

It's a Rogue Climate Fer Shure: What's Happening Locally

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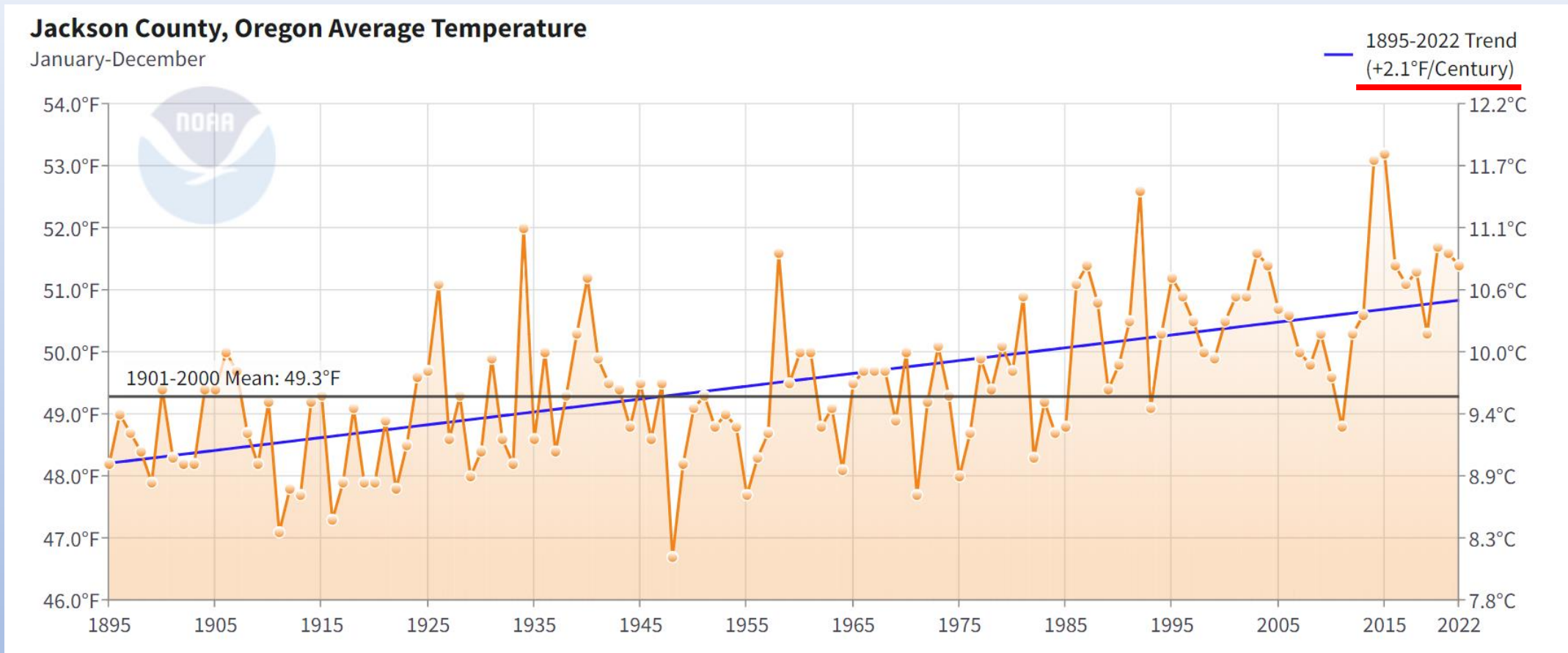
541-301-4107 or 541-500-2331

Outline

- Historic & Projected climate trends 3 – 16
- Biological Consequences 17 – 20
- Some Human Health Consequences 22 – 24

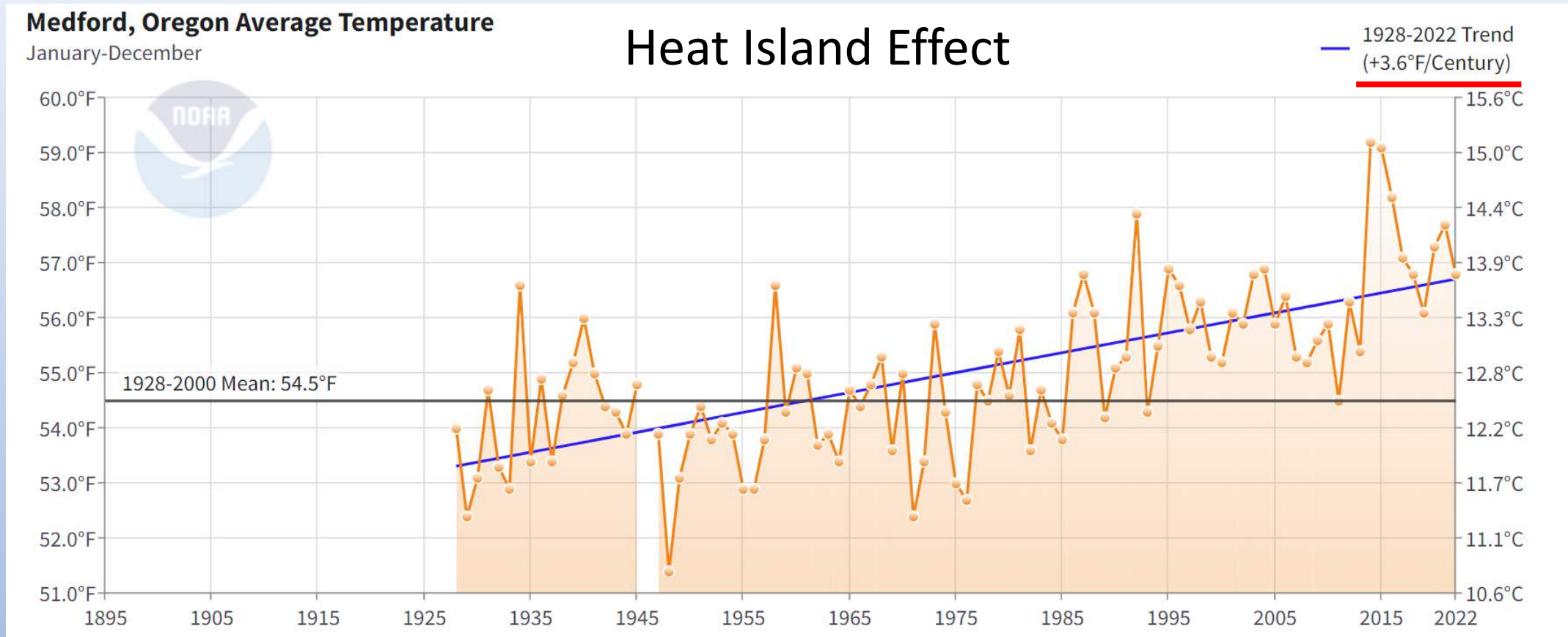
Resources Page includes pdf of presentation: <https://socan.eco/hcao/>

