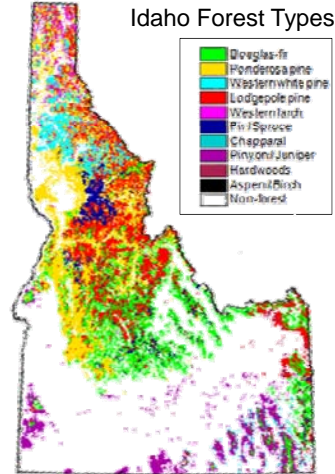


# Idaho Forests by the Numbers



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## OUTLINE

- Forest management – “triple win”
- Forest extent & ownership
- Timber inventory trends
- Wildfire & carbon emissions
- Forest business sector contributions

<http://www.cnrhome.uidaho.edu/pag/>

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## Forest management . . .

. . . opportunity to address three challenging issues:

- Restoring forest health, fire resiliency, and wildlife habitat
- Finding renewable energy alternatives
- Revitalizing western economies

# “Triple Win”

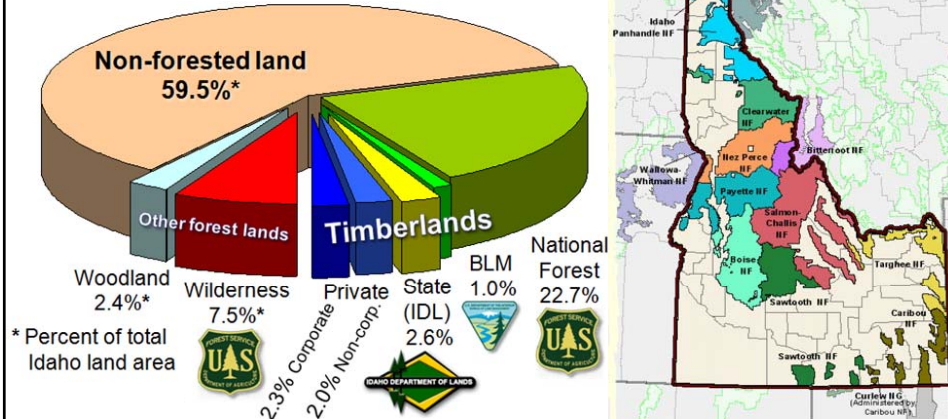


<http://www.forestry.org/media/docs/westernforester/2006/dec06.pdf>

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## Forest extent & ownership

- Forests cover 40.5% of Idaho
- Most forests are timberlands



Data: Forest Resources of the U.S., 2007 (U.S. Forest Service 2009)

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## Timber volume & change factors

### Idaho Timberland Data

- Growing stock volume:\* 36.7 billion ft<sup>3</sup>
- Forest change factors (2007)
  - Growth: 994 million ft<sup>3</sup>
  - Mortality: 383 million ft<sup>3</sup>
  - Removals: 246 million ft<sup>3</sup>
  - Wood increment:† 748 million ft<sup>3</sup>
- Sound dead volume: 5.0 billion ft<sup>3</sup>

\* Wood volume in trees > 5" diameter

† Wood increment = Growth – Removals

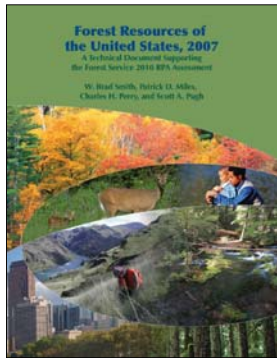


Data: Forest Resources of the U.S., 2007 (U.S. Forest Service 2009)

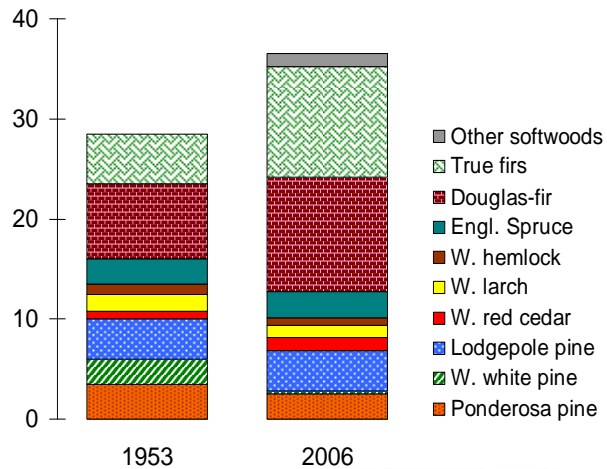
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## Forest inventory change, 1953-2007

