

John Englander – Sea Level Rise – Key Slides

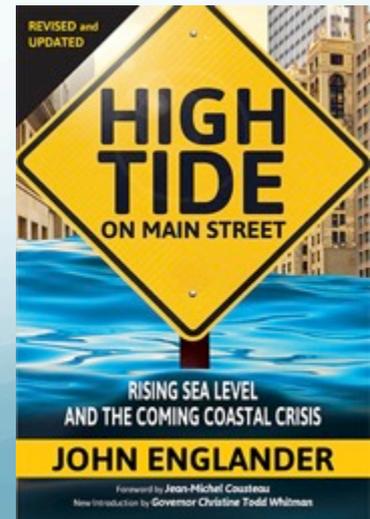
Following is a select sample of slides that I use in my presentations and consulting. You may be use any of them freely on the condition they are not modified.

Please visit my web site, www.johnenglander.net and sign up for my weekly update SEA LEVEL RISE NOW. Thank you for helping to inform others.

Additional information is contained in my book, “High Tide On Main Street: Rising Sea Level and the Coming Coastal Crisis” available on Amazon.



John Englander
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**Storms, extreme tides
and sea level rise all
increase flooding – yet
they are very different**

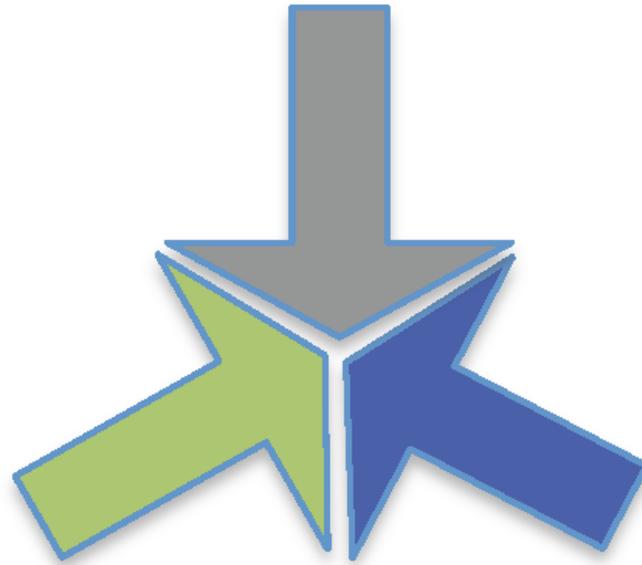
In many coastal communities storm drains are already working in reverse bringing salt water onto the streets with the 28-day lunar high tides





Icebergs are melting but do not directly add to sea level (like ice cubes in a glass). Glaciers and ice sheets on land are mostly responsible for sea level rise.

