## LANDFIRE 2025 Disturbance and Treatment Polygons (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 2016 Remap, LANDFIRE 2020, LANDFIRE 2022, LANDFIRE 2023, LANDFIRE 2024, and LANDFIRE 2025 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 Disturbance and Treatment Polygons (DTP) Events geodatabase includes a feature dataset for Alaska (AK), CONUS, Hawaii (HI), and the island territories of Federated States of Micronesia (FSM), Guam/Northern Mariana (GUCNMI), Palau (PW), and the U.S. Virgin Islands and Puerto Rico (PRVI). Each feature dataset contains two feature classes, namely Raw DTP and Model Ready DTP. The Raw and Model Ready DTP 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 2025 DTP 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 Disturbance and Treatment Polygons geodatabase. Acceptable disturbance and treatment data need to have the following minimum requirements to be included in the Disturbance and Treatment Polygons geodatabase: 1) the disturbance or treatment must be represented by a polygon on the landscape and have a defined spatial coordinate system, 2) the disturbance or treatment must have an acceptable disturbance or treatment type (Appendix B) and 3) the disturbance or treatment 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 form 2021-2025.

### Disturbance and Vegetation/Fuel Treatment

The LANDFIRE Raw and Model Ready DTP feature classes are compilations of disturbance and vegetation/fuel treatment events that occurred between 1999 and 2025. All acceptable data were systematically converted to the standard LANDFIRE DTP format (Appendix A). During the conversion process, disturbances and vegetation/fuel treatments were assigned to a LANDFIRE disturbance and treatment (event) type (Appendix B). Data from 1999-2020 were processed by calendar year and data from 2021-2025 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.

### Raw Disturbance and Treatment Polygons (DTP)

The data in the Raw DTP 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 disturbance or treatment and a high degree of overlap between disturbances and treatments within a single calendar year or fiscal year. Examples of the former include the same management activity or disturbance 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.

### Model Ready Disturbance and Treatment Polygons (DTP)

The Model Ready DTP feature class has been reduced to only one unique disturbance or treatment per calendar year per location for data from 1999-2020 and one unique disturbance or treatment per fiscal year per location for data from 2021-2025. To produce the Model Ready layer, a series of topologies were created with the Raw DTP data to identify areas of overlap between polygons within the same calendar or fiscal year. A standard hierarchy of LANDFIRE Disturbance and Treatment types was applied to correct the topology errors (Appendix B). The disturbance and treatment types at the top of this list are highest ranked thus having the greatest impact on vegetation and/or fuels composition and structure. The disturbance and treatment type hierarchy was used to correct topology errors by merging lower ranked disturbances and treatments into higher ranked disturbances and treatments where polygons overlap. When there were multiple perimeters for the same disturbance or treatment the perimeter with the most information was chosen. The selected perimeter was not necessarily from a public data set so the Model Ready DTP feature class may be missing information on disturbances and treatments that appear in the Raw DTP feature class. The result is a layer which contains only one disturbance or treatment per calendar year for a location for data from 1999-2020. Data from 2021-2025 contains only one disturbance or treatment per fiscal year for a location. Point derived polygons and polygons that were <0.02 acres were also removed from the Model Ready DTP.

## Appendix A

### LANDFIRE Disturbance and Treatment Polygons – Raw and Model Ready DTP Data Dictionary

| Attribute | Description |
|---|---|
| Event_ID<br>***Required*** | LANDFIRE unique identifier for the vegetation/fuel treatment or disturbance event. |
| LF_ID<br>***Required*** | LANDFIRE unique identifier for the vegetation/fuel treatment or disturbance event within the original dataset. |
| DB_ID | Unique identifier for the 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<br>***Required*** | Type of disturbance or treatment represented by the polygon. LANDFIRE assigned one of the following event types to each disturbance or treatment:<br>**Development** - Conversion of natural lands into housing, commercial, or industrial building sites. Involves permanent land clearing.<br>**Clearcut** - The cutting of essentially all trees, producing a fully exposed microclimate for the development of a new age class.<br>**Harvest** - A general term for the cutting, felling, and gathering of forest timber. The term harvest was assigned to treatments where there was not enough information available to call them one of the 2 distinct types, clearcut or thinning.<br>**Thinning** - 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.<br>**Mastication** - Means by which vegetation is mechanically "mowed" or "chipped" into small pieces and changed from a vertical to horizontal arrangement.<br>**Mechanical Add** – 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.<br>**Mechanical Remove** - 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.<br>**Mechanical Unknown** - 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 treatments where there was not enough information to determine if fuels/biomass were added or removed from the site. |

| Attribute | Description |
|---|---|
| | **Other Mechanical** - 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.<br>**Wildfire*** - 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.<br>**Wildland Fire Use*** - 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.<br>**Prescribed Fire*** - 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.<br>**Wildland Fire*** - 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 fires where there was not enough information available to call them one of the 3 distinct types.<br>**Weather** - A weather related event that results in loss of vegetation such as blowdown, hurricane, or tornado.<br>**Insecticide** - Application of a chemical substance used to kill insects.<br>**Chemical** - Application of a chemical substance. The term chemical was assigned to treatments where there was not enough information available to call them one of the 2 distinct types, herbicide or insecticide.<br>**Insects** - infestations of unwanted insects that can affect vegetative health such as bark beetle.<br>**Disease** - Infestations of disease that can affect vegetative health such as root rot.<br>**Insects/Disease** - Infestations of insects and/or disease that can affect vegetative health. This term was assigned to disturbances where there was not enough information available to call them one way or the other.<br>**Herbicide** - Application of a chemical substance used to kill or inhibit the growth of plants.<br>**Biological** - The use of living organisms, such as predators, parasites, and pathogens, to control weeds, pest insects, or diseases.<br>**Planting** - Reestablishing a vegetative community by planting.<br>**Reforestation** - Reestablishing a vegetative community by planting or seeding.<br>**Seeding** - Reestablishing a vegetative community by seeding.<br>*Fire policies have changed over time for how fires are defined. Users need to be aware of these changes as well as other aspects of the data as they are applied. |

| Attribute | Description |
|---|---|
| Event_Subtype | Type of disturbance or treatment assigned in source dataset to represent the polygon. |
| Year | Calendar year (YYYY) in which the disturbance or treatment occurred. |
| Start_Date | Date (MMDDYY) on which the disturbance or treatment began. |
| End_Date | Date (MMDDYY) on which the disturbance or treatment ended. |
| Severity | Severity of vegetation/fuel treatment or disturbance, in terms of biomass reduction. One of the following terms was used to indicate the effects of the disturbance or treatment on the above-ground vegetation within a polygon:<br>Low = <20% above-ground biomass removed<br>Moderate = 20-80% above-ground biomass removed<br>High = >80% above-ground biomass removed |
| Agency | Reporting agency (or non-governmental organization) for disturbance or treatment. |
| Source_Code<br>***Required*** | 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<br>***Required*** | Fiscal year (YYYY) in which the disturbance or treatment occurred. Fiscal year is from October 1st through September 30th. This is a new attribute added in 2021 when LANDFIRE started processing disturbance or treatment data by fiscal year. |

Appendix B

**LANDFIRE Disturbance and Treatment Type Nomenclature and Hierarchy**

Disturbance and treatment (Event) types at the top of this list are highest ranked thus having the greatest impact on vegetation/fuel composition

**Hierarchy for Data from 1999-2023**

| LANDFIRE Disturbance and Treatment |
|---|
| 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 to Present**

| LANDFIRE Disturbance and Treatment |
|---|
| 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 |