- 30% increase
- Fewer pines, more firs



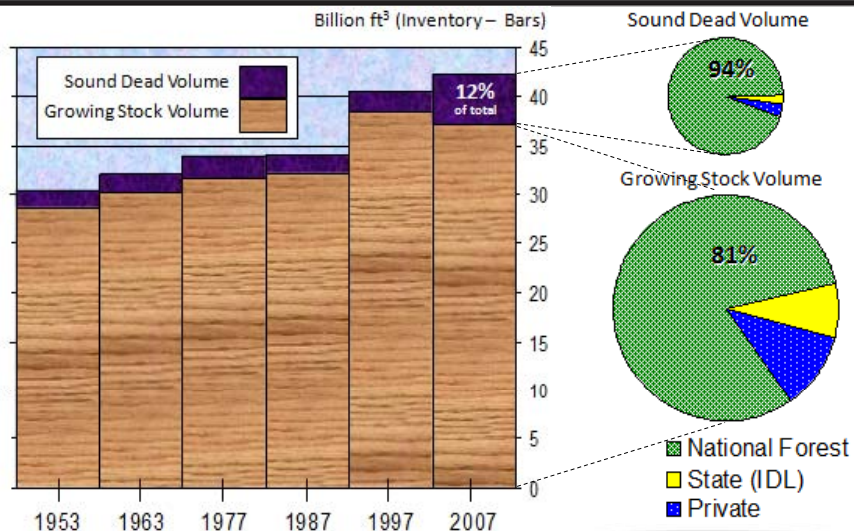
Growing stock volume, billion cubic feet



Data: Forest Resources of the U.S., 2007 (U.S. Forest Service 2009)



## Idaho forest inventory change, 1953-2007



Data: Forest Resources of the U.S., 2007 (U.S. Forest Service 2009)



# Wildfire & fuels



## GAO

U.S. Government Accountability Office

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The most extensive and serious problem related to the health of national forests in the Interior West is the over-accumulation of vegetation, which has caused an increasing number of large, intense, uncontrollable, and catastrophically destructive wildfires.

GAO  
Report to the Subcommittee on Forests and Forest Health, Committee on Resources, House of Representatives

