



WASHINGTON STATE DEPARTMENT OF
Natural Resources

Peter Goldmark - Commissioner of Public Lands

A Renewable Green Fuel Source: Woody Biomass

How wood-based biofuels can improve forest health, reduce wildfire risk, and strengthen the economy in Washington State

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Commissioner of Public Lands

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Statewide, DNR manages more than 5.6 million acres of state lands

- 2.9 million acres of trust lands, including forest, range, agricultural land, and commercial properties
- 2.6 million acres of state-owned aquatic lands
- 155,000 acres of natural areas

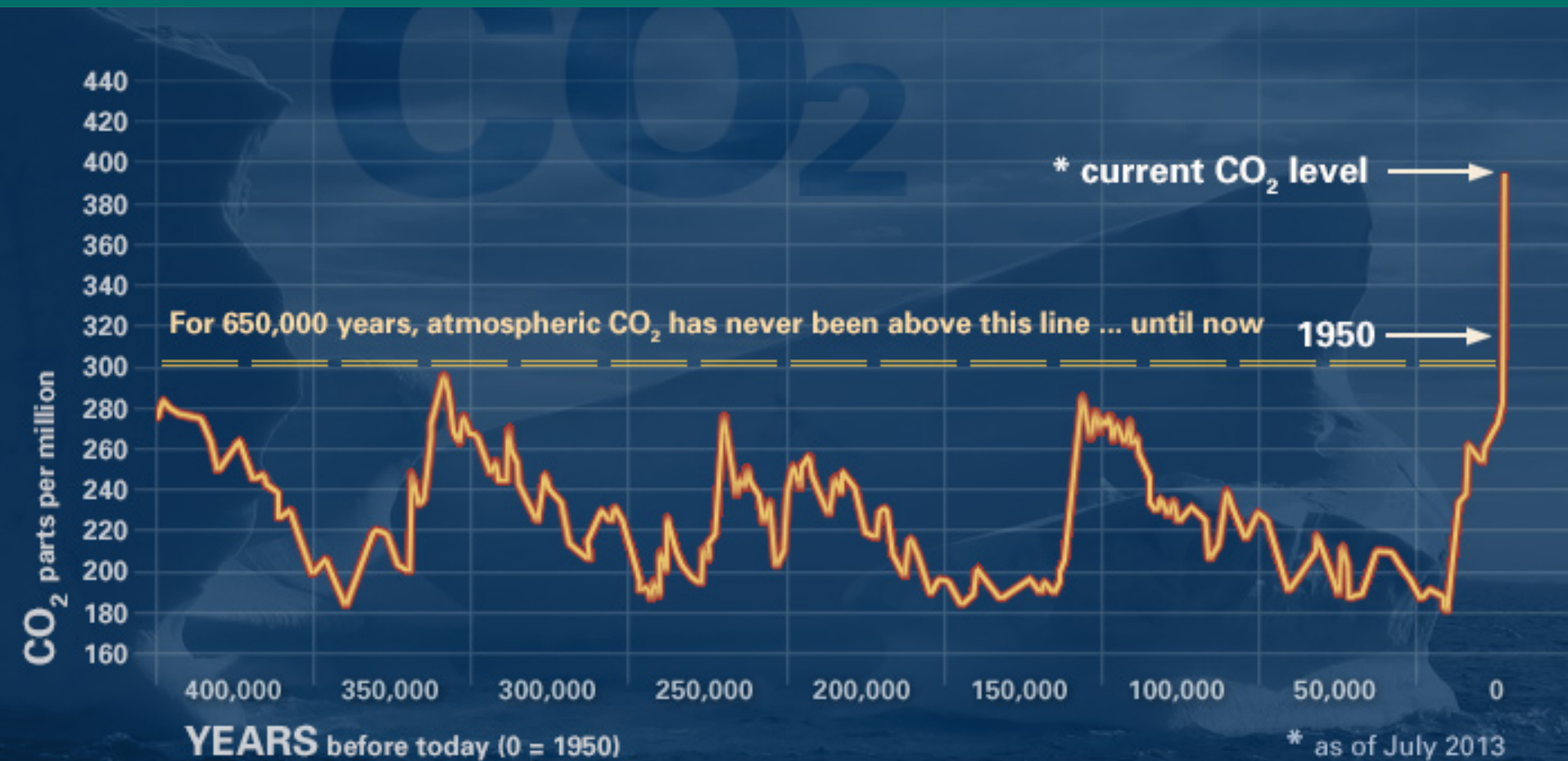


Why is DNR Interested in Biofuels?

