

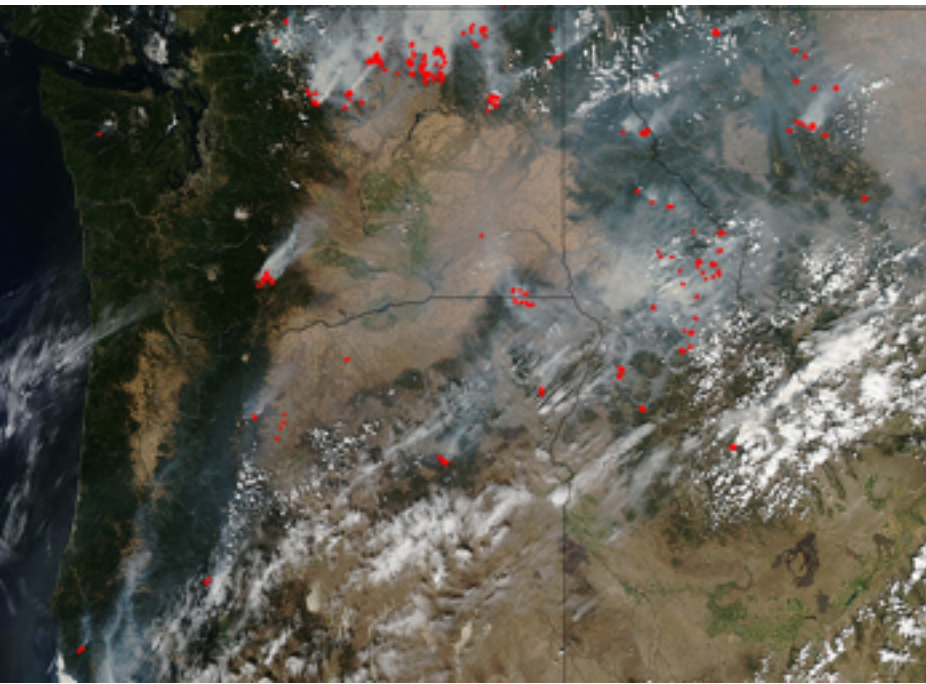
PNW climate and beyond - fires, drought, and floods

Kathie Dello, Associate Director

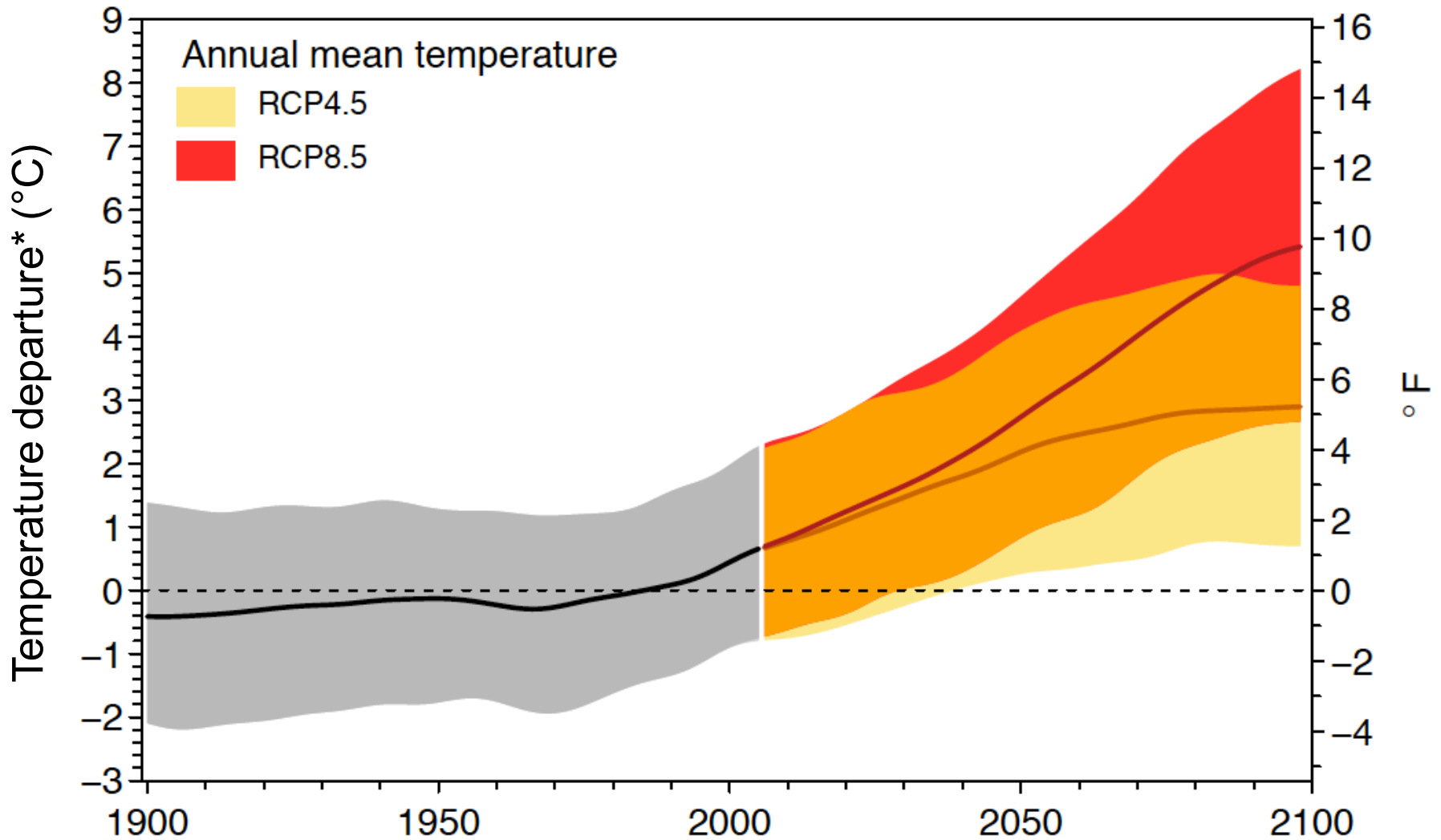
Oregon Climate Change Research Institute

