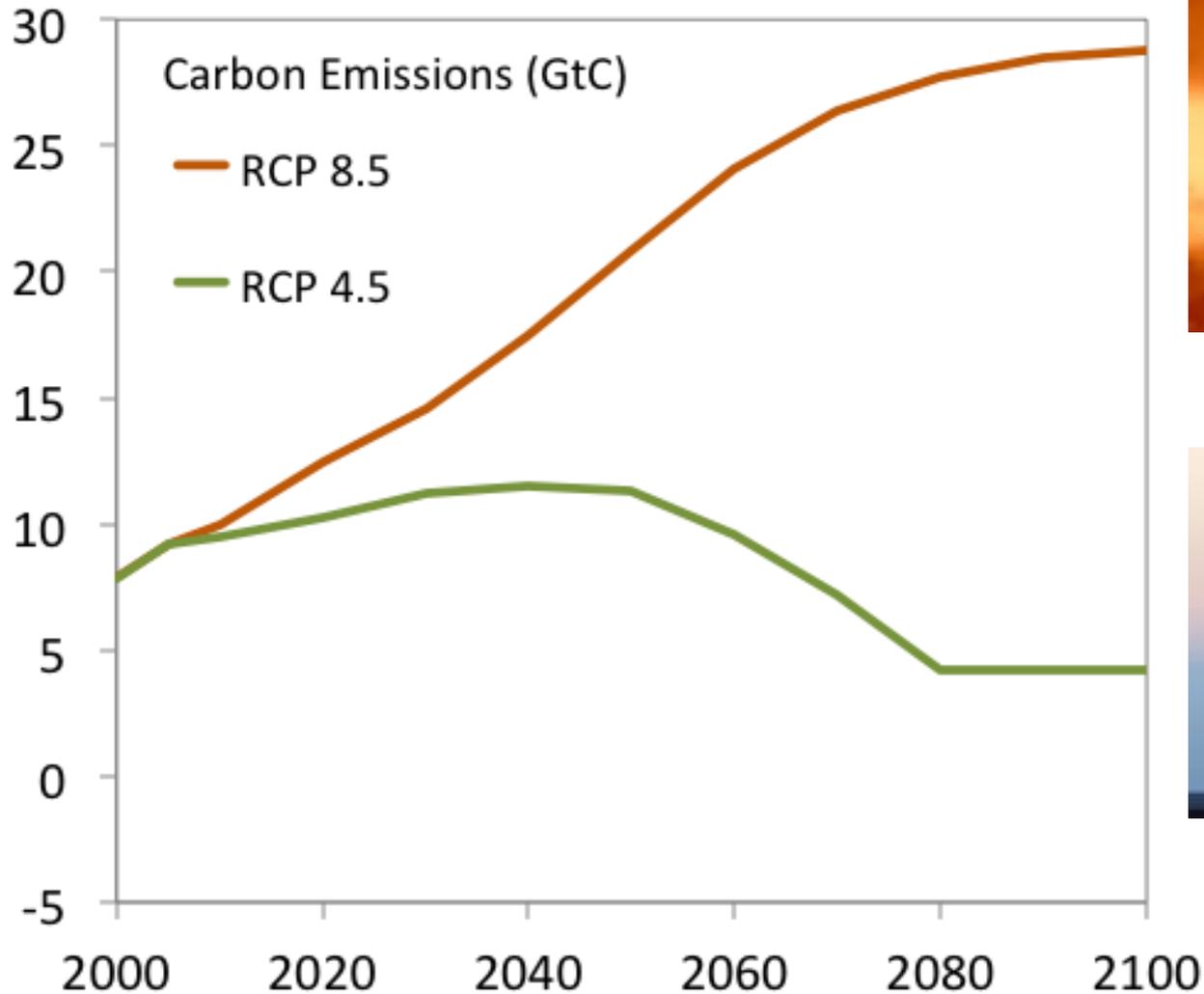


Weather Extremes and Climate Change in Austin

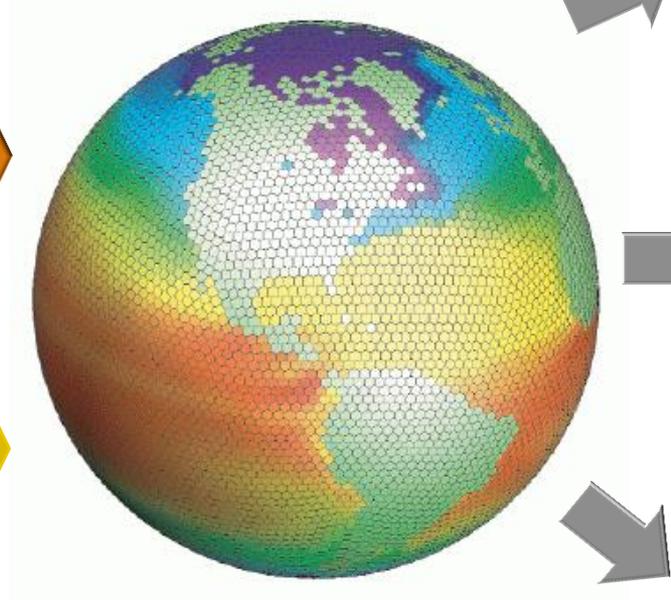
KATHARINE HAYHOE

ATMOS Research & Consulting

