

FOREST AND RANGELANDS ASSESSMENT STEERING COMMITTEE

The Effects of Climate Change on California's Working Forests and Rangelands



FRAP

Fire and Resource Assessment Program
California Department of Forestry and Fire Protection

Meeting and Webinar
January 10, 2013
NRCS – Davis, CA

Agenda

9:00 – 9:30: Introduction and Overview

- Climate Change in the 2010 Assessment
- California Adaptation Strategy – Forestry

9:30 – 10:40: Panel Speaker Presentations and Discussion

- Ellie Cohen (President and CEO, PRBO Conservation Science)
- Dave Graber (Chief Scientist, Pacific Western Region, National Park Service)
- Chrissy Howell (Regional Wildlife Program Leader, US Forest Service R5)
- Klaus Scott/TBD (California Air Resources Board, Forest Sector GHG inventory)

10:40 – 10:50: Break

10:50 – 11:50: Group Discussion

- Data Sources and Methods for Emissions Inventory
- Climate Change Impacts and Vulnerability Assessments.
- Climate Adaptation Strategies for Forestry

11:45 – 12:00 : Recap and Next Steps

Introductions



Fire and Resource
Assessment Program (CAL FIRE)



USFS Pacific Southwest Region
State and Private Forestry



Natural Resources
Conservation Service

Introductions



And our group...

Climate Change: Threats and Opportunities



Highlights from
Chapter 3.7 in
the 2010
Forest and
Rangeland
Assessment



Forests and Woodlands cover ~31% of California

Climate Change Impacts on Forests

TYPES OF IMPACT	DESCRIPTION
Hydrological	<ul style="list-style-type: none">○ Changes in temperature, precipitation, and hydrologic processes (i.e. decreased snow pack, earlier spring runoff, lower summer base flows)
Ecological	<ul style="list-style-type: none">○ Increases in the size and frequency of disturbances from wildfires, pests, and disease outbreaks○ Conditions may favor the spread of invasive species○ Tree species expected to move northward or to higher altitudes○ Changes in reforestation and regeneration success○ Changes in forest productivity affecting growth and carbon storage. The effect of additional CO₂ on forest productivity is uncertain
Economic	<ul style="list-style-type: none">○ Economic impacts from increased fire damage and fire suppression costs

