

A Tale of the Great Swamp's Climate

Presentation at the Great Swamp Watershed
Association's 40th Anniversary Celebration Gala

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October 7, 2021

Greetings from the Office of the NJ State Climatologist

Helping decision
makers

<https://njclimate.org>

ONJSC

at Rutgers University

Office of the New Jersey State Climatologist · Rutgers University · 54 Joyce Kilmer Avenue · Lucy Stone Hall B224 · Piscataway, NJ 08854

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Latest from the NJWxNet



Latest temperatures across NJ appear in the above map. Click on the map or here, the [Rutgers New Jersey Weather Network](#), for much more information.

Interested in becoming a volunteer weather observer?
[Click here](#) to learn more about the CoCoRaHS Network!



*New Jersey
CoCoRaHS*

Featured Products

- [Monthly Statewide/Divisional/County \(1895-Present\)](#)
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Latest News



Flash flooding and residential evacuations in Helmetta (Middlesex County) on August 22. Photo by Mayor Chris Slavicek.

Sticky: August 2021 and Summer 2021 Recaps

Dr. David A. Robinson
September 8, 2021

Whether the thermometer was reading high or low this August or

20,000 years ago



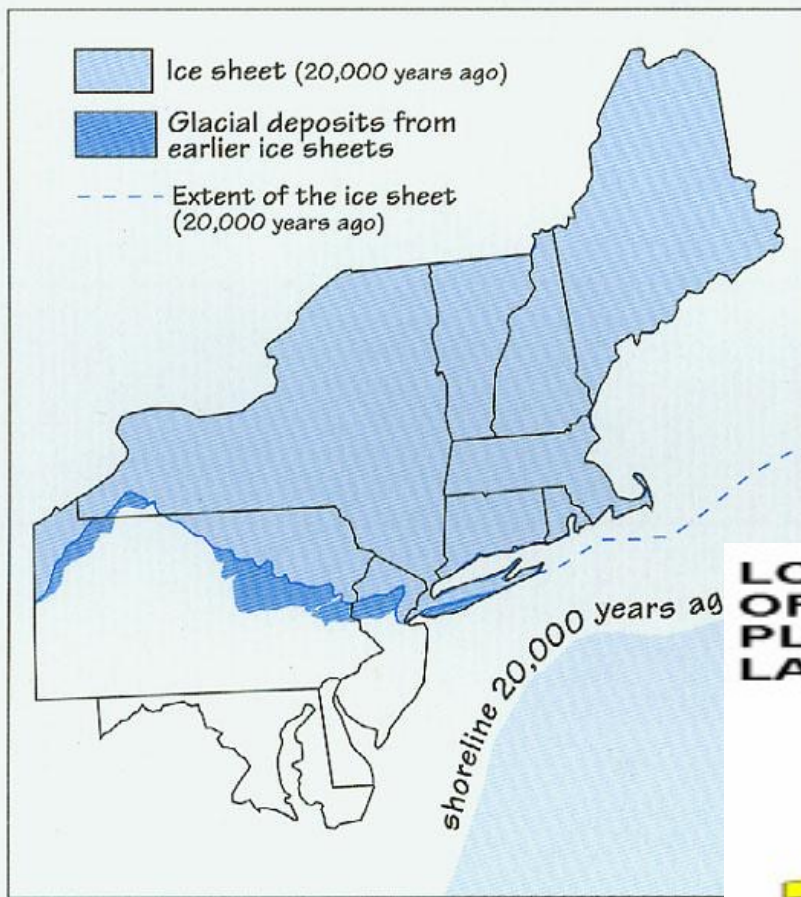
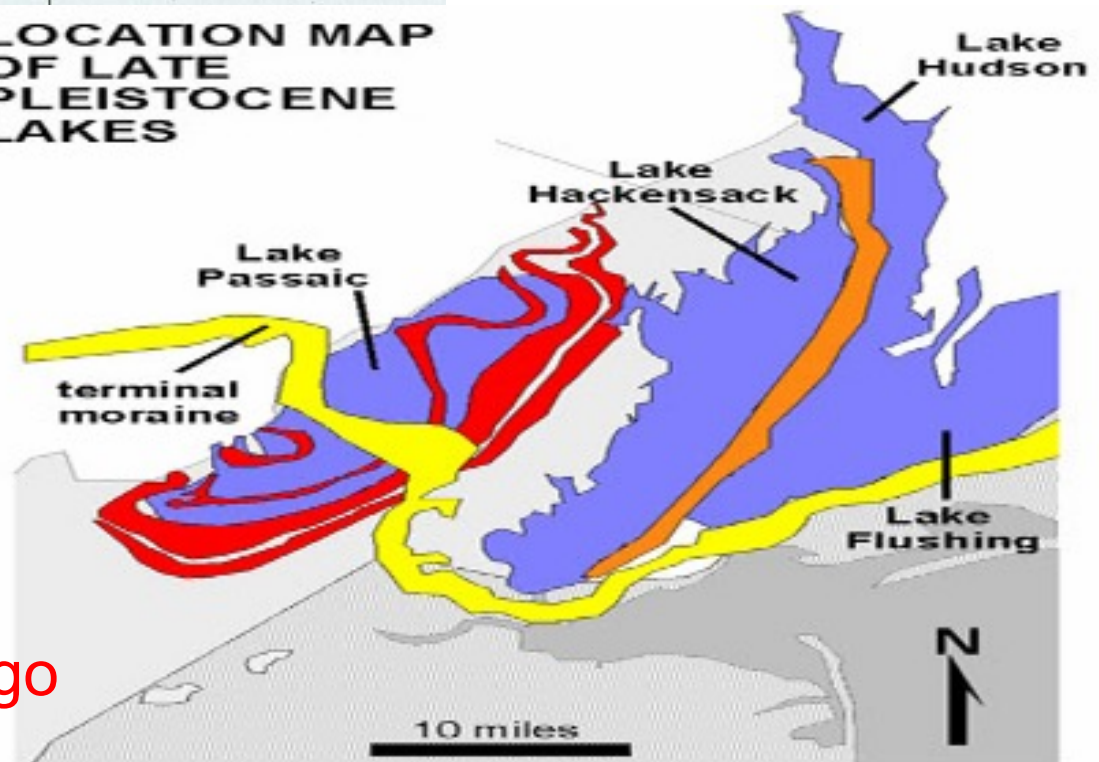


Figure 3.5: The approximate position of the ice sheet 20,000 years ago. After Hughes, L. et al, 1985.