- Changing environment
- Forest health
- Forest fires
- Economic development
- Protect trust property



Changing Environment



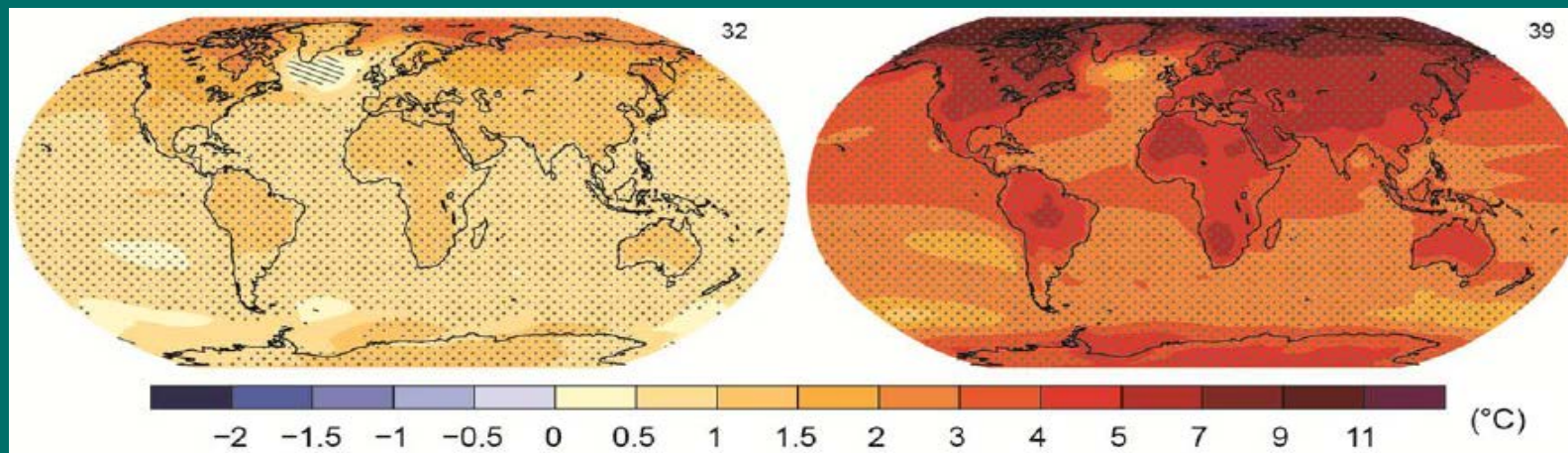
Source: NASA



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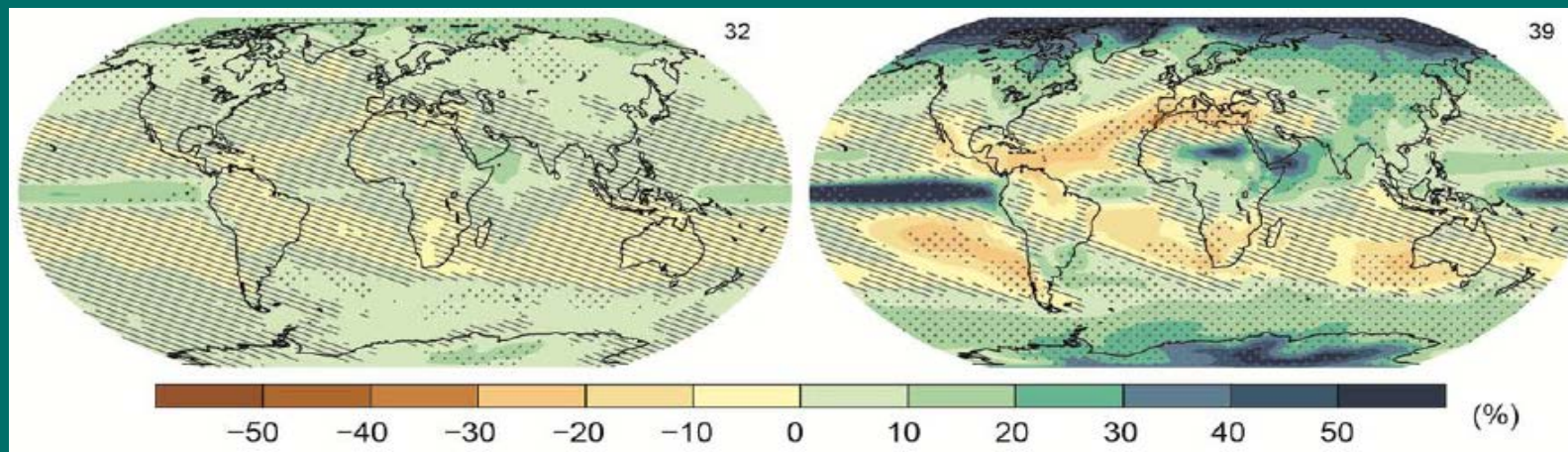
Change in average surface temperature

