WESTCARB Annual Business Meeting

Fire, fuels treatment and biomass energy under WESTCARB

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Seattle, WA
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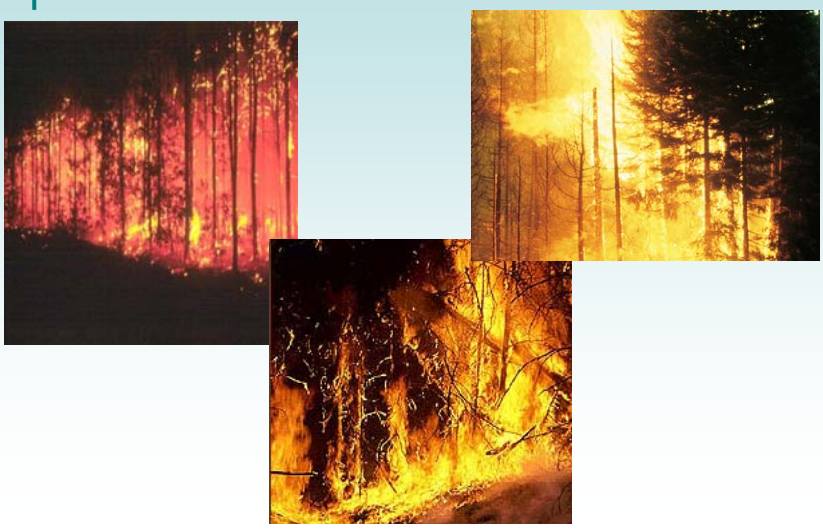
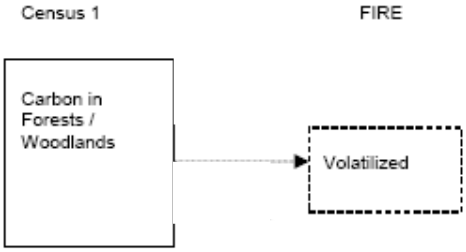
Catastrophic Fires



Fire and Greenhouse Gases



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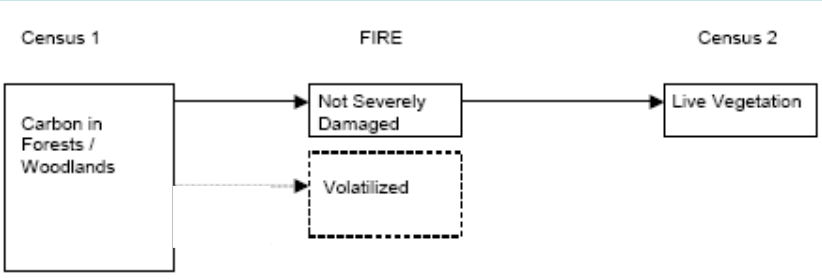