occri.net





Temperature Projections for the Columbia Basin**



*Departure from 1979-1999 average

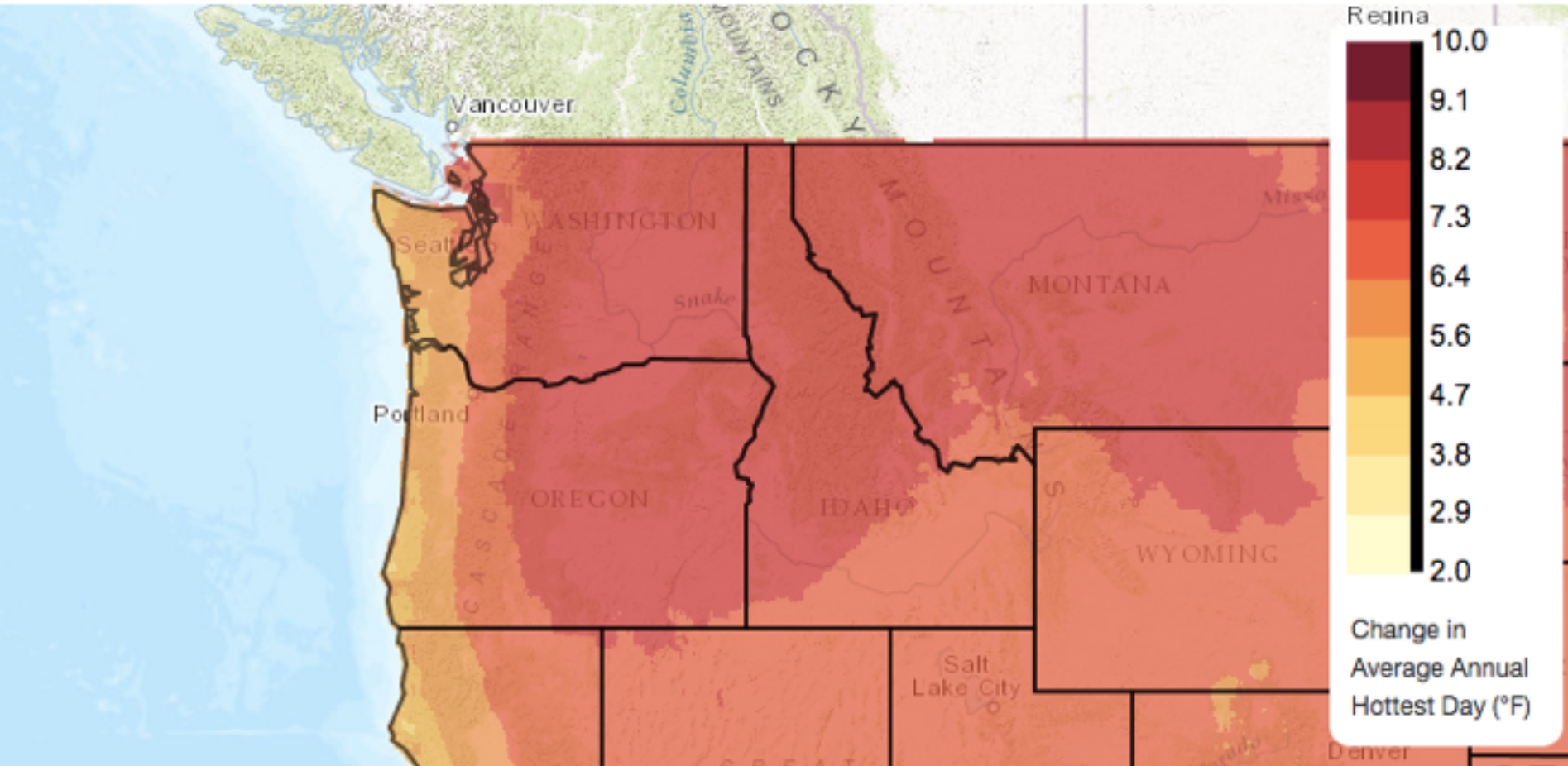
