



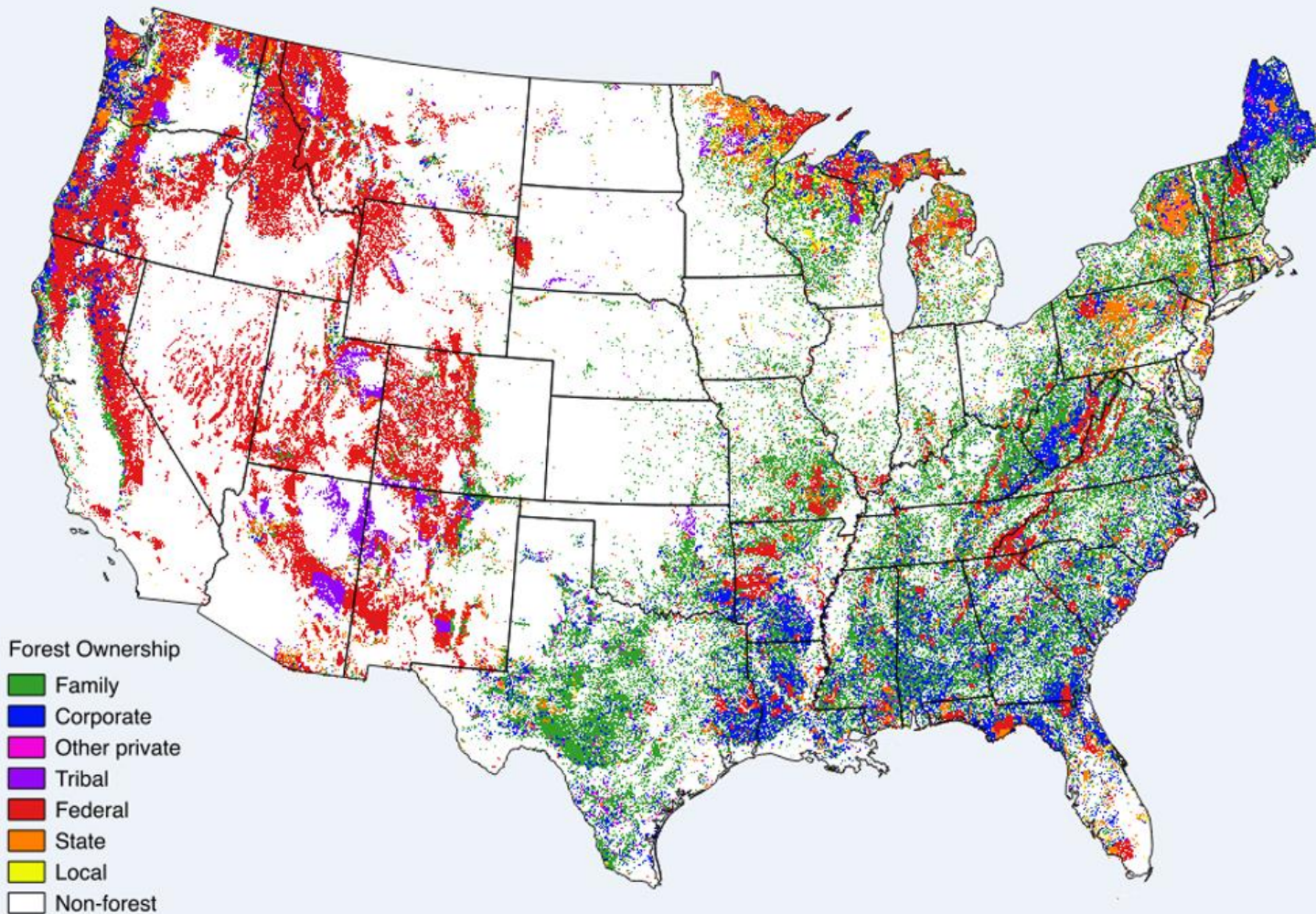
Summary of What We've Learned

Speaker Background

- Edie Sonne Hall
 - Founder and Principal, Three Trees Consulting
 - Facilitator, North American Wood Products LCA Coordination Group (US Endowment)
 - Ph.D. Forest Resources, University of Washington, specialty forest carbon accounting and life cycle assessment
 - Work on projects for industry, non-profits, and governments in climate and forestry world, ranging from policy to research to protocol development
 - 4th generation family forest tree farmer



