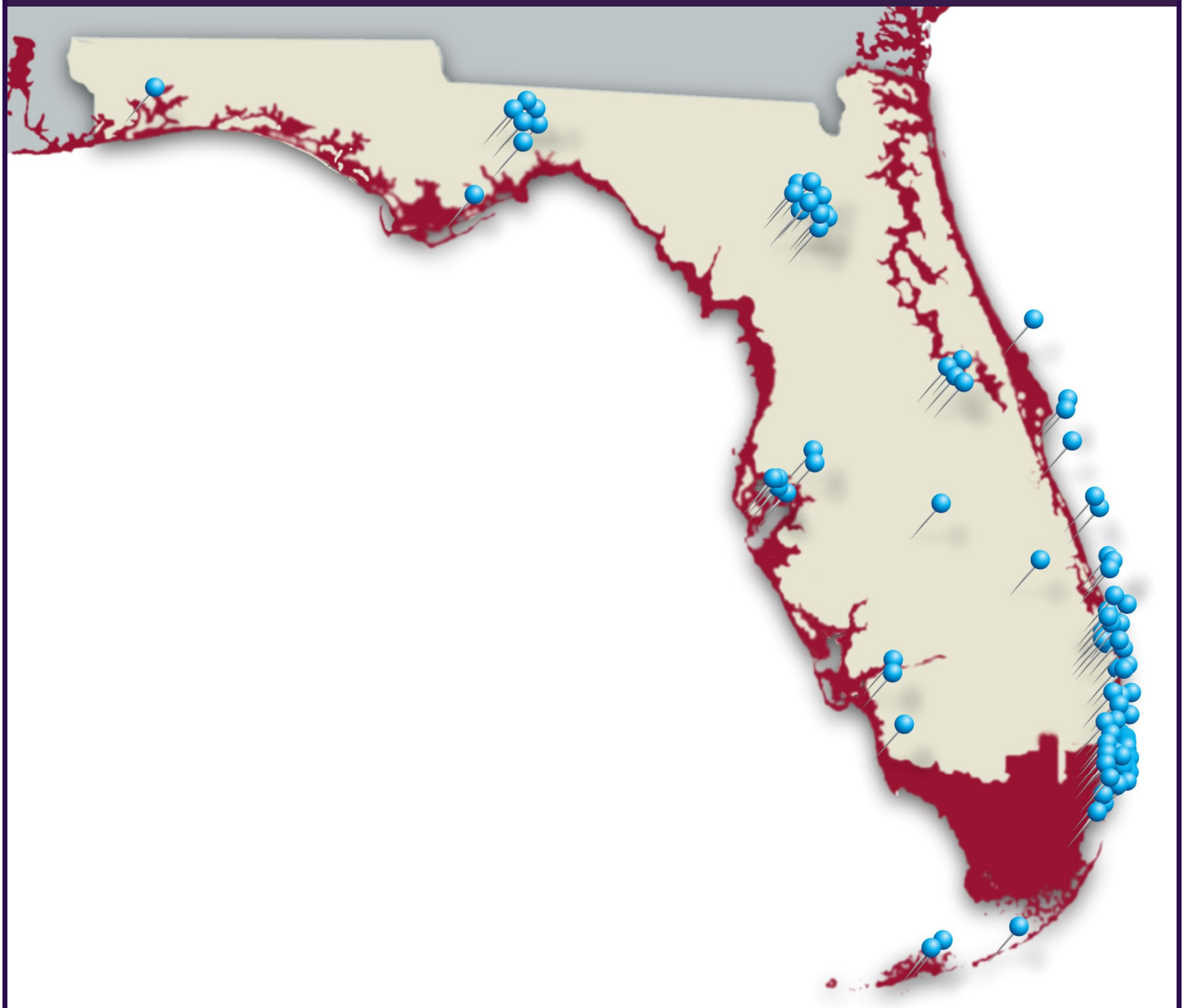
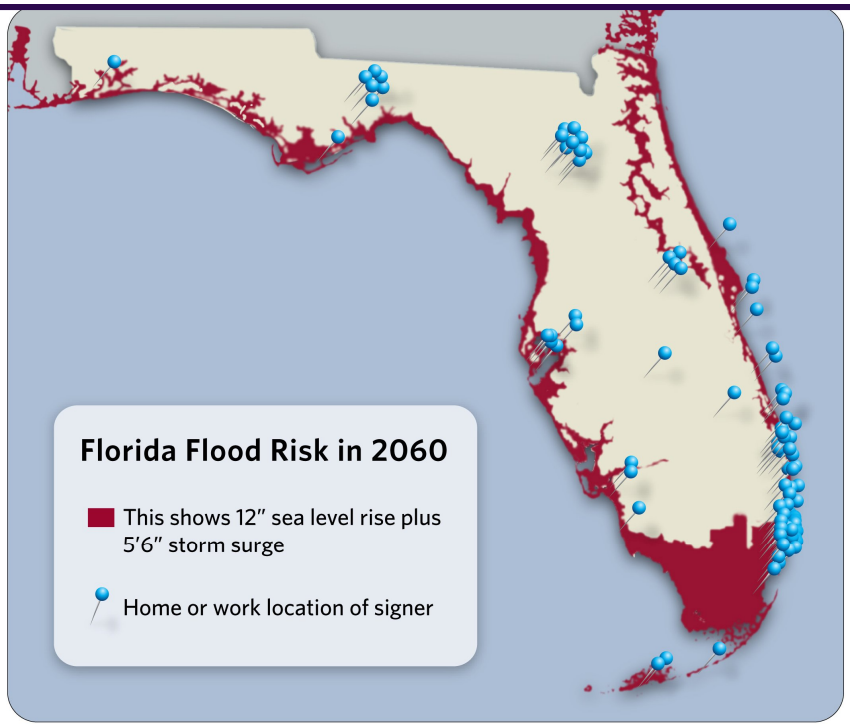
Florida Experts' Call for Presidential Candidates to Address Sea Level Rise



