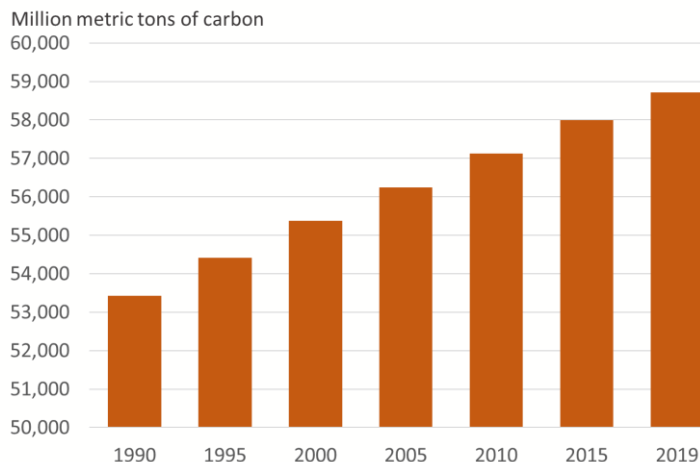


C-MASC Forest Carbon Working Group

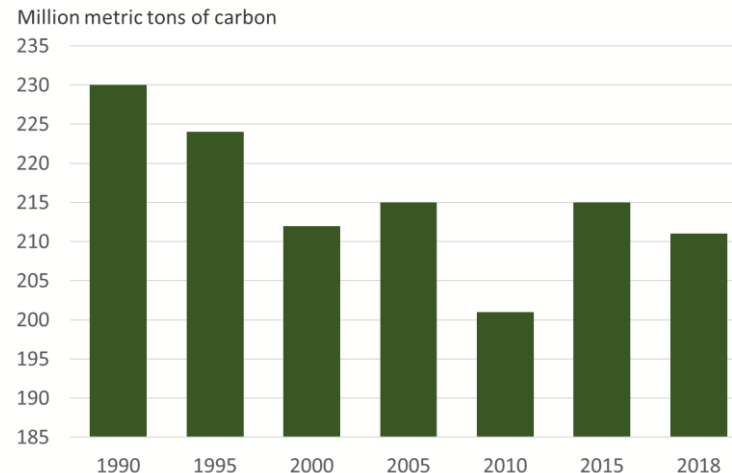
Sayeed Mehmood, Brent Sohngen, and Roger
Williams

The Current Situation

Total Forest Carbon Stocks in the U.S.

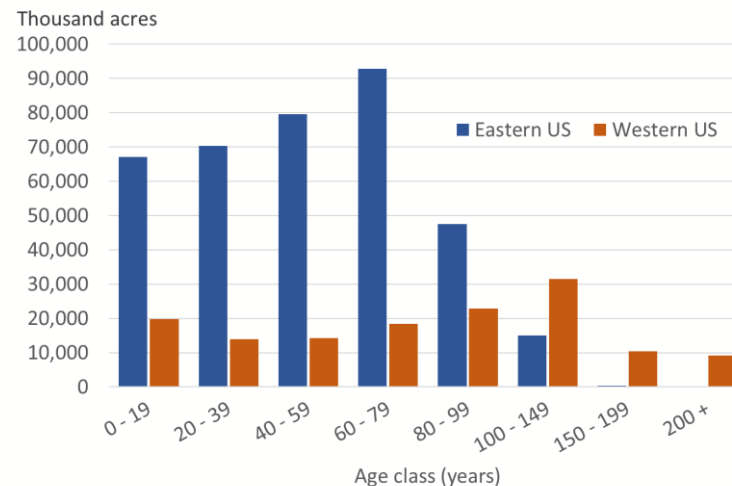


Net Forest Carbon Sequestered in the U.S.



- Forests are an inexpensive and natural way to sequester carbon
- US Forests offset ~12% of US GHG emissions.
- Old forests store more carbon; Young forests sequester carbon more rapidly.
- Factors that will affect net sequestration in the future: forest aging, harvesting, management, replanting, wildfire, other disturbances, land-use change, carbon fertilization, climate change.

U.S. Forest Age Class Distribution



Sources:

- Hoover K, Riddle AA (2020) U.S. Forest Carbon Data: In Brief. Congressional Research Service. 12p;
- US Forest Service FIA (2017)

Critical science and policy questions related to forests

- Despite a loss of 800 million ha to agriculture since 1900, and the liquidation of significant old growth stocks in many regions, the world's forests have been a net sink over the last 120 years due to regrowth, carbon fertilization, and forest management.
 - Will this sink continue, where will it continue, and why?
- There are large opportunities to expand the forest sink in the US and other countries, and this sequestration is a critical part of the global effort to maintain global average temperature change $< 2^{\circ}\text{C}$
 - What mix of increased rotation ages, improved forest management, new forests, better regeneration, adaptation of species with climate conditions, etc. is best ecologically, economically, and socially.
 - What private market incentives, social conditions/norms, or government policies will enable it? How do we eliminate the things that will
- Many countries and companies are relying on forests to meet their net-zero carbon emission goals.
 - Private companies have announced (and some have not announced) large \$ efforts to sequester carbon in forests.