**Above Bonneville Dam

Source: Rupp, Abatzoglou, & Mote, *Climate Dynamics*, 2016

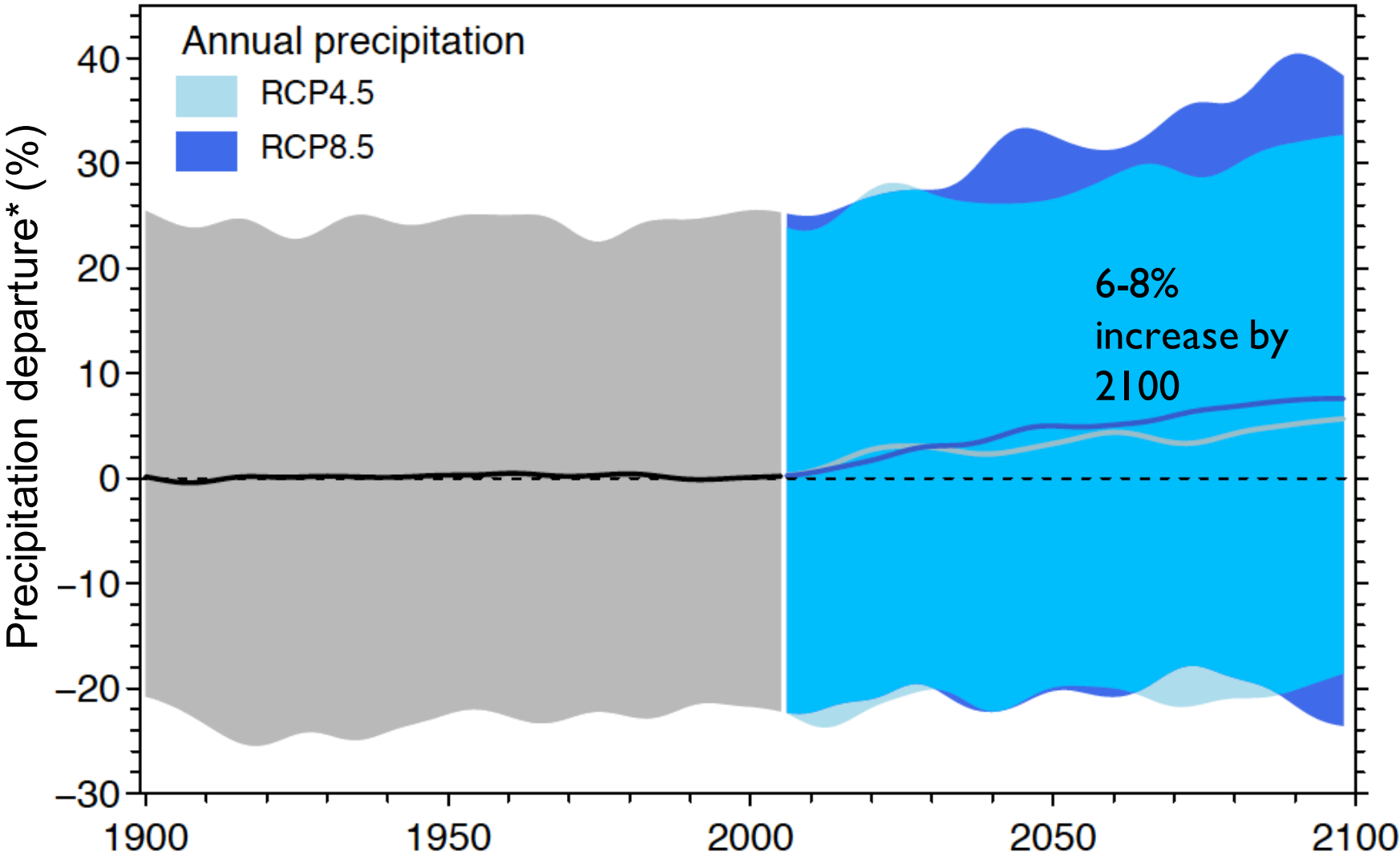
Projected Change in Hottest Day - Annual Average