1986-2005 to 2081-2100



Change in average precipitation

1986-2005 to 2081-2100



Source: Mote et al., 2010, utilizing Special Report on Emissions Scenarios (SRES)





DNR Fire Program

Protects 13 million acres of private, tribal, & state forestlands from wildfire

- Wildfire prevention
- State's largest 'on-call' fire department
- Coordinates fire response with federal, local, & other state agencies
- In FY12, \$43 million in costs to state





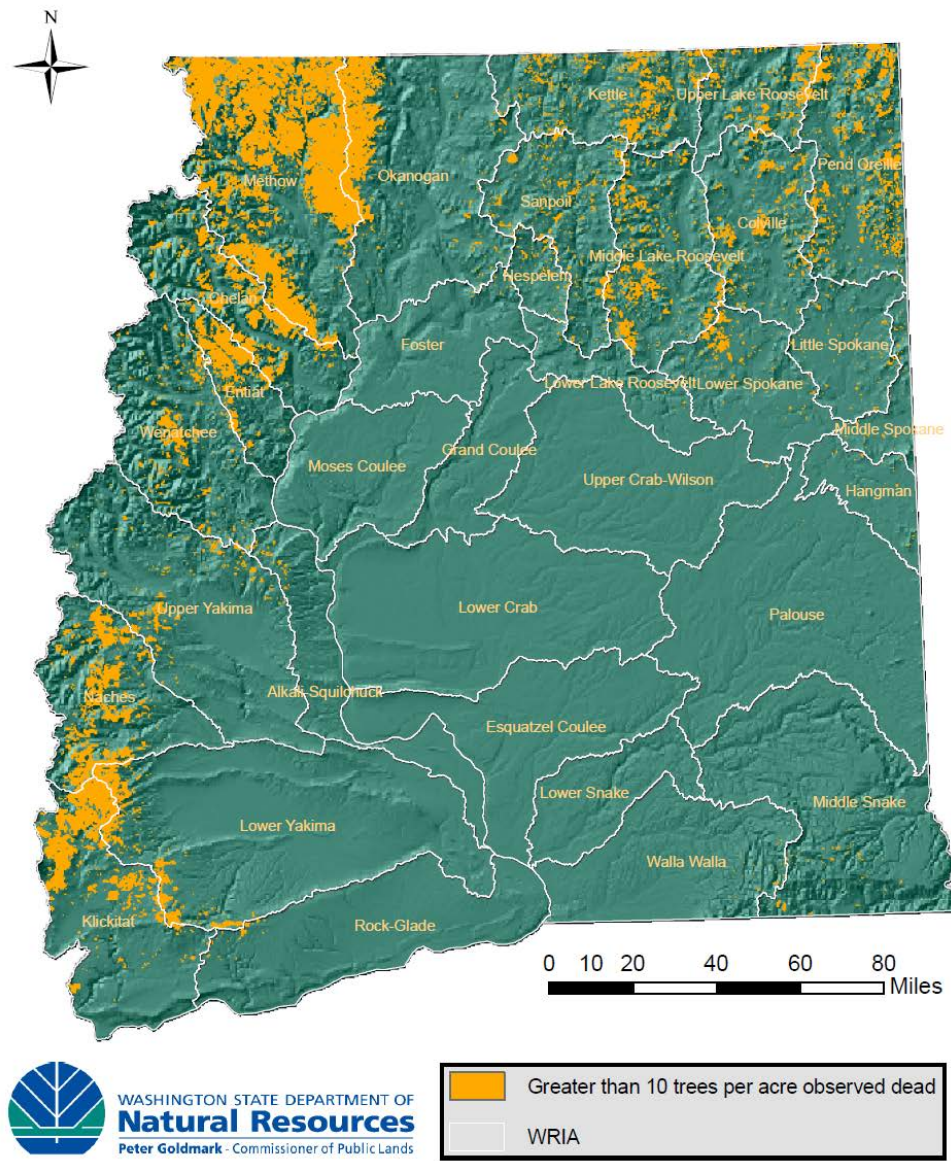
Forest Health

The Commissioner of Public Lands is responsible for all Washington forest health issues

- July 2012: Commissioner Goldmark announced a Forest Health Hazard Warning, citing concern for catastrophic wildfire
- \$19.4 million in supplemental funding from the State Legislature and the US Forest Service



Mortality observed from aerial survey 1996-2010 Eastern Washington



Forest Health

Milestones Since 2008

