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COASTAL FLOODING AGAIN IS SEEN AS ON THE RISE

Rising Sea Levels and a potential El Niños bode ill for New Jersey

Shore areas could see 10 percent to 20 percent more tidal flooding this year because of continued sea level rise and a potential El Niño, according to a new federal report.

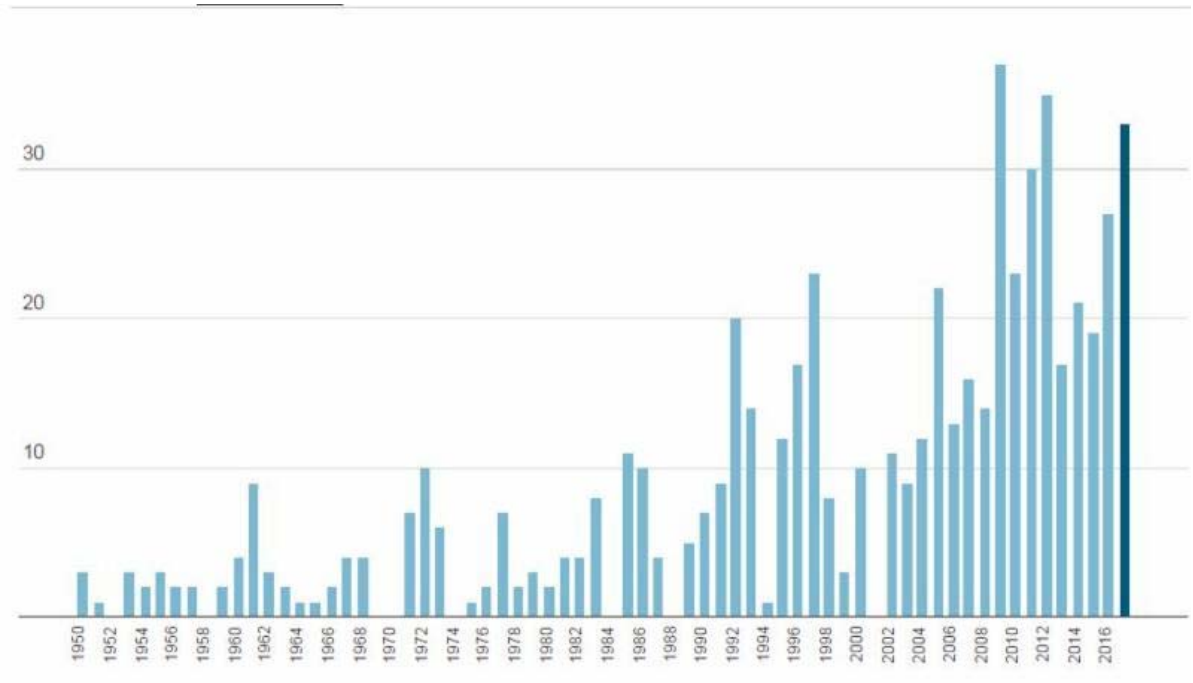
Philadelphia could also see an increase in flooding, but that level is harder to predict, researchers say.

The National Oceanic and Atmospheric Administration released the report Wednesday as an update to its sea level rise outlook on what is variously dubbed "nuisance," "recurrent," or "sunny day" flooding.

Such flooding is driven mostly by high tides, not storms. Current models predict at least a weak El Niño, though they remain fuzzy. The East Coast often experiences above-normal precipitation and warmer weather during El Niños.

The NOAA data show that even without an El Niño, three of the local locations examined, Atlantic City and Sandy Hook in New Jersey and Philadelphia, have all shown a continual increase in nuisance flooding over the last 50 years.

More Nuisance Flooding Predicted Locally



Source: National Oceanic and Atmospheric Administration Staff Graphic

The chart shows the annual number of days of tidal flooding at Atlantic City, NJ. The National Oceanic and Atmospheric Administration predicted Wednesday that shore areas could see a 10 to 20 percent rise in tidal flooding this year. Predictions for 2017 for Atlantic City assume the effects of an El Nino.

"What I see for Atlantic City and Sandy is an acceleration in the number of days per year in high-tide flooding," said NOAA's Billy Sweet, one of the report's authors. "It's growing by leaps and bounds. That's a concern, because ultimately this trend is going to have to be reconciled locally."

The data he cited are taken from tide gauges monitored since the 1950s. The report calls for a possible 25 percent rise in nuisance flooding nationally.

For the last few years, Sweet and other researchers have been warning that local governments need to prepare for more days when flooding happens almost randomly because of sea level rise.

But preparedness for more routine flooding can be costly, as storm-water systems, roads, and even housing have to be rethought.

The new NOAA data are derived from observations taken during the 2016 meteorological year, which ended in April. Atlantic City had 28 days last year when "minor" tidal flooding exceeded long-term averages, which is in line with researchers' predictions. Yet Atlantic City had just three such days in 1950. While the numbers have bounced around from year to year, the trend has been a marked rise over time.

Philadelphia is much more influenced by its rivers, so the numbers aren't as dramatic and are harder to predict. The city saw nine minor flooding days in 2016. The high point was 30 days in 2011 - the year of Hurricane Irene.

Other areas of the country, especially the Southeast, are harder hit by high-tide floods. Wilmington, N.C., had the most, with 84 days, meaning there is minor flooding almost every four days or so.

Charleston, S.C., Savannah, Ga., and Key West, Fla., all saw their local records broken, with some areas 50 percent higher than normal.

Lisa Auermuller of Rutgers University's Jacques Cousteau National Estuarine Research Reserve said that local storm-water drainage systems are often overwhelmed along bay shore areas in New Jersey. The storm systems were set up decades ago to drain into the bay or ocean.

"During flooding, the drain acts more like a conduit for water to come back into the town," said Auermuller, who coordinates with local officials. "Sometimes in high tides, it's actually pushing water back into the streets."

Philadelphia has a plan that describes the impact of flooding and sea level rise, said Sarah Wu, deputy director of the Philadelphia Office of Sustainability.

"Although Philadelphia lies 90 miles from the coast, its tidal rivers make sea level rise, which is likely to reach two feet by 2050 and four feet by 2100, a particularly important risk for the city," according to the 2015 plan.

"By the end of this century, more than 30 city-owned facilities would be highly or moderately vulnerable to flooding from sea level rise alone."

By: Frank Kummer - Philadelphia Inquirer

As coastal cities are in great jeopardy from the inevitable rising seas and further frequent flooding thanks to the rapidly changing climate, environmental planning must be prioritized. Planners need to take into account, the historical trends of flooding as they show an exponential increase in frequency. They must plan for future flood frequency increases, if the trends are any indication of future flooding and if predictions for future sea level rise are anywhere near accurate. As coastal cities are in jeopardy from the inevitable rising seas and further frequent flooding thanks to changing climate, so environmental planning should be prioritized. Planners need to take into account the historical trends of flooding as they show an exponential increase in frequency in some cases. They must plan for future flood frequency increases, if the trends are any indication of future flooding and if predictions for future sea level rise are accurate.

Planning must prepare for the worst scenarios in order to ensure protection of important infrastructure, private properties, and to protect and/or enhance natural areas. Proper planning should consider conserving important wetland areas that act as buffers to floods. Although this may be costly now, it could save billions of dollars down the road. Not only could proper planning and conservation save money, but people's health and potentially their lives could be saved as well. It is comforting to realize that even a city like Philadelphia, not quite thought of as a coastal city, is already planning for sea level rise as they are paying attention to the weather and climate data and listening to the science.

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