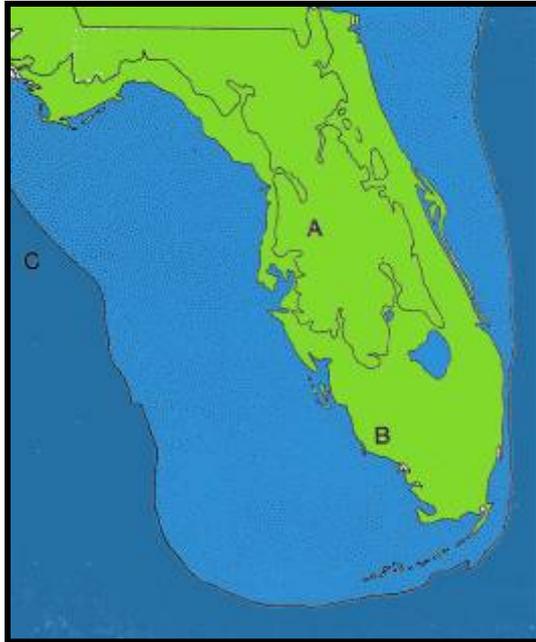
**Extreme
Rainfall**



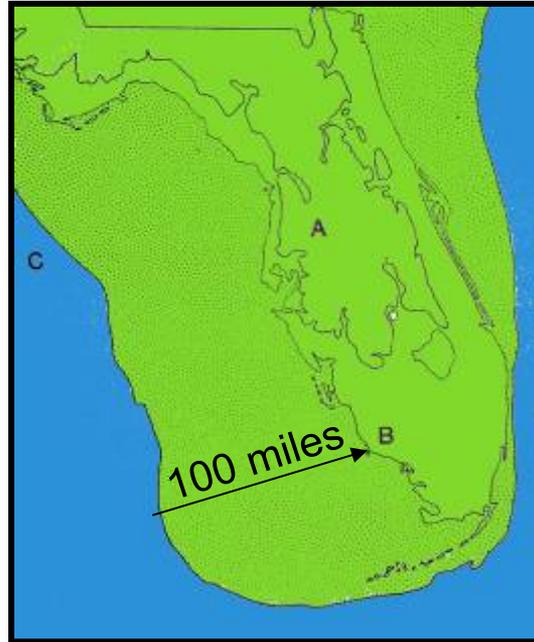
**Rising
Sea Level**

**Storm
Surge**

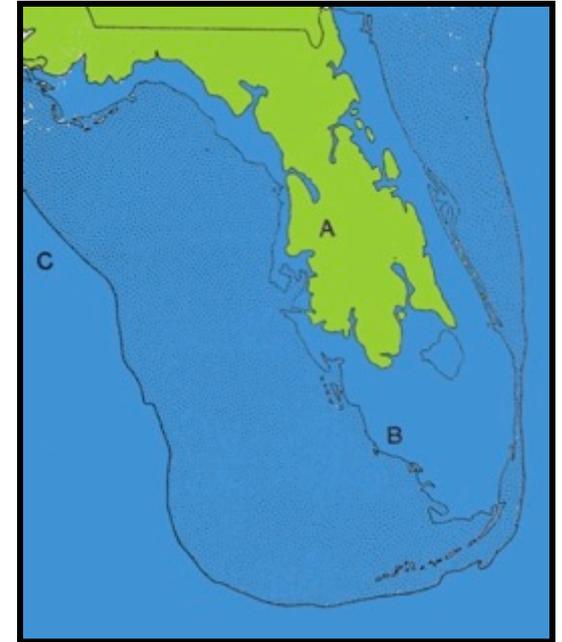
Today



20,000 yrs ago



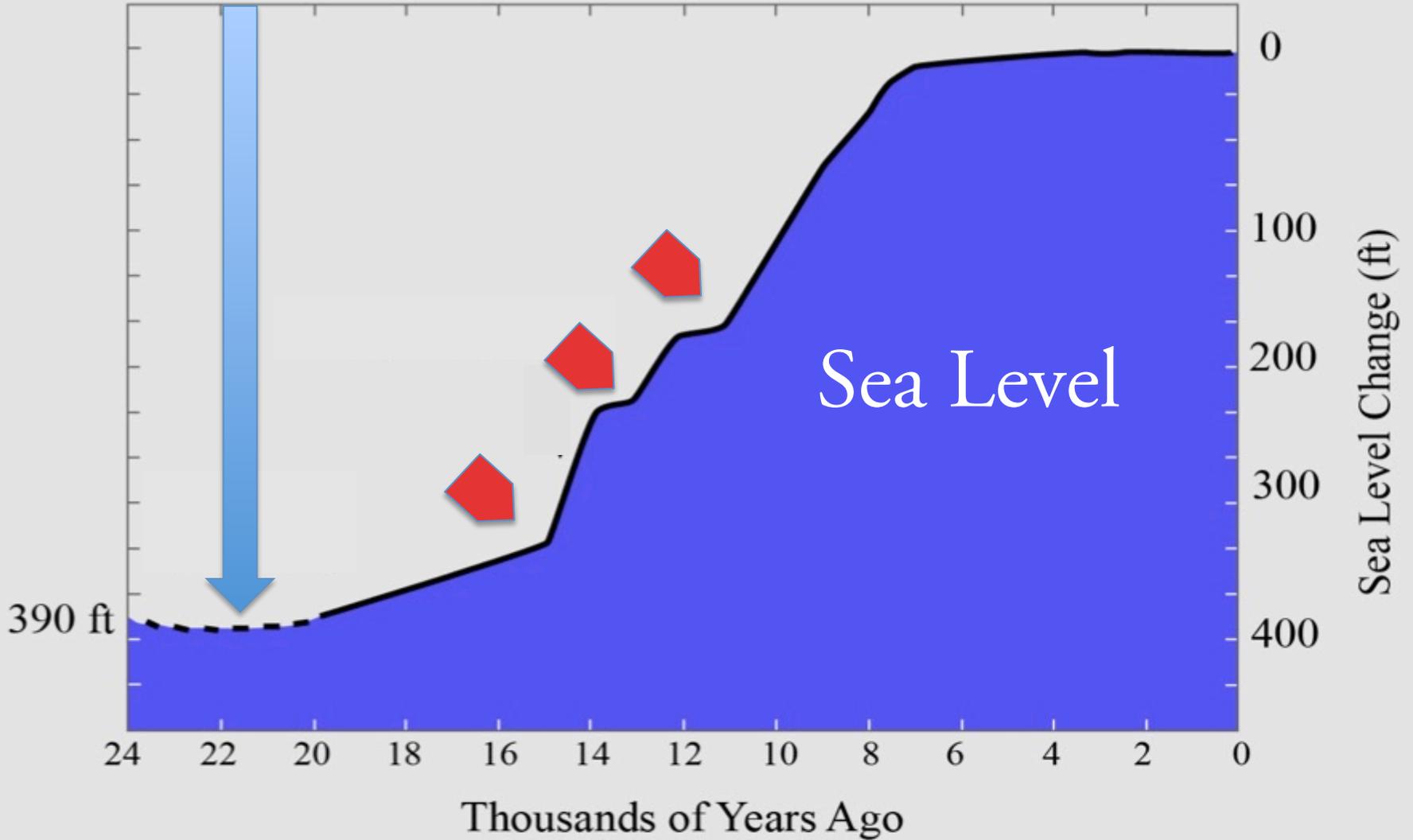
120,000 yrs



As one clear example to illustrate how shorelines change with sea level, Florida has changed size dramatically over the last hundred thousand years, as sea level moved up and down three or four hundred feet with the changing size of the ice sheets and glaciers, often referred to as the “ice ages” when there is maximum ice and low sea level.

