

## **ACCOMACK COUNTY WATER LEVEL RISE AND HIGH TIDE ADVISORY INFORMATION**

*Accomack County has determined that informing residents, property owners, and potential property owners about the risks associated with water level rise, high tide flooding, and torrential rain events is preferable to regulation.*

The following is provided to those who are looking to purchase property in Accomack County or have recently purchased property in the County:

- The Tidewater area of Virginia is nationally recognized as one of the coastal areas of the United States that is most vulnerable to water level rise (sea level rise/land subsidence). Given its proximity to the Bay and Ocean and the numerous creeks and tidal wetlands that are present, Accomack County is cognizant of water level rise, high tide flooding, loss of land area due to the impacts of wave action/soil erosion, and impacts of torrential rain events that are not related to major storm events. Water level rise rates on the Eastern Shore are currently not documented to be as significant as water level rise rates in Tidewater Virginia. Historic water level rise (since the 1920's) is approximately 1" every 7-8 years. There are numerous models which forecast water level rise, including <https://coast.noaa.gov/slr/> and <https://maps.coastalresilience.org/virginia/#>.
- Purchases of property and individuals looking to construct/install a home in Accomack County are strongly encouraged to become knowledgeable about sea level rise and high tide flooding in Accomack County.
- Recurrent High Tide Flooding occurs in several parts of the County. High Tide flooding happens for a variety of reasons and **is not related to hurricanes or other major named storm events**. The County has identified these areas on a map titled NOAA High Tide Flooding Map. The NOAA sea level rise viewer with High Tide Flooding is the basis for the County's NOAA High Tide Flooding Map. The National Weather Service issues Coastal Flood Statements/Advisories for high tide flooding. The High Tide Flooding map can be viewed at: <https://coast.noaa.gov/slr/#/layer/fld/0/-11581024.663779823/5095888.569004184/4/satellite/none/0.8/2050/interHigh/midAccretion>. Accomack County is using the NOAA High Tide Flooding map as the basis for determining vulnerable areas relative to water level rise and High Tide Flooding in the County. (Please see attached Maps labeled Accomack County Vulnerable Areas Map)
- High Tide Flooding is not limited to Bayfront or Oceanfront properties. The numerous creeks and tidal waters (including some parts of drainage ditches) in Accomack County are also subject to high tide flooding and water level rise.
- Trends show that Water Level Rise and High Tide Flooding is becoming more prevalent and are affecting property and roads more frequently. As such prospective property owners and those interested in constructing/installing a home in the County are strongly