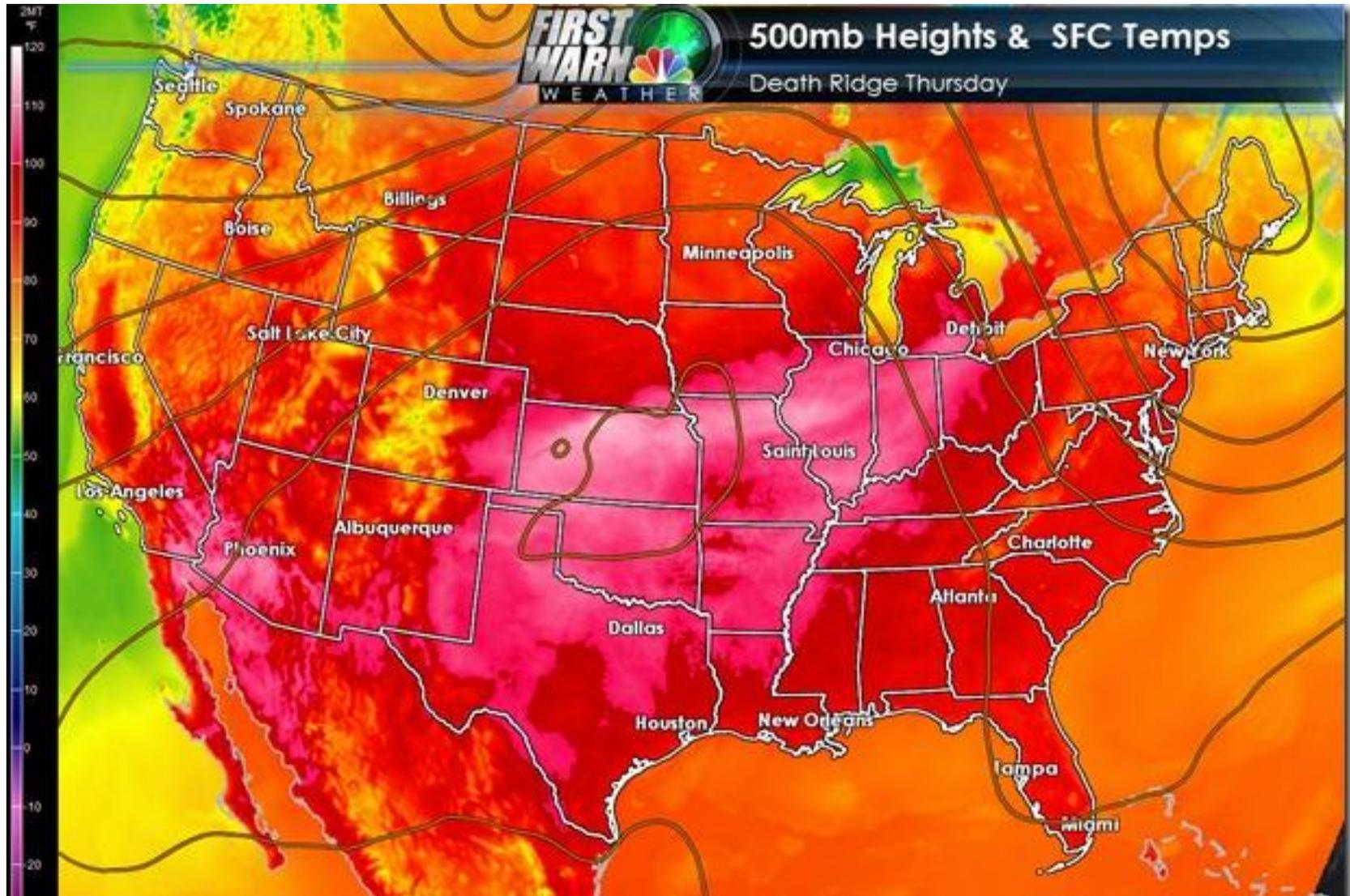
Future change depends on our choices now



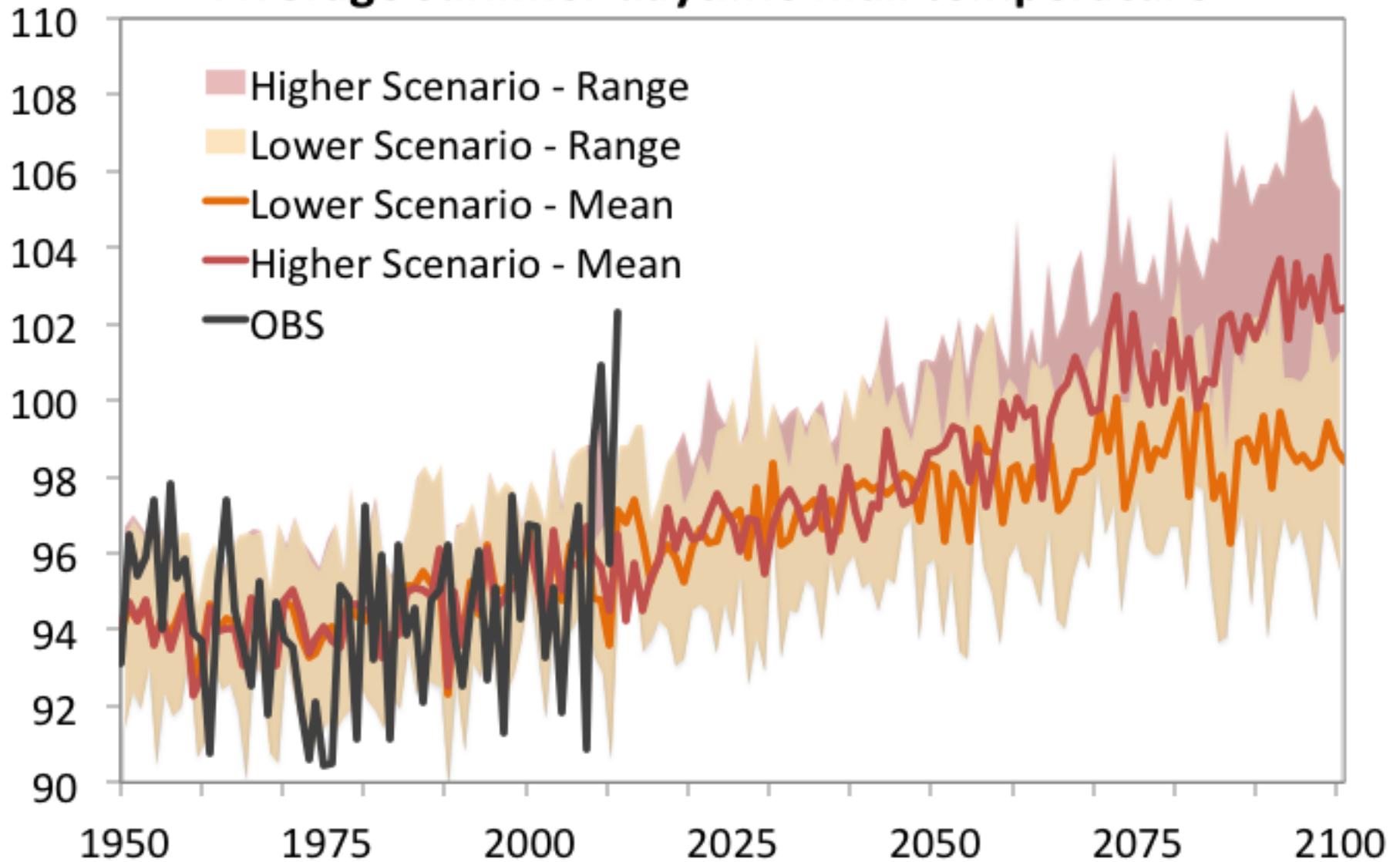
How do we get city-specific future projections?



