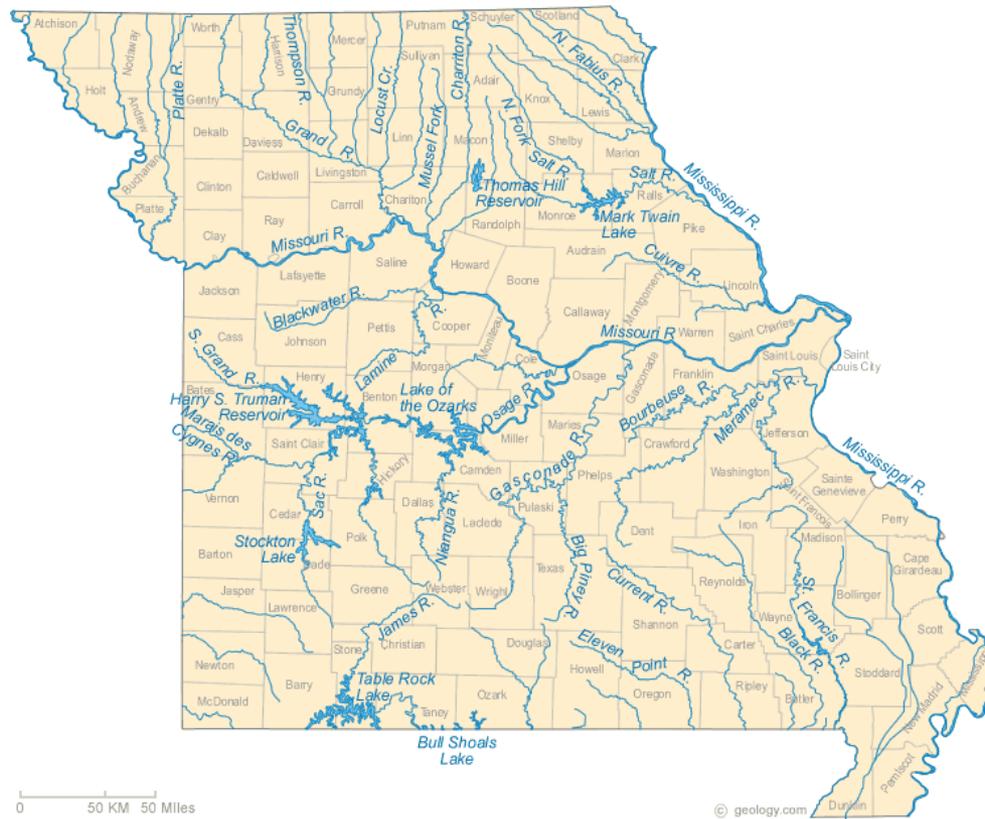


How will global warming of 2°C affect Missouri?