Historic Trend for Jackson County Temperature



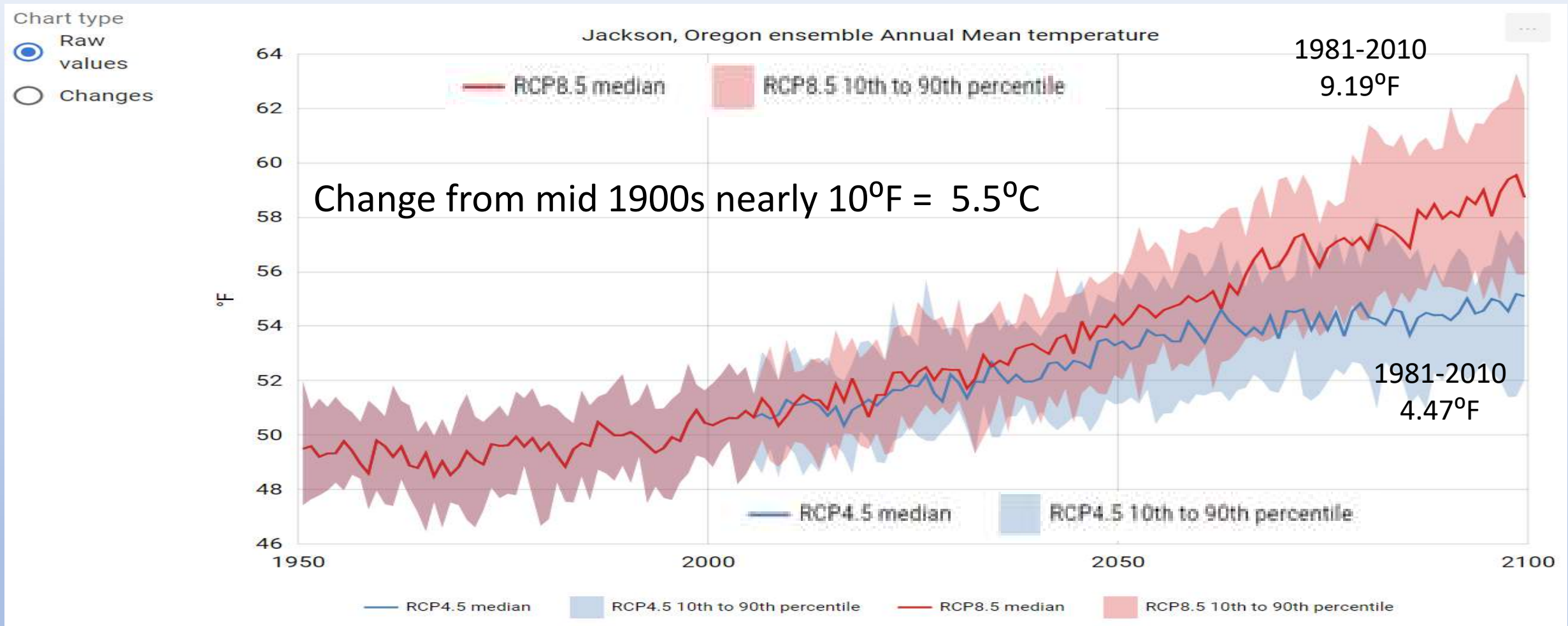
https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/county/time-series/OR-029/tavg/12/12/1895-2023?base_prd=true&begbaseyear=1901&endbaseyear=2000&trend=true&trend_base=100&begtrendyear=1895&endtrendyear=2023

Historic Trend for Medford Temperature



<https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/city/time-series>

Projections for Jackson County Temperature



https://apps.usgs.gov/nccv/maca2/maca2_counties.html

Projected Jackson County Seasonal Temperature Trends in °F compared to 1981-2010, RCP 8.5

	1981-2010	2025-2049	Increase	2050 - 2074	Increase	2075-2099	Increase
Winter	37.78	40.58	2.8	43.1	5.32	44.75	6.97
Spring	47.61	49.69	2.08	51.0	3.39	53.57	5.96
Summer	64.95	68.42	3.47	71.07	6.11	73.35	8.39
Fall	51.95	54.55	2.6	57.68	5.73	58.5	6.56

Winter: Dec – Feb; Spring: March – May; Summer: June – Aug; Fall: Sept - Nov

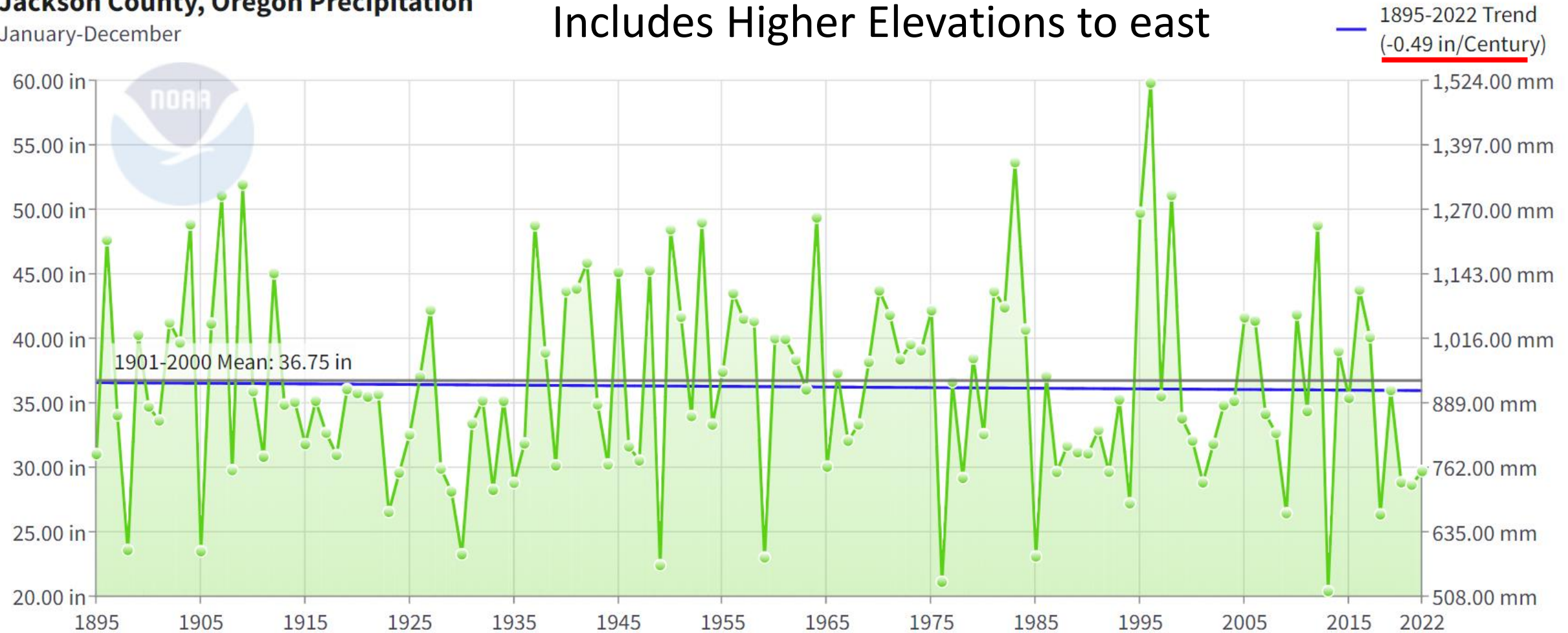
https://www2.usgs.gov/landresources/lcs/nccv/maca2/maca2_counties.html