Webinar 1 and 2- Forests and Forest Products 101



Lots of forests in US, owned by different landowner types. Ownership patterns different in different regions of the country

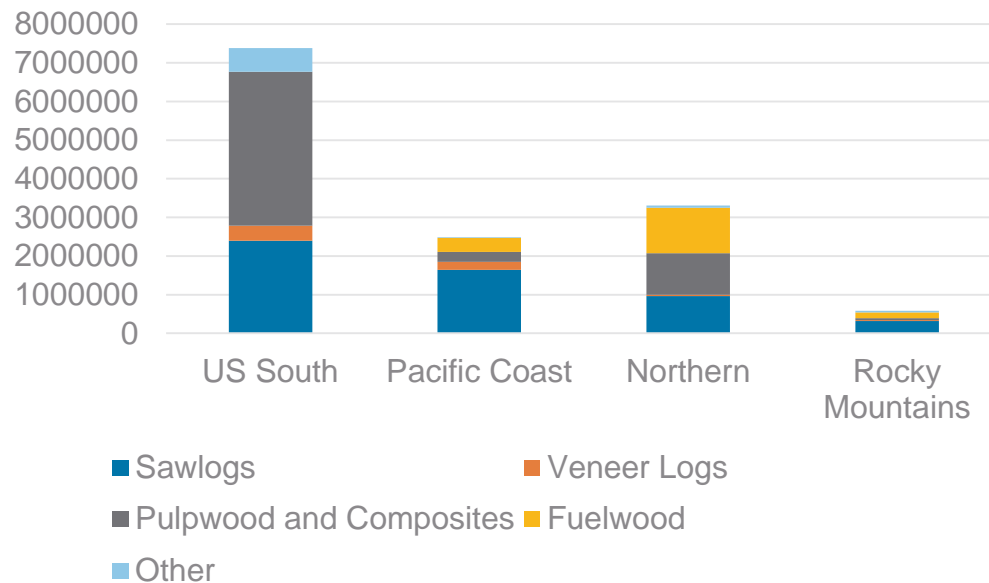
Total US= 765.5 million acres
Private non-corporate (family forests) = 287.7 million acres
Federal = 237 million acres
Private Corporate = 155.7 million acres
State= 70.5 million acres
County = 13.7 million acres

Source: **US Endowment for Forestry and Communities**, produced by Mila Alvarez, available at <https://usaforests.org>

Webinar 1 and 2- Forests and Forest Products 101

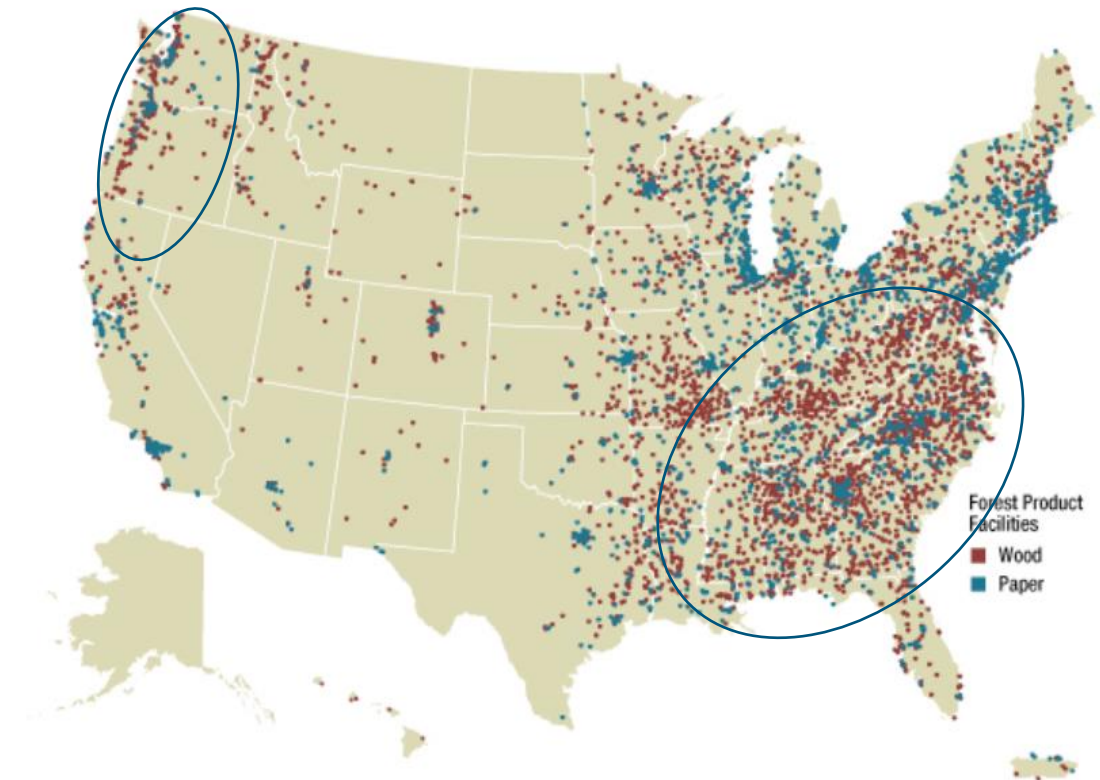
Manufacturing where the trees are.
Building materials (lumber, engineered wood)
from PNW and US South.