Observed and projected changes in climate and their impacts

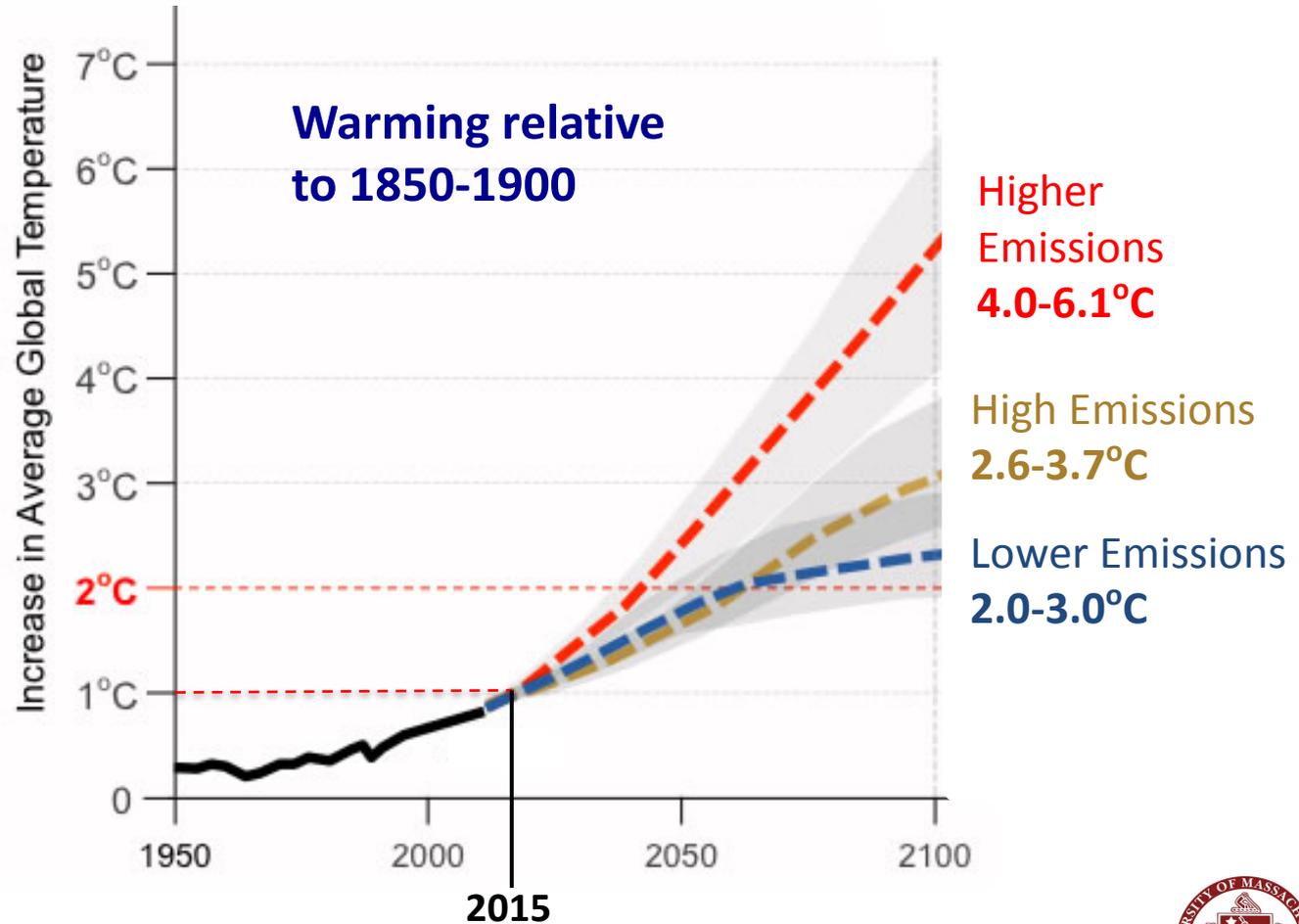
“To prevent dangerous interference with the climate system, the scientific view is that the increase in global temperature should be below 2°C [relative to pre-industrial levels]”.

- United Nations Framework on
Climate Change, 2010

How will global temperatures change in the future?

The global average temperature has already increased by about 1°C (1.8°F) relative to pre-industrial levels.

Current CO₂ emissions are tracking the 'higher emissions' scenario; unless emissions are reduced, the 2°C threshold will be crossed before 2050.