Last Ice Age

20,000 Years Ago





47th Floor

30th Floor

When all ice melts

212 ft (65 m)

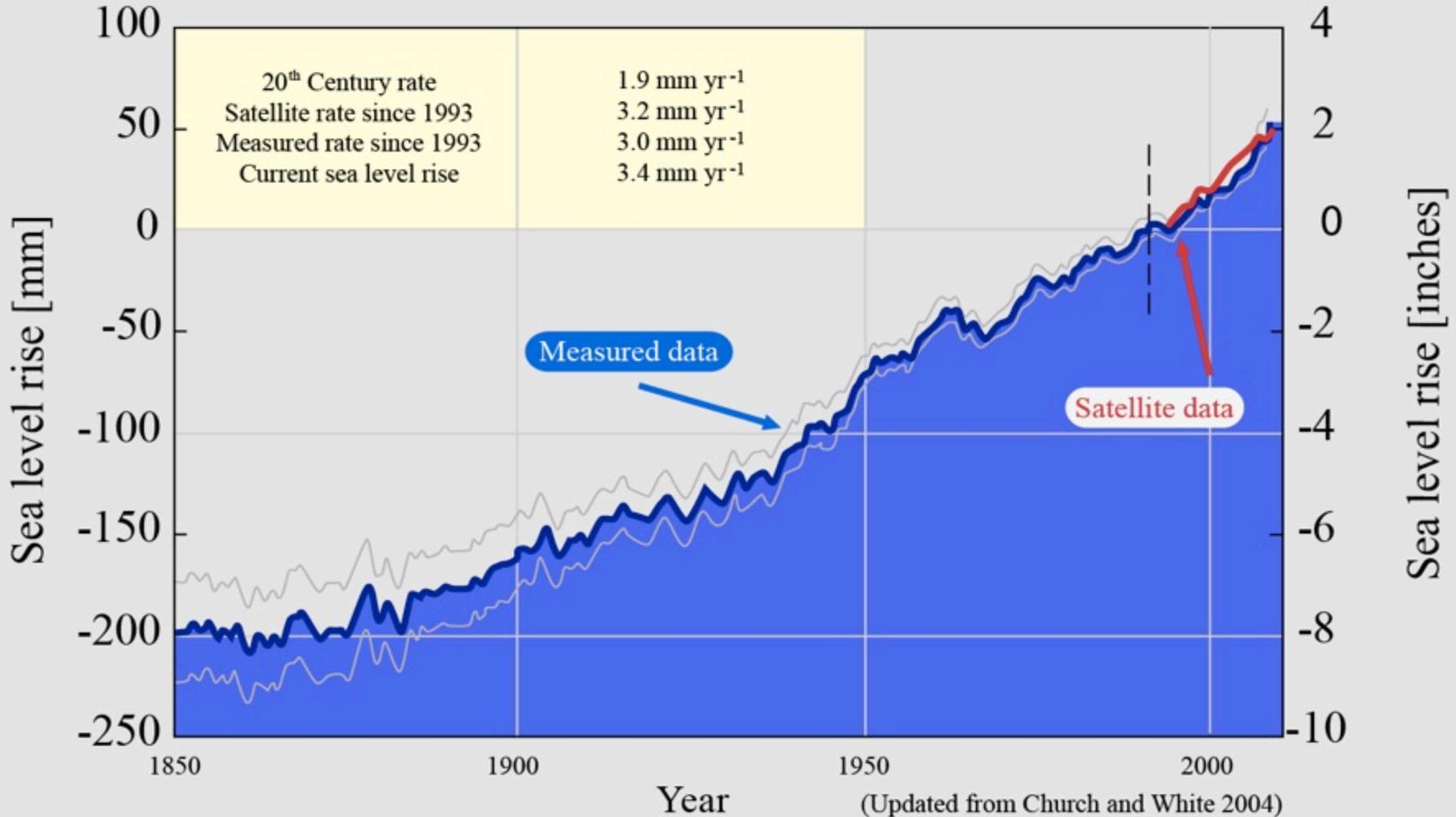
Present Sea Level

390 ft (120 m)

