Disturbance Data Processing

This page provides a description of how polygon data of disturbances and treatments are evaluated and processed into the LANDFIRE Events geodatabase.

Disturbance and vegetation/fuel treatment data or Event data submitted to LANDFIRE will be evaluated for inclusion into the LANDFIRE Events geodatabase. Each event must meet the following minimum requirements to be included in the Events geodatabase:

1. The event must be represented by a polygon on the landscape and have a defined spatial coordinate system.
2. The event must have an acceptable event type needed for LANDFIRE updates. If exotics perimeter data there must be exotics plant species listed.

Category	Event Type (polygon features only)
Fire	Wildfires
	Wildland Fire Use
	Prescribed Fires
Other Disturbances	Insects and Disease
	Weather Damage
Other Treatments	Harvest/Thinning
	Seeding/Planting
	Other Mechanical
	Chemical
Other Information	Exotic Plant Infestations

3. The event must be attributed with the year of occurrence or observation that coincides with the current data call.

All data meeting LANDFIRE minimum requirements are systematically converted to the standard LANDFIRE Events or Exotics format and analyzed to eliminate geospatial or information content errors. During this process, natural disturbances and management activities are assigned to a LANDFIRE Event Type. If the data contains exotic plant information, species names or codes are converted to Natural Resources Conservation Service (NRCS) scientific names. Once the data is in the LANDFIRE format, it is reviewed and evaluated for use in the production process and several different layers are produced.

The Raw Events layer is a compilation of all acceptable Event perimeters. This layer may include multiple perimeters for the same event and a high degree of overlap between events within a single year. Examples of the former include multiple perimeters for a single fire event reported by several different agencies or individuals. Examples of the latter include locations in which multiple disturbances and/or vegetation/fuel treatments occurred within the same year.

The Model Ready Events layer has been reduced to only one unique event per year per location. To produce the Model Ready layer, a series of topologies are created in order to identify areas of overlap between polygons within the same year. The topology overlap errors are corrected using a standard hierarchy of LANDFIRE Event types, which are organized so the Events with the greatest impact on vegetation and/or fuels composition and structure are ranked highest. To correct topology errors, polygons with lower-ranked events are merged into polygons with higher-ranked events where they overlap. When there were multiple perimeters for the same event one perimeter is chosen. The result

is a layer which contains only one event per year for a location. Reforestation (seeding and planting) events are analyzed further to remove all but the most recent event at each location. Point derived polygons and polygons that are <0.02 acres are also removed from the Model Ready Events.

The Exotics layer is a compilation of exotic or invasive plant species perimeters. Up to ten species and their associated percent cover (absolute) or infestation level (P = present, L = low, M = moderate, H = high) are reported for each unique polygon per year. If there is no percent cover or infestation level listed for particular exotics species, it will be assigned a P for present.

The Model Ready Events layer is a primary input for developing the LANDFIRE Disturbance Grids which are used to update a multitude of LANDFIRE products.