

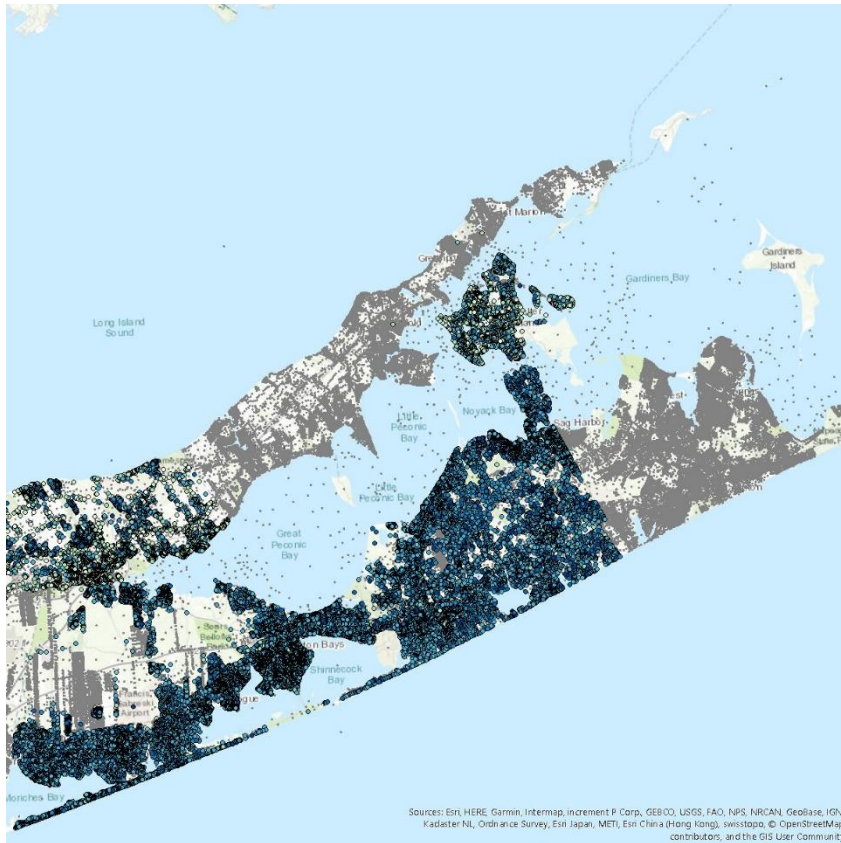
# USGS PEP Solute Transport Model Project Data Request

June, 2018

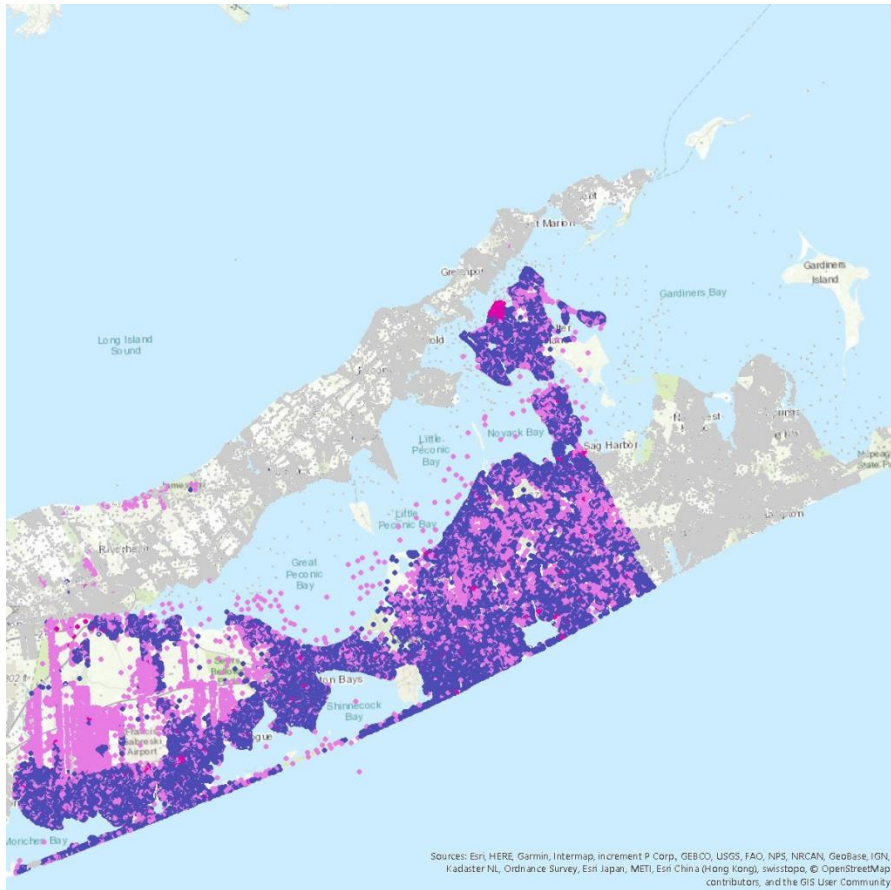
The [USGS-PEP Solute-transport Modeling Project](#) is seeking to develop innovative numerical modeling tools to assess the discharge of nitrogen into fresh and coastal waters within the Peconic watershed. These tools will provide valuable insights into how nitrogen discharge likely will change in response to wastewater mitigation efforts within the watershed. A major thrust of this project is to develop a detailed time-varying nitrogen sources at a multi-decadal time scale, utilizing data from local communities. Parcel-scale water use within the Peconic Estuary ground-watershed is central to this analysis. Such data are critical to a detailed assessment of nitrogen loading to the estuary from wastewater-management actions within its groundwatershed. Thus, it is expected that substantial GIS resources will be required early in the project, some of which may be provided by other entities as in-kind services.

