# 3rd Oregon Climate Assessment Report

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## Oregon Climate Change Research Institute

- Place-based research institute created by Oregon state legislature
- I 4 staff and students, ~80 collaborators
- Home of Oregon Climate Service
- Home of NOAA Climate Impacts Research Consortium
- Home of Dept of Interior Northwest Climate Science Center
- Required by law to produce an assessment report periodically



### Scope

- Shorter, update to previous OCARs (2010 and 2013)
  - -<100 pages
  - Literature from Summer 2013 - Summer 2016 drawing largely from CIRCulator and other sources



### bottom line

- climate change is, and will continue to impact Oregon through the next decades
- greenhouse gas reductions are necessary, but not enough. Must adapt to change

## key findings

- climate change will continue to impact the health of Oregonians, especially vulnerable populations,
- Oregon will continue to warm; we can now attribute some regional trends to human activity\*
- declining mountain snowpack is, and will have significant impacts on water resources
- increased coastal flooding and erosion
- changing climatic suitability plus disturbances will drive forest vegetation transformation
- short-term gains for agriculture, but long-term dependent on adaptations to heat and water
- recent climate events a practice run for the future



#### Projected Changes in April 1st Snow Water Equivalent

RCP8.5 2040-2069 vs. 1971-2000

Data Source: Hydrology: VIC, Multi-Model Mean



NW Climate Toolbox

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



### Fire smoke risk for present and mid century



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

## Historical 1971-2000

mid-century high emissions





65 to 70

Layers

US States

-5 to 0

0 to 5 5 to 10 6b 7a

7b

**US** Counties

# Assets that are less than 4 feet above mean high tide level in Oregon



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

from Hoodoo web cam February 23, 2015

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### thank you

• full report available at occri.net