- State Trust Lands: 82,000 acres of treatment totaling 472 MMBF
- Private Land: 43,000 acres treated to reduce fuel load and improve forest health
- Federal Land: 4,300 acres treated totaling 5.7MMBF

FY13-15 Capital Funding

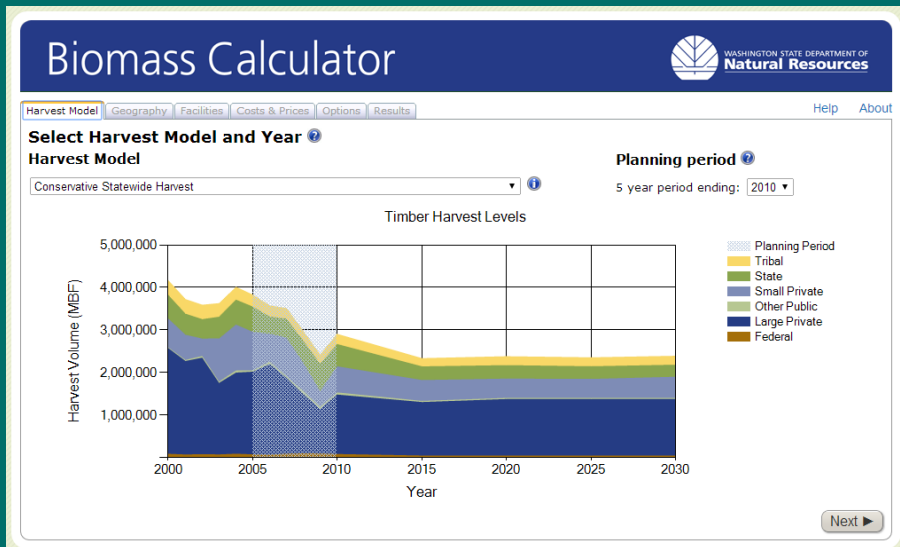
- \$4M appropriated - 16,500 acres
- Focused in Forest Health Hazard Warning Areas designated 2012

Forest Health Impacts

- Increase in wildfires
- Implications for:
 - Trust beneficiaries
 - Rural communities and homes
 - Public resources, public health, local economies
 - Habitat
 - State wildfire suppression expenditures
 - Forest land managers



DNR's Commitment to Biomass Industry Development



- Policies in place to offer biomass supply agreement
- Procedures to allow utilization of biomass from private fuel reduction treatments
- Statewide biomass supply calculator to estimate long-term biomass availability
- Aviation Biofuels Work Group