Topics Covered in the 2010 Assessment

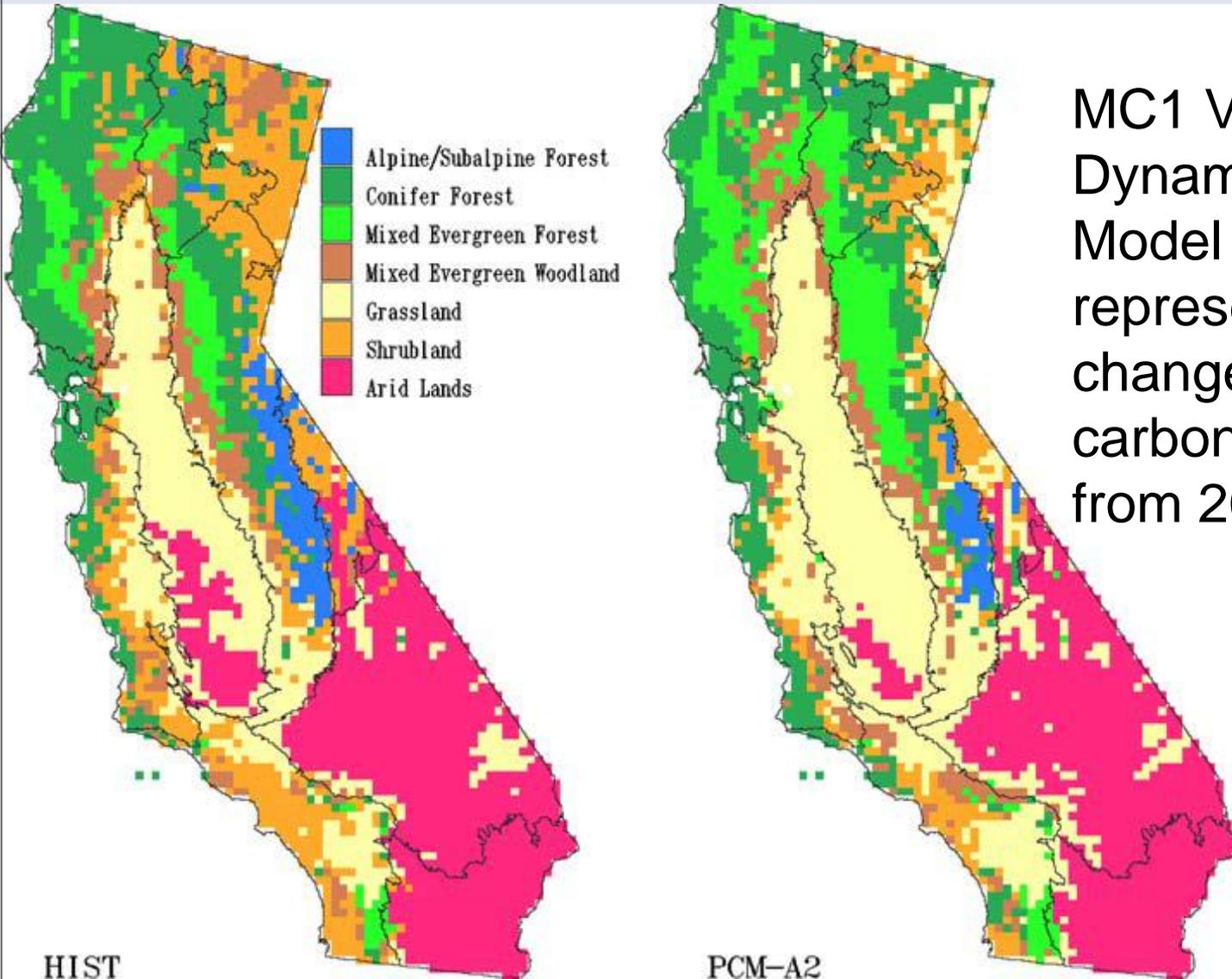
- Projected climatic changes for three future periods (2010 – 2039; 2040 – 2069; 2070 – 2099) via a downscaled and gridded Climate Threat Index (data from CEC/Climate Scenarios Project), reported by Bailey ecological sections
- Projected future forest carbon stocks (from vegetation dynamics model MC1) in years 2020, 2050 and 2100 that are most threatened by Wildfires, Insects, and Development
- Response to climate changes for six representative forest tree species, using 2 GCMs (CCSM, Hadley Centre)

