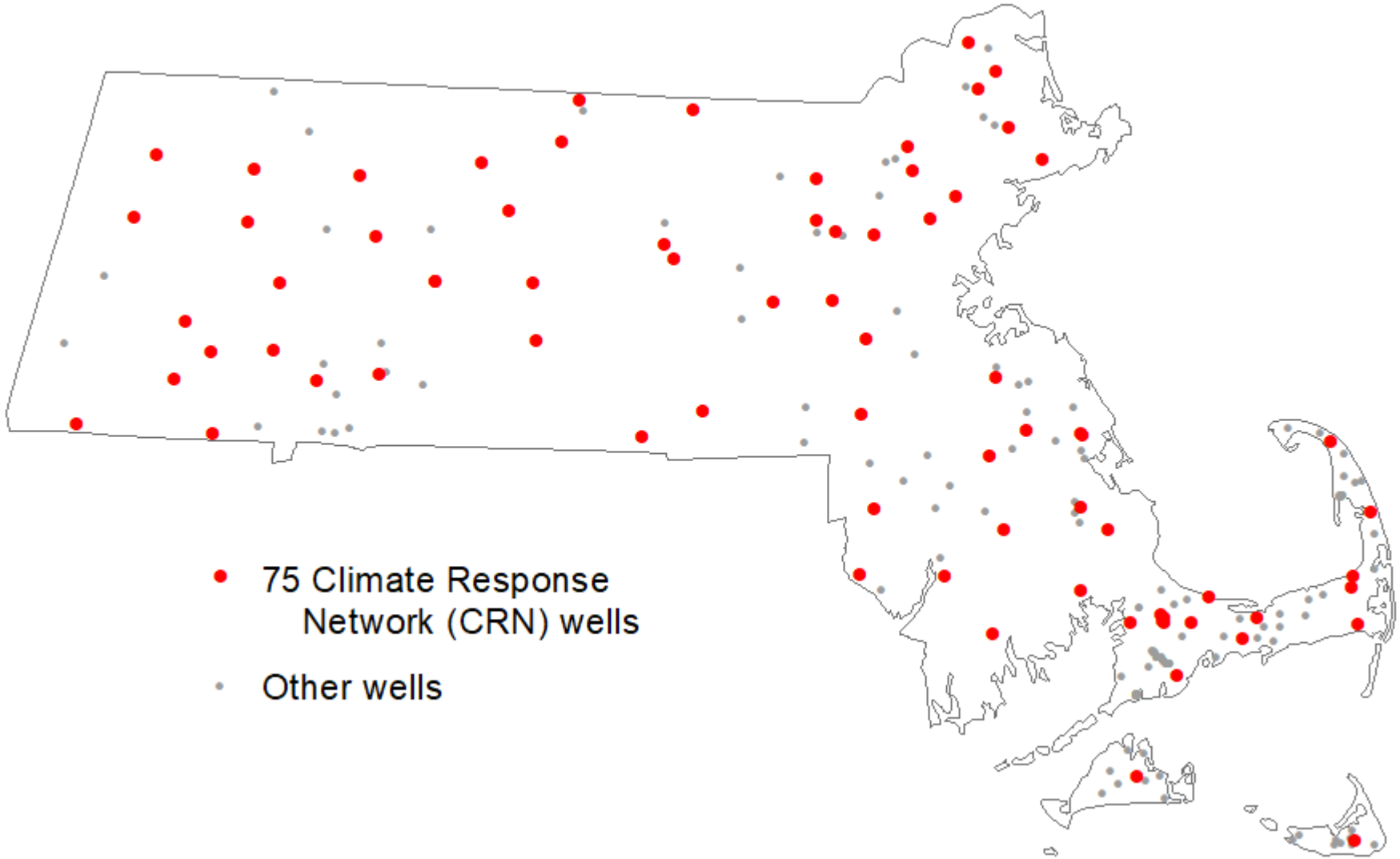
80 Intermittent Wells

33 Replaced Wells

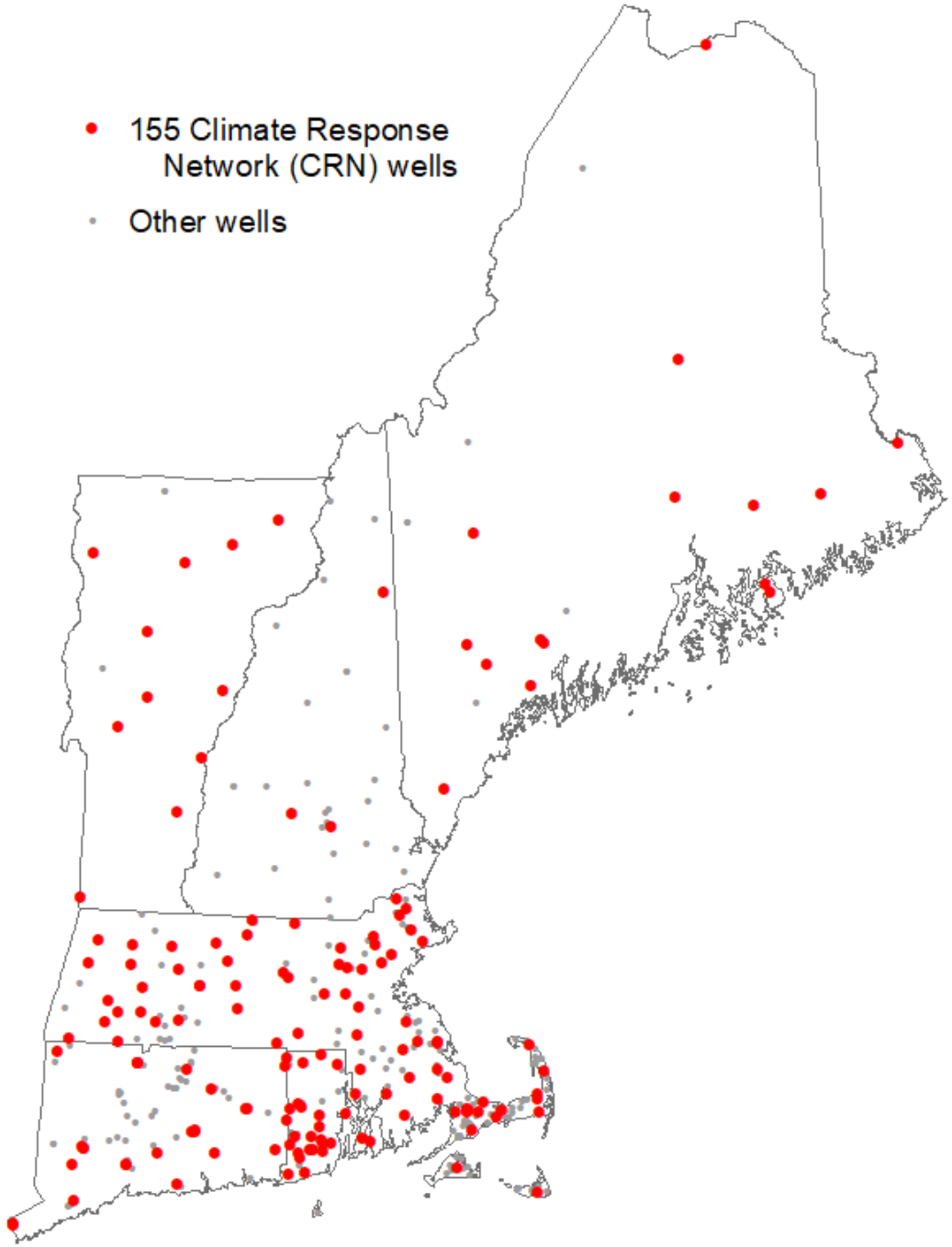
(10 Discontinued Wells, not shown)



