

Oregon Climate Trends and Projections

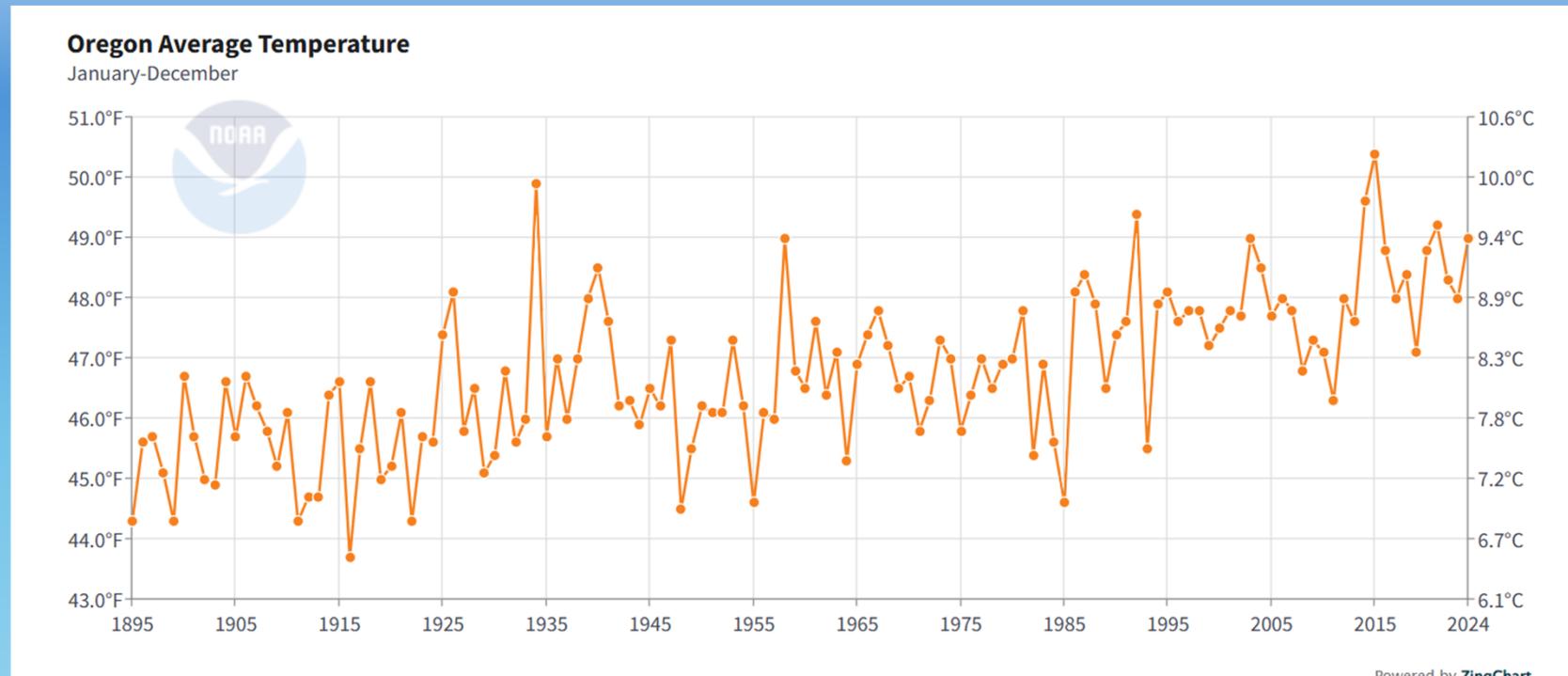


Alan Journet

Cofacilitator, Southern Oregon Climate Action Now

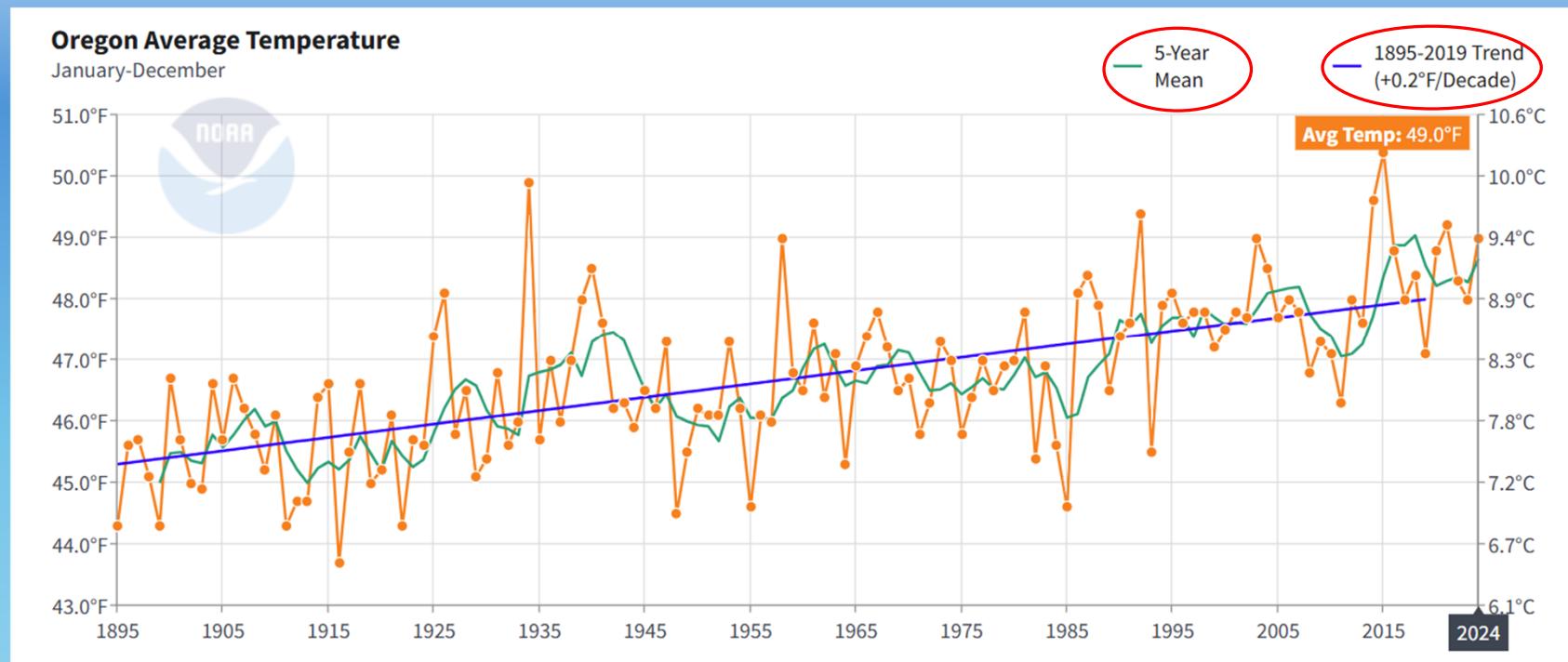
alan@socan.eco; 541-301-4107

Oregon Historical Temperature Annual Average 1895 - 2024



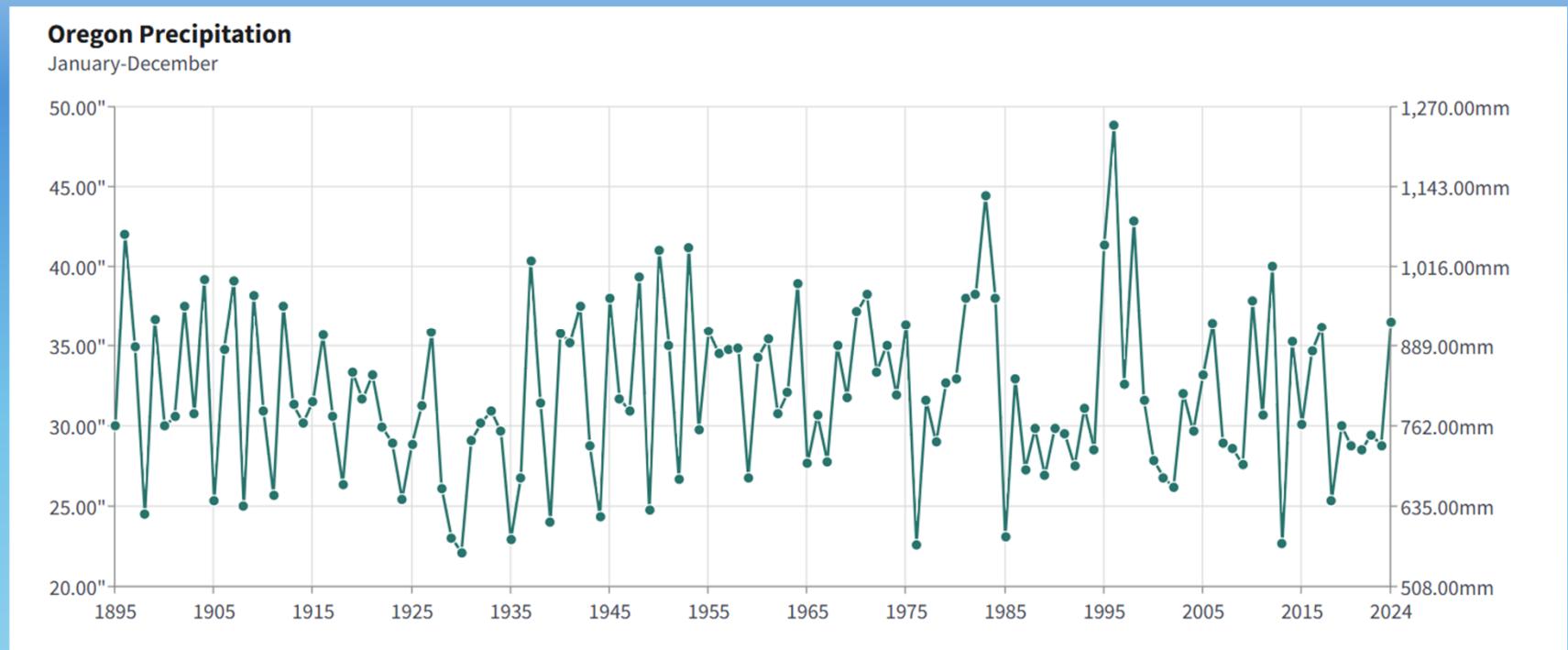
<https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/statewide/time-series/35/tavg/12/12/1895-2024>

Oregon Historical Temperature Annual Average 1895 - 2024



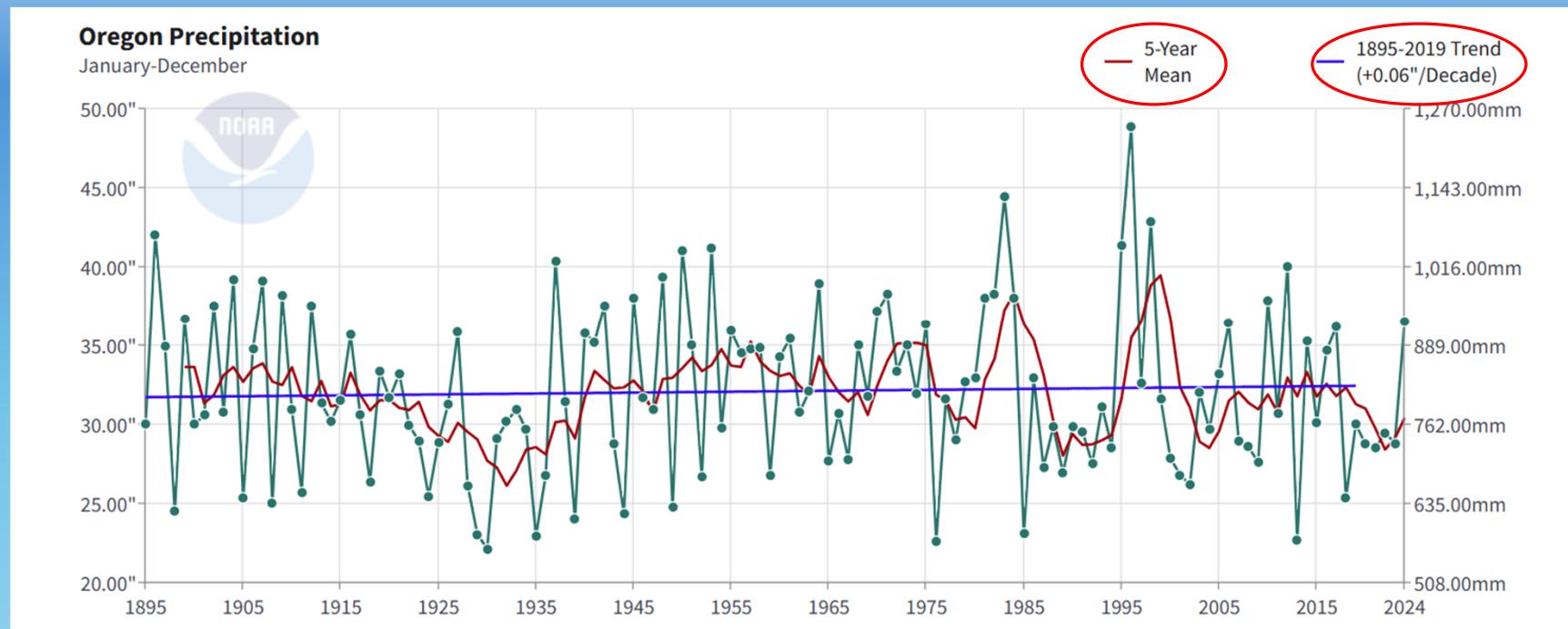
<https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/statewide/time-series/35/tavg/12/12/1895-2024>

Oregon Historical Precipitation Annual Average 1895 - 2024



<https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/statewide/time-series/35/pcp/12/12/1895-2024>

Oregon Historical Precipitation Annual Average 1895 - 2024



<https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/statewide/time-series/35/pcp/12/12/1895-2024>

Intergovernmental Panel on Climate Change - IPCC Model Scenarios (Predictions vs Projections)