Climate Threat Index



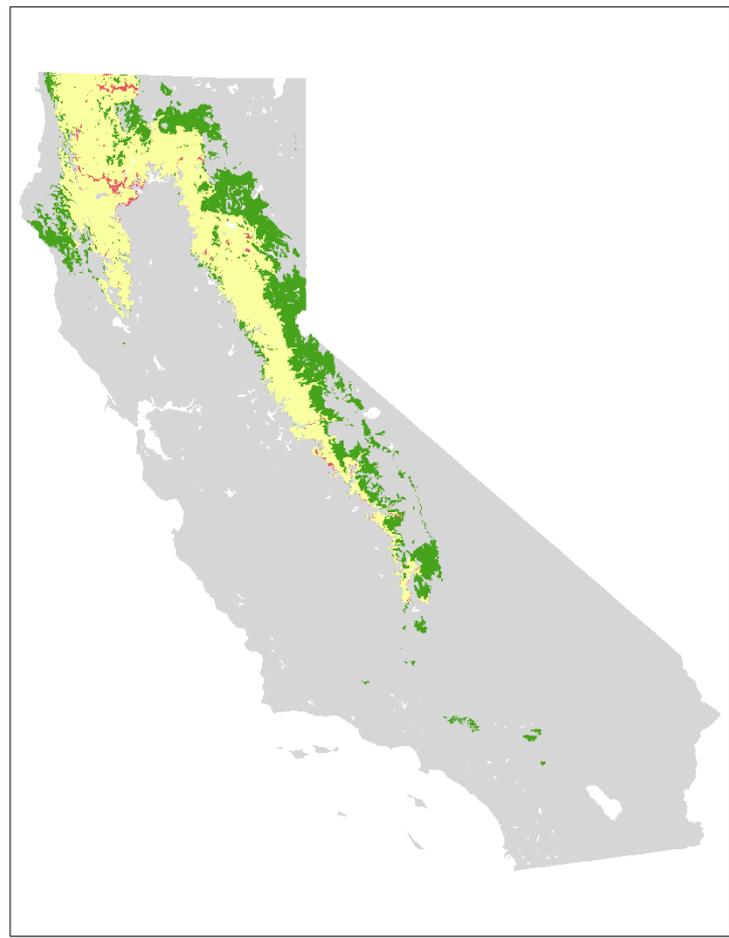
Summarized
by Bailey
Ecoregions

Forest Carbon Assets

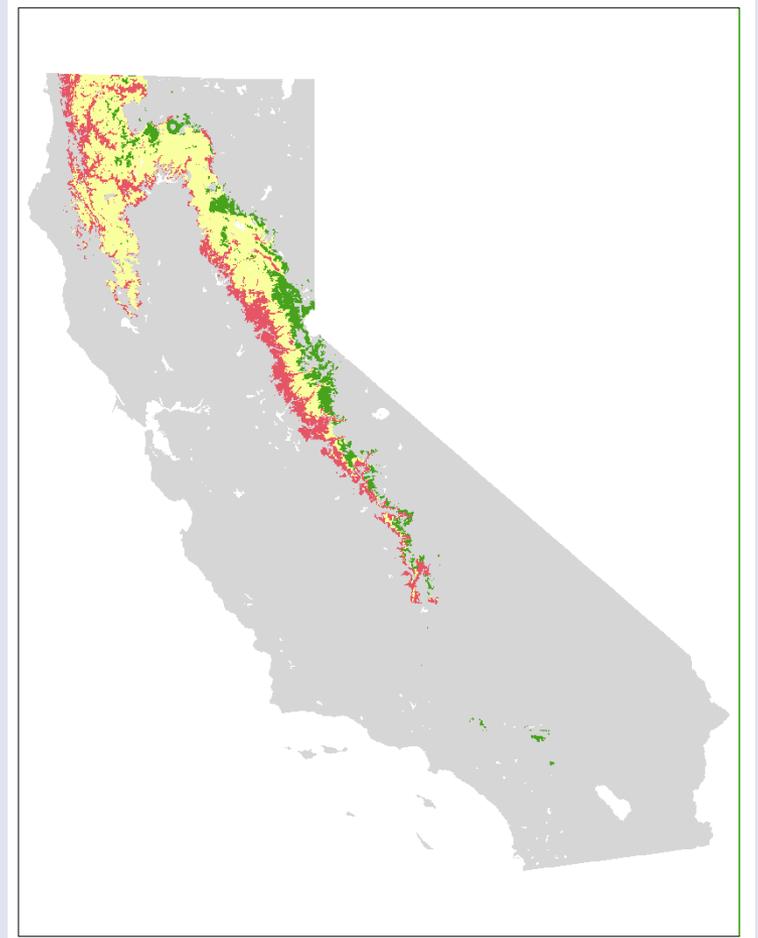


MC1 Vegetation Dynamics Model was used to represent changes in forest carbon from 2010 – 2100.

California Readiness Report



Community Climate System Model (NCAR)



Hadley Centre GCM, UEA UK

California Readiness Report

Purpose:

Being developed by California Resources Agency, in coordination with other state agencies, to prepare a broad range of strategies and actions to address climate change impacts.

Context:

Update to the 2009 California Adaptation Strategy.

Scope and Timeline:

Includes adaptation strategies across a range of topics; including a chapter on Forestry. Currently in draft and expected to be released this spring.

Implementation Issues

Funding – State bonds, Fees, Taxes, Cap and Trade

Land Management – Federal versus State versus Local Government

Policy Issues – Role of government to address climate change; proactive versus reactive responses.

Environmental – Climate uncertainty and variable response

Implementation Issues

Funding – State bonds, Fees, Taxes, Cap and Trade

Land Management – Federal versus State versus Local Government

Policy Issues – Role of government to address climate change; proactive versus reactive responses.