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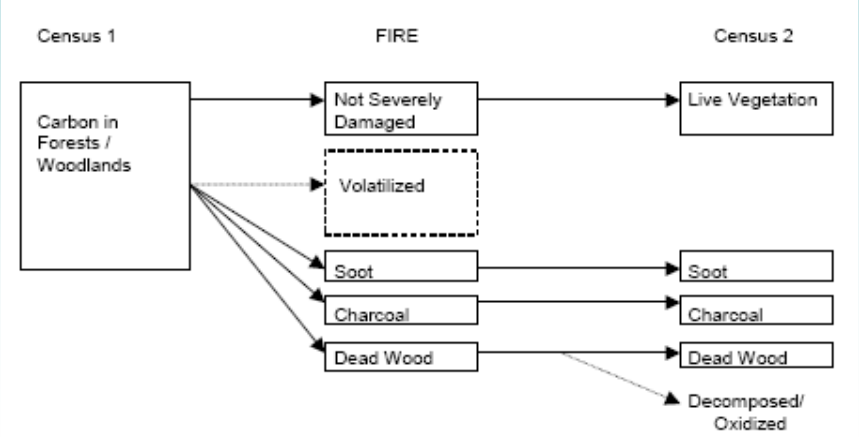
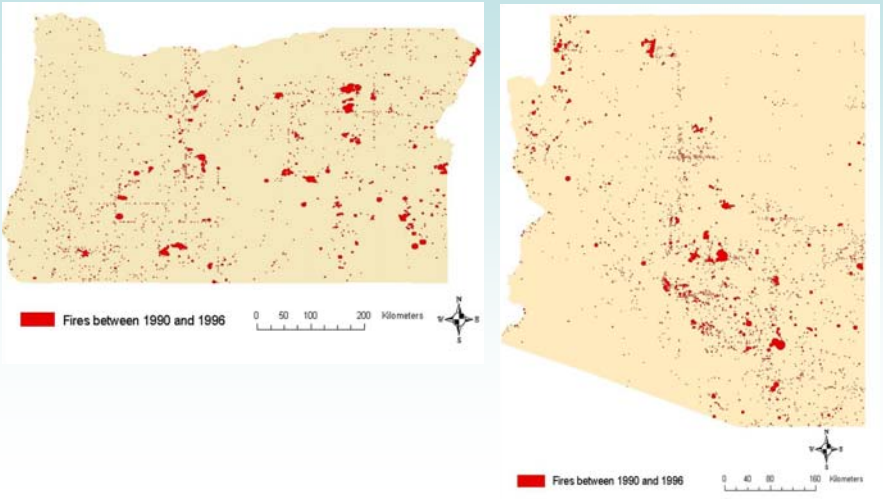
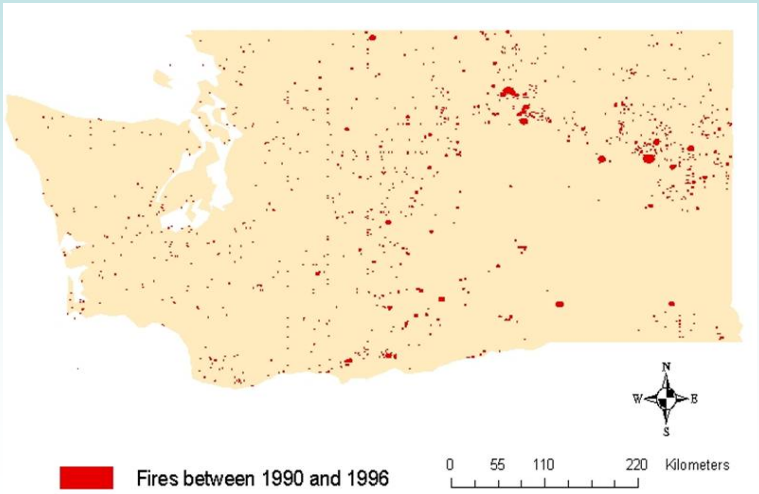


Fire across WESTCARB



Fire in Washington



Fire in Washington

- WESTCARB Baseline work
  - 6 years analyzed (1991-1996)
  - 175,000 acres burned; 11,800 acres per year
  - 1.07 $MMTCO_2e$; 0.18 $MMTCO_2e/yr$
  - Excludes 1994, a year with 5x the area burned of long term average

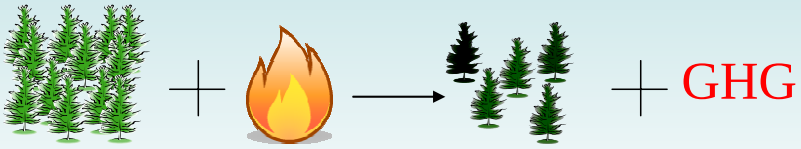
Other WESTCARB States

- Arizona
  - 154,000 ac/yr
  - 0.47 MMTCO$_2$e/yr
- Oregon
  - 135,100 ac/yr
  - 1.03 MMTCO$_2$e/yr
- Northern California
  - 1.55 MMTCO$_2$e/yr

