

LANDFIRE 2024 Public Events: Geodatabase Contents

This geodatabase includes a subset of the full suite of data that were used in the production of LANDFIRE 2008 Refresh, LANDFIRE 2010, LANDFIRE 2012, LANDFIRE 2014, LANDFIRE Remap, LANDFIRE 2020, LANDFIRE 2022, LANDFIRE 2023, and LANDFIRE 2024 program deliverables. According to agreements between LANDFIRE and its data contributors, certain proprietary or otherwise sensitive data have been removed to create this publicly available version of the geodatabase. The LANDFIRE Public Events geodatabase includes a feature dataset for Alaska (AK), CONUS, Hawaii (HI), and the island territories of FSM (Federated States of Micronesia), Guam/Northern Mariana (GUCNMI), Palau, and Puerto Rico. Each feature dataset contains two feature classes, namely Raw Events and Model Ready Events. The Public Raw and Model Ready Event feature classes include disturbance and vegetation/fuel treatment data. In addition to the feature classes there is also a look up table for the source code, which is an attribute found in all feature classes. The source code is a LANDFIRE internal code assigned to each data source. Please consult the Look Up Table found at: <https://www.landfire.gov/reference/publicevents> for more information about the data sources included and excluded from this release.

The data compiled in the LANDFIRE 2024 Public Events geodatabase were collected from disparate sources including federal, state, local, and private organizations. All data submitted to LANDFIRE were evaluated for inclusion into the LANDFIRE Events geodatabase. Acceptable event data need to have 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 (Appendix B) and 3) the event must be attributed with calendar year of occurrence or observation for data from 1999-2020 and it must be attributed with a fiscal year for data from 2021-2024.

Disturbance and Vegetation/Fuel Treatment Events

The LANDFIRE Public Raw and Model Ready Event feature classes are compilations of disturbance and vegetation/fuel treatment events that occurred between 1999 and 2024. All acceptable data were systematically converted to the standard LANDFIRE Events format (Appendix A). During the conversion process, disturbances and vegetation/fuel treatments were assigned to a LANDFIRE event type (Appendix B). Data from 1999-2020 were processed by calendar year and data from 2021-2024 were processed by fiscal year. Fiscal year is from October 1st through September 30th. Calendar and fiscal year were pulled from the end date (where available) for all treatments and disturbances from 1999-2022. In 2023, LANDFIRE switched to assigning calendar and fiscal year based on the start date (where available) for wildfire, wildland fire, and wildland fire use events. Mechanical treatments were labeled as Other Mechanical for data from 1999-2023. Starting in 2024 LANDFIRE broke out the Other Mechanical treatment type into Mechanical Add, Mechanical Remove, and Mechanical Unknown. Definitions are provided in Appendix A.

Public Raw Events

The data in the Public Raw Events feature class have been analyzed to eliminate geospatial or information content errors but otherwise represent the full account of acceptable data processed for LANDFIRE. These data may include multiple perimeters for the same event and a high degree of overlap between events within a single calendar year or fiscal year. Examples of the former include the same management activity or disturbance event reported by multiple agencies or individuals. Examples of the latter include locations in which multiple management activities and/or disturbances occurred within the same calendar year or fiscal year.

Public Model Ready Events

The Public Model Ready Events feature class has been reduced to only one unique event per calendar year per location for data from 1999-2020 and one unique event per fiscal year per location for data from 2021-2024. To produce the Model Ready layer, a series of topologies were created with the Raw Events data to identify areas of overlap between polygons within the same calendar or fiscal year. A standard hierarchy of LANDFIRE event types was applied to correct the topology errors (Appendix B). The event types at the top of this list are highest ranked events thus having the greatest impact on vegetation and/or fuels composition and structure. The event type hierarchy was used to correct topology errors by merging lower ranked events into higher ranked events where polygons overlap. When there were multiple perimeters for the same event the perimeter with the most information was chosen. The selected perimeter was not necessarily from a public data set so the Public Model Ready Events feature class may be missing information on events that appear in the Public Raw Events feature class. The result is a layer which contains only one event per calendar year for a location for data from 1999-2020. Data from 2021-2024 contain only one event per fiscal year for a location. Point derived polygons and polygons that were <0.02 acres were also removed from the Public Model Ready Events.