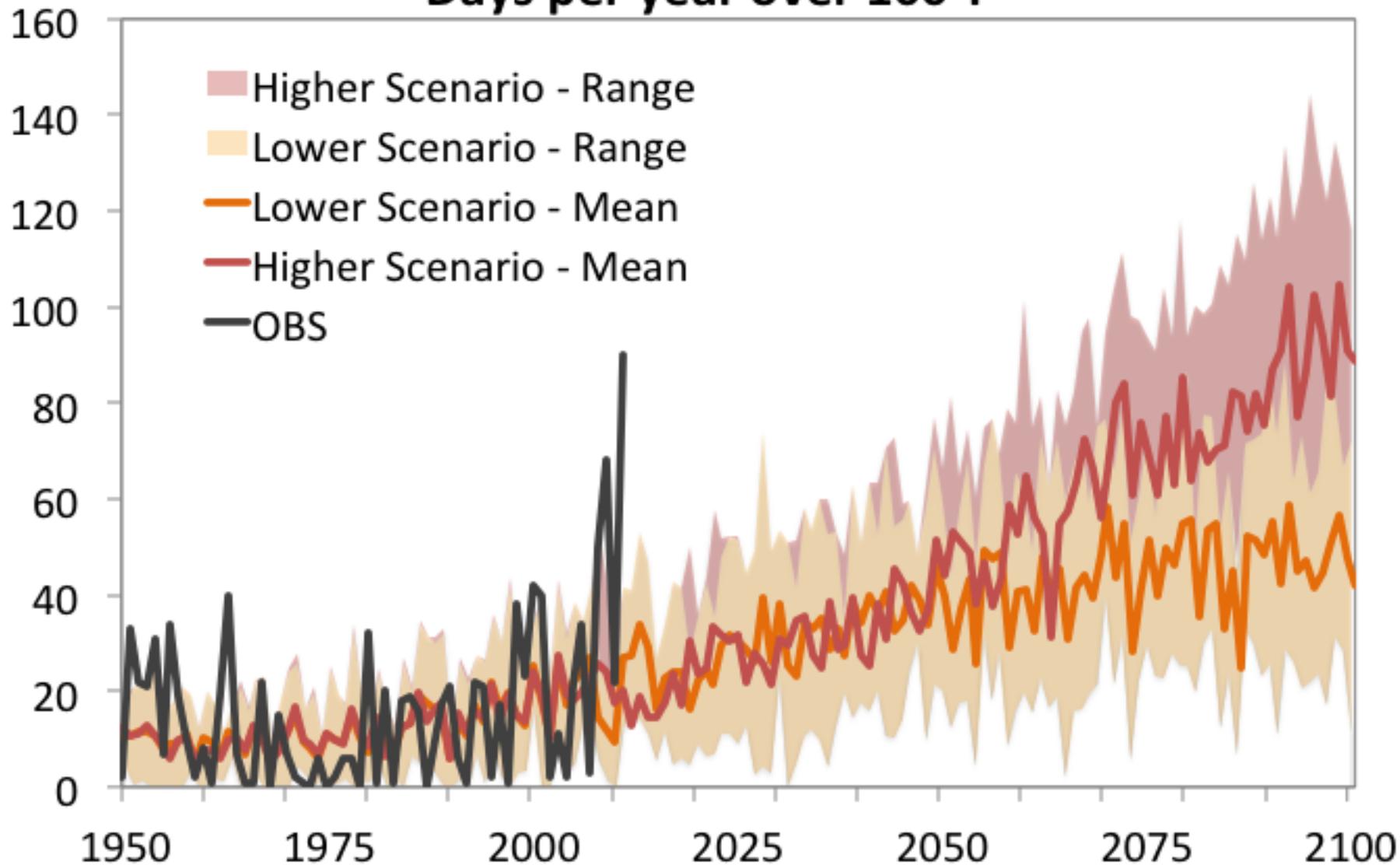
Heat waves are stronger and more frequent