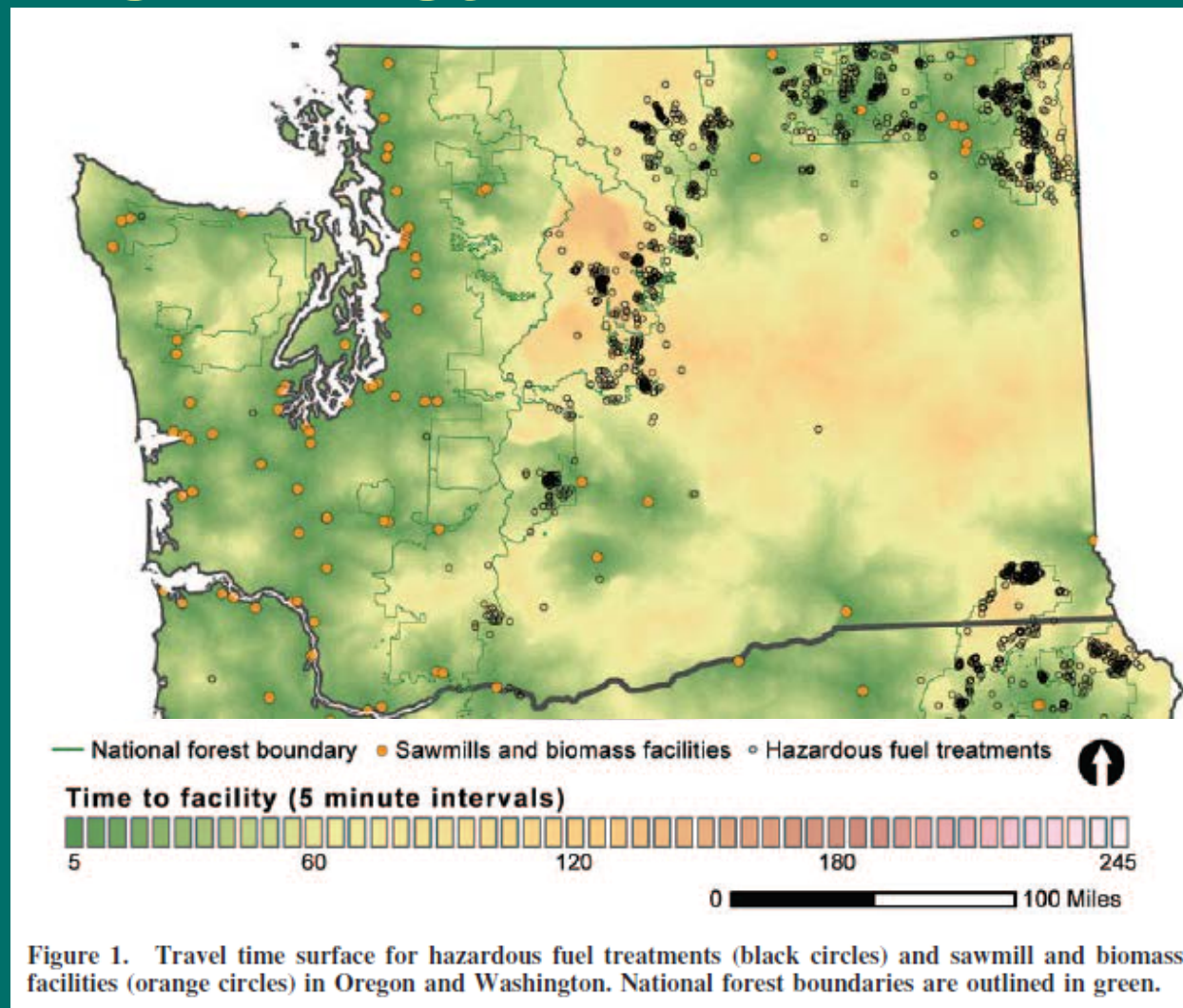


Biomass Availability

Owner	Market Biomass Bone Dry Ton/year
Federal	36,653
Municipal	18,269
Private	1,248,527
State	164,611
Tribal	114,577
Total	1,582,637



Proximity of Biomass to Existing Energy Facilities



Mobile Pyrolysis

Expanded use of this technology may help convert woody biomass into renewable green fuel



Federal Support for Biomass Industry Development

\$80 million in federal projects focused on research to produce biofuels from woody biomass

Northwest Advanced Renewables Alliance (NARA)

Advanced Hardwood Biofuels Northwest (AHB)



Potential Economic Opportunities from Biomass

- Job creation
- Reduced cost:
 - forest health treatments
 - wildfire suppression
- Strengthening the biofuel industry
- Enhancing forest products industry
- Supporting working forest retention





You're Invited!

Mobile Pyrolysis Demonstration

When: May 8, 2014
10 a.m. – 2 p.m.

Where: SDS Lumber, Satellite
Facility, Bingen WA



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