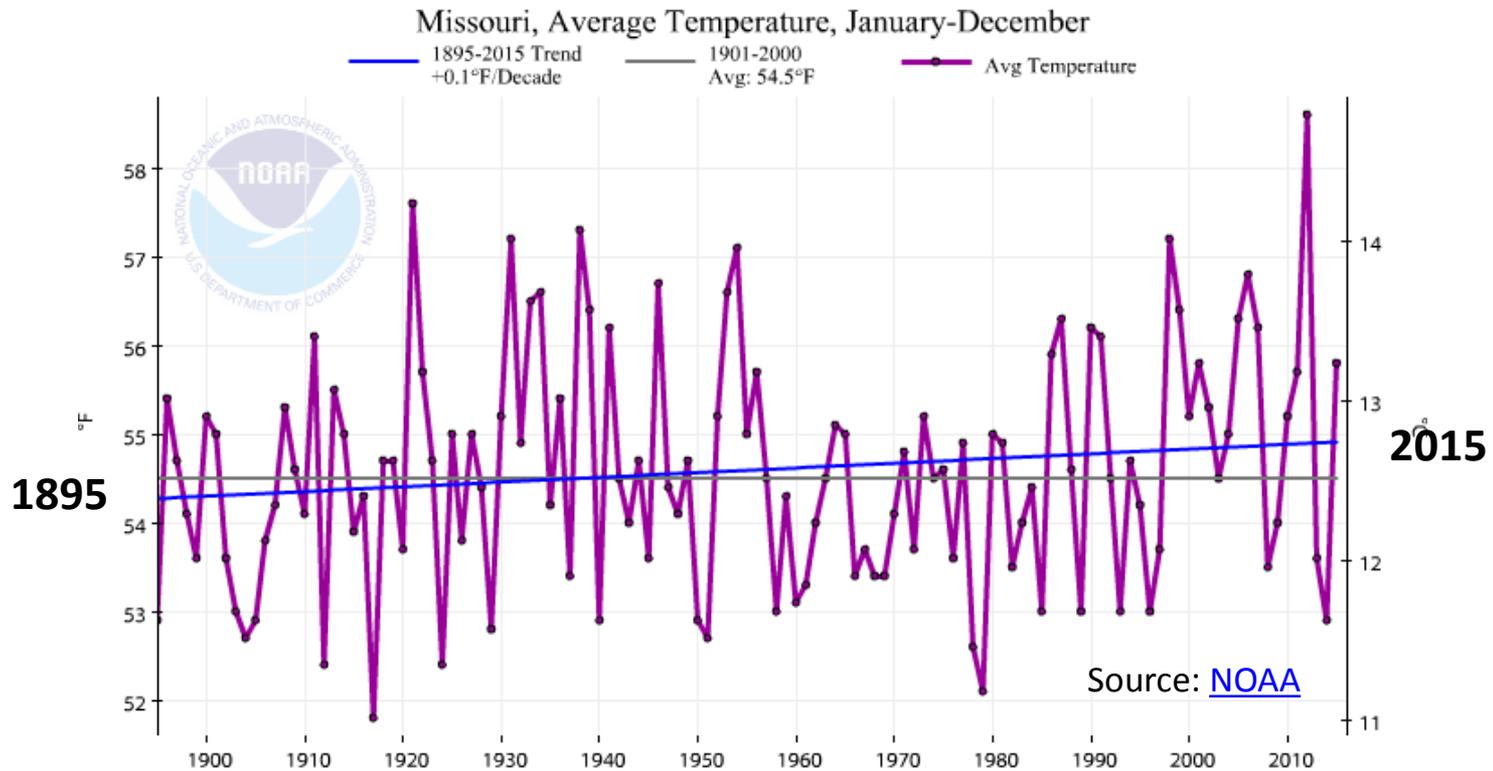


Warming in Missouri



OBSERVATIONS

The annual mean temperature in MO has increased by about 0.6°F (0.3°C) since 1895.



Warming in Missouri

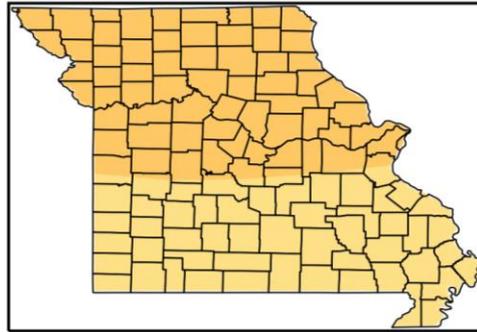


PROJECTIONS

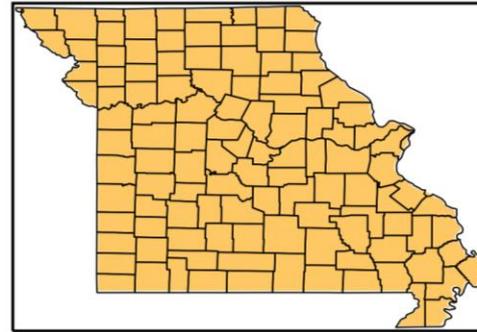
In the next 50-60 years, when global warming crosses the 2°C threshold, MO average summer and winter temperatures are projected to increase by over 4°F (2.2°C) relative to pre-industrial levels.

