

LANDFIRE Product Service (LFPS) User Guide

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Contents

Contents	ii
List of Figures	iii
Section 1 Introduction to LANDFIRE	1
1.1 About the LANDFIRE Products Service.....	1
Section 2 Accessing the LANDFIRE Product Service	2
2.1 Description of Request Requirements.....	2
Section 3 New Features.....	3
3.1 Area of Interest Preview	3
3.2 Automated Edit Mask Upload Shapefile.....	3
3.3 API Swagger	4
Section 4 Example Requests.....	5
4.1 Request Example 1: via Web Interface Request.....	5
4.2 Request Example 2: via URL Request	6
Section 5 Parameters	7
5.1 Product Layer List (Required).....	7
5.2 Area of Interest (Required)	7
5.3 Output Projection (Optional)	8
5.4 Resample Resolution (Optional)	9
5.5 Edit Rule (Optional).....	10
5.5.1 Description of Parameters Used to Create Edit Rule(s).....	12
5.6 Edit Mask (Optional)	13
5.6.1 Uploading Masks via the LFPS Form	14
5.6.2 Uploading Masks via a Machine to Machine (M2M) Call	16
5.6.3 Using Masks in the LFPS Form	16
Section 6 Retrieving a LANDFIRE Products File.....	17
Section 7 API Endpoints	19
7.1 API Endpoint Details	19
7.1.1 Submit Job.....	19
7.1.2 Job Status	20
7.1.3 Cancel Job	20
7.1.4 Upload Shapefile.....	21
7.1.5 Health Check	21
Section 8 Messaging	23
8.1 Examples of the Informative Messages.....	23
8.2 Examples of Error Messages	24
Section 9 User Assistance and Support	27

List of Figures

Figure 1 - Map Zone 39 Shown in the Area of Interest Preview.....	3
Figure 2 – Upload Shapefile for “Edit mask” Input	4
Figure 3 – LFPS API	4
Figure 4 – The New LFPS Form.....	6
Figure 5 – LANDFIRE Map Zones.....	8
Figure 6 – LFPS Status Page with Download File	18

Section 1 Introduction to LANDFIRE

The Landscape Fire and Resource Management Planning Tools (LANDFIRE) project produces and delivers more than 65 products for multiple extents including the Conterminous United States (CONUS), Alaska (AK), Hawaii (HI) and the Insular Areas. The uniqueness of LANDFIRE data makes it essential to some government requirements, such as wildfire risk assessments, habitat assessments, and operational firefighting.

The LF program offers four delivery methods (see [LANDFIRE Program: Data page](#)) for accessing its products: clip-and-ship downloads via the LF Data Distribution System, full-extent mosaics for larger analysis, data streaming through REST and WCS calls, and the LF Product Service (LFPS), a REST API for direct access. These options ensure users can efficiently retrieve and integrate LF spatial data into their workflows.

1.1 About the LANDFIRE Products Service

The LFPS allows users to request and download a LF products file through an API using HTTPS requests. The LF products file is an output file incorporating the requested LF product layers via a multiband raster. In addition, users can resample the product layers to a coarser resolution, define an output projection for a study area, and edit select product layers based on rules using other product layers within the products list. LFPS processing times can vary between 12 seconds to 7 minutes depending on the inputs requested.

Features of the LF Products Service includes:

- 100% REST API
- Supports GET & POST for Endpoints
- All Downloads Endpoint(s) support Cross-Origin Resource Sharing (CORS)
- Asynchronous by default
- API documentation

Section 2 Accessing the LANDFIRE Product Service

The LANDFIRE Product Service (LFPS) can be accessed in the following ways:

- Python, php, Unix wget, or anything that can make a URL request (including an internet browser)
 - used by machines and not intended to be friendly to humans
- Scripting tools like Postman (<https://www.postman.com/>)
- Web Interface: <https://lfps.usgs.gov>
 - used by humans for manual processing

It is relatively easy to set up scripts to grab data using the URL interface, and is the primary intended use of the LFPS. This is why the web interface is limited in robustness.

2.1 Description of Request Requirements

The service receives requests via scripts, URLs, or a RESTful API. It returns a multi-band GeoTIF file and associated metadata in a zipped folder with the LF products in the order requested.