RCP8.5 2040-2069 vs. 1971-2000

Multi-Model Mean



Precipitation Projections for the Columbia Basin



*Relative departure from 1979-1999 average

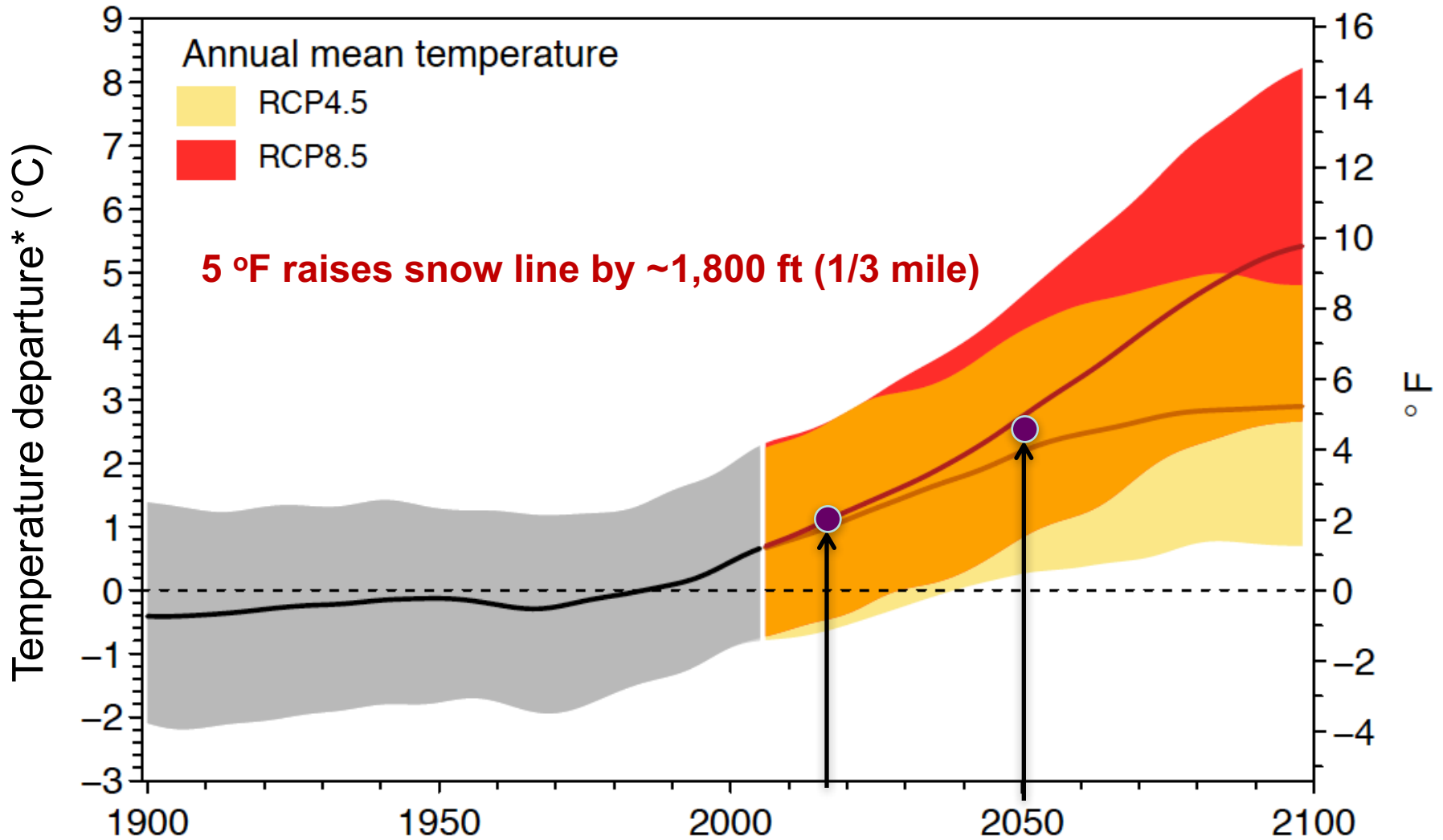
Source: Rupp, Abatzoglou, & Mote, *Climate Dynamics*, 2016

