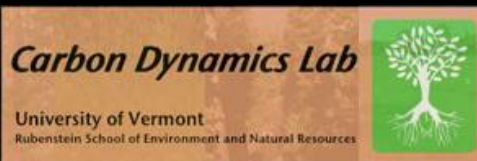


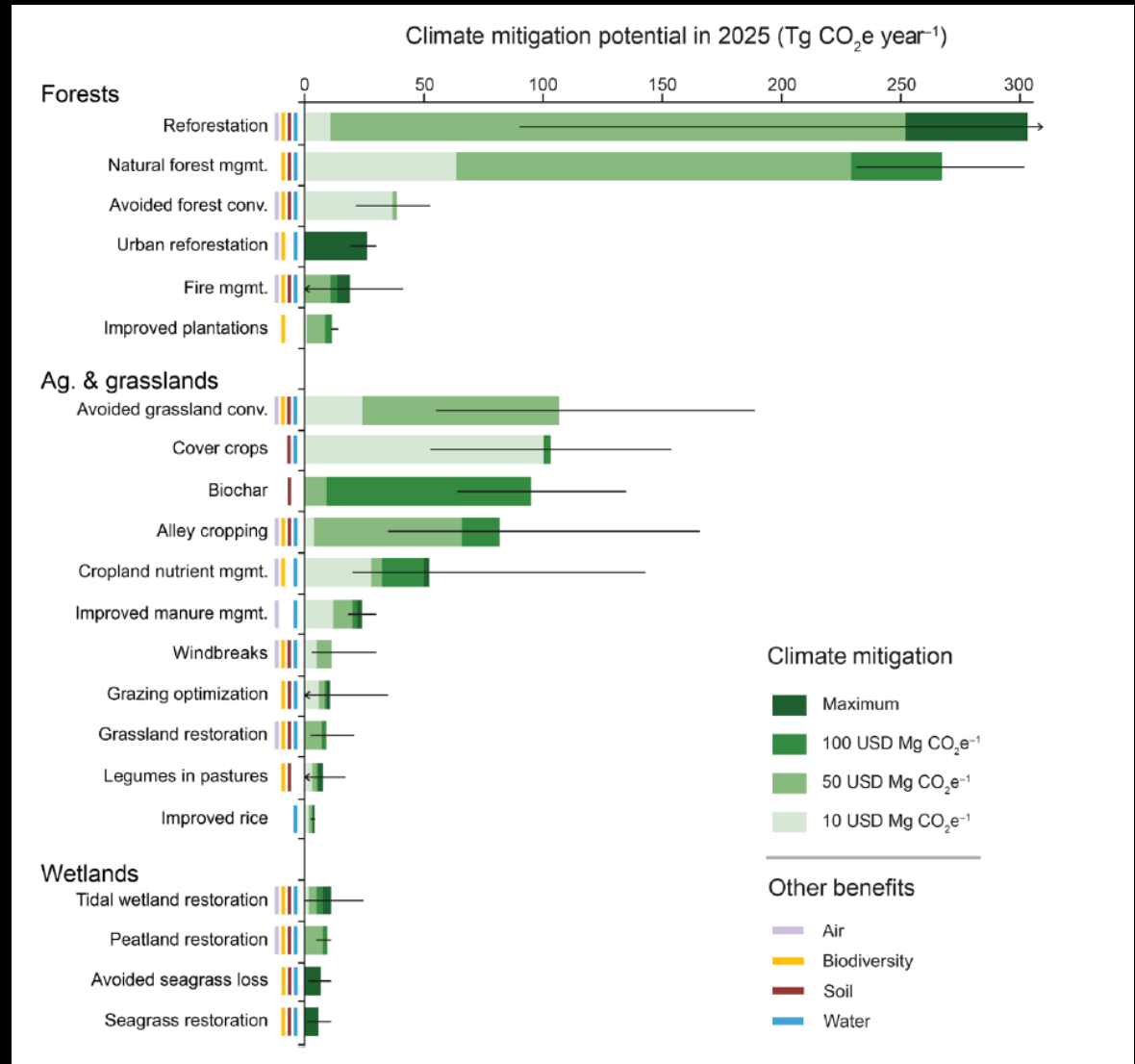
Climate Friendly Forestry: 4 Tests for Durable Wood Products



*Bill Keeton, PhD.
Professor of Forest Ecology and Forestry
Director, UVM Carbon Dynamics Lab.*

Test # 1. Did the wood products compete with or complement other climate solutions?