Volume of roundwood harvested, by
region, 2016



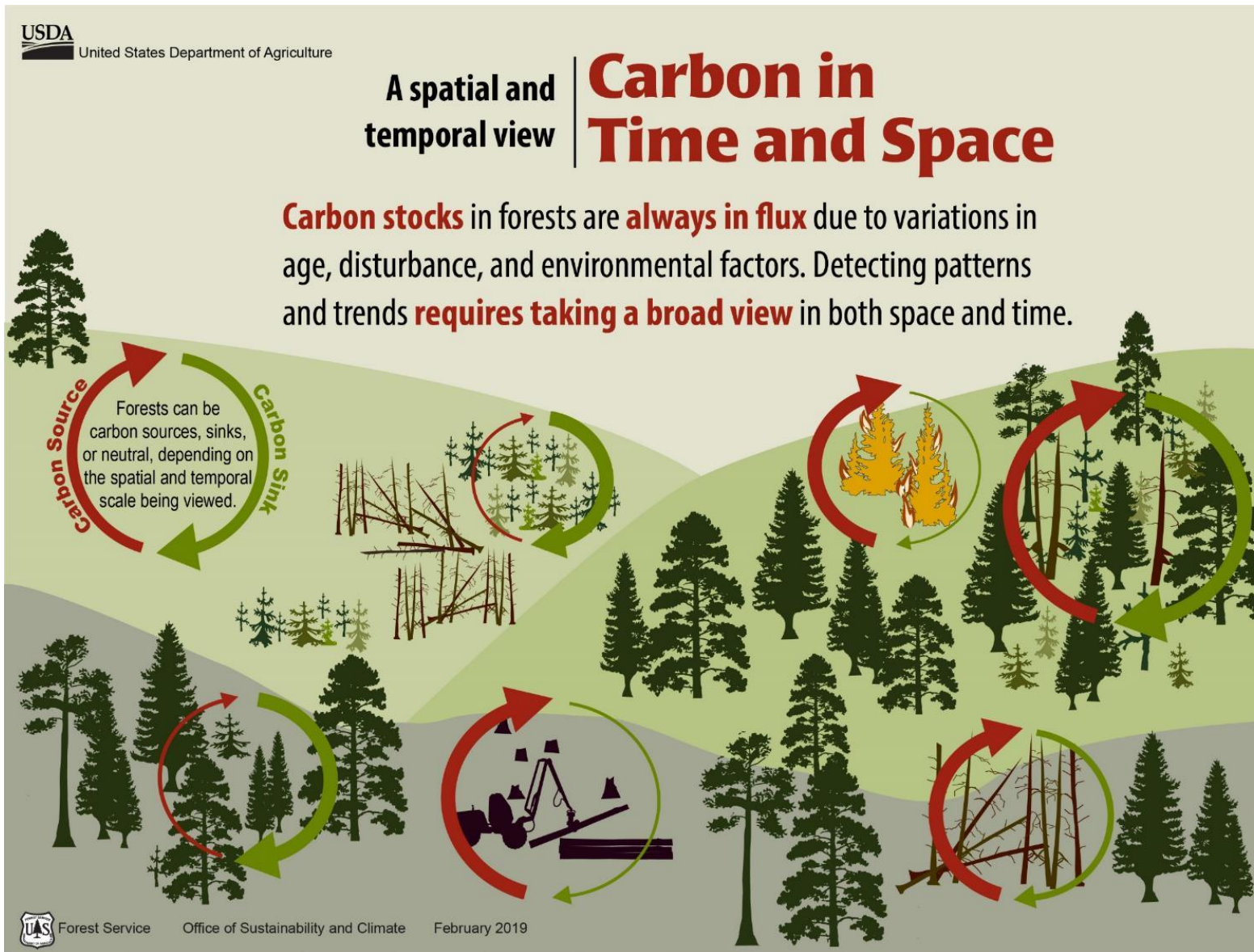
Data from Oswalt et al 2018, displayed in Alvarez 2018 State of America's Forests,
<https://usforests.maps.arcgis.com/apps/Cascade/index.html?appid=6d3076faddfb4b8c8b6933cfcf4963cb>

