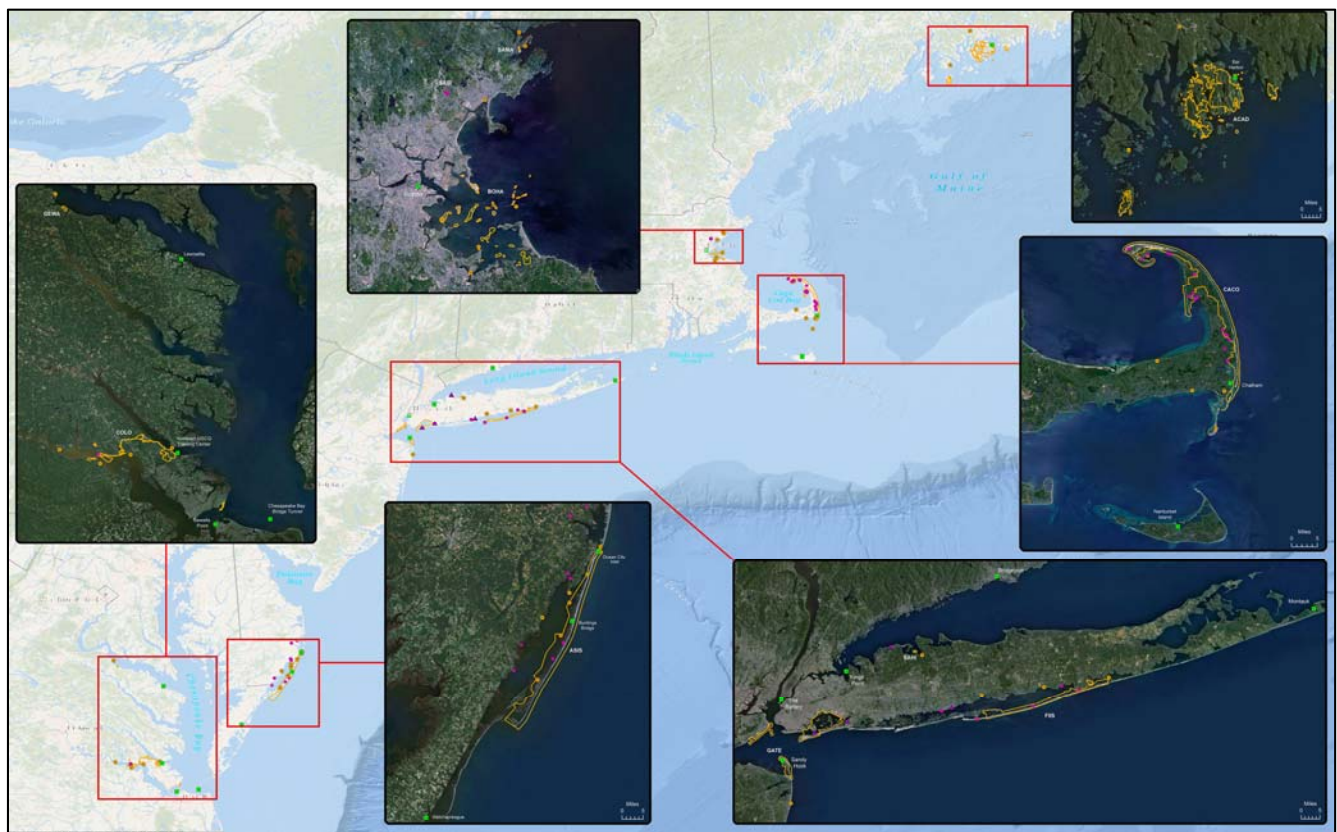




# Database of Tidal Data Coverage in and Near Northeast Region National Parks

Natural Resource Data Series NPS/NER/NRDS—2015/759



**ON THE COVER**

Map showing tide gauges that may provide relevant information for Northeast Region coastal National Parks.  
Image created by Andrew Neil.

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# **Database of Tidal Data Coverage in and Near Northeast Region National Parks**

Natural Resource Data Series NPS/NER/NRDS—2015/759

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The National Park Service, Natural Resource Stewardship and Science office in Fort Collins, Colorado, publishes a range of reports that address natural resource topics. These reports are of interest and applicability to a broad audience in the National Park Service and others in natural resource management, including scientists, conservation and environmental constituencies, and the public.

The Natural Resource Data Series is intended for the timely release of basic data sets and data summaries. Care has been taken to assure accuracy of raw data values, but a thorough analysis and interpretation of the data has not been completed. Consequently, the initial analyses of data in this report are provisional and subject to change.

All manuscripts in the series receive the appropriate level of peer review to ensure that the information is scientifically credible, technically accurate, appropriately written for the intended audience, and designed and published in a professional manner.

This report received formal peer review by subject-matter experts who were not directly involved in the collection, analysis, or reporting of the data, and whose background and expertise put them on par technically and scientifically with the authors of the information.

Views, statements, findings, conclusions, recommendations, and data in this report do not necessarily reflect views and policies of the National Park Service, U.S. Department of the Interior. Mention of trade names or commercial products does not constitute endorsement or recommendation for use by the U.S. Government.

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## **Abstract**

This document provides maps and a database of a compilation of information about and from tide gauges and water level devices in and around 12 coastal National Parks in the Northeast Region. Where available, sea level rise trends are included. This list does not represent all tidal data sources and is intended to be an actively updated database with additions on an ongoing basis.

## **Acknowledgments**

This work was supported by a George Melendez Wright Youth Climate Change Initiative Internship by the National Park Service. Thanks are extended to Michael Bradley and Dave Ullman of University of Rhode Island; John Boon of Virginia Institute of Marine Science; Galen Scott of NOAA; and Kelly Medeiros, Dennis Skidds, Sara Stevens and Neil Winn of the NPS for input and guidance, as well as multiple reviewers from the parks and the Northeast Region, and Robin Baranowski for assisting us with formatting.



# Introduction

The goal of this project was to identify and map sources of tidal data for 12 coastal National Parks in the Northeast Region (NER) of the National Park Service (NPS). This is part of a larger project to identify gaps in tide gauge coverage and prioritize how to fill the gaps. Tidal data was compiled from tide gauges and other water level measuring devices. Tidal data is important for understanding local water heights (datums), tidal ranges, and sea level rise. Table 1 (see Results) lists information about tide gauges and water level devices based on proximity to coastal National Parks in the NER. This list does not represent all tidal data sources.

Data sources include:

1. NOAA National Water Level Observation Network (NWLON) gauges which are active, long-term, continuously running tide gauges.
2. NOAA Historic temporary gauges which are inactive and only operated for set time periods to calculate local tidal datums in reference to the NWLON gauges.
3. USGS water level recorders.
4. Other lower-tech devices, including pressure sensors and data loggers, deployed by NPS and other agencies and organizations.

The most reliable and accurate sources of tidal data are National Oceanographic and Atmospheric Administration (NOAA) National Water Level Observation Network (NWLON), (“NOAA NWLON”), tide stations which have collected data continuously for at least 19 years with high precision equipment and regular maintenance and upkeep (NOAA, 2015a). United States Geological Survey (USGS) gauges also generally have significant time periods of data collection and many are still actively collecting data (USGS, 2015). NOAA secondary, "historic", and temporary stations are temporary gauges operating for a shorter time period, usually for a few months, to collect enough data to calculate a tidal datum in relation to an NWLON station. All other sources are ranked together because it is much more difficult to develop accuracy levels for them. Hobo loggers, YSI pressure sensors, and other devices such as microwave gauges are operated by third parties such as universities, state agencies, or the NPS. These water level devices all have unique situations and may have been implemented in different ways. This data may not be at the same accuracy standards as NOAA gauges or USGS gauges but may be adequate for certain uses. Sea level trends are from NOAA, calculated with the length of the historic record through 2006; more recent updates through 2013 are available (NOAA, 2015b).

An accompanying more extensive Excel spreadsheet which includes more complete tidal datum and metadata information for each station is available through the IRMA (Integrated Research Management Applications) portal, along with shapefiles of all of the sources of tidal data found in the maps to follow.

The data was gathered during the summer of 2013 and review and edits to the information continued into 2015. It is not comprehensive and is intended to be an actively updated database with additions on an ongoing basis.



## Study Area

The following Figure 1 shows the entire study area. Figures 2-13 show each of the following 12 parks in the Northeast Region marking tide gauges in the park vicinity out to 10 nautical miles: Acadia National Park, Assateague Island National Seashore, Boston Harbor Islands National Recreation Area, Cape Cod National Seashore, Colonial National Historical Park, Fire Island National Seashore, Fort Monroe National Monument, Gateway National Recreation Area, George Washington Birthplace National Monument, Sagamore Hill National Historic Site, Salem Maritime National Historic Site and Saugus Iron Works National Historic Site.

### **Service Layer Credits: Source:**

National Geographic, Esri, DeLorme, NAVTEQ, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, iPC

Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

**Figure 1.** Map showing tide gauges that may provide relevant information for Northeast Region coastal National Parks.

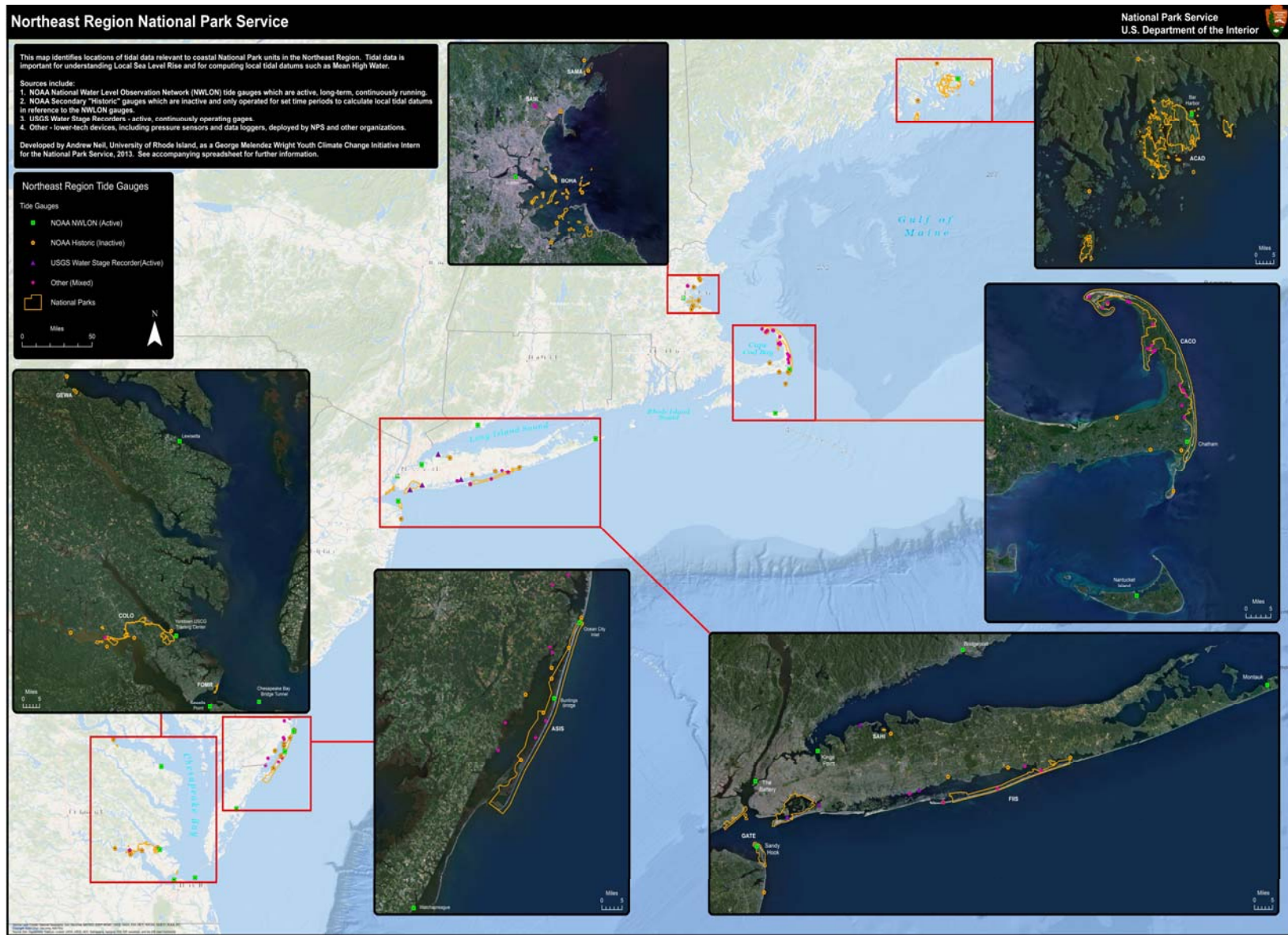


**Figure 2.** Map showing tide gauges that operated in the vicinity of Acadia National Park.

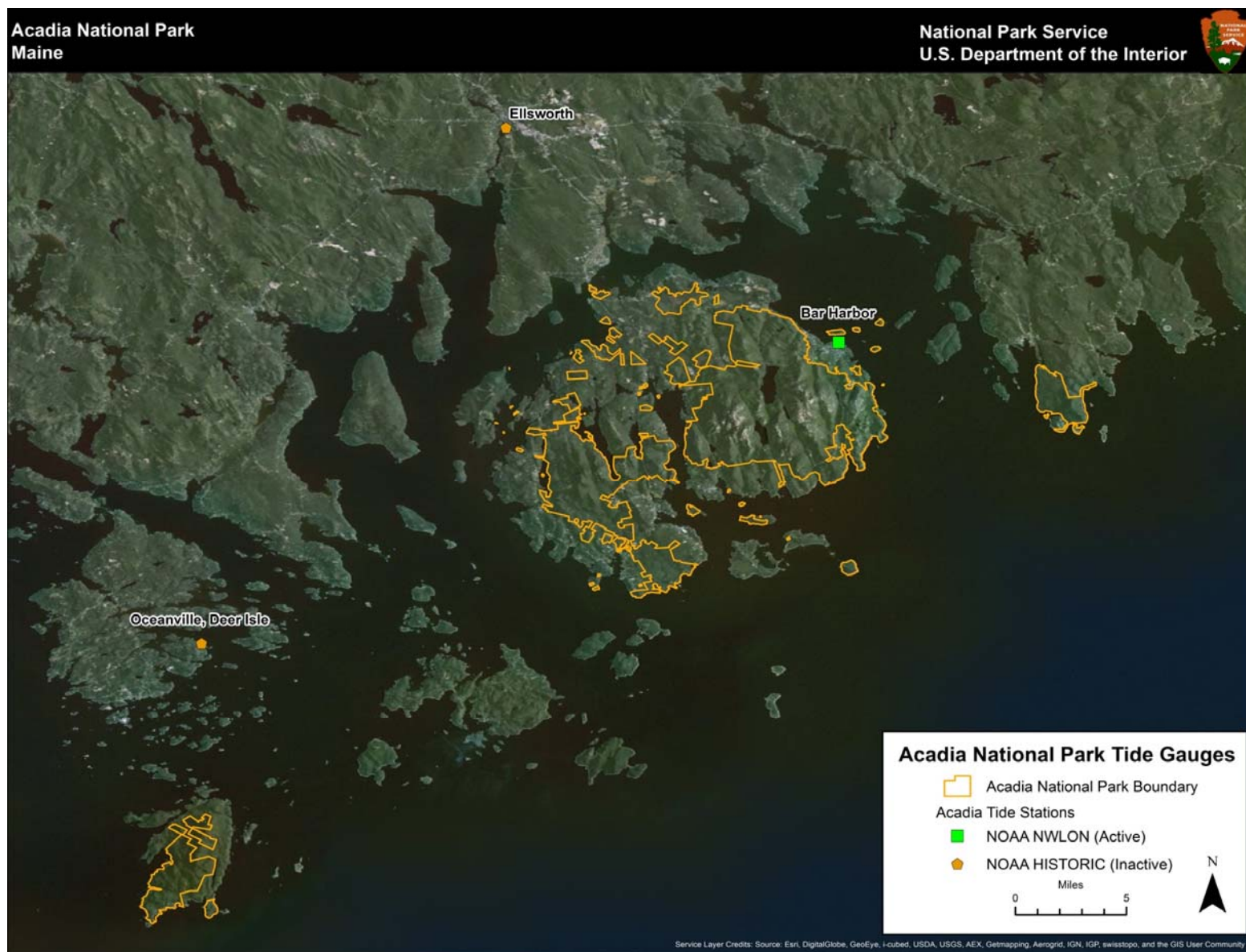


**Figure 3.** Map showing tide gauges that operated in the vicinity of Assateague Island National Seashore.

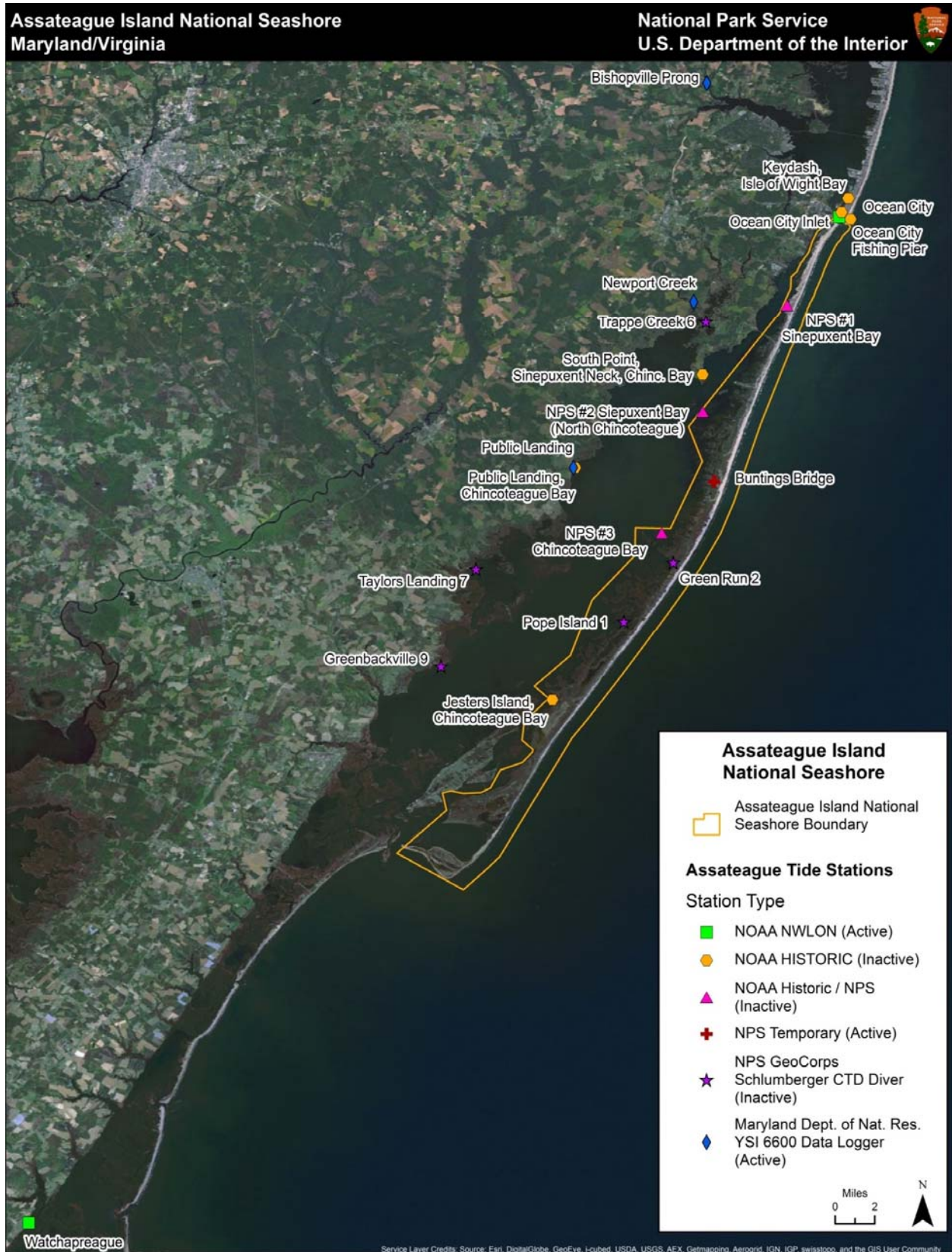


**Figure 4.** Map showing tide gauges that operated in the vicinity of Boston Harbor Islands National Recreation Area.

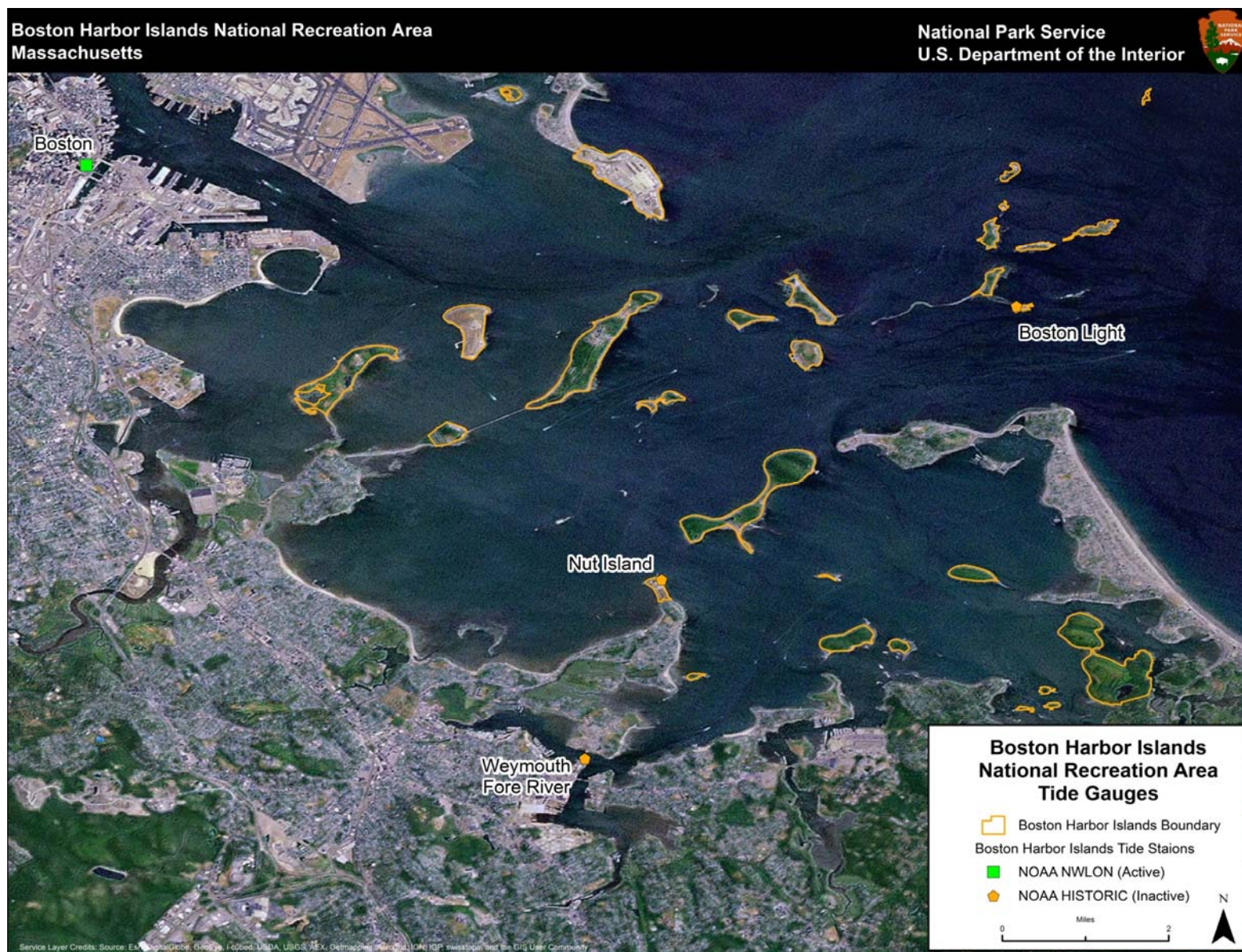


**Figure 5.** Map showing tide gauges that operated in the vicinity of Cape Cod National Seashore.



**Figure 6.** Map showing tide gauges that operated in the vicinity of Colonial National Historical Park.

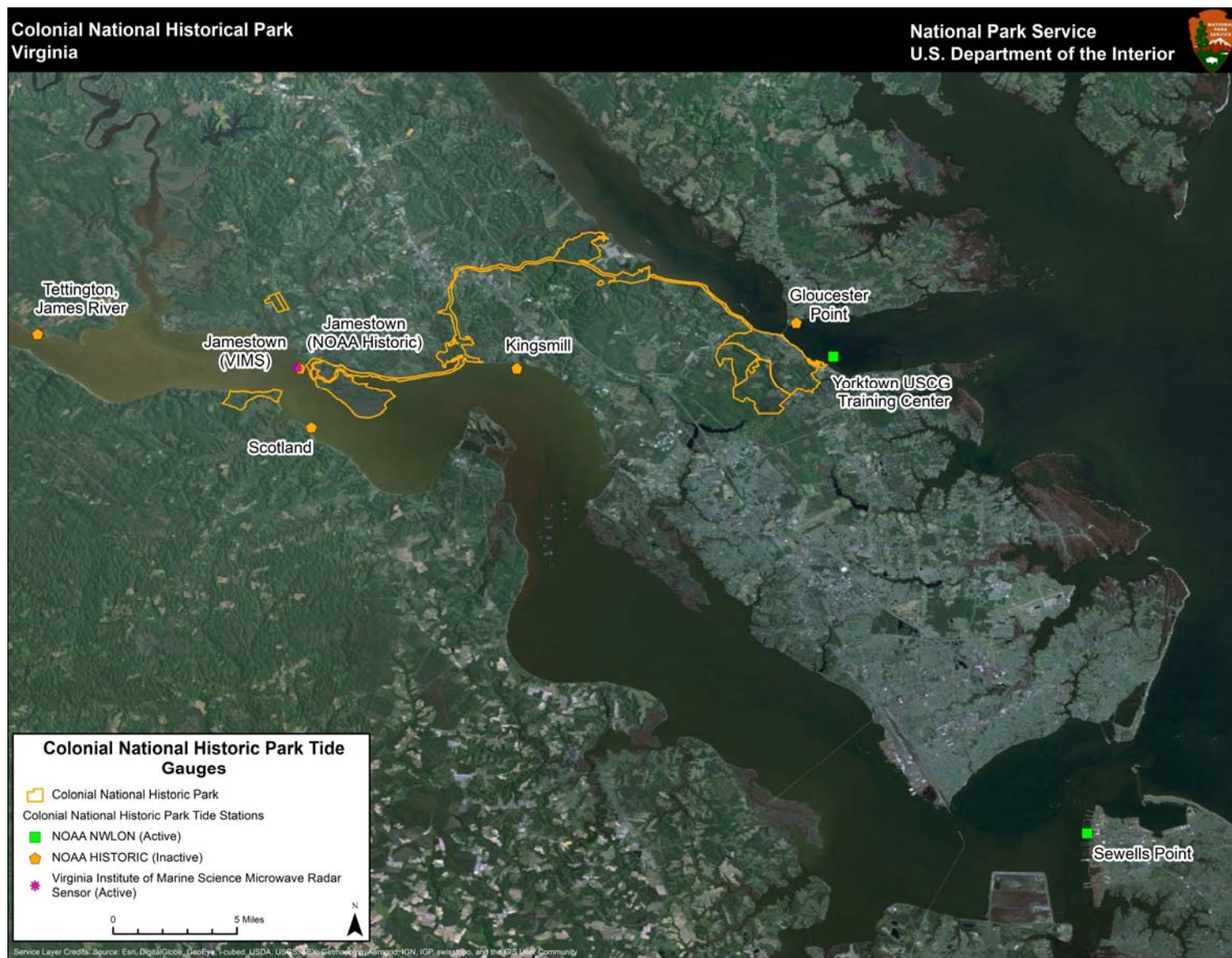


**Figure 7.** Map showing tide gauges that operated in the vicinity of Fire Island National Seashore.

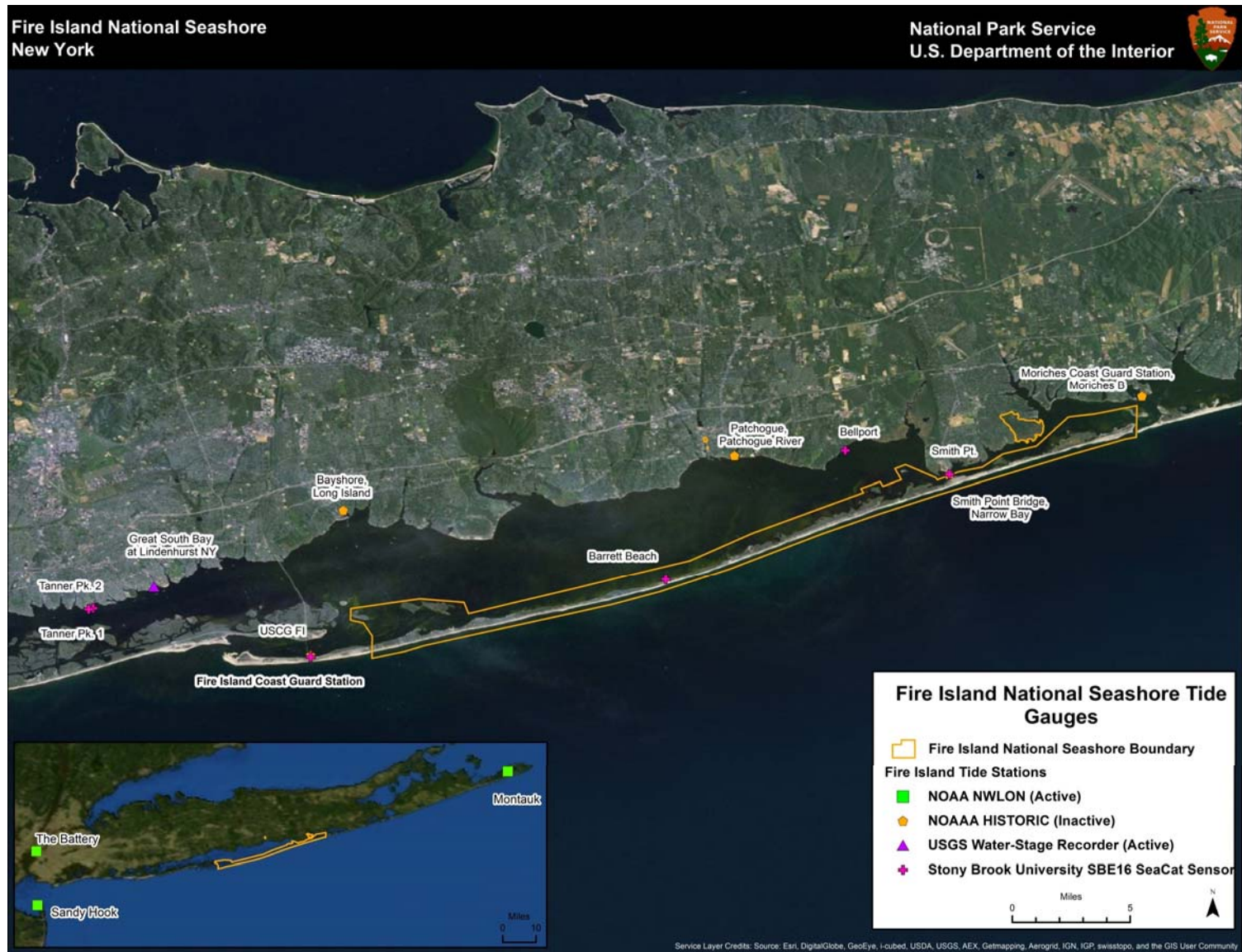


**Figure 8.** Map showing tide gauges that operated in the vicinity of Fort Monroe National Monument.

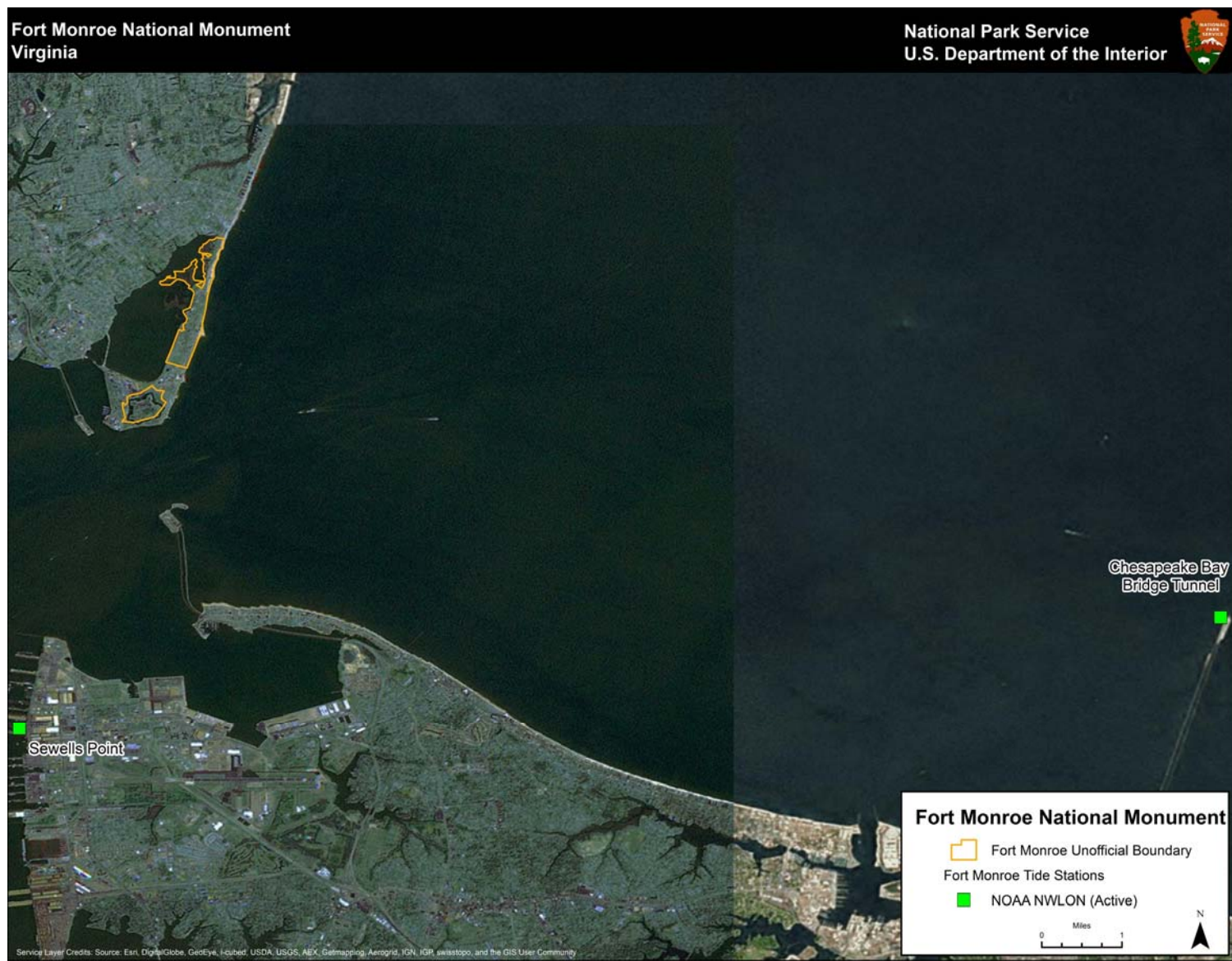


**Figure 9.** Map showing tide gauges that operated in the vicinity of Gateway National Recreation Area.

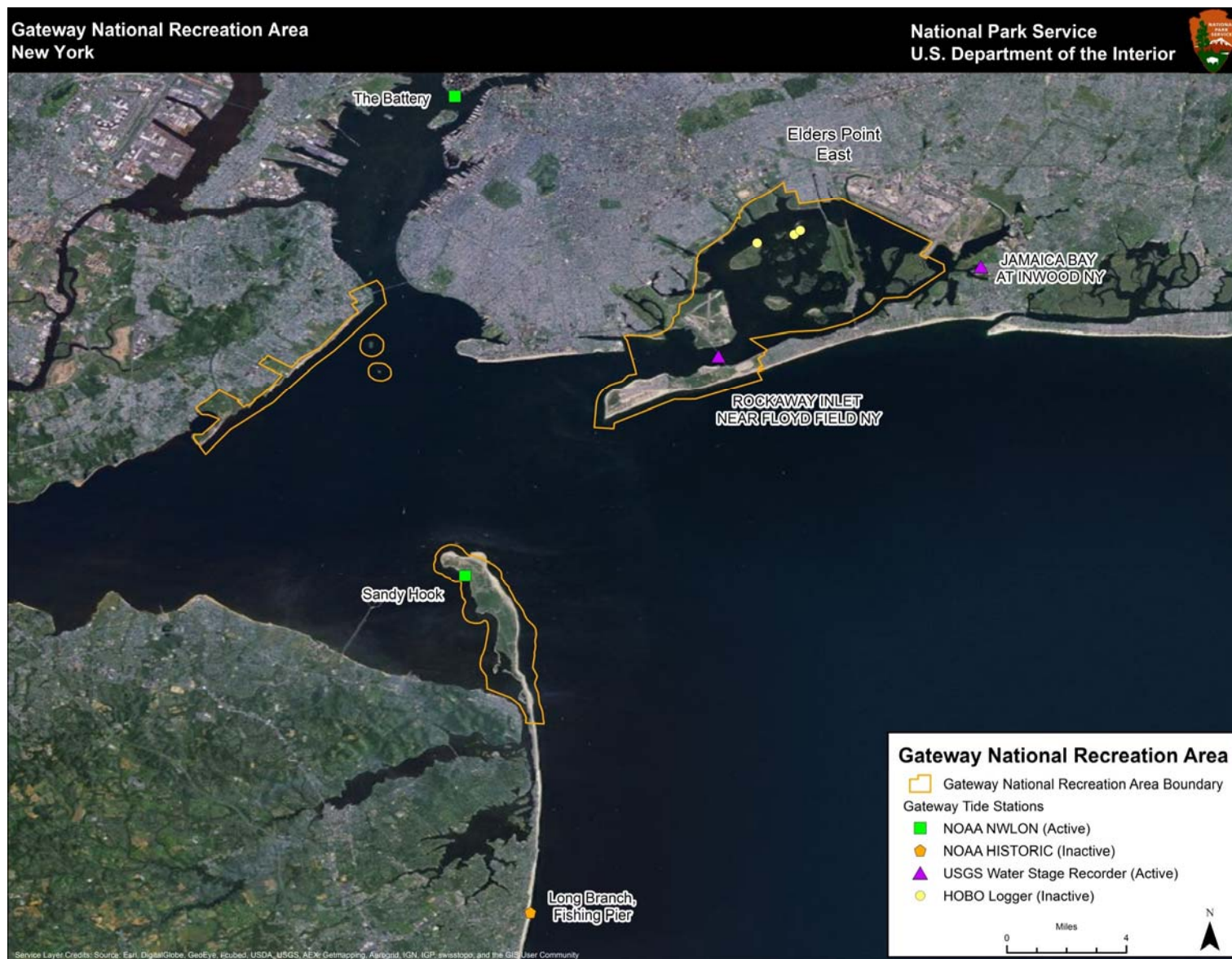


**Figure 10.** Map showing tide gauges that operated in the vicinity of George Washington Birthplace National Monument.



**Figure 11.** Map showing tide gauges that operated in the vicinity of Sagamore Hill National Historic Site.

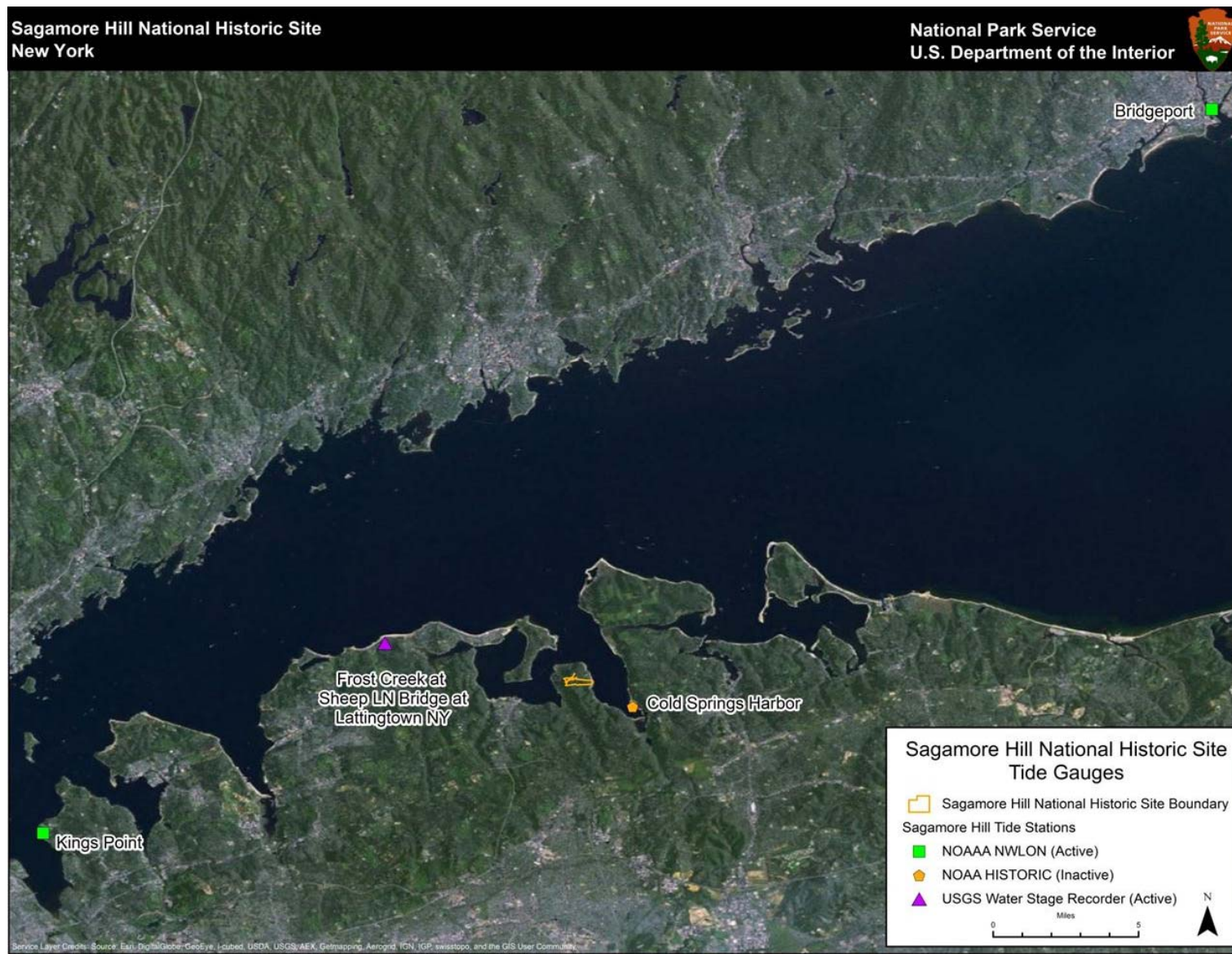


**Figure 12.** Map showing tide gauges that operated in the vicinity of Saugus Iron Works National Historic Site.



**Figure 13.** Map showing tide gauges that operated in the vicinity of Salem Maritime National Historic Site.



## Results

Table 1 lists the available tidal information by park. Some parks have extensive and varied coverage; others are limited. Many data sources lack benchmark, datum, or sea level rise trend information. There are some gaps in long term NWLON stations which have been highlighted by NOAA (Gill and Fisher, 2008). While other data sources are available in the vicinity of some of these gaps, they currently do not sufficiently fill the need for long term, high quality, continuous data.

Many of the following definitions for Table 1 are based on NOS (2000). Additional data sources include Parker (2007), The College of William & Mary (2013), Stony Brook University (2013) and NPS (2011).

- **Name** - The site name, usually based on location.
- **Park** – The National Park unit code that the tide gauge may be useful for.
  - ACAD – Acadia National Park
  - ASIS – Assateague Island National Seashore
  - BOHA – Boston Harbor Islands National Recreation Area
  - CACO – Cape Cod National Seashore
  - COLO – Colonial National Historical Park
  - FIIS – Fire Island National Seashore
  - FOMR – Fort Monroe National Monument
  - GATE – Gateway National Recreational Area
  - GEWA – George Washington Birthplace National Monument
  - SAIR – Saugus Iron Works National Historic Site
  - SAHI – Sagamore Hill National Historic Site
  - SAMA – Salem Maritime National Historic Site
- **Type** – Station Type - Refers to whether the site is part of the NOAA NWLP (National Water Level Program) system as a Primary (active/NWLON), Secondary (NOAA historic), or Tertiary (NOAA historic) tide station, is a USGS Tide Gauge, or is some other type of equipment operated by another party. Coverage from Active NOAA NWLON stations is determined from the document [NOOA Technical Memorandum NOS CO-OPS 0048 A Network Gaps Analysis for the National Water Level Observation Network \(Stephen K. Gill & Kathleen M. Fisher, 2008\)](http://tidesandcurrents.noaa.gov/publications/Technical_Memorandum_NOS_COOPS_0048.pdf).  
([http://tidesandcurrents.noaa.gov/publications/Technical\\_Memorandum\\_NOS\\_COOPS\\_0048 .pdf](http://tidesandcurrents.noaa.gov/publications/Technical_Memorandum_NOS_COOPS_0048.pdf)) NWLON stations are long-term, continually operating installations and have rigorous equipment, benchmark, and data standards. All NWLON stations have been collecting data long enough (>19 yrs) to yield trend data. Although NWLON stations typically use acoustic and pressure sensors, a transition to Microwave Water Level (MWWL) sensors has been approved and is beginning for many stations.
