

Rogue Basin Watershed Climate Trends and Projections (compared to 1950-2005 average)

Jackson County TEMPERATURE ¹	2050-74	2090-99
Average Annual Increase	6°F	9.4°F
Average Summer Increase (June-Aug)	7°F	12°F
Average Winter Increase (Dec-Feb)	5°F	8°F

Average temperature trends/projections for Jackson County are the average of the max (Figure A.) and the min (Figure B.) data, These show a substantial increase under the “Business as Usual (BAU)” scenario assuming accelerating fossil fuel use and greenhouse gas emissions. Projected BAU 2100 increase: Jackson Co: 9.4°F; Josephine Co: 8.8°F; Curry Co: 8.55°F

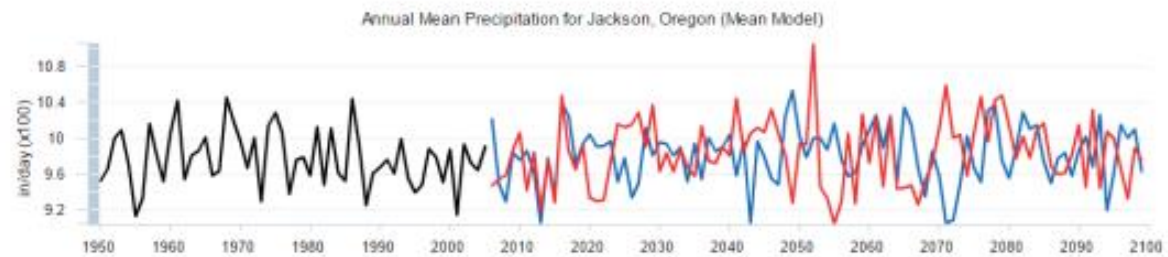
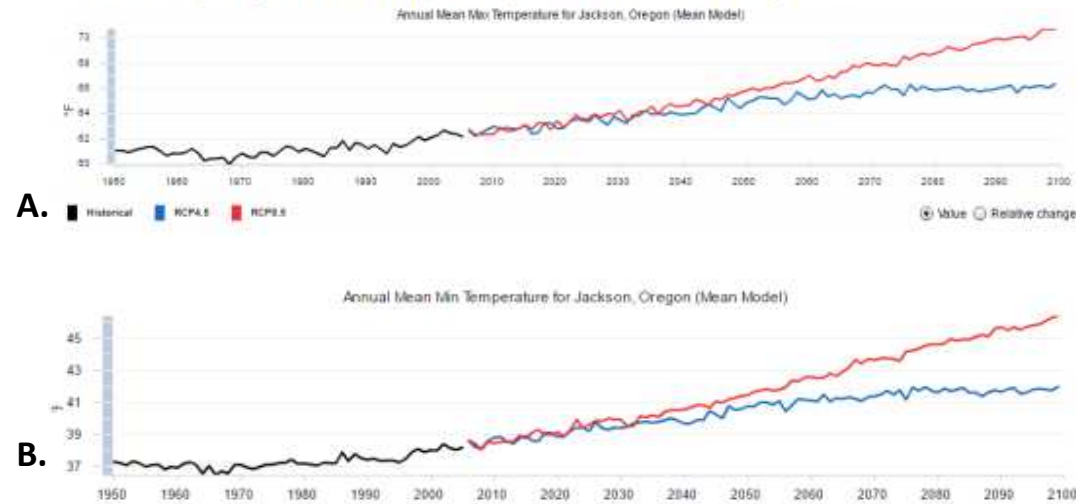
Jackson County PRECIPITATION ¹	2050-74	2090-99
Average Annual Change	0”	0.4”
Summers (June-Aug)	Drier	Drier
Winters (Dec-Feb)	Wetter	Wetter

Precipitation trends & projections through 2100 show much variability, with wetter winters and dryer summers, and rain falling in heavier downpours.