2015 02/23 (Mon) 10:24:25 - Ed Chair top (Northeast view)



from Hoodoo web cam
February 23, 2015

Temperature Projections for the Columbia Basin**

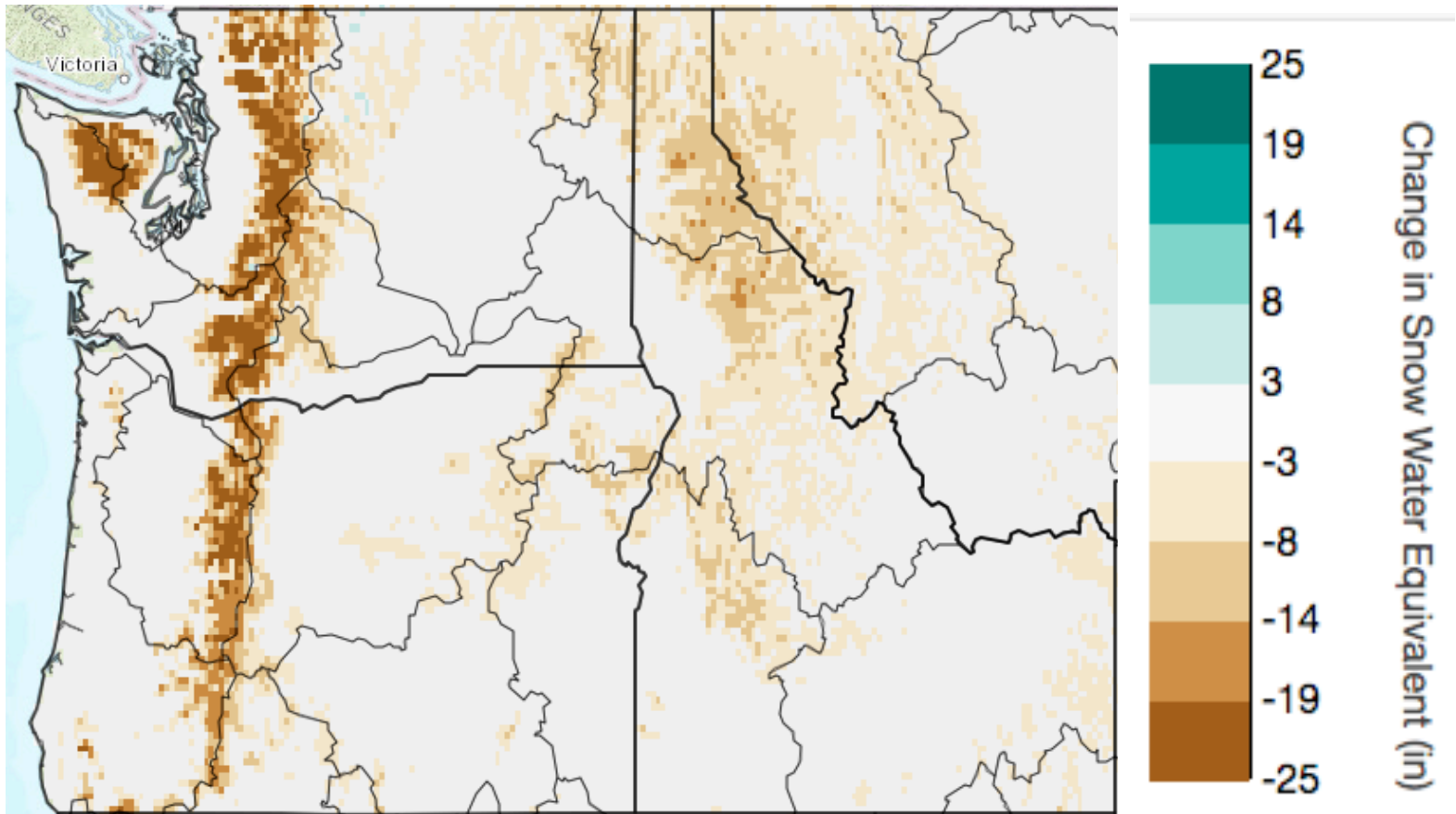


*Departure from 1979-1999 average

**Above Bonneville Dam

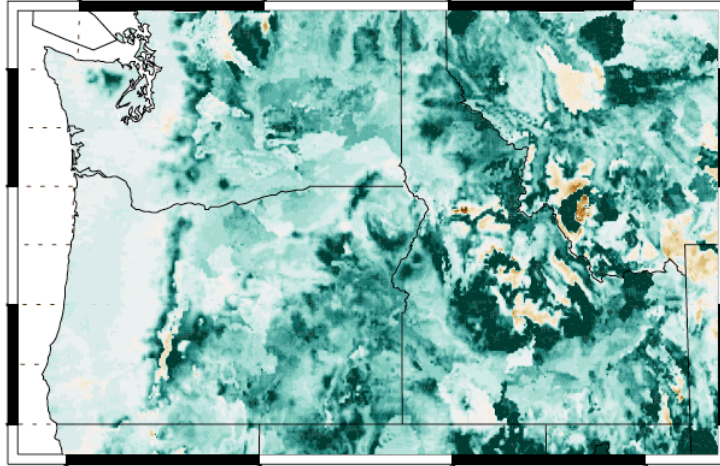
Source: Rupp, Abatzoglou, & Mote, *Climate Dynamics*, 2016