- **ID** – Station ID - For NOAA and USGS Tide Gauges with a respective Station ID Number

- **Active** - Designates if the Station is currently active (i.e. continuously collecting daily water level recordings) or not. Y = Yes. N = No.
- **Install-Removal** - Catalogues the installation and removal dates for each tide station. Many historic NOAA stations, as well as other sites, have multiple installation and removal dates with large gaps of time in between them.
- **Length of Record** – Total Length of Record (Estimate) - An estimate of the total amount of time that the tide station has been in operation. This does not assume a continuous length of record and the Install - Removal date ranges should be noted when determining actual length of records.
- **Contact** – Website/Contact - Links to the appropriate website or a contact name from where the information came from. Further information and data can be found through these links.
- **Northing / Easting** - North coordinate in Universal Transverse Mercator (UTM) coordinate system (Zone 18 or 19 depending on gauge location). Some of these were converted from decimal degrees in GIS and are approximate. East coordinate in Universal Transverse Mercator (UTM) coordinate system (Zone 18 or 19 depending on gauge location). Some of these were converted from decimal degrees in GIS and are approximate.
- **MHHW** – MHHW(ft) - Mean Higher High Water in feet relative to Station Datum. This is the average of the higher high water heights of each tidal day observed over the National Tidal Datum Epoch. For stations with shorter series, comparison of simultaneous observations with a control tide station is made in order to derive the equivalent datum of the National Tidal Epoch.
- **MHW** – MHW(ft) - Mean High Water in feet relative to Station Datum. The average of all the high water heights observed over the National Tidal Datum Epoch. For stations with shorter series, comparison of simultaneous observations with a control tide station is made in order to derive the equivalent datum of the National Tidal Epoch.
- **MSL** – MSL(ft) - Mean Sea Level in feet relative to Station Datum. This is the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch. Shorter series are specified in the name; e.g. monthly mean sea level and yearly mean sea level.
- **MLW** – MLW(ft) - Mean Low Water in feet relative to Station Datum. The average of all the low water heights observed over the National Tidal Datum Epoch. For stations with shorter series, comparison of simultaneous observations with a control tide station is made in order to derive the equivalent datum of the National Tidal Datum Epoch.
- **MLLW** – MLLW(ft) - Mean Lower Low Water in feet relative to Station Datum. The average of the lower low water heights of each tidal day observed over the National Tidal Datum Epoch. For stations with a shorter series, comparison of simultaneous observations with a control tide station is made in order to derive the equivalent datum of the National Tidal Datum Epoch.
- **GT** – GT(ft) - Great Diurnal Range in feet relative to Station Datum. The difference in height between mean higher high water and mean lower low water.

- **NAVD88** – NAVD88(ft) - North American Vertical Datum of 1988 in feet relative to Station Datum. A fixed reference for elevations determined by geodetic leveling. The datum was derived from a general adjustment of the first order terrestrial leveling nets of the United States, Canada, and Mexico. In the adjustment, only the height of the primary tidal bench mark, referenced to the International Great Lakes Datum of 1985 (IGLD 85) local mean sea level height value, at Father Point, Rimouski, Quebec, Canada was held fixed, thus providing minimum constraint. NAVD 88 and IGLD 85 are identical. However, NAVD 88 bench mark values are given in Helmert orthometric height units while IGLD 85 values are in dynamic heights. NAVD 88 should not be used as Mean Sea Level.