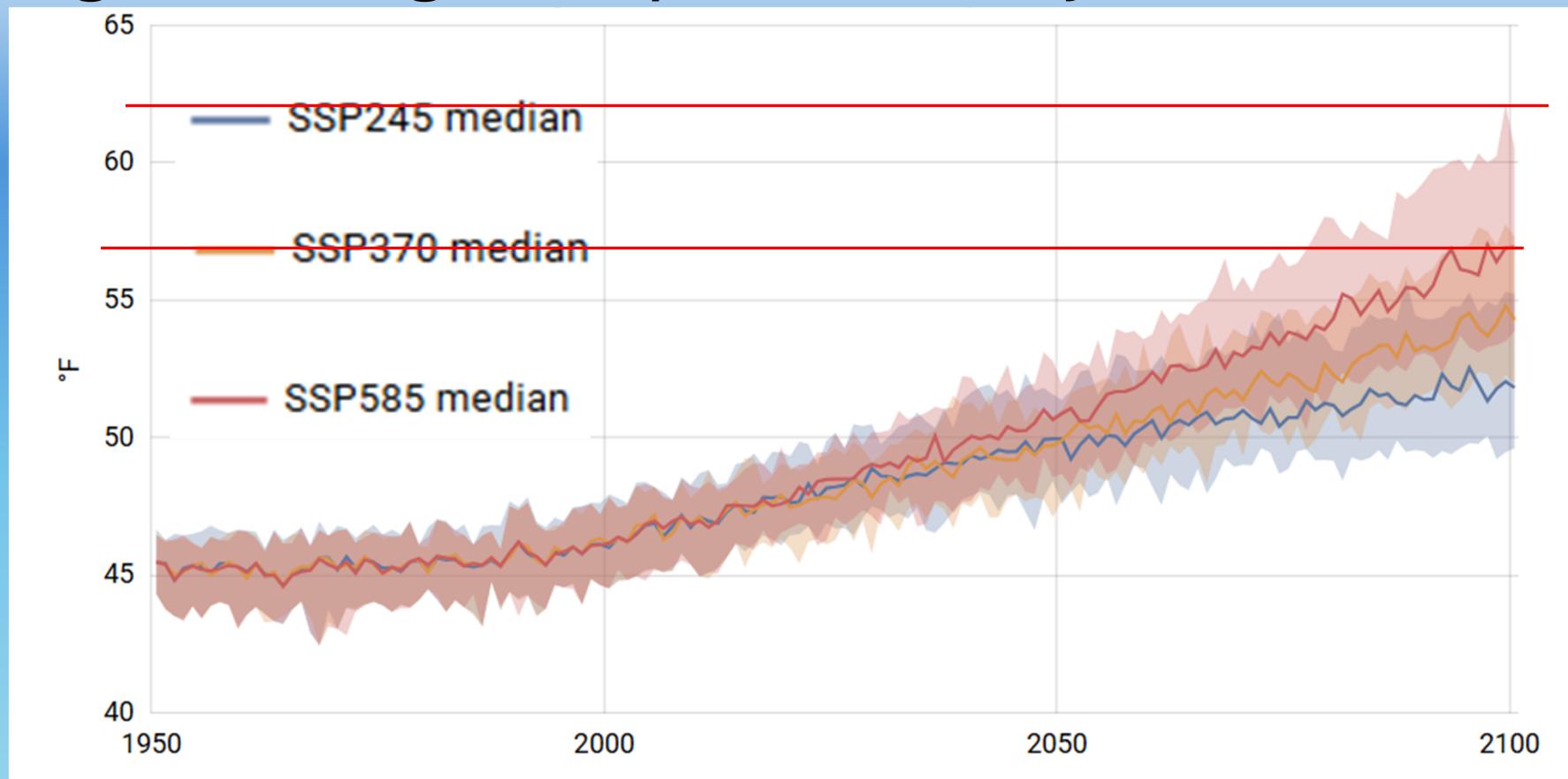
2014 AR5: Representative Concentration Pathways (RCPs)

2021 AR6: Shared Socioeconomic Pathways (SSPs)

- RCP 2.6 Low level emissions (almost immediate cessation) **SSP1-2.6**
- RCP 4.5 Ambitious reductions in emissions trajectory **SSP2-4.5**
- RCP 6.0 Less ambitious emissions reduction trajectory **SSP4-6.0**
- RCP 8.5 Rapid increase in emissions – **SSP5-8.5**
‘Worst Case Scenario’ → ‘Business as Usual’

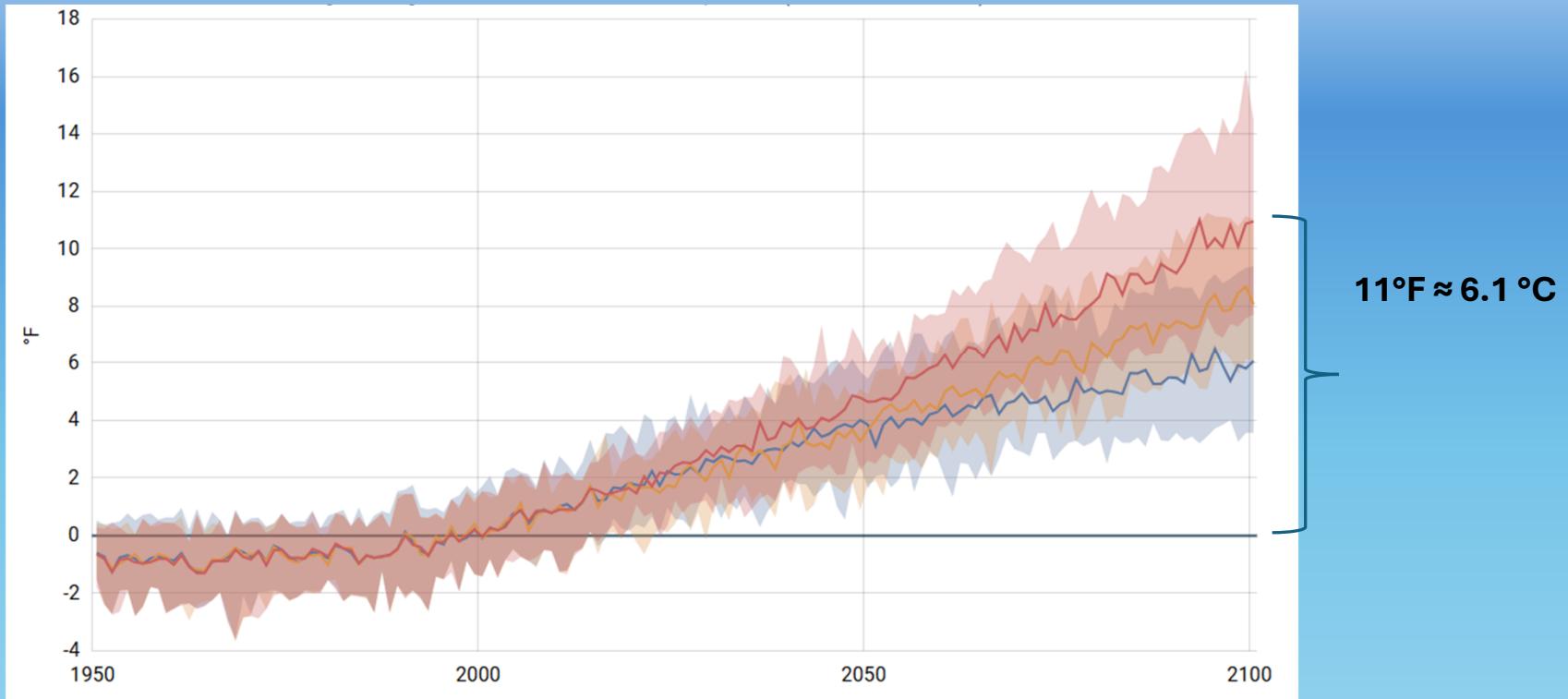
USGS Climate Change Viewer Employs 20 models

Oregon Average Temperature Projections to 2100



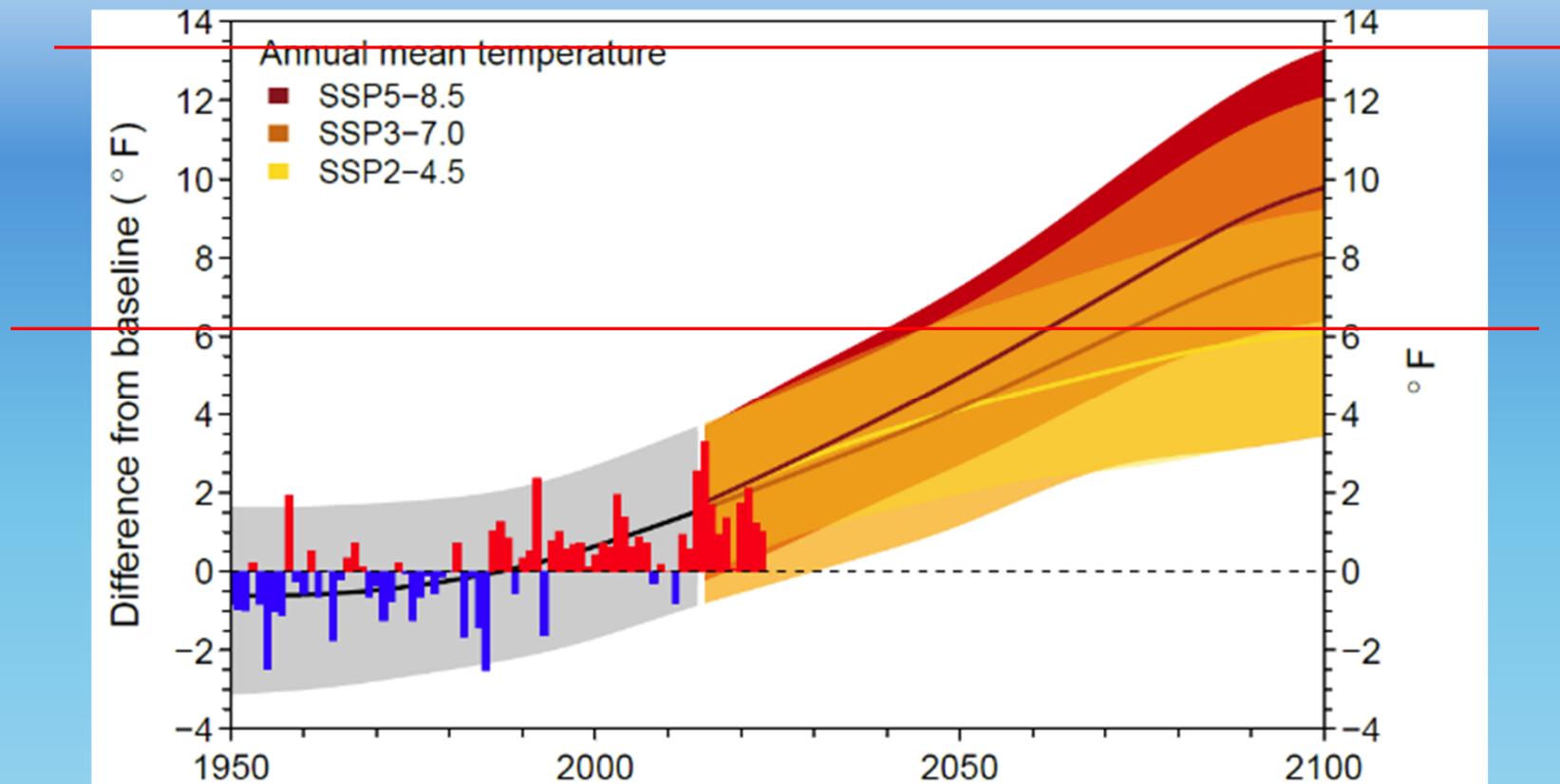
https://apps.usgs.gov/nccv/loca2/nccv2_loca2_counties.html

Oregon Average Temperature Δ Projections to 2100: Baseline 1981-2010



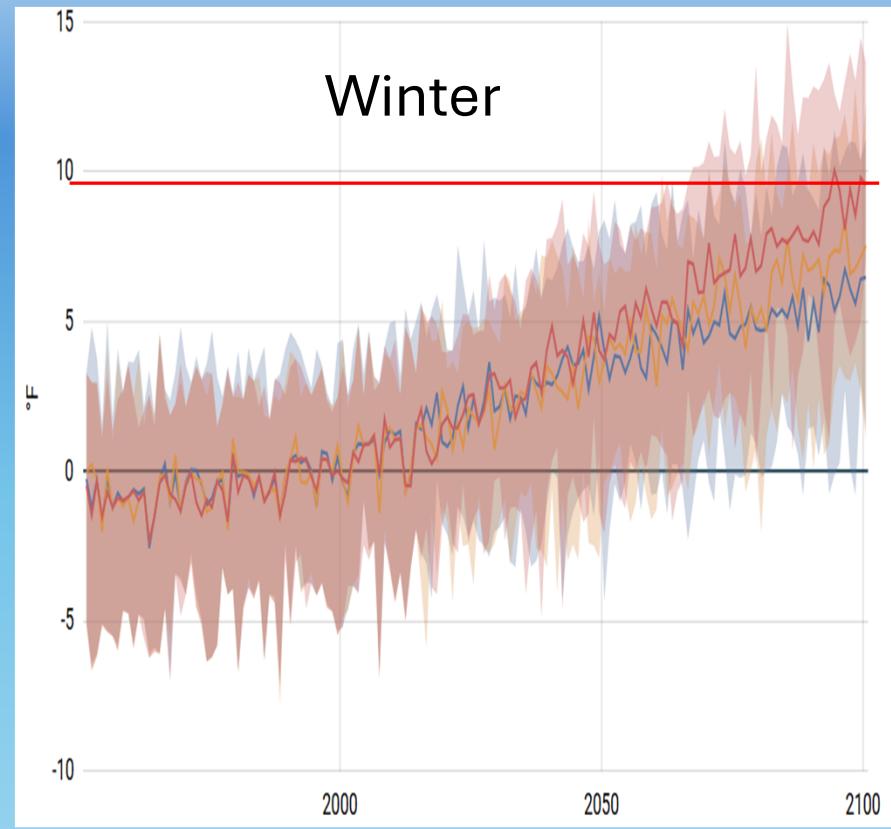
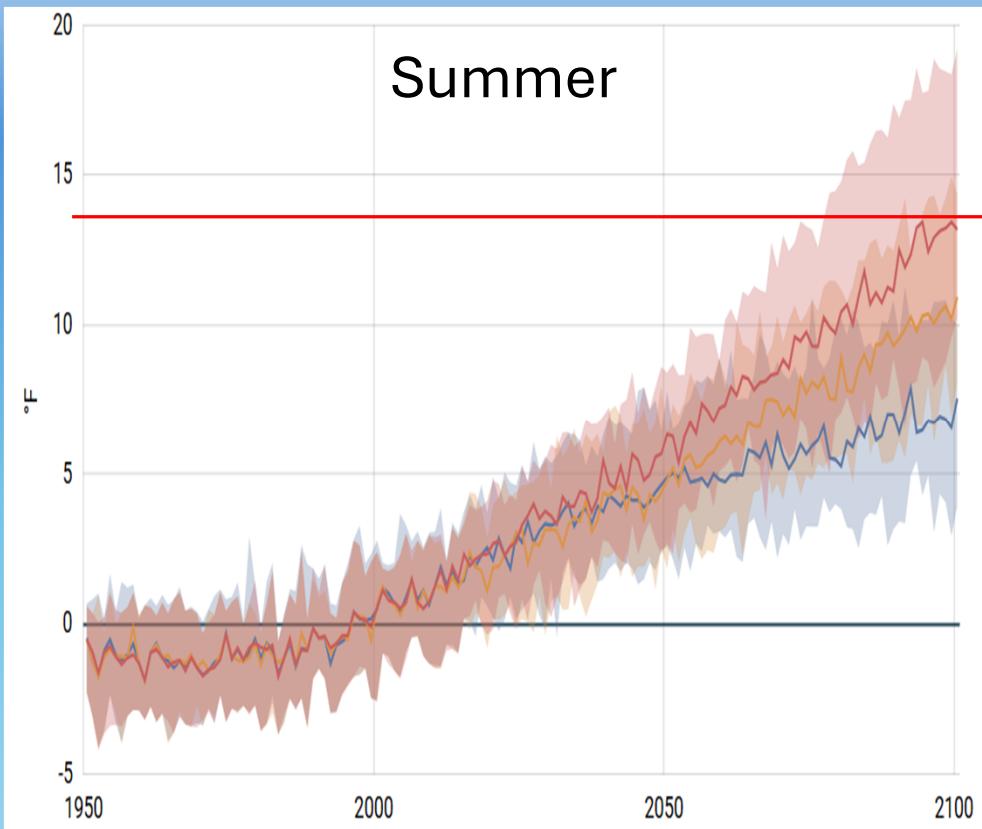
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OCCRI Projections - Baseline 1950-2014 average