20,000 years ago

LOCATION MAP OF LATE PLEISTOCENE LAKES

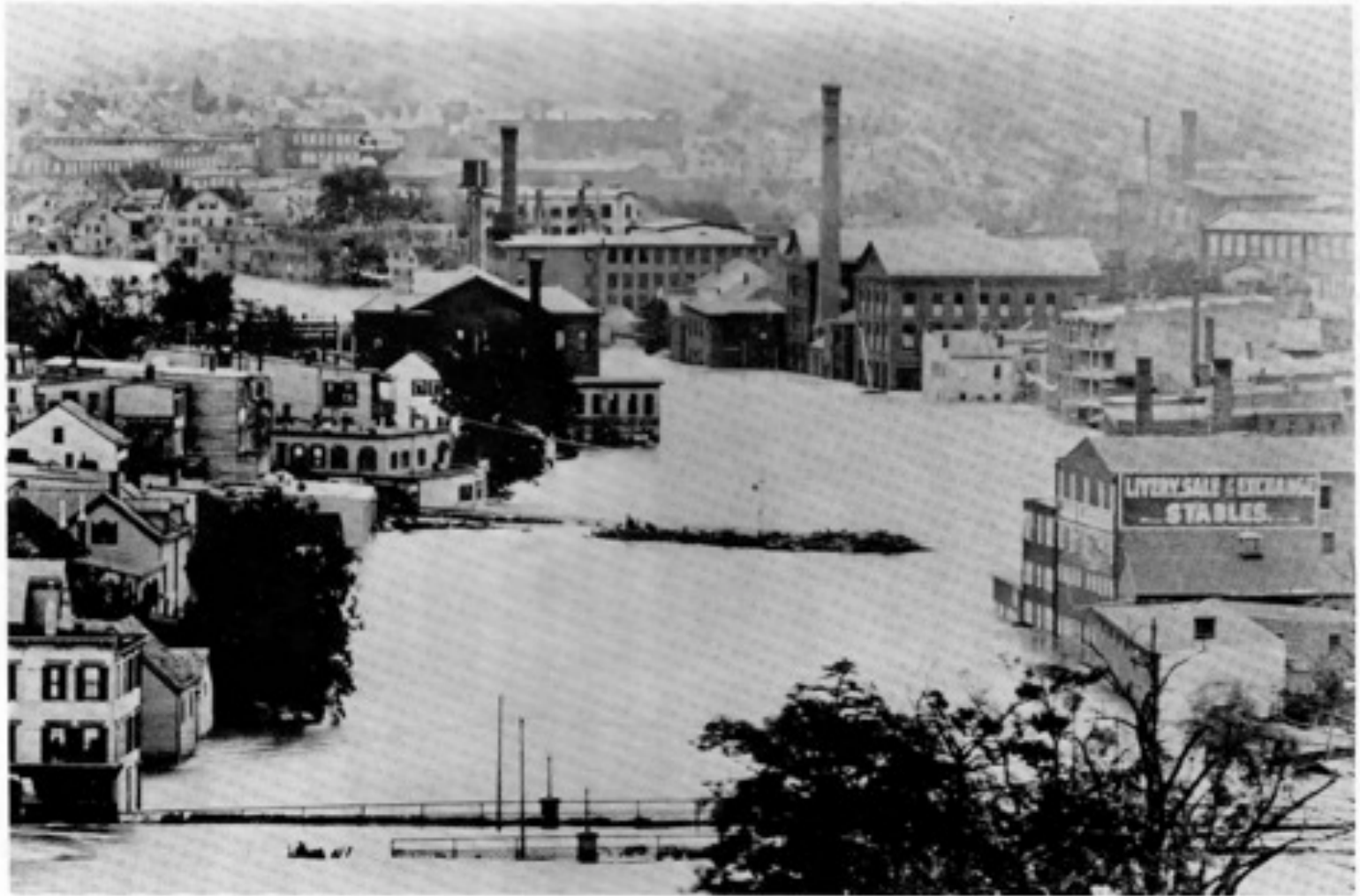


15,000 to 11,000 years ago

“10,000” years ago

