

KEY FINDINGS OF IPCC AR5 FOR THE CARIBBEAN REGION

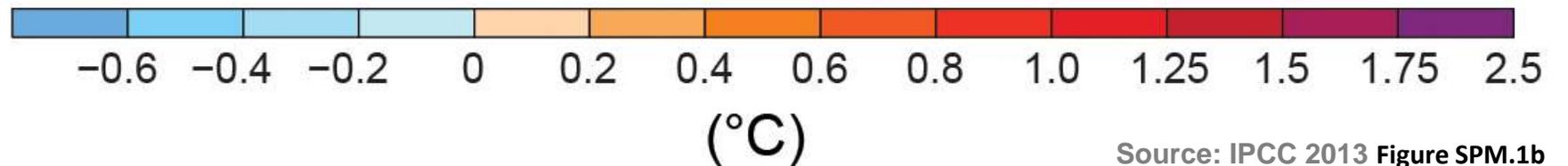
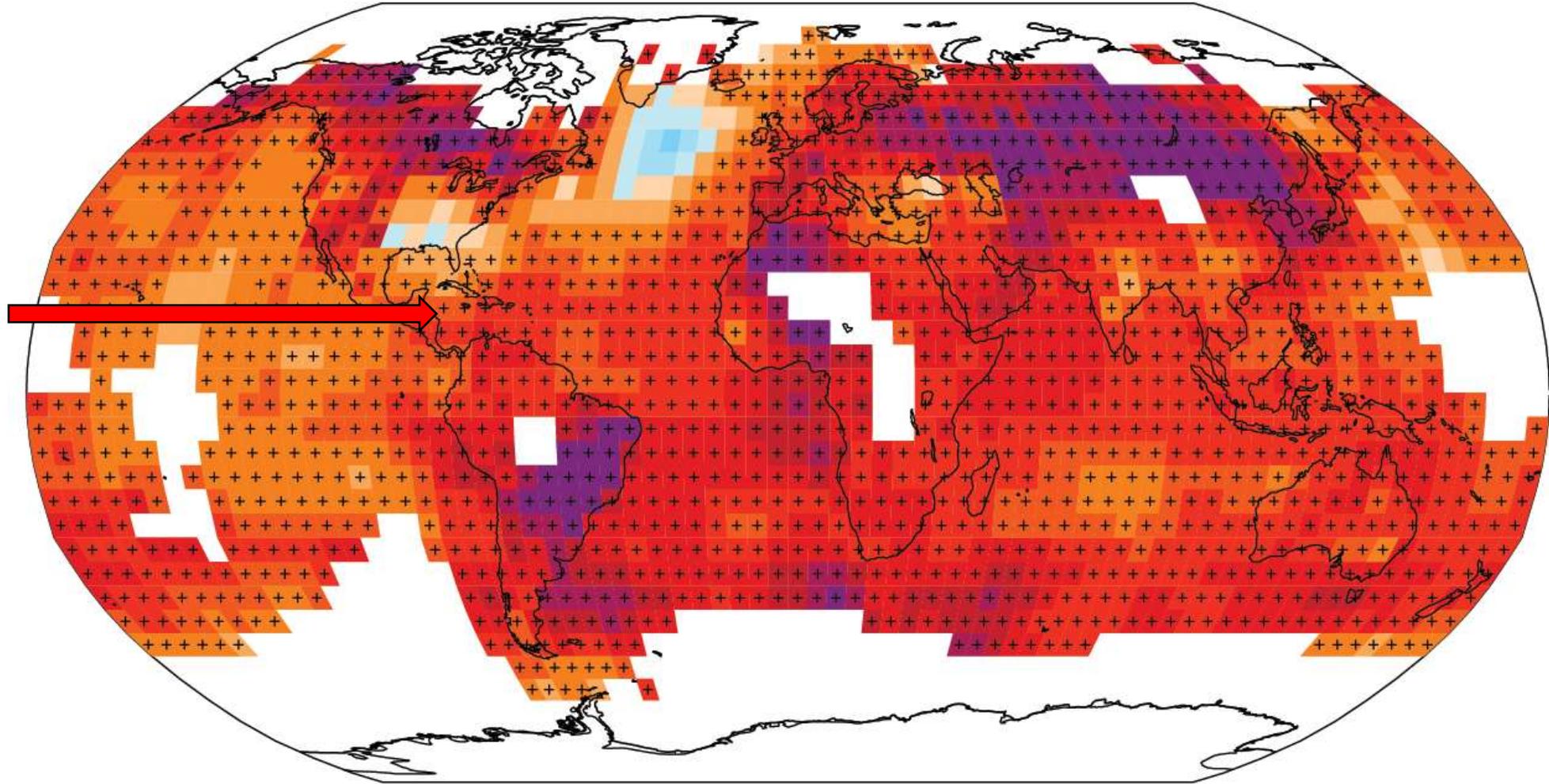