- **Sea Level Trend** – Local Relative Sea Level Trend – SLT(mm/yr) - The Local Relative Linear Sea Level Trend reflects local sea level changes over time and are reported in millimeters per year here. Local Relative Mean Sea Level refers to the height of the water as measured along the coast relative to a specific point on land, (e.g. at a tide station referenced to the land through bench marks). The measurements at any given tide station include both global sea level rate and local vertical land motion, such as subsidence, glacial rebound, or large-scale tectonic motion.
- **SLT Years** – Local Relative Linear Sea Level Trend-Year Range - The number of years from which data was used at a Tide Station to calculate the Local Relative Sea Level Trend. NOAA has calculated this for all data to 2006. Updates up to 2012 are also available on the NOAA Tides and Currents website in a different format. These updates are not necessarily more accurate but are more precise.



**Table 1.** The table below lists information about tide gauges and water level devices based on proximity to coastal National Parks in the NER. This list does not represent all tidal data sources.

| NAME                     | PARK | TYPE             | ID      | ACTIVE | INSTALL-<br>REMOVAL                                                           | Length of<br>Record       | Contact                                                                                                                                 | Northing/<br>Easting  | MHHW  | MHW   | MSL   | MLW   | MLLW  | GT    | NAVD88 | Sea Level<br>Trend | SLT Years |
|--------------------------|------|------------------|---------|--------|-------------------------------------------------------------------------------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------|-------|-------|-------|-------|-------|--------|--------------------|-----------|
| Bar Harbor               | ACAD | NOAA<br>NWLON    | 8413320 | Y      | 8/16/1947 -<br>present                                                        | > 66<br>years             | <a href="http://tidesandcurrents.noaa.gov/stationhome.html?id=8413320">http://tidesandcurrents.noaa.gov/stationhome.html?id=8413320</a> | 4915683 /<br>563317.7 | 14.84 | 14.42 | 9.14  | 3.85  | 3.47  | 11.37 |        | 2.04               | 60        |
| Ellsworth                | ACAD | NOAA<br>Historic | 8413801 | N      | 6/14/1999 -<br>10/25/1999                                                     | 4 months                  | <a href="http://tidesandcurrents.noaa.gov/stationhome.html?id=8413801">http://tidesandcurrents.noaa.gov/stationhome.html?id=8413801</a> | 4931460 /<br>545948.7 | 16.56 | 16.14 | 10.87 | 5.54  | 5.17  | 11.39 | na     | na                 | na        |
| Oceanville, Deer<br>Isle | ACAD | NOAA<br>Historic | 8414249 | N      | 3/16/2010 -<br>8/11/2010                                                      | 5 months                  | <a href="http://tidesandcurrents.noaa.gov/stationhome.html?id=8414249">http://tidesandcurrents.noaa.gov/stationhome.html?id=8414249</a> | 4893232 /<br>530367.9 | 30.06 | 29.64 | 24.72 | 19.78 | 19.43 | 10.64 | na     | na                 | na        |
| Ocean City Inlet         | ASIS | NOAA<br>NWLON    | 8570283 | Y      | 6/5/1978 -<br>6/22/1978<br>11/17/1997<br>- 2/8/1999<br>6/27/2002 -<br>present | > 12<br>years 4<br>months | <a href="http://tidesandcurrents.noaa.gov/stationhome.html?id=8570283">http://tidesandcurrents.noaa.gov/stationhome.html?id=8570283</a> | 4242249 /<br>491987.9 | 10.5  | 10.3  | 9.31  | 8.2   | 8.03  | 2.46  | 9.67   | 5.48               | 32        |
| Wachapreague             | ASIS | NOAA<br>NWLON    | 8631044 | Y      | 6/28/1978 -<br>present                                                        | > 25<br>years             | <a href="http://tidesandcurrents.noaa.gov/stationhome.html?id=8631044">http://tidesandcurrents.noaa.gov/stationhome.html?id=8631044</a> | 4162396 /<br>439538.7 | 6.82  | 6.5   | 4.6   | 2.48  | 2.31  | 4.51  | na     | na                 | na        |
| Buntings Bridge          | ASIS | NPS<br>Temporary | 8570691 | Y      | 2/5/13 -<br>present                                                           | > 7<br>months             | <a href="http://tidesandcurrents.noaa.gov/stationhome.html?id=8570691">http://tidesandcurrents.noaa.gov/stationhome.html?id=8570691</a> | 4221180 /<br>483934.1 |       |       |       |       |       |       |        |                    |           |