October 2012



This map shows how a combination of sea level rise (SLR) and storm surge could affect Florida's coastal cities and population by mid-century. The map combines a 12" SLR with a 5' 6" storm surge.

The US Army Corps of Engineers has projected 9" – 24" of SLR by 2060[1]. We chose 12" of SLR as a conservative estimate.

A 5' 6" storm surge represents what South Florida can currently expect in a typical tropical storm or Category 1 hurricane.[2] For purposes of comparison, Hurricane Andrew (1992) produced a 17' storm surge,[3] while Hurricane Charley (2004) had a storm surge of less than 7'.[4]

In viewing this map, it is important to remember that a storm surge typically would only affect a segment of the coastline at a time.

[1] http://publications.usace.army.mil/publications/eng-circulars/EC_1165-2-212.pdf

[2] http://www.leepa.org/Docs/stormsurge.pdf

[3] http://www.nhc.noaa.gov/outreach/history/#andrew

[4] http://www.nhc.noaa.gov/outreach/history/#charley

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We look forward to your visit to Florida for the third and final presidential debate at Lynn University in October.

Florida is already feeling the effects of sea level rise and, increasingly, it jeopardizes the health, safety, and economic well-being of our communities. Our local tidal gauges show sea levels rose by about eight inches in the twentieth century[1]. This rise in sea level is now resulting in the flooding of city streets and parking areas at seasonal high tides, the abandonment of drinking water wells in coastal communities due to salt water intrusion, and the failure of flood control structures to operate during high tides.

As citizens and scientists concerned about the impacts and costs of sea level rise on our nation, we urge you to address this issue when you will be in Boca Raton, Florida.

Scientists project increased coastal and inland flooding and inundation, an increased likelihood of significant damage to key aspects of our urban infrastructure, and compromised drinking water sources in more and more communities. The porous limestone underlying much of Florida resembles Swiss cheese, making sea walls ineffective and the state particularly vulnerable to sea level rise by allowing subsurface water to penetrate far inland[2]. Because Florida is so densely populated, it is estimated 40 percent of the population and housing units at risk from sea level rise in the nation are here, in the state of Florida[3].

Local communities and agencies are keenly aware of the impact of rising seas and are working together to address preventive and adaptive action. These include the efforts of the Southeast Florida Regional Climate Change Compact[4], city and regional plans on both coasts (such as the Punta Gorda Adaptation Plan[5]), and interuniversity collaborations on major practical research needs.

Unfortunately, global sea level rise is a danger that must be considered by the next president of the United States. The issue threatens the future of Florida, the nation, and communities around the world. Providing effective solutions will challenge all levels of government.

During your time in Florida we urge you to address several questions, which will be important to resolve while in office:

- What will be the federal government's planning and policy priorities in order to reduce the risks of future sea level rise?
- What will be the polices for adaptive measures to respond to current and future impacts of sea level rise?
- How would you work with the rest of the world to address rising sea levels and other effects of climate change?

Thank you for your attention to this issue, and we look forward to hearing how each of your plans to address this critical challenge.

ENDNOTES

1. NOAA Tides and Currents. Mean Sea Level Trend, Key West, Florida. Online at http://tidesandcurrents.noaa.gov/sltrends/sltrends_station.shtml?stnid=8724580%20Key%20West,%20FL
2. Climate Central. 2012. *Facts and Findings: Sea level rise and storm surge threats for Florida*. Online at http://slr.s3.amazonaws.com/factsheets/Florida.pdf
3. Strauss, Benjamin H., et al. 2012. Tidally adjusted estimates of topographic vulnerability to sea level rise and flooding for the contiguous United States. *Environmental Research Letters.* 7 014033 Online at http://stacks.iop.org/1748-9326/7/i=1/a=014033
4. Southeast Florida Regional Climate Change Compact. Online at http://southeastfloridaclimatecompact.org/summit-site/wp-content/themes/summit/pdf/compact.pdf
5. Beever, James, et al. City of Punta Gorda Climate Adaptation Plan. 2009. Online at http://www.cakex.org/sites/default/files/Punta Gorda.pdf.

Florida Experts' Call for Presidential Candidates to Address Sea Level Rise

The signatures below represent Florida residents who either:

(1) Have a Master's degree or PhD with expertise (research or teaching) on sea level rise and its consequences, including but not limited to scientists, economists, certified engineers, and social scientists; or

(2) Work or volunteer in an official capacity for a Florida city, county, or the state on sea level rise and its consequences, including, for example, city officials (mayors, city planners, county commissioners, etc.) and members of official task forces, commissions, and committees.

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Keith London
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Citizens and Scientists for Environmental Solutions