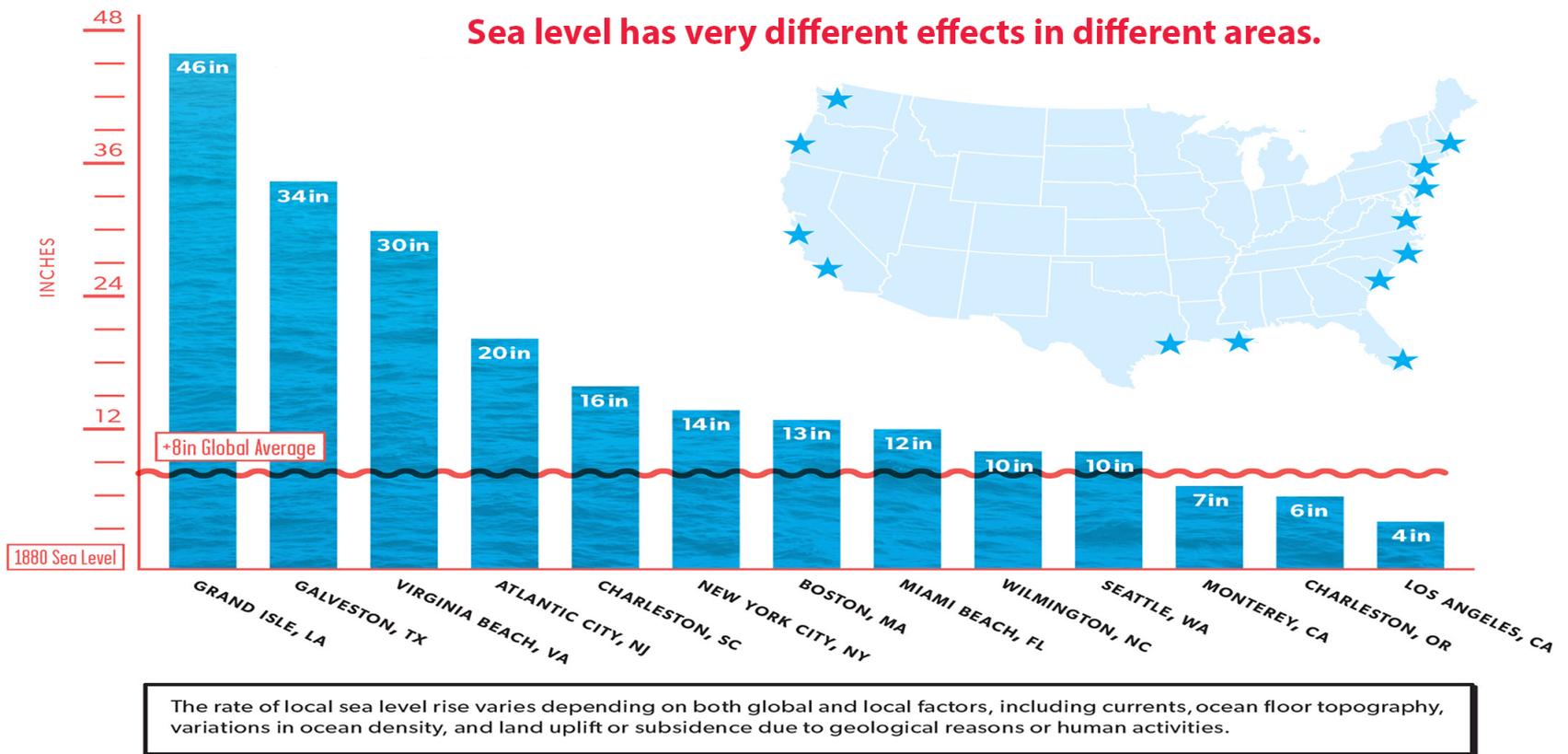
**20,000 years ago
Last Ice Age**

Sea Level Rise: 20th Century

The trend is clear: the rate of rise is increasing



Global average sea level has increased 8 inches since 1880. Sea levels along the U.S. East Coast and Gulf of Mexico are rising **much faster**.