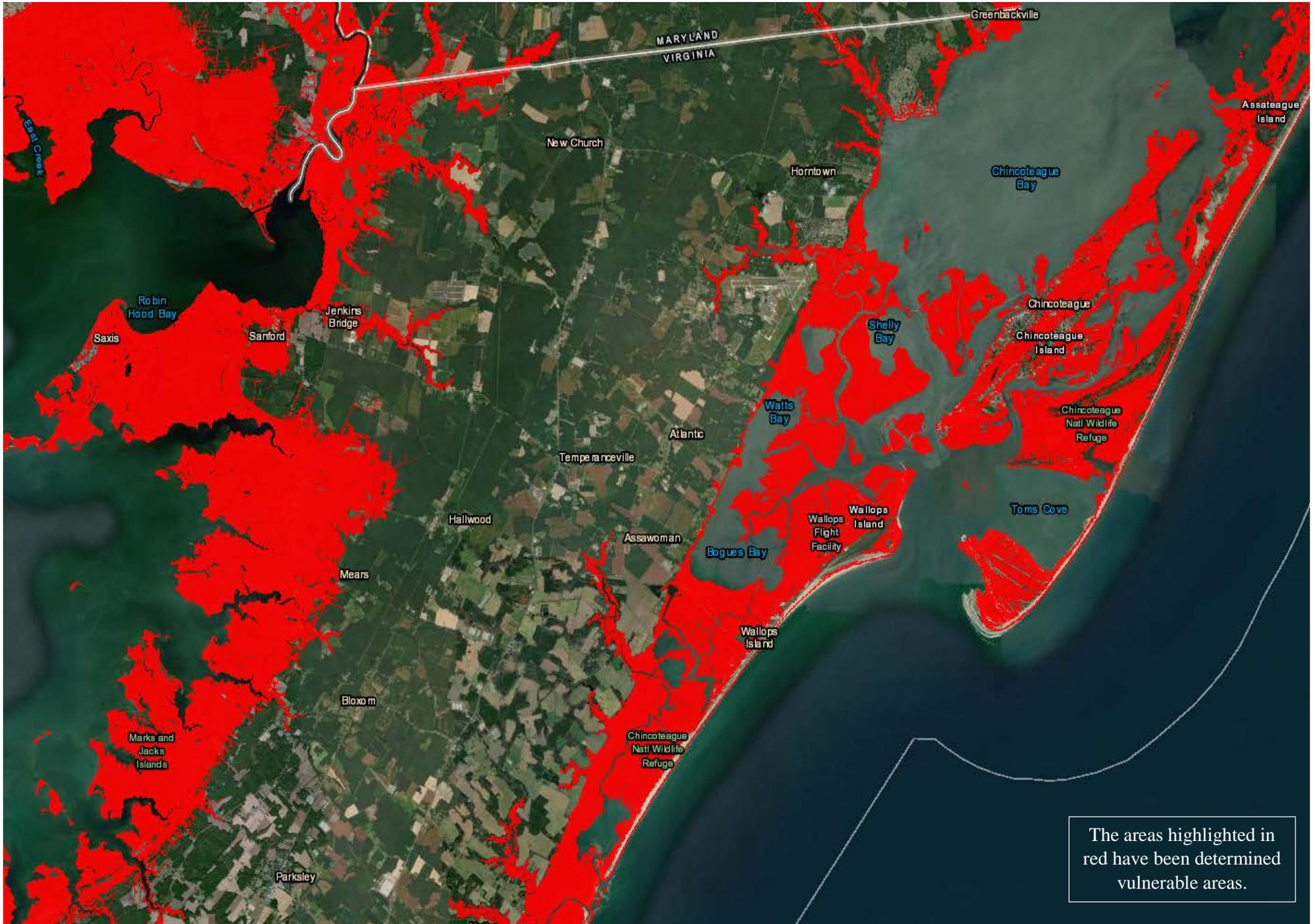
advised to perform due diligence relative to Water Level Rise, High Tide Flooding, and torrential rainfalls. If the property is close to tidal waters, wetland, or low lying areas, you need to be prepared that property may flood or that access to/from the property will be restricted by flooded roadways currently or in the future.

- Most of the County is not served by public water and sewer. As such, the prevalent sewage treatment method is private septic systems. Septic systems may not operate properly during flood events and in most cases will fail to adequately treat wastewater once the land that supports them becomes frequently saturated with water.
- New homes built in the floodplain must be elevated. Homes built in vulnerable areas likely will not flood during high tide flooding, however, accessory buildings, personal property (including vehicles), and other everyday other items that are not elevated may be damaged during high tide flooding.
- Vehicular access to and from properties located in or near Vulnerable Areas can be problematic during periods of high tide flooding. Several roads in the County are now flooded during high tide flooding events and the trend is for worsening conditions. The Accomack Northampton Planning District Commission and the Virginia Department of Transportation issued a study in 2016 showing susceptible roads on the Eastern Shore. A link to the study follows: [http://www.a-npdc.org/wp-content/uploads/2016/05/TIIVA-Report-ANPDC-May2015\\_final-no-appendices.pdf](http://www.a-npdc.org/wp-content/uploads/2016/05/TIIVA-Report-ANPDC-May2015_final-no-appendices.pdf). (Please see attached Executive Summary). The information can also be seen on the nature conservancy model <https://maps.coastalresilience.org/virginia/#>.
- Flooding and water level rise impacts first responder delivery times and their ability to provide service. The decision to enter flooded roadways and areas that are flooded is a field decision based on the first responder's evaluation of the conditions. As a general rule of thumb, first responder's will not enter an area where the road surface or ground surface cannot be seen through flood waters.
- Public roads in Accomack County (those having numbers such as 706) are maintained by the Virginia Department of Transportation (VDOT). High Tide Flooding and water level rise currently causes some road segments to be flooded during high tide cycles. This condition is expected to worsen as water levels rise. At the current time, it is not certain how VDOT will respond to the segments of roadways that flood regularly. As such property owners and those looking to purchase property should not expect VDOT to raise the level of roadways to prevent flooding.
- Purchasers of property and those looking to construct/install new homes in Accomack County in vulnerable areas or in close proximity to them need to be aware that high tide flooding and water level rise are likely to become more problematic each year. The County strongly advises that buyers of property and those wishing to construct/install homes in or near vulnerable areas exercise "caveat emptor" or buyer beware as these are significant risks associated with purchasing property and constructing/installing homes in these areas.