U.S. Forest Products Industry



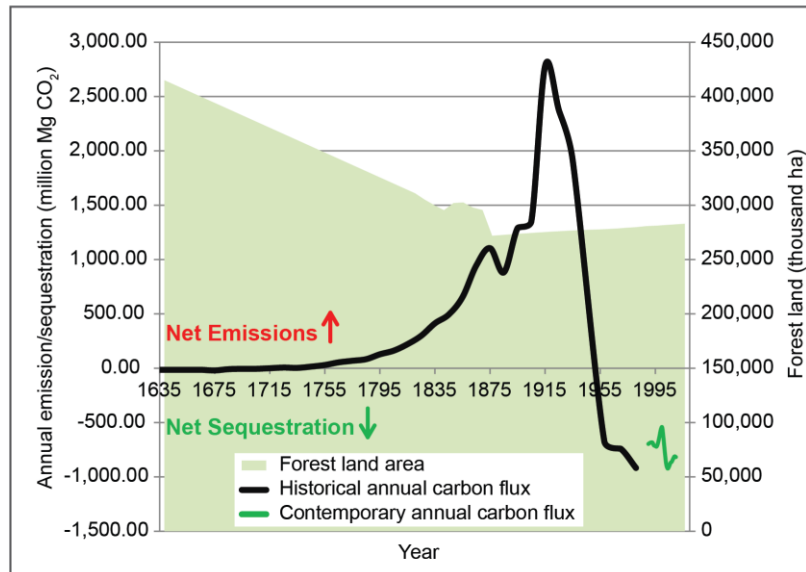
Source: U.S. Environmental Protection Agency (2011)
<http://www.epa.gov/sectors/sectorinfo/sectorprofiles/forest/map.html>

Webinar 1 and 2- Forests and Forest Products 101

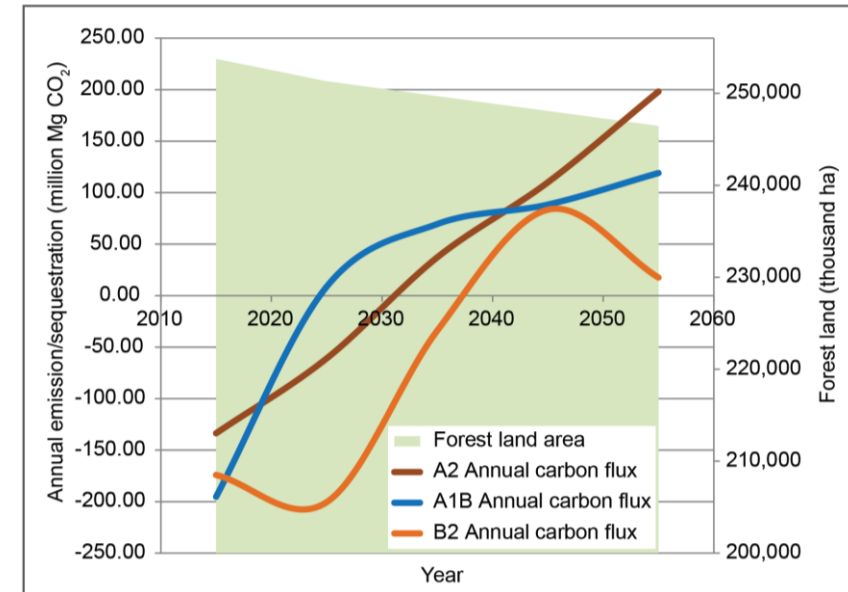


Webinar 1 and 2- Forests and Forest Products 101

Forests and Carbon



Net Carbon Flux of US forests 1635-2000



USFS prediction of net carbon flux under different scenarios through 2060

From: USFS, 2012: Future of America's forest and rangelands: 2010 Resources Planning Act assessment. General Technical Report WO-87. 198 pp., U.S. Department of Agriculture, U.S. Forest Service, Washington, D.C. [URL](#)