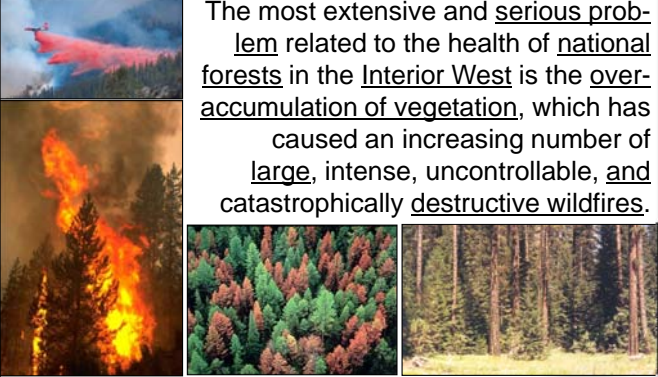
April 1999

WESTERN NATIONAL FORESTS

A Cohesive Strategy is Needed to Address Catastrophic Wildfire Threats



GAO-RCED-99-65

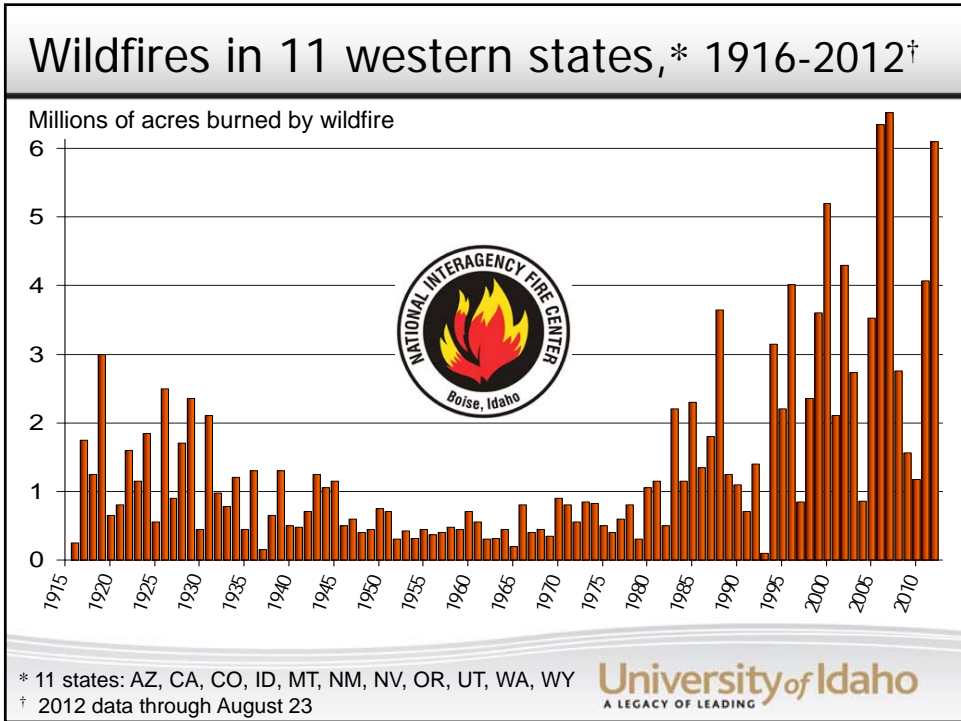




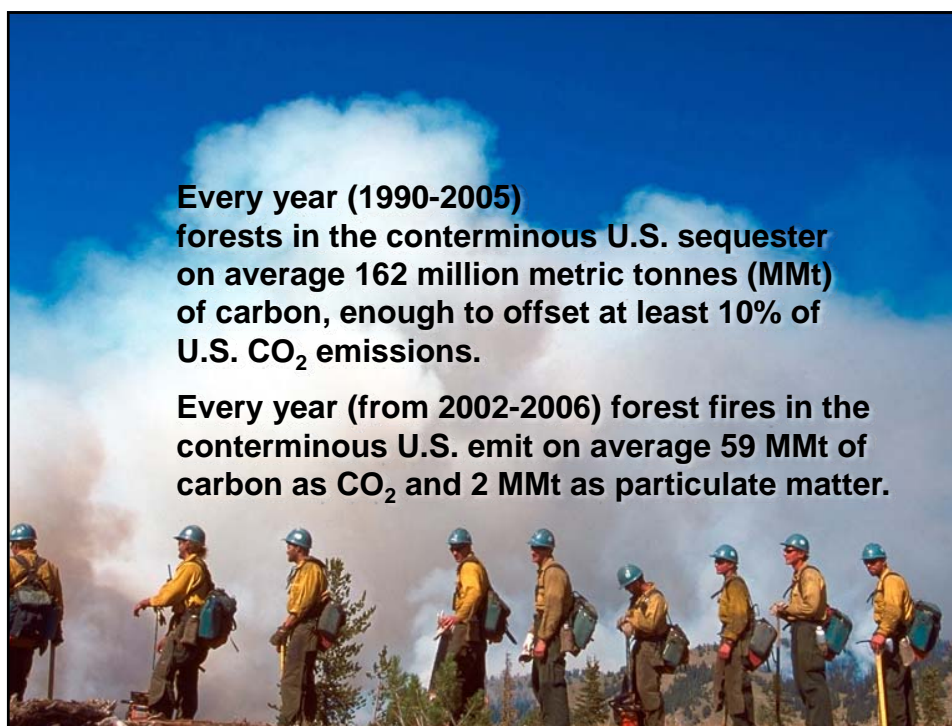
http://www.gao.gov/assets/160/156559.pdf



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**Every year (1990-2005)  
forests in the conterminous U.S. sequester  
on average 162 million metric tonnes (MMt)  
of carbon, enough to offset at least 10% of  
U.S. CO<sub>2</sub> emissions.**

**Every year (from 2002-2006) forest fires in the  
conterminous U.S. emit on average 59 MMt of  
carbon as CO<sub>2</sub> and 2 MMt as particulate matter.**

## Wildfire, fuels & climate change

The overall importance of climate in wildfire activity underscores the urgency of ecological restoration and fuels management to reduce wildfire hazards to human communities and to mitigate ecological impacts of climate change . . .

A.L. Westerling, et al. (2006).  
"Warming and earlier spring increase  
western U.S. forest wildfire activity."  
*Science* 313: 940-943.



<http://www.sciencemag.org/content/313/5789/940.short>

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## Wildfire, fuels & emissions



Although wildfires reduce the forest carbon sink function considerably, nevertheless due to tree growth Idaho's forests in an "average" year offset 88% of all fossil fuel combustion emissions in the State.

In an "average" wildfire year in Idaho, CO<sub>2</sub> emissions are equivalent to 3.6 million cars.

In 2006 Idaho wildfire emissions equalled 160% of all fossil fuel burning emissions. Because of more wildfire activity in 2006, Idaho wildfire emissions were equivalent to 6.4 million cars.

Even so, in 2006 Idaho's forests were a net sink for atmospheric carbon.



