Multi-Year Forestry Impacts

Daniel DePinte-Forest Health Specialist, USFS
Which Forests in the Pacific Northwest Do We Monitor?

~69,000,000 acres annually!
How do we monitor such a large area?
What do we monitor for?

Biotic Forest Damage: Defoliation & Mortality
Abiotic Events:
mudslides, avalanche, drought, heat
• Three days of consecutive new all time recorded high temperatures
  
  • June 26-high at 108°F
  
  • June 27-high at 112°F
  
  • June 28-high at 116°F
  
  • Previous record was set at 107°F in 1981
South and west sides of tree crowns had red foliage, associated with the sun location during the hottest time of day.
"Direct heat damage to plant leaves via denaturing of proteins usually starts at temperatures hotter than 45º C (113ºF)."

-Dr. Kolb
WorldView 3 Imagery
• ~229,000 Acres of Heat Damage Mapped Across Washington and Oregon

• Actual Extent of Heat Damage is Much Larger
Fir Mortality Event 2022
Drought, Insects, and Disease, oh my!
Oregon’s Area of Drought 2022

December 28, 2021

July 12, 2022

U.S. Drought Monitor
Oregon

October 11, 2022
(Released Thursday, Oct. 13, 2022)
Valid 8 a.m. EDT

Intensity:
- None
- D0: Moderate Drought
- D1: Moderate Drought
- D2: Severe Drought
- D3: Extreme Drought
- D4: Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/Local.aspx

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droughtmonitor.unl.edu
Acres with Fir Mortality in 2022

Oregon ~ 1,100,000 Acres
Washington ~ 69,000 Acres
More Impacts on Forest Health

DOUGLAS-FIR MORTALITY IN SOUTHWEST OREGON

FLATHEADED FIR BORER
THANK YOU