Lower Emissions

Winter

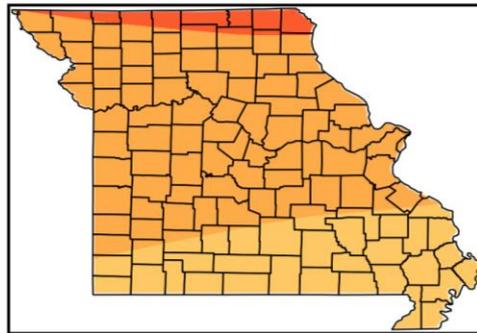


Summer

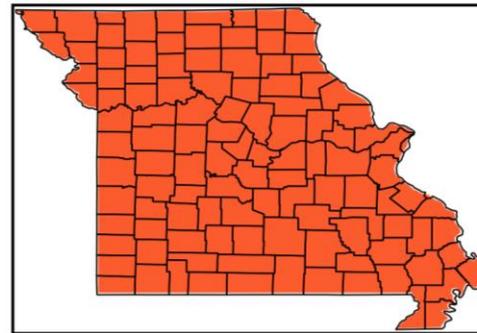


Higher Emissions

Winter



Summer



Warming in °F by 2070 relative to 1961-1990 mean



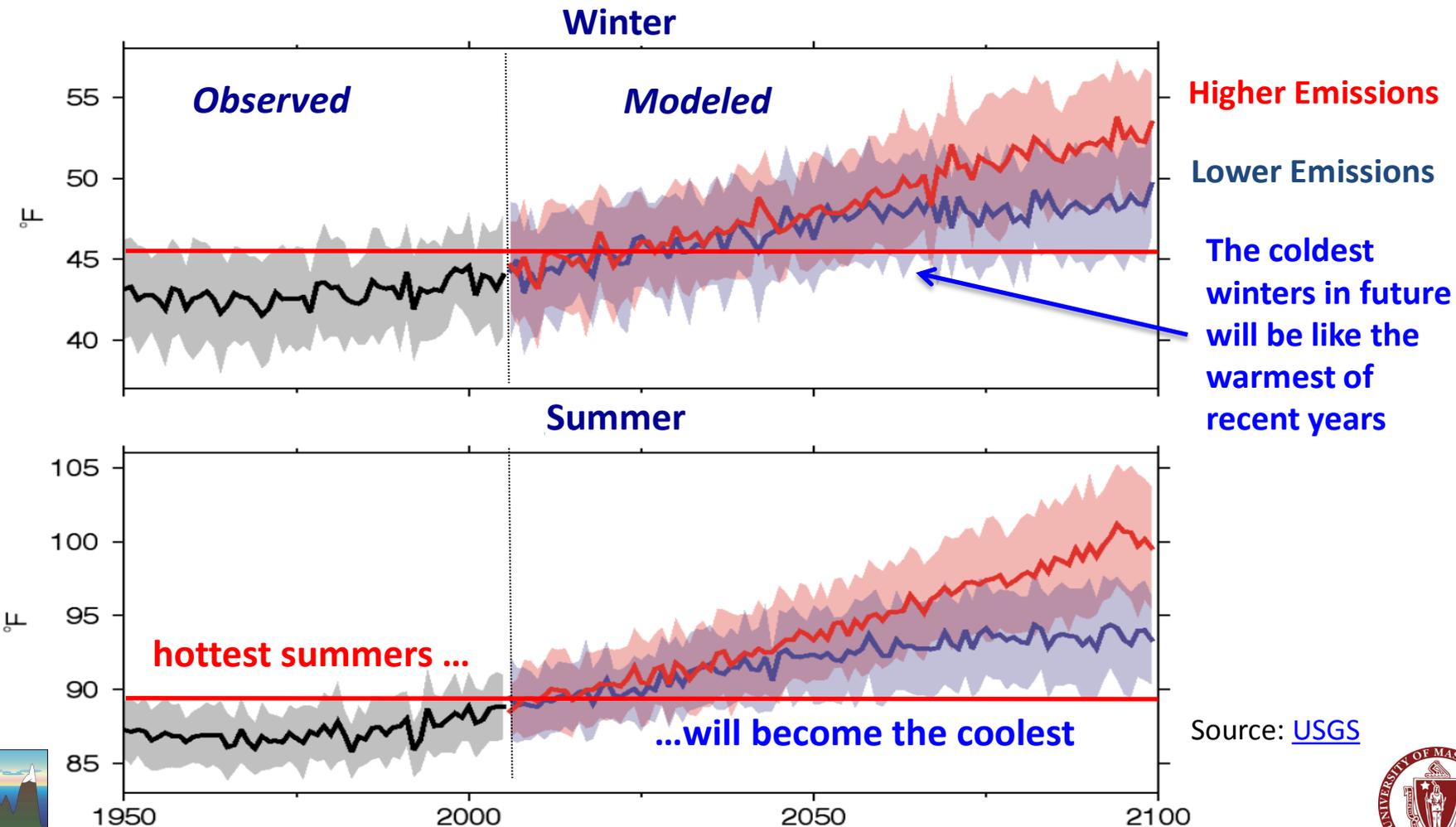
Source: produced by CSRC, UMass Amherst