Appendix A

LANDFIRE Public Events – Raw and Model Ready Events Data Dictionary

Attribute	Description
Event_ID <i>Required</i>	LANDFIRE unique identifier for the vegetation/fuel treatment or disturbance event.
LF_ID <i>Required</i>	LANDFIRE unique identifier for the vegetation/fuel treatment or disturbance event within the original dataset.
DB_ID	Unique identifier for the event or polygon within the source dataset, if applicable.
DB_Source	Name of data layer in source dataset where the DB_ID information can be found, if applicable.
Event_Type <i>Required</i>	<p>Type of event represented by the polygon. LANDFIRE assigned one of the following terms to each event:</p> <p><u>Development</u> - conversion of natural lands into housing, commercial, or industrial building sites. Involves permanent land clearing.</p> <p><u>Clearcut</u> - the cutting of essentially all trees, producing a fully exposed microclimate for the development of a new age class.</p> <p><u>Harvest</u> - a general term for the cutting, felling, and gathering of forest timber. The term harvest was assigned to events where there was not enough information available to call them one of the 2 distinct types, clearcut or thinning.</p> <p><u>Thinning</u> - a tree removal practice that reduces tree density and competition between trees in a stand. Thinning concentrates growth on fewer, high-quality trees, provides periodic income, and generally enhances tree vigor.</p> <p><u>Mastication</u> - means by which vegetation is mechanically “mowed” or “chipped” into small pieces and changed from a vertical to horizontal arrangement.</p> <p><u>Mechanical Add</u> – Treatment type was added in 2024. Forest and rangeland mechanical treatments that resulted in a rearrangement of the fuel profile or increased biomass across the landscape. Examples include lop and scatter, pruning, slashing, and rearrangement of fuels where fuels/biomass were not removed from the site.</p> <p><u>Mechanical Remove</u> - Treatment type was added in 2024. Forest and rangeland mechanical treatments that reduce biomass across the landscape. Examples include invasives removal, yarding, piling of fuels, thinning of hazardous fuels, fuel breaks, and range cover conversions where fuels/biomass were removed from the site.</p> <p><u>Mechanical Unknown</u> - Treatment type was added in 2024. Forest and rangeland mechanical treatments related to fuels reduction and site preparation. The term mechanical unknown was assigned to events where there was not enough information to determine if fuels/biomass were added or removed from the site.</p> <p><u>Other Mechanical</u> - catch all term for a variety of forest and rangeland mechanical activities related to fuels reduction and site preparation including piling of fuels, chaining, lop and scatter, thinning of fuels, Dixie harrow, etc. Mechanical treatments were labeled as Other Mechanical for data from 1999-2023. Starting in 2024 LANDFIRE broke out the Other Mechanical treatment type into Mechanical Add, Mechanical Remove, and Mechanical Unknown</p>

LANDFIRE Public Events – Raw and Model Ready Events Data Dictionary (cont.)