Mass. Climate Response Network Wells

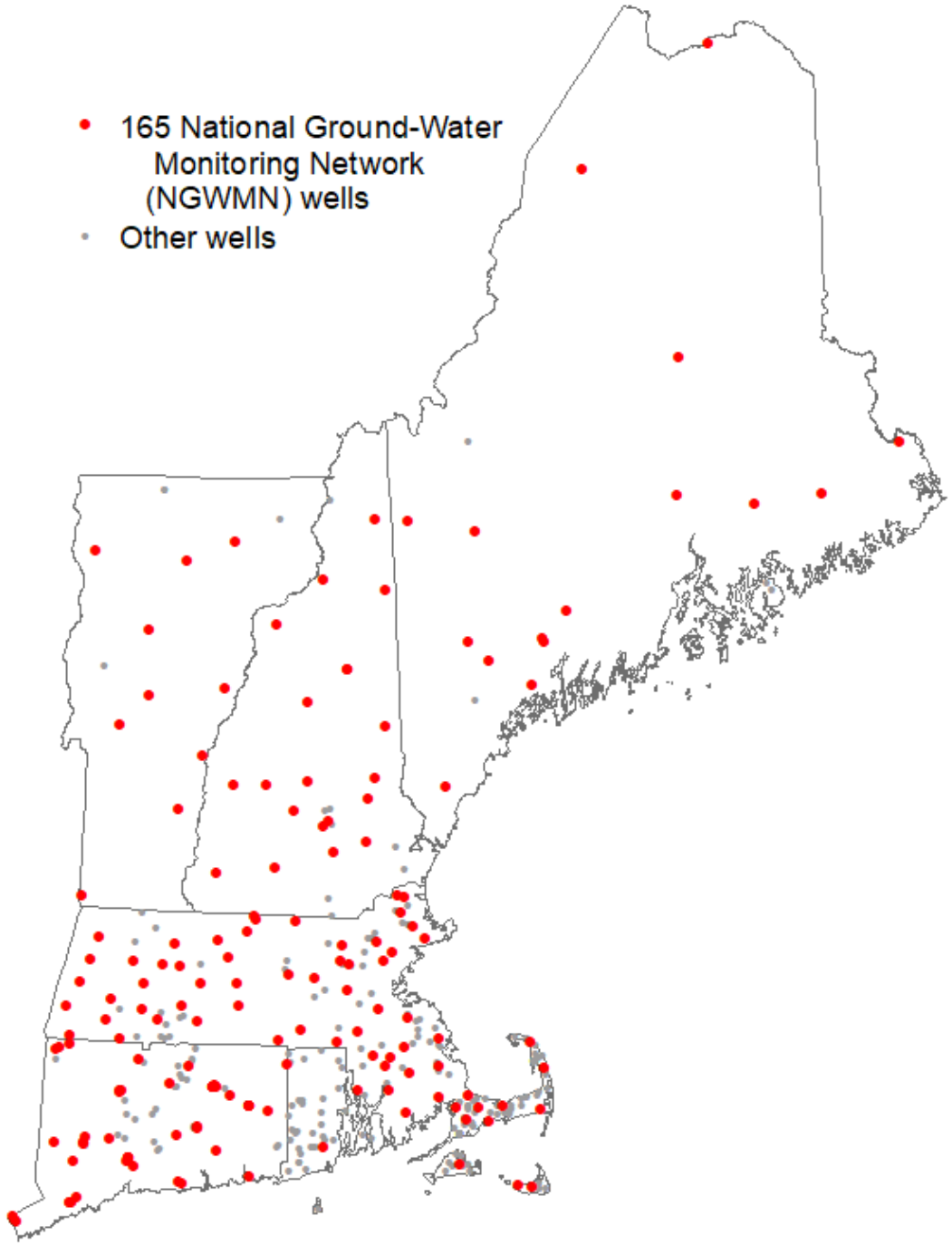


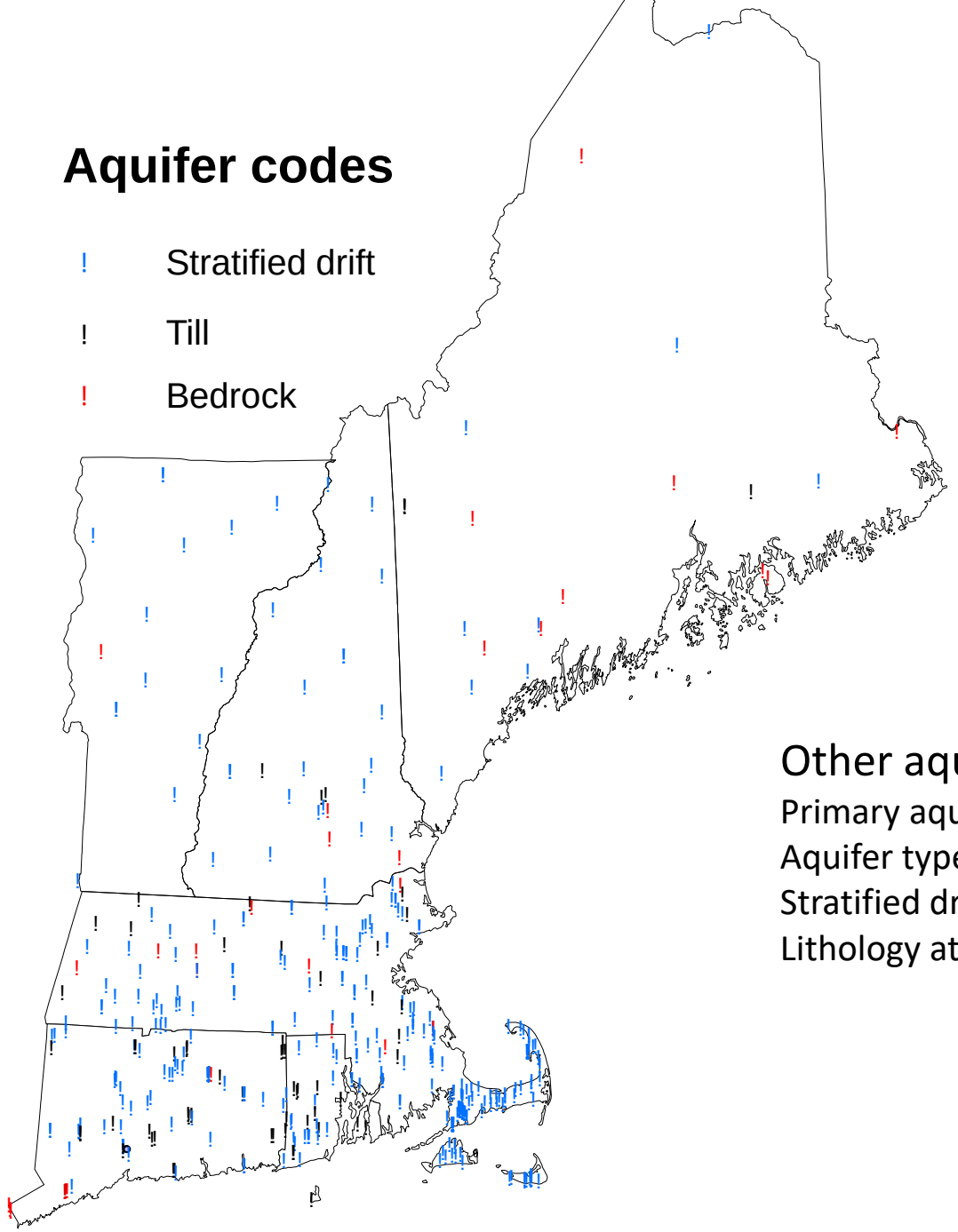
Climate Response Network Wells



National Ground-Water Network Wells

(https://cida.usgs.gov/ngwmn/)