Warming in Missouri



PROJECTIONS

How warm will Winter and Summer temperatures become?

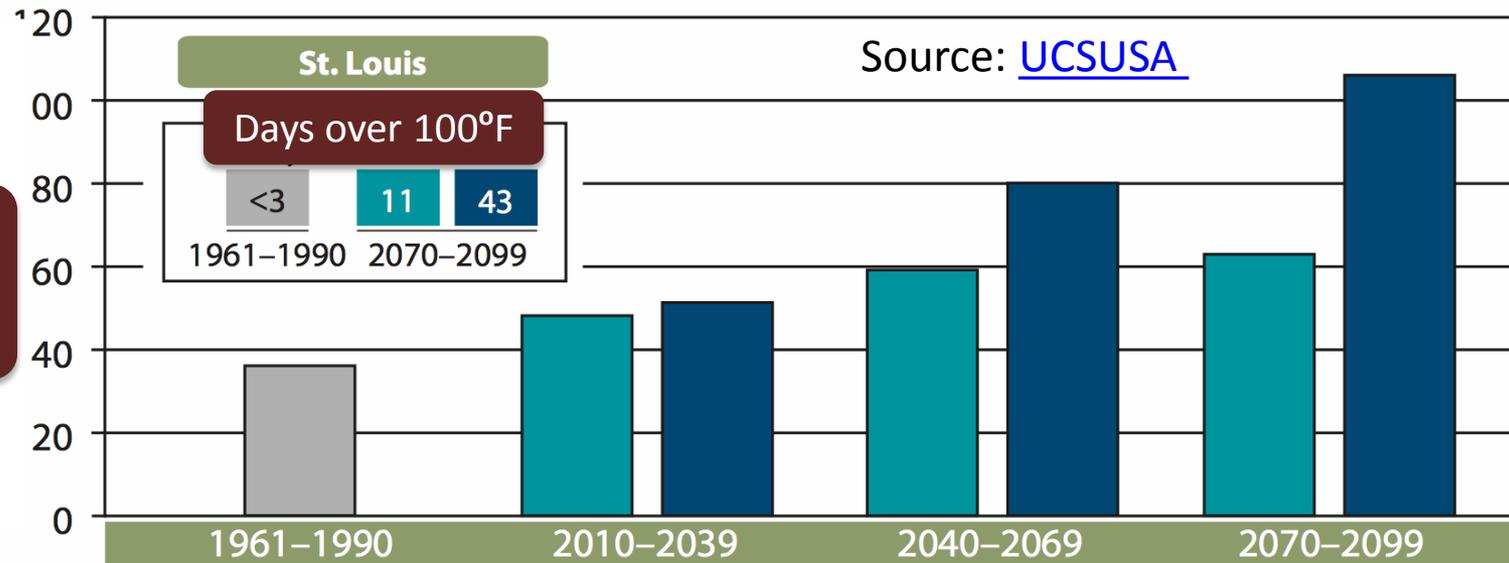


Extreme Heat in Missouri



OBSERVATIONS

Summer daytime high temperatures in St Louis rarely go above 90°F in today's climate.