Historic Trend for Jackson County Precipitation

Jackson County, Oregon Precipitation

January-December

Includes Higher Elevations to east



<https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/city/time-series>

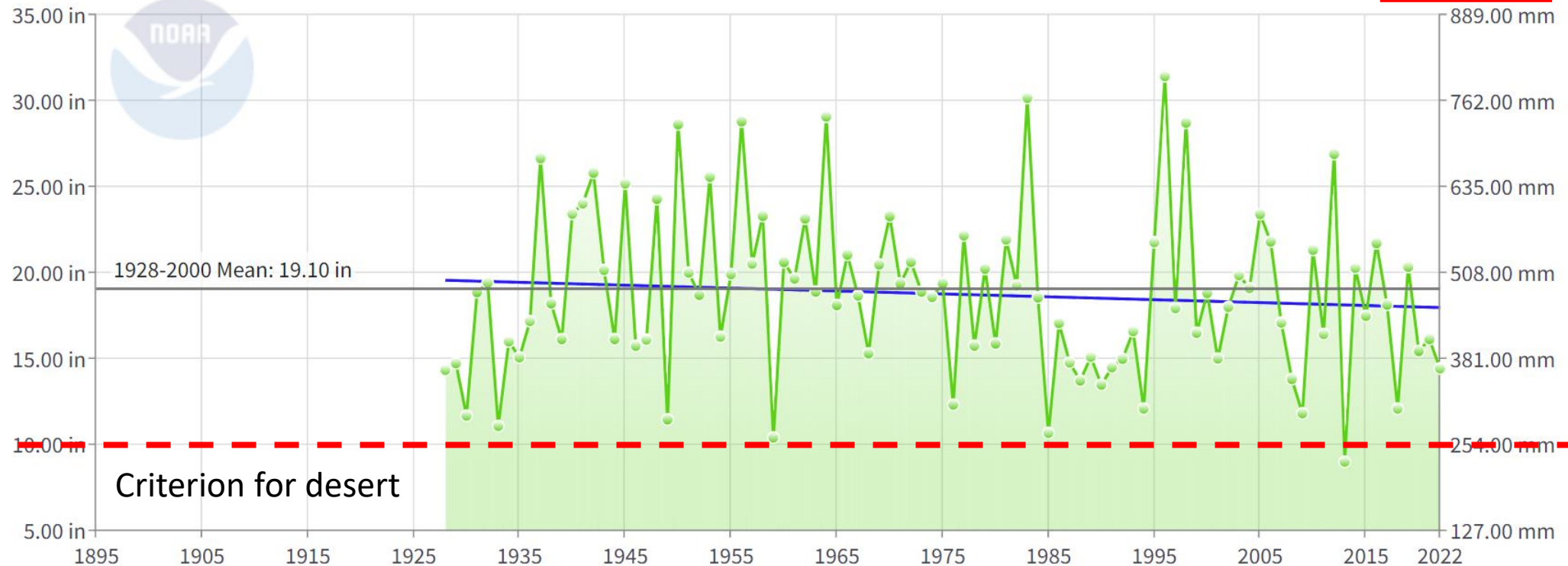
Historic Trend for Medford Precipitation

Medford, Oregon Precipitation

January-December

Just lower elevations

1928-2022 Trend
(-1.69 in/Century)