April 1 modeled snow water equivalent 2040-69 minus 1971-2000

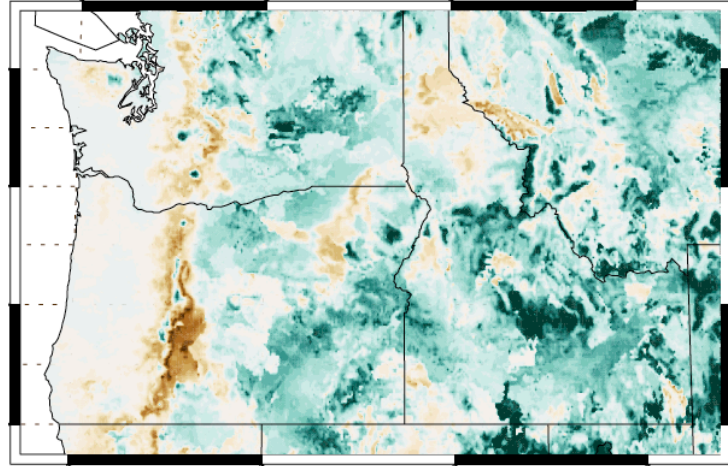


Percentage change in mean seasonal runoff, present - mid century (2011-2050), high emissions scenario

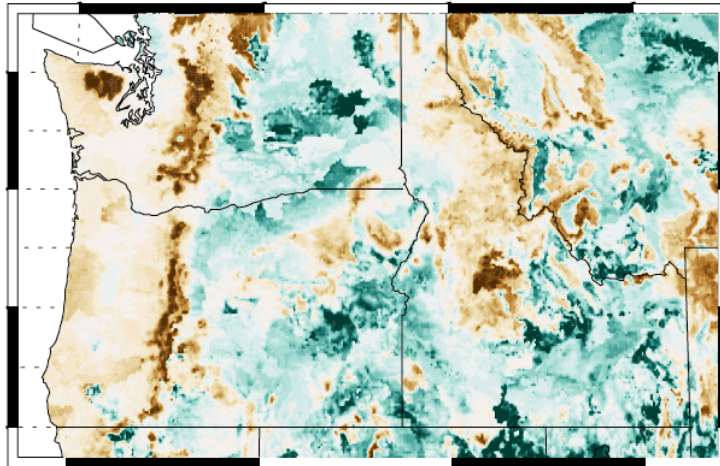
a) Dec–Feb



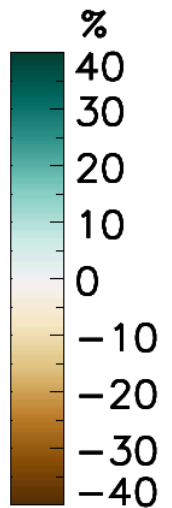
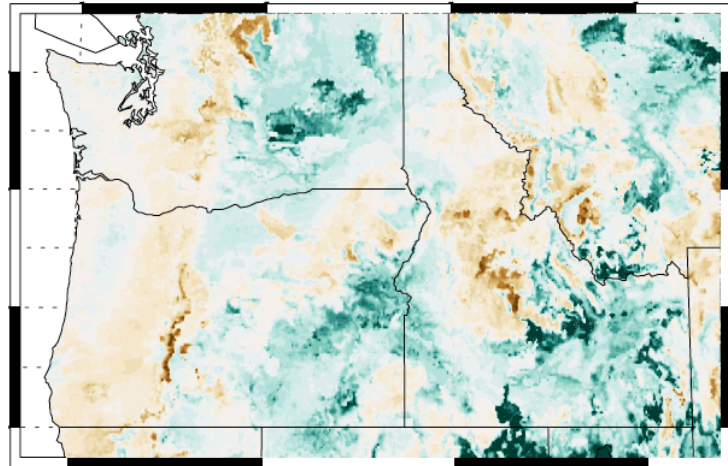
b) Mar–May