Attribute	Description
Event_Type (cont.) <p style="text-align: right;"><i>Required</i></p>	<p><u>Wildfire*</u> - an unplanned, unwanted wildland fire including unauthorized human-caused fires, escaped wildland fire use events, escaped prescribed fire projects, and all other wildland fires where the objective is to suppress or put out the fire.</p> <p><u>Wildland Fire Use*</u> - the application of the appropriate management response to naturally-ignited wildland fires to accomplish specific resource management objectives in pre-defined designated areas outlined in Fire Management Plans.</p> <p><u>Prescribed Fire*</u> - any fire ignited by management actions to meet specific objectives. A written, approved prescribed fire plan must exist, and NEPA requirements (where applicable) must be met, prior to ignition.</p> <p><u>Wildland Fire*</u> - a catch all term used to describe any non-structure fire that occurs in the wildland. Three distinct types of wildland fire have been defined: wildfire, wildland fire use, and prescribed fire. The term wildland fire was assigned to events where there was not enough information available to call them one of the 3 distinct types.</p> <p><u>Weather</u> - a weather related event that results in loss of vegetation such as blowdown, hurricane, or tornado.</p> <p><u>Insecticide</u> - application of a chemical substance used to kill insects.</p> <p><u>Chemical</u> - application of a chemical substance. The term chemical was assigned to events where there was not enough information available to call them one of the 2 distinct types, herbicide or insecticide.</p> <p><u>Insects</u> - infestations of unwanted insects that can affect vegetative health such as bark beetle.</p> <p><u>Disease</u> - infestations of disease that can affect vegetative health such as root rot.</p> <p><u>Insects/Disease</u> - infestations of insects and/or disease that can affect vegetative health. This term was assigned to events where there was not enough information available to call them one way or the other.</p> <p><u>Herbicide</u> - application of a chemical substance used to kill or inhibit the growth of plants.</p> <p><u>Biological</u> - the use of living organisms, such as predators, parasites, and pathogens, to control weeds, pest insects, or diseases.</p> <p><u>Planting</u> - reestablishing a vegetative community by planting.</p> <p><u>Reforestation</u> reestablishing a vegetative community by planting or seeding.</p> <p><u>Seeding</u> - reestablishing a vegetative community by seeding.</p> <p>* Fire policies have changed overtime for how fires are defined. Users need be aware of these changes as well as other aspects of the data as they are applied.</p>
Event_Subtype	Type of event assigned in source dataset to represent the polygon.

LANDFIRE Public Events – Raw and Model Ready Events Data Dictionary (cont.)

Attribute	Description
Year	Calendar year (YYYY) in which the event occurred.
Start_Date	Date (MMDDYY) on which the event began.
End_Date	Date (MMDDYY) on which the event ended.
Severity	Severity of vegetation/fuel treatment or disturbance event, in terms of biomass reduction. One of the following terms was used to indicate the effects of the event on the above-ground vegetation within a polygon: Low = <20% above-ground biomass removed Moderate = 20-80% above-ground biomass removed High = >80% above-ground biomass removed
Agency	Reporting agency (or non-governmental organization) for event.
Source_Code <i>Required</i>	LANDFIRE internal source code assigned to each data source. For more information on data sources consult the table "lutSource_Code" found at https://landfire.gov/reference/publicevents
FiscalYear <i>Required</i>	Fiscal year (YYYY) in which the event occurred. Fiscal year is from October 1st through September 30th. This is a new attribute added in 2021 when LANDFIRE started processing Event data by fiscal year.

Appendix B

LANDFIRE Event Type Nomenclature and Hierarchy

Event Types at the top of this list are highest ranked events thus having the greatest impact on vegetation/fuel composition

Hierarchy for data from 1999-2023

LANDFIRE Event Type
Development
Clearcut
Harvest
Thinning
Mastication
Other Mechanical
Wildfire
Wildland Fire Use
Prescribed Fire
Wildland Fire
Weather
Insecticide
Chemical
Insects
Disease
Insects/Disease
Herbicide
Biological
Planting
Reforestation
Seeding

Hierarchy for data from 2024

LANDFIRE Event Type
Development
Clearcut
Harvest
Thinning
Mastication
Mechanical Add
Mechanical Remove
Mechanical Unknown
Wildfire
Wildland Fire Use
Prescribed Fire
Weather
Insecticide
Chemical
Insects
Disease
Insects/Disease
Herbicide
Biological
Planting
Reforestation
Seeding