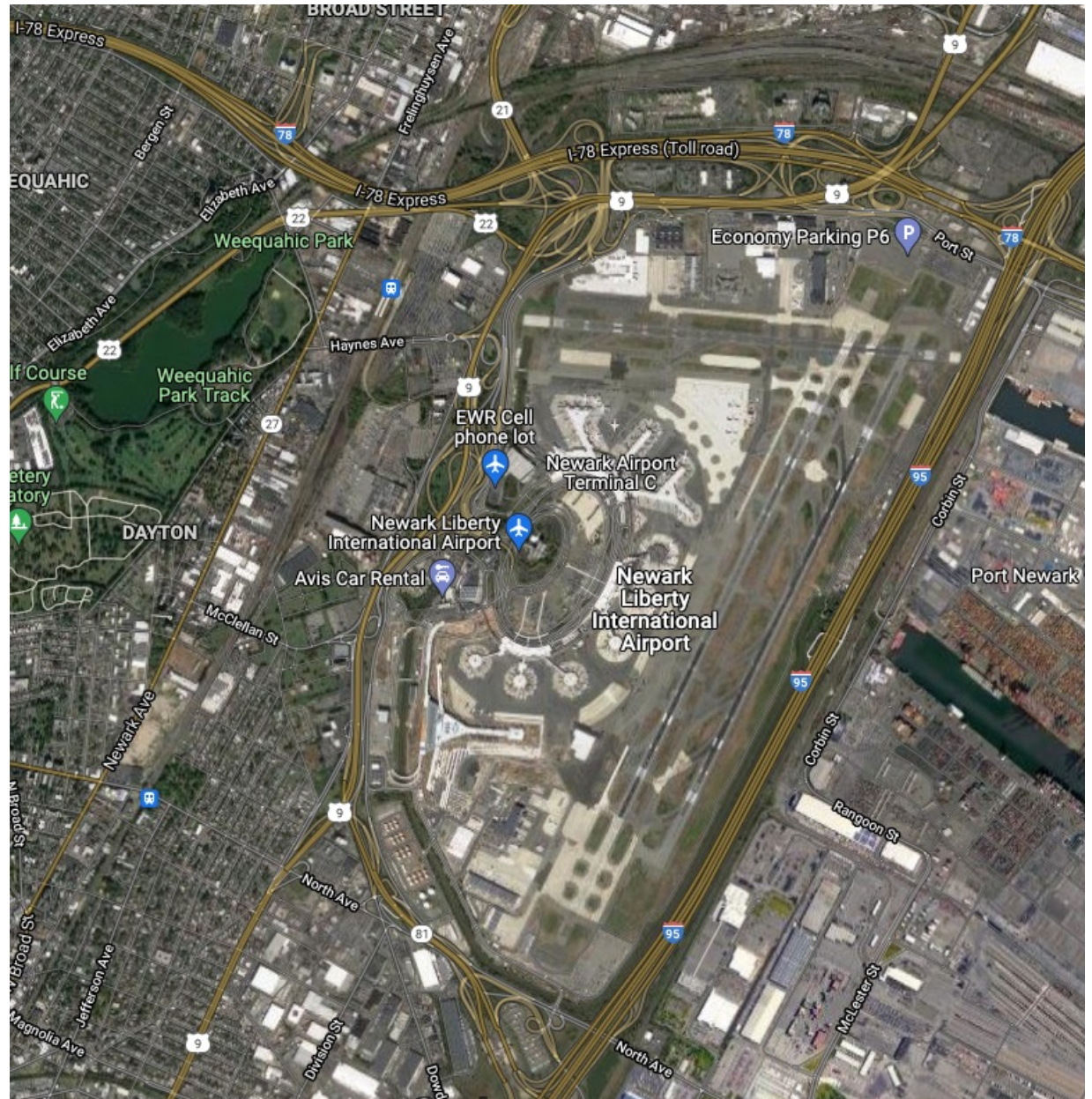


Paterson: October 1903 flood



Heat island

Newark AP

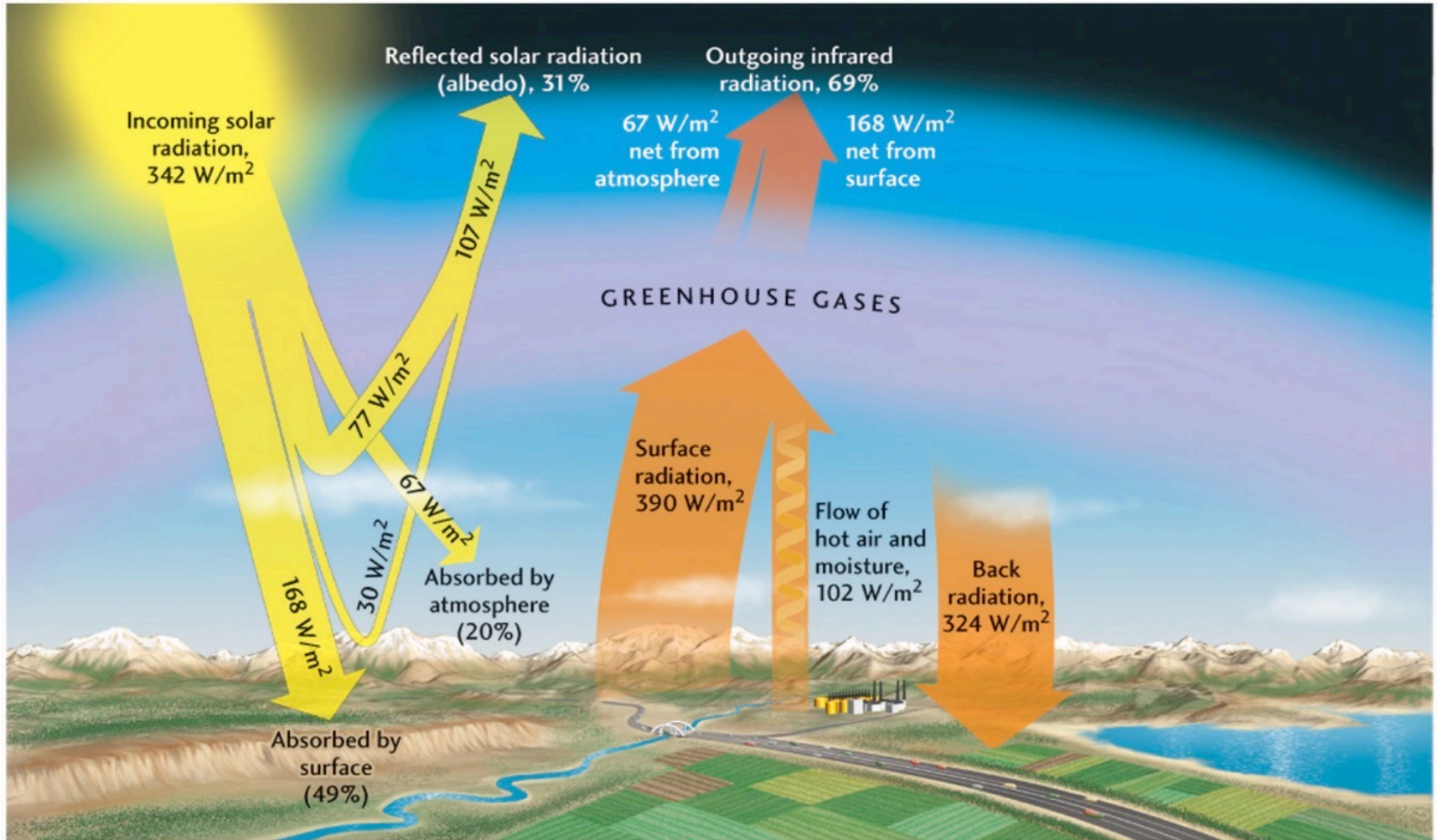


....or not?