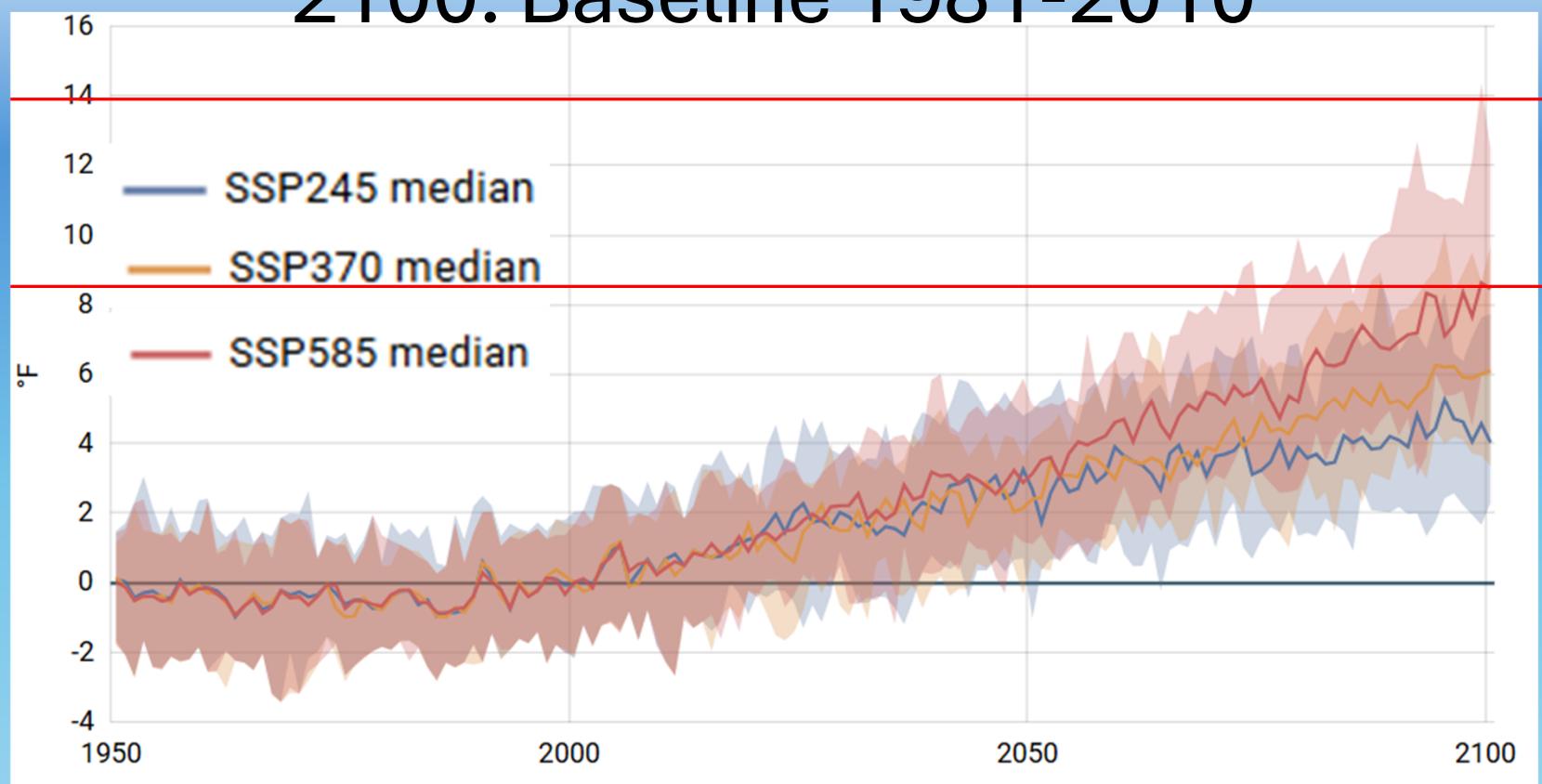
<https://oregonstate.app.box.com/s/zjqc1kisxkup45147phjp526kheugqnb>

Summer vs Winter Projected Δ in Temperature: Baseline 1981-2010



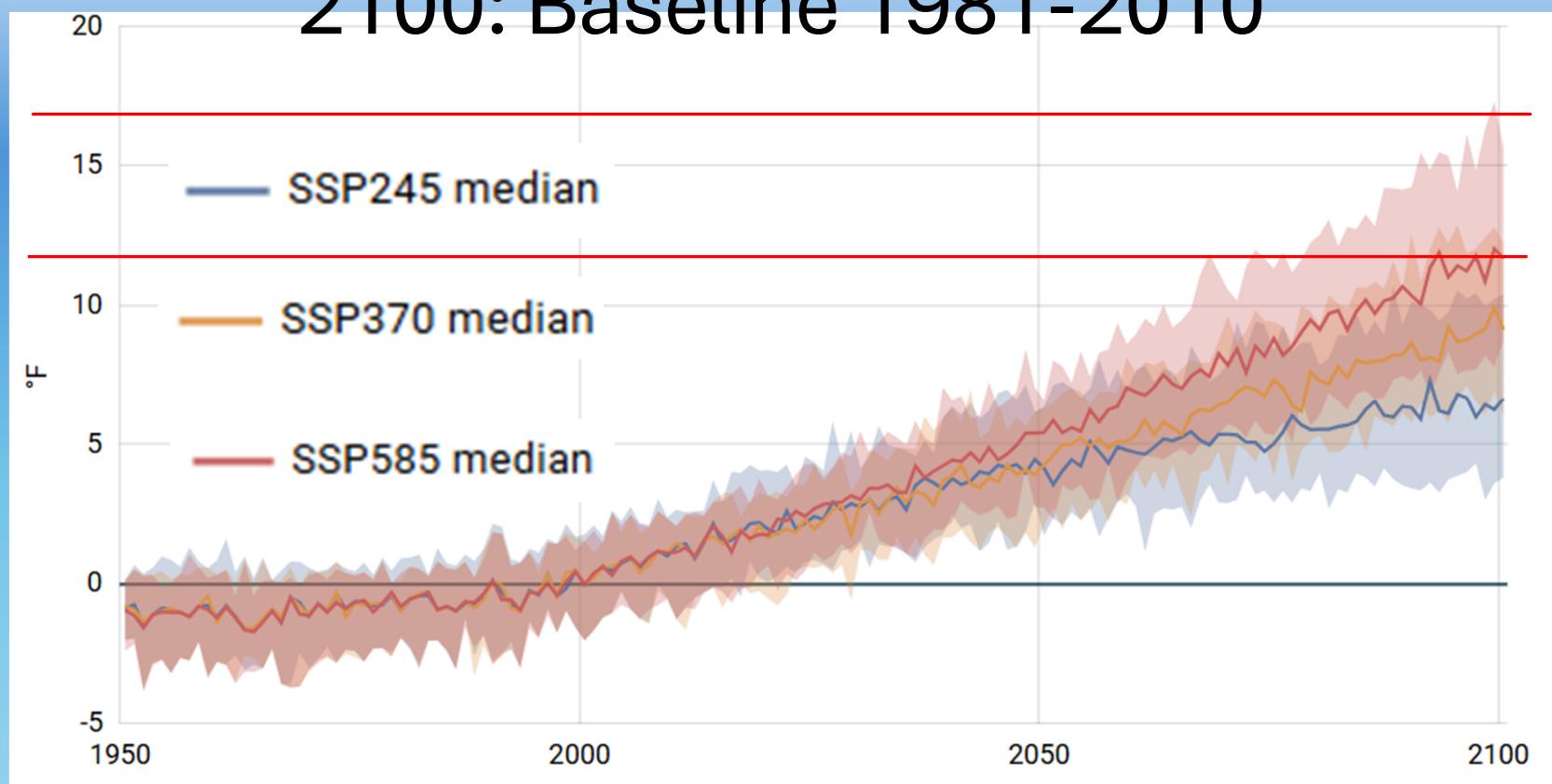
https://apps.usgs.gov/nccv/loca2/nccv2_loca2_counties.html

Curry Co. Average Temperature Δ Projections to 2100: Baseline 1981-2010



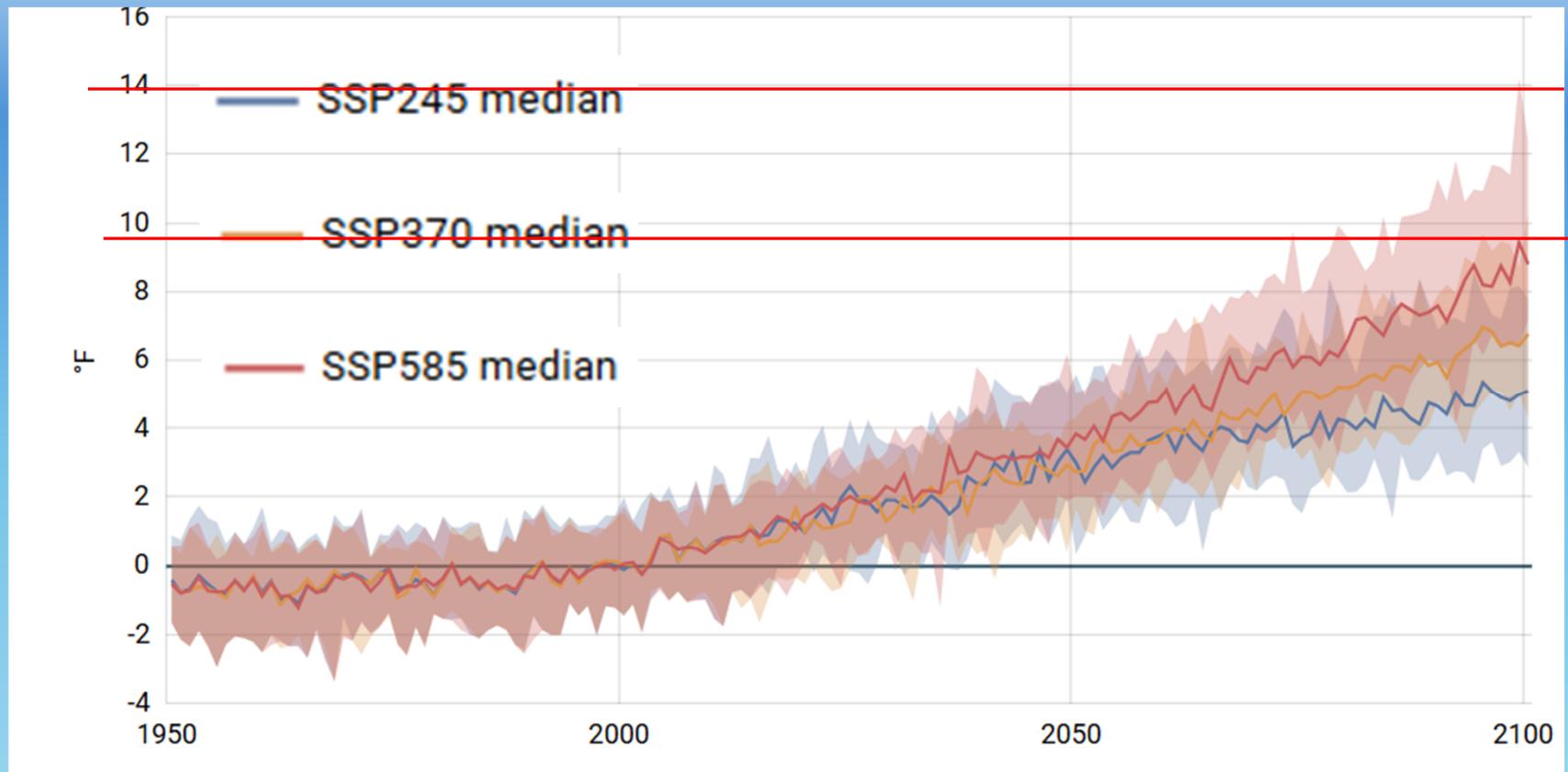
https://apps.usgs.gov/nccv/loca2/nccv2_loca2_counties.html

Malheur Co. Average Temperature Δ Projections to 2100: Baseline 1981-2010



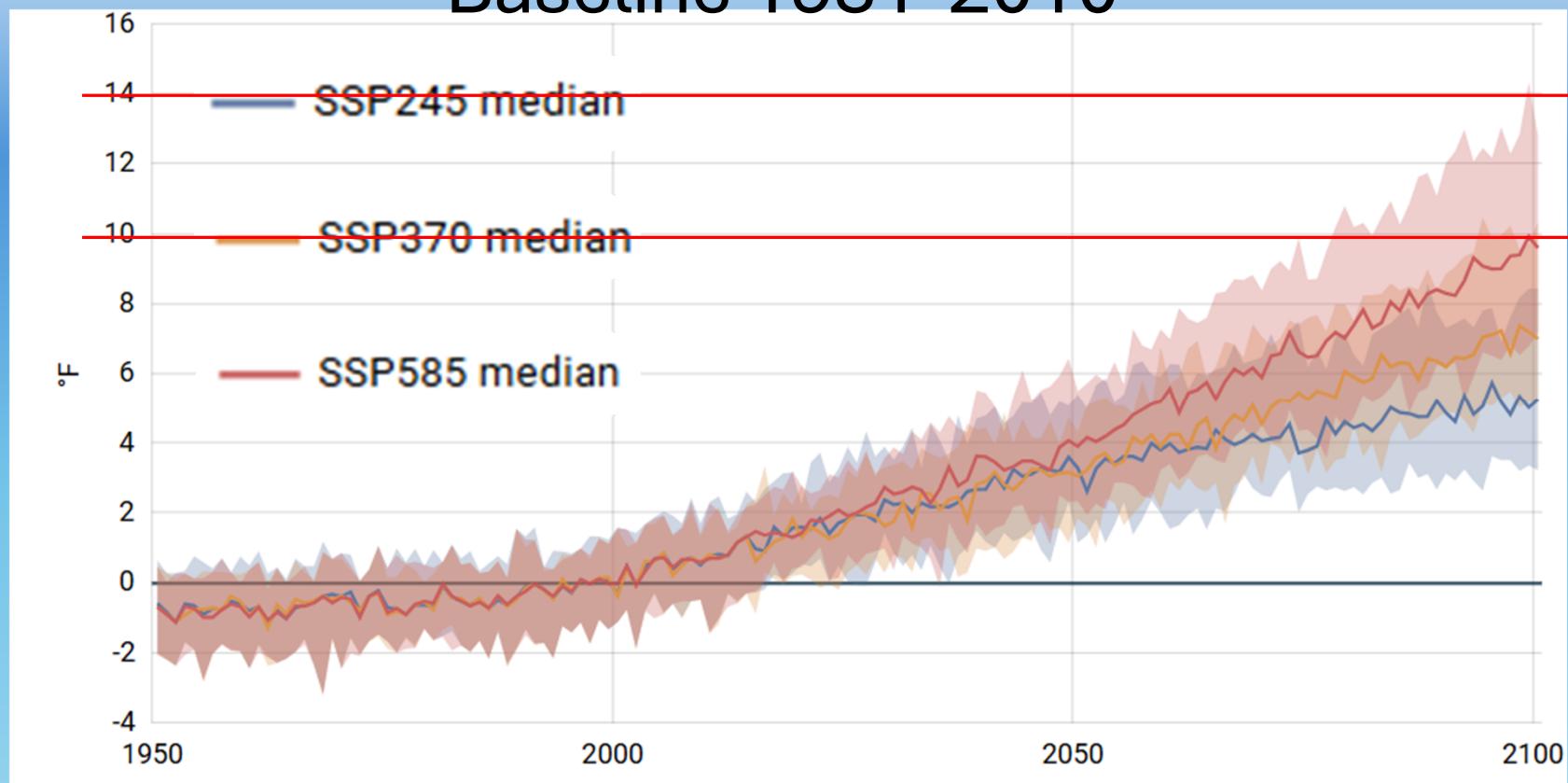
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Lincoln Co. Average Temperature Δ Projections to 2100: Baseline 1981-2010

