

# USDA Regional Climate Hubs: Northwest Regional Vulnerability Assessment Summary



## Climate Vulnerabilities in the Northwest

### Regional Description:

Cropping, timber harvest, and livestock are strong contributors to the regional economy. Nearly a quarter of the land area in Oregon, Washington, and Idaho is used for agricultural production. Agriculture in these states produces 3 percent of the region's gross domestic product, over half of the Nation's potato crop, around 17 percent of the Nation's wheat and 11 percent of the Nation's milk. Washington produces 70 percent of the apples in the United States, Washington and Oregon produce 75 percent of the pears, and Washington/California/Oregon produce 97 percent of the sweet cherries. In Alaska, farming is largely confined to the Matanuska-Susitna Valley. Timber, fish, game, and other biological resources are important throughout the cash economy and essential for many subsistence users, especially in rural areas.

### Climate Related Hazards and Vulnerabilities:

- **Reduced snow water storage:** Winter snowpack is essential for meeting irrigation needs in the spring. Reduced precipitation falling as snow results in reductions in snow water storage. In the mountains, higher temperatures can result in earlier snowmelt, an increase in rain events, and a decrease in snow events. This, in turn, results in lower surface water availability during the growing season and high stream flows.
- **More frequent fires:** Fires reduce timber yields, alter wildlife and fish habitats, increase the risk of soil erosion, and expand the range of invasive annual weeds on public and private rangelands.
- **Higher temperatures and drought:** Temperature and precipitation changes can result in drought; heat stress in crops and livestock; and increases in plant diseases, pests, insects, and weeds. Drought in the Northwest can stress forest vegetation and create conditions conducive for outbreaks of bark beetles and other pests. After these outbreaks, broad swaths of dead trees remain.

### Adaptation and Mitigation Strategies:

- Increased diversity, redundancy, and flexibility in cropping systems increases resilience
- Cover crops and increases in soil organic matter buffer against drought and flooding
- Animal production adaptation options include increasing shade, identifying heat-resistant breeds, controlling disease for unconfined species, and improving cooling for confined species
- Forest adaptation options include thinning, prescribed fire, and planting diverse and genetically adapted seedlings

### Regional Priorities:

- Forest adaptation options include thinning, prescribed fire, and planting diverse and genetically adapted seedlings
- Outreach and education to extension, consultants, and conservationists to communicate climate information through trusted sources to land managers

To learn more about the USDA Climate Hubs visit: [www.usda.gov/climatehubs](http://www.usda.gov/climatehubs)

To read the full Vulnerability Assessment visit: <http://go.usa.gov/3MJp4>