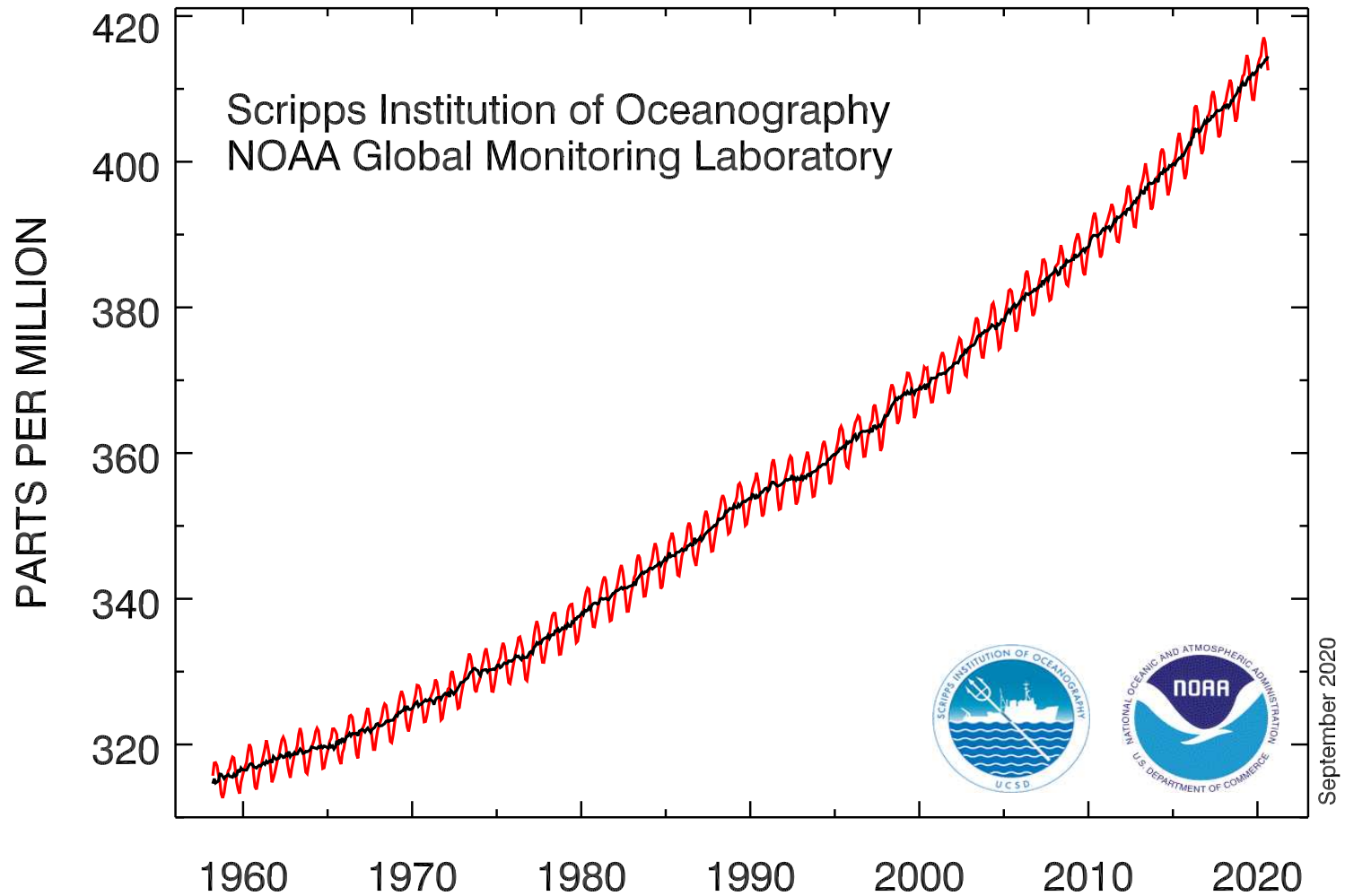
Great Swamp



Greenhouse Effect



Atmospheric carbon dioxide: 1958-present



Wanaque Reservoir: February 1981 drought