Environmental – Climate uncertainty and variable response

Panel Speakers

Ellie Cohen – President and CEO for PRBO Conservation Science



Dave Graber – Chief Scientist for the National Park Service Pacific South Region



Chrissy Howell – Regional Wildlife Program Leader, US Forest Service R5



Klaus Scott – Forest Sector GHG inventory at the California Air Resources Board



Panel Questions

ENVIRONMENTAL IMPACT:

Climate change may amplify stressors to forest ecosystems such as invasive species, insect pests and disease, drought, and wildfire.

Which stressors or which changes to disturbance regimes in forests will represent the greatest challenge to maintaining healthy forests?

Please discuss any data or analytical approaches that the State should invest in to better understand these processes.



Panel Questions



RESPONSE:

Resilience is an important goal for forests in adapting to impacts from changing climate. What measures or actions do you think are needed most to make our forests more resilient to climate change?

What are the best ways to protect vulnerable species and maintain healthy forest habitats?

How should we be prioritizing between vulnerable versus resilient species?

Panel Questions

METHOD:

The Forest and Range Assessment evaluates threats and assets for forest resources through a simplified risk assessment model. Are there approaches that could be taken to better represent statewide resources that are vulnerable to climate change?

How have you managed appropriate scale of analysis and the idea of scaling up and down when needed?



Panel Questions

MITIGATION:

Through carbon storage and avoiding excessive losses forests have the potential to mitigate greenhouse gas emissions. Which forest management activities or policies offer the greatest potential for promoting carbon storage?

What constraints are preventing the benefits from being realized?

Also, discuss any data or analysis methods that you feel the state should consider pursuing to better understand carbon storage and the dynamics of carbon pools.

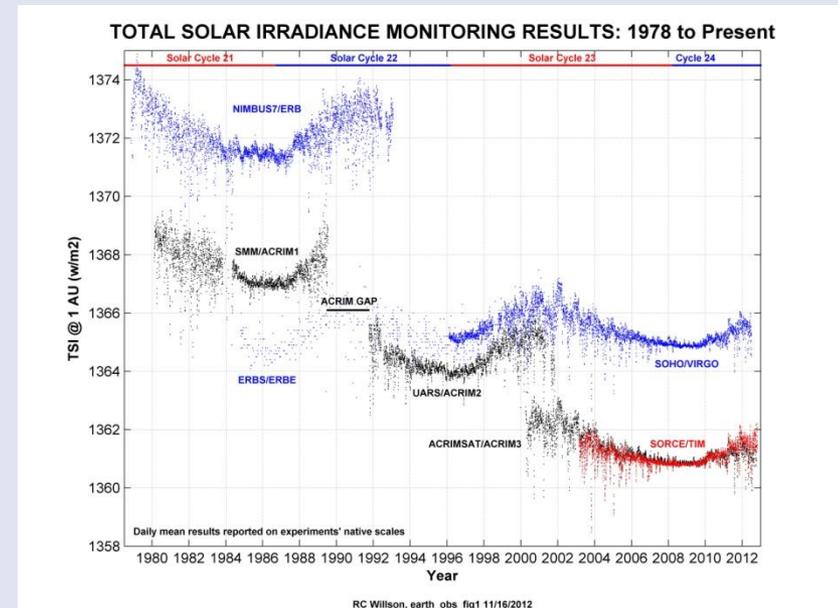


Panel Questions

MONITORING:

What monitoring and/or performance measures do you see as being most important for the state to conduct carbon accounting in the forest sector?

Discuss any considerations that should be given to regional, state, and national reporting of carbon storage.





BREAK

Back in 10 minutes!



Group Discussion



Recap and Next Steps

We need your help to:

- Identify new data
- Evaluate Priorities
- Evaluate Methods
- Provide on the ground information

FOREST AND RANGELANDS ASSESSMENT STEERING COMMITTEE

Thank You

Our 2015 assessment will benefit greatly from your input. Thank you for taking the time to participate in this process!

If you have any further comments, questions, or suggestions, please let us know. You can visit our website here:

<http://www.frap.cdf.ca.gov/FRASC.html>

Our next meeting will be July 10th, 2013 and we will be discussing wildland fire. See you there!



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