- **21 Natural Climate Solutions for natural and agricultural lands**
- **Max. potential of 1.2 Pg CO₂e per year**
- **Equivalent to 21% of net annual emissions of the United States**



Full carbon accounting: optimize the mix of carbon strategies

Passive management, e.g.

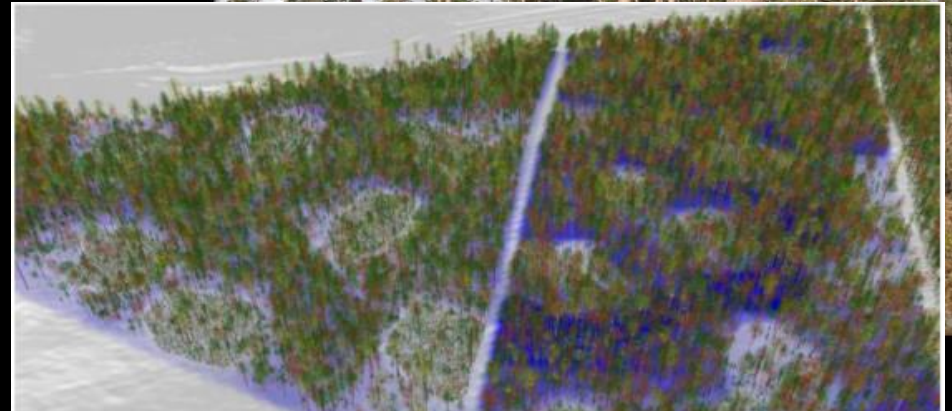
- High Conservation Value forests, like old-growth and rare habitats
- Unmanaged inclusions
- Wilderness areas

Reforestation, e.g.

- Riparian buffers
- Urban tree planting
- Soil stabilization

Improved Forest Management, e.g.

- Retention forestry
- Extended rotations
- Improved growth
- Durable wood products
- Fuels treatment and fire restoration



