



Data Products	Description
<b>Reference</b>	
Reference products represent data collected from public, government, and proprietary sources in order to inform the LANDFIRE mapping processes and update LANDFIRE products. Public versions of LANDFIRE reference database, which exclude proprietary and/or sensitive data, are available for download.	
<b>LF Reference Database (LFRDB)</b>	includes information from geo-referenced sample points depicting vegetation and fuel information
<b>Events Geodatabase</b>	a collection of polygons depicting recent natural disturbance and land management activities used to update existing vegetation and fuel layers
<b>Forest Vegetation Simulator Ready Database</b>	nationwide FVS analysis ready plot data (StandInit and TreeInit tables)
<b>Landscape Change</b>	
Disturbance products are developed to help inform updates to LANDFIRE data to reflect change on the landscape caused by management activities and natural disturbance. They are a compilation of data from multiple sources including time series Landsat imagery, fire mapping programs including Monitoring Trends in Burn Severity (MTBS), Burned Area Reflectance Classification (BARC), Rapid Assessment of Vegetation Condition after Wildfire (RAVG), LANDFIRE Refresh events and other sources	
<b>Disturbance 1999-2010*</b> <b>*or corresponding version year</b>	provide spatial, temporal and severity information related to landscape change to model vegetation transitions and inform subsequent updates to LANDFIRE vegetation, fuel, and other data
<b>Integrated Vegetation and Fuel Disturbance</b>	composites of Disturbance 1999-2010* recoded by disturbance type, disturbance severity, and time since disturbance to meet fuel and vegetation assignment needs
<b>Vegetation Transition Magnitude</b>	provides a summary of the relationship between disturbance types and resulting effects on the vegetation in terms of changes in life-form and canopy cover
<b>Forest Vegetation Transitions Database</b>	forest vegetation transition rules in tabular format depicting relationship between disturbance type, severity, and time-since-disturbance and its effect on existing vegetation type, cover, and height
<b>Non-forest Vegetation Transitions Database</b>	non-forest vegetation transition rules in tabular format depicting the relationship between disturbance type, severity, and time-since-disturbance and its effect on existing vegetation type, cover, and height
<b>Forest Vegetation Simulator Disturbance Database</b>	FVS disturbance analysis outputs for fire, insect and disease, wind and mechanical disturbances modeled at a high, moderate and low severity and represented at three time-steps post disturbance





## Vegetation

Vegetation is mapped using predictive landscape models based on extensive field-referenced data, satellite imagery and biophysical gradient layers using classification and regression trees. LANDFIRE uses vegetation products to create fuel and fire regimes data.

Most vegetation products use NatureServe's Ecological Systems classification, meeting the requirement that map units be identifiable, scalable, and model-able. The NatureServe Explorer provides descriptions for each ecological system including species, distribution and classification information.

<b>Biophysical Settings</b>	vegetation that may have been dominant on the landscape pre Euro-American settlement
<b>Environmental Site Potential</b>	vegetation that could be supported at a given site based on the biophysical environment
<b>Existing Vegetation Cover</b>	vertically projected percent cover of the live canopy layer for a specific area
<b>Existing Vegetation Height</b>	average height of the dominant vegetation
<b>Existing Vegetation Type</b>	complexes of plant communities
<b>Vegetation Dynamics Models</b>	state-and-transition models representing pre-settlement reference conditions for each biophysical setting

## Fuel

LANDFIRE fuel data describe the composition and characteristics of surface and canopy fuel. LANDFIRE fuel products. These layers serve two purposes. The first to provide consistent fuel data to support fire planning, analysis, and budgeting to evaluate fire management alternatives. Second, is to supplement strategic and tactical planning for fire operations