| NAME                                           | PARK | TYPE                      | ID      | ACTIVE | INSTALL-<br>REMOVAL      | Length of<br>Record     | Contact                                                                                                                                   | Northing/<br>Easting  | MHHW | MHW  | MSL  | MLW  | MLLW | GT   | NAVD88 | Sea Level<br>Trend | SLT Years |
|------------------------------------------------|------|---------------------------|---------|--------|--------------------------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------|------|------|------|------|------|--------|--------------------|-----------|
| Ocean City<br>Fishing Pier                     | ASIS | NOAA<br>Historic          | 8570280 | N      | 5/12/1975 -<br>1/3/1992  | 16<br>years 8<br>months | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8570280">http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8570280</a> | 4242064 /<br>492716.2 | 8.11 | 7.74 | 6.08 | 4.38 | 4.22 | 3.89 | 6.54   | na                 | na        |
| South Point,<br>Sinepuxent Neck,<br>Chinc. Bay | ASIS | NOAA<br>Historic          | 8570536 | N      | 7/13/1985 -<br>11/5/1985 | 4<br>months             | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8570536">http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8570536</a> | 4229688 /<br>483221.4 | 4    | 3.92 | 3.69 | 3.45 | 3.35 | 0.65 | na     | na                 | na        |
| Public<br>Landing,<br>Chincoteague<br>Bay      | ASIS | NOAA<br>Historic          | 8570649 | N      | 7/13/1985 -<br>11/6/1985 | 4<br>months             | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8570649">http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8570649</a> | 4222312 /<br>475028.2 | 2.52 | 2.44 | 2.19 | 1.91 | 1.81 | 0.71 | na     | na                 | na        |
| Keydash, Isle of<br>Wight Bay                  | ASIS | NOAA<br>Historic          | 8570255 | N      | 5/20/1977 -<br>7/6/1979  | 2 years<br>2<br>months  | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8570255">http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8570255</a> | 4243728 /<br>492572   | 5.99 | 5.81 | 5.09 | 4.29 | 4.16 | 1.83 | na     | na                 | na        |
| Ocean City                                     | ASIS | NOAA<br>Historic          | 8570282 | N      | 7/11/1974 -<br>5/19/1977 | 2 years<br>10<br>months | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8570282">http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8570282</a> | 4242619 /<br>492134   | 5.33 | 5.11 | 4.06 | 2.91 | 2.76 | 2.57 | 4.47   | na                 | na        |
| Jesters Island,<br>Chincoteague<br>Bay         | ASIS | NOAA<br>Historic          | 8630111 | N      | 7/25/1985 -<br>11/7/1985 | 3<br>months             | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8630111">http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8630111</a> | 4203824 /<br>473507.8 | 2.95 | 2.87 | 2.49 | 2.11 | 2.01 | 0.94 | na     | na                 | na        |
| NPS #1<br>Sinepuxent Bay                       | ASIS | NOAA<br>Historic /<br>NPS | 8570435 | N      | 8/18/1998 -<br>4/26/1999 | 8<br>months             | Neil Winn,<br>ASIS NPS                                                                                                                    | 4235226 /<br>488627.5 | 1.03 | 0.91 | 0.58 | 0.26 | 0.17 | 0.86 | na     |                    |           |

| NAME                                               | PARK | TYPE                          | ID      | ACTIVE | INSTALL-<br>REMOVAL      | Length of<br>Record | Contact                | Northing/<br>Easting  | MHHW | MHW  | MSL  | MLW  | MLLW  | GT   | NAVD88 | Sea Level<br>Trend | SLT Years |
|----------------------------------------------------|------|-------------------------------|---------|--------|--------------------------|---------------------|------------------------|-----------------------|------|------|------|------|-------|------|--------|--------------------|-----------|
| NPS #2<br>Siepuxent Bay<br>(North<br>Chincoteague) | ASIS | NOAA<br>Historic /<br>NPS     | 8570616 | N      | 8/21/1998 -<br>4/26/1999 | 8<br>months         | Neil Winn,<br>ASIS NPS | 4226729 /<br>483215.3 | 0.59 | 0.5  | 0.24 | 0.02 | -0.06 | 0.65 | na     |                    |           |
| NPS #3<br>Chincoteague<br>Bay                      | ASIS | NOAA<br>Historic /<br>NPS     | 8570819 | N      | 8/21/1998 -<br>4/26/1999 | 8<br>months         | Neil Winn,<br>ASIS NPS | 4217119 /<br>480565.2 | 0.64 | 0.56 | 0.3  | 0.06 | -0.01 | 0.65 | na     |                    |           |
| Pope Island 1                                      | ASIS | Schlumber<br>ger CTD<br>Diver |         | N      | 2/28/2012 -<br>6/28/2012 | 4<br>months         | Neil Winn,<br>ASIS NPS | 4210083 /<br>478123.5 |      |      |      |      |       |      |        |                    |           |
| Green Run 2                                        | ASIS | Schlumber<br>ger CTD<br>Diver |         | N      | 2/28/2012 -<br>6/28/2012 | 4<br>months         | Neil Winn,<br>ASIS NPS | 4214768 /<br>481310.8 |      |      |      |      |       |      |        |                    |           |
| Trappe Creek<br>6                                  | ASIS | Schlumber<br>ger CTD<br>Diver |         | N      | 2/28/2012 -<br>7/6/2012  | 4<br>months         | Neil Winn,<br>ASIS NPS | 4233915 /<br>483446   |      |      |      |      |       |      |        |                    |           |
| Taylors<br>Landing 7                               | ASIS | Schlumber<br>ger CTD<br>Diver |         | N      | 2/28/2012 -<br>7/6/2012  | 4<br>months         | Neil Winn,<br>ASIS NPS | 4214286 /<br>468636   |      |      |      |      |       |      |        |                    |           |
| Greenbackville<br>9                                | ASIS | Schlumber<br>ger CTD<br>Diver |         | N      | 2/28/2012 -<br>7/6/2012  | 4<br>months         | Neil Winn,<br>ASIS NPS | 4206528 /<br>466358.7 |      |      |      |      |       |      |        |                    |           |

| NAME                 | PARK | TYPE                       | ID      | ACTIVE | INSTALL-<br>REMOVAL      | Length of<br>Record    | Contact                                                                                                                                 | Northing/<br>Easting  | MHHW  | MHW   | MSL  | MLW   | MLLW  | GT    | NAVD88 | Sea Level<br>Trend | SLT Years |
|----------------------|------|----------------------------|---------|--------|--------------------------|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------|-------|------|-------|-------|-------|--------|--------------------|-----------|
| Newport Creek        | ASIS | YSI 6600<br>Data<br>Logger |         | Y      | 8/17/2006 -<br>present   | > 7<br>years           | Neil Winn,<br>ASIS NPS                                                                                                                  | 4235503 /<br>482670.7 |       |       |      |       |       |       |        |                    |           |
| Greys Creek          | ASIS | YSI 6600<br>Data<br>Logger |         | Y      | 8/17/2006 -<br>present   | > 7<br>years           | Neil Winn,<br>ASIS NPS                                                                                                                  | 4255643 /<br>488438.1 |       |       |      |       |       |       |        |                    |           |
| Bishopville<br>Prong | ASIS | YSI 6600<br>Data<br>Logger |         | Y      | 8/17/2006 -<br>present   | > 7<br>years           | Neil Winn,<br>ASIS NPS                                                                                                                  | 4252877 /<br>483537.2 |       |       |      |       |       |       |        |                    |           |
| Public Landing       | ASIS | YSI 6600<br>Data<br>Logger |         | Y      | 8/17/2006 -<br>present   | > 7<br>years           | Neil Winn,<br>ASIS NPS                                                                                                                  | 4222308 /<br>474923.1 |       |       |      |       |       |       |        |                    |           |
| Boston               | BOHA | NOAA<br>NWLON              | 8443970 | Y      | 5/3/1921 -<br>present    | > 92<br>years          | <a href="http://tidesandcurrents.noaa.gov/stationhome.html?id=8443970">http://tidesandcurrents.noaa.gov/stationhome.html?id=8443970</a> | 4691050 /<br>330888.4 | 13.8  | 13.36 | 8.73 | 3.86  | 3.52  | 10.27 | 9.03   | 2.63               | 86        |
| Boston Light         | BOHA | NOAA<br>Historic           | 8444162 | N      | 8/25/2000 -<br>5/24/2004 | 3 years<br>9<br>months | <a href="http://tidesandcurrents.noaa.gov/stationhome.html?id=8444162">http://tidesandcurrents.noaa.gov/stationhome.html?id=8444162</a> | 4687965 /<br>344141.9 | 17.2  | 16.76 | 12.3 | 7.71  | 7.39  | 9.82  | na     | na                 | na        |
| Nut Island           | BOHA | NOAA<br>Historic           | 8444525 | N      | 8/24/2000 -<br>11/5/2001 | 1 year<br>2<br>months  | <a href="http://tidesandcurrents.noaa.gov/stationhome.html?id=8444525">http://tidesandcurrents.noaa.gov/stationhome.html?id=8444525</a> | 4682713 /<br>338937.7 | 25.15 | 24.7  | 20.1 | 15.28 | 14.93 | 10.21 | na     | na                 | na        |

| NAME                          | PARK | TYPE              | ID      | ACTIVE | INSTALL-<br>REMOVAL                                 | Length of<br>Record      | Contact                                                                                                                                   | Northing/<br>Easting  | MHHW  | MHW   | MSL   | MLW   | MLLW  | GT    | NAVD88 | Sea Level<br>Trend | SLT Years |
|-------------------------------|------|-------------------|---------|--------|-----------------------------------------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------|-------|-------|-------|-------|-------|--------|--------------------|-----------|
| Weymouth Fore<br>River        | BOHA | NOAA<br>Historic  | 8444788 | N      | 6/6/2003 -<br>10/17/2003                            | 4<br>months              | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8444788">http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8444788</a> | 4679222 /<br>337757   | 29.27 | 28.81 | 24.17 | 19.25 | 18.92 | 10.35 | na     | na                 | na        |
| Chatham                       | CACO | NOAA<br>Temporary | 8447435 | Y      | 8/17/1994 -<br>10/18/1994<br>4/22/2009 -<br>present | > 4<br>years 4<br>months | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8447435">http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8447435</a> | 4615609 /<br>420940.1 | 9.7   | 9.3   | 6.48  | 3.53  | 3.29  | 6.41  | 6.67   | na                 | na        |
| Boston                        | CACO | NOAA<br>NWLON     | 8443970 | Y      | 5/3/1921 -<br>present                               | > 92<br>years            | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8443970">http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8443970</a> | 4691050 /<br>330888.4 | 13.8  | 13.36 | 8.73  | 3.86  | 3.52  | 10.27 | 9.03   | 2.63               | 86        |
| Nantucket<br>Island           | CACO | NOAA<br>NWLON     | 8449130 | Y      | 10/4/1963 -<br>present                              | > 50<br>years            | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8449130">http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8449130</a> | 4570976 /<br>408166.3 | 6.57  | 6.24  | 4.77  | 3.2   | 3     | 3.57  | na     | 2.95               | 42        |
| Provincetown                  | CACO | NOAA<br>Historic  | 8446121 | N      | 3/5/2010 -<br>8/16/2010                             | 5<br>months              | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8446121">http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8446121</a> | 4655818 /<br>402210.5 | 14.1  | 13.64 | 9.05  | 4.35  | 4.02  | 10.08 | na     | na                 | na        |
| Sesuit Harbor,<br>East Dennis | CACO | NOAA<br>Historic  | 8447241 | N      | 4/30/1993 -<br>10/19/1993                           | 5<br>months              | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8447241">http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8447241</a> | 4622849 /<br>403973.9 | 12.82 | 12.37 | 7.58  | 2.63  | 2.36  | 10.46 | na     | na                 | na        |
| Saquatucket<br>Harbor         | CACO | NOAA<br>Historic  | 8447495 | N      | 4/28/1993 -<br>10/19/1993                           | 6<br>months              | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8447495">http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8447495</a> | 4613492 /<br>412035.8 | 9.39  | 9.05  | 7.28  | 5.32  | 5.05  | 4.35  | 7.63   | na                 | na        |