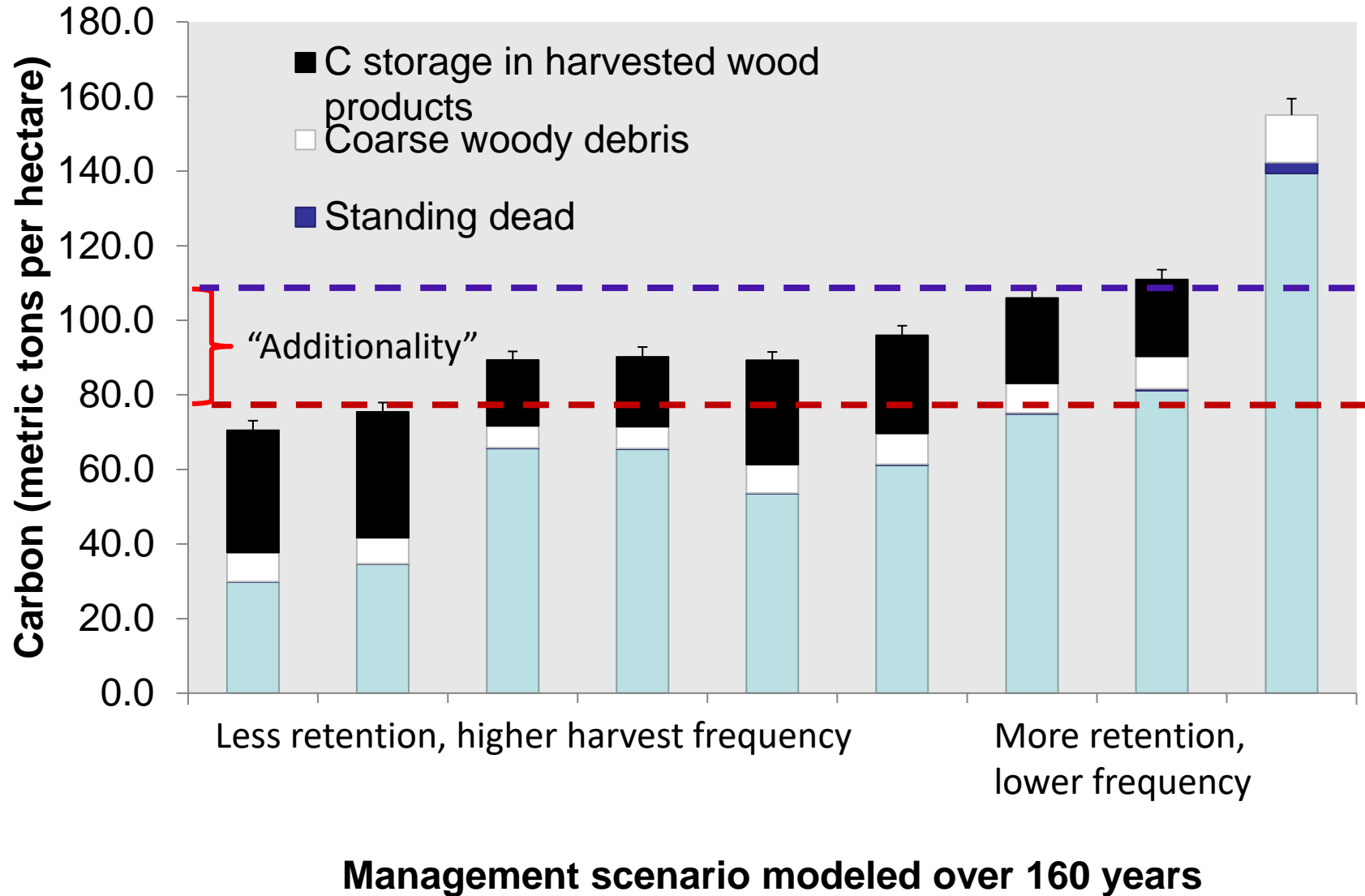
MN

Expanding tree retention shelterw

Modified selection systems



Test #2. Does production of durable wood products contribute to stable or increasing net carbon stocks? Is storage in wood products greater than the long-term opportunity cost?



Test # 3. Is the production of durable wood products part of multi-functional forest management?

...e.g Carbon, flood resilience, *and* exceptionally high-quality stream habitats



Vermont Forest Carbon:

A Market Opportunity for Forestland Owners

<https://www.vlt.org/forest-carbon-report-released/>

Or Google "Vermont Forest Carbon"