[http://www.energy.idaho.gov/energyalliance/d/carbon\\_issues\\_report.pdf](http://www.energy.idaho.gov/energyalliance/d/carbon_issues_report.pdf)

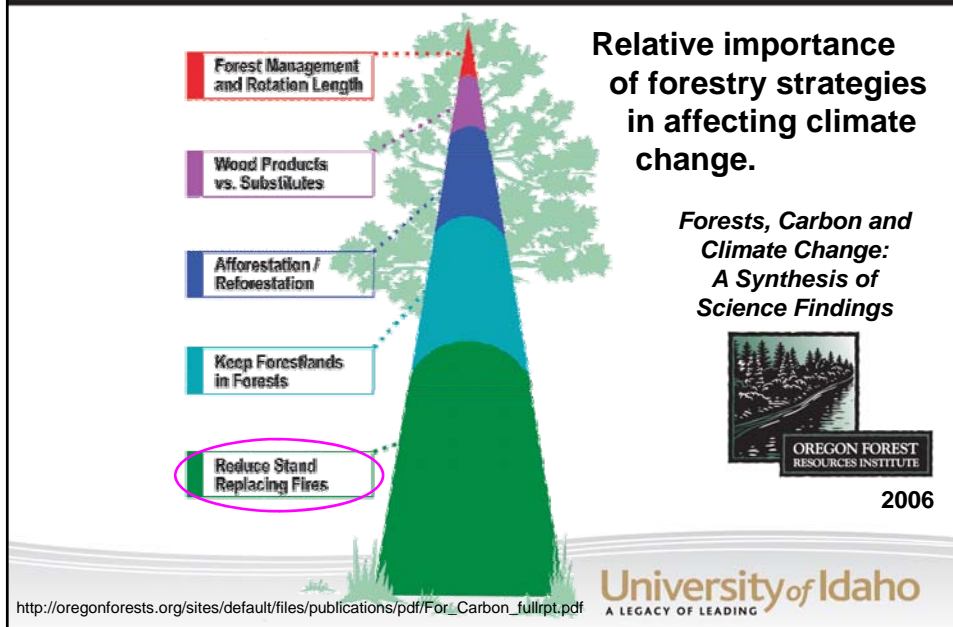
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## Wildfire, fuels & emissions



Reducing the extent & intensity of wildfires is the leading strategy for enhancing the role of forests in mitigating greenhouse gas emissions.

## Wildfire, fuels & climate change



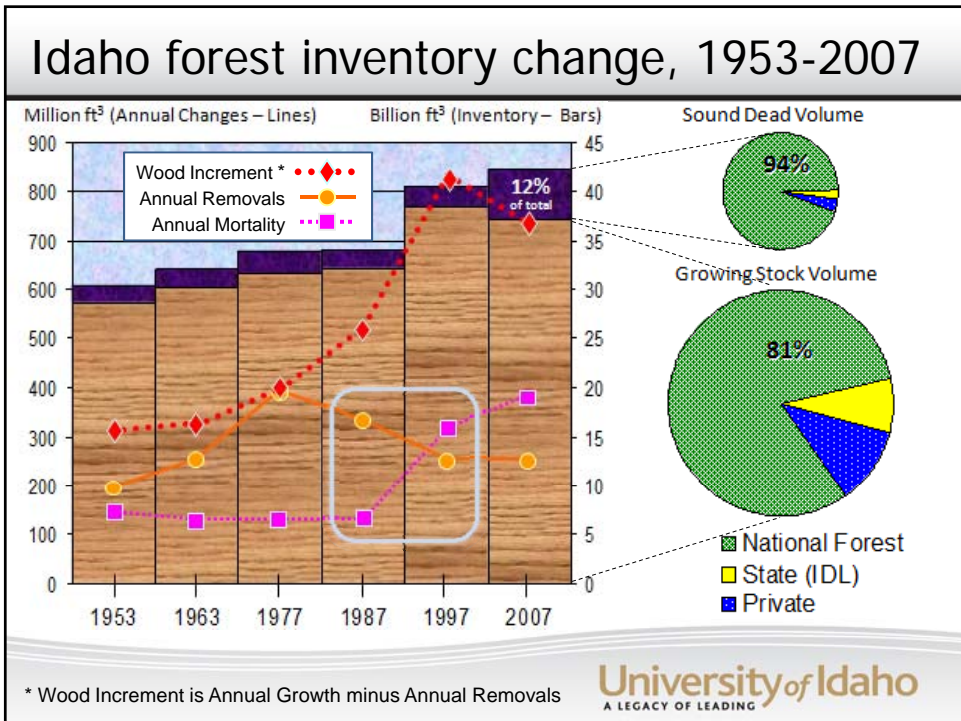
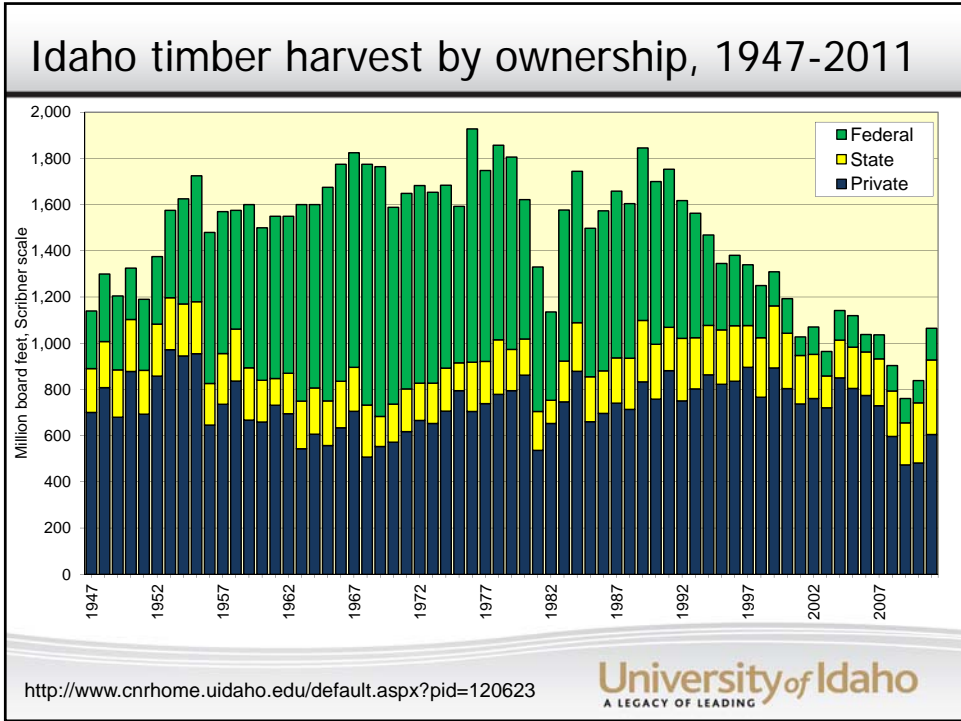
## Forests' role in climate change mitigation