| NAME                                    | PARK | TYPE             | ID      | ACTIVE | INSTALL-<br>REMOVAL                                                                                                                                                                                      | Length of<br>Record   | Contact                                                                                                                                 | Northing/<br>Easting | MHHW | MHW  | MSL  | MLW  | MLLW | GT   | NAVD88 | Sea Level<br>Trend | SLT Years |
|-----------------------------------------|------|------------------|---------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------|------|------|------|------|------|------|--------|--------------------|-----------|
| Chatham, Stage<br>Harbor                | CACO | NOAA<br>Historic | 8447505 | N      | 5/28/1992 -<br>10/5/1992                                                                                                                                                                                 | 5<br>months           | <a href="http://tidesandcurrents.noaa.gov/stationhome.html?id=8447505">http://tidesandcurrents.noaa.gov/stationhome.html?id=8447505</a> | 4613219 /<br>419526  | 7.69 | 7.32 | 5.45 | 3.37 | 3.11 | 4.58 | 5.8    | na                 | na        |
| Ptown Harbor,<br>PROVINCETOWN<br>HARBOR | CACO | YSI6600          |         | N      | 11/9/04 -<br>12/22/04                                                                                                                                                                                    | 1<br>month            | Kelly<br>Medeiros,<br>CACO NPS                                                                                                          | 4655979 /<br>402214  |      |      |      |      |      |      |        |                    |           |
| West End Marsh,<br>WEST END             | CACO | YSI6600          |         | N      | 11/4/04 -<br>12/20/04                                                                                                                                                                                    | 1<br>month            | Kelly<br>Medeiros,<br>CACO NPS                                                                                                          | 4654529 /<br>400926  |      |      |      |      |      |      |        |                    |           |
| HH_Unrestrict<br>ed HATCHES<br>HARBOR   | CACO | HOBO             |         | N      | 5/12/05 -<br>7/13/05,<br>6/12/06 -<br>10/2/06,<br>8/23/07 -<br>10/29/07,<br>8/26/08 -<br>10/21/08,<br>8/18/09 -<br>12/9/09,<br>8/12/10 -<br>10/25/10,<br>8/16/11 -<br>11/10/11,<br>7/31/12 -<br>12/20/12 | 24<br>months<br>total | Kelly<br>Medeiros,<br>CACO NPS                                                                                                          | 4657734 /<br>397768  |      |      |      |      |      |      |        |                    |           |

| NAME                                | PARK | TYPE    | ID | ACTIVE | INSTALL-<br>REMOVAL                                                                                                                                                                                      | Length of<br>Record   | Contact                        | Northing/<br>Easting | MHHW | MHW | MSL | MLW | MLLW | GT | NAVD88 | Sea Level<br>Trend | SLT Years |
|-------------------------------------|------|---------|----|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------------------------|----------------------|------|-----|-----|-----|------|----|--------|--------------------|-----------|
| HH_Restricted,<br>HATCHES<br>HARBOR | CACO | HOBO    |    | N      | 5/12/05 -<br>7/13/05,<br>6/12/06 -<br>10/2/06,<br>8/23/07 -<br>10/29/07,<br>8/26/08 -<br>10/21/08,<br>8/18/09 -<br>12/9/09,<br>8/12/10 -<br>10/25/10,<br>8/16/11 -<br>11/10/11,<br>7/31/12 -<br>12/20/12 | 24<br>months<br>total | Kelly<br>Medeiros,<br>CACO NPS | 4657926 /<br>397913  |      |     |     |     |      |    |        |                    |           |
| EH_Lagoon,<br>EAST<br>HARBOR        | CACO | YSI6600 |    | N      | 8/11/05 -<br>10/28/05,<br>6/21/06 -<br>12/6/06,<br>5/25/07 -<br>11/23/07,<br>6/6/08 -<br>9/4/08,<br>6/12/09 -<br>8/31/09,<br>5/17/10 -<br>10/12/10,<br>5/3/11 -<br>10/7/11,<br>5/23/12 -<br>11/22/12     | 34<br>months<br>total | Kelly<br>Medeiros,<br>CACO NPS | 4656380 /<br>406928  |      |     |     |     |      |    |        |                    |           |
| EH_MoonPond<br>, EAST<br>HARBOR     | CACO | YSI6600 |    | N      | 5/30/07 -<br>11/14/07,<br>5/21/08 -<br>9/29/08,<br>6/23/09 -<br>11/24/09,<br>5/17/10 -<br>10/13/10,<br>5/3/11 -<br>10/7/11,<br>5/24/12 -<br>7/30/12                                                      | 26<br>months<br>total | Kelly<br>Medeiros,<br>CACO NPS | 4656038 /<br>407594  |      |     |     |     |      |    |        |                    |           |

| NAME                                 | PARK | TYPE              | ID | ACTIVE | INSTALL-<br>REMOVAL                                                                                                                                                                                                             | Length of<br>Record   | Contact                        | Northing/<br>Easting | MHHW | MHW | MSL | MLW | MLLW | GT | NAVD88 | Sea Level<br>Trend | SLT Years |
|--------------------------------------|------|-------------------|----|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------------------------|----------------------|------|-----|-----|-----|------|----|--------|--------------------|-----------|
| PR-<br>PostOffice,<br>PAMET<br>RIVER | CACO | HOBO              |    | Y      | 11/6/12 -<br>PRESENT                                                                                                                                                                                                            | > 9<br>months         | Kelly<br>Medeiros,<br>CACO NPS | 4649608 /<br>412991  |      |     |     |     |      |    |        |                    |           |
| HR_DogLeg,<br>HERRING<br>RIVER       | CACO | YSI6600,<br>HOBO* |    | N      | 4/29/05 -<br>10/18/05,<br>4/14/06 -<br>10/23/06,<br>6/1/07 -<br>10/26/07,<br>6/18/08 -<br>9/17/08,<br>6/10/09 -<br>11/20/09,<br>5/18/10 -<br>5/18/10,<br>6/7/11 -<br>6/7/11,<br>4/10/12 -<br>11/22/12*,<br>5/25/12 -<br>5/25/12 | 31<br>months<br>total | Kelly<br>Medeiros,<br>CACO NPS | 4643611 /<br>412673  |      |     |     |     |      |    |        |                    |           |
| HR_Old Saw,<br>HERRING<br>RIVER      | CACO | YSI6600           |    | N      | 4/29/05 -<br>10/20/05,<br>5/1/06 -<br>11/1/06,<br>6/1/07 -<br>11/21/07,<br>6/18/08 -<br>9/16/08,<br>7/15/09 -<br>8/19/09,<br>5/20/10 -<br>8/23/10                                                                               | 24<br>months<br>total | Kelly<br>Medeiros,<br>CACO NPS | 4641771 /<br>413066  |      |     |     |     |      |    |        |                    |           |
| HR_Old Saw,<br>HERRING<br>RIVER      | CACO | HOBO              |    | N      | 4/10/12 -<br>11/22/12                                                                                                                                                                                                           | 7<br>months<br>total  | Kelly<br>Medeiros,<br>CACO NPS | 4641767 /<br>412966  |      |     |     |     |      |    |        |                    |           |

| NAME                                                | PARK | TYPE    | ID | ACTIVE | INSTALL-<br>REMOVAL                                                                                                  | Length of<br>Record  | Contact                        | Northing/<br>Easting | MHHW | MHW | MSL | MLW | MLLW | GT | NAVD88 | Sea Level<br>Trend | SLT Years |
|-----------------------------------------------------|------|---------|----|--------|----------------------------------------------------------------------------------------------------------------------|----------------------|--------------------------------|----------------------|------|-----|-----|-----|------|----|--------|--------------------|-----------|
| WellfleetHarbo<br>r_Egg Island,<br>HERRING<br>RIVER | CACO | HOBO    |    | N      | 4/10/12 -<br>11/22/12                                                                                                | 7<br>months<br>total | Kelly<br>Medeiros,<br>CACO NPS | 4642236 /<br>413534  |      |     |     |     |      |    |        |                    |           |
| HR_Restricted,<br>HERRING RIVER                     | CACO | HOBO    |    | N      | 4/10/12 -<br>11/22/12                                                                                                | 7<br>months<br>total | Kelly<br>Medeiros,<br>CACO NPS | 4642702 /<br>411763  |      |     |     |     |      |    |        |                    |           |
| HR_Unrestricted,<br>HERRING RIVER                   | CACO | HOBO    |    | N      | 4/10/12 -<br>11/22/12                                                                                                | 7<br>months<br>total | Kelly<br>Medeiros,<br>CACO NPS | 4642668 /<br>411707  |      |     |     |     |      |    |        |                    |           |
| NM_ENE,<br>NAUSET<br>MARSH                          | CACO | YSI6600 |    | N      | 7/30/07 -<br>9/7/07,<br>6/26/08 -<br>9/4/08,<br>7/13/09 -<br>9/8/09,<br>6/22/10 -<br>8/26/10,<br>6/30/11 -<br>8/9/11 | 8<br>months<br>total | Kelly<br>Medeiros,<br>CACO NPS | 4630358 /<br>420358  |      |     |     |     |      |    |        |                    |           |
| NM_ENE,<br>NAUSET<br>MARSH                          | CACO | YSI6600 |    | N      | 7/3/12 -<br>8/6/12,<br>7/1/13 -<br>8/5/13                                                                            | 2<br>months<br>total | Kelly<br>Medeiros,<br>CACO NPS | 4628951 /<br>420891  |      |     |     |     |      |    |        |                    |           |

| NAME                                      | PARK | TYPE    | ID | ACTIVE | INSTALL-<br>REMOVAL                                                                                                                                                                         | Length of<br>Record      | Contact                        | Northing/<br>Easting | MHHW | MHW | MSL | MLW | MLLW | GT | NAVD88 | Sea Level<br>Trend | SLT Years |
|-------------------------------------------|------|---------|----|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------------|----------------------|------|-----|-----|-----|------|----|--------|--------------------|-----------|
| SaltPond_ENE,<br>NAUSET<br>MARSH          | CACO | YSI6600 |    | N      | 7/19/07 -<br>8/22/07,<br>6/26/08 -<br>7/28/08,<br>7/13/09 -<br>8/26/09,<br>6/22/10 -<br>8/26/10,<br>6/28/11 -<br>8/11/11,<br>7/3/12 -<br>8/6/12,<br>7/13/13 -<br>8/5/13                     | 9<br>months<br>total     | Kelly<br>Medeiros,<br>CACO NPS | 4631973 /<br>419370  |      |     |     |     |      |    |        |                    |           |
| NMSET_<br>waterlevel,<br>NAUSET<br>MARSH  | CACO | HOBO    |    | Y      | 5/14/13 -<br>PRESENT                                                                                                                                                                        | > 3<br>months            | Kelly<br>Medeiros,<br>CACO NPS | 4630728 /<br>420030  |      |     |     |     |      |    |        |                    |           |
| PB_ENE,<br>PLEASANT<br>BAY                | CACO | YSI6600 |    | N      | 7/24/06 -<br>8/17/06,<br>7/27/07 -<br>9/6/07,<br>6/26/08 -<br>9/8/08,<br>7/22/09 -<br>9/8/09,<br>6/28/10 -<br>8/24/10,<br>7/12/11 -<br>8/8/11,<br>7/3/12 -<br>8/6/12,<br>7/1/13 -<br>8/9/13 | 11<br>months<br>total    | Kelly<br>Medeiros,<br>CACO NPS | 4622655 /<br>420355  |      |     |     |     |      |    |        |                    |           |
| Meetinghous<br>e Pond,<br>PLEASANT<br>BAY | CACO | YSI6600 |    | Y      | 3/22/05 -<br>5/10/05,<br>3/28/06 -<br>6/1/06,<br>3/19/07 -<br>PRESENT                                                                                                                       | > 6<br>years 9<br>months | Kelly<br>Medeiros,<br>CACO NPS | 4626141 /<br>419785  |      |     |     |     |      |    |        |                    |           |