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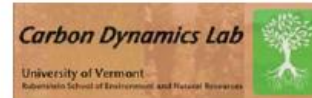
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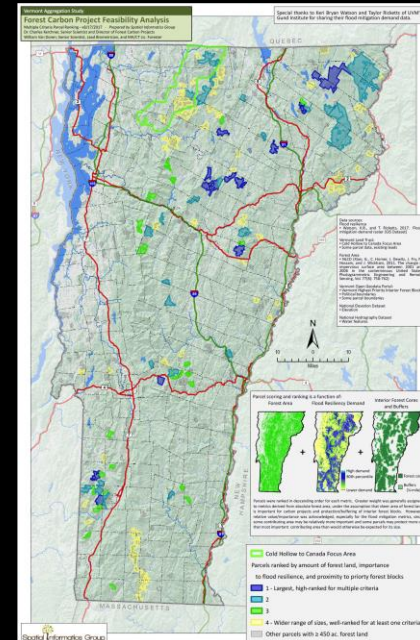
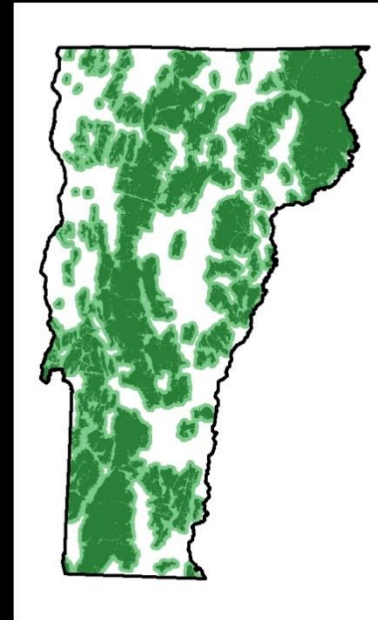
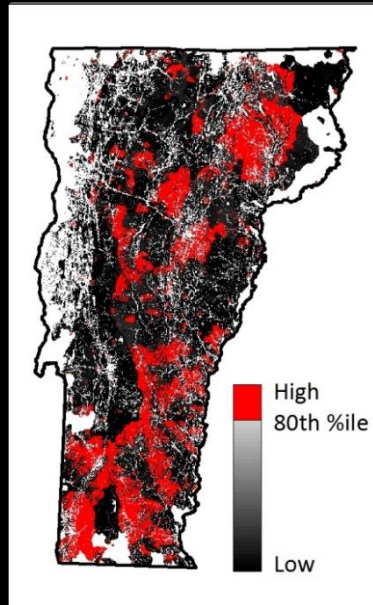
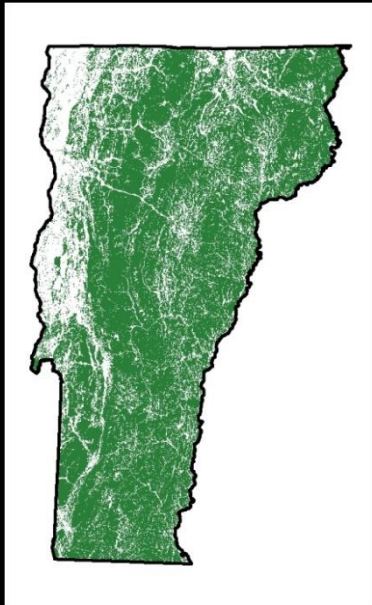
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Final Report – March 2018

 Spatial Informatics Group



Most eligible parcels for carbon projects in Vermont; greatest co-benefits



$$\begin{array}{l}
 \text{Forest area} \\
 + \\
 \Sigma \text{ FLOOD}_{\text{RESID}} \\
 + \\
 \Sigma \text{ FLOOD}_{80} \\
 \text{Interior forest cores} \\
 + \\
 \text{Buffers} \\
 = 285,00 \text{ acres}
 \end{array}$$

Flood mitigation demand data credit:
 Watson, K.B., and T. Ricketts, 2017. Flood mitigation demand raster [GIS Dataset]

Test #4. Does production of durable wood products help make forests future adapted? Resilience to fire and other disturbances?

The image is a screenshot of a webpage from Interesting Engineering. The top navigation bar includes 'NEWS', 'INNOVATION', 'SCIENCE' (highlighted), 'INDUSTRY', 'HOW-TO', 'VIDEOS', 'SHOP', and 'MORE'. Below this is a secondary navigation bar with 'SCIENCE', 'SPACE', 'PHYSICS', 'CHEMISTRY', 'BIOLOGY', and 'ENERGY & ENVIRONMENT'. The article title is 'Older Forests Resist Climate Change Better' in a large, bold font. Below the title is a sub-headline: 'New research is finding that older is better when it comes to forests.' The author is 'Loukia Papadopoulos' and the date is 'June 09, 2019'. There are social media sharing icons for Facebook, Twitter, LinkedIn, Pinterest, and Reddit. On the left side, there is a vertical advertisement with the text 'SHOP.', 'CONNECT.', and 'ENJOY.' and images of various products. At the bottom left, there is a partial view of a movie poster for 'The Earth's'.

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SCIENCE / ENERGY & ENVIRONMENT

Older Forests Resist Climate Change Better

New research is finding that older is better when it comes to forests.