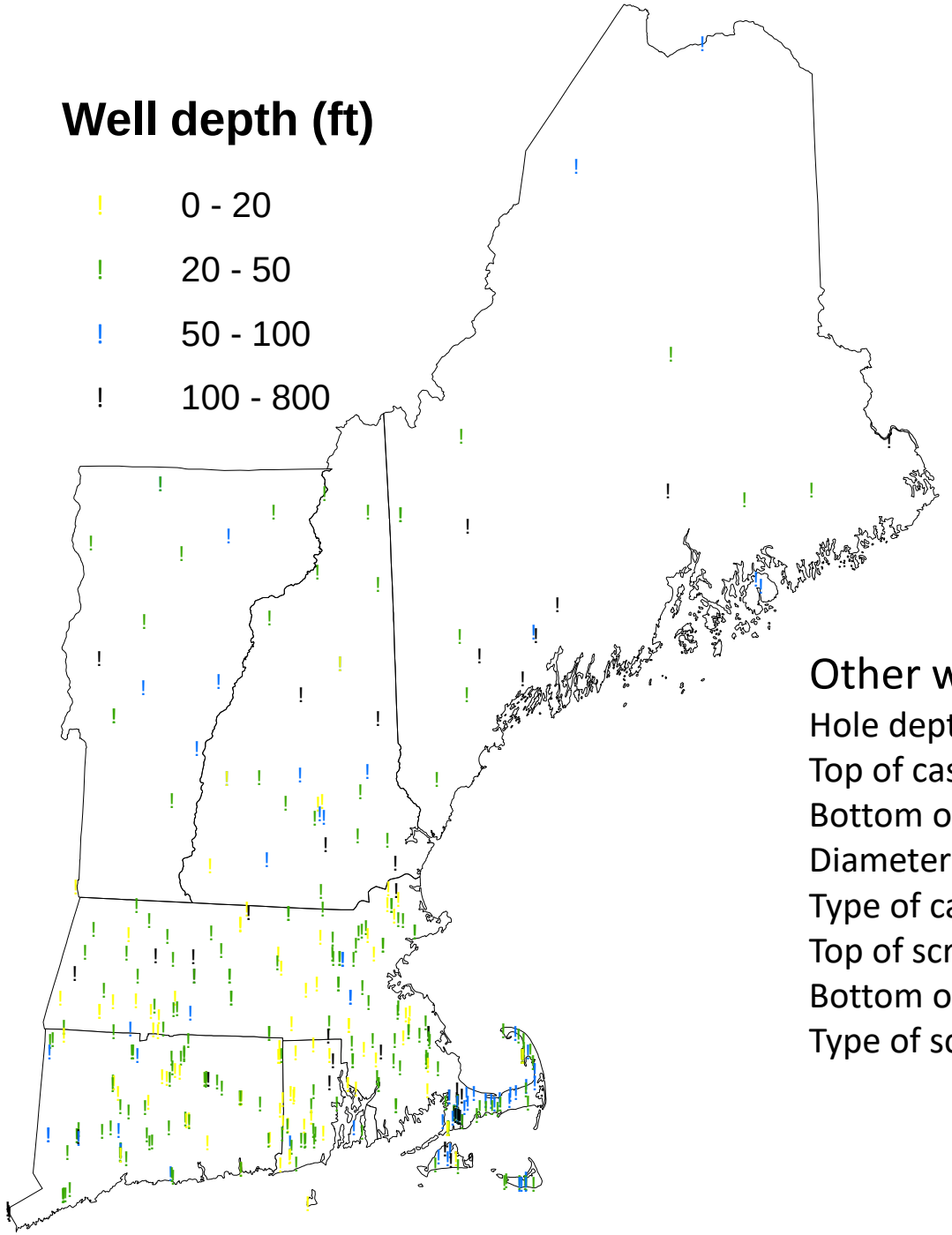
Other aquifer info in database:

Primary aquifers

Aquifer types (confined/unconfined)