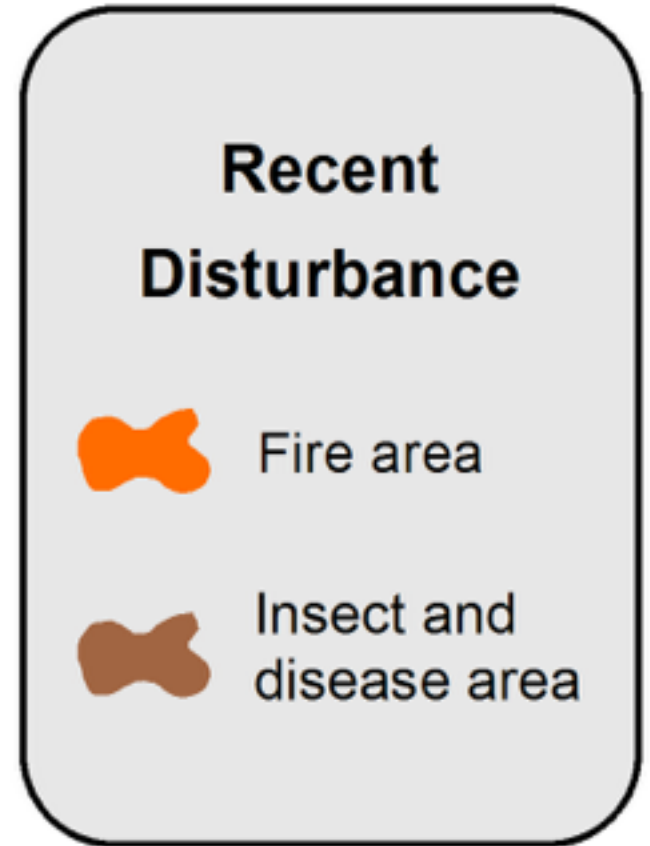
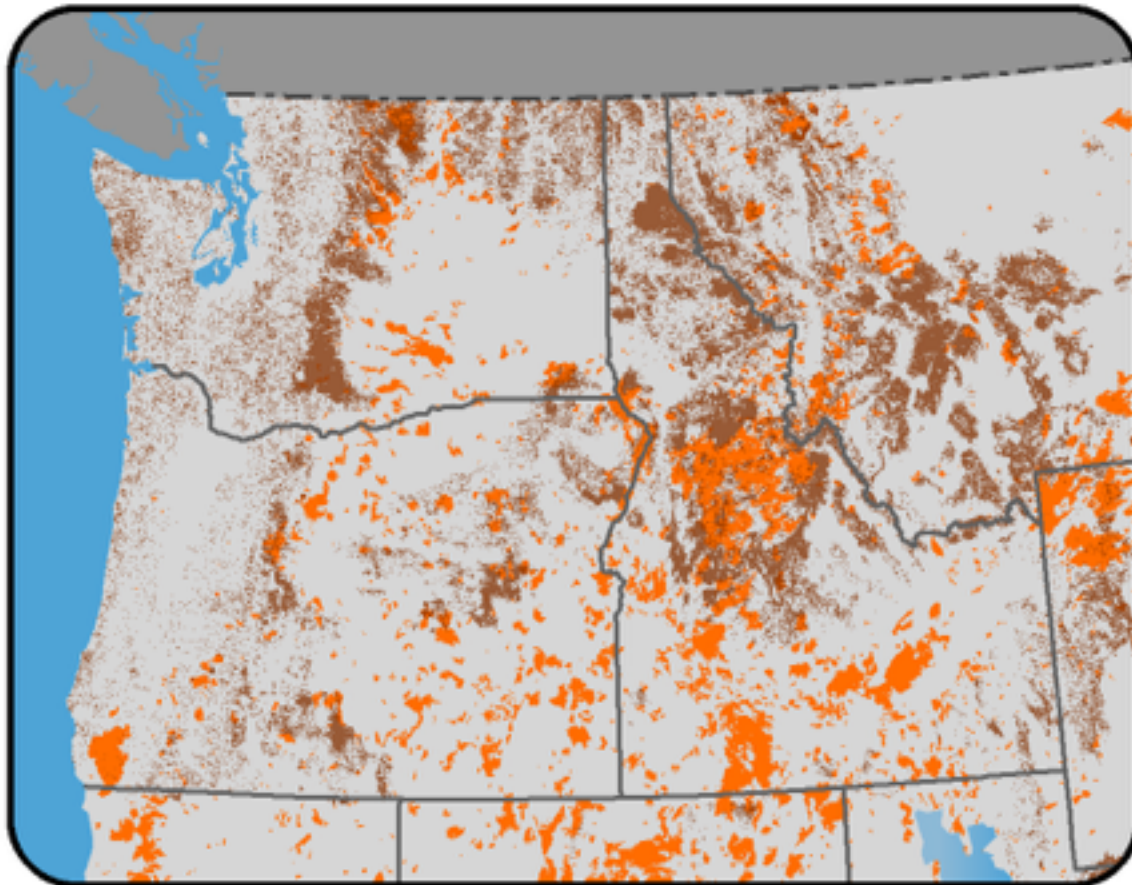
c) Jun–Aug