- Accomack County's ability to provide services in and near vulnerable areas will be impacted by increased water level rise and high tide flooding. Individuals purchasing property and new owners of property constructing/installing homes in or near vulnerable areas after 2019 in Accomack County need to be aware of the limitations of the County government and set expectations accordingly.
- Owners of property in vulnerable areas or in close proximity to vulnerable areas should take precautions to protect property and belongings. Accessory buildings and structures such as detached garages, sheds, pools, and related items can be damaged by high tide flooding and water level rise.
- Owners of property in vulnerable areas need to be cognizant of risks to private wells and private septic systems due to high tide flooding and water level rise. Conventional septic systems are not designed to operate when covered by water or saturated soil conditions.
- Owners of property in vulnerable areas are advised that lands may flood during non-storm events at high tide. Actions to protect pets and livestock during high tide flooding should be taken. Remember, high tide flooding can and does occur during sunny days and without rainfall.
- Purchasers of property and property owners in vulnerable areas are advised that high tides, flooding, and water level rise causes significant erosion of banks, shorelines, and property, during non-storm events. This erosion can take place in a relatively short amount of time, and if left unchecked may affect the structural integrity of improvements (i.e.: buildings, structures, driveway, etc.) on the property.

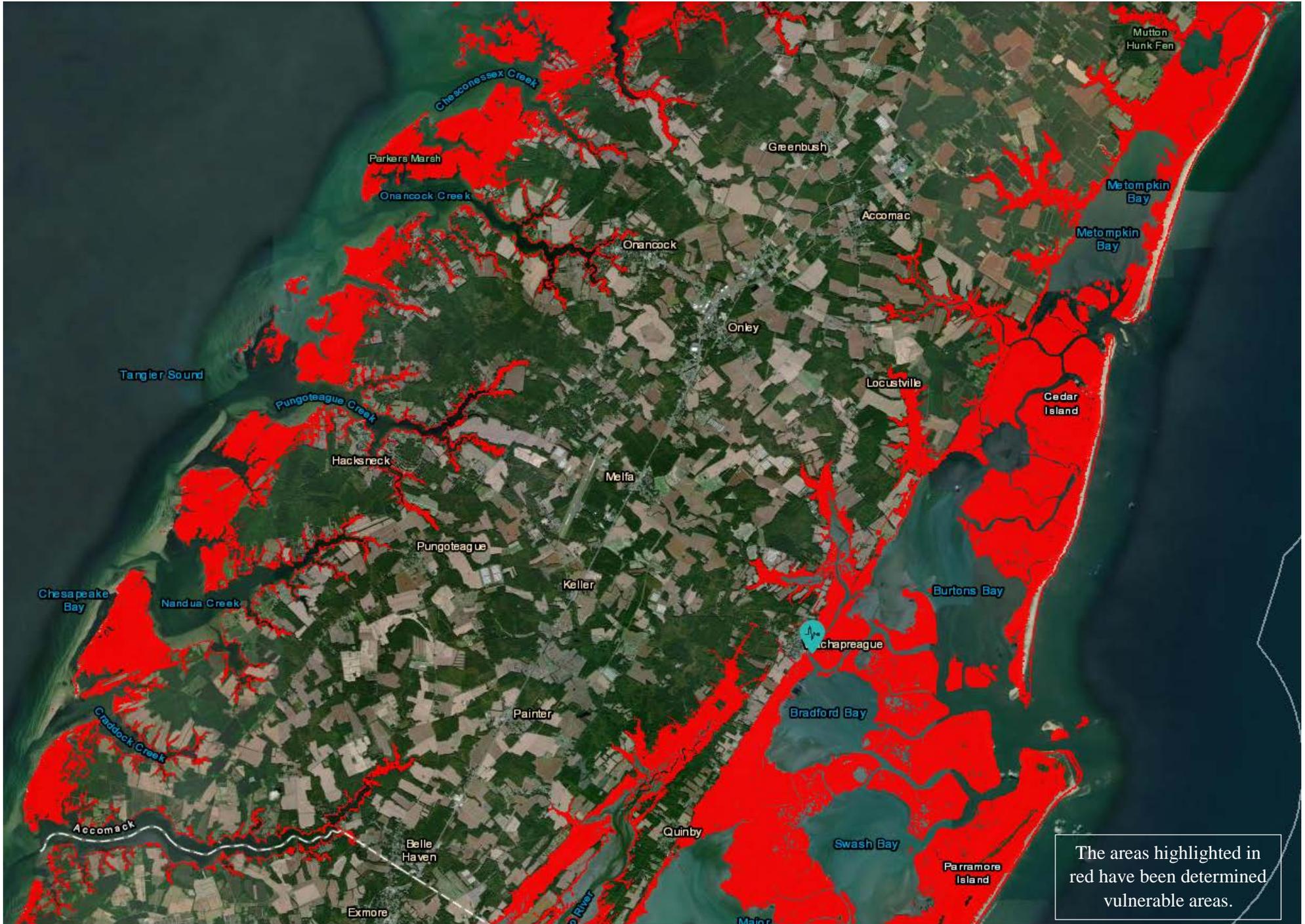
## ACCOMACK COUNTY VULNERABLE AREAS MAP – Greenbackville to Parksley