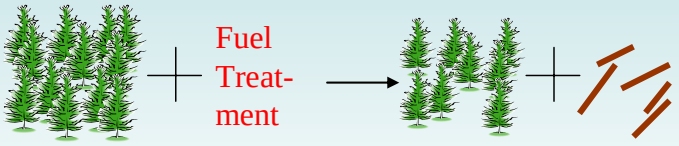
Carbon Supply from Fuel Treatment

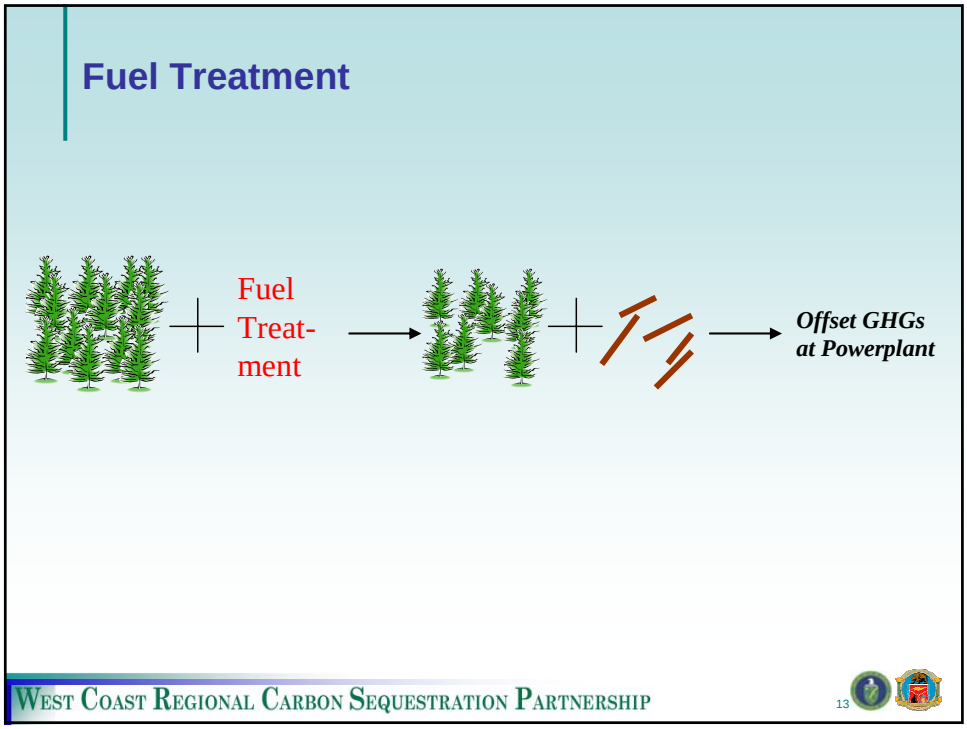
- Winrock analysis under WESTCARB I revealed as much as 10 million bone dry tons available from fuel treatment in Washington State