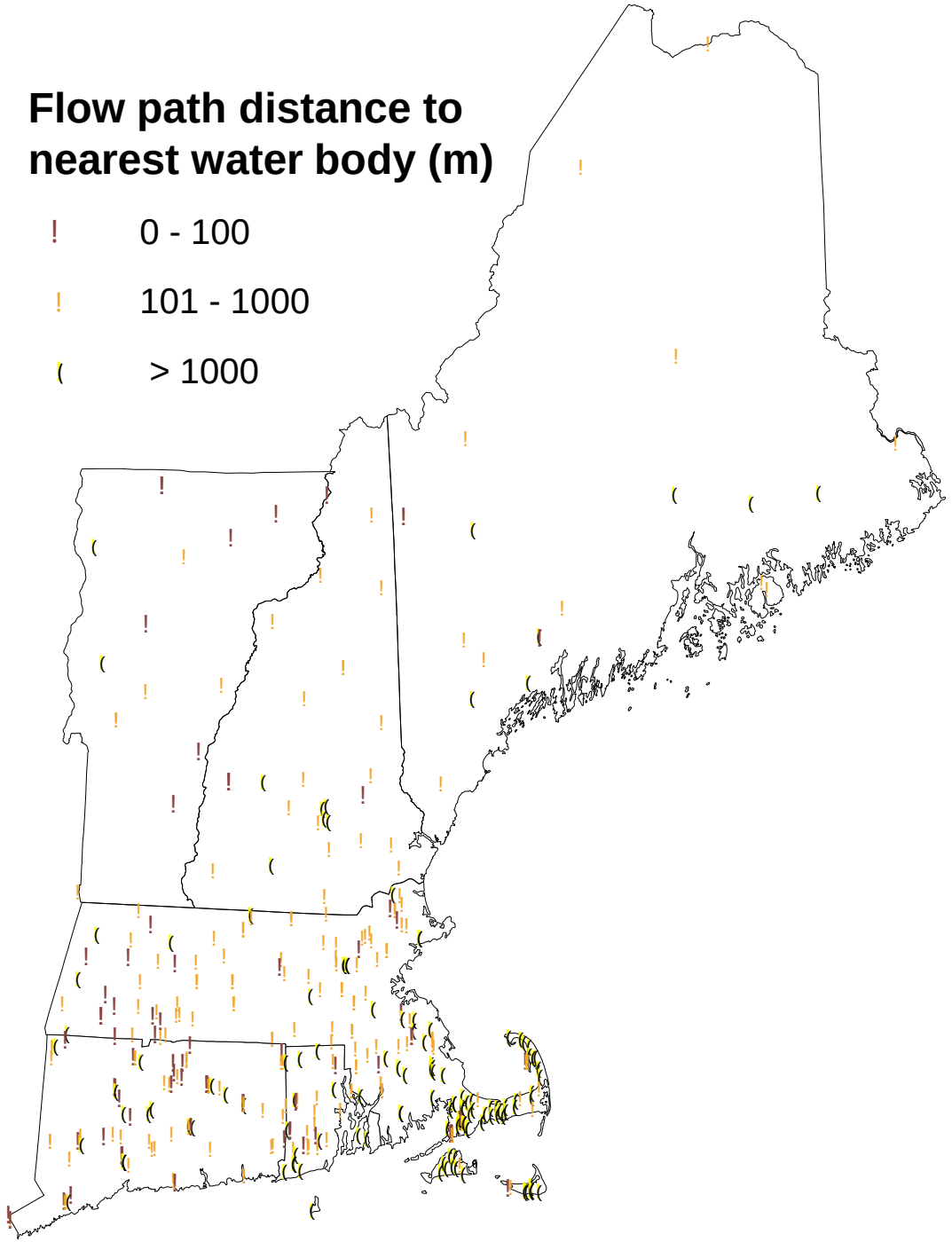
Stratified drift, yes/no

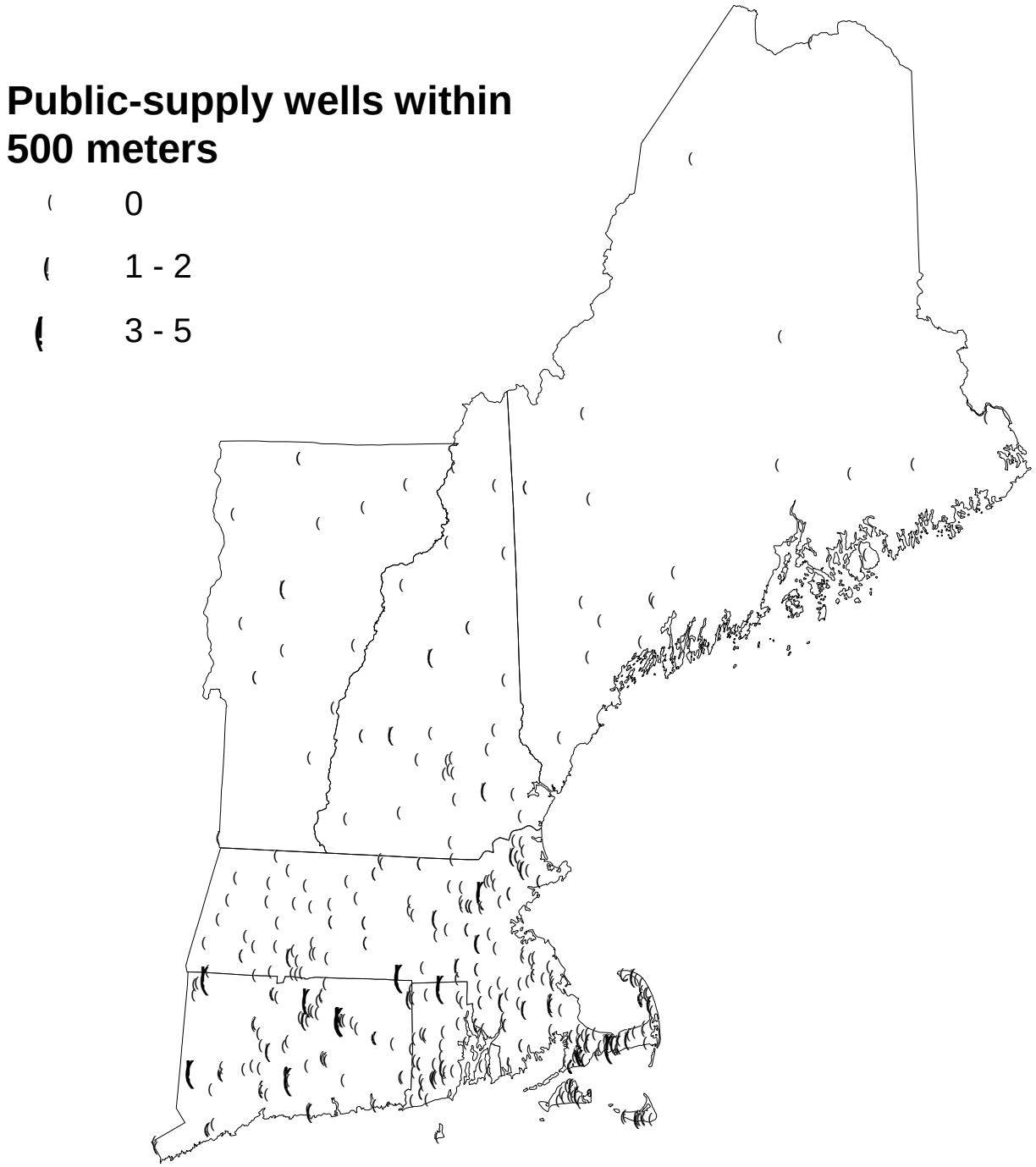
Lithology at well screen or open area



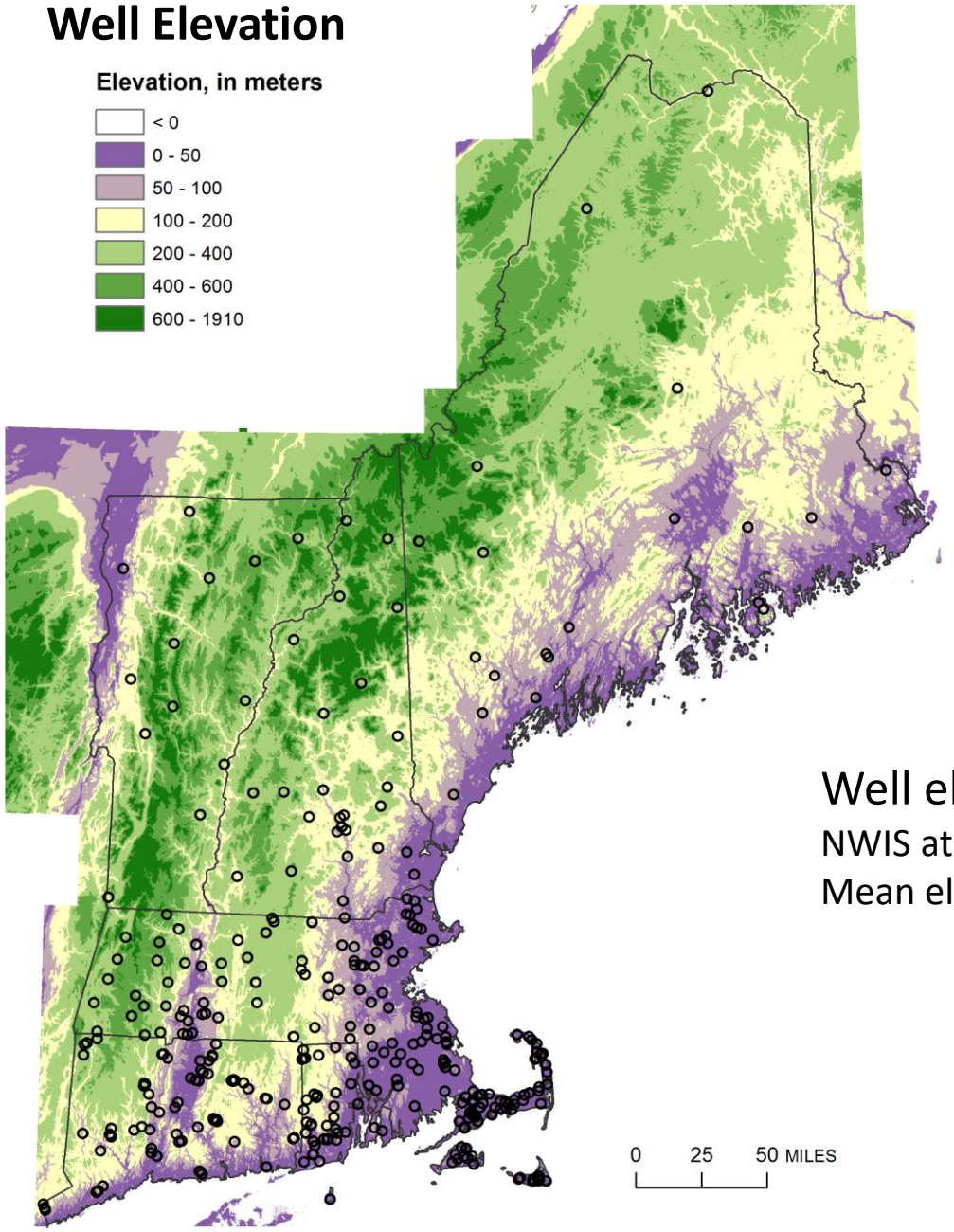
Other well construction information:

Hole depth
Top of casing
Bottom of casing
Diameter of casing
Type of casing
Top of screen/opening
Bottom of screen/opening
Type of screen