VULNERABILITY

Almost the entire globe warmed between 1901-2012

Observed change in surface temperature 1901-2012

Surface temperature in the Caribbean warmed by about 0.8 °C between 1901 and 2012



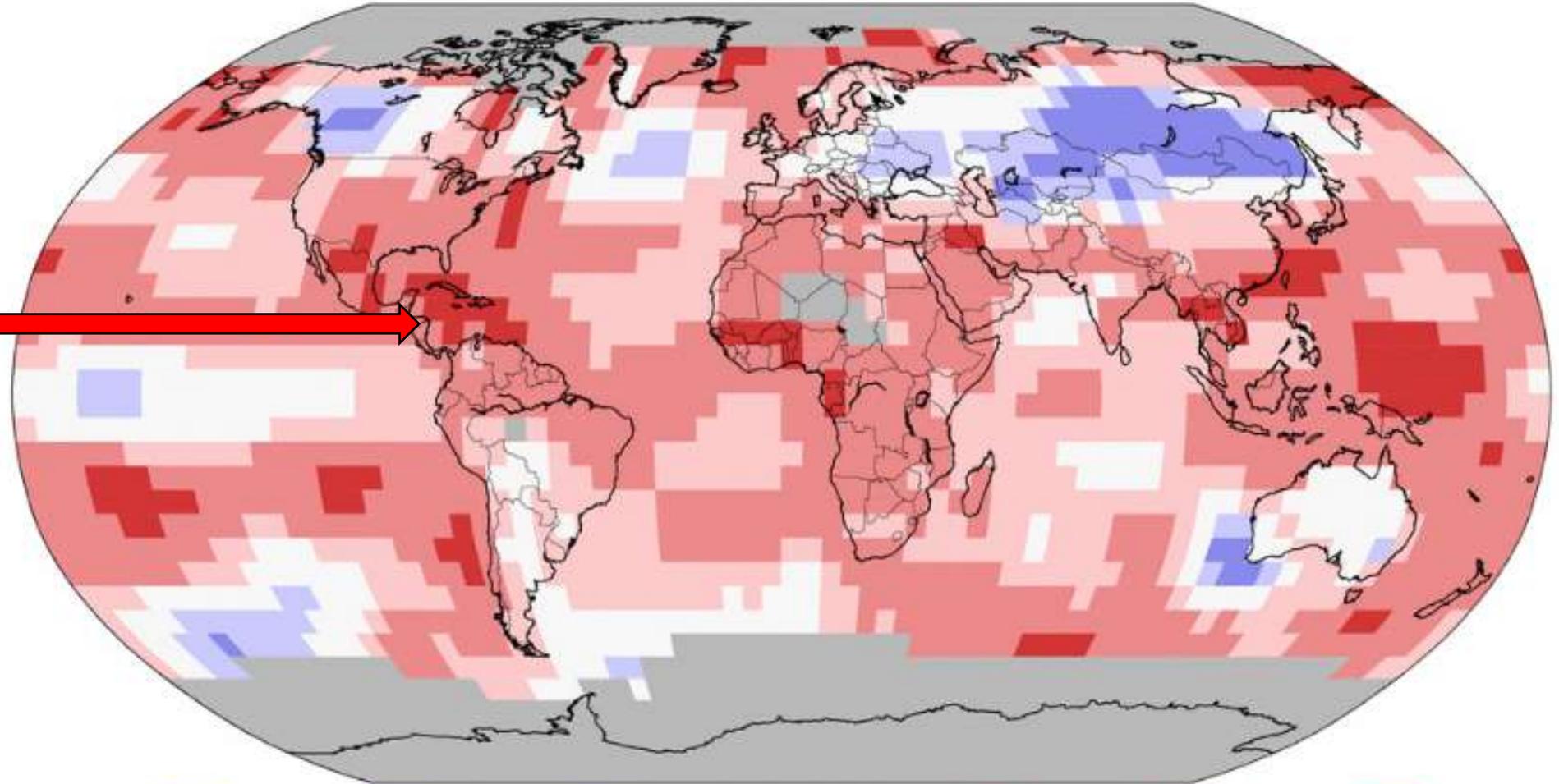
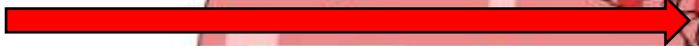
Land & Ocean Temperature Percentiles Oct 2016