| NAME                                   | PARK | TYPE             | ID      | ACTIVE | INSTALL-<br>REMOVAL                                 | Length of<br>Record     | Contact                                                                                                                                                           | Northing/<br>Easting  | MHHW  | MHW   | MSL   | MLW   | MLLW  | GT   | NAVD88 | Sea Level<br>Trend | SLT Years |
|----------------------------------------|------|------------------|---------|--------|-----------------------------------------------------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------|-------|-------|-------|-------|------|--------|--------------------|-----------|
| Yorktown<br>USCG<br>Training<br>Center | COLO | NOAA<br>NWLON    | 8637689 | Y      | 1/29/2004 -<br>present                              | > 9<br>years            | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8637689">http://tidesa<br/>ndcurrents.<br/>noaa.gov/st<br/>ationhome.<br/>html?id=86<br/>37689</a> | 4121042 /<br>368851.3 | 7.78  | 7.59  | 6.44  | 5.32  | 5.2   | 2.58 | na     | na                 | na        |
| Sewells Point                          | COLO | NOAA<br>NWLON    | 8638610 | Y      | 7/1/1927 -<br>present                               | > 86<br>years           | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8638610">http://tidesa<br/>ndcurrents.<br/>noaa.gov/st<br/>ationhome.<br/>html?id=86<br/>38610</a> | 4089782 /<br>381576.3 | 7.14  | 6.94  | 5.73  | 4.51  | 4.38  | 2.76 | 5.99   | 4.44               | 80        |
| Gloucester<br>Point                    | COLO | NOAA<br>Historic | 8637624 | N      | 5/16/1950 -<br>2/8/1994<br>4/29/1991 -<br>9/18/2003 | 56<br>years 5<br>months | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8637624">http://tidesa<br/>ndcurrents.<br/>noaa.gov/st<br/>ationhome.<br/>html?id=86<br/>37624</a> | 4123291 /<br>366964.2 | 4.33  | 4.13  | 2.93  | 1.76  | 1.64  | 2.69 | 3.24   | 3.81               | 54        |
| Jamestown                              | COLO | NOAA<br>Historic | 8637712 | N      | 6/24/2010 -<br>10/27/2010                           | 4<br>months             | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8637712">http://tidesa<br/>ndcurrents.<br/>noaa.gov/st<br/>ationhome.<br/>html?id=86<br/>37712</a> | 4120779 /<br>341185.9 | 22.27 | 22.1  | 21.2  | 20.29 | 20.12 | 2.16 | na     | na                 | na        |
| Kingsmill                              | COLO | NOAA<br>Historic | 8638424 | N      | 6/6/2003 -<br>9/18/2003                             | 4<br>months             | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8638424">http://tidesa<br/>ndcurrents.<br/>noaa.gov/st<br/>ationhome.<br/>html?id=86<br/>38424</a> | 4120574 /<br>352425   | 11.27 | 11.06 | 9.93  | 8.8   | 8.65  | 2.63 | na     | na                 | na        |
| Scotland                               | COLO | NOAA<br>Historic | 8638433 | N      | 6/8/1971 -<br>9/12/1972<br>6/5/2003 -<br>9/18/2003  | 1 year<br>6<br>months   | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8638433">http://tidesa<br/>ndcurrents.<br/>noaa.gov/st<br/>ationhome.<br/>html?id=86<br/>38433</a> | 4116885 /<br>341704.3 | 10.14 | 9.94  | 8.97  | 7.99  | 7.82  | 2.32 | na     | na                 | na        |
| Tettington,<br>James River             | COLO | NOAA<br>Historic | 8638450 | N      | 10/9/2007 -<br>8/8/2010                             | 2 years<br>10<br>months | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8638450">http://tidesa<br/>ndcurrents.<br/>noaa.gov/st<br/>ationhome.<br/>html?id=86<br/>38450</a> | 4123266 /<br>327625.9 | 21.23 | 21.03 | 20.15 | 19.16 | 19.03 | 2.2  | na     |                    |           |

| NAME                                           | PARK | TYPE                                 | ID      | ACTIVE | INSTALL-<br>REMOVAL       | Length of<br>Record   | Contact                                                                                                                                 | Northing/<br>Easting  | MHHW | MHW  | MSL  | MLW  | MLLW | GT   | NAVD88 | Sea Level<br>Trend | SLT Years |
|------------------------------------------------|------|--------------------------------------|---------|--------|---------------------------|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------|------|------|------|------|------|--------|--------------------|-----------|
| Jamestown<br>(VIMS)                            | COLO | VIMS<br>Microwave<br>Radar<br>Sensor |         | Y      | to present                | years                 | <a href="http://www.vims.edu/bayinfo/tidewatch/stations/index.php">http://www.vims.edu/bayinfo/tidewatch/stations/index.php</a>         | 4120809 /<br>341051   |      |      |      |      |      |      |        |                    |           |
| Sandy Hook                                     | FIIS | NWLON                                | 8531680 | Y      | 1/7/1910 -<br>present     | > 103<br>years        | <a href="http://tidesandcurrents.noaa.gov/stationhome.html?id=8531680">http://tidesandcurrents.noaa.gov/stationhome.html?id=8531680</a> | 4480027 /<br>584070   | 7.74 | 7.41 | 5.09 | 2.71 | 2.51 | 5.22 | 5.33   | 3.9                | 75        |
| Montauk                                        | FIIS | NWLON                                | 8510560 | Y      | 9/5/1947 -<br>present     | > 66<br>years         | <a href="http://tidesandcurrents.noaa.gov/stationhome.html?id=8510560">http://tidesandcurrents.noaa.gov/stationhome.html?id=8510560</a> | 4548576 /<br>755498.5 | 6.39 | 6.1  | 5.1  | 4.03 | 3.86 | 2.53 | 5.43   | 2.78               | 60        |
| The Battery                                    | FIIS | NOAA<br>NWLON                        | 8518750 | Y      | 5/24/1920 -<br>present    | > 93<br>years         | <a href="http://tidesandcurrents.noaa.gov/stationhome.html?id=8518750">http://tidesandcurrents.noaa.gov/stationhome.html?id=8518750</a> | 4505923 /<br>583355.9 | 8.34 | 8.02 | 5.86 | 3.49 | 3.29 | 5.06 | 6.06   | 2.77               | 151       |
| Moriches Coast<br>Guard Station,<br>Moriches B | FIIS | Historic                             | 8513388 | N      | 7/18/1989 -<br>11/2/1990  | 1 year<br>3<br>months | <a href="http://tidesandcurrents.noaa.gov/stationhome.html?id=8513388">http://tidesandcurrents.noaa.gov/stationhome.html?id=8513388</a> | 4517511 /<br>689844.5 | 4.24 | 4.01 | 2.93 | 1.86 | 1.74 | 2.5  | na     | na                 | na        |
| Smith Point<br>Bridge,<br>Narrow Bay           | FIIS | Historic                             | 8513825 | N      | 7/19/1989 -<br>2/1/1991   | 1 year<br>7<br>months | <a href="http://tidesandcurrents.noaa.gov/stationhome.html?id=8513825">http://tidesandcurrents.noaa.gov/stationhome.html?id=8513825</a> | 4511896 /<br>679989.8 | 4.13 | 3.97 | 3.41 | 2.79 | 2.67 | 1.46 | na     | na                 | na        |
| Patchogue,<br>Patchogue<br>River               | FIIS | Historic                             | 8514322 | N      | 7/21/1989 -<br>10/17/1990 | 1 year<br>3<br>months | <a href="http://tidesandcurrents.noaa.gov/stationhome.html?id=8514322">http://tidesandcurrents.noaa.gov/stationhome.html?id=8514322</a> | 4512930 /<br>668842.1 | 5.28 | 5.12 | 4.56 | 4.01 | 3.9  | 1.37 | na     | na                 | na        |

| NAME                                       | PARK | TYPE                               | ID              | ACTIVE | INSTALL-<br>REMOVAL                                                                                                                                                                                                           | Length of<br>Record     | Contact                                                                                                                                                                     | Northing/<br>Easting  | MHHW | MHW  | MSL  | MLW  | MLLW | GT   | NAVD88 | Sea Level<br>Trend | SLT Years |
|--------------------------------------------|------|------------------------------------|-----------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------|------|------|------|------|------|--------|--------------------|-----------|
| Fire Island<br>Coast Guard<br>Station      | FIIS | Historic                           | 8515186         | N      | 7/26/1989 -<br>12/1/1990                                                                                                                                                                                                      | 1 year<br>4<br>months   | <a href="http://tidesandcurrents.noaa.gov/stationhome.html?id=8515186">http://tidesandcurrents.noaa.gov/stationhome.html?id=8515186</a>                                     | 4498770 /<br>647162.8 | 4.9  | 4.72 | 3.72 | 2.72 | 2.59 | 2.31 | 3.92   | na                 | na        |
| Bayshore,<br>Long Island                   | FIIS | Historic                           | 8515102         | N      | 2/10/1972 -<br>10/01/1980                                                                                                                                                                                                     | 2 years<br>8<br>months  | <a href="http://tidesandcurrents.noaa.gov/stationhome.html?id=8515102">http://tidesandcurrents.noaa.gov/stationhome.html?id=8515102</a>                                     | 4508795 /<br>648654.3 | 4.69 | 4.52 | 4.06 | 3.53 | 3.46 | 1.23 | na     | na                 | na        |
| Great South<br>Bay at<br>Lindenhurst<br>NY | FIIS | USGS<br>Water<br>Stage<br>Recorder | 1309225<br>USGS | Y      | July2002 -<br>present                                                                                                                                                                                                         | > 11<br>years           | <a href="http://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&amp;site_no=01309225">http://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&amp;site_no=01309225</a> | 4503332 /<br>638945.4 |      |      |      |      |      |      |        |                    |           |
| Bellport                                   | FIIS | SBE16<br>SeaCat<br>Sensor          |                 | Y      | Oct2009 -<br>Mar2010,<br>May2010 -<br>Aug2010,<br>Aug2010 -<br>Dec2010,<br>Dec2010 -<br>Mar2011,<br>Mar2011 -<br>Jun2011,<br>Jun2011 -<br>Oct2011,<br>Oct2011 -<br>Feb2012,<br>Feb2012 -<br>May2012,<br>8/26/12 to<br>present | > 4<br>years 1<br>month | <a href="http://po.msrc.sunysb.edu/GSB/">http://po.msrc.sunysb.edu/GSB/</a>                                                                                                 | 4513420 /<br>674570.8 |      |      |      |      |      |      |        |                    |           |

| NAME                                       | PARK | TYPE                               | ID              | ACTIVE | INSTALL-<br>REMOVAL                                                                                                                                                           | Length of<br>Record    | Contact                                                                                                                                                                     | Northing/<br>Easting  | MHHW | MHW  | MSL  | MLW  | MLLW | GT   | NAVD88 | Sea Level<br>Trend | SLT Years |
|--------------------------------------------|------|------------------------------------|-----------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------|------|------|------|------|------|--------|--------------------|-----------|
| Barrett Beach                              | FIIS | SBE16<br>SeaCat<br>Sensor          |                 | N      | Mar2010 -<br>Jul2010,<br>Jul2010 -<br>Oct2010,<br>Oct2010 -<br>Mar2011,<br>Mar2011 -<br>Sept2011,<br>Sept2011 -<br>Mar2012,<br>Jun2012 -<br>Sept2012,<br>Jun2013 -<br>Feb2013 | 3 years<br>7<br>months | <a href="http://po.ms.rc.sunysb.edu/GSB/">http://po.ms.rc.sunysb.edu/GSB/</a>                                                                                               | 4504404 /<br>665463.7 |      |      |      |      |      |      |        |                    |           |
| Bayshore,<br>Long Island                   | FIIS | Historic                           | 8515102         | N      | 2/10/1972 -<br>10/01/1980                                                                                                                                                     | 2 years<br>8<br>months | <a href="http://tidesandcurrents.noaa.gov/stationhome.html?id=8515102">http://tidesandcurrents.noaa.gov/stationhome.html?id=8515102</a>                                     | 4508795 /<br>648654.3 | 4.69 | 4.52 | 4.06 | 3.53 | 3.46 | 1.23 | na     | na                 | na        |
| Great South<br>Bay at<br>Lindenhurst<br>NY | FIIS | USGS<br>Water<br>Stage<br>Recorder | 1309225<br>USGS | Y      | July2002 -<br>present                                                                                                                                                         | > 11<br>years          | <a href="http://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&amp;site_no=01309225">http://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&amp;site_no=01309225</a> | 4503332 /<br>638945.4 |      |      |      |      |      |      |        |                    |           |

| NAME          | PARK | TYPE                      | ID | ACTIVE | INSTALL-<br>REMOVAL                                                                                                                                                                                                           | Length of<br>Record     | Contact                                                                                | Northing/<br>Easting  | MHHW | MHW | MSL | MLW | MLLW | GT | NAVD88 | Sea Level<br>Trend | SLT Years |
|---------------|------|---------------------------|----|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|----------------------------------------------------------------------------------------|-----------------------|------|-----|-----|-----|------|----|--------|--------------------|-----------|
| Bellport      | FIS  | SBE16<br>SeaCat<br>Sensor |    | Y      | Oct2009 -<br>Mar2010,<br>May2010 -<br>Aug2010,<br>Aug2010 -<br>Dec2010,<br>Dec2010 -<br>Mar2011,<br>Mar2011 -<br>Jun2011,<br>Jun2011 -<br>Oct2011,<br>Oct2011 -<br>Feb2012,<br>Feb2012 -<br>May2012,<br>8/26/12 to<br>present | > 4<br>years 1<br>month | <a href="http://po.ms.rc.sunysb.edu/GSB/">http://po.ms<br/>rc.sunysb.e<br/>du/GSB/</a> | 4513420 /<br>674570.8 |      |     |     |     |      |    |        |                    |           |
| Barrett Beach | FIS  | SBE16<br>SeaCat<br>Sensor |    | N      | Mar2010 -<br>Jul2010,<br>Jul2010 -<br>Oct2010,<br>Oct2010 -<br>Mar2011,<br>Mar2011 -<br>Sept2011,<br>Sept2011 -<br>Mar2012,<br>Jun2012 -<br>Sept2012,<br>Jun2013 -<br>Feb2013                                                 | 3 years<br>7<br>months  | <a href="http://po.ms.rc.sunysb.edu/GSB/">http://po.ms<br/>rc.sunysb.e<br/>du/GSB/</a> | 4504404 /<br>665463.7 |      |     |     |     |      |    |        |                    |           |