Flow path distance to nearest water body (m)
0 - 100
101 - 1000
> 1000


Public-supply wells within 500 meters
0
1 - 2
3 - 5

Well Elevation

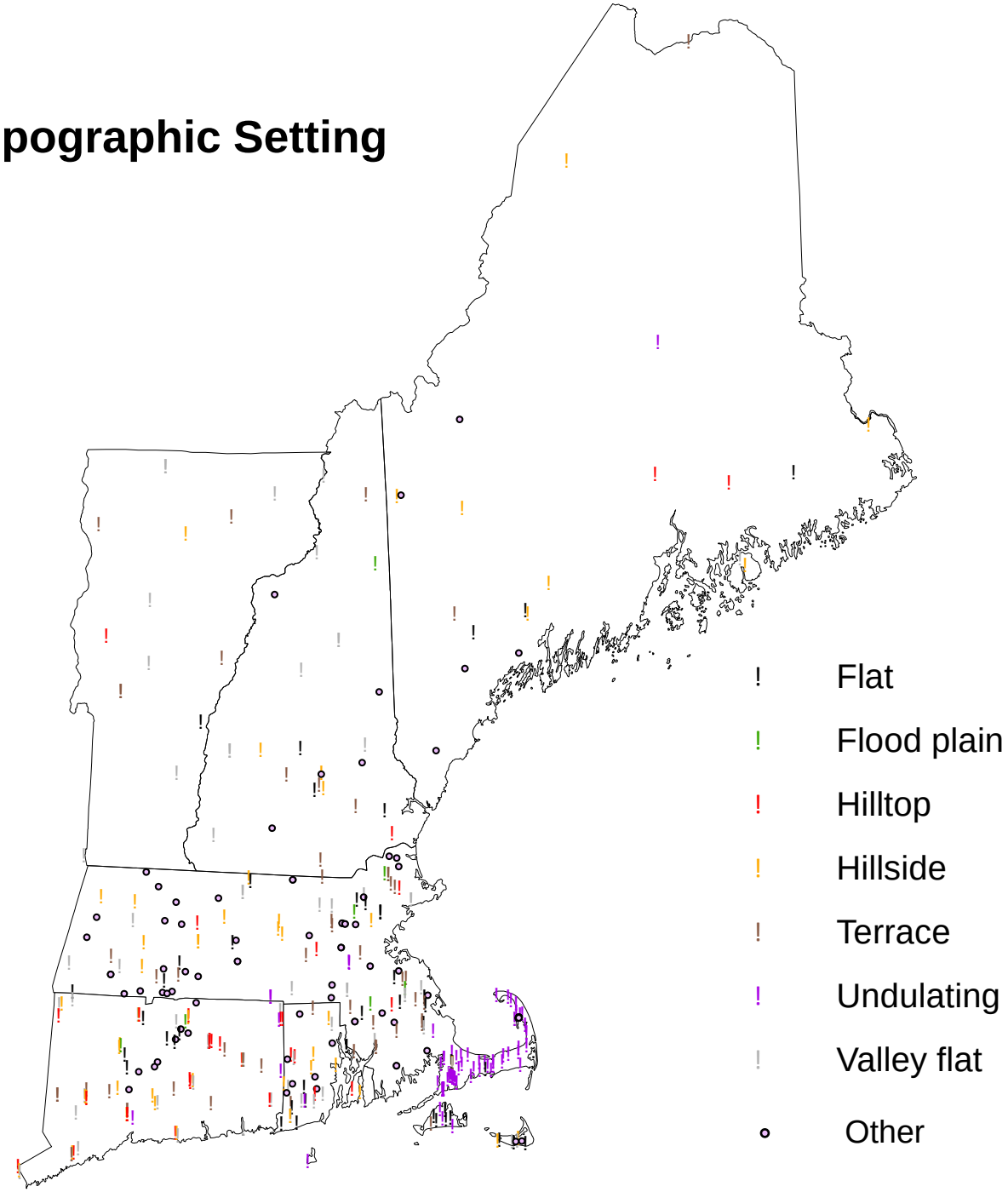


Well elevation information:

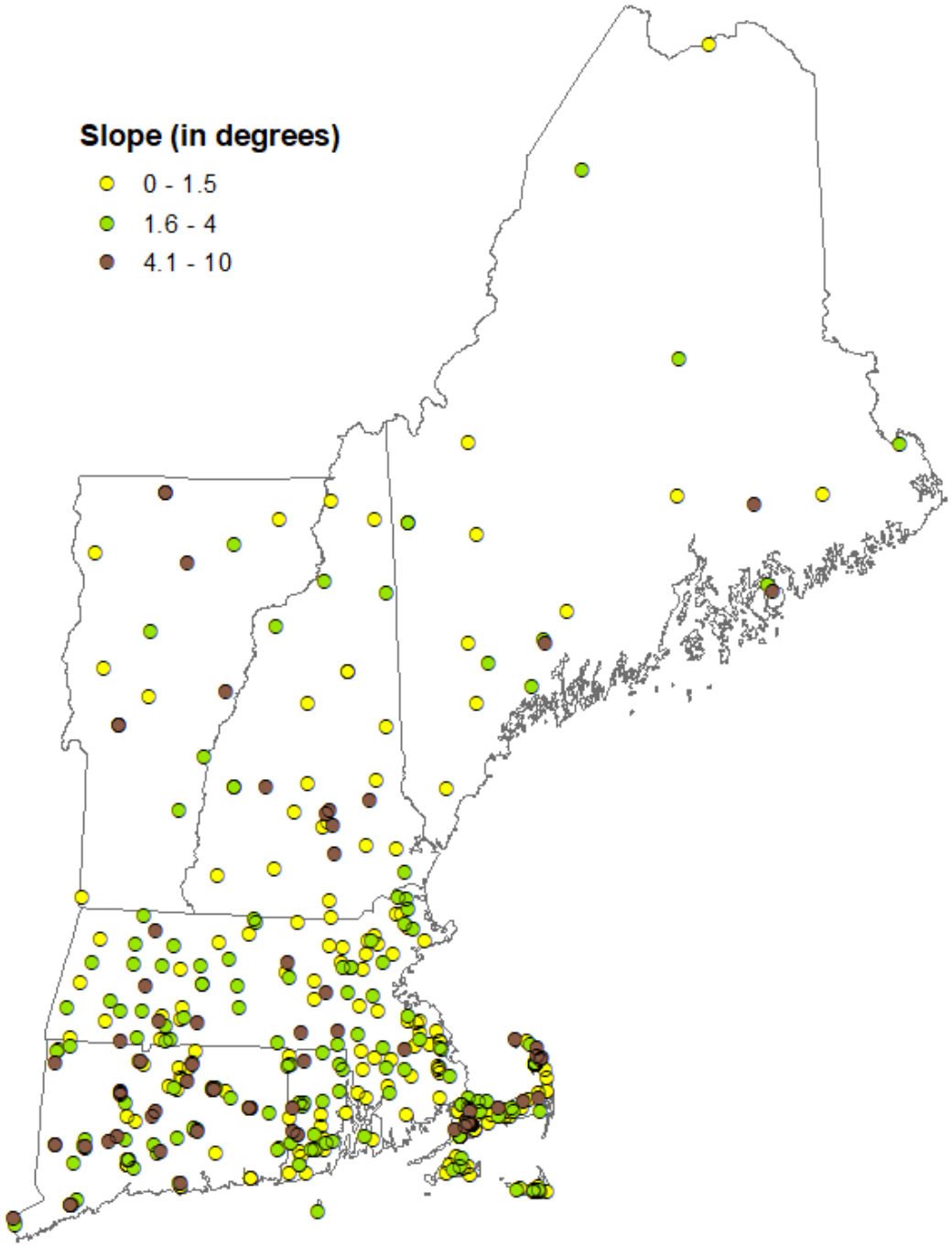
NWIS at site elevation

Mean elevation, 500m and 2km buffers

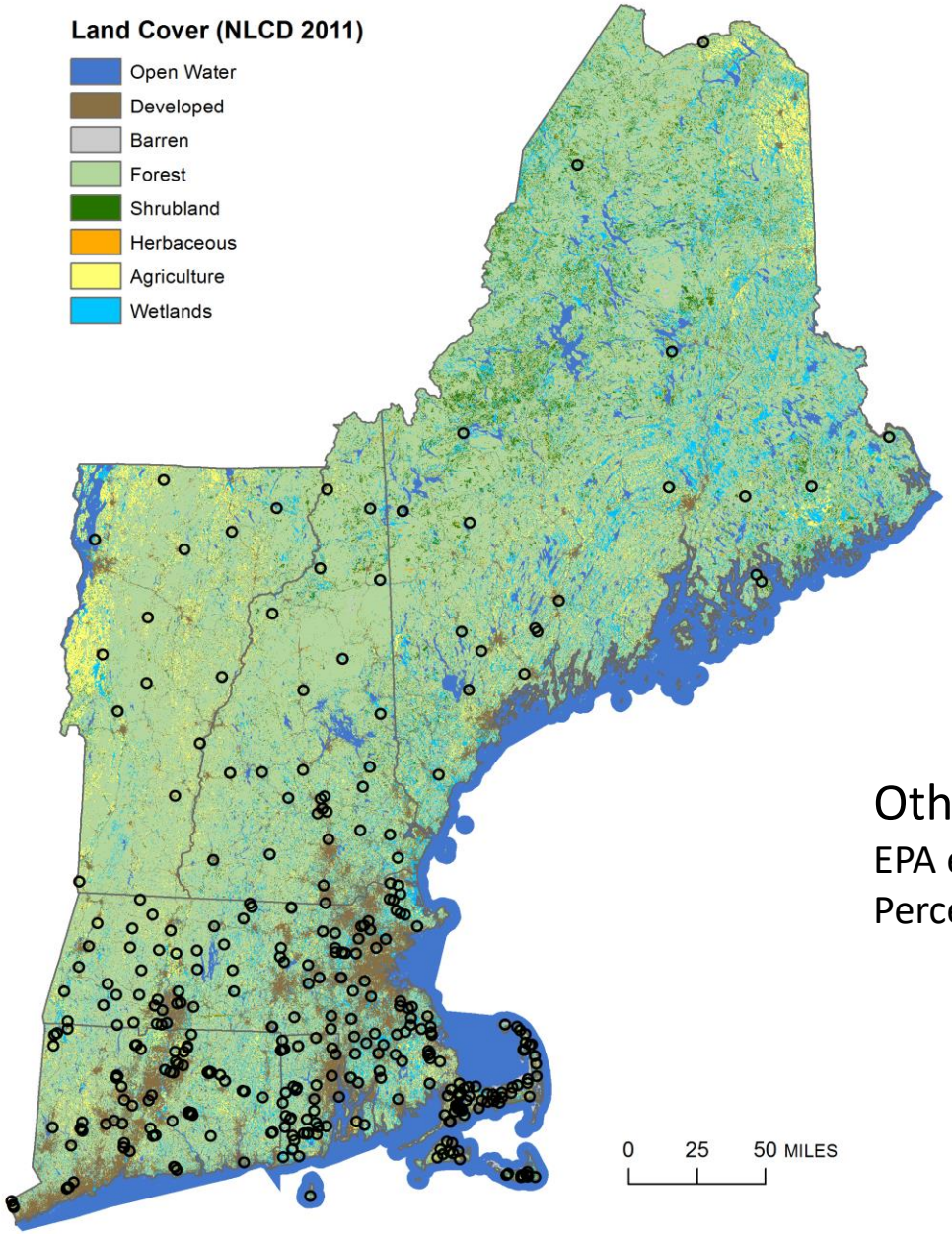