UN Climate Pledge Analysis



COP21 · CMP11
PARIS 2015
UN CLIMATE CHANGE CONFERENCE

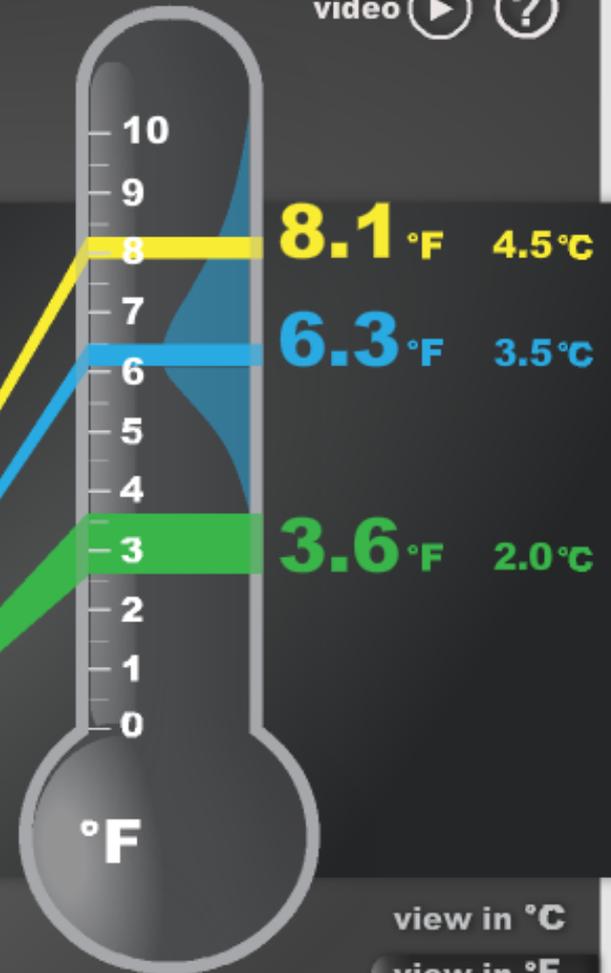
CLIMATE INTERACTIVE
scoreboard

video  