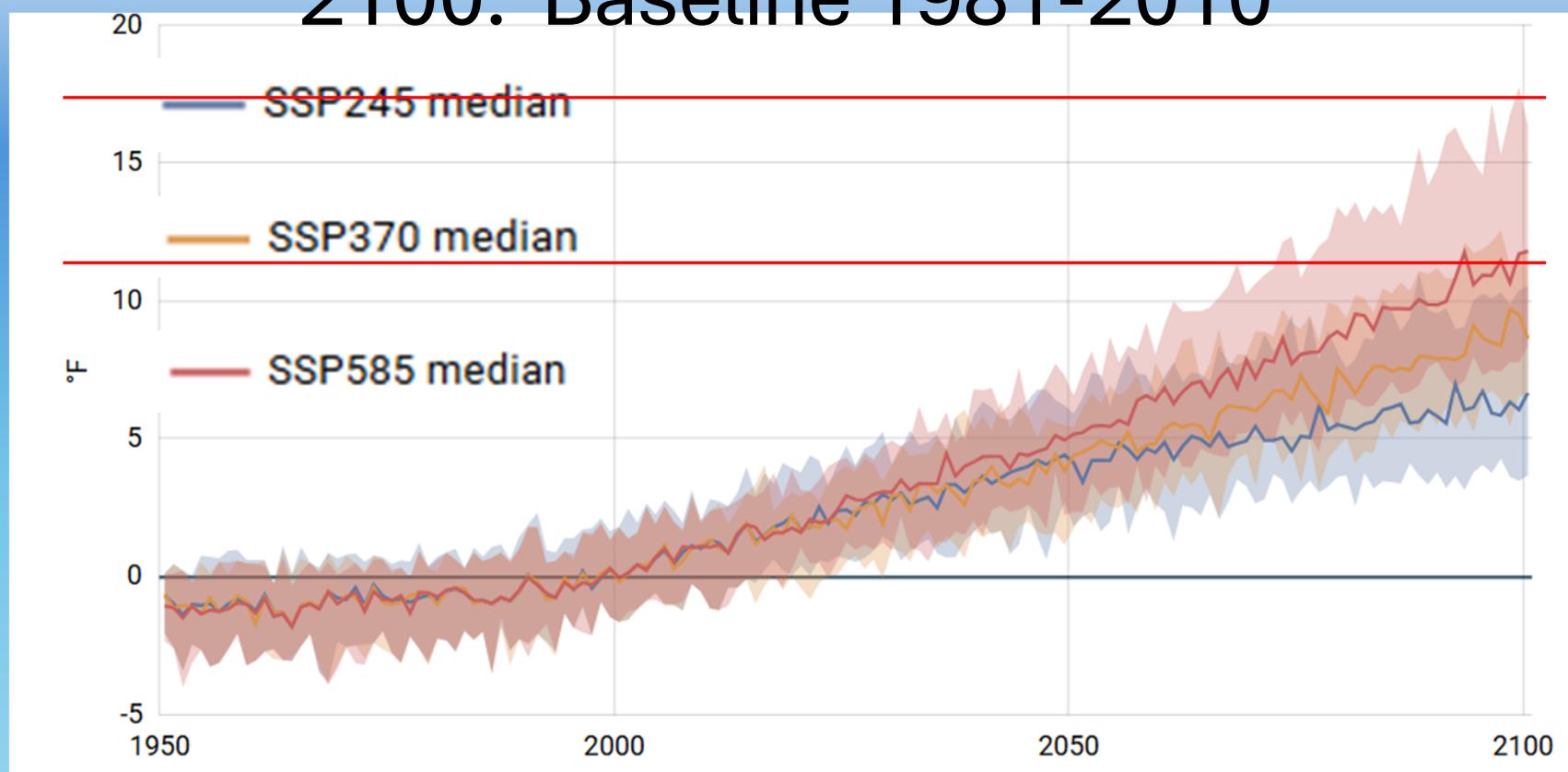


https://apps.usgs.gov/nccv/loca2/nccv2_loca2_counties.html

Marion Co. Average Temperature Δ Projections to 2100: Baseline 1981-2010



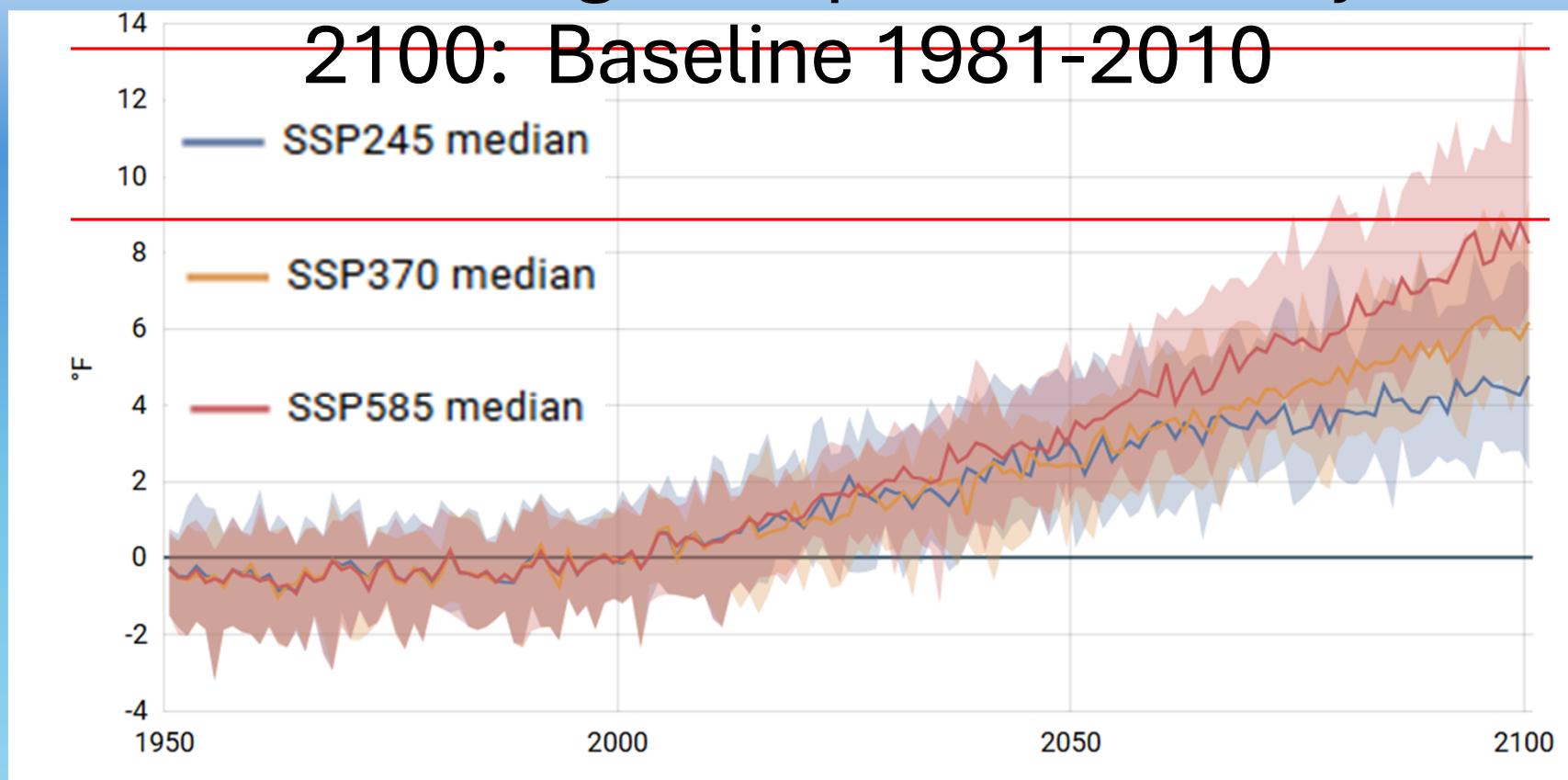
Baker Co. Average Temperature Δ Projections to 2100: Baseline 1981-2010



https://apps.usgs.gov/nccv/loca2/nccv2_loca2_counties.html

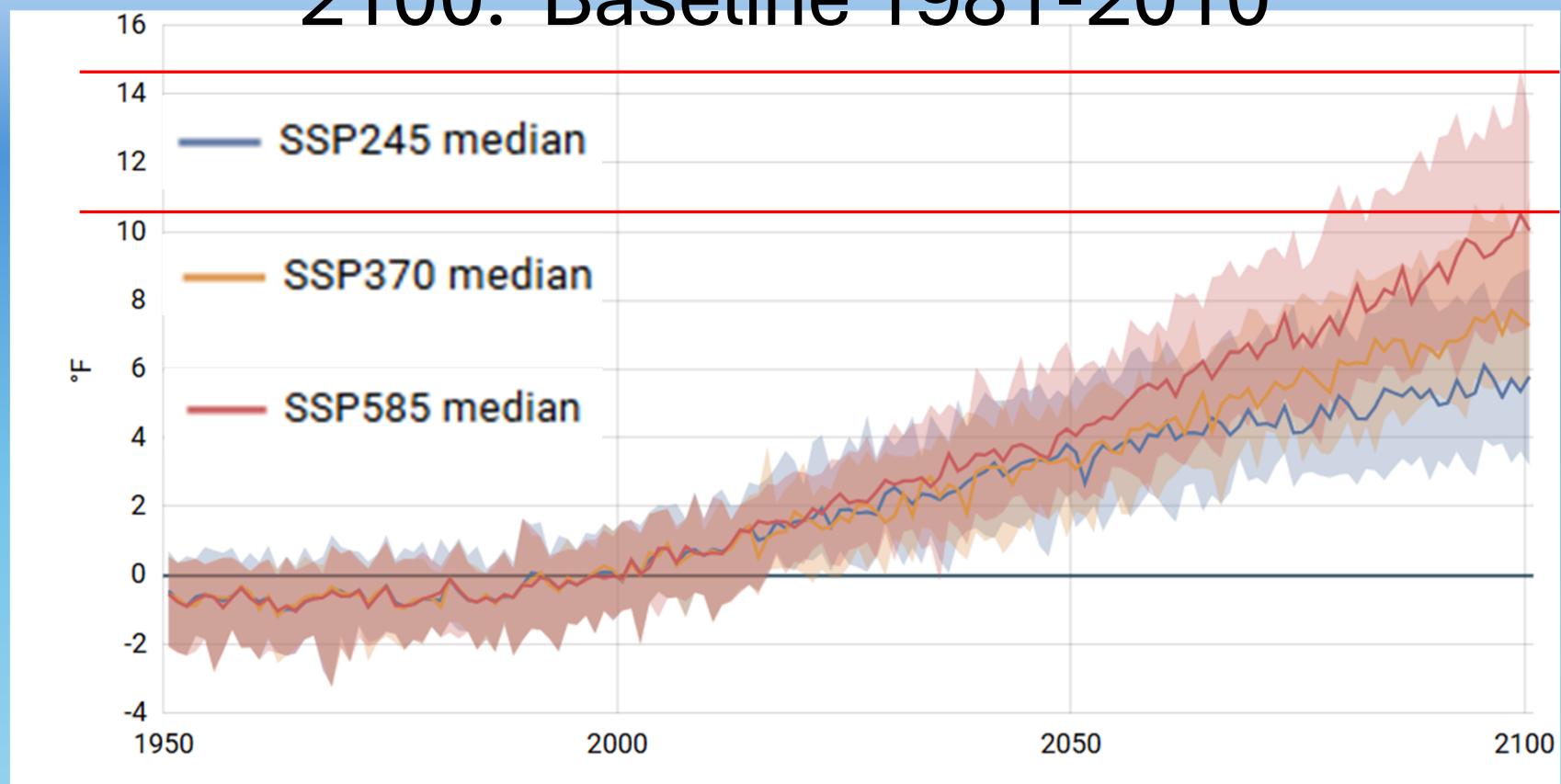
Tillamook Co. Average Temperature Δ Projections to

2100: Baseline 1981-2010



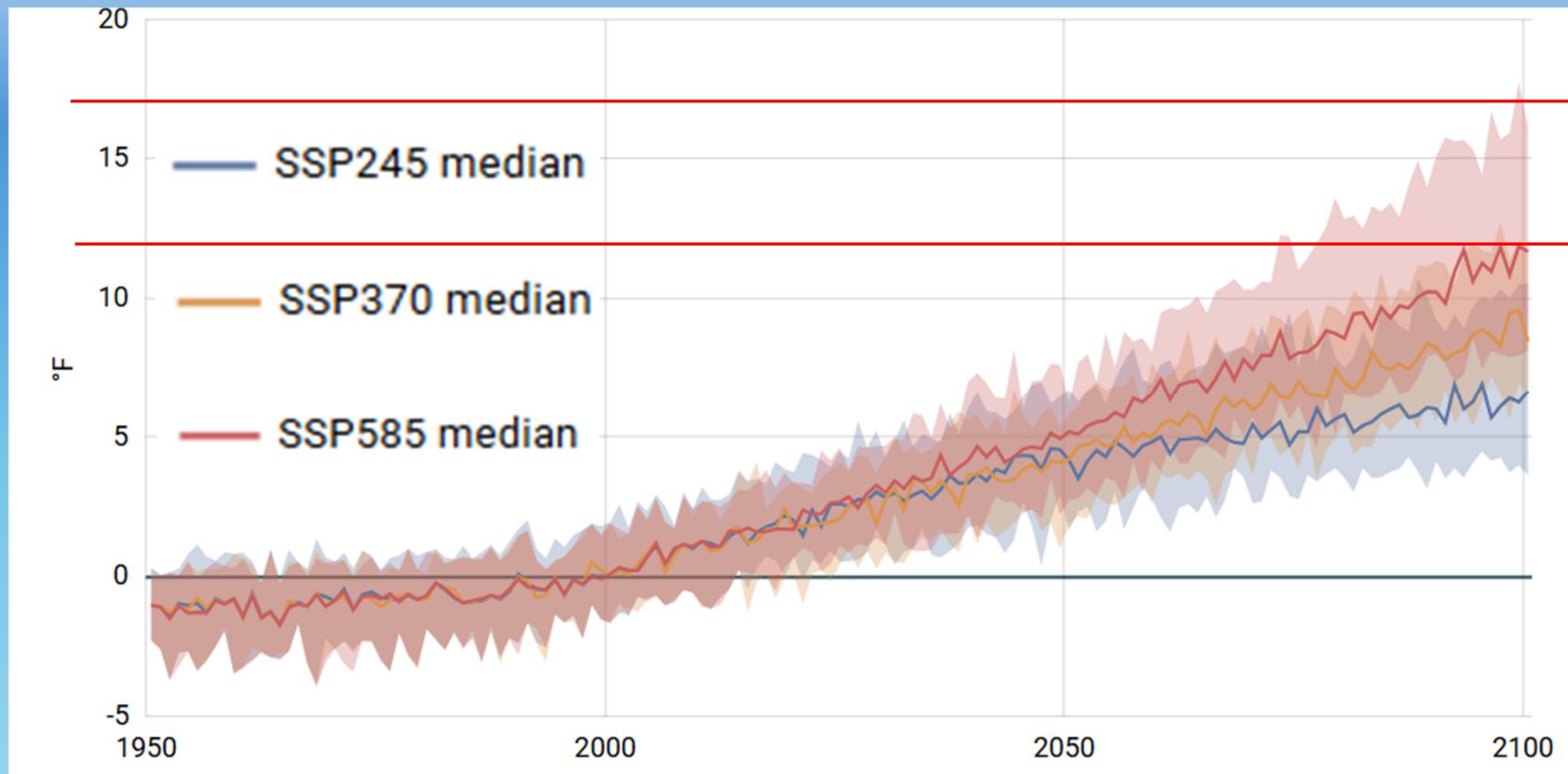
https://apps.usgs.gov/nccv/loca2/nccv2_loca2_counties.html