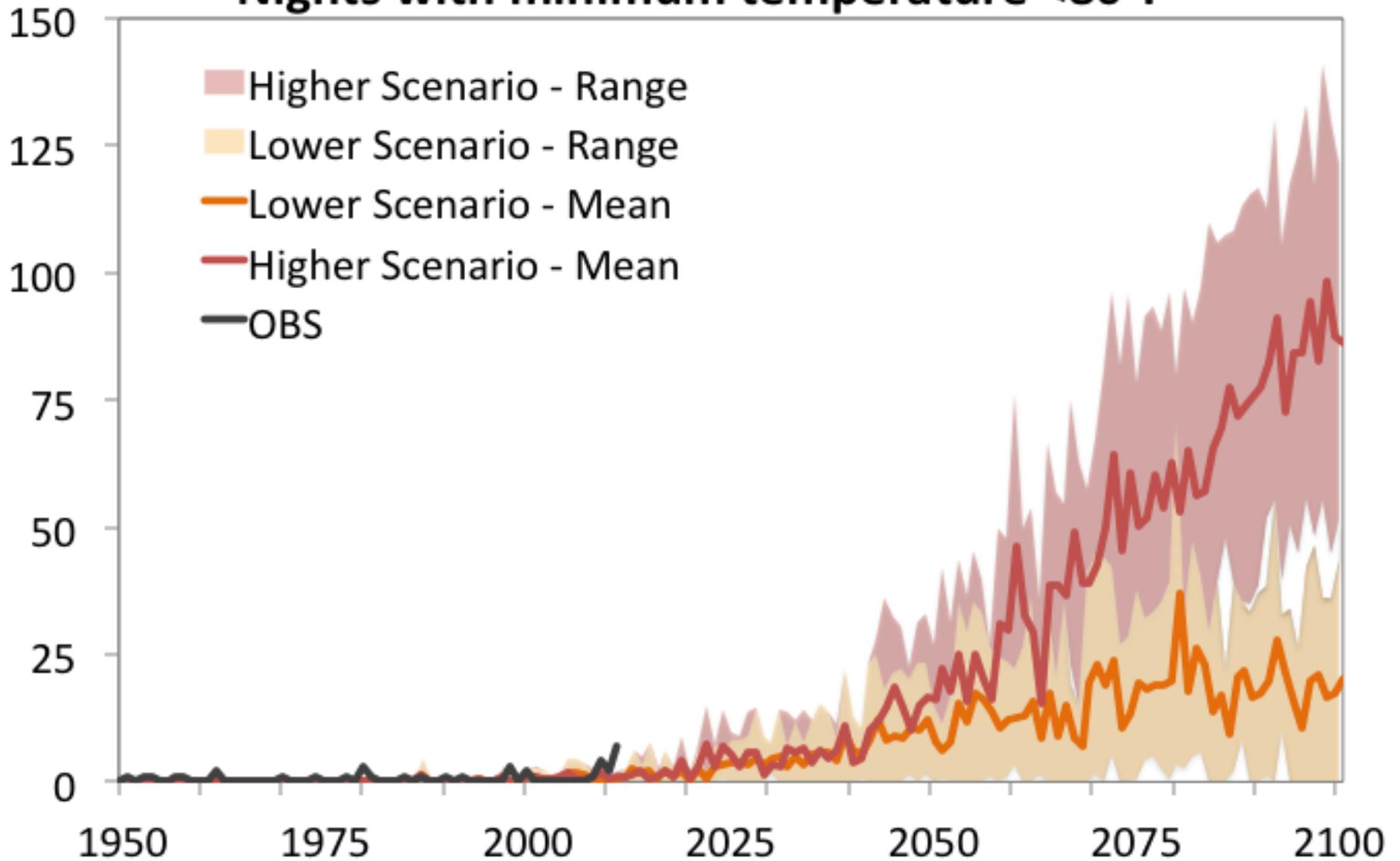
Average summer daytime max temperature



Days per year over 100°F



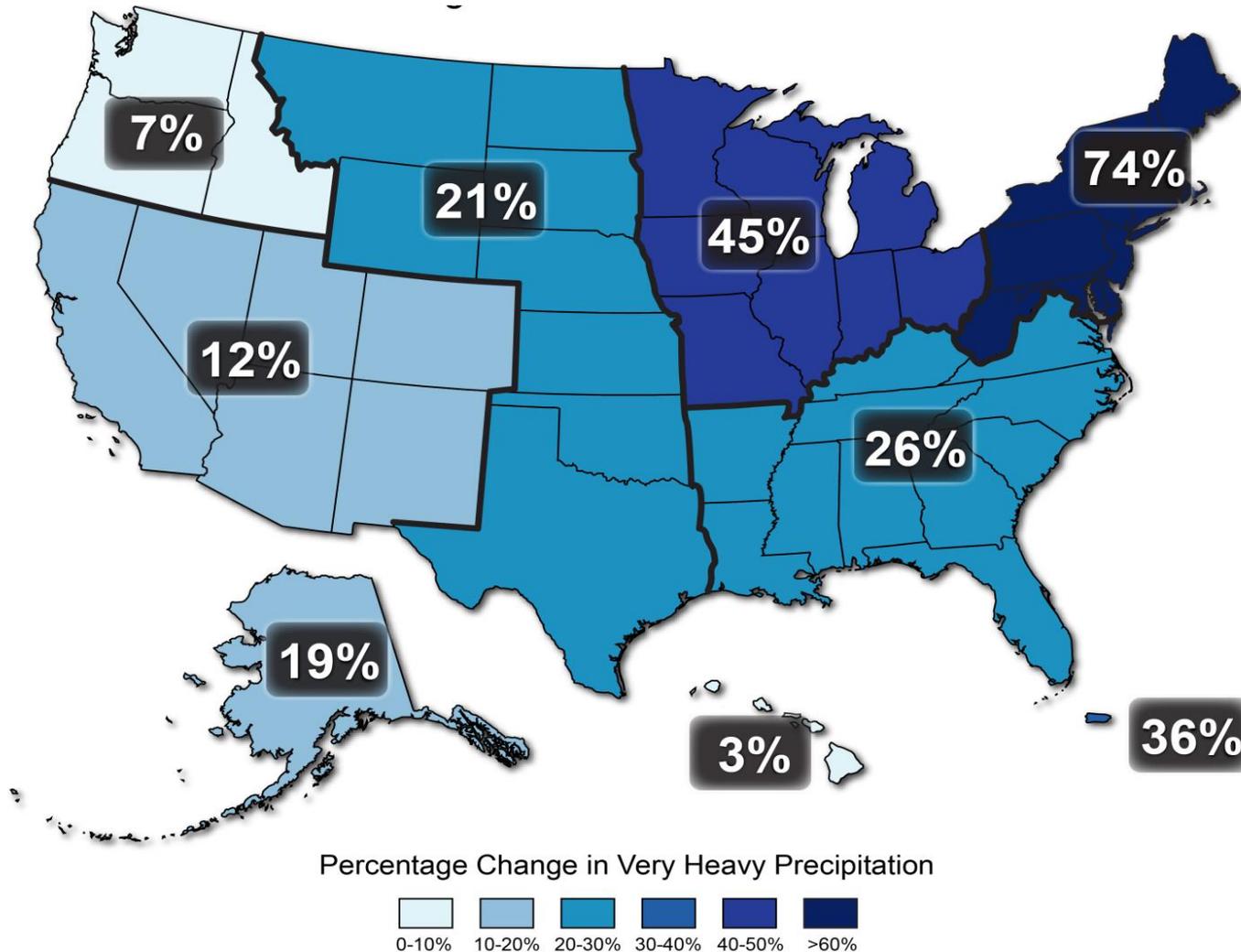
Nights with minimum temperature <80°F



What do we expect ... for temperature?