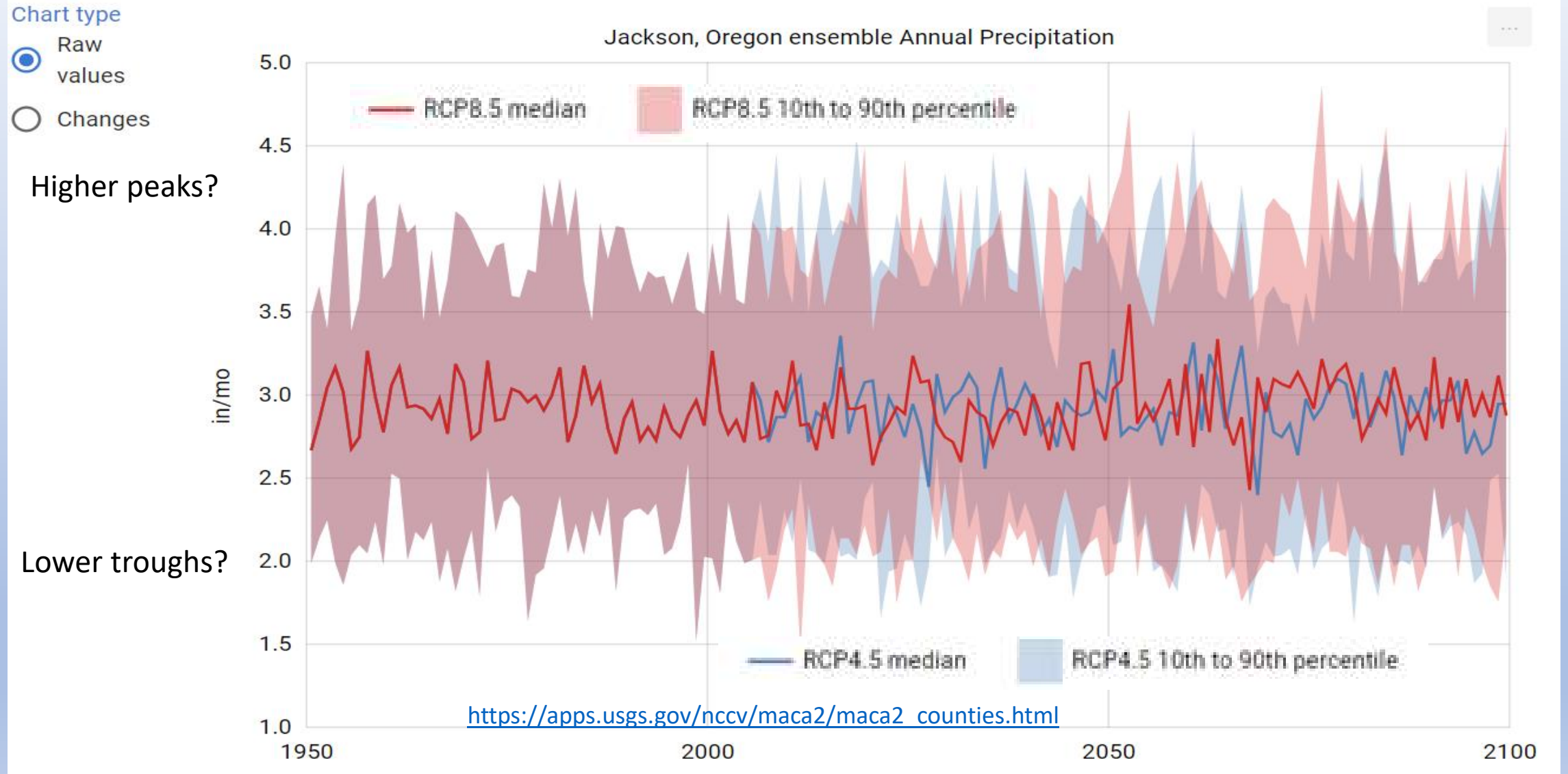


Desert

Criterion for desert

<https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/city/time-series>

Projections for Jackson County Precipitation



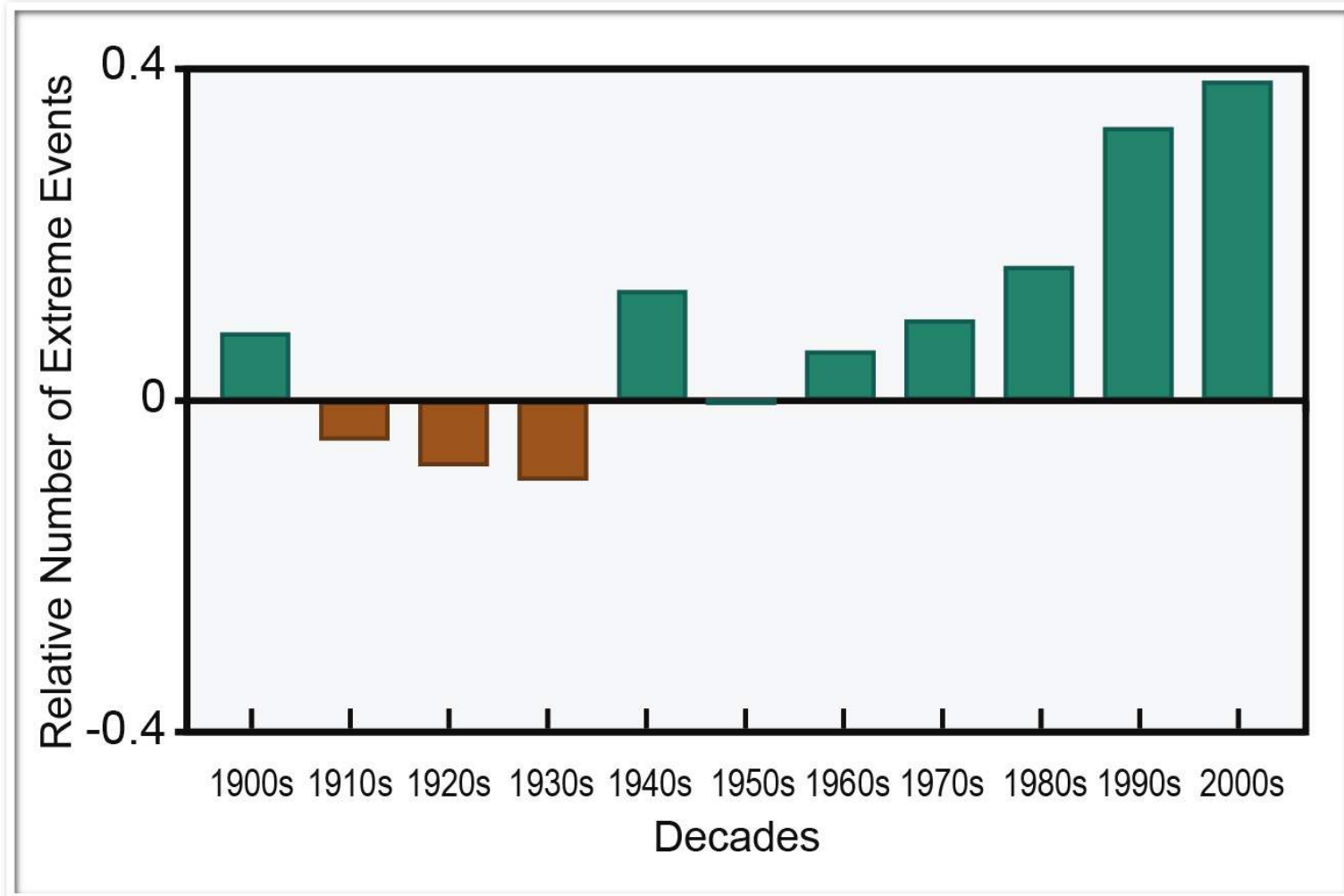
Projected Jackson County Seasonal Precipitation Trends compared to 1981-2010, RCP 8.5

	1981-2010	2025-2049	Change	2050-2074	Change	2075-2099	Change	%
Winter	4.88	5.14	0.26	5.36	0.47	5.56	0.67	+13.7
Spring	3.16	3.16	0	3.1	- 0.06	2.97	- 0.19	-6
Summer	0.76	0.72	-0.04	0.72	- 0.03	0.7	- 0.06	-7.9
Fall	2.91	2.89	-0.02	2.79	- 0.12	2.81	- 0.1	-3.4