Multnomah Co. Average Temperature Δ Projections to 2100: Baseline 1981-2010



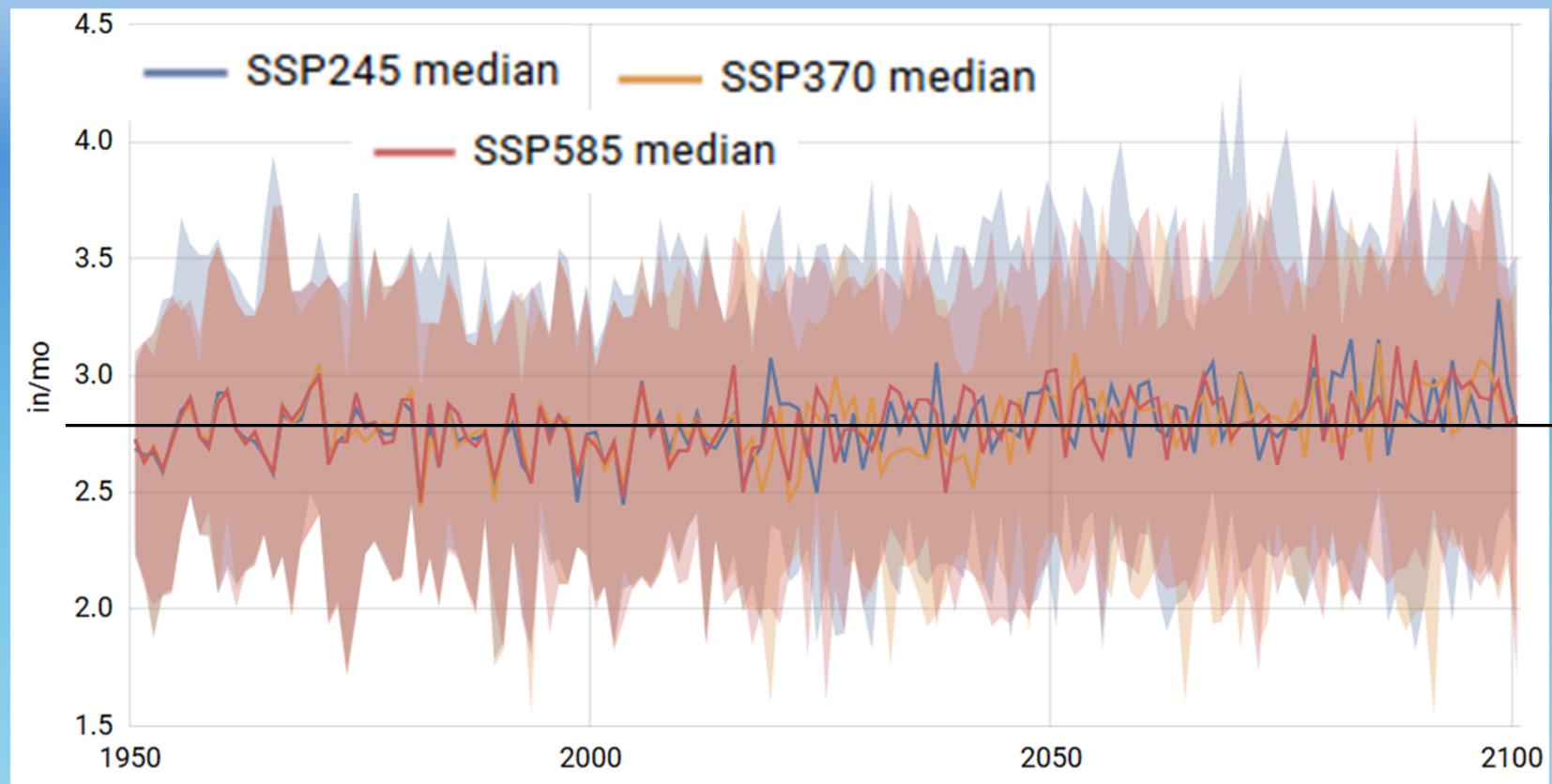
https://apps.usgs.gov/nccv/loca2/nccv2_loca2_counties.html

Wallowa Co. Average Temperature Δ Projections to 2100: Baseline 1981-2010



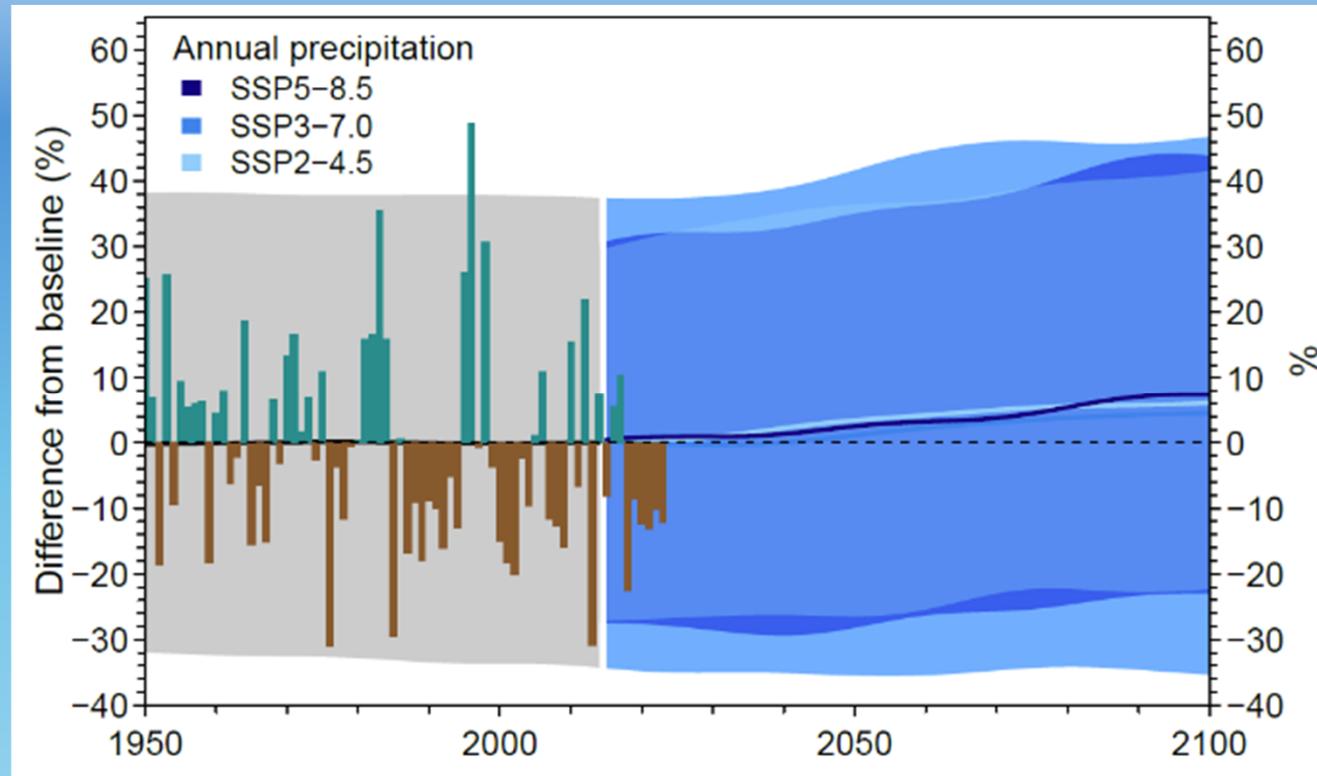
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Oregon Precipitation Projections to 2075-2099



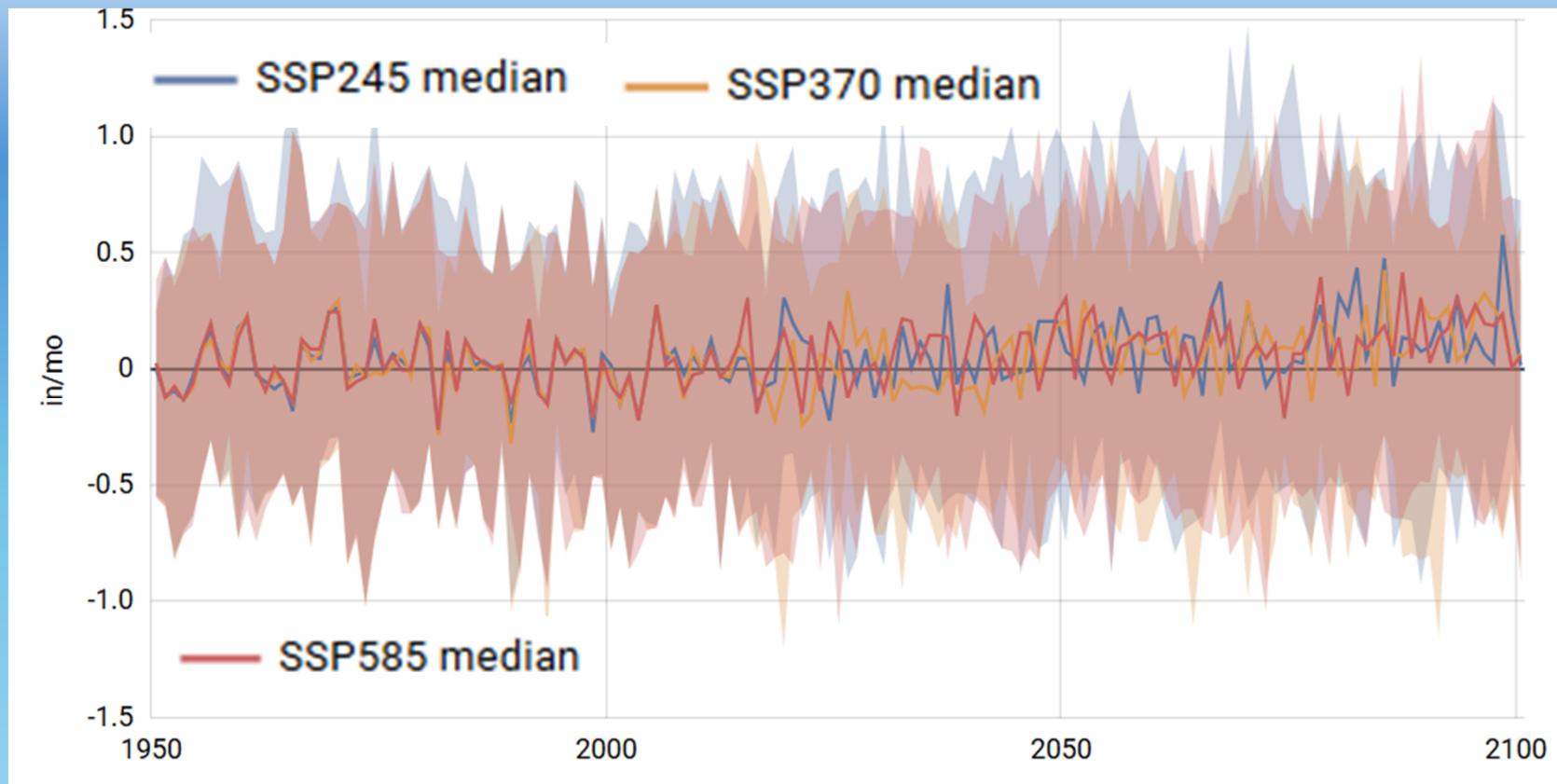
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OCCRI Precipitation Projections - Baseline 1950-2014 average



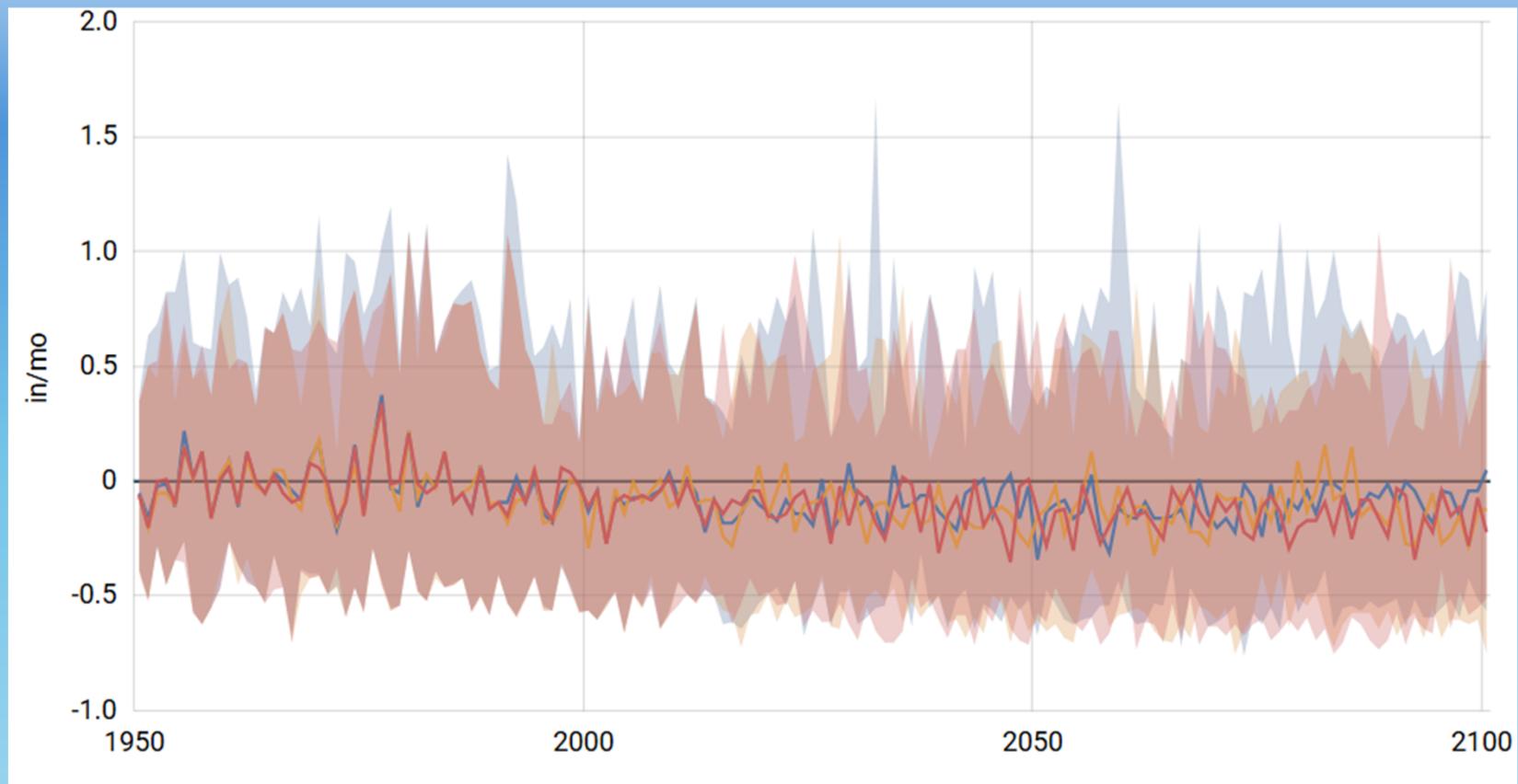
<https://oregonstate.app.box.com/s/zjqc1kisxkup45147phjp526kheugqnb>