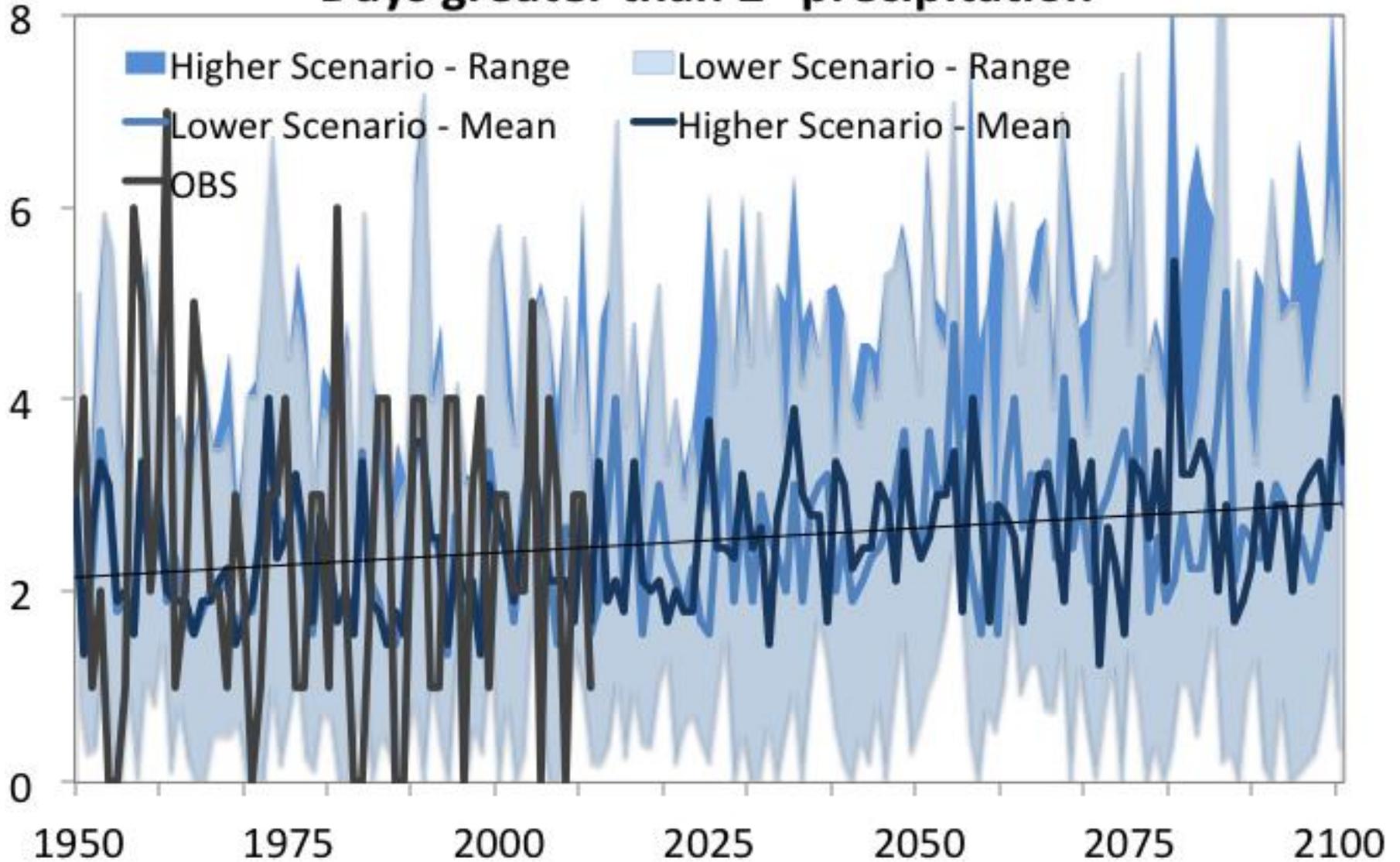
- **Observed and future changes are consistent with larger-scale trends observed across the U.S. and the world.**
- On average, summer days and nights will be warmer and high temperature extremes more frequent
- Past mid-century, increasingly greater changes under a higher vs. a lower scenario