Little Falls: March 2007 flood



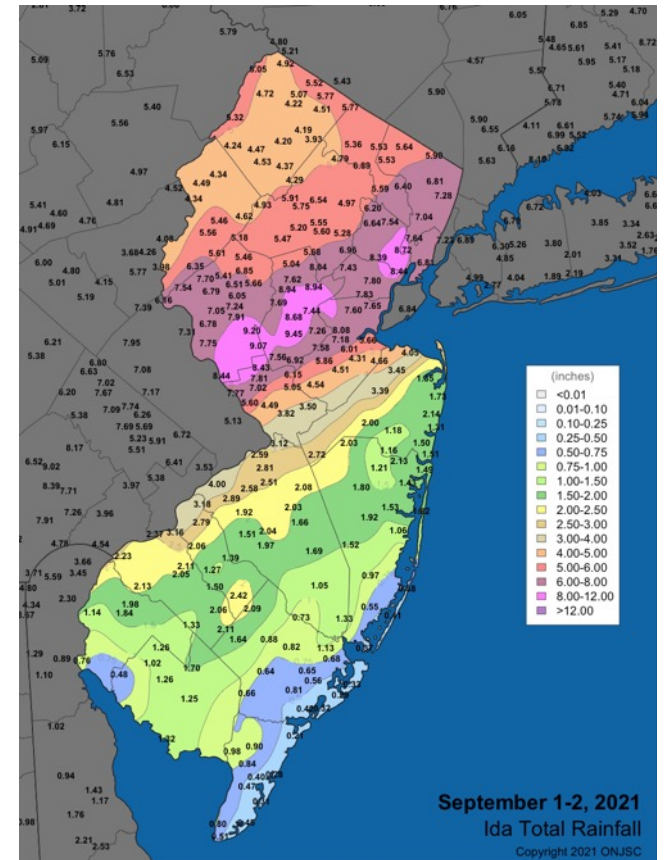
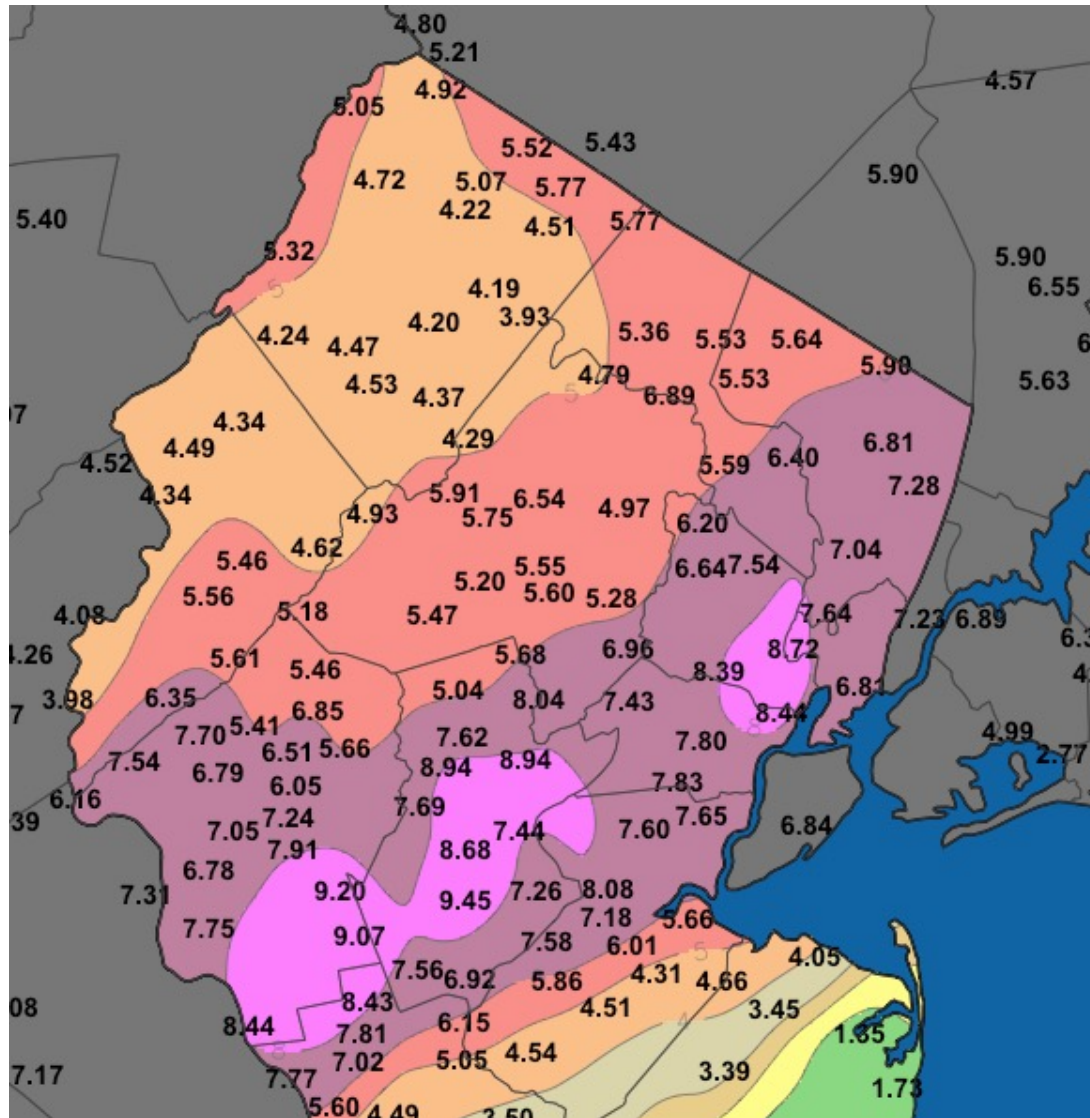
October 29, 2011 snowstorm