Oregon Precipitation Δ Projections to 2075-2099



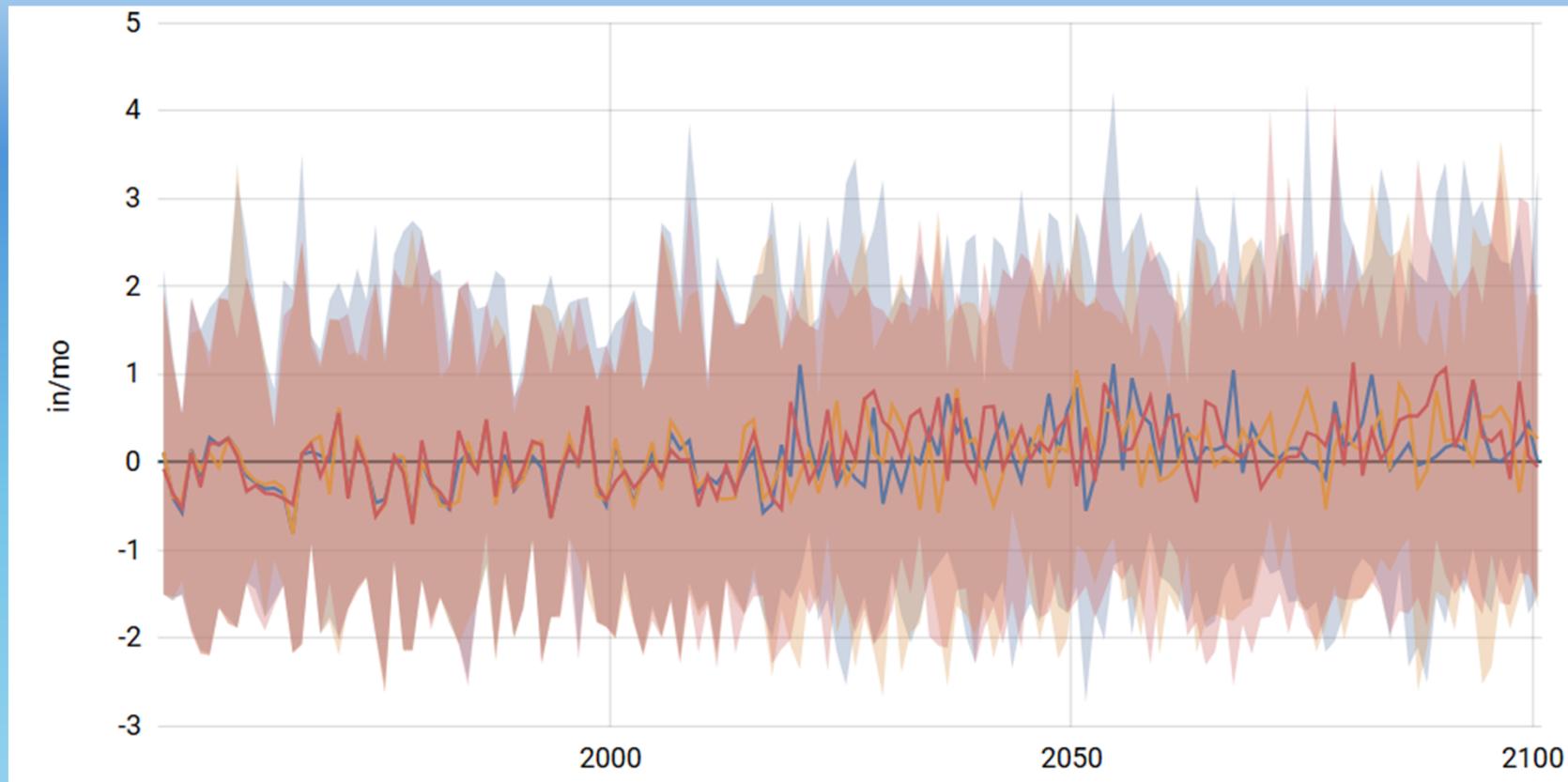
https://apps.usgs.gov/nccv/loca2/nccv2_loca2_counties.html

Summer Precipitation Δ Projections to 2075-2099



https://apps.usgs.gov/nccv/loca2/nccv2_loca2_counties.html

Winter Precipitation Δ Projections to 2075-2099



https://apps.usgs.gov/nccv/loca2/nccv2_loca2_counties.html

Trend in extremely hot days

MORE HIGH HEAT INDEX DAYS

Days with a heat index of 90°+



Annual days with heat index of 90°F+.
Source: gridMET minimum relative humidity & maximum temperature datasets

CLIMATE CENTRAL

MORE HIGH HEAT INDEX DAYS

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Source: gridMET minimum relative humidity & maximum temperature datasets

CLIMATE CENTRAL

Trend in extremely hot days

MORE HIGH HEAT INDEX DAYS

Days with a heat index of 90°+



1979

BEND

2022

Annual days with heat index of 90°F+.
Source: gridMET minimum relative humidity & maximum temperature datasets

CLIMATE CENTRAL

MORE HIGH HEAT INDEX DAYS

Days with a heat index of 90°+



1979

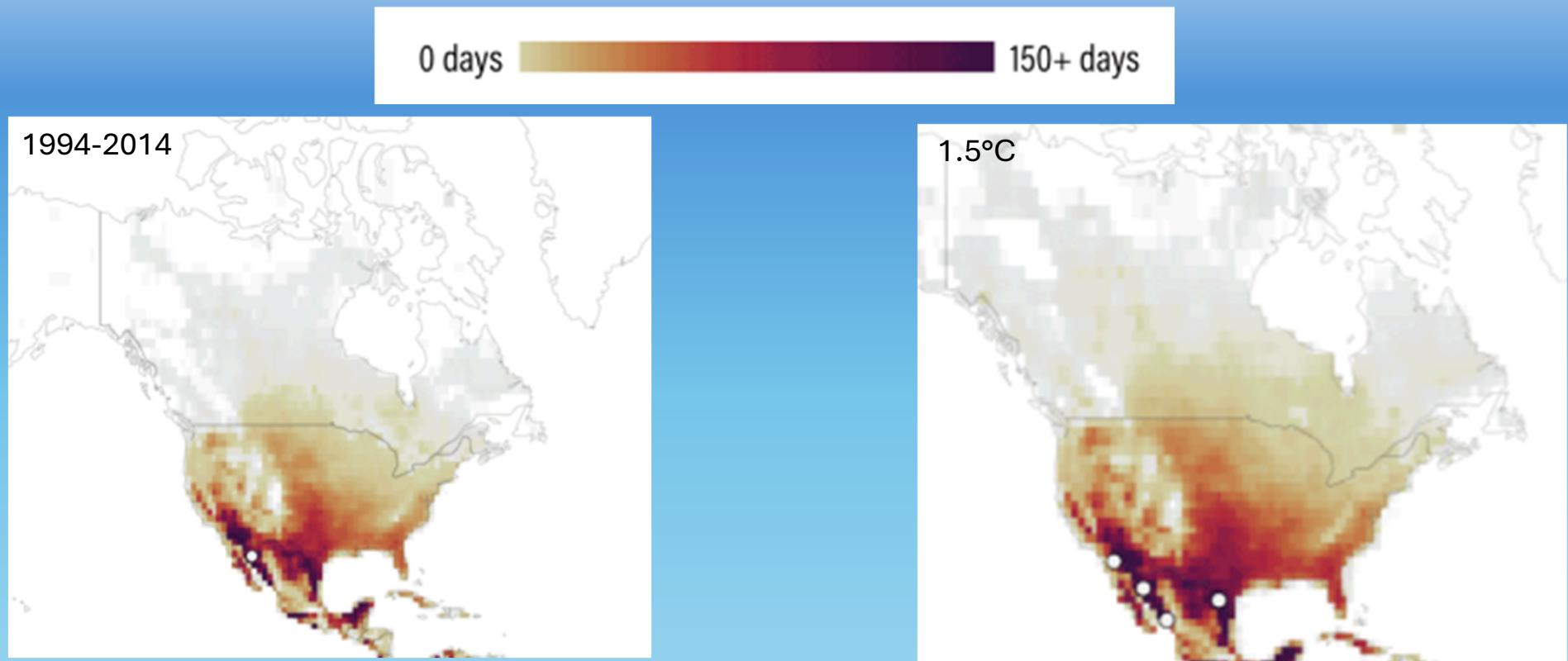
MEDFORD

2022

Annual days with heat index of 90°F+.
Source: gridMET minimum relative humidity & maximum temperature datasets

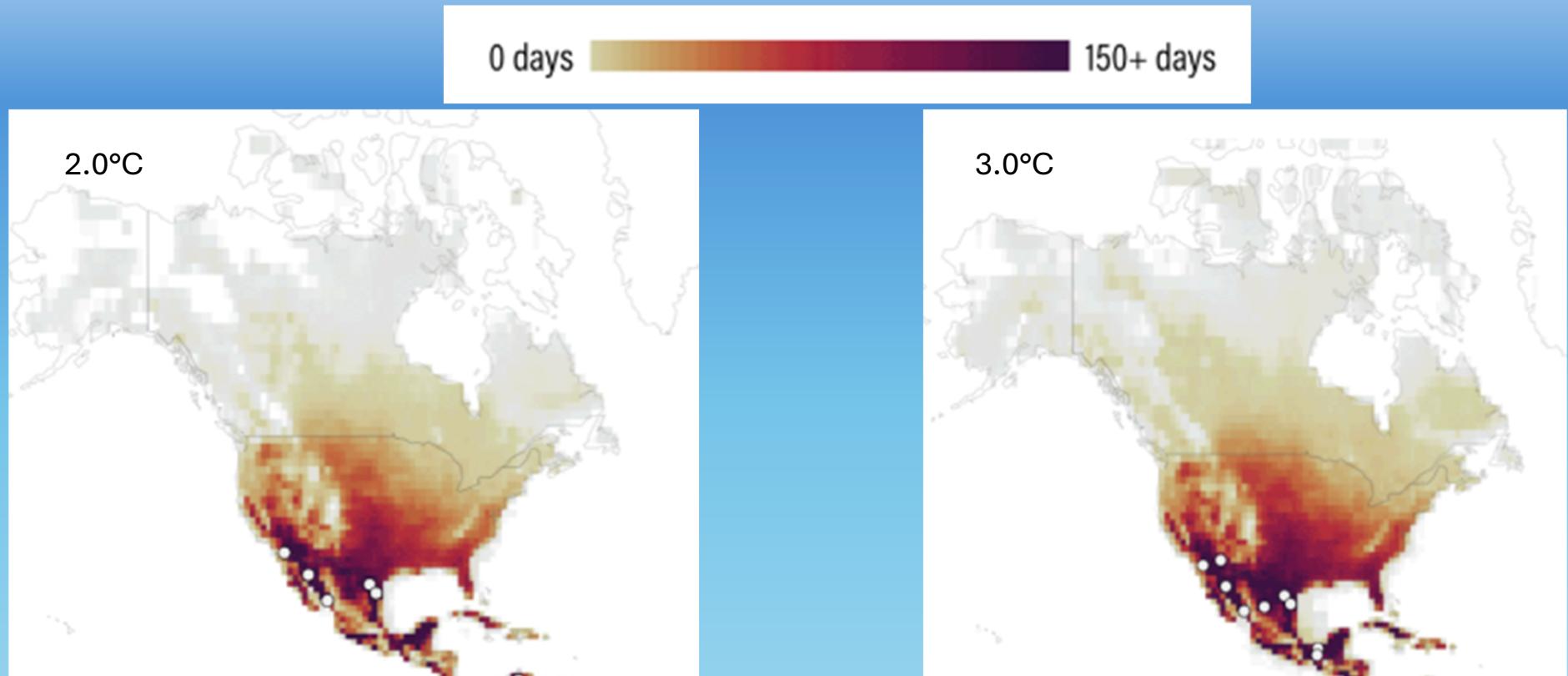
CLIMATE CENTRAL

Days in U.S. over 95°F



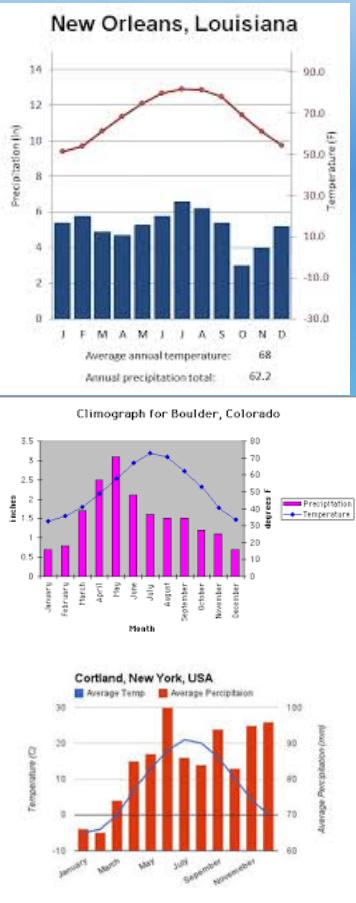
<https://www.wri.org/insights/future-extreme-heat-cities-data>

Days in U.S. over 95°F



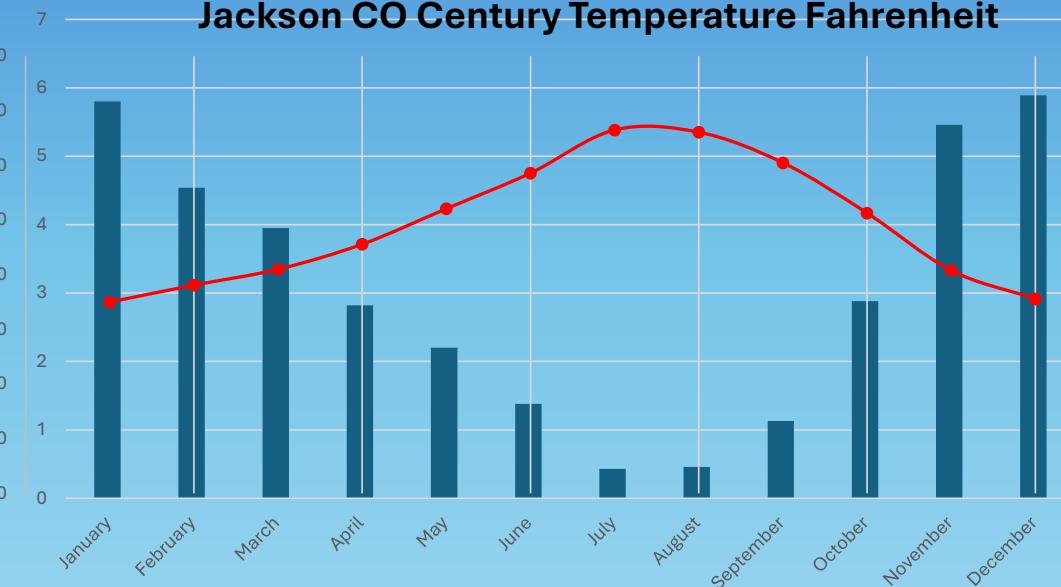
<https://www.wri.org/insights/future-extreme-heat-cities-data>