NOAA's National Centers for Environmental Information

Data Source: GHCN-M version 3.3.0 & ERSST version 4.0.0

Where are we now?

-Almost every successive month in the Caribbean over the last 2 years has been recorded as the **Record Warmest**



Record Coldest



Much Cooler than Average



Cooler than Average



Near Average



Warmer than Average



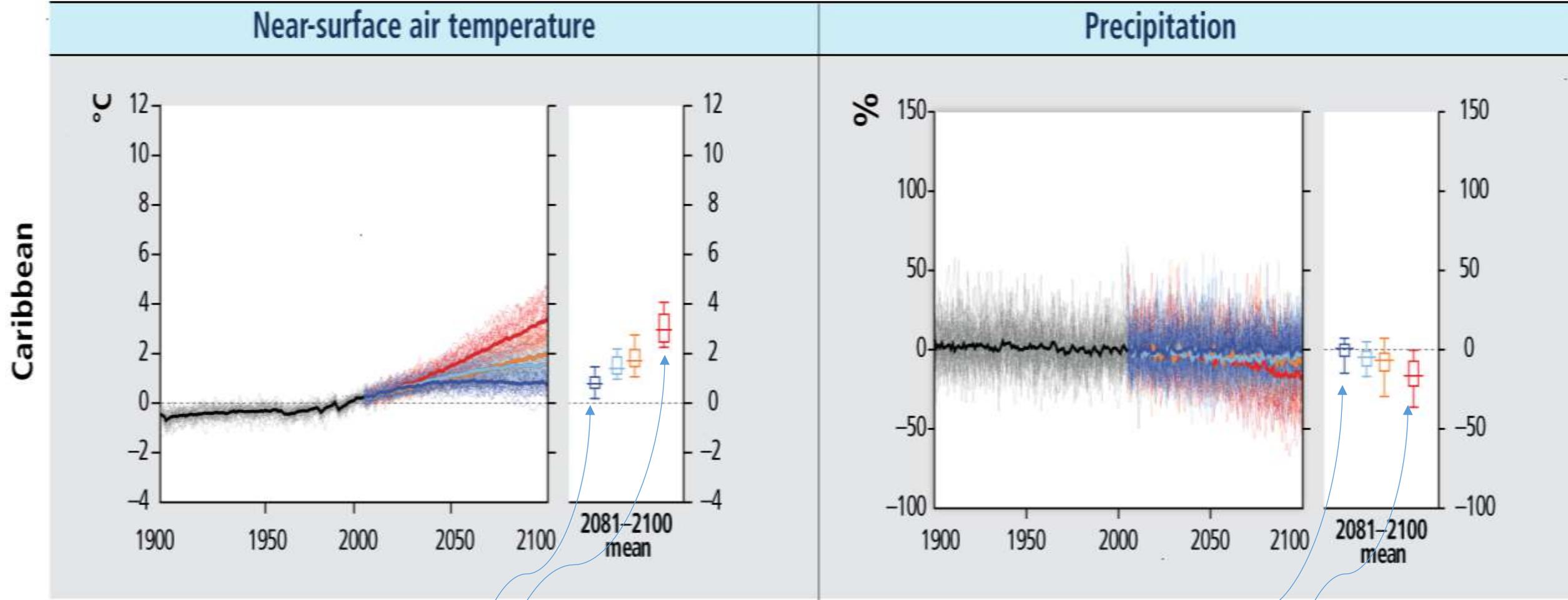
Much Warmer than Average



Record Warmest



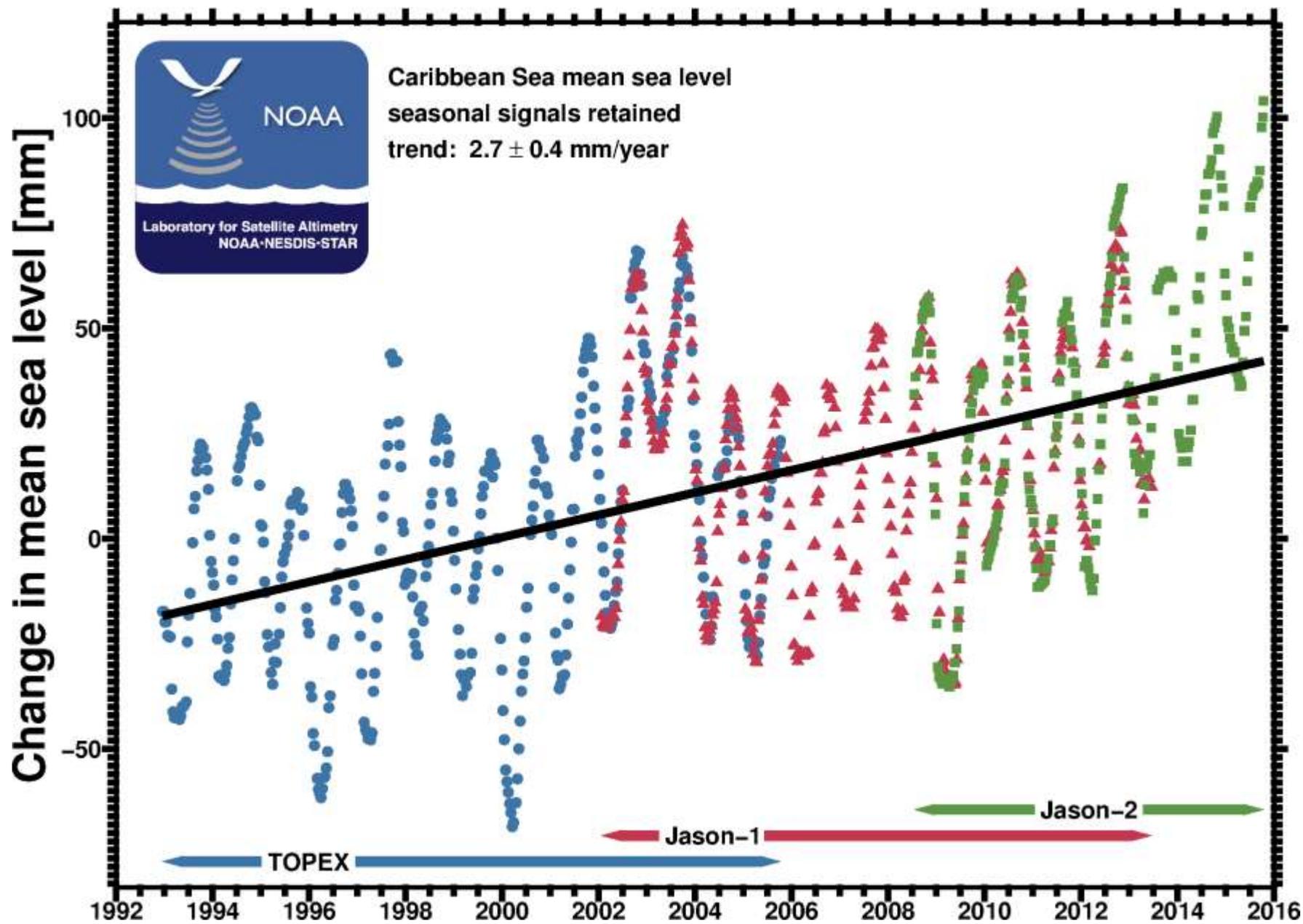
Projected temperature and precipitation change in the Caribbean to the year 2100



