

## Biodiversity and Energy Online Mapping

### About the layers

Layer: FAA Turbine Locations

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Layer developed by: The New York Natural Heritage Program

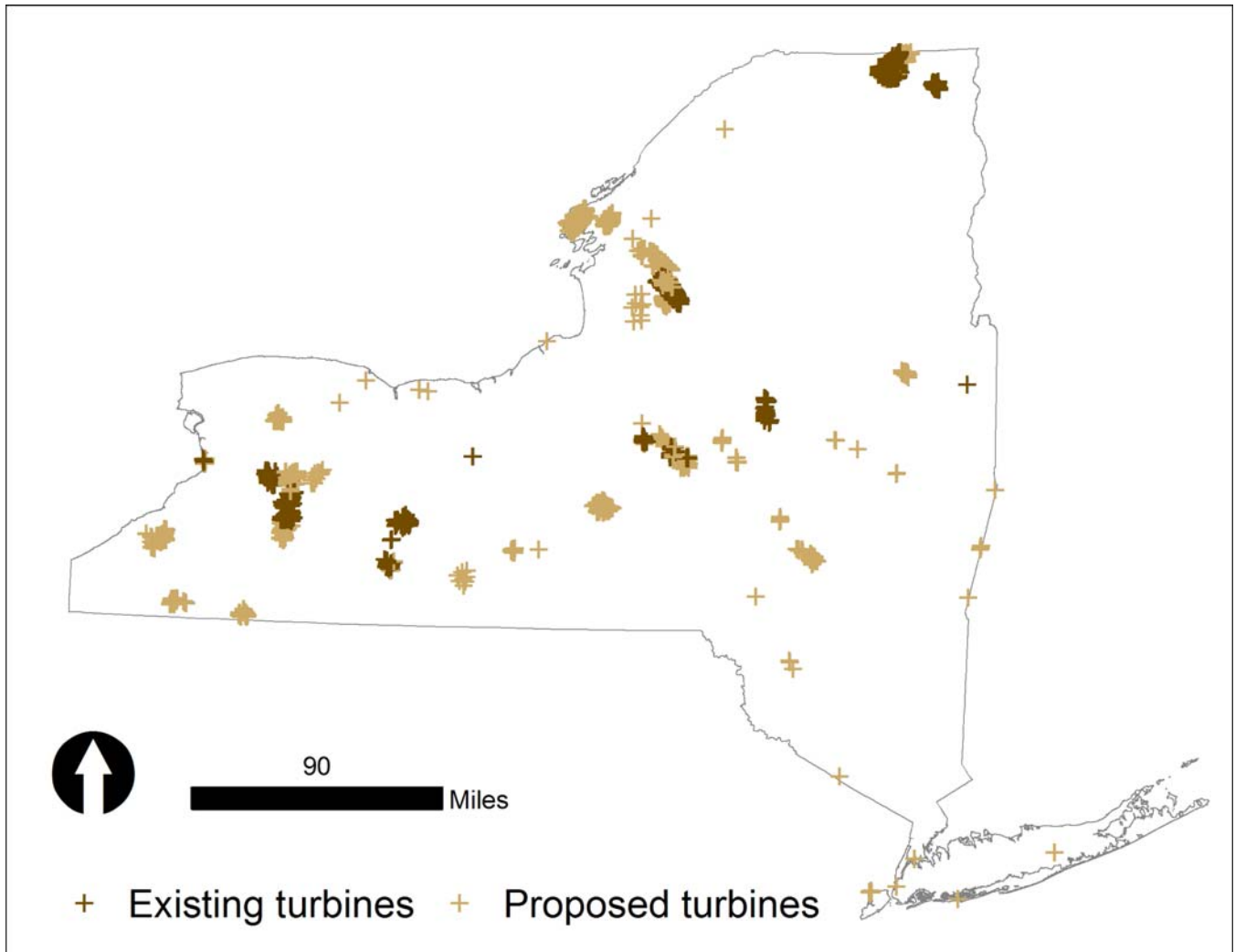
**Short Description:** This layer depicts existing and proposed wind turbines in New York State, as provided by the Federal Aviation Administration's obstruction evaluation process. All construction projects that have the potential to affect navigable airspace must file a "Notice of Proposed Construction or Alteration" to the FAA. Wind turbine cases from 1990 through January 2013 are included in this layer, with duplicate cases removed.

**Why this layer matters:** A spatial representation of existing and proposed turbine sites gives users an important perspective on the distribution of and pattern of wind power generation in New York. In order to better understand how turbines are situated, these locations were also used to model the relationship between turbine locations and other environmental variables, such as wind production capacity, elevation, distance to transmission, and developed and forested lands.

**Source:** The original locations were downloaded from the FAA (<https://oeaaa.faa.gov/oeaaa/external/public/publicAction.jsp?action=showCaseDownloadForm>). These points were subsequently cleaned up by the New York Natural Heritage Program.

### Processing Overview:

1. All "Off Airport Cases" for WTE (Wind Turbines East) and AEA (Eastern Region: VA to NY) were downloaded for the years 1990 to 2013. Downloads were completed in January and thus include information available up to that time.
2. We built a script in the R statistics package that processed the data as follows:
  - a. Merge all the download files
  - b. Extract only structures in New York (structure state = NY)
  - c. Extract only wind turbines (structure type = Wind Turbine or 'wind turbine' appearing in the 'proposal description' field). Remove those tagged as meteorological towers (Met Towers).
  - d. Remove duplicates both as recorded by ASN numbers and records with locations reported as within 90 meters of another location. Also remove temporary towers and older cases that had been assigned new ASN numbers
  - e. A few special case farms were also removed: A large offshore project in Lake Erie that has not been completed and a series of vertical axis turbines on Long Island ("Windstor Power Co." applications) that also have not been built.
  - f. Remove all turbines labeled as under 50 m (164 feet) in height.
  - g. Label all entries tagged as 'Existing' in the 'Notice\_of' field or having a date entry in the 'Built\_date' field were labeled as 'Exists.' Tag all others as 'Proposed.'
3. The final result was a layer with 1886 records. Without manually checking each point in a GIS, it is very difficult to determine the accuracy of the existing and proposed determinations, but spot checking indicates most attributions are correct.



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