| NAME                                        | PARK | TYPE                               | ID              | ACTIVE | INSTALL-<br>REMOVAL                                      | Length of<br>Record          | Contact                                                                                                                                                                                     | Northing/<br>Easting  | MHHW  | MHW   | MSL   | MLW  | MLLW  | GT   | NAVD88 | Sea Level<br>Trend | SLT Years |
|---------------------------------------------|------|------------------------------------|-----------------|--------|----------------------------------------------------------|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------|-------|-------|------|-------|------|--------|--------------------|-----------|
| Sewells Point                               | FOMR | NOAA<br>NWLON                      | 8638610         | Y      | 7/1/1927 -<br>present                                    | > 86<br>years                | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8638610">http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8638610</a>                                                   | 4089782 /<br>381576.3 | 7.14  | 6.94  | 5.73  | 4.51 | 4.38  | 2.76 | 5.99   | 4.44               | 80        |
| Chesapeake<br>Bay Bridge<br>Tunnel          | FOMR | NOAA<br>NWLON                      | 8638863         | Y      | 1/26/1975 -<br>present                                   | > 38<br>years                | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8638863">http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8638863</a>                                                   | 4091754 /<br>400895   | 28.18 | 27.95 | 26.69 | 25.4 | 25.27 | 2.9  | na     | 6.05               | 32        |
| The Battery                                 | GATE | NOAA<br>NWLON                      | 8518750         | Y      | 5/24/1920 -<br>present                                   | > 93<br>years                | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8518750">http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8518750</a>                                                   | 4505923 /<br>583355.9 | 8.34  | 8.02  | 5.86  | 3.49 | 3.29  | 5.06 | 6.06   | 2.77               | 151       |
| Sandy Hook                                  | GATE | NOAA<br>NWLON                      | 8531680         | Y      | 1/7/1910 -<br>present                                    | > 113<br>years               | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8531680">http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8531680</a>                                                   | 4480027 /<br>584070   | 7.74  | 7.41  | 5.09  | 2.71 | 7.51  | 5.22 | 5.33   | 3.9                | 75        |
| ROCKAWAY<br>INLET NEAR<br>FLOYD FIELD<br>NY | GATE | USGS<br>Water<br>Stage<br>Recorder | 1311875<br>USGS | Y      | 10/1/2007 -<br>present                                   | > 5<br>years<br>10<br>months | <a href="http://water.data.usgs.gov/nwis/inventory?agency_code=USGS&amp;site_no=403424073563301">http://water.data.usgs.gov/nwis/inventory?agency_code=USGS&amp;site_no=403424073563301</a> | 4492023 /<br>594328.8 |       |       |       |      |       |      |        |                    |           |
| JAMAICA<br>BAY AT<br>INWOOD NY              | GATE | USGS<br>Water<br>Stage<br>Recorder | 1311850<br>USGS | Y      | June 1979 -<br>January<br>1991 July<br>2002 -<br>present | > 22<br>years 7<br>months    | <a href="http://water.data.usgs.gov/nwis/inventory?agency_code=USGS&amp;site_no=01311850">http://water.data.usgs.gov/nwis/inventory?agency_code=USGS&amp;site_no=01311850</a>               | 4497008 /<br>605029.1 |       |       |       |      |       |      |        |                    |           |

| NAME                                | PARK | TYPE             | ID      | ACTIVE | INSTALL-<br>REMOVAL                                  | Length of<br>Record     | Contact                                                                                                                                   | Northing/<br>Easting  | MHHW  | MHW   | MSL   | MLW   | MLLW | GT    | NAVD88 | Sea Level<br>Trend | SLT Years |
|-------------------------------------|------|------------------|---------|--------|------------------------------------------------------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------|-------|-------|-------|------|-------|--------|--------------------|-----------|
| Long Branch,<br>Fishing Pier        | GATE | NOAA<br>Historic | 8531991 | N      | 2/17/1977 -<br>6/1/1987                              | 1 year<br>4<br>months   | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8531991">http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8531991</a> | 4461928 /<br>586964.4 | 23.93 | 23.59 | 21.44 | 19.19 | 19   | 4.93  | 21.68  | na                 | na        |
| Elders Point<br>East 1              | GATE | HOBO             |         | N      | 5/18/2012 -<br>6/19/2012                             | 1<br>month              | Jim<br>Lynch/Patti<br>Rafferty<br>NPS                                                                                                     | 4498628 /<br>597351.5 |       |       |       |       |      |       |        |                    |           |
| Elders Point<br>East 2              | GATE | HOBO             |         | N      | 5/18/2012 -<br>6/19/2012                             | 1<br>month              | Jim<br>Lynch/Patti<br>Rafferty<br>NPS                                                                                                     | 4498139 /<br>595838.1 |       |       |       |       |      |       |        |                    |           |
| Elders Point<br>East 3              | GATE | HOBO             |         | N      | 5/18/2012 -<br>6/19/2012                             | 1<br>month              | Jim<br>Lynch/Patti<br>Rafferty<br>NPS                                                                                                     | 4498853 /<br>597596.3 |       |       |       |       |      |       |        |                    |           |
| Lewisetta                           | GEWA | NOAA<br>NWLON    | 8635750 | Y      | 10/20/1970<br>- present                              | > 33<br>years           | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8635750">http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8635750</a> | 4206271 /<br>371511.1 | 6.27  | 6.13  | 5.53  | 4.89  | 4.77 | 1.5   | 5.6    | 4.97               | 33        |
| Colonial<br>Beach,<br>Potomac River | GEWA | NOAA<br>Historic | 8635150 | N      | 1/7/1972 -<br>9/18/2003<br>10/16/2007<br>- 8/17/2010 | 34<br>years 6<br>months | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8635150">http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8635150</a> | 4235555 /<br>328499.1 | 4.58  | 4.42  | 3.61  | 2.78  | 2.64 | 1.94  | 3.63   | 4.78               | 32        |
| Boston                              | SAIR | NOAA<br>NWLON    | 8443970 | Y      | 5/3/1921 -<br>present                                | > 92<br>years           | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8443970">http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8443970</a> | 4691050 /<br>330888.4 | 13.8  | 13.36 | 8.73  | 3.86  | 3.52 | 10.27 | 9.03   | 2.63               | 86        |

| NAME                                   | PARK | TYPE                           | ID      | ACTIVE | INSTALL-<br>REMOVAL     | Length of<br>Record | Contact                                                                                                                                   | Northing/<br>Easting  | MHHW  | MHW   | MSL  | MLW  | MLLW | GT   | NAVD88 | Sea Level<br>Trend | SLT Years |
|----------------------------------------|------|--------------------------------|---------|--------|-------------------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------|-------|------|------|------|------|--------|--------------------|-----------|
| Lynn, Lynn<br>Harbor                   | SAIR | NOAA<br>Historic               | 8443187 | N      | 6/2/1992 -<br>10/6/1992 | 4<br>months         | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8443187">http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8443187</a> | 4702496 /<br>340215.1 | 13.25 | 12.81 | 8.31 | 3.65 | 3.31 | 9.94 | na     | na                 | na        |
| Turning Basin<br>Saugus River          | SAIR | YSI<br>6600V2<br>data<br>sonde |         | N      | 5/31/12 -<br>11/12/12   | 6<br>months         | <a href="https://irma.nps.gov/App/Reference/Profile/2172752">https://irma.nps.gov/App/Reference/Profile/2172752</a>                       | 4703680 /<br>334943.6 |       |       |      |      |      |      |        |                    |           |
| Hamilton St.<br>Bridge Saugus<br>River | SAIR | YSI<br>6600V2<br>data<br>sonde |         | N      | 5/31/12 -<br>11/12/12   | 6<br>months         | <a href="https://irma.nps.gov/App/Reference/Profile/2172752">https://irma.nps.gov/App/Reference/Profile/2172752</a>                       | 4703409 /<br>335218.3 |       |       |      |      |      |      |        |                    |           |
| HOBO 1                                 | SAIR | HOBO<br>Logger                 |         | N      | 9/6/12 -<br>10/2/12     | 1<br>month          | SAIR NPS /<br>MJ James-<br>Pirri URI                                                                                                      | 4703686 /<br>334941.6 |       |       |      |      |      |      |        |                    |           |
| HOBO 2                                 | SAIR | HOBO<br>Logger                 |         | N      | 9/6/12 -<br>10/2/12     | 1<br>month          | SAIR NPS /<br>MJ James-<br>Pirri URI                                                                                                      | 4703688 /<br>334941.6 |       |       |      |      |      |      |        |                    |           |
| HOBO 3                                 | SAIR | HOBO<br>Logger                 |         | N      | 9/6/12 -<br>10/2/12     | 1<br>month          | SAIR NPS /<br>MJ James-<br>Pirri URI                                                                                                      | 4703564 /<br>334938.7 |       |       |      |      |      |      |        |                    |           |
| HOBO 4                                 | SAIR | HOBO<br>Logger                 |         | N      | 9/6/12 -<br>10/2/12     | 1<br>month          | SAIR NPS /<br>MJ James-<br>Pirri URI                                                                                                      | 4703577 /<br>334939   |       |       |      |      |      |      |        |                    |           |

| NAME                                                         | PARK | TYPE                               | ID              | ACTIVE | INSTALL-<br>REMOVAL                                  | Length of<br>Record      | Contact                                                                                                                                                                       | Northing/<br>Easting  | MHHW  | MHW   | MSL   | MLW   | MLLW  | GT    | NAVD88 | Sea Level<br>Trend | SLT Years |
|--------------------------------------------------------------|------|------------------------------------|-----------------|--------|------------------------------------------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------|-------|-------|-------|-------|-------|--------|--------------------|-----------|
| Kings Point                                                  | SAHI | NOAAA<br>NWLON                     | 8516945         | Y      | 10/27/1998<br>- present                              | > 15<br>years            | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8516945">http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8516945</a>                                     | 4518402 /<br>604304.9 | 20.69 | 20.33 | 16.77 | 13.16 | 12.89 | 7.8   | na     | 2.35               | 76        |
| Bridgeport                                                   | SAHI | NOAAA<br>NWLON                     | 8467150         | Y      | 6/10/1932 -<br>12/30/1935<br>7/22/1964 -<br>present  | > 52<br>years            | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8467150">http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8467150</a>                                     | 4559593 /<br>652526.8 | 9.3   | 8.97  | 5.6   | 2.22  | 1.98  | 7.32  | 5.82   | 2.56               | 43        |
| Cold Springs<br>Harbor                                       | SAHI | NOAA<br>Historic                   | 8516061         | N      | 5/31/1990 -<br>9/10/1990<br>6/14/1993 -<br>6/24/1993 | 3<br>months              | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8516061">http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8516061</a>                                     | 4525823 /<br>628923.6 | 13.63 | 13.26 | 9.62  | 5.97  | 5.74  | 7.88  | na     | na                 | na        |
| Frost Creek<br>at Sheep LN<br>Bridge at<br>Lattingtown<br>NY | SAHI | USGS<br>Water<br>Stage<br>Recorder | 1302845<br>USGS | Y      | Dec.2007 -<br>present                                | > 5<br>years 8<br>months | <a href="http://water.data.usgs.gov/nwis/inventory?agency_code=USGS&amp;site_no=01302845">http://water.data.usgs.gov/nwis/inventory?agency_code=USGS&amp;site_no=01302845</a> | 4529176 /<br>618485.8 |       |       |       |       |       |       |        |                    |           |
| Boston                                                       | SAMA | NOAA<br>NWLON                      | 8443970         | Y      | 5/3/1921 -<br>present                                | > 92<br>years            | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8443970">http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8443970</a>                                     | 4711460 /<br>345076.3 | 13.8  | 13.36 | 8.73  | 3.86  | 3.52  | 10.27 | 9.03   | 2.63               | 86        |
| Salem, Salem<br>Harbor                                       | SAMA | NOAA<br>Historic                   | 8442645         | N      | 6/3/1992 -<br>10/7/1992                              | 4<br>months              | <a href="http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8442645">http://tidesa.ndcurrents.noaa.gov/stationhome.html?id=8442645</a>                                     | 4709591 /<br>345856.4 | 11.19 | 10.75 | 6.34  | 1.82  | 1.49  | 9.7   | na     | na                 | na        |

| NAME                          | PARK | TYPE             | ID      | ACTIVE | INSTALL-<br>REMOVAL     | Length of<br>Record | Contact                                                                                                                                 | Northing/<br>Easting  | MHHW  | MHW   | MSL  | MLW  | MLLW | GT   | NAVD88 | Sea Level<br>Trend | SLT Years |
|-------------------------------|------|------------------|---------|--------|-------------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------|-------|------|------|------|------|--------|--------------------|-----------|
| Beverly,<br>Beverly<br>Harbor | SAMA | NOAA<br>Historic | 8442417 | N      | 6/9/1992 -<br>10/8/1992 | 4<br>months         | <a href="http://tidesandcurrents.noaa.gov/stationhome.html?id=8442417">http://tidesandcurrents.noaa.gov/stationhome.html?id=8442417</a> | 4711460 /<br>345076.3 | 11.46 | 11.01 | 6.58 | 2.08 | 1.74 | 9.72 | na     | na                 | na        |



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