Webinar 3 and 4- LCA and Wood

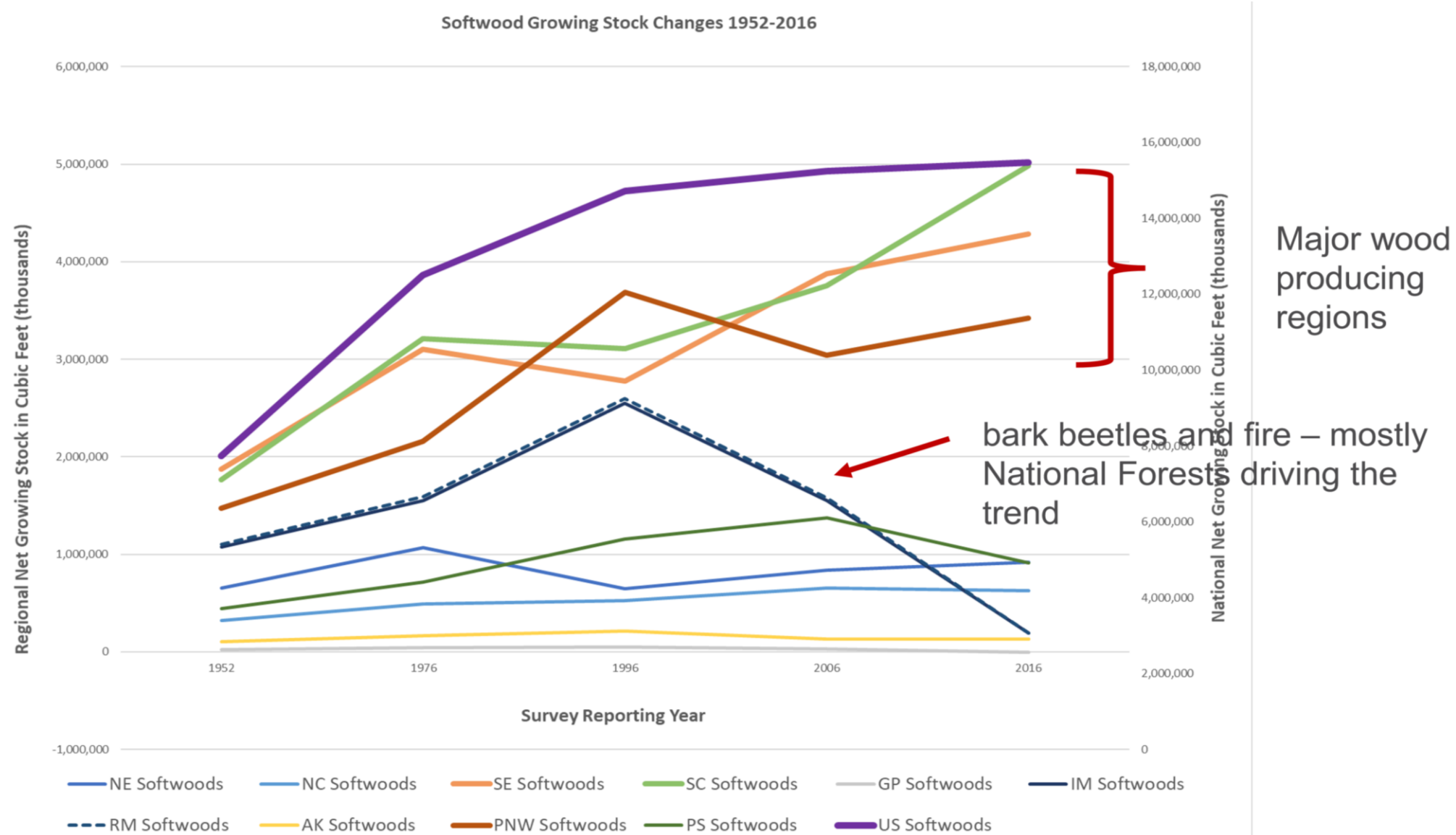
Lots of Terms!!!
Carbon Neutrality
Attributional LCA
Consequential LCA