Winter: Dec – Feb; Spring: March – May; Summer: June – Aug; Fall: Sept - Nov

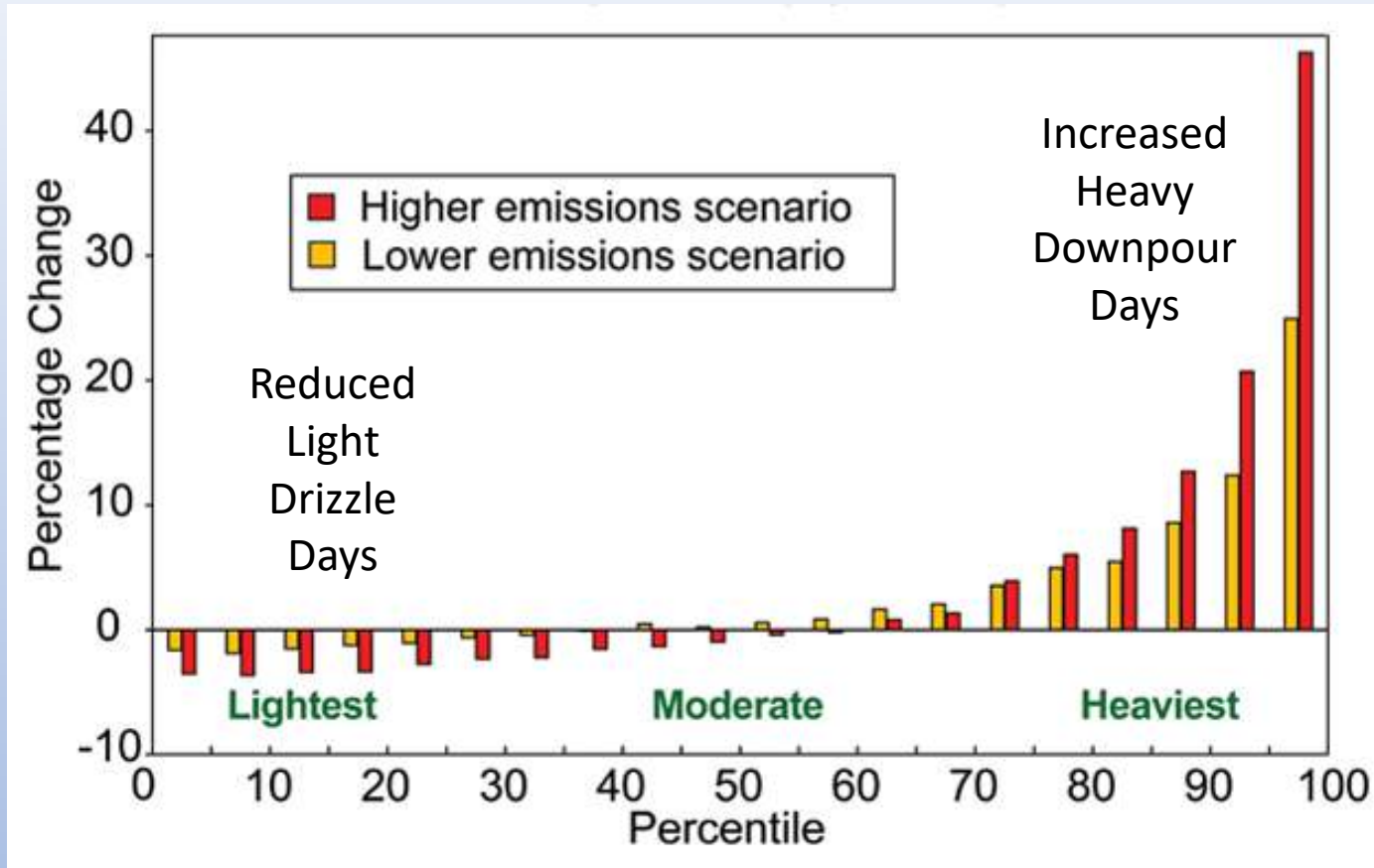
https://www2.usgs.gov/landresources/lcs/nccv/maca2/maca2_counties.html

Observed U.S. Trends in Heavy Precipitation



http://s3.amazonaws.com/nca2014/low/NCA3_Climate_Change_Impacts_in_the_United%20States_LowRes.pdf?download=1

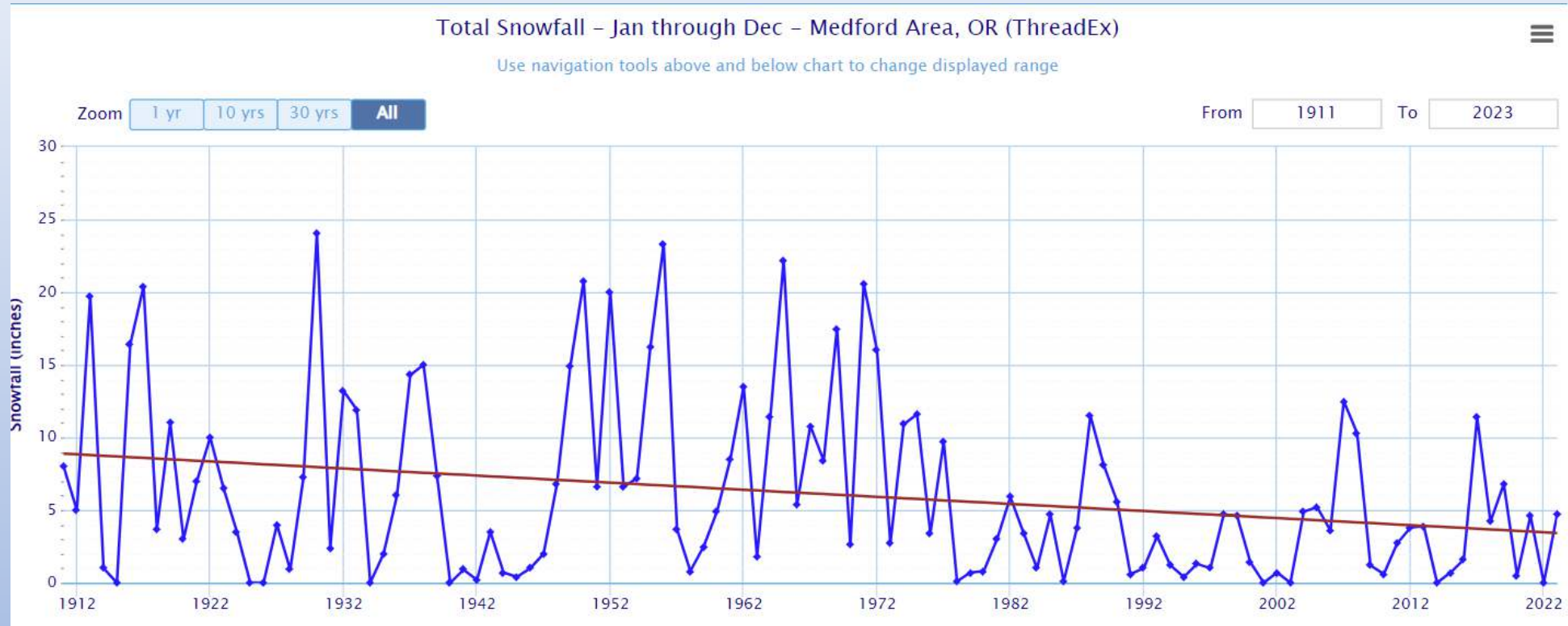
Projected Patterns in Light, Moderate & Heavy Precipitation Events by 2090s