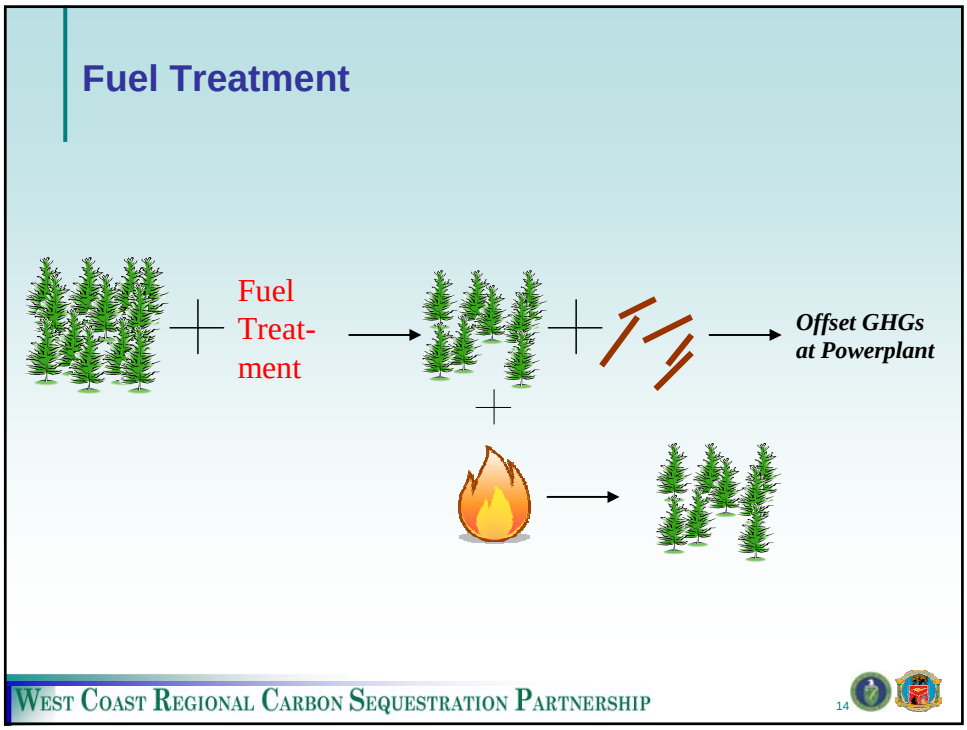
Baseline



Fuel Treatment




Fuel Treatment
Fuel Treat-ment
Offset GHGs at Powerplant
West Coast Regional Carbon Sequestration Partnership
13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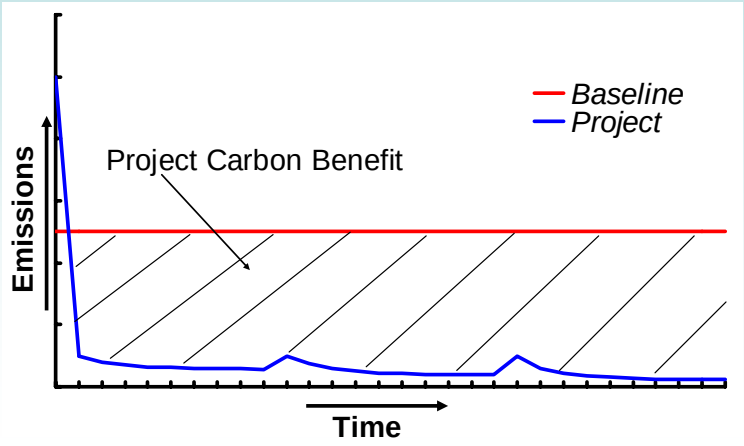
Importance of Baseline



Fire Baseline

- What is a fire baseline?

Fire Baseline

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  - Risk of area burning
  - Emissions per unit area

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  - Risk of area burning
  - Emissions per unit area
- Risk of an area burning in a given year only fraction of a %

Project Emissions

- Project is not just avoided emissions!
  - Emissions from fuel treatment
    - Emissions from machinery
    - Emissions from increased dead wood stocks
    - Emissions from transport of materials

Project Benefit

- Avoided fire emissions
  - Inside project boundaries
  - And potentially outside project boundaries
- Stimulated growth in thinned trees
- Growth in trees that might have been killed by fire
- Avoided emissions from displacing fossil fuels in electricity generation
- Initial emissions across all project lands balanced by annual benefit from avoided emissions from catastrophic fire

What is happening under WESTCARB

- Process to develop a transparent, conservative and statistically sound carbon project methodology
  - Assessment of baseline rate of fire incidence
  - Assessment of baseline fire emissions
  - Assessment of project emissions
  - Assessment of growth in project and baseline cases
  - Assessment of avoided fire outside project boundary
- Fuel treatments and measurements of fuel treatment
  - To aid in methodology development
  - To road-test methodology

Fire Methodology

- Four overall steps
  - Creation of Winrock 'straw-man' methodology
    - ten year moving window of fire probability
  - Fire workshops
    - October 2006 – full panel (22 participants; 15 organizations)
    - May 2007 – fire expert subgroup
  - Consultancies with fire experts
    - UC Berkeley team focused on the baseline fire risk - probability of an area being burned in a given year
    - USFS PNW focused on developing estimates of emissions to be paired with the baseline rate of fire
  - Field measurements before and after fuel treatments

Field Measurement

- In Lake County, OR and Shasta County, CA
  - 1 Federal, 1 Private in OR
  - 1 Utility, 1 State, 2 Private in CA
- Measurement of trees above and belowground, understory vegetation, standing and down dead wood, litter and duff
- Before and after fuel treatment
- Data before and after only processed on one site
  - 26% of tree biomass cut and extracted during fuel treatment