- Something is “carbon neutral” when there is zero net emissions biogenic C from a product system.
- Different methods for accounting
- Start with growth, start with harvest, look at from a mill perspective

“Sustainably Managed Forests” for Biogenic C ISO 21930: Section 7.2.11

- Option 1: Certified Wood Products
 - Canadian Standards Association - CSA
 - Forest Stewardship Council - FSC
 - Sustainable Forestry Initiative - SFI
- Option 2: National Reporting per UNFCCC
 - United Nations Framework Convention on Climate Change - National Inventory Reports
 - Stable or Increasing Forest Stocks

Webinar 3 and 4- LCA and Wood



Webinar 5 and 6: Carbon and Sustainability Tracking

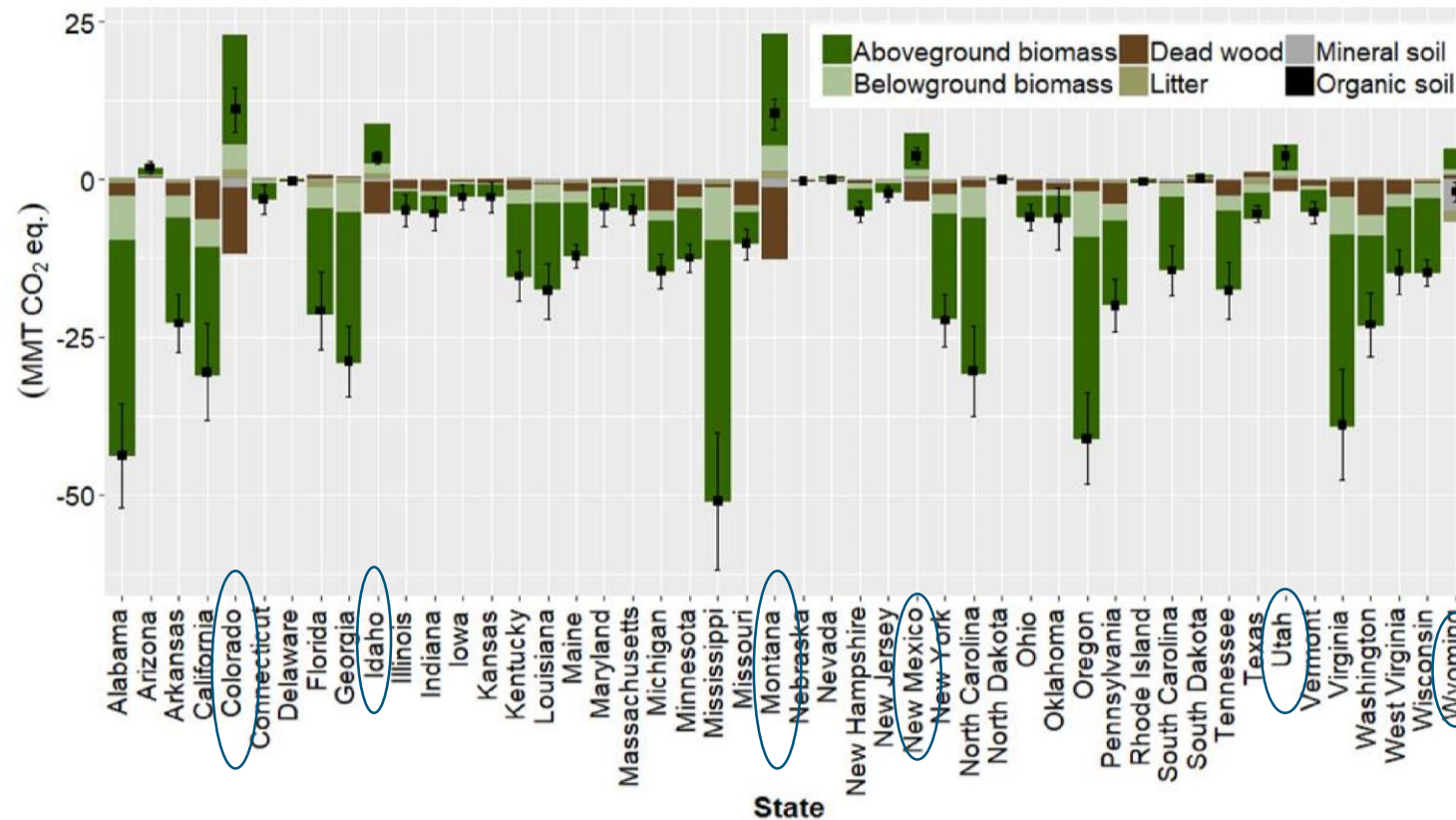
Annual Flux MMT CO₂e

Emissions and Removals Category ^a	1990	1995	2000	2005	2010	2016	2017	2018
Forest land remaining forest land ^b	(610.1)	(598.7)	(572.1)	(572.6)	(556.2)	(565.5)	(552.0)	(564.5)
Non-CO ₂ emissions from fire	1.5	0.6	2.9	8.2	4.6	5.6	18.8	18.8
N ₂ O emissions from forest soils	0.1	0.3	0.5	0.5	0.5	0.5	0.5	0.5
Non-CO ₂ emissions from drained organic soils	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Forest land converted to non-forest land ^b	119.1	120.8	122.5	124.4	126.0	127.4	127.4	127.4
Non-forest land converted to forest land ^b	(109.4)	(109.7)	(109.9)	(110.2)	(110.4)	(110.6)	(110.6)	(110.6)
Harvested wood products	(123.8)	(112.2)	(93.4)	(106.0)	(69.1)	(92.4)	(95.7)	(98.8)
Woodlands remaining woodlands ^c	5.0	4.9	4.8	4.6	4.4	4.1	4.0	4.0
Urban trees in settlements ^d	(96.4)	(103.3)	(110.4)	(117.4)	(124.6)	(129.8)	(129.8)	(129.8)
Total Emissions and Removals	(813.9)	(797.2)	(755.0)	(768.4)	(724.7)	(760.6)	(737.3)	(752.9)

Total stocks	53,423	54,419	55,380	56,239	57,124	58,362	58,539	58,720