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

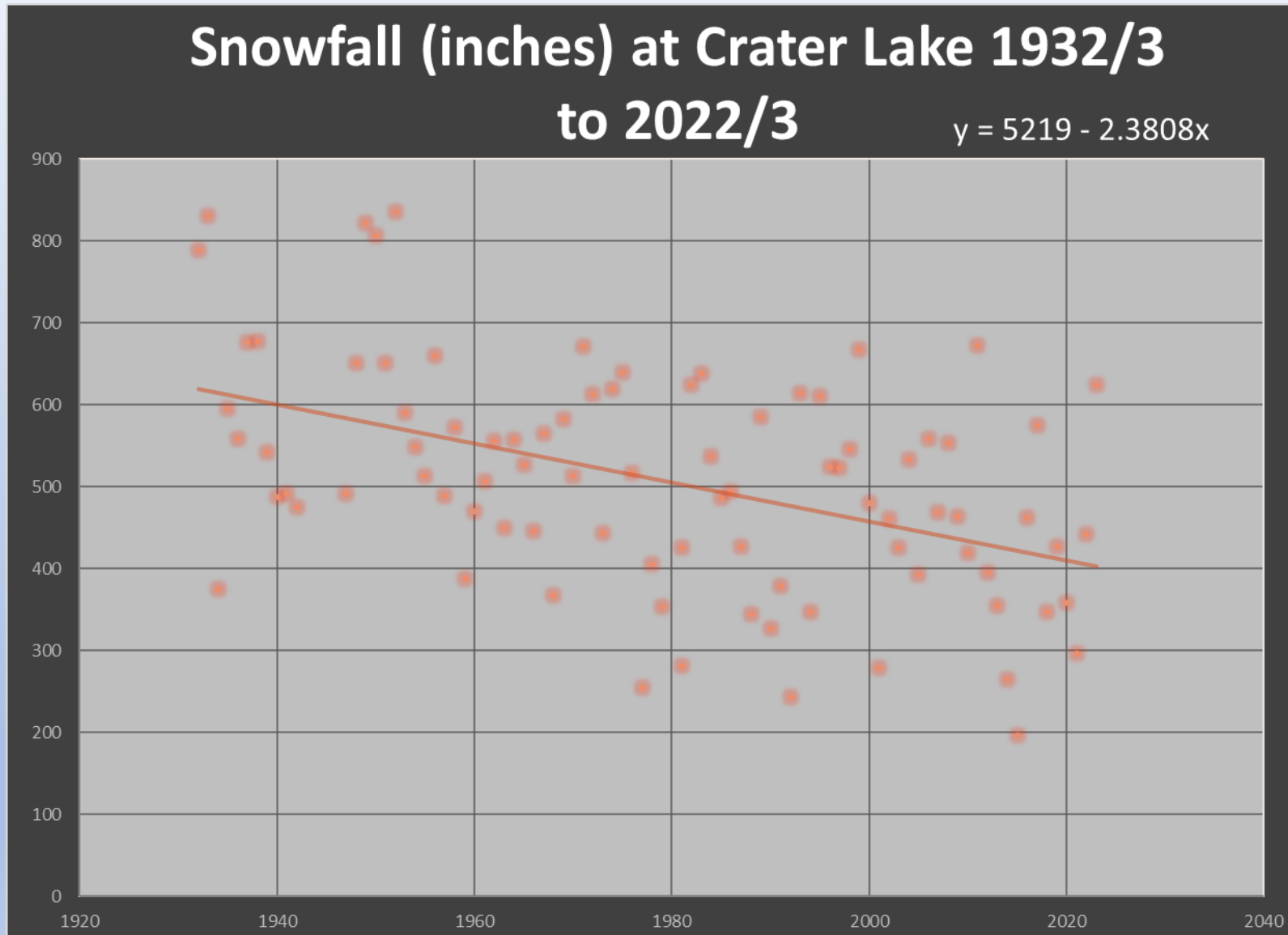
<https://downloads.globalchange.gov/usimpacts/pdfs/climate-impacts-report.pdf>

