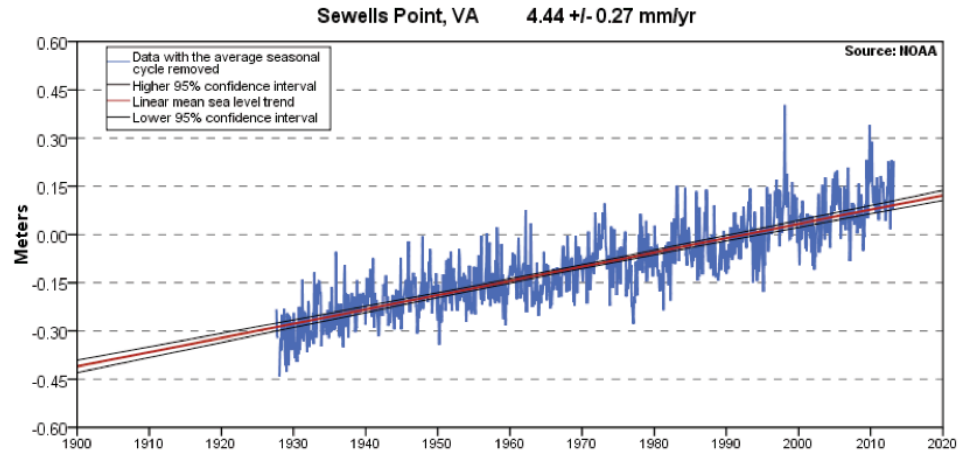


The Rising Sea

preparing for changing conditions

Why is sea level rising in tidewater Virginia?

- ocean warming- when water expands its volume increases
- melting ice from land increases ocean volume
- land is sinking in the Chesapeake Bay area because of geologic forces and withdrawal of groundwater
- ocean currents in the North Atlantic are tilting the water up along our coast



Rising sea level measured at NOAA tide gauges in the Mid-Atlantic region has been well documented for many decades. Recent data analysis using time series analysis techniques strongly suggests the rate of rise is accelerating. An example from the Sewells Point tide gauge in Norfolk shows the slow increase that amounts to about 1.5 feet per century.

ODU addresses Climate Change and Sea Level Rise



Municipal officials, business managers and NGO staff gather at ODU to discuss floodplain management. Photo by Janet Krenn (Virginia Sea Grant)

Since 2010, ODU's **Climate Change and Sea Level Rise Initiative** has facilitated research and education in all aspects of climate change and sea level rise. Accomplishments:

- ✓ Organized five Hampton Roads Sea Level Rise/ Flooding Adaptation Forums drawing over 330 people
- ✓ Hosted Transatlantic Solutions to Sea Level Rise Adaptation meeting of international experts
- ✓ Engages over 30 faculty in interdisciplinary research and education projects

The **Mitigation and Adaptation Research Institute (MARI)** is an outgrowth of the CCSLRI efforts. MARI works with stakeholders within and outside the region to generate knowledge that can enable them not only to reduce the negative aspects of climate change and sea-level rise, but also to make positive use of new opportunities for innovation.

Hampton Roads Flooding Information

Trends in Sea Level Rise

Trends in sea level rise can be found at

www.tidesandcurrents.noaa.gov/sltrends/index.shtml

The tide gauge at Sewells Point on the Navy Base has the longest record

http://www.tidesandcurrents.noaa.gov/sltrends/sltrends_station.shtml?stnid=8638610

Predictions for future sea level rise are based on the data shown at these sites.

NOTE – The trends they give are low because they assume linear sea level rise since the beginning of the record.

Prediction of Tidal Flooding events several days in advance

Predictions can be found at

www.nws.noaa.gov/mdl/etsurge/index.php?page=stn®ion=me&datum=msl&list=&map=0-48&type=map&stn=vahamp

The page defaults to Mean Sea Level (MSL).

VIMS has a website also producing similar predictions:

www.vims.edu/bayinfo/tidewatch/index.php

Flooding Information from Local Municipalities

Chesapeake

www.cityofchesapeake.net/Government/City-Departments/Departments/fire/emergman/em-all_hazards_preparedness/em-prepare-floods.htm

Norfolk

www.norfolk.gov/index.aspx?NID=1055

Hampton

www.hampton.gov/index.aspx?NID=1747

Newport News

www.nngov.com/emergency-management/resources/flood%20plain%20maps

Poquoson

www.ci.poquoson.va.us/general/disaster_information/flood_information

Portsmouth

www.portsmouthva.gov/dna/flood-program.aspx

Suffolk

www.suffolkva.us/em/flood-info/

Virginia Beach

www.vbgov.com/government/departments/communications-info-tech/maps/Pages/FEMA-FIRM-Maps.aspx

National Flood insurance Program

www.floodsmart.gov/floodsmart/