<b>Forest Canopy Bulk Density</b>	density of available canopy fuel in a stand, kg m <sup>-3</sup> * 100
<b>Forest Canopy Base Height</b>	average height from the ground to a forest stand's canopy bottom at which there is a sufficient amount of forest canopy fuel to propagate fire vertically into the canopy, meters * 10
<b>Forest Canopy Height</b>	average height of the top of the vegetated canopy, meters * 10
<b>Forest Canopy Cover</b>	proportion of the forest floor covered by the vertical projection of the tree crowns
<b>Canadian Forest Fire Danger Rating System*</b> *Alaska only	Canadian system for rating the risk of forest fires, arranges fuel types into five major groups with 16 discrete fuel types that are qualitatively distinguished by variations in their forest floor and organic layer, their surface and ladder fuels, and their stand structure and composition.
<b>13 Anderson (1982) Fire Behavior Fuel Models</b>	a set of fire behavior fuel models that represent distinct distributions of fuel loading found among surface fuel components (live and dead), size classes, and fuel types, based on grass, shrub, timber, and slash fuel types and categorized into 13 models to help users estimate fire behavior, including rate of fire spread and fire intensity, generally represents severe fire conditions





<b>40 Scott &amp; Burgan (2005) Fire Behavior Fuel Models</b>	a set of fire behavior fuel models that increases prediction accuracy by providing more models in the fuel types (grass, shrub, timber, slash) than Anderson's 13, captures moisture variations and unique fuel differences, allows user to plan or illustrate the effects of multiple or varying fuel and fire scenarios beyond the severe fire season, such as prescribed fire and fire use applications
<b>Fuel Characteristics Classification System</b>	describes the physical characteristics of a relatively uniform unit on a landscape that represents a distinct fire environment, provides land managers, regulators, and scientists with a nationally consistent and durable procedure to characterize and classify fuelbed characteristics to predict fuel consumption and smoke production
<b>Fuel Loading Models</b>	surface fuel classification system that characterize wildland surface fuel and contain representative loading for each fuel component (e.g., woody and non-woody) for typical vegetation classification systems, characterize fuel loading across all vegetation and ecological types
<b>Landscape (.LCP) file</b>	multi-band raster format used by wildland fire behavior and fire effect simulation models such as FARSITE and FlamMap
<b>Fuel Rulesets Database</b>	standalone fuel rulesets database exported from the LANDFIRE Total Fuel Change Toolbar
<b>Fire Regime</b>	
Historical fire regimes, intervals, and vegetation conditions are mapped using the Vegetation Dynamics Development Tool (VDDT). These data support fire and landscape management planning goals in the National Cohesive Wildland Fire Management Strategy, the Federal Wildland Fire Management Policy, and the Healthy Forests Restoration Act.	
<b>Fire Regime Groups</b>	characterize the presumed historical fire regimes within landscapes based on interactions between vegetation dynamics, fire spread, fire effects, and spatial context, definitions were altered from previous applications to best approximate the definitions outlined in the Interagency Fire Regime Condition Class Guidebook and were refined to create discrete, mutually exclusive criteria appropriate for use with LANDFIRE's fire frequency and severity data products.
<b>Mean Fire Return Interval</b>	average period between fires under the presumed historical fire regime
<b>Percent Low-severity Fire</b>	low-severity fires relative to mixed- and replacement-severity fires under the presumed historical fire regime
<b>Percent Mixed-severity Fire</b>	mixed-severity fires relative to low- and replacement-severity fires under the presumed historical fire regime
<b>Percent Replacement-severity Fire</b>	replacement-severity fires relative to low- and mixed-severity fires under the presumed historical fire regime
<b>Succession Classes</b>	current vegetation conditions with respect to vegetation species composition, cover, and height ranges of successional states occurring within each biophysical setting





<b>Vegetation Condition Class</b>	a discrete metric that quantifies the amount that current vegetation has departed from the simulated historical vegetation reference conditions
<b>Vegetation Departure</b>	range from 0 - 100 depicting the amount that current vegetation has departed from simulated historical vegetation reference conditions
<b>Topographic</b>	
Topographic data serve as input to the Landscape (.LCP) file which is used in models to predict wildland fire behavior and effects.	
<b>Aspect</b>	azimuth of the sloped surfaces across a landscape in degrees
<b>Elevation</b>	land height above mean sea level, in meters
<b>Slope</b>	percent change of elevation over a specific area, in degrees