

SUMMER IN THE FIELD: Second in a Series

*It's "fire season," and LANDFIRE users are not just talking the talk but walking the walk -- putting scenario planning to work and refining data and products in dynamic ways. Our summer post cards highlight some of those land managers. This month we're talking with **Matt Reeves**, a Research Ecologist with the [Human Dimensions Program](#) headquartered at the Rocky Mountain Research Station in Montana.**

Matt specializes in the use of remote sensing and the Geographic Information System (GIS) to facilitate evaluation of contemporary issues facing rangelands in the United States. His research portfolio spans the themes of climate change, decision support tools, inventory and monitoring, and threat assessment. He serves on the [Sustainable Rangelands Roundtable](#) and is a member of the [Forest and Rangeland Renewable Resources Planning Act \(RPA\)](#) cadre. He received his PhD from the Department of Ecosystem and Conservation Sciences at the University of Montana, Missoula.



In The Field ...

... with Ecologist **Matt Reeves**



You have used LANDFIRE data in a variety of projects. Tell us about it!

My team and I use LANDFIRE data every day for three main purposes:

1. Stratifying the landscape into like-kind areas for comparing rangeland production and ecological function.
2. As a parameter for geospatial models describing wildland fuels in rangelands, rangeland production, standing carbon, soil organic carbon, biomass, and rangeland degradation.

3. To translate between maps of different projects that have little in common with each other.

LANDFIRE data are an integral component of the [Rangeland Vegetation Simulator \(RVS\)](#), a cutting edge program for quantifying rangeland fuels, production, and carbon. We are applying this technology to aid NFS management and administration. In Region 4 (Intermountain Region of the Forest Service) we are providing estimates of soil organic carbon and standing carbon in support of Forest Plan revision. In region 5 (Pacific Southwest) we are quantifying rangeland production, carrying capacity, degradation and resiliency of grazing allotments as decision support information for NEPA analysis.



Why LANDFIRE? How would you have accomplished this work if it didn't exist?

We could not have produced detailed, consistent estimates of non-forested landscapes at a national level without those data. Without LANDFIRE data, we couldn't work as efficiently or consistently as we did. Anyone who analyzes vegetation types across multiple jurisdictions appreciates the work involved in getting enough data together to cover the project area and then make it consistent. Having all the data layers in the same context with one another is also unique to LANDFIRE.



You've worked a lot with the Biophysical Settings (BpS) spatial layer. What improvements or changes would help in your work?

That's a simple question to answer. The [BpS layer and models](#) should allow for description of alternative stable states involving invasive species. Presently, use of BpS models does not enable a logical or realistic view of vegetation succession, especially in non-forested environments.



You're a former LANDFIRE fuels data lead. Do you see changes coming that might impact how we map wildland fuels?

At some point, LANDFIRE will incorporate annual changes in response to varying weather. Using the RVS we have developed the necessary protocols, data, and techniques to provide annual estimates of fuel loads in addition to providing projections of conditions in advance of the peak of the growing season. This is critical because annual production of rangelands can vary greatly, obviating the need to quantify these changes in fuel conditions. That is one of the greatest needs and logical directions for the fuel products to adapt.



Have your impressions of LANDFIRE changed as you have moved from the production side to an end user/data consumer?

The seamless data availability, or the ease of obtaining data, is much better than it used to be and represents a model that other programs should strive for. There has been an appropriate emphasis in updating fuels in disturbed areas, but not areas that have changed due to climate. Also, given the operational nature, the research and development of innovative methods has stagnated due to relatively more limited resources than in the beginning. Despite this, I am continually impressed by the diversity of uses that LANDFIRE data enables.



Learn more

- Reeves, Matthew C. and L. Scott Baggett. 2014. [A remote sensing protocol for identifying rangelands with degraded productive capacity](#). Ecological Indicators 43: 172-182.
- Reeves, Matthew Clark and John E. Mitchell. 2012. [A synoptic review of U.S. rangelands: a technical document supporting the Forest Service 2010 RPA Assessment](#). Gen. Tech. Rep. RMRS-GTR-288. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 128 pp.
- Webinar: [Quantifying Biomass and Fuels for Non-Forest Lands of the Coterminous US](#)
- [Read Matt's bio.](#)
- [Contact Matt directly.](#)

RMRS is a **LANDFIRE Major Partner, an organization and/or individual with unique expertise and interest in LANDFIRE who demonstrates a willingness to apply their expertise to LF initiatives and efforts. [More about partners.](#)*

July 2016