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Webinar 5 and 6: Carbon and Sustainability Tracking

Emissions and removals, 2018



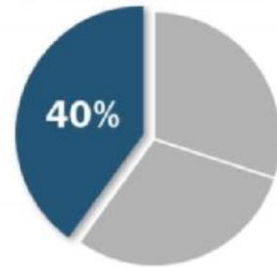
Domke, Grant M.; Walters, Brian F.; Nowak, David J.; Smith, James, E.; Ogle, Stephen M.; Coulston, J.W.; Wirth, T.C. 2020. Greenhouse gas emissions and removals from forest land, woodlands, and urban trees in the United States, 1990-2018. Resource Update FS-227. Madison, WI: U.S. Department of Agriculture, Forest Service, Northern Research Station. 5 p. <https://doi.org/10.2737/FS-RU-227>.

Webinar 5 and 6: Carbon and Sustainability Tracking

Third Party Sustainable Forest Management Certification/ Chain-of-Custody/ Third Party Fiber Sourcing/Controlled Wood Certification

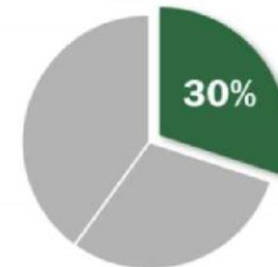
- Fiber sourcing refers to the wood entering the mill for processing, which may or not be from certified
 - Emphasis on “legal and responsible”
- SFI
 - Requires BMPs for the wood
 - Using trained loggers
 - Prohibits
 - Sourcing from areas without effective social laws
 - Illegal timber
- FSC Controlled Wood
 - Identified material from acceptable uncertified sources that can be mixed with FSC-certified material in products that carry the “FSC Mix” label
 - Prohibits
 - GMO Trees
 - Conversion to non-forest use
 - Threats to forests with High Conservation Values
 - Violation of traditional or civil rights
 - Illegal harvest

OUR OWN
CERTIFIED TIMBERLANDS



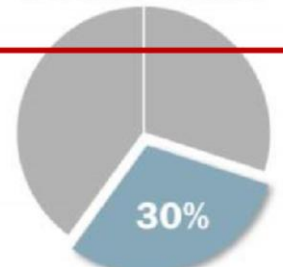
More than 40 percent of our wood supply, in the form of logs and wood chips, comes from our own certified timberlands.

OTHER CERTIFIED
FORESTS



Close to 30 percent of our wood fiber comes from other certified forests -- some from large landowners like us, lots from family landowners, and some from in between.