Days over 90°F

■ Current ■ Lower-Emissions Scenario ■ Higher-Emissions Scenario

PROJECTIONS

The number of days with dangerously high temperatures (above 100°F) is projected to increase significantly in the future.

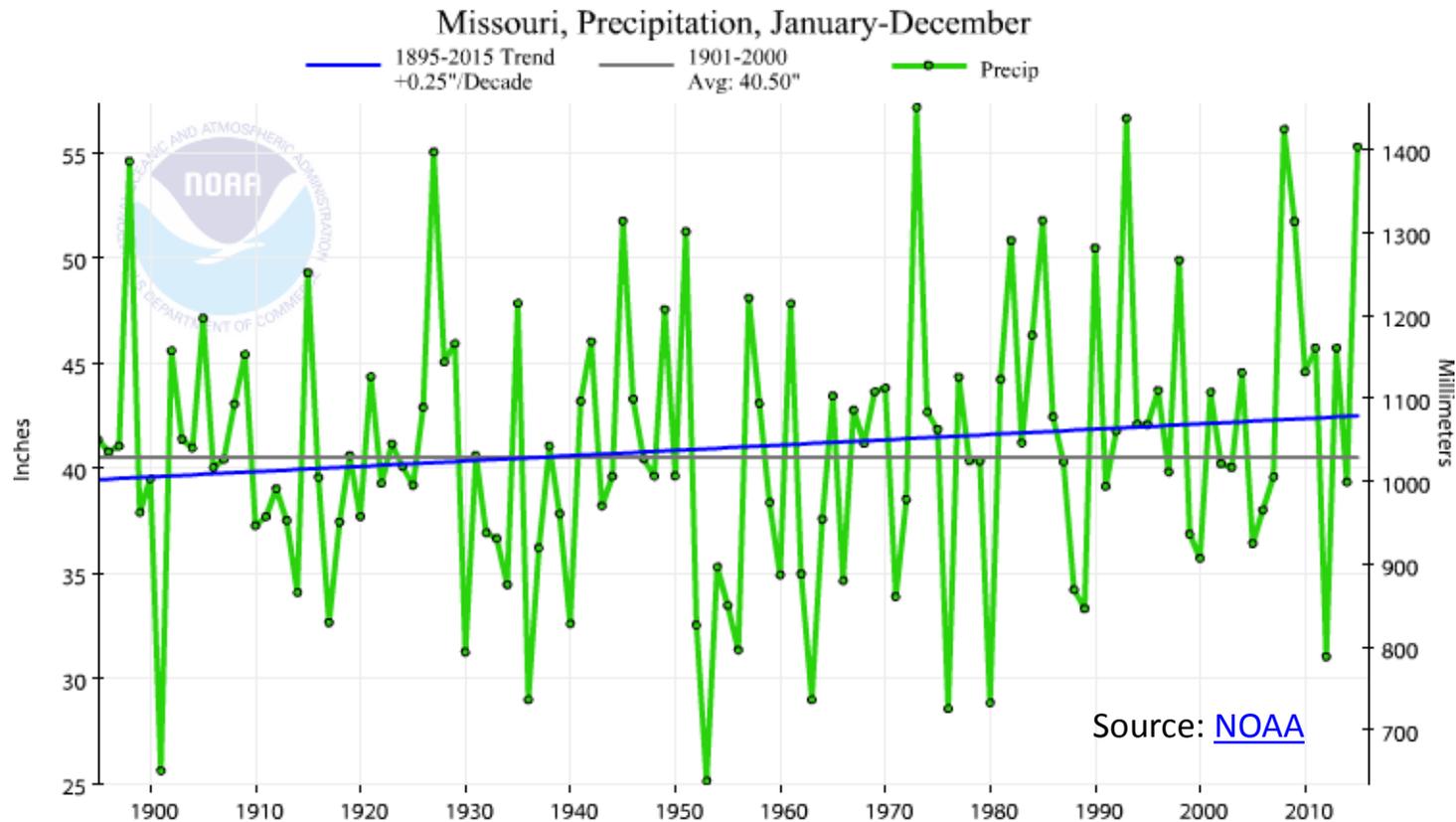


Rain and Snow in Missouri



OBSERVATIONS

Annual total precipitation (rain + snow) has increased over the last few decades.