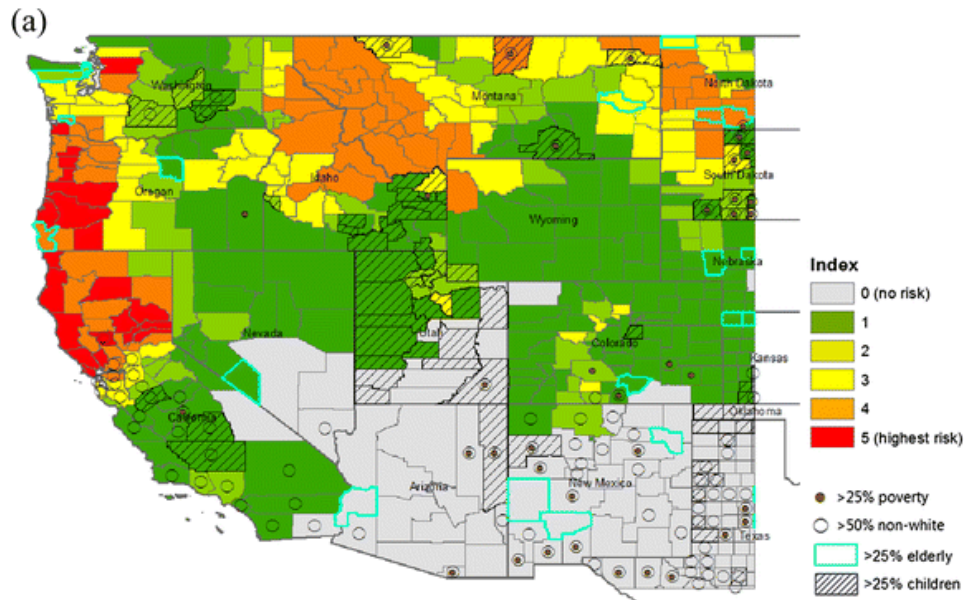
d) Sep–Nov



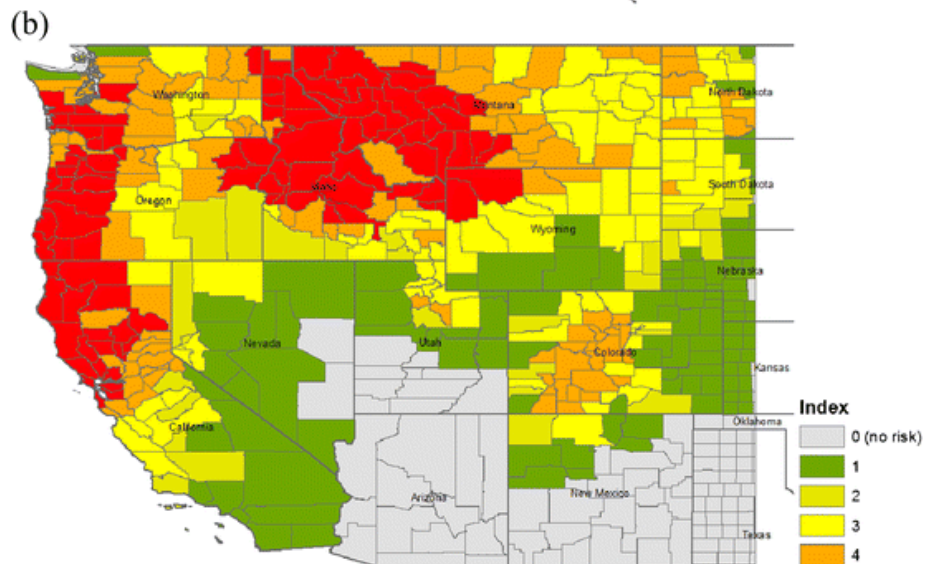
Risks to forests



Fire Smoke Risk for present (top) and mid-century (bottom)



7.2% increase in respiratory hospital emissions during “smoke waves”



Fine particulate matter from wildfires to increase 160% by mid-century.

Source: Liu et al. (2016)

summary

- climate change is, and will continue to impact the PNW through the next decades
- hotter, drier summers -> fire, drought
- warmer, wetter winters -> flood, and drought (yes)
- all models show warming - magnitude depends on global activity; adaptation crucial in short term

thank you!

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