

## **Richmond Times-Dispatch**

### **Report says sea-level rise has major economic consequences for Hampton Roads**

By Robert Zullo November 17, 2016

A study released this week by the College of William & Mary Law School's Virginia Coastal Policy Center warns that sea-level rise could eventually cost the Hampton Roads region more than \$100 million extra in damage and costs annually if no measures are taken to mitigate the risks of coastal flooding.

"The goal here is to provide data both to the state and the coastal localities to help them as they're making decisions," said Elizabeth Andrews, director of the center, which is a partnership between the law school, the Virginia Institute of Marine Science and Virginia Sea Grant, a seven-university program. "Although the report goes into theoretical predictions, the flooding is a reality today."

The study, conducted by the North Carolina-based Research Triangle Institute, found that rising seas will pose ever-increasing threats to Hampton Roads' roughly \$100 billion worth of buildings, not including military installations and ports. Researchers used estimates produced by VIMS that project about .5 meters (1.6 feet) of sea-level rise by 2040 and .75 meters (2.5 feet) by 2060.

"Whereas without sea-level rise the expected damages in any given year are estimated to be roughly \$12 million, these expected damages would increase to roughly \$50 million annually with a sea-level of .5 meters and to over \$100 million annually with a sea-level rise of .75 meters," the report's summary states.

The National Oceanic and Atmospheric Administration says sea-level rise triggered by climate change continues globally at a rate of about an eighth of an inch a year as a result of melting glaciers and ice sheets and thermal expansion of seawater as it warms.

Hampton Roads represents about 20 percent of Virginia's economy, income and population. The area is also home to Norfolk Naval Station, the world's largest naval base, which, like the rest of Hampton Roads, is jeopardized not just by sea-level rise by sinking land, also called subsidence, according to Old Dominion University's Center for Sea Level Rise.

With no sea-level rise, a 100-year storm, defined as a storm that has a 1 percent chance of occurring in any given year, will cause a hit to the Hampton Roads economy's gross regional product, the value of all goods and services produced in the area in a year, of about \$611 million.

With a half meter of sea-level rise, that figure jumps to more than \$1 billion, the report says. With a rise of .75 meters, it doubles to \$2 billion.

"We hope it helps educate the community here, both the academic community, the business community and our elected officials, on the need to collectively find solutions for this situation," said Bryan Stephens, president and CEO of the Hampton Roads Chamber of Commerce.

In additions to the threats it poses to existing residences, businesses and defense installations in Hampton Roads, sea-level rise is also an impediment to economic development, forcing businesses to think twice before they open up shop in the area, he added.

"We want to project the fact that we are a very business-friendly region that is tackling this head on," Stephens said, adding that the chamber hopes the study serves as "a rallying cry to incentivize everybody to work collectively to find a solution to this."

Hurricane Matthew, which just brushed Virginia's southeast coast but dumped 14-17 inches of rain across some areas and caused an estimated \$13.2 million in damage, underscored the region's vulnerabilities.

"It's very high on the agenda of all our municipalities down here," Stephens said. "I know the governor believes that climate change is real and we have to do something about it as soon as possible, and his Cabinet feels the same way."