Jackson County 20th Century Monthly Averages



**Jackson CO. Century Average Precipitation
Inches**

Jackson CO Century Temperature Fahrenheit



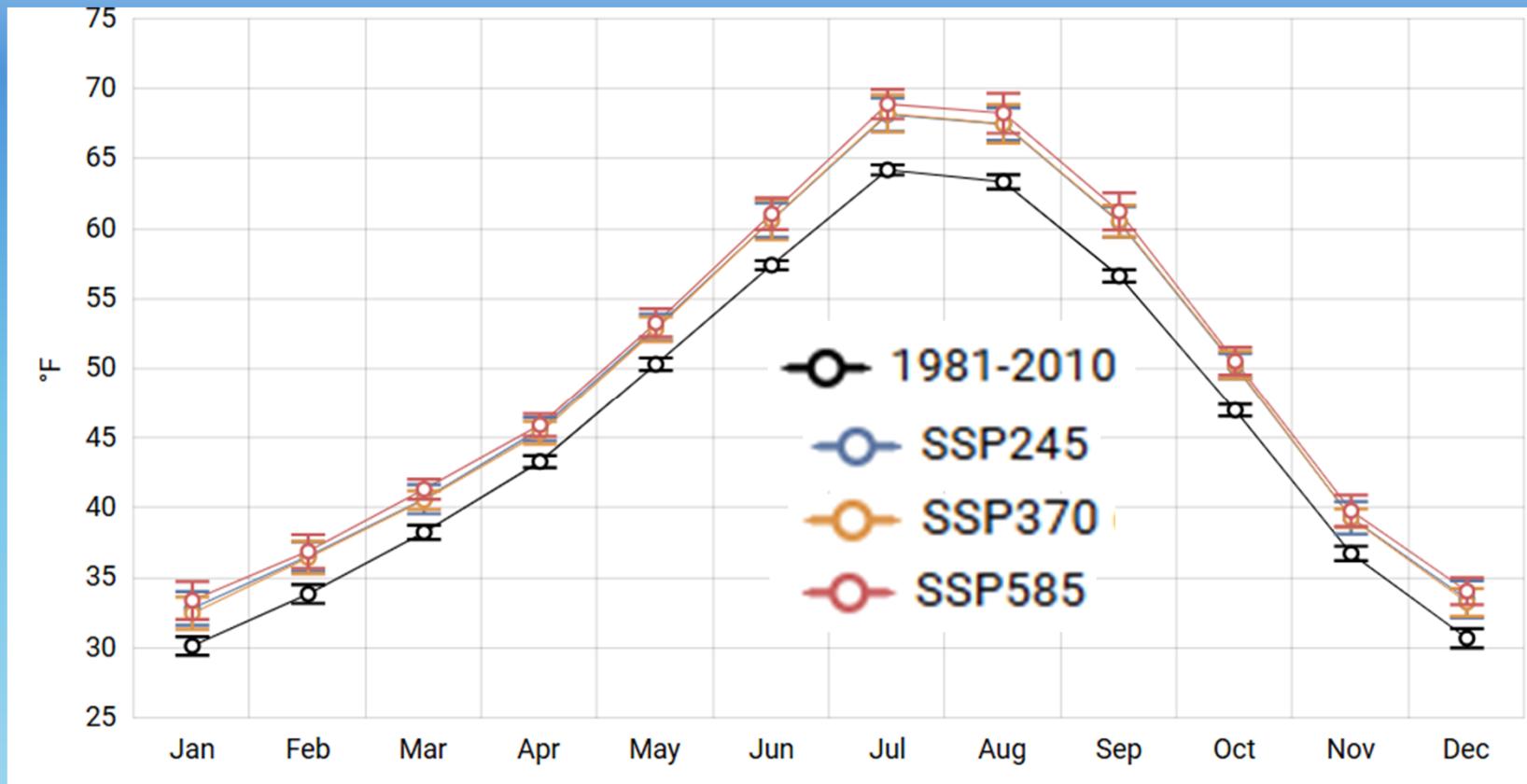
https://www.ncdc.noaa.gov/cag/county/time-series/OR-029/tavg/1/12/1895-2019?base_prd=true&firstbaseyear=1901&lastbaseyear=2000

The
Mediterranean Climate

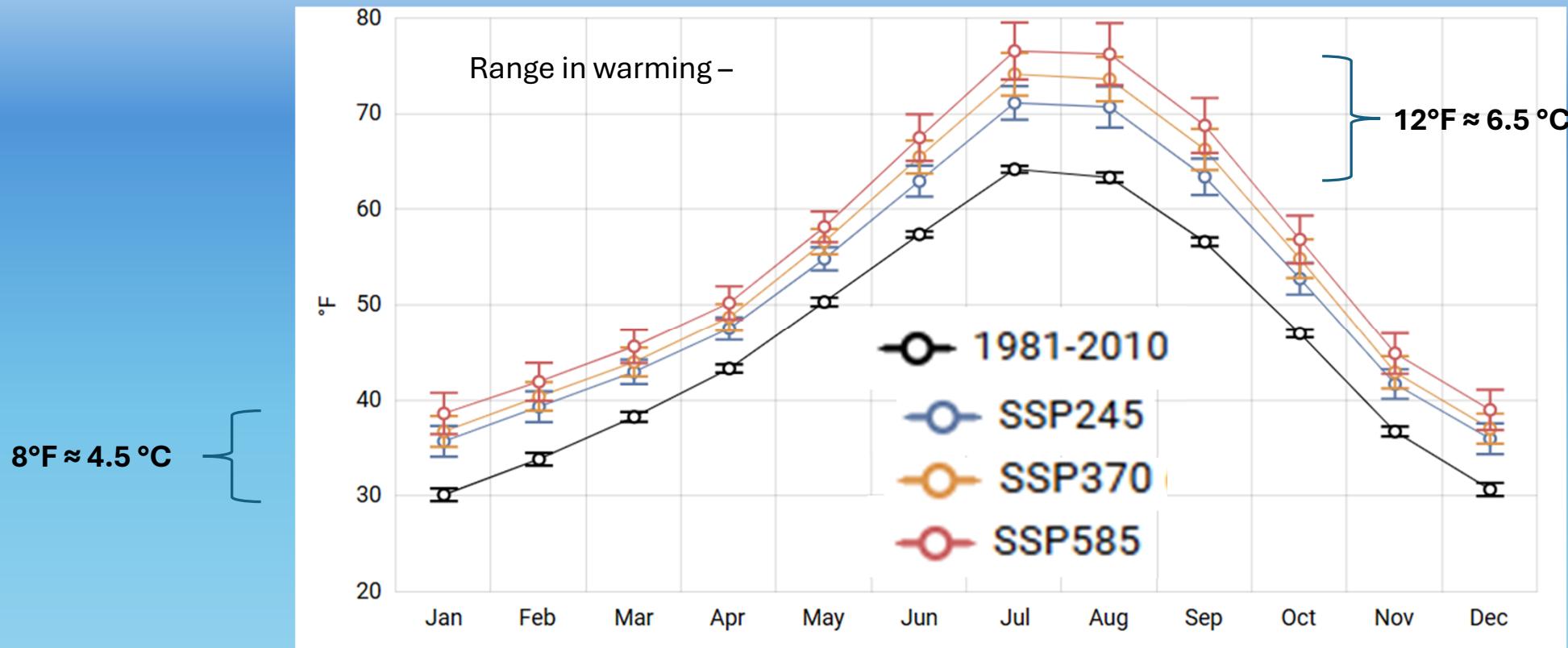
European Mediterranean
SW and S. Australia
S. Africa western Cape
Western S.A.
Western N.A.

Historically, during late summer
soil and vegetation dry out →
Fire risk increases
Dry forest fires frequent
(every < 10 years)
Surviving vegetation is fire-prone,
fire adapted & fire dependent.

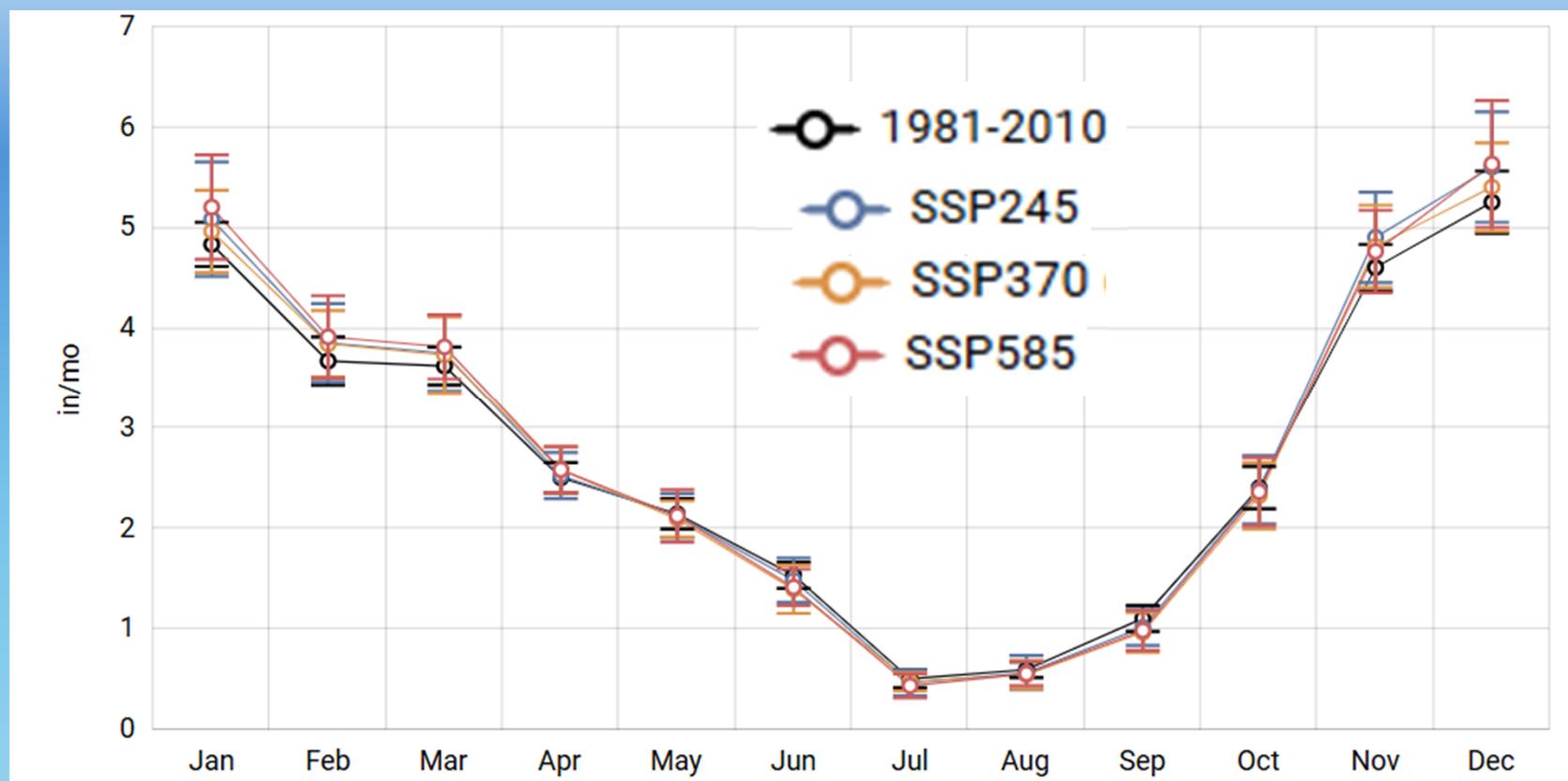
Oregon Mean Temperature Climograph: 2025-2049



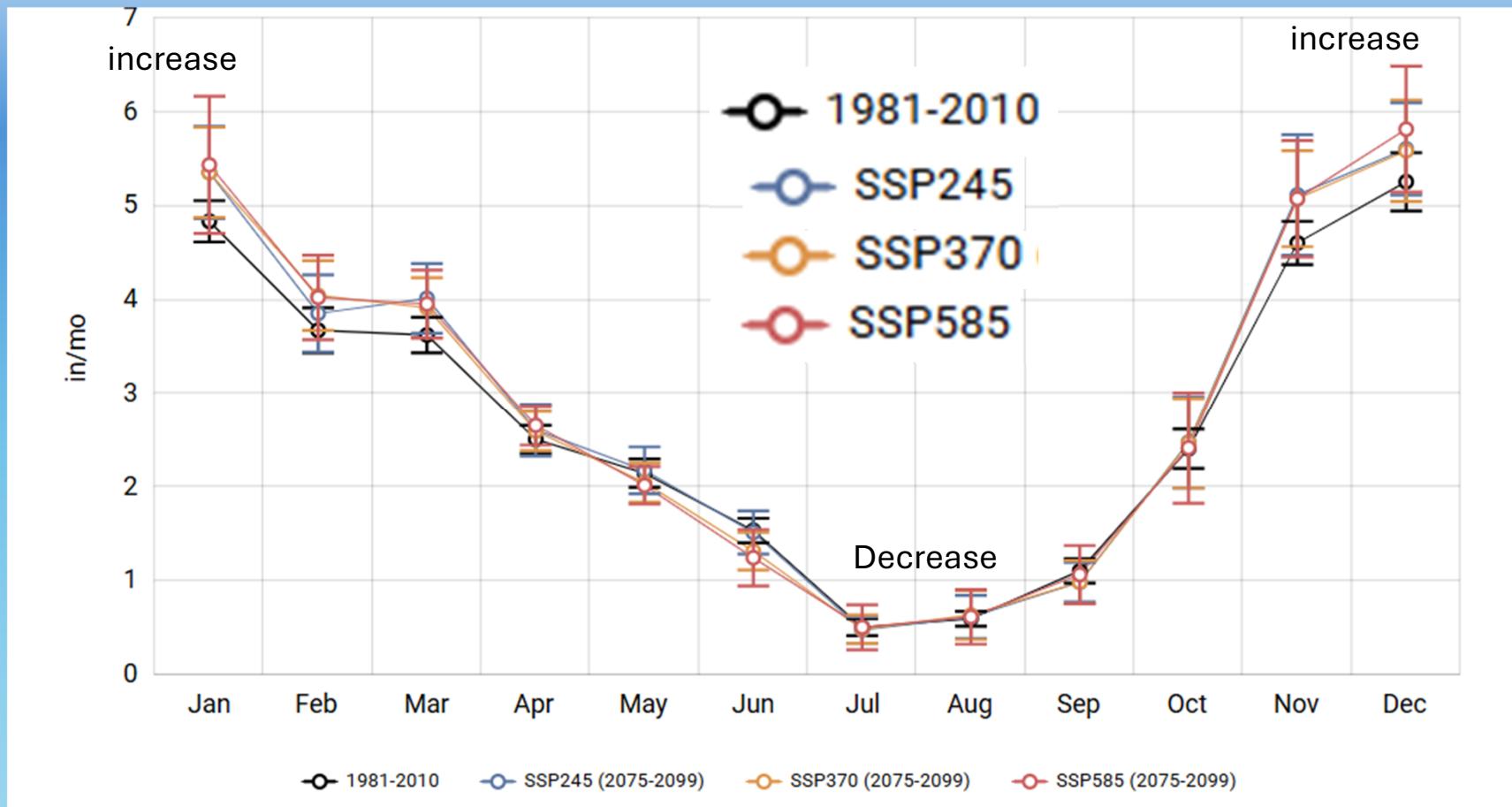
Oregon Mean Temperature Climograph to 2075-2099