The spatial scale and temporal scale of data that is needed for the solute transport model may be available at several levels. An ideal level would be a GIS (or database) hosting parcel level data which contain attributes that describe each parcel, and any changes to it going as far back in time as possible. Currently, the NYS GIS Clearinghouse hosts a State-level data set of each County's parcel centers (points) available at <http://gis.ny.gov/parcels/#parcel/>. Note this data set has areas within the Peconic Estuary study area that are devoid of data. It may be possible that these data are hosted at the County or Town level, however.

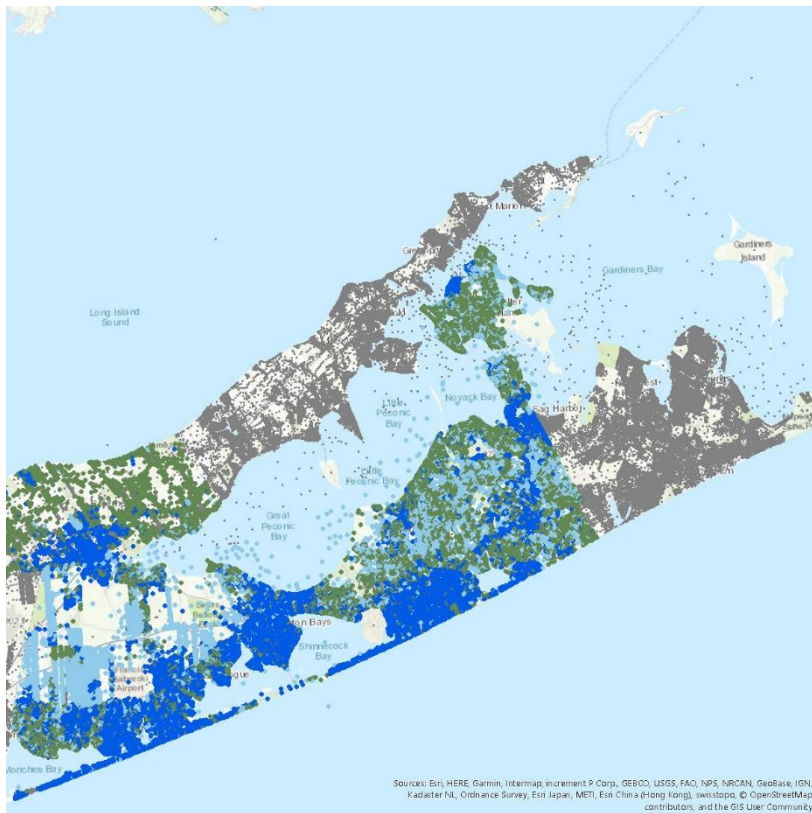
The project could use data at the parcel level which answer the question "when was the parcel developed?" The screen shot below shows an example of the parcel centers with a populated value (colored dot) and those without (gray dot).



Some more questions that might be answered at the parcel level is which parcel uses a public wastewater facility or has an onsite-septic system?



Or, which parcel has a source of water from a public supply?



The year a parcel connects to public water supply or centralized wastewater management would be a bonus. However, it is suspected that this information is likely not available.

We also are in search of more detailed information on current and historical agricultural practices and fertilizer use, if available.

During the presentation that Dan O'Rourke gave in February 2018, he showed some nitrogen source rates in the static model, we could use those source rates (if possible) as a starting point, no sense recreating the wheel.