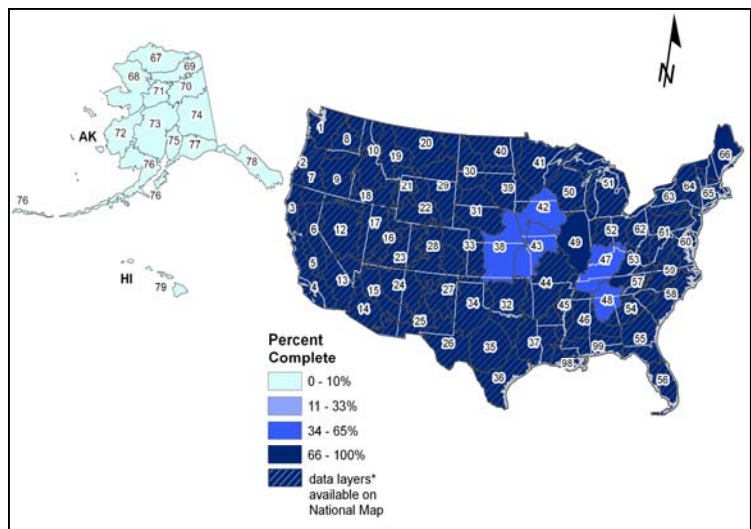




LANDFIRE Project Status

The LANDFIRE team is on track to deliver vegetation, fire regime, and fire behavior products for all zones in the continental U.S. by October 2008. Data from over 60 mapping zones are available for download from The USGS National Map LANDFIRE. Visit the Data Products section of the LANDFIRE website (www.landfire.gov) for information on accessing the products. The team is currently working in Alaska and Hawaii and plans to deliver map zone products in 2009. In addition to updating existing data using more current imagery, the team is also developing data update procedures for the operations and maintenance activities that will take place after the current project charter expires on October 1, 2009.



LANDFIRE mapping zones % complete (Aug. 2008).
 Visit the *Schedule* section of landfire.gov for the current status of LANDFIRE's mapping progress.

Independent Review of LANDFIRE Canopy Fuel Products

LANDFIRE Project management initiated an independent review of the LANDFIRE canopy fuels layer in 2007. This external review was conducted principally by Joe Scott of Systems for Environmental Management, with contributions from Dr. Elizabeth Reinhardt of the Missoula Fire Sciences Laboratory. A report titled, "Review and Assessment of LANDFIRE Canopy Fuel Mapping Procedures" was produced that focuses on canopy cover and canopy bulk density values, canopy base height, tree list data sources, data discontinuities within and between mapping zones, and the updating and calibrating of LANDFIRE data.

The review reported the following:

- The LANDFIRE Project procedures for quantifying and mapping canopy fuel characteristics follow generally accepted scientific procedures in the fields of fuel science and remote sensing.
- The quality of the canopy fuel products is low, but this is to be expected considering the constraints imposed by the large ex-

tent (national) of the effort and the inherent high variability of the characteristics being mapped. Other efforts have achieved greater quality, but at greater cost and by employing methods that can't be applied at LANDFIRE's extent.

- Artificial seams in LANDFIRE products may exist both within and between mapping zones and are unavoidable given the scale and constraints of the project. LANDFIRE products can be used for national-level analyses without being compromised by these seamlines.
- Work is now underway to develop a standard procedure for critiquing, refining using local information, and updating LANDFIRE products.

Please visit the Data Products > LF National > Data Products Quality section of www.landfire.gov for this report and details on the mechanisms the LANDFIRE Project has in place for product quality assessments and feedback.

Project Coordination & Collaboration

LANDFIRE Project members continue to work closely with related projects, customers, and sponsors. The objectives of this coordination are to 1) ensure that LANDFIRE is meeting customer needs, 2) create greater efficiency through cooperation, and 3) make adjustments in LANDFIRE production processes and deliverables during the transition to and subsequent data updates through LANDFIRE operations and maintenance.

Most recently, members of the LANDFIRE Project have coordinated activities with the following organizations:

- **Fire Program Analysis (FPA) Project** – This is one of LANDFIRE's key customers. The LANDFIRE Project has a designated FPA liaison who conducts routine conference calls, coordinates activities, and ensures the data is delivered in a fashion sufficient to meet FPA needs.
- **Wildland Fire Decision Support System (WFDSS) Project** – WFDSS is another key customer using LANDFIRE data. LANDFIRE coordinates production delivery activities and ensures that the data may be easily and efficiently accessed from the WFDSS server, which processes web-based information requests related to wildland fire activities.
- **Federal Geographic Data Committee (FGDC), National Vegetation Classification Standards (NVCS) subgroup** – LANDFIRE is participating with this standards body to ensure the project fully understands emerging vegetation classification standards and, when conducting future updates during operations and maintenance, that the project moves towards adopting and using the NVCS vegetation classification.
- **The USGS GAP Analysis Program** – GAP and LANDFIRE are looking at ways to share data and products that are of mutual benefit and ensure both programs remain cost-effective and efficient.
- **Bureau of Land Management (BLM)** – The BLM serves as one of LANDFIRE's sponsors. BLM and the project are working together to assess how LANDFIRE data can be better incorporated into BLM land management and vegetation monitoring activities.