By [Loukia Papadopoulos](#)
June 09, 2019

f t in p r



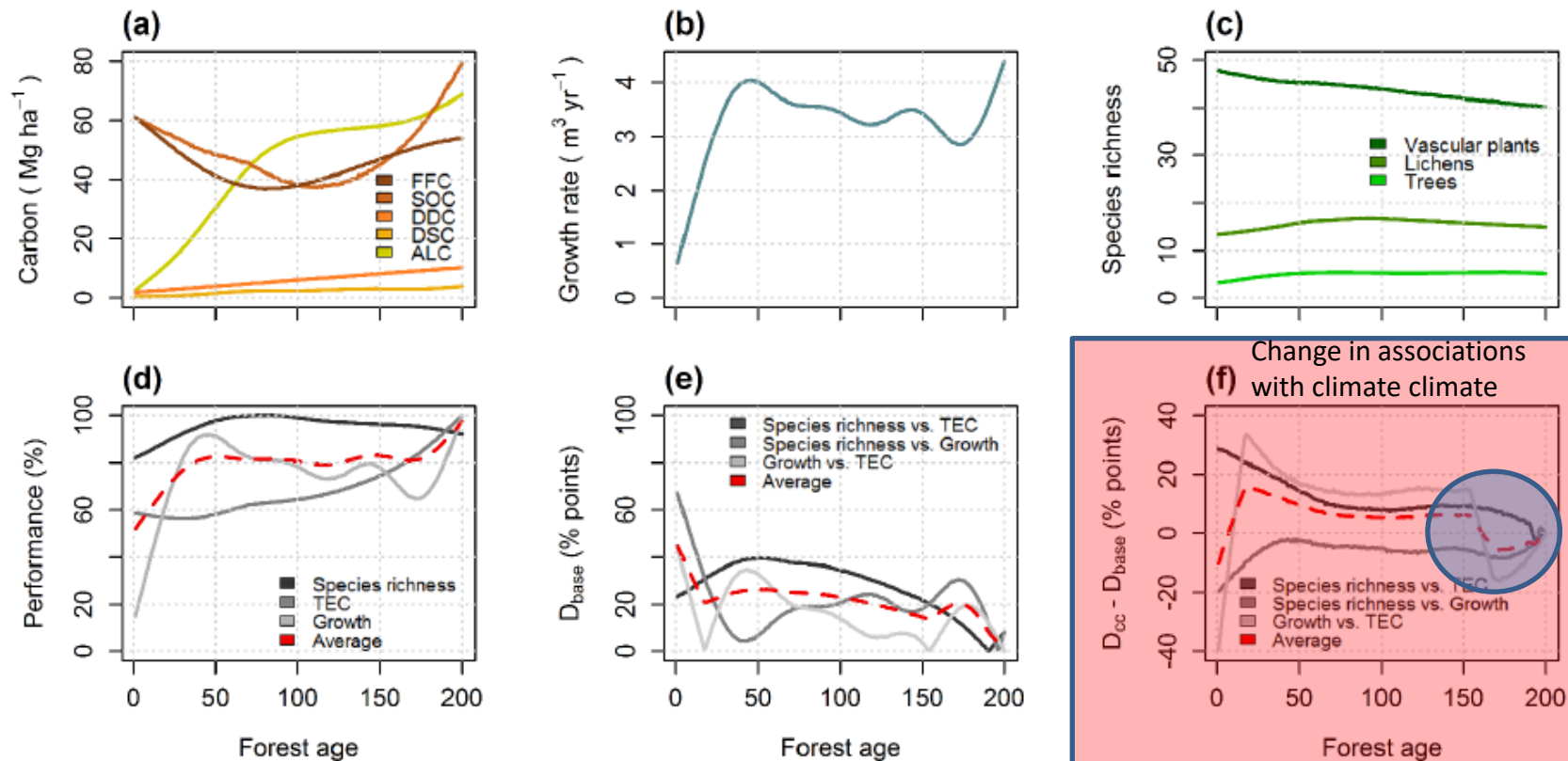
The mix of services forests provide will shift as the climate changes...this includes C sequestration

“Services” and biodiversity:

- Relative to forest age
- Relative to one another
- With climate change



...increased production of durable wood products could increase or decrease future carbon storage depending on interactions with climate resilience





Thank you

*Old-growth hemlock-
hardwood forest, Adirondack
State Park, New York*