“ . . . a sustainable forest management strategy aimed at maintaining or increasing forest carbon stocks, while producing an annual sustained yield of timber fibre or energy from the forest, will generate the largest sustained mitigation benefit.”



[http://www.ipcc.ch/publications\\_and\\_data/ar4/wg3/en/ch9.html](http://www.ipcc.ch/publications_and_data/ar4/wg3/en/ch9.html)

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## Idaho timber harvest economic benefits



## Idaho forest business sector employment

Idahoans rely on jobs in the woods, on the roads, and in the mills



10,300 direct forest sector jobs support almost 9,000 jobs in other sectors

\$654 million in personal income comes from direct and indirect jobs in Idaho's forest products business sector



Only 3 states depend more on forest business:

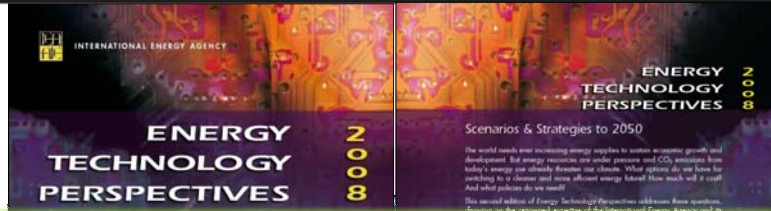
- Maine
- Mississippi
- Oregon



<http://www.cnrhome.uidaho.edu/default.aspx?pid=120623>

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# Energy perspectives – Int'l Energy Agency



The world needs ever increasing energy supplies to sustain economic growth and development. But energy resources are under pressure and CO<sub>2</sub> emissions from today's energy use already threaten our climate. What options do we have for switching to a cleaner and more efficient energy future? How much will it cost? And what policies do we need?



<http://www.iea.org/Textbase/techno/etp/index.asp>

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# Wood bioenergy is a byproduct . . .

Plummer  
combined heat & power "cogeneration"

hog fuel

under-story small log

saw log

clean chips

kiln-dried lumber

Wood Bioenergy  
Management Report  
Energy for Idaho

Report of the Forestry Task Force  
Idaho Strategic Energy Alliance  
June 2009

[http://www.energy.idaho.gov/energyalliance/d/forest\\_packet.pdf](http://www.energy.idaho.gov/energyalliance/d/forest_packet.pdf)

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