CLIMATE CHANGE RESEARCH IN THE BLUE MOUNTAINS

Recent Assessments

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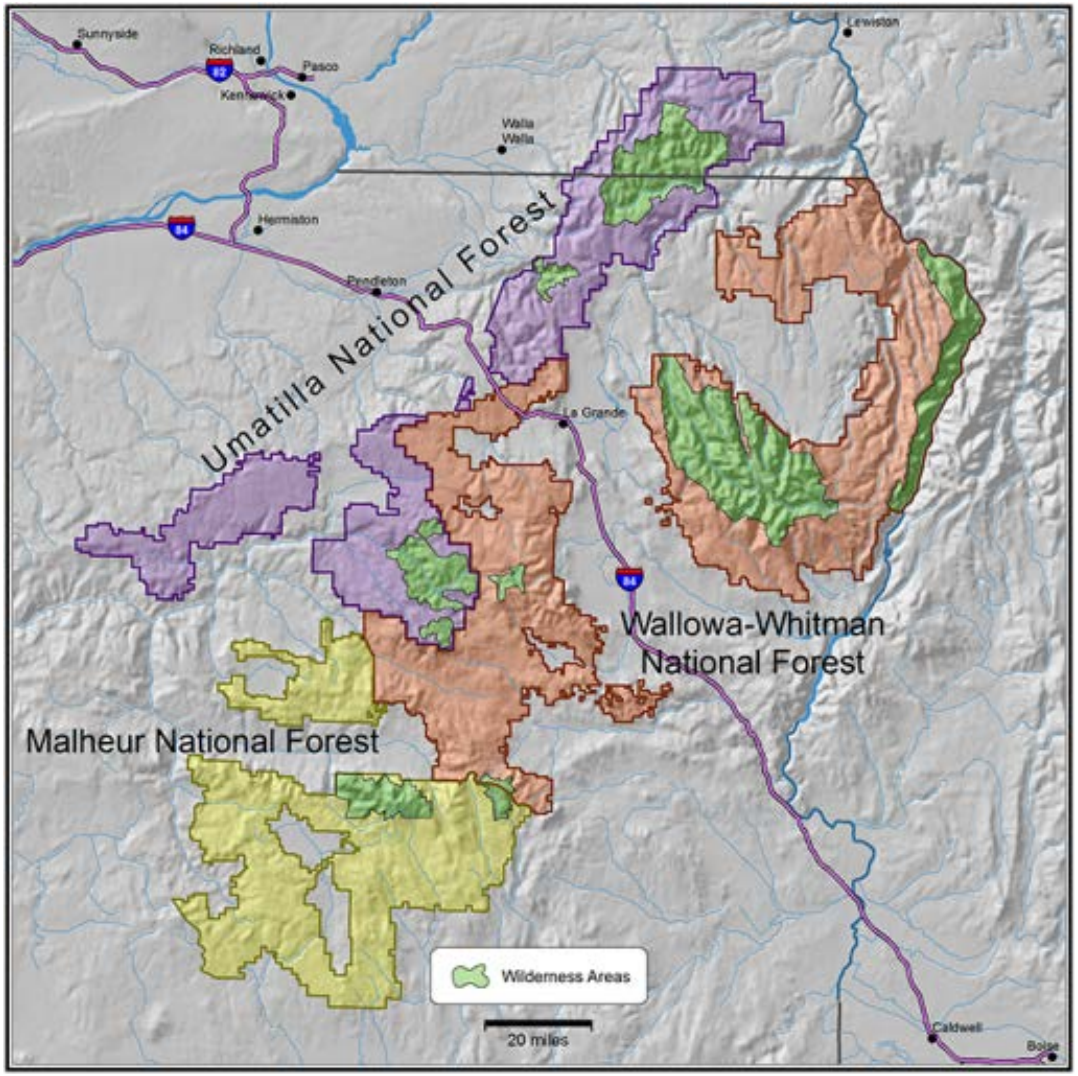
The Blue Mountains Adaptation Partnership

- A Forest Service science – management partnership to:
  1. Increase climate change awareness
  2. Assess the vulnerability of cultural and natural resources in the Blue Mountains
  3. Develop science-based adaptation strategies for incorporating in public lands management
- Partners include PNW Research Station and R6, USDA Forest Service; Oregon State University; and the 3 national forests in the Blues
- http://www.adaptationpartners.org/bmap/

BMAP area



- Covers >5 million acres that share climate change threats
- Similar geologic, cultural, and ecological histories

Blue Mountains Adaptation Partnership Goals

- Synthesize published information to assess sensitivity and adaptive capacity of key resources

- Foster partnerships to facilitate dialogue about climate change and relevant activities in the Blue Mountains

Four initial vulnerability assessments for key resources

- *Climate*
- *Vegetation and ecological disturbances*
- *Hydrology/water/infrastructure*
- *Fisheries*
- Following slides from **Becky Kerns** and **David Peterson**, USFS/BMAP

What will future climate feel like?

La Grande *average* temperature (°F)

	Current		Future
July	70	→	77
January	31	→	38

What will future climate feel like?

La Grande *extreme* temperature (°F)

	Current		Future
July (hi)	85	→	92
January (lo)	24	→	31

How will forests grow in a warmer climate?

Losers: low elevation
Ponderosa pine, Douglas-fir, western larch, western juniper

Winners: high elevation
Subalpine fir, Engelmann spruce, limber pine

Vulnerabilities and adaptation FISHERIES

Vulnerability

- Higher stream temperatures will degrade habitat

Adaptation option

- Restore and maintain cold-water habitat

Preliminary assessments - vegetation

- Dry & moist upland woodlands:
  - Warming, drier summers
  - Decreased snowpack and earlier snowmelt
  - Increased insect, disease, wildfire
  - Juniper expansion likely

Preliminary assessments - water

- Decreasing snowpack below 7000 ft
- Peak flows autumn – spring will be higher
- Increased flooding
- Low flows lower and longer in summer
- Less water available during peak demand