Sandy: October 2012

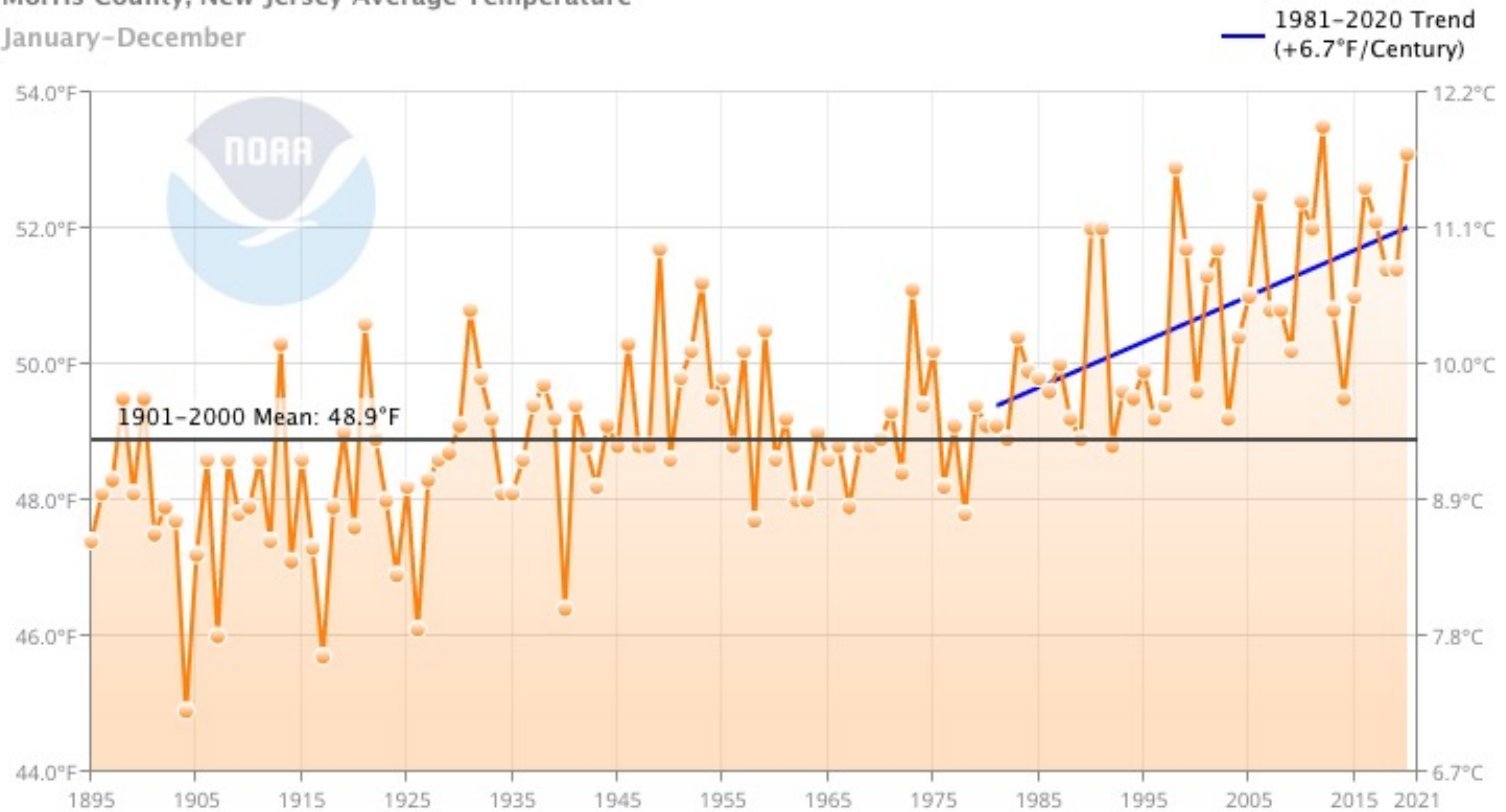


Ida: September 1, 2021

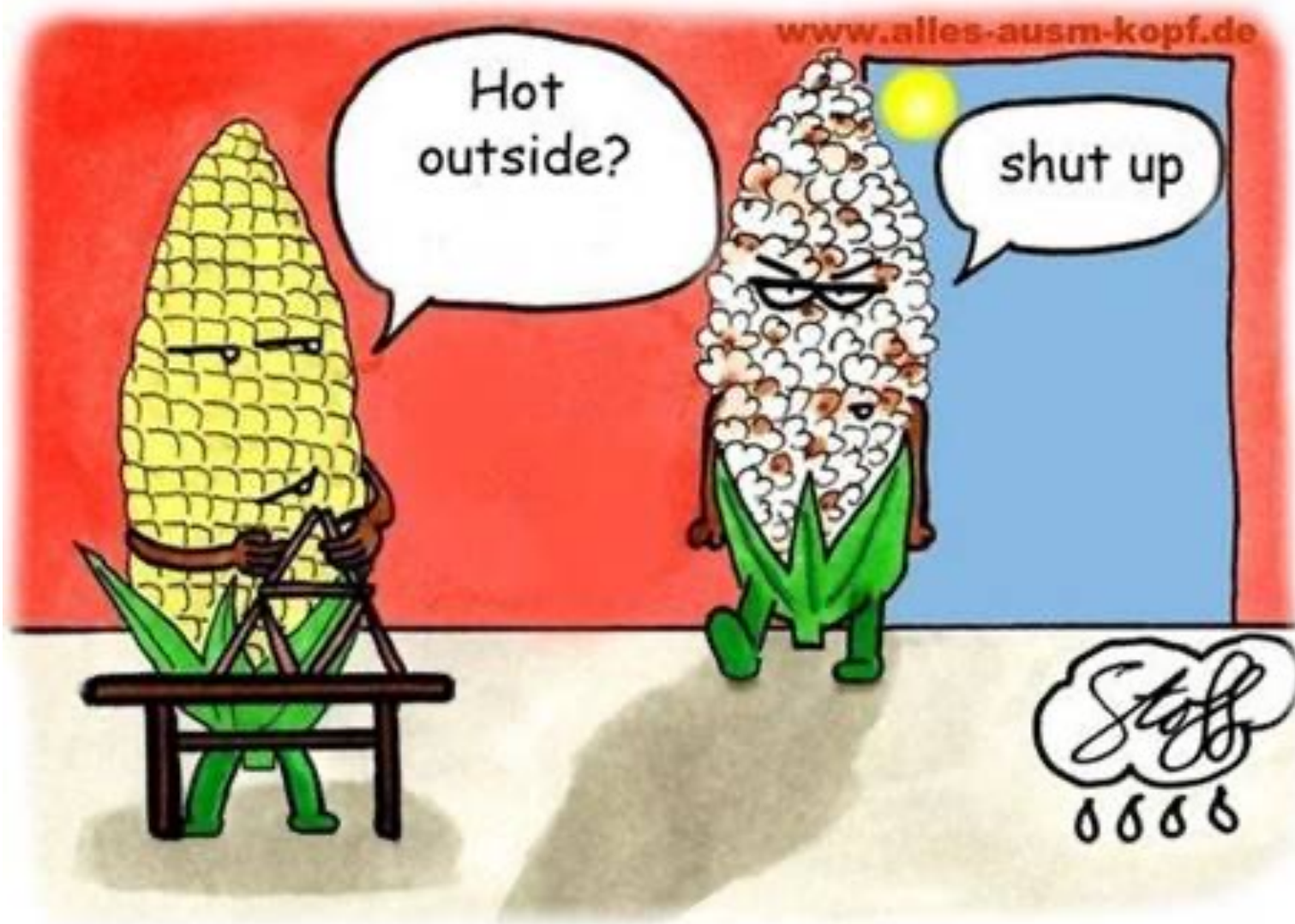