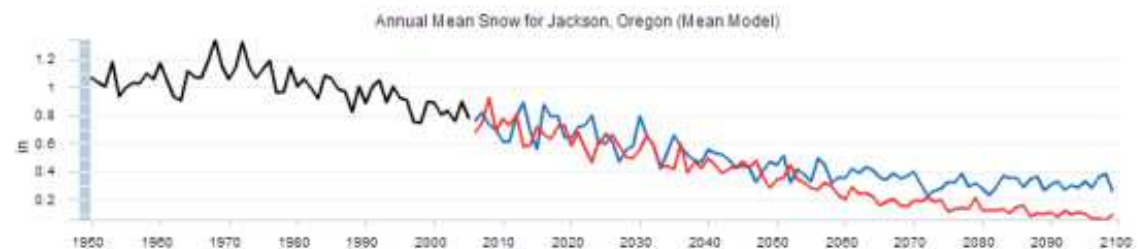
Jackson County SNOW WATER EQUIVALENT ²	2035-45	2090 - 99
Average Annual Reduction	60 - 65%	80 - 90%
More rain on snow events due to increasing temperatures		
Reduced Runoff in late summer/fall affecting domestic, commercial, and irrigation needs		

Snow Water Equivalent displays decreasing trend and projection. This has already decreased and will likely drop substantially by the end of the Century. Jackson Co already down 15-20%, by 2100 80 – 90%; Josephine Co. already down 20-25%, by 2100 down ≈ 100%, Curry Co already down ≈ 30%, by 2100 down ≈ 100%.

Jackson (Josephine and Curry) County Climate Trends and Projections



However, little/no overall change is expected from current approximate total annual rainfall : 35” Jackson; 62” Josephine; 116” Curry.



WILDFIRE²

Likely increase in severity and frequency due to:

- Higher Temperatures
- Earlier Spring Melt
- Decline in snowpack
- Longer Drought periods

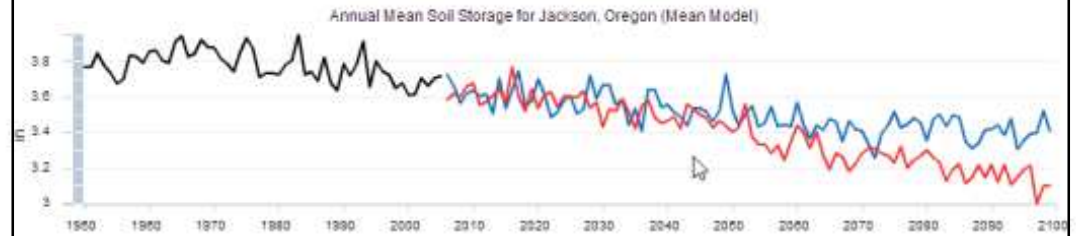
NATIVE TERRESTRIAL SYSTEMS²

- Likely shift to more fire adapted plant communities
- As native species decline, non-native, invasive, and disease/pathogenic species may increase
- Due to increasing drought conditions, species with limited dispersal capacity are most at risk. Also at risk are old growth and legacy trees and species they support plus amphibians.
- Likely disruption in synchronicity of the food cycle between insect hatching and bird clutch hatching with migratory birds at higher risk
- Better climate for Bark beetle growth and development will likely increase their threat

SEVERE WEATHER²

- Likely increase in weather variability due to increases in length and severity of wet/dry cycles
- More days over 90-100°F
- More heavy rainfall days
- Transition from high elevation snow to lower elevation rainfall increasing flash flood frequency especially in winter and spring

SOIL STORAGE



As temperature rises and precipitation remains constant, soil moisture decreases. By the end of the Century, this may decrease from the late 20th Century average: Jackson Co ≈ 22% ; Josephine and Curry Counties - 13%.

VEGETATION

- Species shifts to more drought tolerant species (e.g. Oaks)
- High elevation species decline (spruce/fir/hemlock)
- Likely reduction in Douglas Fir communities
- Likely increase in grassland and scrubland conditions
- Likely negative impact on many critical tree species

NATIVE AQUATIC SYSTEMS²

- Increase in soil erosion causing sediment build-up in streams
- Higher water temps reducing dissolved oxygen levels compromising fish species; potentially increased bacteria and diseases
- Modified streamflow patterns with earlier and lower peak flow
- Earlier aquatic insect emergence, affecting food web
- Cold water species unable to survive warmer temps
- Increase and expansion of non-native and pathogen species