OTHER LEGAL,
RESPONSIBLE SOURCES



The remaining 30 percent of our wood supply comes from other legal, responsible sources. Most of this is supplied from small, family-owned forests.

Example of fiber sourcing from a major timber company

Wood Products and Building Industry

Quattlebaum Building - Wood Sources

LEGEND

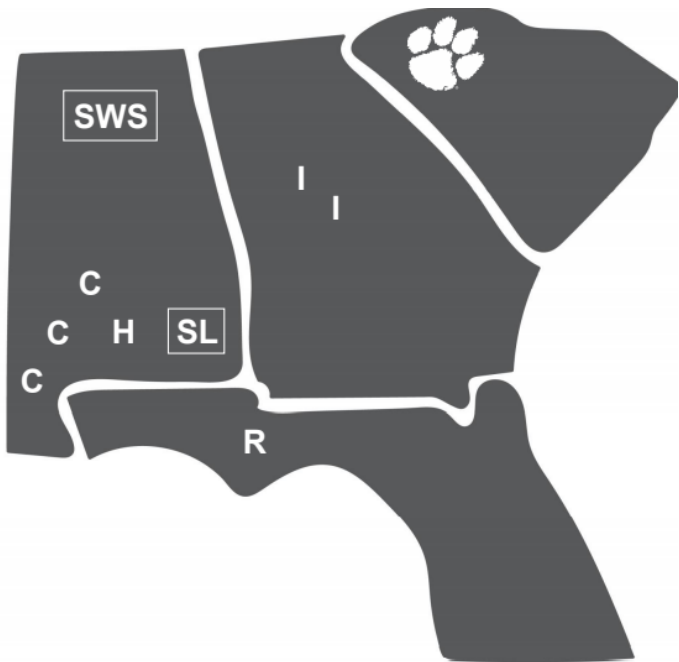
SmartLam (SL) - CLT

- C = Canfor (60%)
- R = Rex Lumber (20%)
- I = Interfor (15%)
- H = Harrigan Lumber (5%)

% = percentages of lumber used in CLT

Structural Wood Systems (SWS)

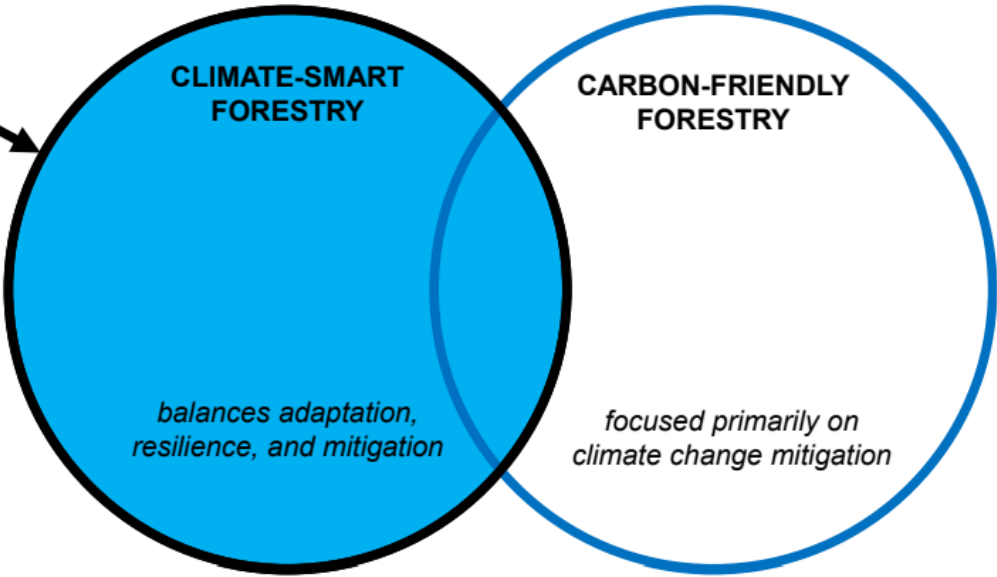
- All glulam lumber provided by Canfor in Fulton, AL



CARBON-FRIENDLY vs. CLIMATE-SMART

Carbon is the tail, not the dog

YOU SHOULD BUY MORE (OF THIS) WOOD



Today and Beyond

Continuation of Discussion of this week

The FAQ document! Will answer the questions you have submitted to date in writing.