Source: NOAA High Tide Flooding Map of Upper Accomack County\_– For further zoomed in image, please visit <https://coast.noaa.gov/slr/#/layer/fld/0/-8425705.378599392/4531155.86519694/12/satellite/none/0.91/2050/interHigh/midAccretion>



## ACCOMACK COUNTY VULNERABLE AREAS MAP – Parksley to Belle Haven

Source: NOAA High Tide Flooding Map of Upper Accomack County\_– For further zoomed in image, please visit <https://coast.noaa.gov/slr/#/layer/fld/0/-8425705.378599392/4531155.86519694/12/satellite/none/0.91/2050/interHigh/midAccretion>



## EXECUTIVE SUMMARY

A number of studies have recently documented that relative sea-level rise is occurring and appears to be accelerating on the Eastern Shore of Virginia. A number of areas are currently vulnerable to road closures during storm events and it is expected that future elevated water levels will have increasingly significant impacts on transportation infrastructure and the communities, facilities, and economies that depend upon them. To begin to address these long-range issues, this study set out to conduct a screening-level assessment to determine 1) which transportation infrastructure is vulnerable to inundation from relative sea level rise, 2) which communities are at risk to having limited access or becoming inaccessible altogether, and 3) when these changes are projected to occur.

To accomplish these objectives, the Accomack-Northampton Planning District Commission (A-NPDC) worked in cooperation with the Virginia Department of Transportation (VDOT) to evaluate existing inundation models, digital transportation infrastructure data, local knowledge, and relative sea-level rise projections for the Eastern Shore. Two separate assessments were conducted: a regional transportation infrastructure inundation vulnerability assessment and a community and critical facility accessibility assessment.

The method of this assessment assumes the inundation scenarios are to occur under “stillwater” conditions and does not consider other mechanisms for increase in water levels including groundwater and stormwater flooding, storm surge and astronomical tides or other natural processes such as shoreline erosion that are expected to exacerbate the impacts and hasten the timing of inundation of transportation infrastructure.

The inundation vulnerability assessment determined that 33 miles of roads in the region are vulnerable to inundation sometime between 2025 and 2050 with 1 foot of relative sea-level rise above mean higher high water. This number peaks to 371 miles, or 24.5% of all roads, are potentially vulnerable in the region as early as 2090 with 6 feet of relative sea-level rise. Over 80% of all vulnerable roads identified were located in Accomack County with some of this being attributed to the communities and facilities located in tidal marshes and on barrier islands.

The accessibility assessment evaluated over 50 communities and facilities in the region that are potentially vulnerable to inundation of routes providing entrance and egress by sometime over the next 100 years or by the beginning of the next century. It is projected that seven communities including the Incorporated Town of Saxis, may be disconnected or inaccessible during high tide and stillwater conditions beginning sometime between 2025 and 2050 with 1 foot of relative sea-level rise. Additionally, the Chincoteague Causeway (SR-175) which serves as the sole access route to the Town of Chincoteague, the Chincoteague National Wildlife Refuge, and the Assateague Island National Seashore was found to be vulnerable to inundation beginning sometime between 2045 and 2090.

These assessments are intended to support long-term planning efforts that can ultimately result in a more resilient and cost-effective management approach of transportation infrastructure that ensures the viability of coastal communities to the greatest extent possible.

Recommendations for accomplishing this include considering relative sea-level rise and other potential coastal flooding impacts when selecting and prioritizing future transportation projects, updating this study regularly utilizing new and updated data, and conducting further and additional studies to determine potential impacts on specific transportation infrastructure, roadway drainage systems, buried utilities, signalization, and right-of-ways.