Heavy precipitation becoming more frequent

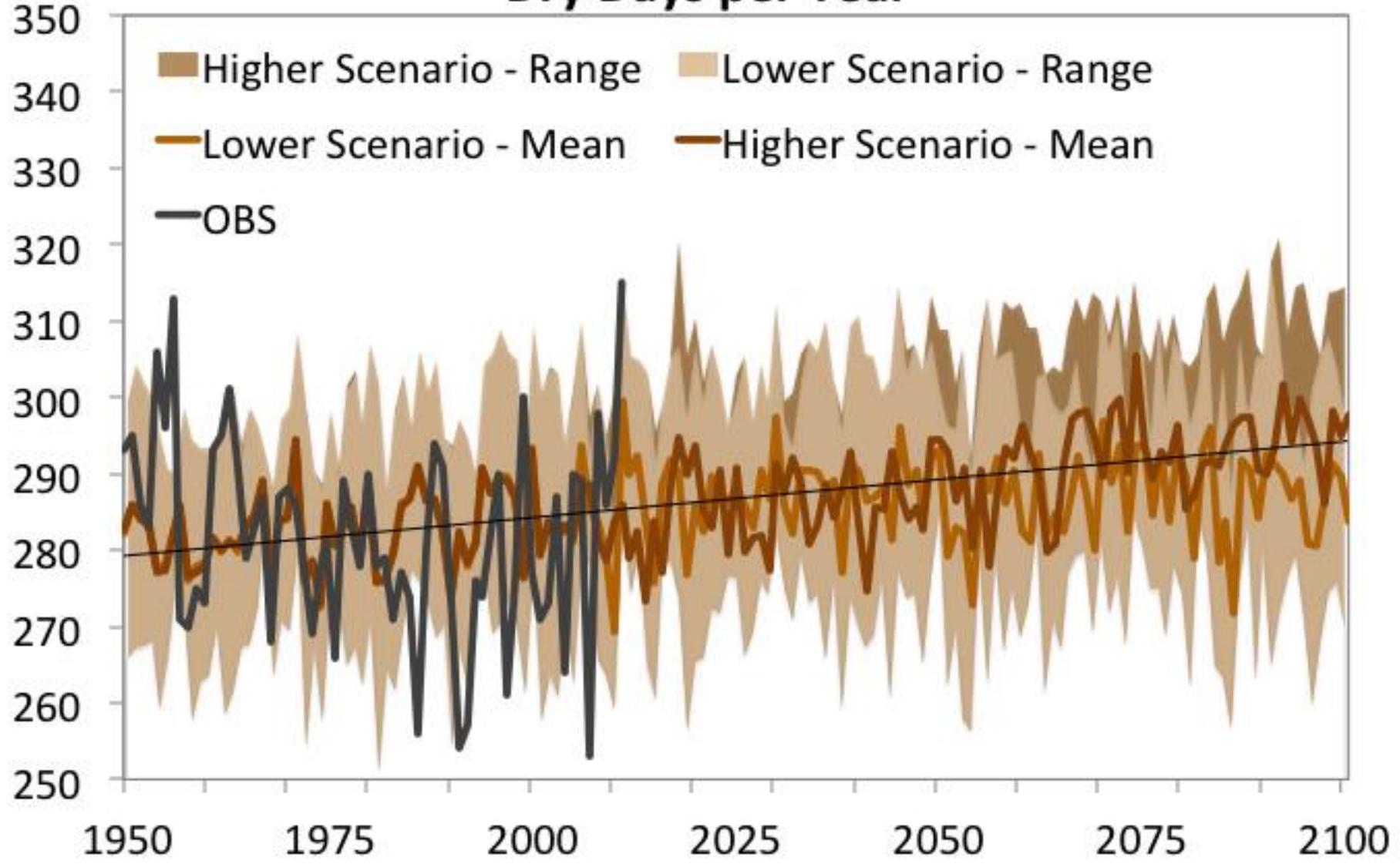


Source: 2014 U.S. National Climate Assessment

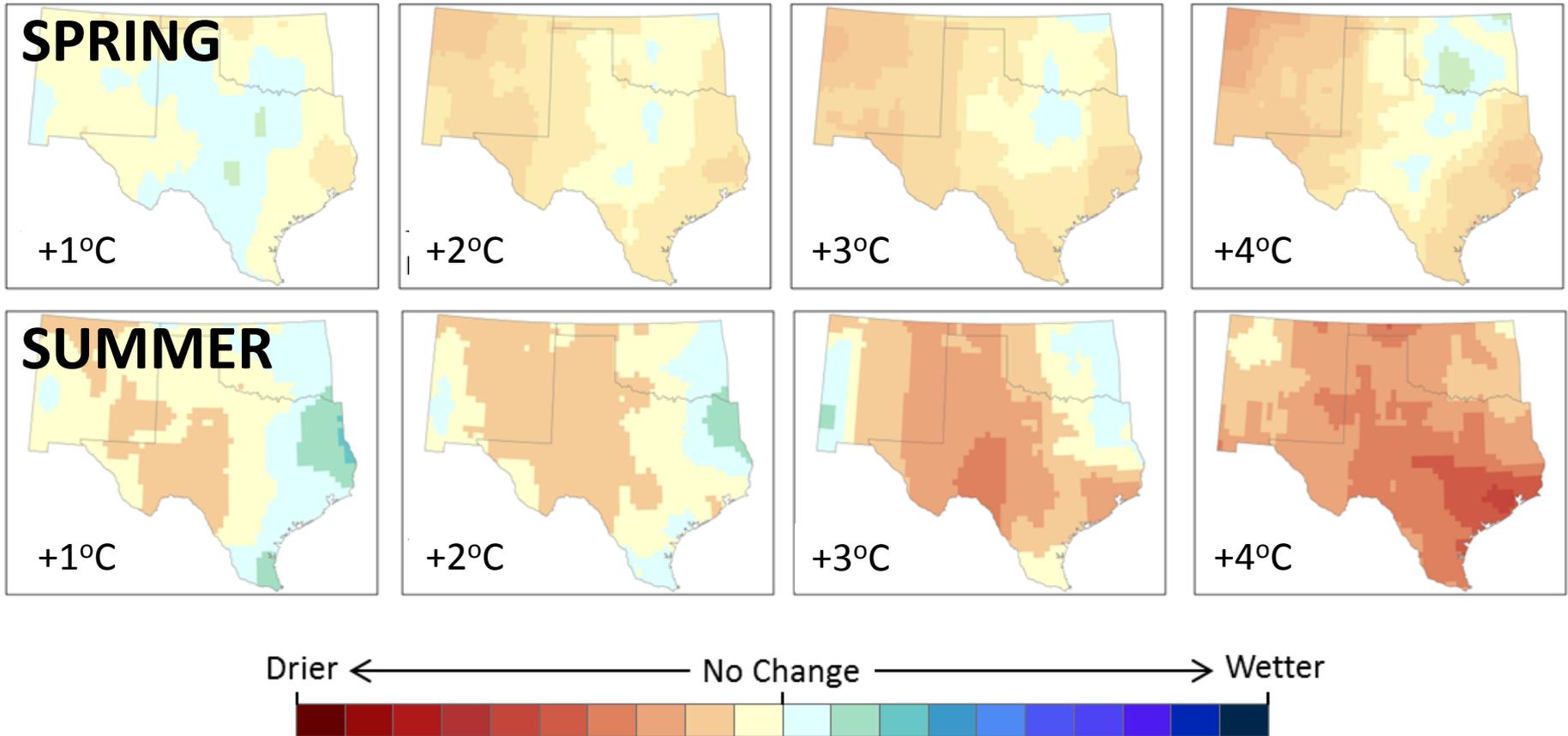
Days greater than 2" precipitation



Dry Days per Year



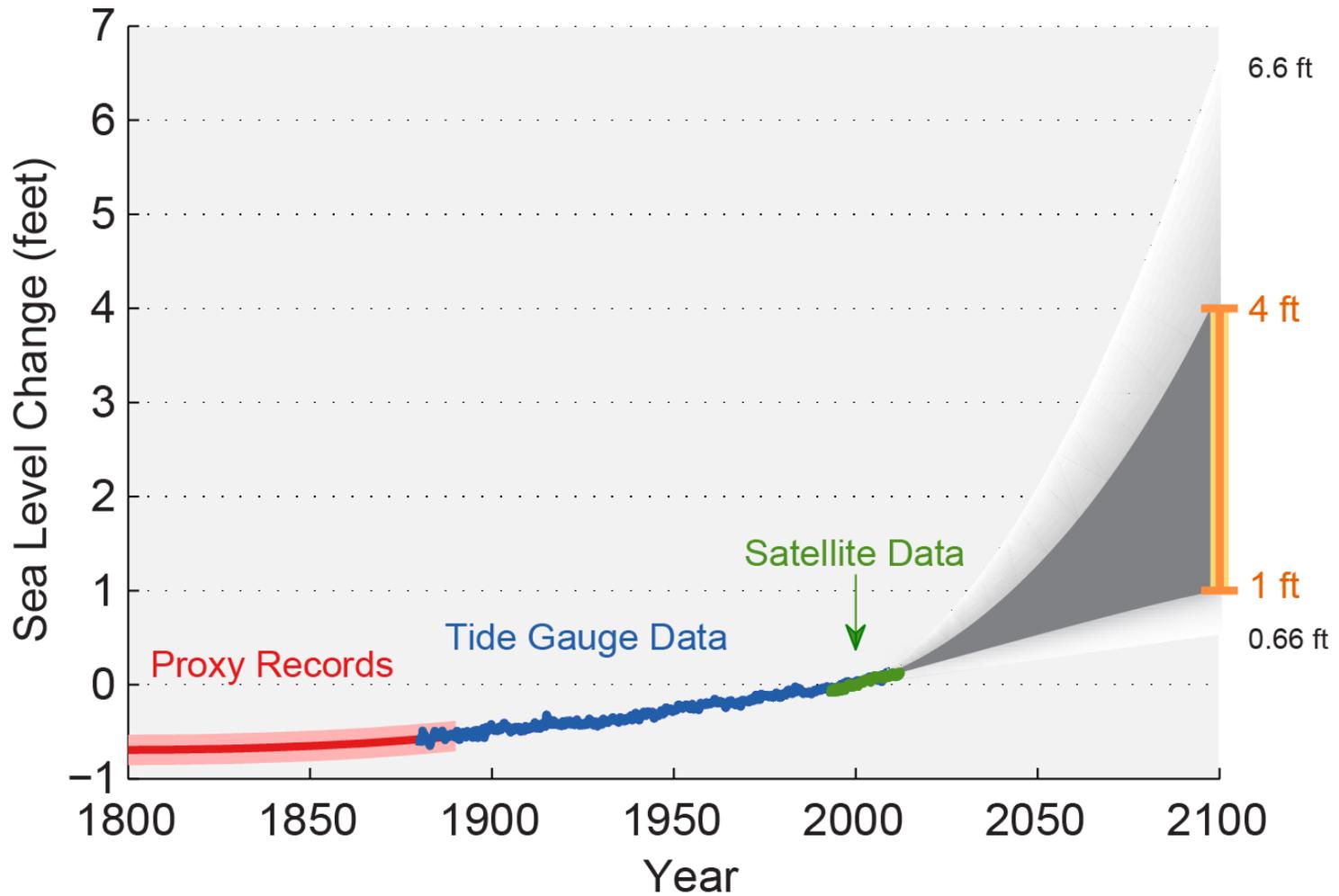
