



# LANDFIRE: Solving Real-Life Problems

## What is LANDFIRE?

LANDFIRE (Landscape Fire and Resource Management Planning Tools) was designed to create and periodically update comprehensive vegetation, fuels, fire regimes, and landscape disturbance data for the entire United States and insular areas.

LANDFIRE products are used every day in on-the-ground situations to advance strategic planning, provide historical context, support appropriate conservation land management, and to model the potential impacts of fire.

LANDFIRE products...

- are free and accessible online.
- are adaptable to fire and non-fire applications.
- developed by experts using consistent methods across the country.
- are complete for the entire United States, regardless of ownership or boundaries.
- are updated on a regular schedule to reflect spatial layers that change over time.

## Partnerships

LANDFIRE has a rich history of actively seeking and forming partnerships with other mapping and data programs resulting in many productive relationships. These collaborators help LANDFIRE achieve important goals and extend the breadth of product development and applications.

### Principal Partners

- U.S. Department of the Interior
- U.S. Department of Agriculture Forest Service (FS)

### Major Partners

- The Nature Conservancy
- USGS Earth Resources Observation and Science Center
- USGS National Gap Analysis Program
- USDA FS Rocky Mountain Research Station
- USDA FS Forest Inventory and Analysis

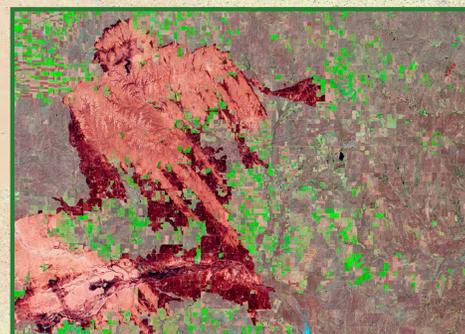
### Supporting Partners

Landsat, Monitoring Trends in Burn Severity, National Land Cover Database/Multi-Resolution Land Characteristics Consortium, National Agricultural Statistics Service, National Association of State Foresters, Texas Forest Service, U.S. Bureau of Land Management, USDA Natural Resources Conservation Service, Wildland Fire Management RD&A - Fuels and Fire Ecology

## Fire Decision Support

LANDFIRE data are important foundational data sets for fire management decision support applications, such as the Wildland Fire Decision Support System (WFDSS). WFDSS, a web-based application, assists fire managers and analysts in making strategic and tactical decisions for or all types of wildland fire incidents by:

- Providing a single process that is responsive to changing fire complexity.
- Allowing easier data acquisition and sharing analyses and reports.
- Helping to accurately document decision-making process and including it in the final incident report.



## Tools and Websites

Data Distribution Site can be used to view and download LANDFIRE spatial data. (<https://landfire.gov/viewer/>)

LANDFIRE Data Access Tool is an ArcGIS toolbar that interacts with the Data Distribution Site to download LANDFIRE data from ArcMap. (<https://landfire.gov/datatool.php>)

LANDFIRE Total Fuel Change Tool creates customized surface and canopy fuel layers for local applications. ([https://landfire.gov/zip/Setup\\_LFTFC\\_0153\\_Updated\\_06-01-2015.zip](https://landfire.gov/zip/Setup_LFTFC_0153_Updated_06-01-2015.zip))

LANDFIRE's Data Product Review Website provides an opportunity to review various LANDFIRE products and submit feedback. (<https://landfire.nkn.uidaho.edu/>)

The LANDFIRE Website provides information and links to products, methods, applications, articles, reports, databases, images, maps, and more. (<https://landfire.gov/index.php>)

LANDFIRE on Conservation Gateway helps user community understand the products and how to use them. (<http://www.conservationgateway.org/ConservationPractices/FireLandscapes/LANDFIRE/Pages/landfire.aspx>)