Topographic Setting



Slope



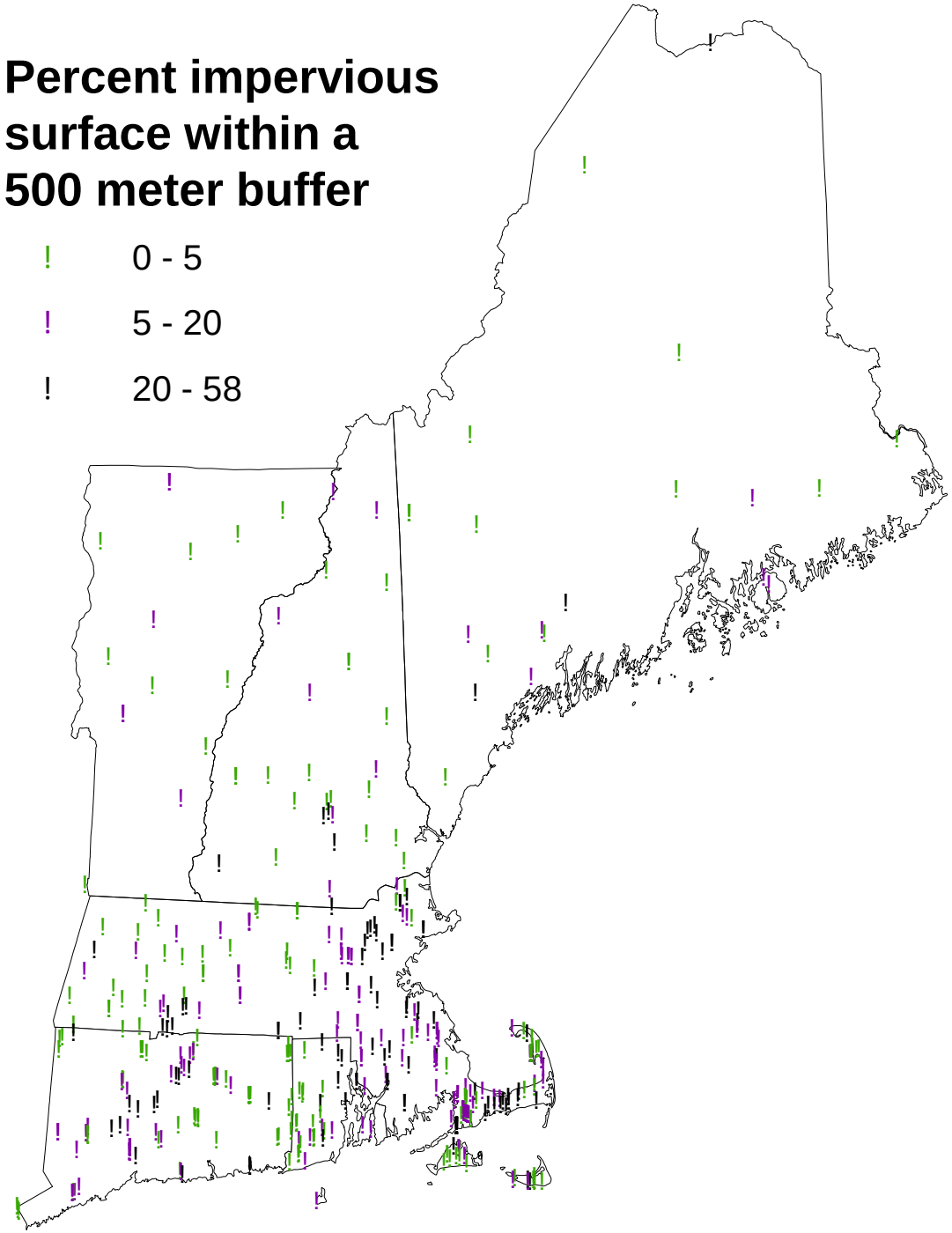
Land Cover/Use



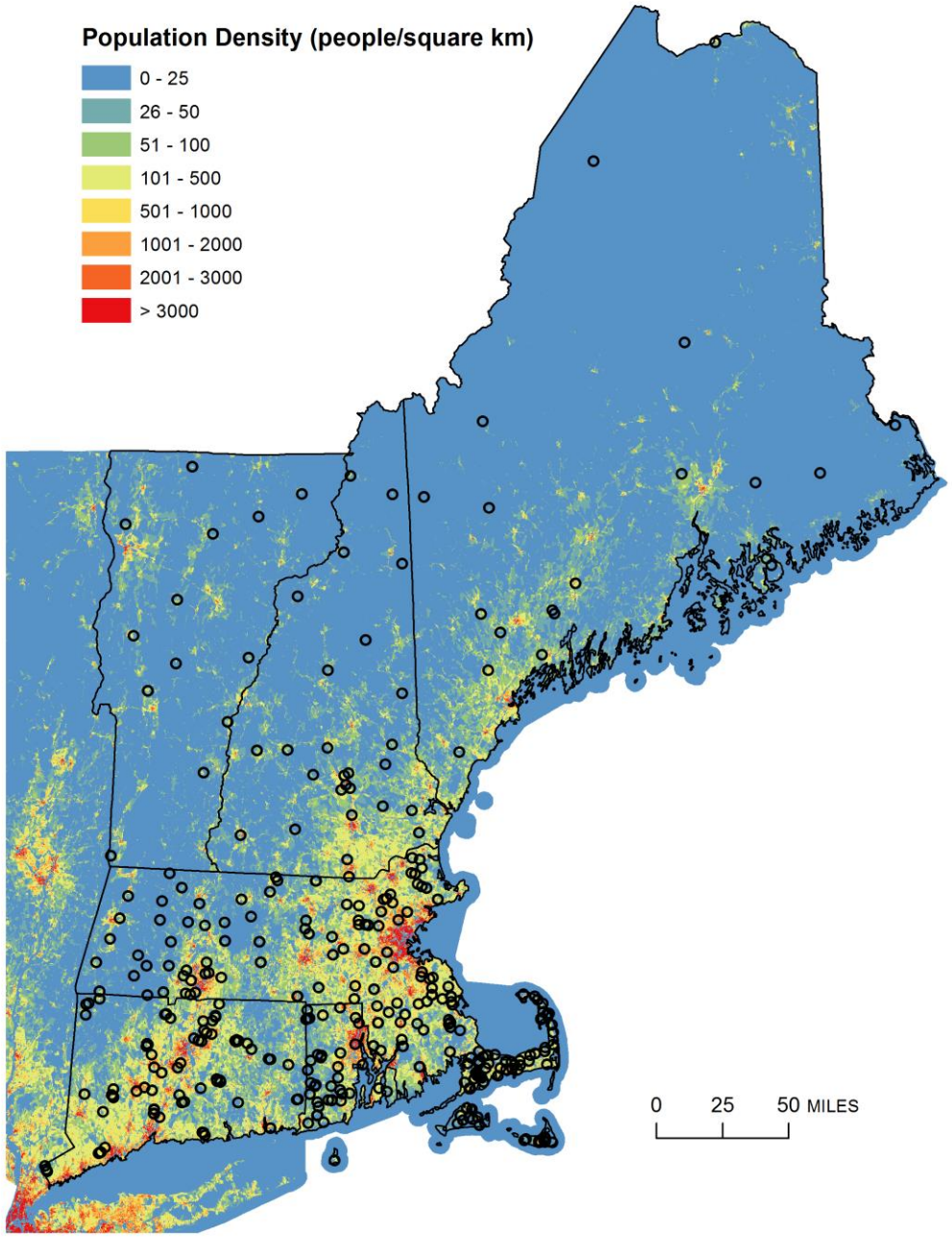
Other land-cover information:

EPA ecoregions

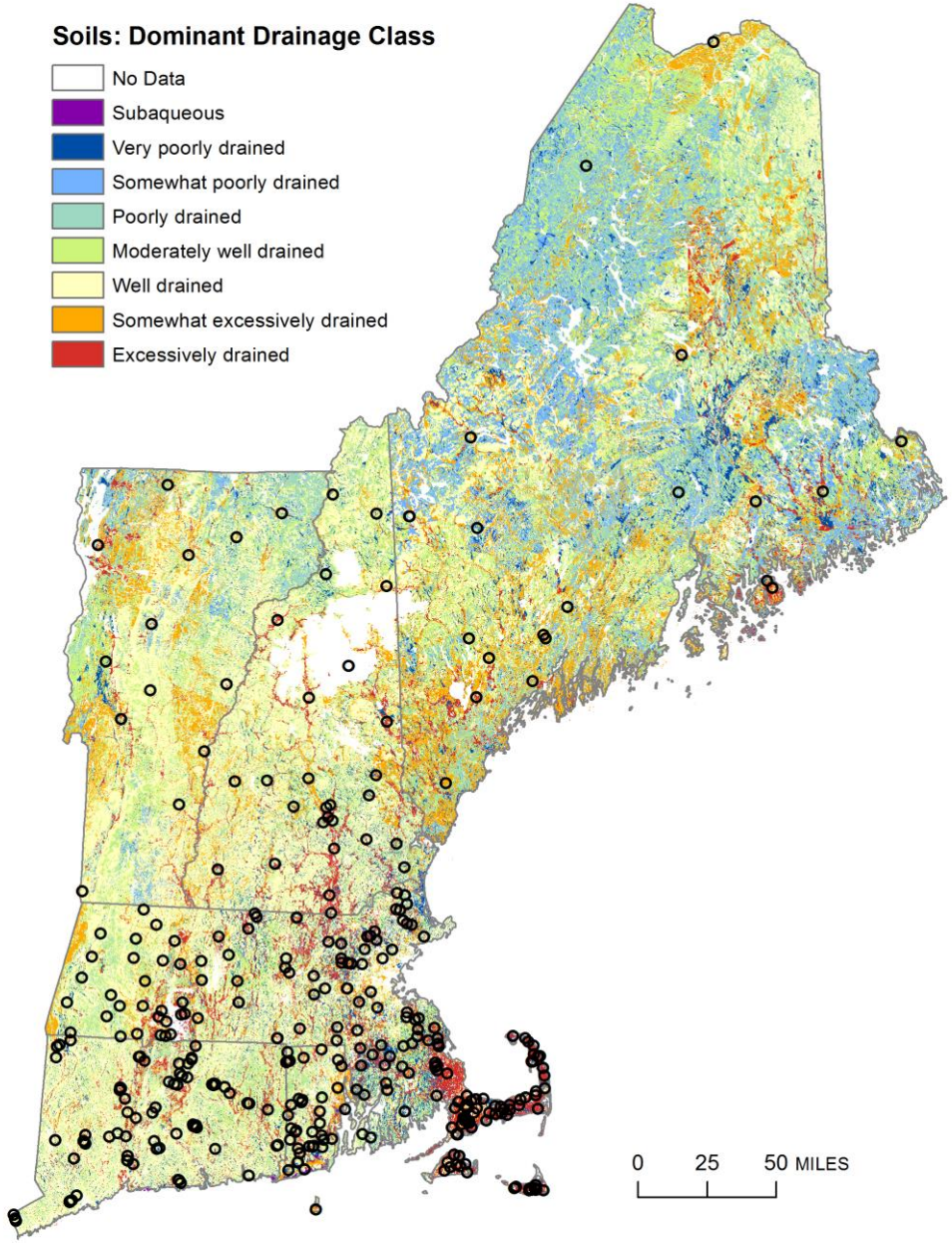
Percent land uses in 500-m radius


Percent impervious surface within a 500 meter buffer
0 - 5
5 - 20
20 - 58

Population Density



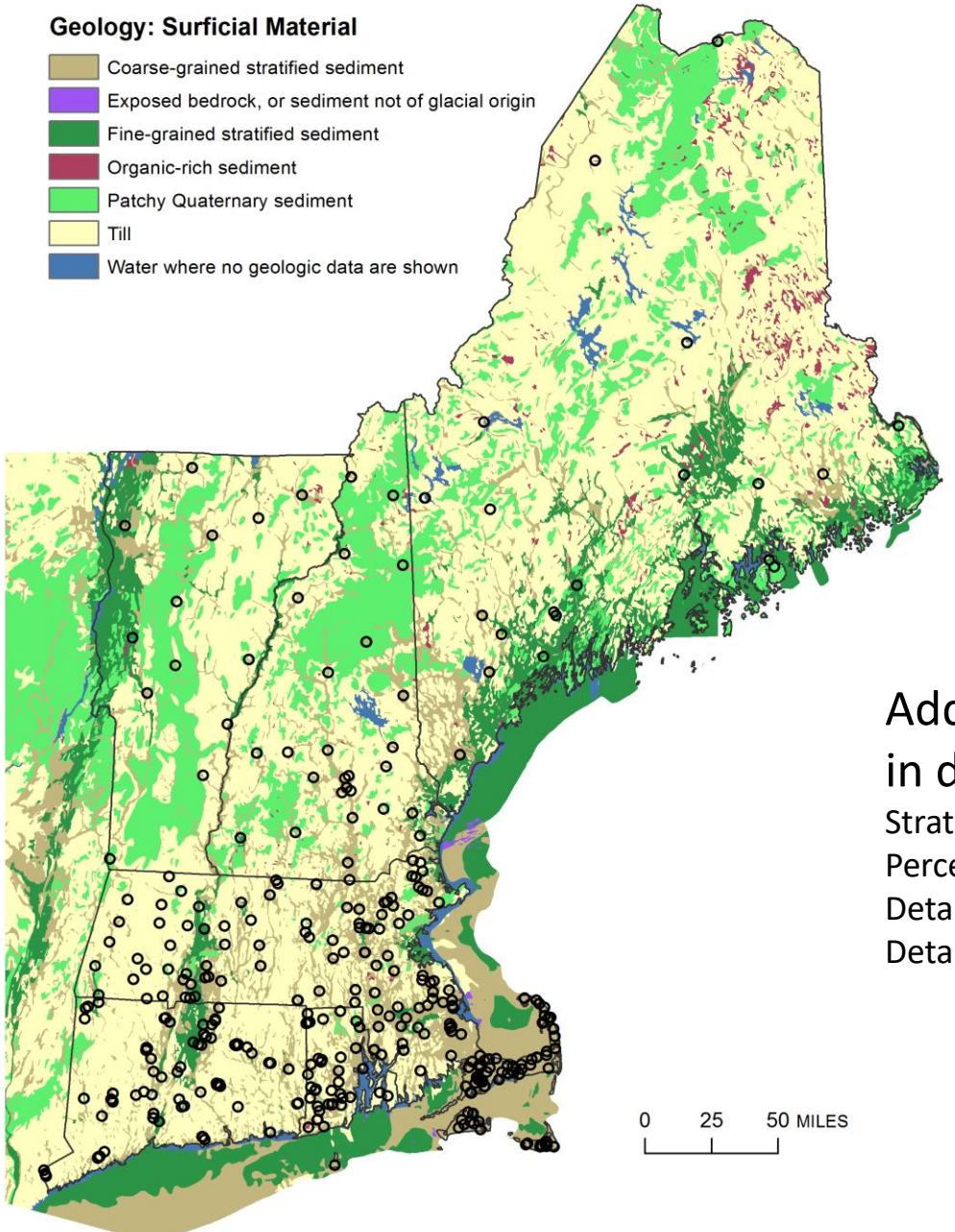
Soils



Other soils information:

SSURGO soil texture
SSURGO soil hydro group
SSURGO soil map unit name

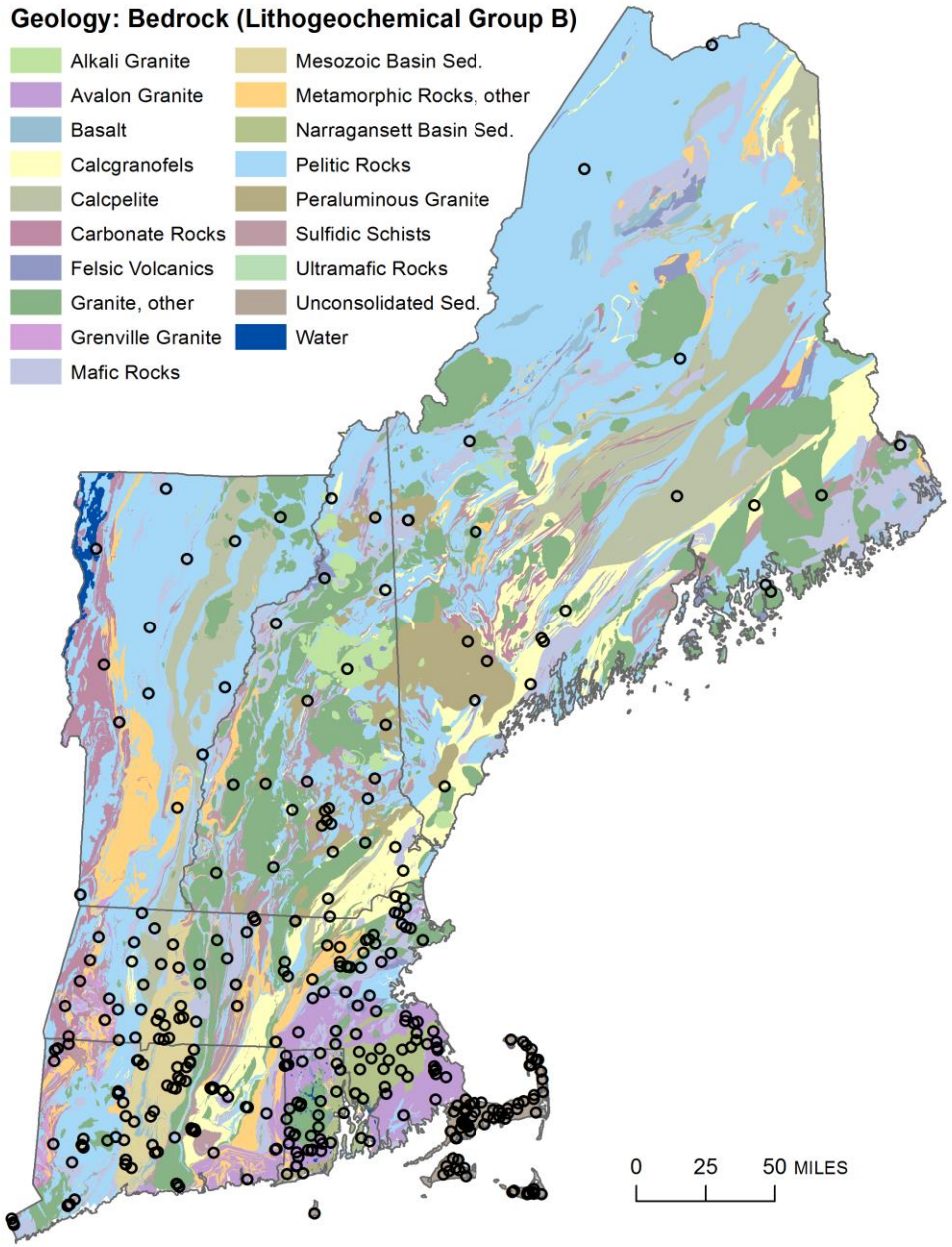
Surficial Geology



Additional surficial geology in database:

Stratified drift
Percent sand and gravel in 200 m radius
Detailed surficial geology of MA
Detailed surficial geology of CT

Bedrock Geology



Hydrologic Applications of Groundwater-Level Data

- Drought prediction and management
- MA Title V septic system permitting (Frimpter method)
- Regional or State network/gap analysis
- Assessment of climate change and salt-water intrusion
- Groundwater/surface water model calibration
- Bedrock surface mapping
- Monitoring levels in major aquifers, physiographic regions, river basins
- Other regional to local hydrologic investigations

Products

- USGS data release (shapefile, attribute definition table):
  https://www.sciencebase.gov/catalog/item/5c9bd20ae4b0b8a7f62c323

- Project page on New England WSC web site:
  https://www.usgs.gov/centers/new-england-water/science/geospatial-dataset-wells-and-attributes-new-england-groundwater?qt-science_center_objects=0#qt-science_center_objects

Contacts:

Laura Hayes
lhayes@usgs.gov

Jeff Barbaro
jrbarbar@usgs.gov