More frequent summer drought conditions



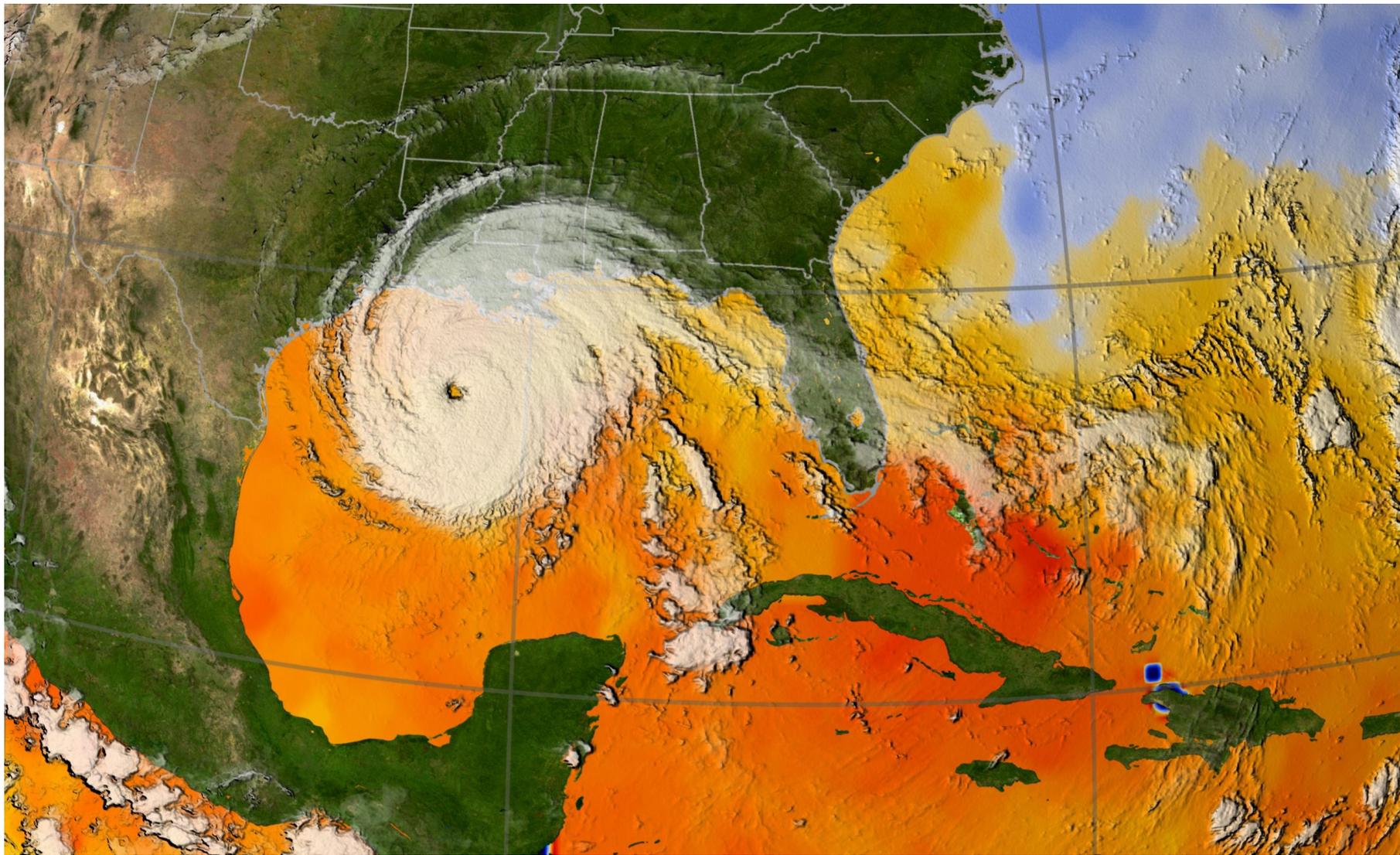
Projected change in Standardized Precipitation Index (the metric used by the National Drought Mitigation Center) for each degree Celsius that the planet warms.