Increase in Global Temperature by 2100

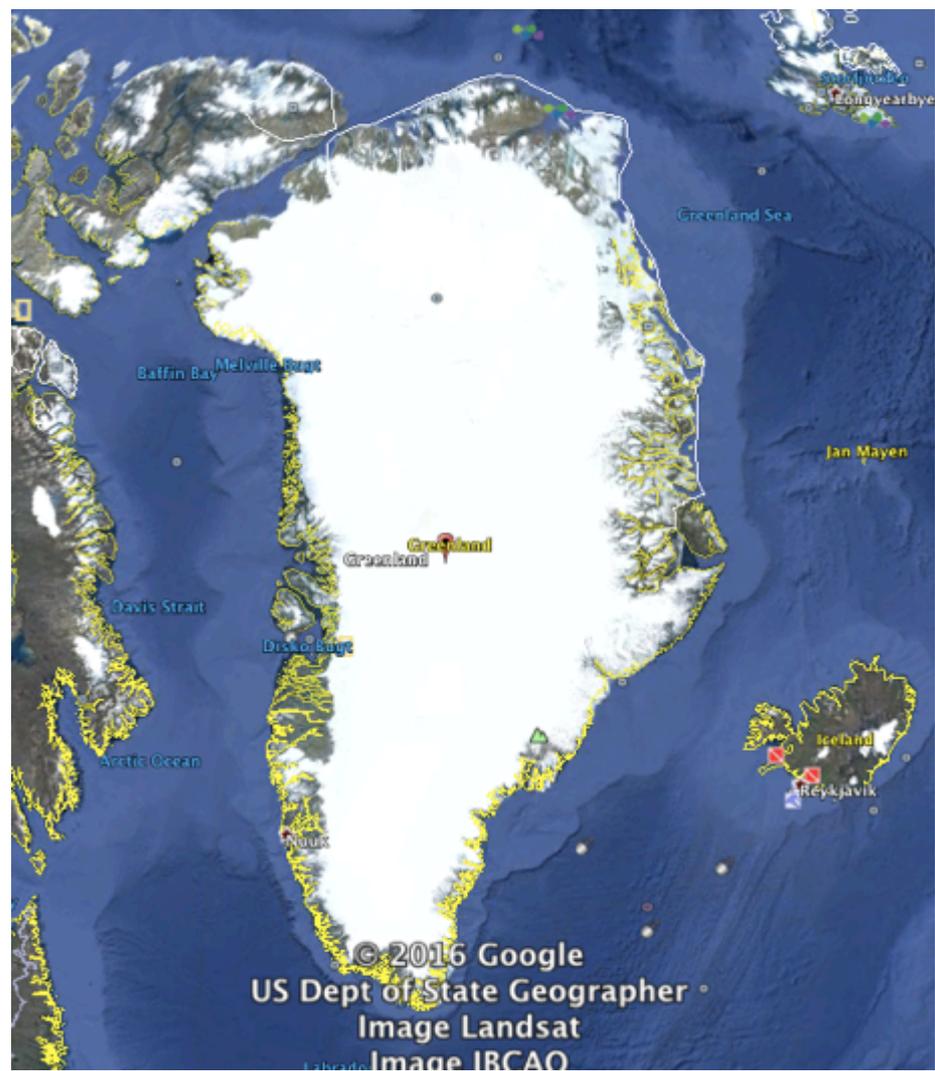
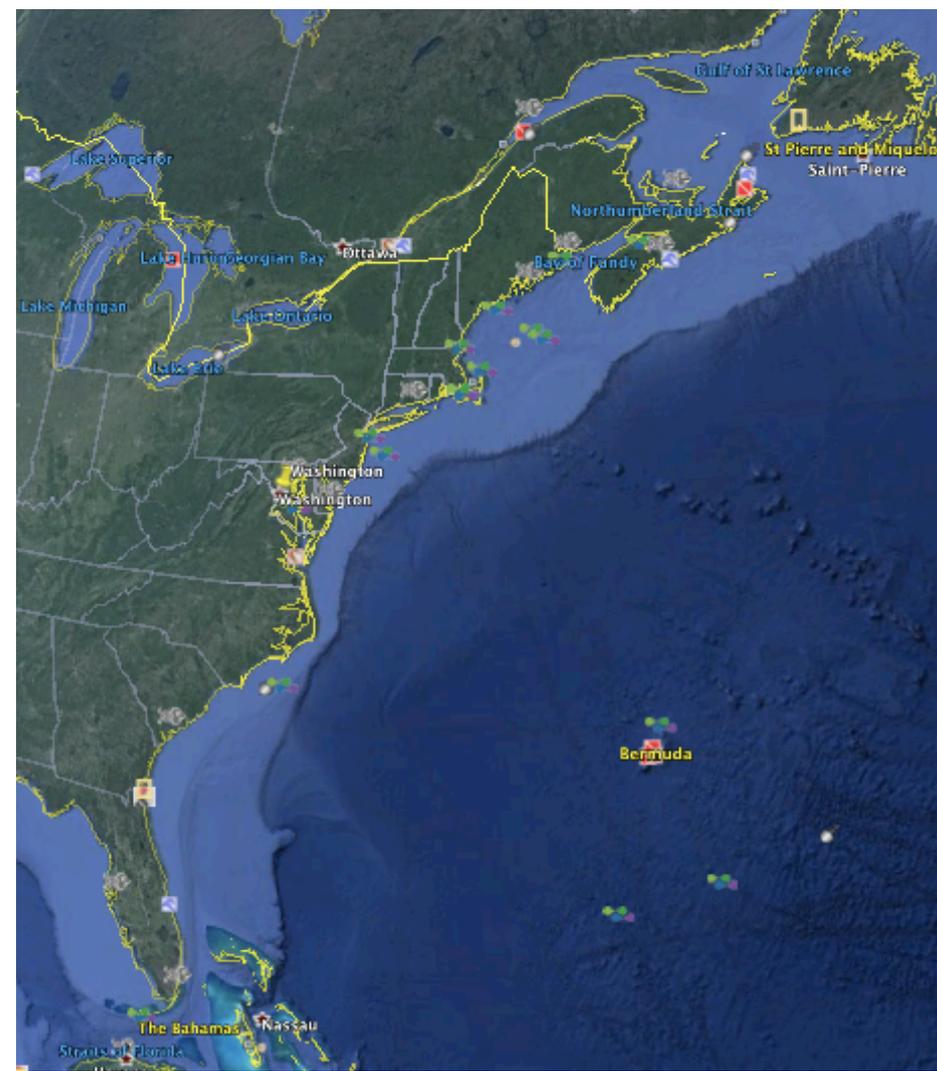
Where will proposals from the climate negotiations lead?