Morris County annual temperature; 1895-2020

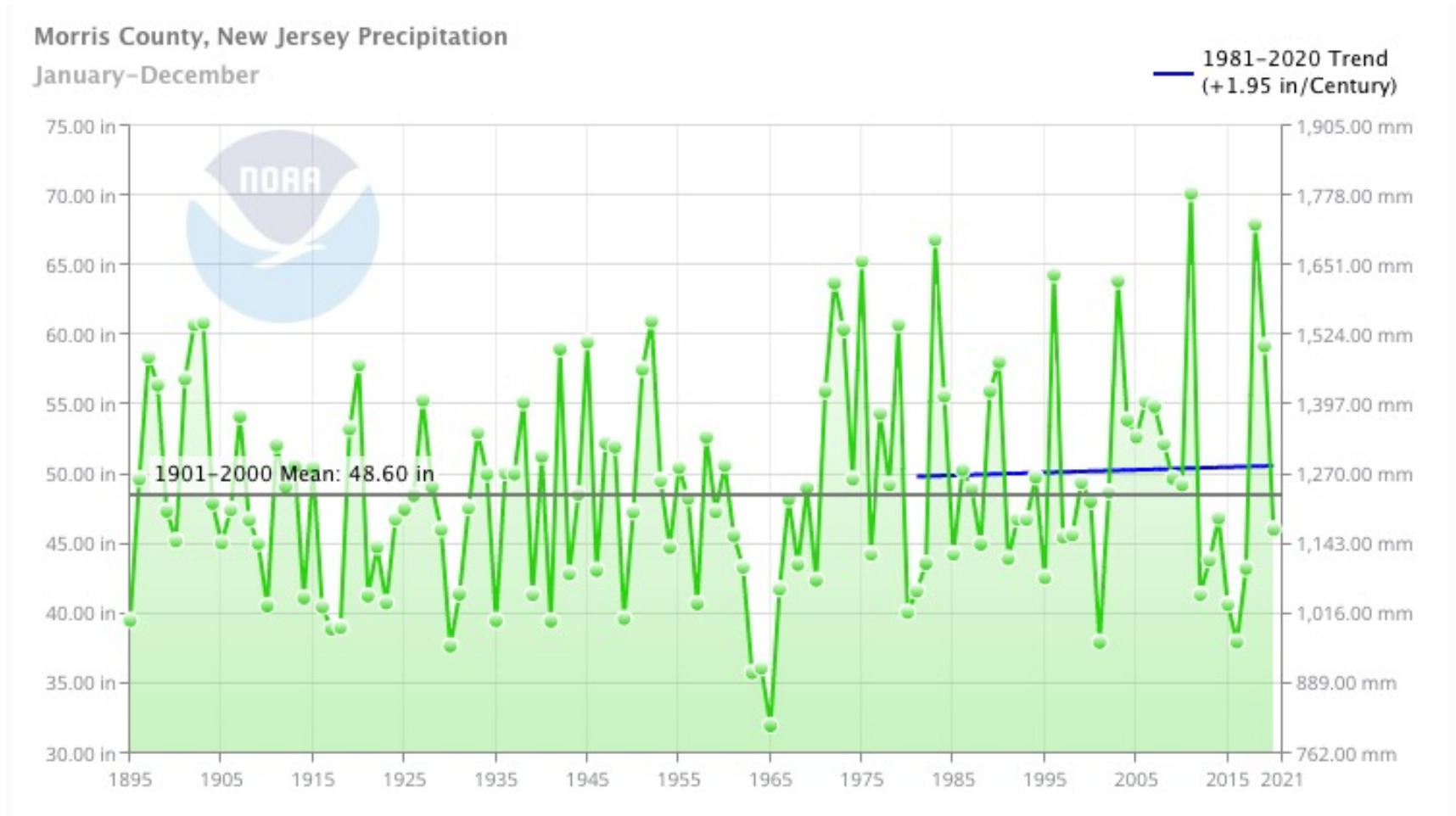
Morris County, New Jersey Average Temperature
January–December