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Rapid Refresh Completed – Updated Products Available

The first phase of LANDFIRE data updates for the western U.S. – called Rapid Refresh – has been completed, and updated products are available for download from the USGS National Map LANDFIRE. Products incorporate consistent global changes and local updates to both fire behavior fuel data (surface fuel models and canopy characteristics) and existing vegetation layers.

Global changes to fire behavior fuel data were based on comments from fuel and fire behavior specialists. These modifications – such as increasing canopy bulk density, reducing canopy base height, and changing fuel models – improve spatial fire behavior predictions of surface and crown fire behavior. Existing vegetation was changed by incorporating barren and water areas previously mapped only in the fuel layers and within disturbance polygons. The new existing vegetation layers improve the representation of what is on the ground and ensure logical consistency between fuel and vegetation layers.

Updates to the layers reflect a burn severity assessment within available 1999-2007 fire perimeters. Where possible, satellite-based analysis was used to assess severity as low, moderate, or high (surface, mixed, or replacement); otherwise, a default moderate burn severity was assumed within perimeter boundaries. Fire perimeters included in this process can be downloaded through the Data Products > Updated Products section of www.landfire.gov. Rule sets were applied based on burn severity to predict one-year post-burn change in vegetation type, cover, and height. For example, a moderate-severity fire might reduce existing vegetation cover by 20-40%, whereas a replacement-severity fire would reduce it by 50-60% based on the predicted change in existing vegetation type.

These updates to vegetation type, cover, and height were used to recalculate and update the fuel layers in a manner consistent with the original LANDFIRE data.

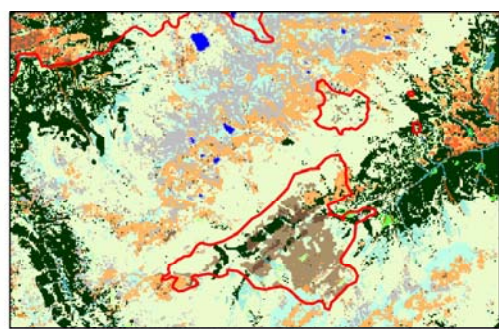
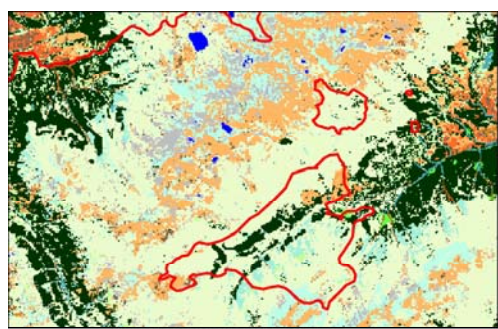
Updating LANDFIRE Products

The process for updating LANDFIRE data products to support agency fire and natural resource management programs across the country continues to progress. As discussed in previous bulletins, the operations and maintenance handoff plans have been completed. (For an overview of the various phases of the LANDFIRE product update plan, please visit the About LANDFIRE > Updating Products section of www.landfire.gov.) The first phase of the Refresh strategy, the Rapid Refresh, has completed the mapping of wildland fire disturbances in the mapping zones associated with eleven western states. Work is currently progressing on the prototype of the Refresh phase. Refresh will incorporate current available data representing wildland fire, fuel and vegetation treatments, insect/disease mortality, wind throw, and other vegetation disturbances such as non-native plants, barren, rock, and agriculture updates. The Refresh update will be conducted for all mapping zones across the country. Critical input from subject matter experts was gathered during the Rapid Refresh phase (spring 2008). Although the short timeline of the Rapid Refresh production phase did not allow for incorporation of this feedback, the review comments are being incorporated into the Refresh prototype and will be highly valuable to the Refresh update.

The southeastern U.S. update is also progressing. This update is a prototype of the Biennial product update, with interim deliverables being produced for the Southeast. This update is refining a “Vegetation Change Tracker” process designed to identify areas

affected by disturbances such as tropical storms and hurricanes, forest harvesting, wildland fires, and vegetation succession.

Project governance is reviewing and organizing a program implementation plan for the Biennial and Decadal update strategies. This plan addresses the administration and funding of the program that will provide for and produce updated products. The program is being organized with continued oversight and the goal to increase natural resource executive managers’ participation.



LANDFIRE National Existing Vegetation Type prior to fire. LANDFIRE Rapid Refresh Existing Vegetation Type post fire. (fire perimeters shown in red)

Please visit the various sections of www.landfire.gov for project details and LANDFIRE data products or communicate with the LANDFIRE team through the Contact Us link on the website’s homepage.