business as usual
20 April '16 proposals
goals



view in °C

view in °F



Size matters



Antarctica and Greenland are covered by ice averaging more than a mile high



@johnenglander

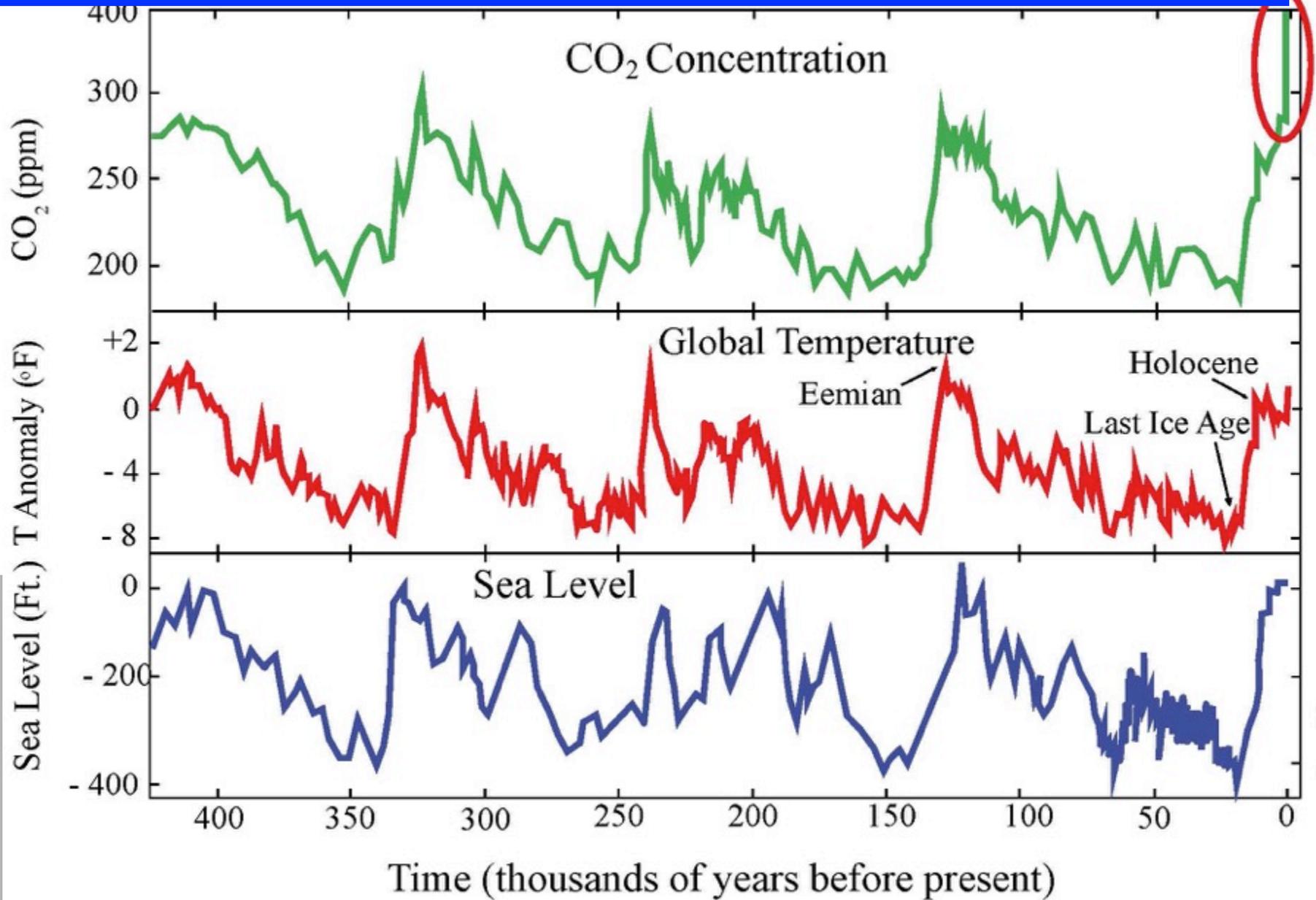


The ice on Greenland would raise global sea level 24 ft. when it melts

Antarctica has seven times more ice, or a potential 186 ft. of SLR



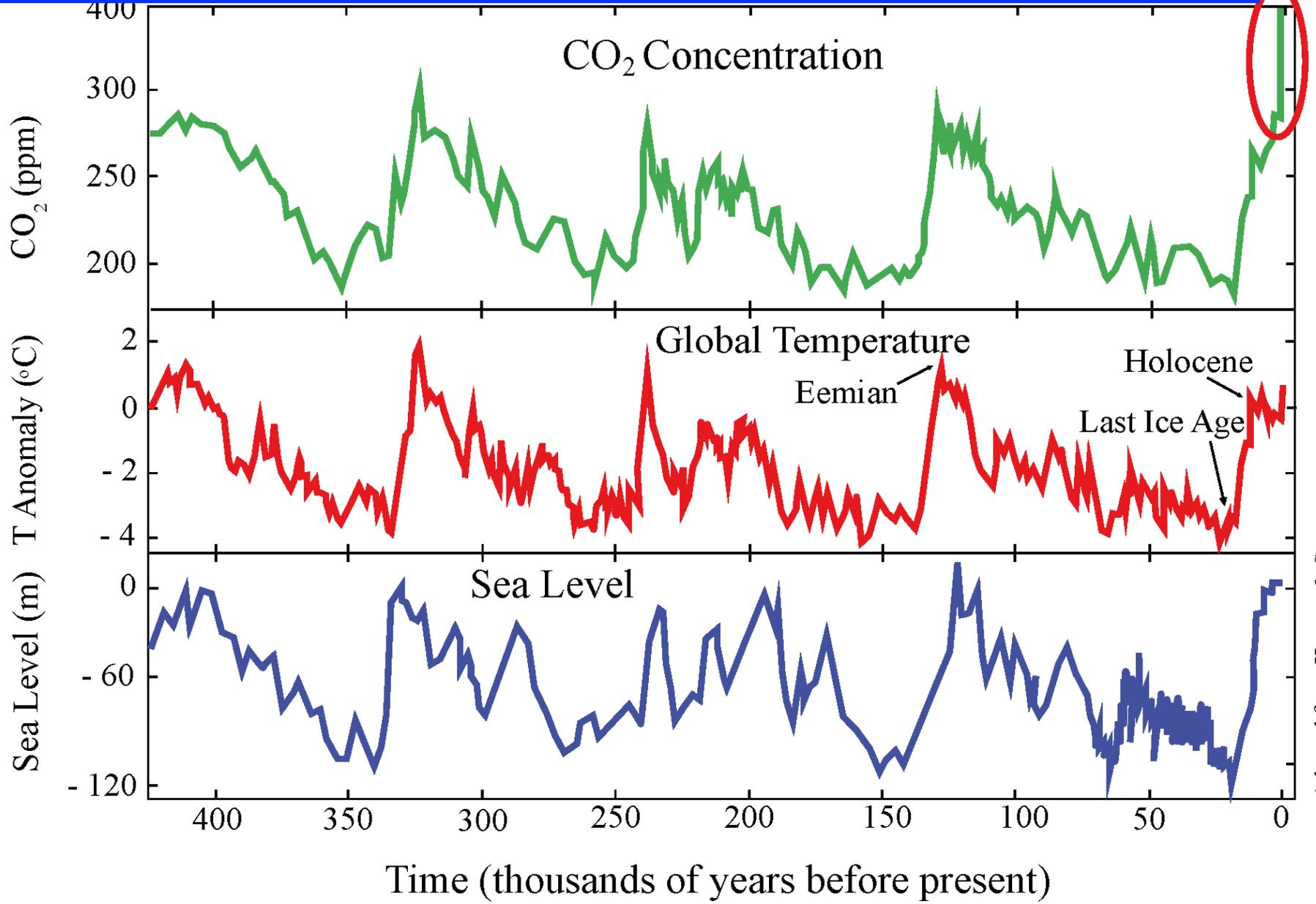
There is a long term correlation between CO₂, global temperature and sea level.