The lowest scenario projects a temperature increase of less than 1.5 °C but only if the *Paris Agreement* is **enforced** and up to a 3 °C increase **if**

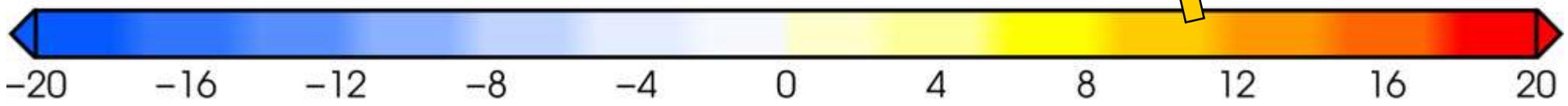
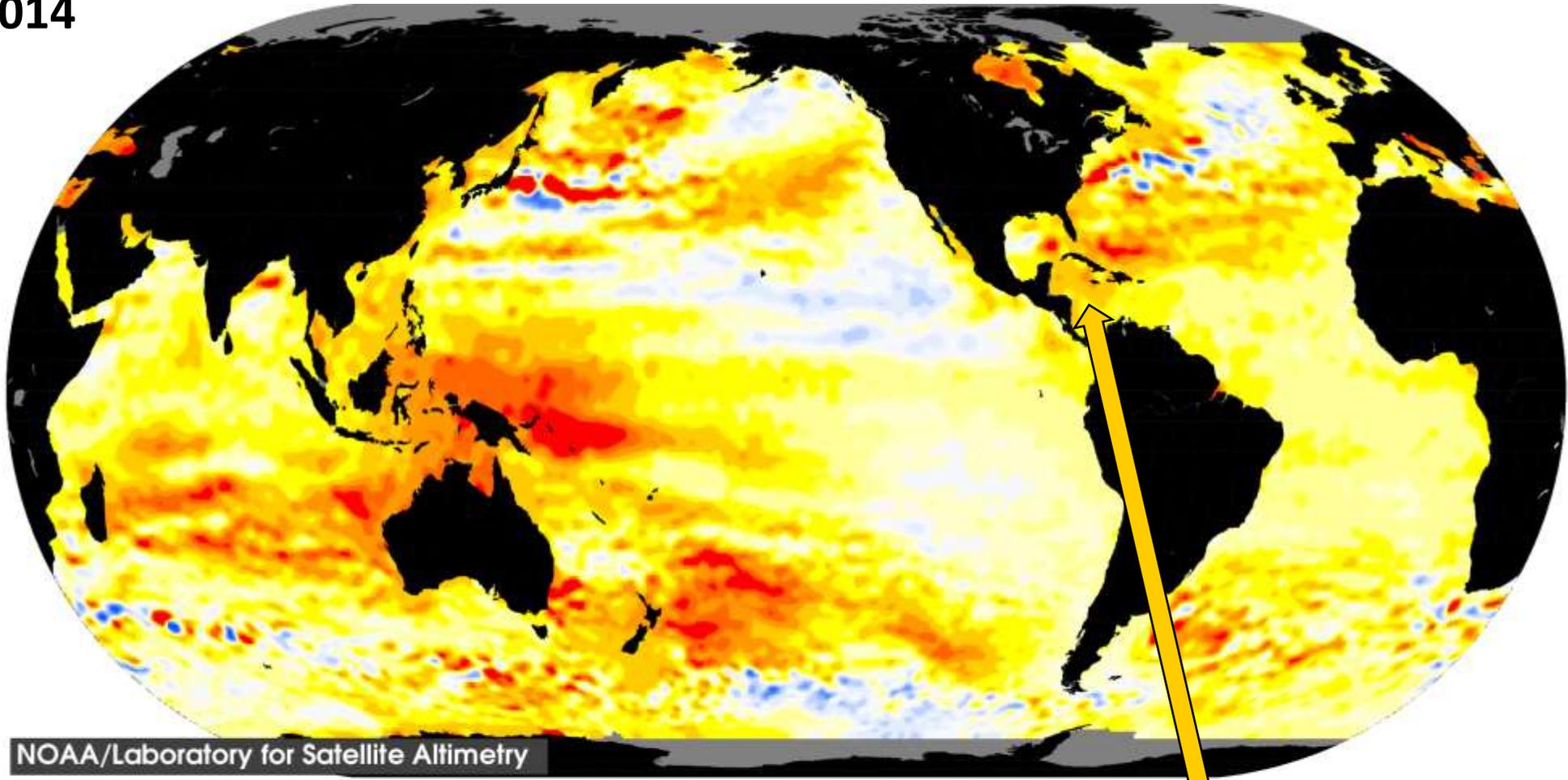
The lowest scenario projects no significant change in rainfall while the highest scenario projects a decrease in rainfall up to 15% by 2021