Devastating flooding as rivers overflow



Source: Micheal B. Thomas/ Getty Images

Meremac River overflows
in Pacific, MO, 2015



Source: Dilip Vishwanat/ Getty Images

Interstate under the Meremac
River near Valley Park, MO, 2008



Source: breakingnews.com

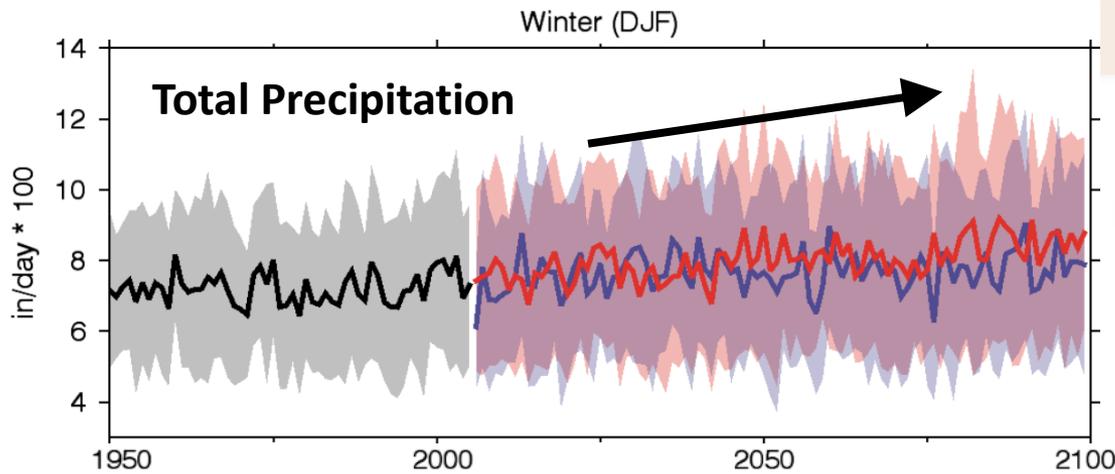
Lake Ozark, MO fire truck
caught in floodwaters, 2013