data source: National Centers for Environmental Information



Morris County annual precipitation: 1895-2020



data source: National Centers for Environmental Information

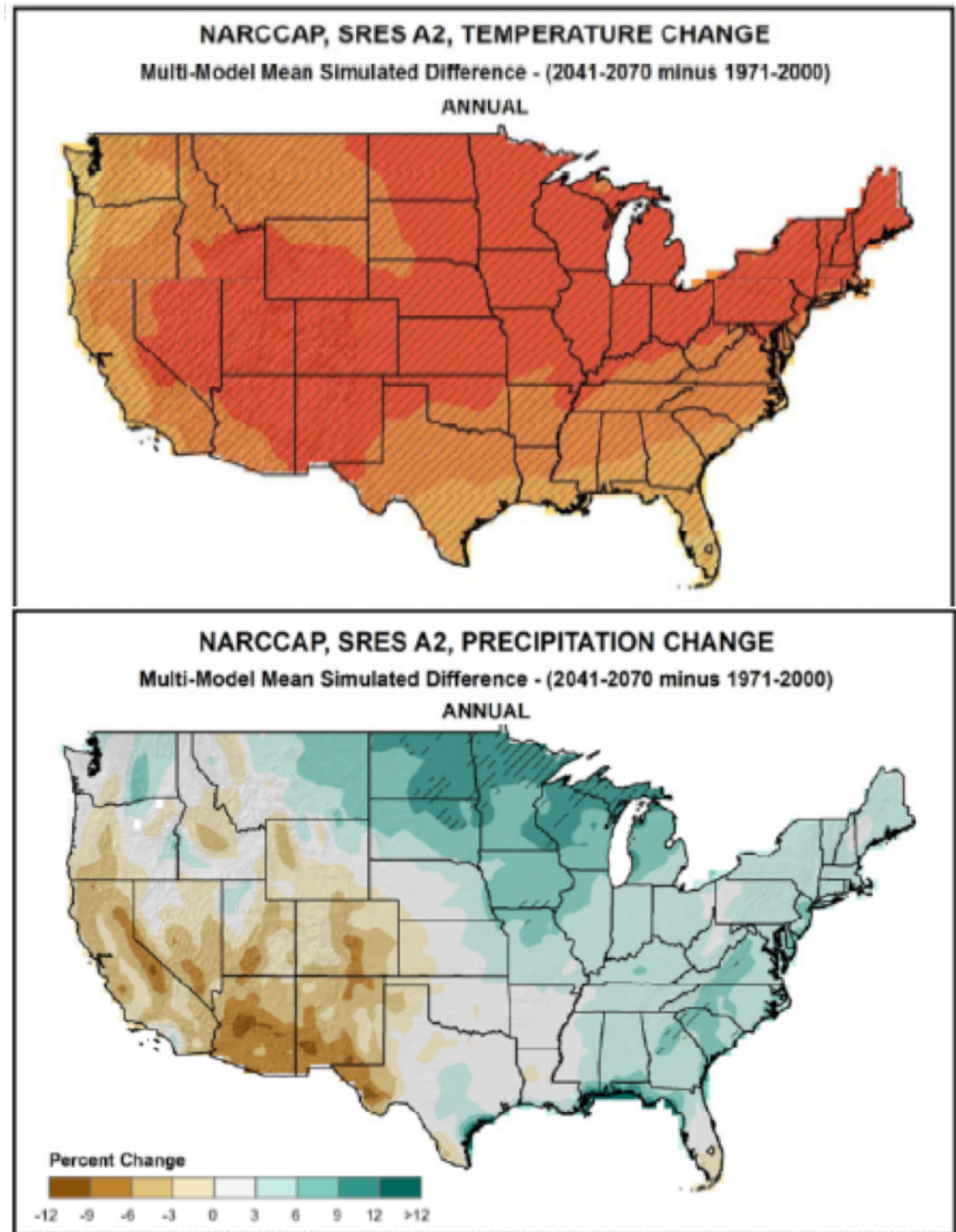
Great Swamp's future climate

- Rising temperatures
- Steady or increasing precipitation
- Increasing variability and extremes
 - storms, flood, drought, heat.....

Changing Annual temperature and precipitation

2041-2070
minus
1971-2000

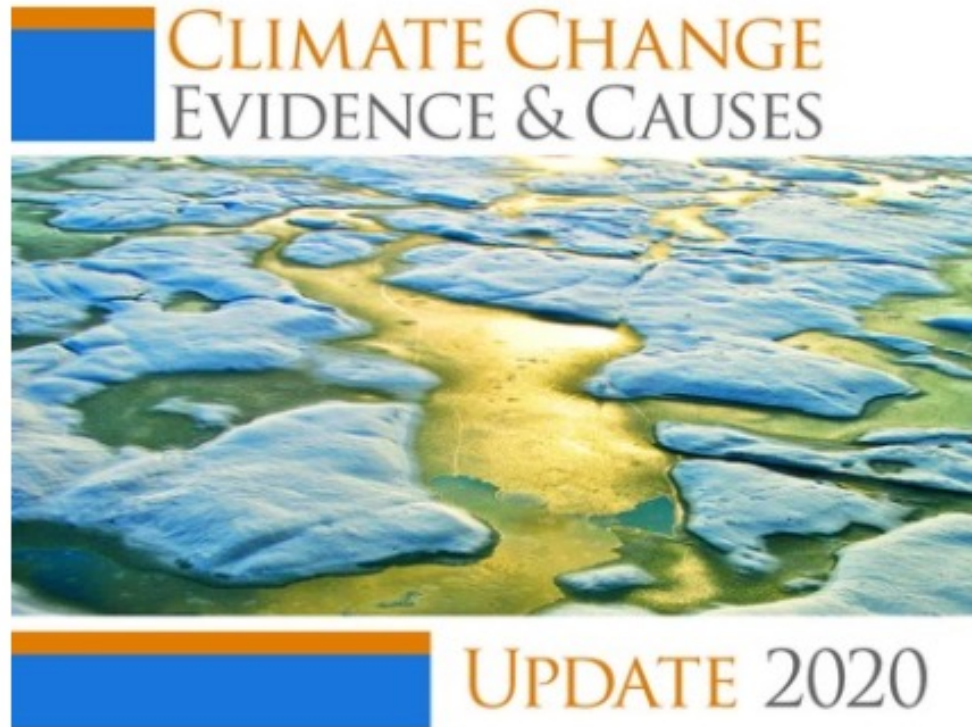
We're in this
together....



Challenges Requiring Attention

- **Knowledge:** Develop a better understanding of the details of future climate change.
- **Mitigation:** Reduce emissions of carbon dioxide and other greenhouse gases.
- **Adaptation:** Increase the resilience of society to climate change.
- **Activism/Leadership:** Raise public awareness of the challenges posed by climate change and the need to mitigate and adapt. Participate.....vote.

For an excellent overview of the issue:



*An overview from the Royal Society and the
US National Academy of Sciences*



THE
ROYAL
SOCIETY

Happy Anniversary!

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