Caribbean Sea mean sea level rise is about 2.7 mm per year



Caribbean Sea 22 year mean sea surface height change is about 12 cm between January 1993 - December 2014

Topex/Poseidon
Jason-1 and
Jason-2 satellite
altimetry data



Sea level change (cm)

Source: NOAA

IMPACT

Coastal Flooding in the Caribbean

“Loss of livelihoods, coastal settlements, infrastructure, ecosystem services, and economic stability (high confidence)”

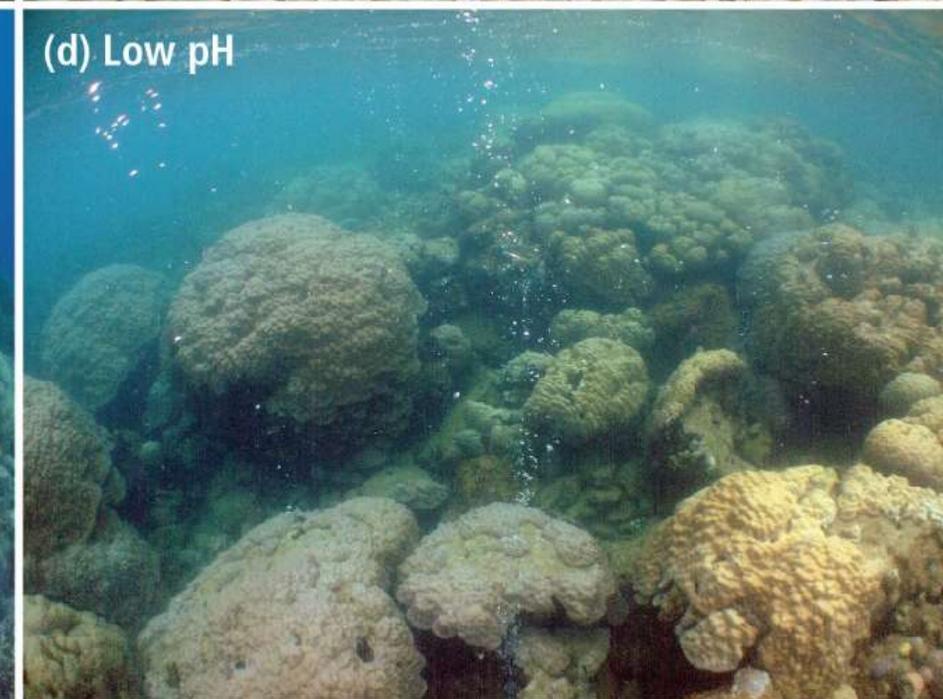
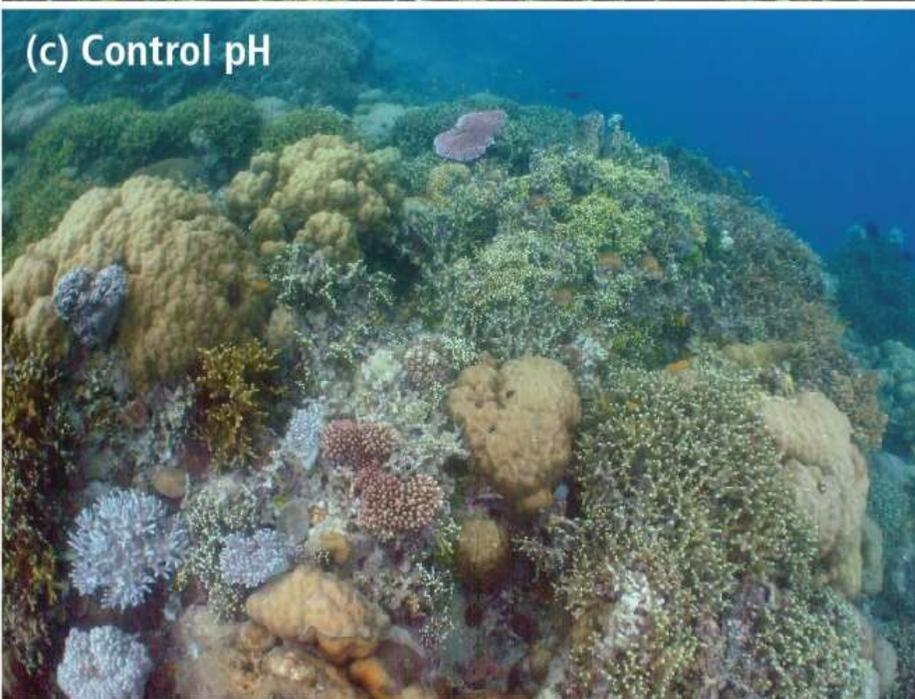
Source: IPCC AR5 WG II
Ch. 29.6, 29.8



Temperature and pH effects on coral reefs

“Decline and possible loss of coral reef ecosystems in small islands through thermal stress (high confidence)”

Source: IPCC AR5 WGII
Ch. 29.3.1.2



An Example of storm surge in the Caribbean

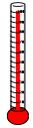
“The interaction of rising global mean sea level in the 21st century with high-water-level events will threaten low-lying coastal areas (high confidence)”

Source: IPCC AR5 WG2 Ch. 29.4, Table 29-1; WG1 13.5, Table 13.5



ADAPTATION

Climate Change



Temperature



Precipitation

Tropical Storms



Sea Level Rise

Potential Climate Change impacts



Health

Insect vectors and infectious diseases increase
eg. Zika, Chikungunya, Dengue



Agriculture

Crop yields decrease
Irrigation demands increase



Infrastructure

Damage to infrastructure from increased intensity of Tropical Storms



Watershed Management

Decrease in water supply



Coastal Areas

Erosion of beaches (loss of coral reefs). Inundation of coastal wetlands. Costs to protect coastal communities



Natural Areas and Wildlife

Change in forest composition
Shift geographic range of forests
Loss of habitat and species

Possible Climate Change Adaptation Measures

Health

Prevent mosquito access to standing water

Agriculture

Plant more drought tolerant varieties of crops

Infrastructure

Improve and enforce National Building Codes

Watershed Management

Reduce water leakage from underground pipe supply network

Coastal Areas

Replant and restore mangrove wetlands

Forests

Restore degraded forest for Carbon sequestration

THE END