Source: Swain & Hayhoe, submitted to Climate Dynamics, 2014

Sea level is rising



Hurricanes getting stronger

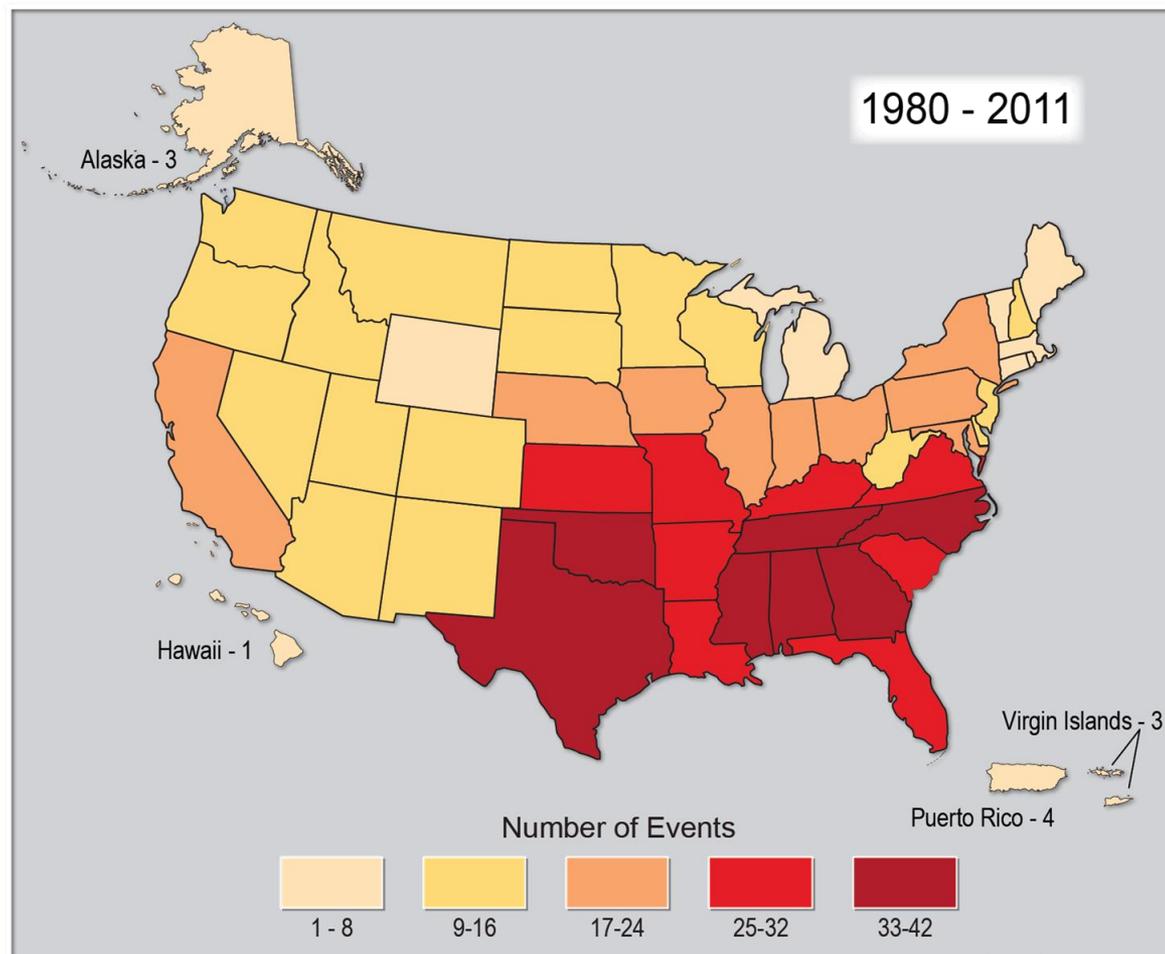


What do we expect ... for precipitation?

- **Observed and future changes are consistent with larger-scale trends observed across the U.S. and the world.**
- Average precipitation won't change much, but rainfall will become more variable, increasing risk of both wet and dry extremes
- In contrast to temperature, no big differences between scenarios for precipitation in this region

Billion dollar disasters are on the rise

Billion Dollar Weather/Climate Disasters



Source: 2014 U.S. National Climate Assessment

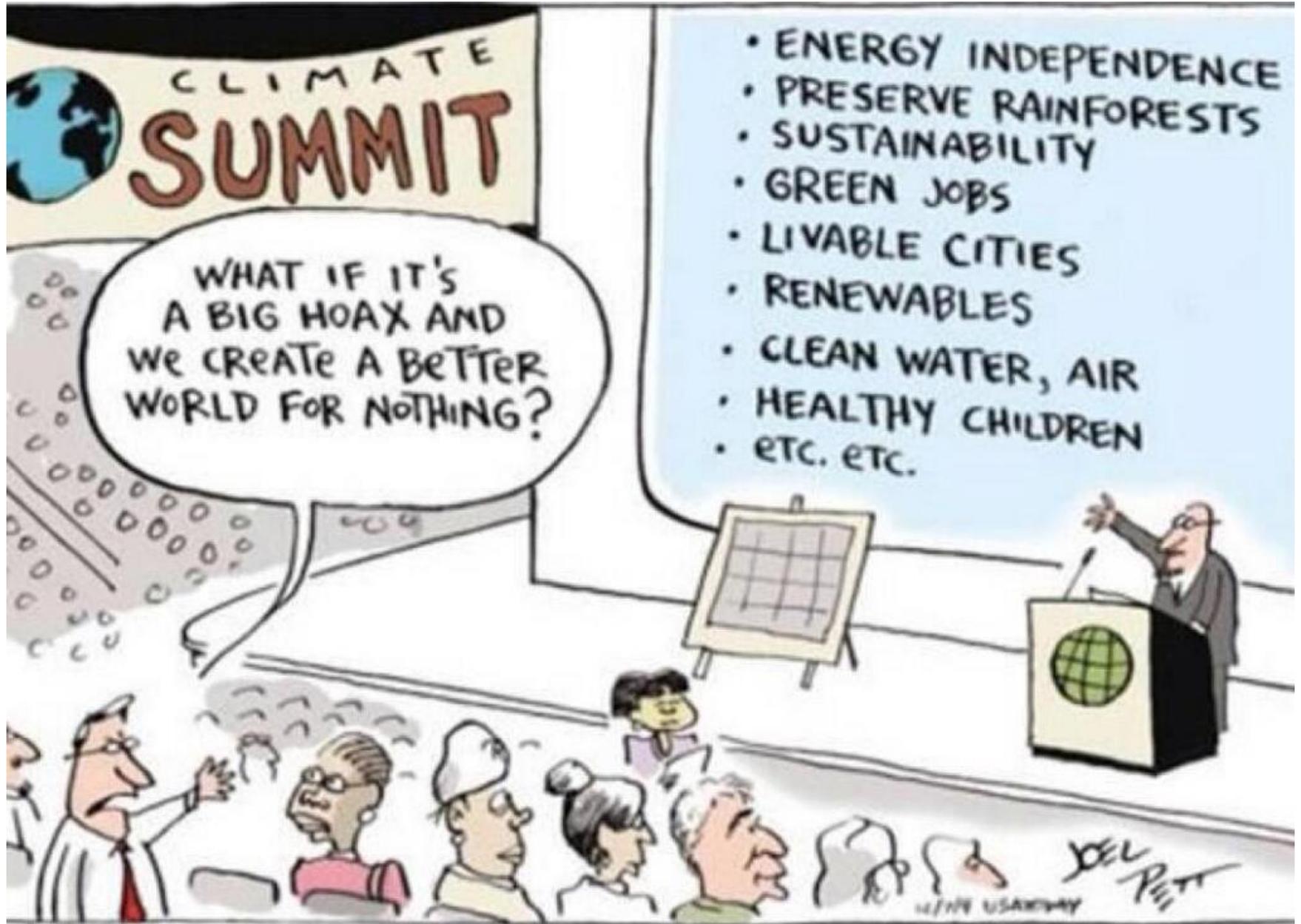
The Way Forward



Build our resilience to the risks
we know already exist

Increase resilience to the risks
**we know are getting stronger
and/or more frequent**

Incorporate quantitative climate
projections into preparing for risks
**we know will intensify under
greater change**



CLIMATE SUMMIT

WHAT IF IT'S A BIG HOAX AND WE CREATE A BETTER WORLD FOR NOTHING?

- ENERGY INDEPENDENCE
- PRESERVE RAINFORESTS
- SUSTAINABILITY
- GREEN JOBS
- LIVABLE CITIES
- RENEWABLES
- CLEAN WATER, AIR
- HEALTHY CHILDREN
- ETC. ETC.



YOUNG PITT
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THANK YOU!

Days per year over 110°F