Rain and Snow in Missouri



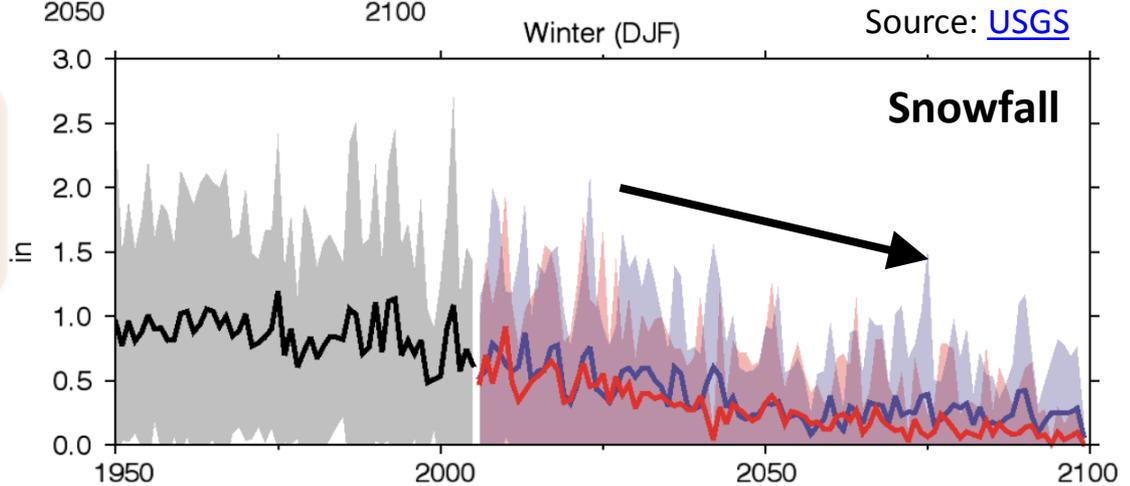
PROJECTIONS

Winter precipitation is projected to increase through the 21st century.



Higher Emissions
Lower Emissions

Due to increasing temperatures, there will be more rain and less snow.



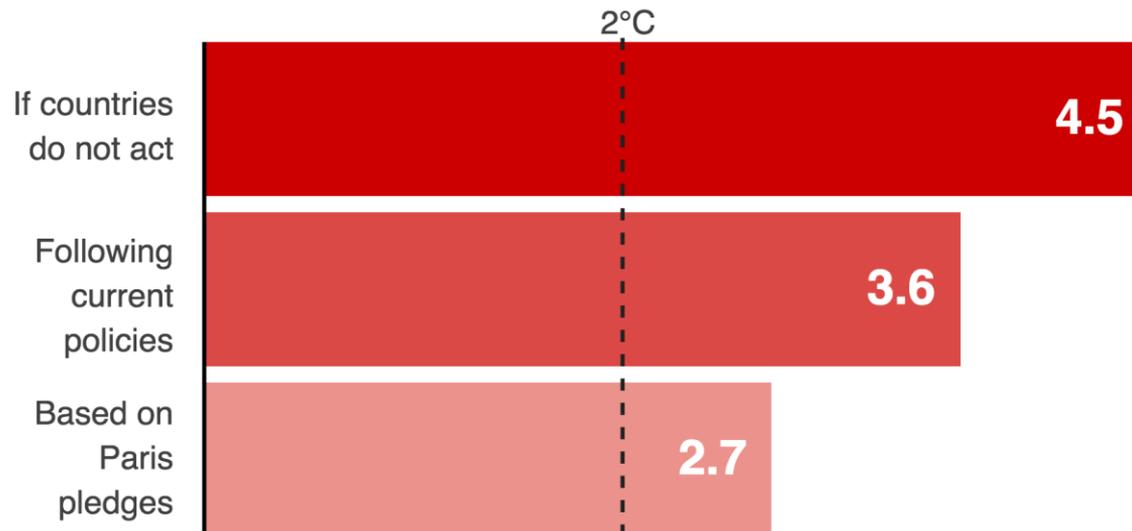
Source: [USGS](#)

Projected changes in rainfall in summer are uncertain.

Climate Summit in Paris [COP21]

Immediate action on local and global scales is required to limit the global mean temperature increase to 2°C (3.6°F).

Average warming (°C) projected by 2100



Source: Climate Action Tracker, data compiled by Climate Analytics, ECOFYS, New Climate Institute and Potsdam Institute for Climate Impact Research.

Strategies and Actions

National Climate Assessment:

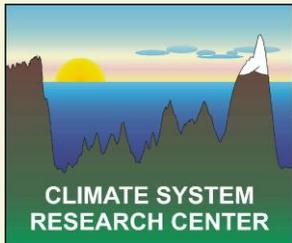
The National Climate Assessment summarizes the impacts of climate change in the US, now and in the future.

Integrating Climate Change into State Wildlife Action Plan (SWAP):

The goals of SWAP are to generate proactive, comprehensive wildlife conservation strategies that assess the health, challenges, and potential actions each State would like to accomplish during the coming decade and beyond.

Climate and Health Assessment:

This scientific assessment examines how climate change is already affecting human health in the US and the changes that may occur in the future.



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