Please join us at our next **NASA Carbon Monitoring System (CMS) Policy Speaker Series** talk:

Searching for Sanctuary: Lining up old-growth forest and carbon reserves with fire refugia in a changing climate

Raymond Davis

Monitoring Lead - Older Forests & Spotted Owls,
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Rocky Mountain Research Station - USDA Forest Service

Tuesday, September 21, 2021

12:00PM-1:00PM Eastern Time

Register here for the WebEx Meeting Link.

The Policy Speaker Series is an effort funded through the NASA Carbon Monitoring System (CMS) Initiative and co-sponsored by the Joint Global Carbon Cycle Center (JGCCC).

About the Talk

The largest aboveground live tree carbon stocks in the conterminous United States are found in the old-growth forests of the Pacific Northwest. National forests in this area are managed under the Northwest Forest Plan (NWFP), a landmark ecosystem-based approach for balancing old-growth forest conservation with human uses. The NWFP established a broadscale network of large reserves with the goal of maintaining existing old forests, and regrowing young forests within them. The long-term objective was to create a functioning, well-connected old-growth forest system on public lands throughout the range of the northern spotted owl. The Plan appeared to be working for the first quarter-century (1993–2017); however, ongoing

monitoring alerted the federal forest management agencies that increasing frequency and extent of large forest wildfires has recently resulted in a net loss of old forest within the reserve system. Today, the amount of old forest within the reserve network is lower than when the NWFP was designed and implemented.

Monitoring leads to adaptive management and adaptive management leads to plan revisions when the data indicates plan objectives are not being met. The NWFP reserve's "maintenance and restoration" goal is no longer being achieved, and the declining trend of old forests (and carbon) within them is expected to continue, owing to climate change. Part of the problem is that some reserves were originally delineated in landscapes that are prone (and becoming more prone) to high-severity wildfires. To date, most of the focus has been on where wildfires are occurring and ways to manage forests to make them more resilient to future fires. There is a data gap and lack of management focus on where wildfires normally ***do not occur*** or occur less frequently and less severely. Here, we demonstrate how annual forest monitoring (using NASA Landsat Time Series) and state-of-the-art fire modeling is being used to help forest managers in the Pacific Northwest find the "best" locations (fire refugia) for maintaining and restoring old forests into an uncertain future during a period of rapid climate change and increasing forest fires.

About Our Speakers

Raymond Davis is the monitoring lead for old forests and northern spotted owls for the Northwest Forest Plan (NFWP) Interagency Monitoring Program. He began a career with the USDA Forest Service as a District Wildlife Biologist. Over half of his career has been spent on-the-ground implementing the NWFP on the Siuslaw and Umpqua National Forests.

Zhiqiang Yang is a computer scientist in USDA Forest Service's Forestry Inventory & Analysis (FIA) Program at USFS Rocky Mountain Research Station. Yang's research focuses on applying remote sensing for ecological applications: change detection, land cover mapping, biomass estimation, and habitat monitoring.

Past Seminars: Check out recordings of previous Policy Speaker Series talks on the CMS website: http://carbon.nasa.gov/policy_series.html

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