## More Than Fire

LANDFIRE is the first complete, nationally consistent collection of resources with an ecological foundation that have proven beneficial to those working on land management issues, scenario planning, and budgeting. LANDFIRE has been used in numerous and varied conservation applications such as:

- Developing statewide forest assessments
- Looking at how climate change could affect flora and fauna
- Analyzing the impact of habitat fragmentation on bobcat populations, and maintaining habitat for viable populations of bighorn sheep

LANDFIRE's application has extended beyond its original intent of natural resources and fire management support to include climate change research, carbon sequestration planning, habitat analysis and protection, and state forest assessments. Check out more than 130 application stories at the LANDFIRE Web-Hosted Applications Map (<http://maps.tnc.org/landfire/>).

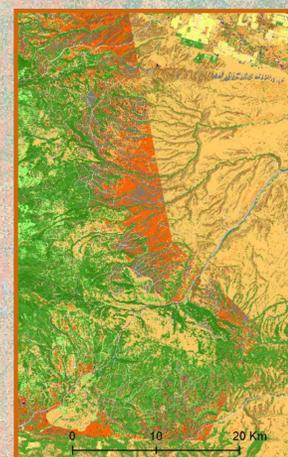
## The Next Step...Developing a New Base Map

The original LANDFIRE National product suite consisted of base layers mapped circa 2001. The data have since been updated (i.e. LANDFIRE 2008, 2010, 2012, 2014). The upcoming LANDFIRE Remap will provide an opportunity to generate a new set of base map products.

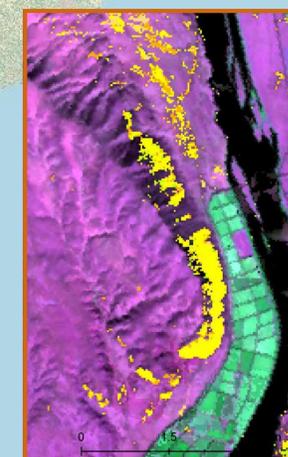
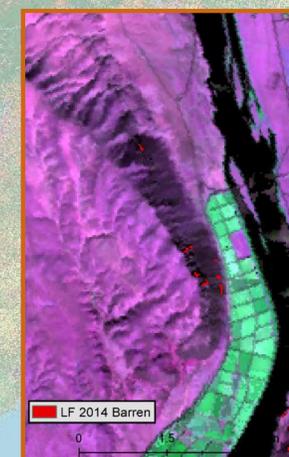
Not limited to utilizing the production techniques of the original LANDFIRE National and subsequent update production processes, LANDFIRE 2015 Remap will use newly available datasets and data processing techniques to produce new vegetation, fuels, and fire regime base layers that are representative of circa 2015 ground conditions.

LANDFIRE has been listening. In response to user feedback our Remap prototyping efforts have focused on the following:

- Reference data (incorporate newest data, eliminate geographic outliers, incorporate disturbance, integrate spectral testing)
- Image Compositing (thousands of Landsat scenes processed and considered per map unit, fewer clouds)
- Structure (incorporation of lidar data, improved accuracy)
- Lifeform (higher accuracy, reduced seam lines, stronger linkages with structure)
- Masking (Inclusion of ecologically defined masks, i.e. Riparian/Wetland, Alpine, Water, Sparse/barren)
- EVT Mapping (improved modeling and base imagery)
- Seam lines (mitigate through augmented pre-processing methods/logic and improved mapping techniques)
- Geographic Map Unit (shifting from legacy map zones to Omernik ecoregions)
- Additionally, LANDFIRE is adding a new Existing Vegetation Type data set, based on the National Vegetation Classification System, to our suite of products.



Remap is improving the seam line issues in the maps to avoid hard edges in the EVH, EVC, and Lifeform maps. The example above shows seam line issues in LF 2014 (left) and no issues in LANDFIRE 2015 Remap (right).



An example of improvements to mapping barren areas in LF 2014 (left) compared to LANDFIRE 2015 Remap (right).