Adapted from Hansen & Sato

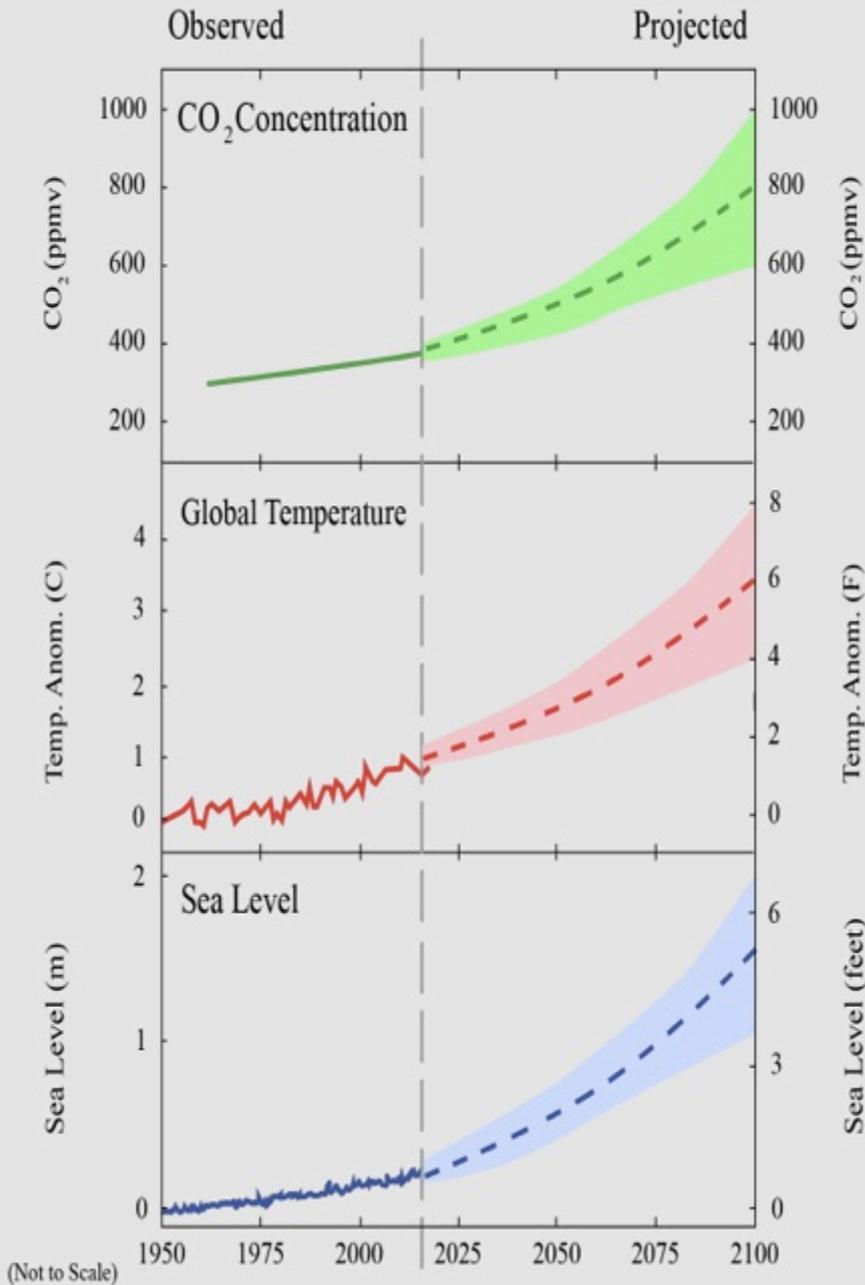
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There is a long term correlation between CO₂, global temperature and sea level.



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Adapted from Hansen & Sato



Over the last half century the pattern has continued.

CO₂, global temperature, and sea level are all rising and almost certainly will continue given the extra heat now stored in the oceans.

Key Points

1. Sea level rise (SLR) is accelerating and will continue for centuries. We have passed the “tipping point.”
2. Reducing emissions of carbon dioxide and other greenhouse gases will slow the rate of rise eventually, but can not stop it.
3. Storms + tides + sea level rise = vulnerability now. SLR is different from storms and extreme tides, as it will not recede and makes the other flooding types worse.
4. Plan for at least 3 feet (1 meter) of higher sea level, recognizing that SLR is significantly exceeding projections.
5. Communities and businesses need to assess vulnerability, understand their risks and begin adaptation planning ASAP.

We can guide your community or organization to develop better communication to successfully plan, adapt, and thrive. Contact us for information regarding:

- Risk Briefings
- Vulnerability Evaluations
- Custom presentations

John Englander, President

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Weekly Newsletter

“Sea Level Rise Now”

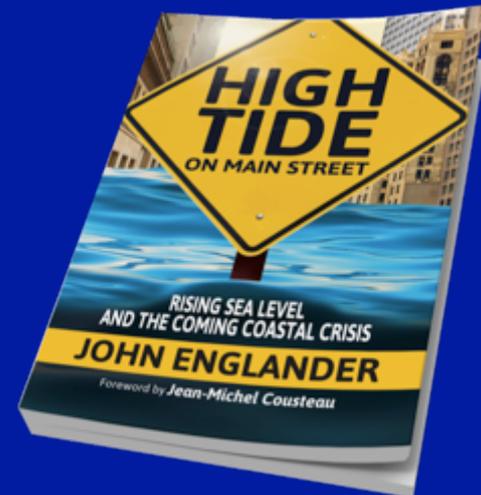
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11 minute TEDx talk “Sea Level Rise: Fact and Fiction”

Search “TEDx John Englander” or

<https://youtu.be/TH8Q8Ki9fCA>



MAY 2014

BOCARATON FLORIDA