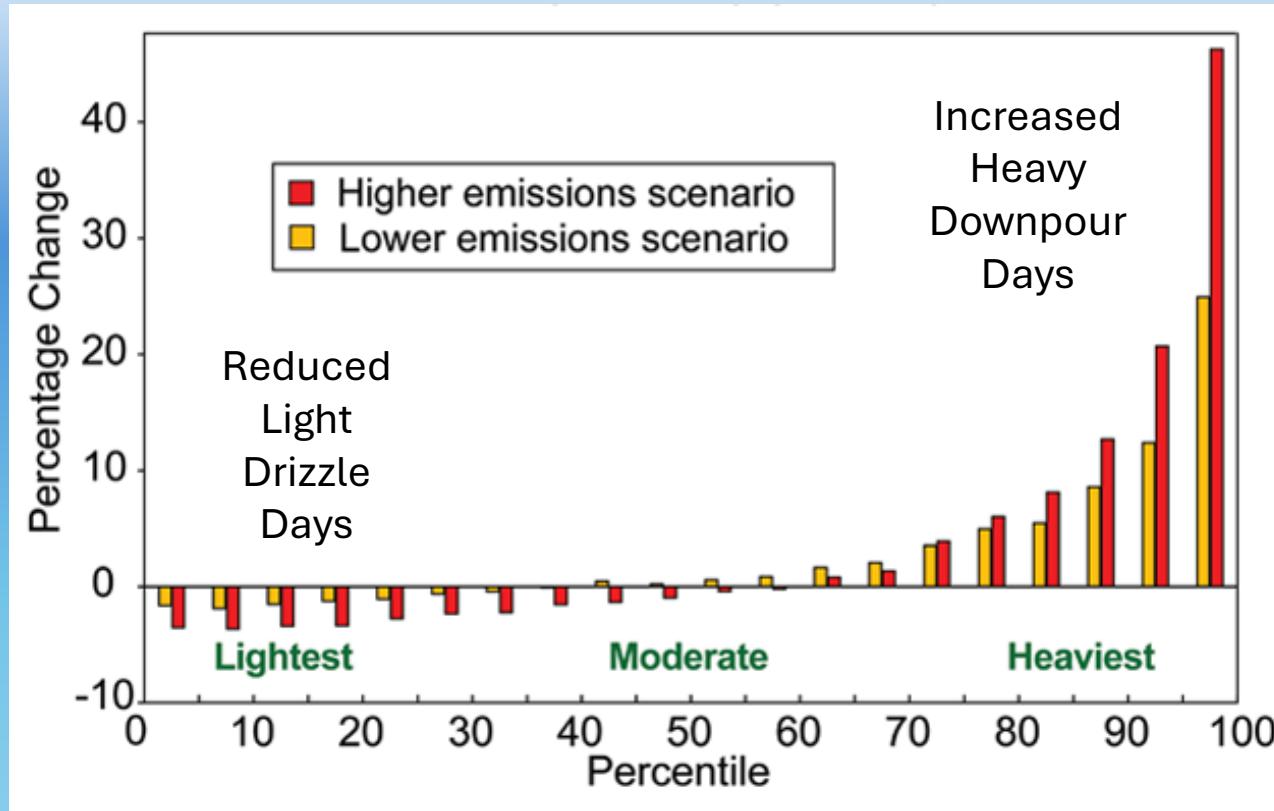
Oregon Mean Precipitation Climograph: 2025-2049



Oregon Mean Precipitation Climograph to 2075-2099



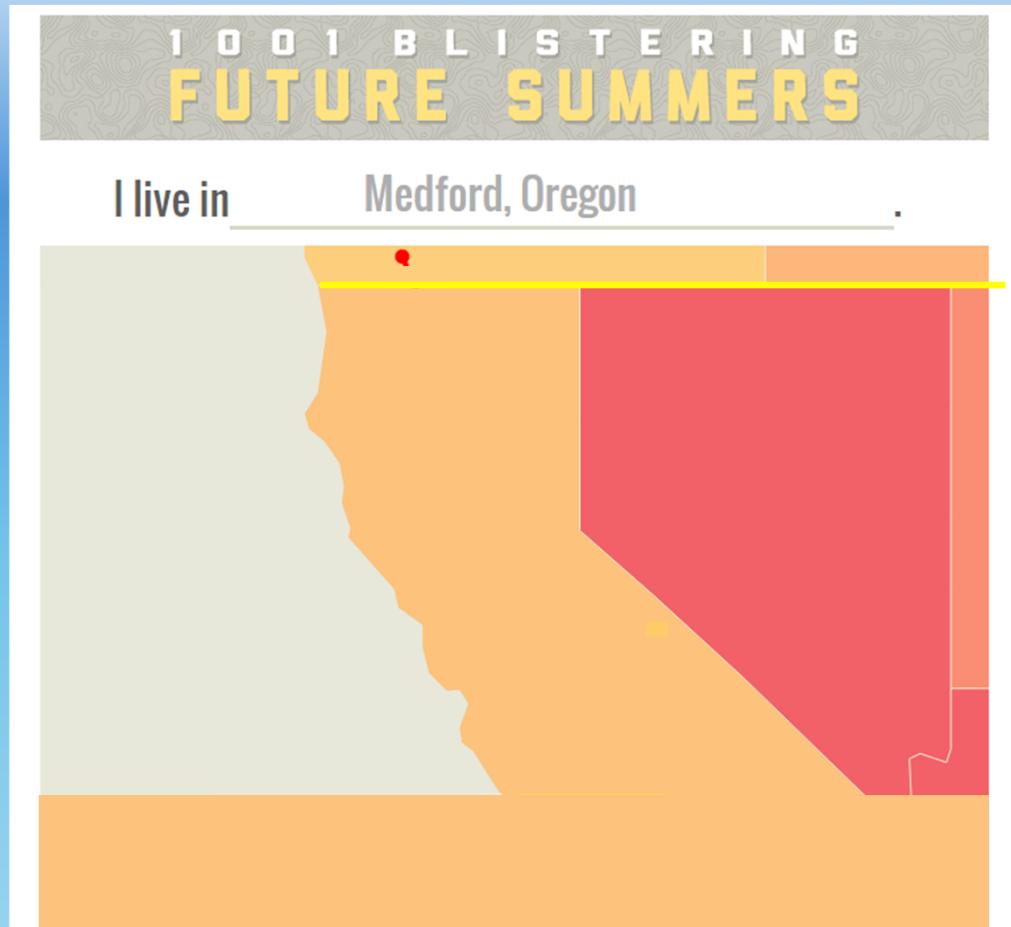
Projected Patterns in Light, Moderate & Heavy Precipitation Events by 2090s



Global Climate Change Impacts in the U.S. 2009 p. 32

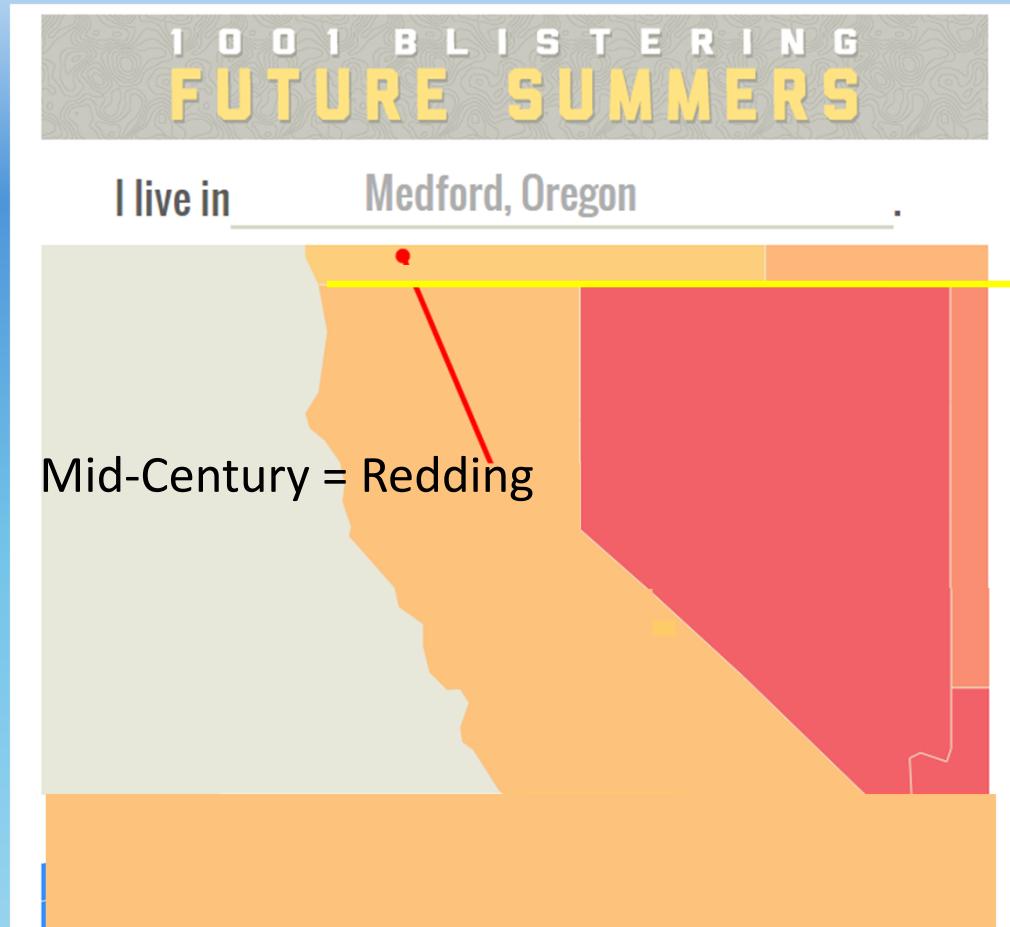
<https://downloads.globalchange.gov/usimpacts/pdfs/climate-impacts-report.pdf>

Where In The World...? By 2050, 2100



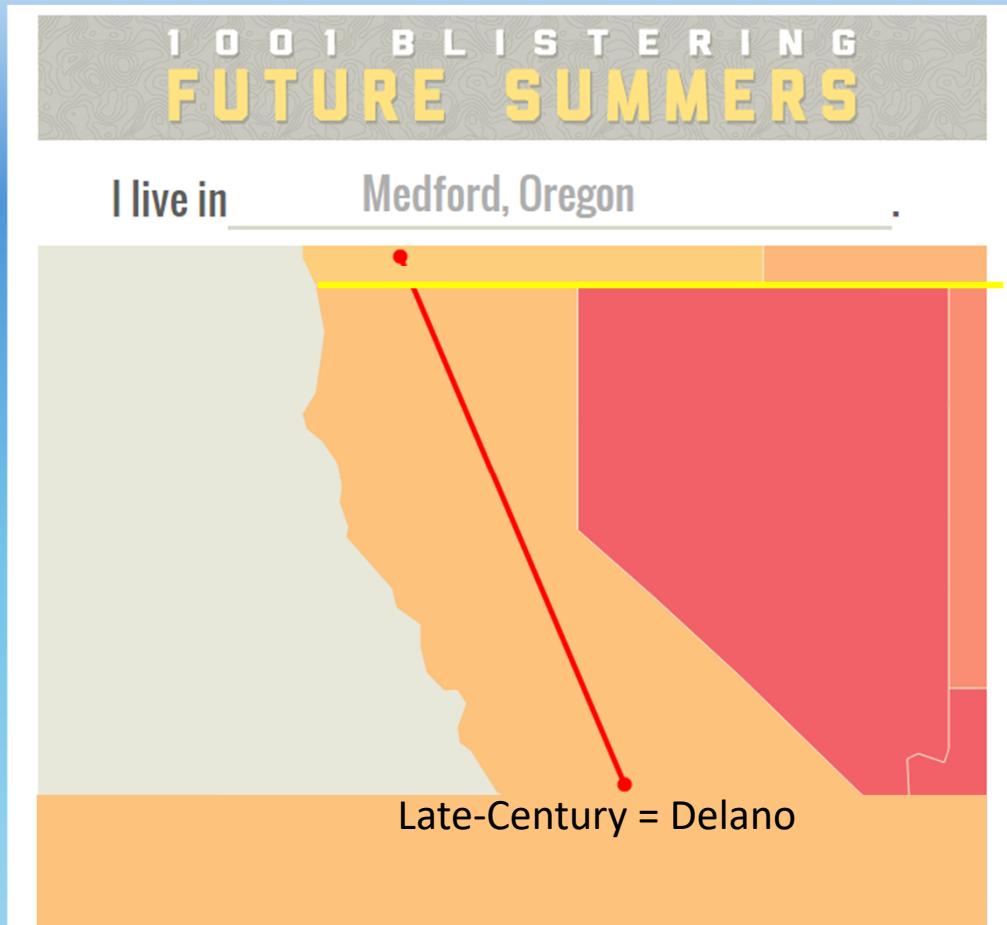
<http://www.climatecentral.org/news/summer-temperatures-co2-emissions-1001-cities-16583>

Where In The World...? By 2050

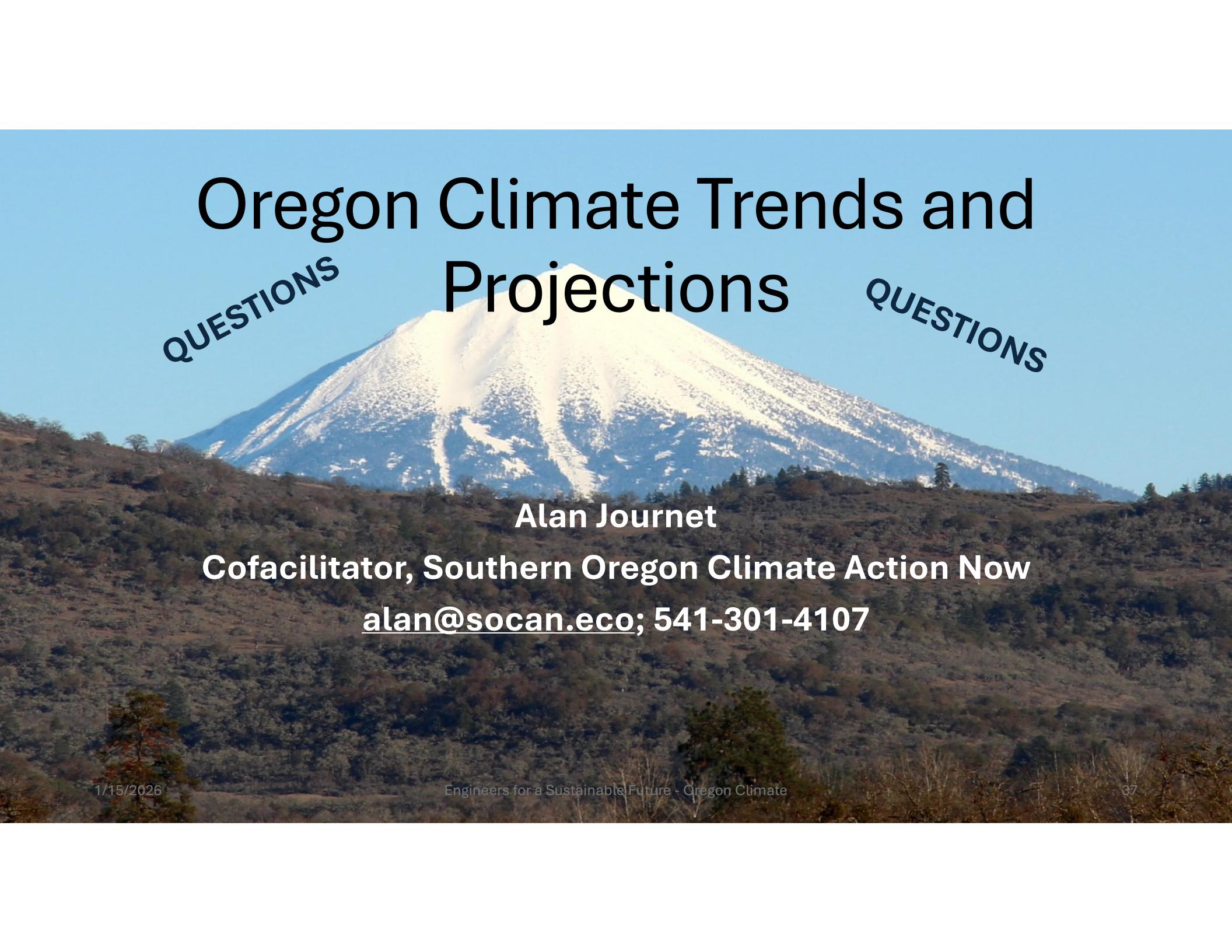


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Where In The World...? By 2100



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QUESTIONS

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