

NUISANCE FLOODING: CLIMATE CHANGE AND INCREASING SEA LEVELS ON U.S. COASTS

According to a new report released yesterday (July 28, 2014) by the National Oceanic and Atmospheric Administration (NOAA), **nuisance flooding** — which causes public inconveniences such as frequent road closures, overwhelmed storm drains and compromised infrastructure — is a growing problem along the U.S. coasts. Indeed, nuisance flooding has increased between 300 and 925 percent since the 1960s.

The report (Sea level rise and nuisance flood frequency changes around the United States) points out that eight of the top ten U.S. cities that have seen the increase in nuisance flooding, which is caused by **rising sea levels**, are on the East Coast, one is in Texas and the other in California.

Annapolis and Baltimore, Maryland, lead the list with an increase in number of flood days of more than 920 percent since 1960. Port Isabel, Texas, along the Gulf coast, showed an increase of 547 percent, and nuisance flood days in San Francisco, California increased 364 percent.



Community Flooding in Florida. Photo credit: Barry Bahler

“As relative sea level increases, it no longer takes a strong storm or a hurricane to cause flooding,” said William Sweet, Ph.D., oceanographer at NOAA’s Center for Operational Oceanographic Products and Services (CO-OPS) and the report’s lead author. “Flooding now occurs with high tides in many locations due to climate-related sea level rise, land subsidence and the loss of natural barriers. The effects of rising sea levels along most of the continental U.S. coastline are only going to become more noticeable and much more severe in the coming decades, probably more so than any other climate-change related factor.”

The extent of nuisance flooding depends on multiple factors, including topography and land cover.

The study defines nuisance flooding as a daily rise in water level above the minor flooding threshold set locally by NOAA's National Weather Service, and focused on coastal areas at or below these levels that are especially susceptible to flooding.

The report concludes that any acceleration in the rise of sea levels (predicted to occur this century) will not only intensify the impacts of nuisance flooding over time, but it will also reduce the time between flood events.

Below is the list of the top ten U.S. cities with increasing nuisance flooding:

1. Annapolis, Maryland, 925 percent
2. Baltimore, Maryland, 922 percent
3. Atlantic City, New Jersey, 682 percent
4. Philadelphia, Pennsylvania, 650 percent
5. Sandy Hook, New Jersey, 626 percent
6. Port Isabel, Texas, 547 percent
7. Charleston, South Carolina, 409 percent
8. Washington, DC, 373 percent
9. San Francisco, California, 364 percent
10. Norfolk, Virginia, 325 percent

The report explains that **climate change** — by causing thermal expansion of the world's oceans and melting of glaciers and ice sheets — has contributed to the rise of global sea levels at a rate of approximately 1.7 mm/yr over the last century, with even higher rates (3.2 mm/yr) over the last several decades. Superimposed upon this trend are the dynamics of ocean-atmosphere circulation that produce significant regional inter-annual variability in sea levels.

The report provides critical NOAA environmental data that can help coastal communities assess flooding risk, develop ways to mitigate and adapt to the effects of the rise in sea levels, and improve coastal resiliency in the face of changes induced by climate and weather.

Source: <http://theglobalfool.com/nuisance-flooding-climate-change-and-increasing-sea-levels-on-u-s-coasts/>