Medford Annual Snowfall History

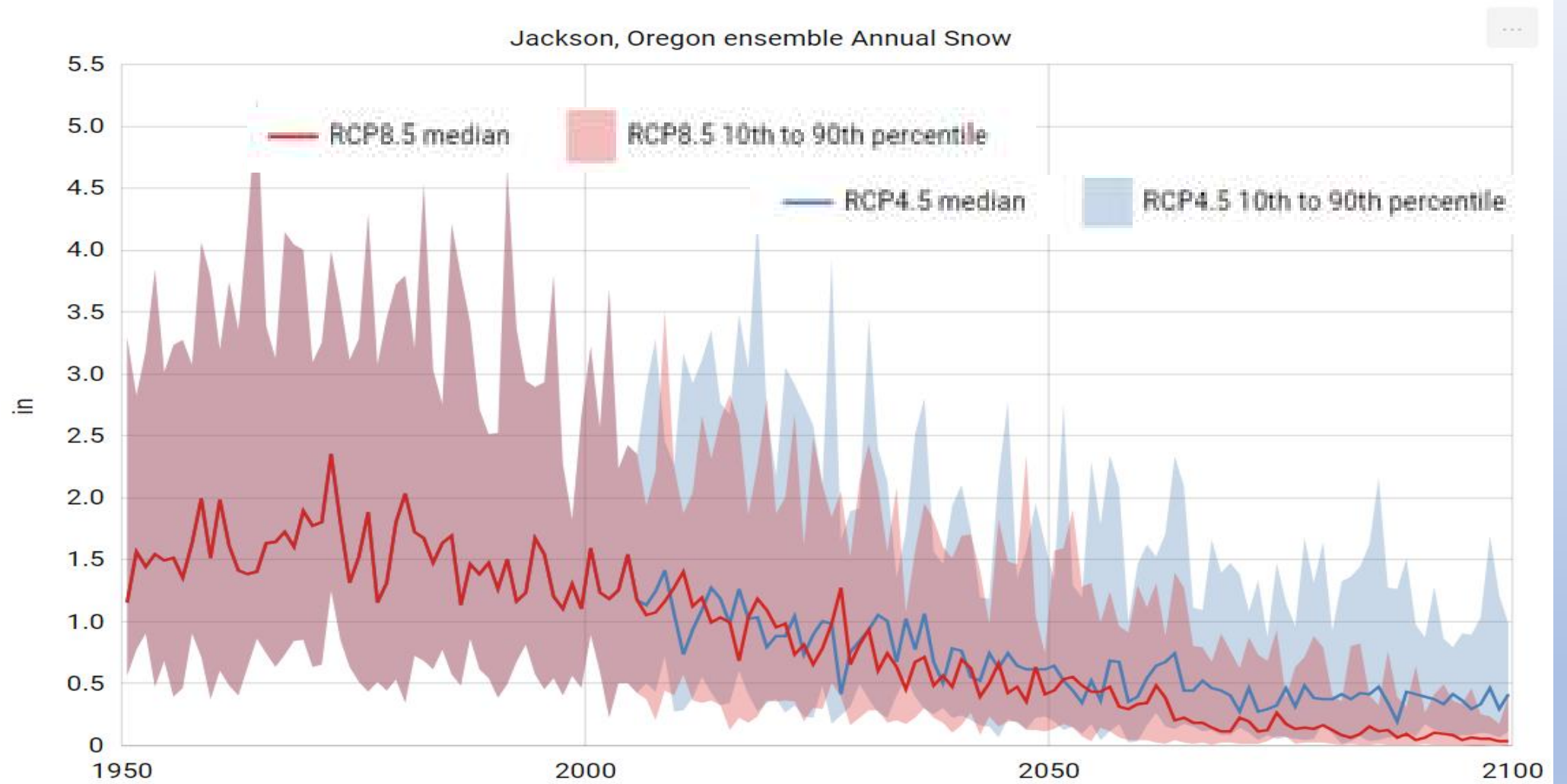


<http://xmacis.rcc-acis.org/>

Crater Lake N.P. Snowfall History

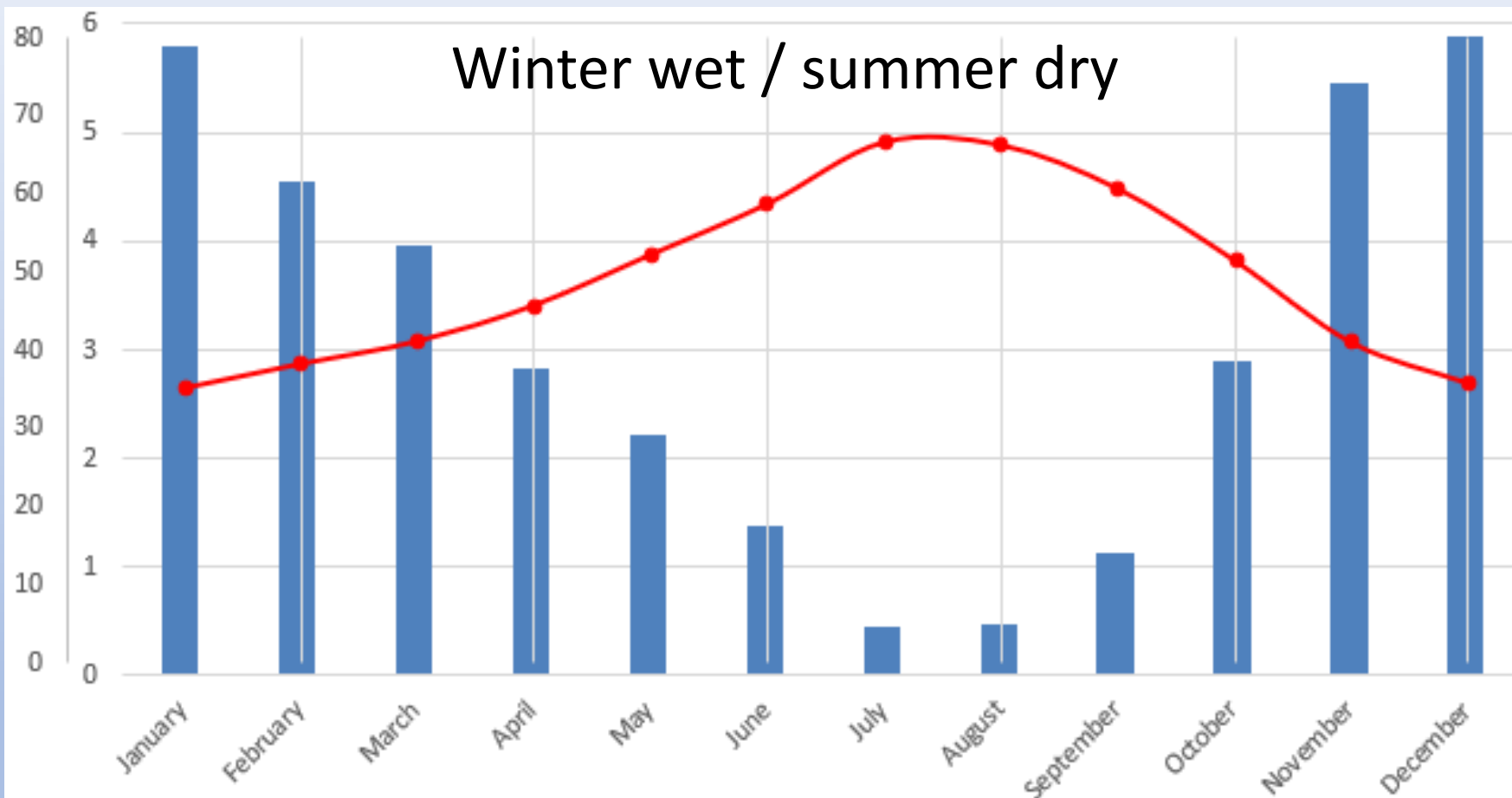


Jackson County Snow Water Equivalent



https://apps.usgs.gov/nccv/maca2/maca2_counties.html

The Trends Compound Our Historic Climate Problem



Occurs in 6 places
on Earth,
Summer drying of
soils and vegetation
Natural
communities are:
Fire prone
Fire adapted
Fire dependent

Developed from data available at https://apps.usgs.gov/nccv/maca2/maca2_counties.html

Summary

- Much hotter – especially summer
- Wetter wet years especially winter; Drier dry years, especially summer
- Increasing heavy rainfall events
- Reducing snowpack and SWE

Consequences

- Increasing frequency and length heatwaves
- Increasing risk and severity of drought
- Increasing risk of extreme weather events
- Increasing risk of water shortage
- Increasing risk of wildfire

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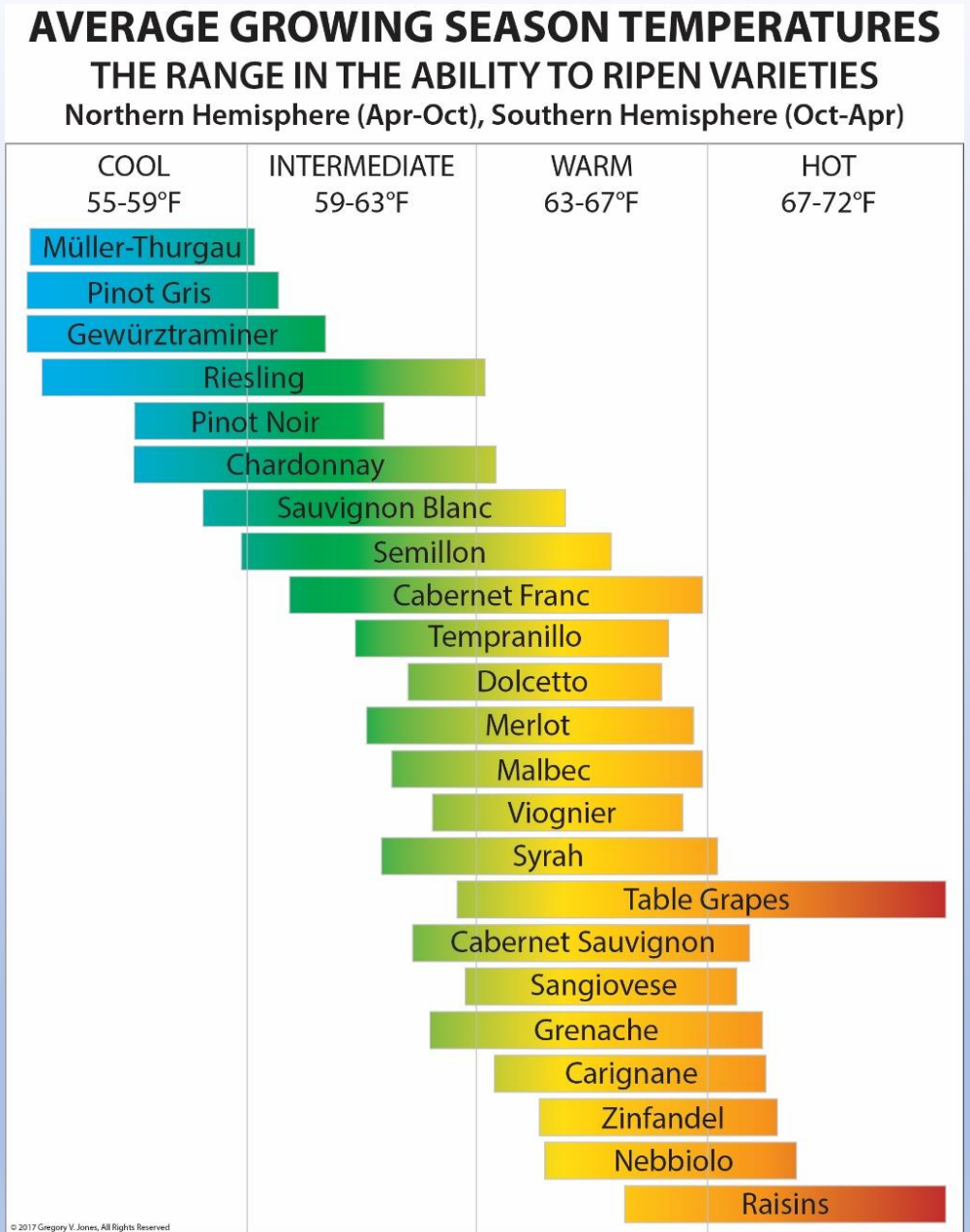
Physiological Tolerance

Response



Grapes as Agricultural Example

https://www.guildsomm.com/public_content/features/articles/b/gregory_jones/posts/climate-grapes-and-wine



As annual & seasonal temperatures rise....

Ectothermic organisms (plants, insects, viruses, bacteria, pathogens generally)

- Overwinter in higher numbers,
- Increase populations more rapidly in Spring / Summer,
- Expand range north and up in altitude,
- Thus....
- Waterborne, airborne, and arthropod vectored pathogens / diseases spread

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Human Health Effects

- Direct:
 - Heatwaves
 - Wildfires & Smoke
 - Floods
 - Extreme weather
- Indirect
 - Diseases
 - Food and water availability & quality
 - Mental health and wellbeing

Disparity in Effects

Bearing disproportionate burden:

- Communities of color and low-income households
- Agricultural, forestry and construction workers
- Native Americans
- Older and younger residents (both age and cumulative impacts)
- Emergency workers (firefighters, police, medical, EMT)

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Questions?

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QR Code for Resources



What Can We Do to Address Climate Change?

- First: Complete a personal/family/household GHG assessment:
 - Berkeley Cool Climate Calculator: <https://coolclimate.berkeley.edu/calculator>
 - Compares your emissions to others in your zipcode with same income and family size,
 - Offers tips on how to reduce your footprint.
- Identify what we do that results (directly or indirectly) in GHG emissions and adjust.
- Most Obvious:
 - Travel & Transportation
 - Home, especially heating/ventilation/air conditioning (HVAC)
- Less Obvious:
 - Use of natural gas (methane)
 - Banks that promote fossil fuel with investments (of our money)
 - Food waste
 - Electrify everything now
 - Support / join a climate organization (e.g., SOCAN <https://socan.eco>, Rogue Climate)
- SOCAN tips: <https://socan.eco/action/>.