Three parameters are required when making a request:

- **Product list** - a list of the products to include.
- **Area of interest** - the bounding box coordinates that define the area (extent) of the product request, or the map zone number associated with the area (extent).
- **Email Address (new)** – User email requesting a LFPS product. The email used for general usage patterns, to identify problems with specific domains and network routing, and in traceability back to data problems in specific requests. Full email addresses will be stored for the listed query and troubleshooting activities and will not be used in any way. Please ensure the email address submitted, can easily identify your system or organization for best reporting metrics.

Five parameters are optional:

- **Output projection** – used when the default projection is not desired.
- **Resampling resolution** – used when a coarser resolution than the default value, 30m, is needed.
- **Edit rule(s)** - used to modify products within the Fuel theme using products within the requested Product List and modifier and conditional statements.
- **Edit mask(s)** - used to limit Edit Rule(s) to specific areas using uploaded shapefiles.
- **Priority Code (new)** – used only for key wildland fire systems and provisioned by LF leadership.

Section 3 New Features

LANDFIRE made updates to the LFPS in 2025, which required a new URL for the service, as well as an update to the input form and request requirements. This section outlines the new features that were implemented.

3.1 Area of Interest Preview

In the “Area of Interest” (AOI) new form, users can preview an area of interest before submitting the request when adding a boundary box coordinates by using or a Map Zone number and clicking the button in this field. Figure 1 shows an example of the AOI preview after adding the value of 39 for map zone.

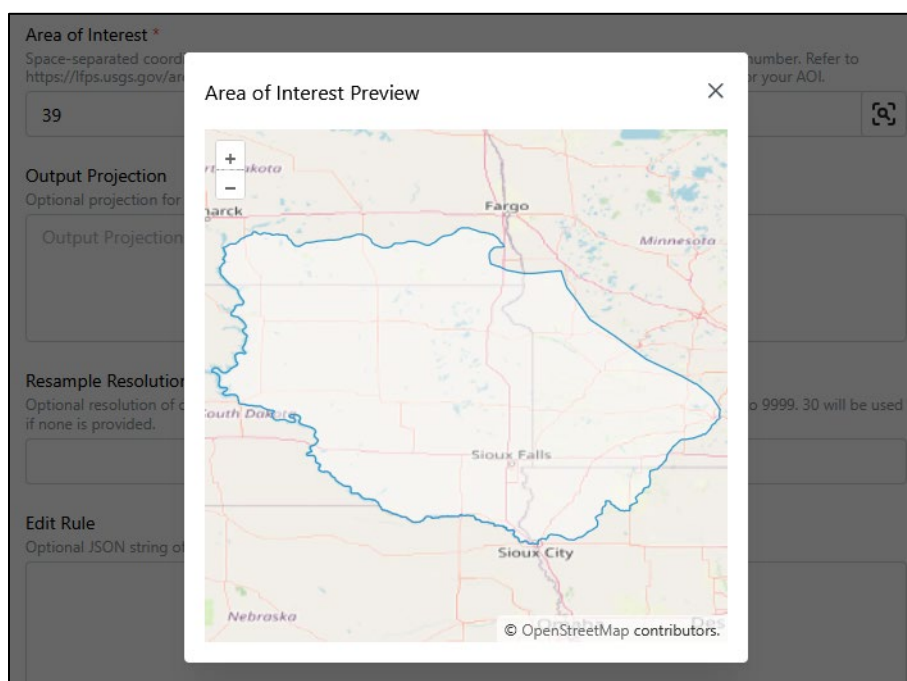


Figure 1 - Map Zone 39 Shown in the Area of Interest Preview

3.2 Automated Edit Mask Upload Shapefile

In the “Edit Mask” new form, the shapefile upload page (Figure 2) has been moved and integrated directly into the form. By using the arrow up button in this field, users can upload their shapefiles and have the field automatically populated with the necessary item IDs.

Figure 2 – Upload Shapefile for “Edit mask” Input

3.3 API Swagger

An additional feature in the new LFPS is that when developers are using an Application Programming Interface (API) they can utilize our [Swagger](https://lfps.usgs.gov/docs/api) (<https://lfps.usgs.gov/docs/api>) page (Figure 3) to try out the API endpoints and get more details on API requests. Additional detail about the API endpoints is listed in section 7 of this document.

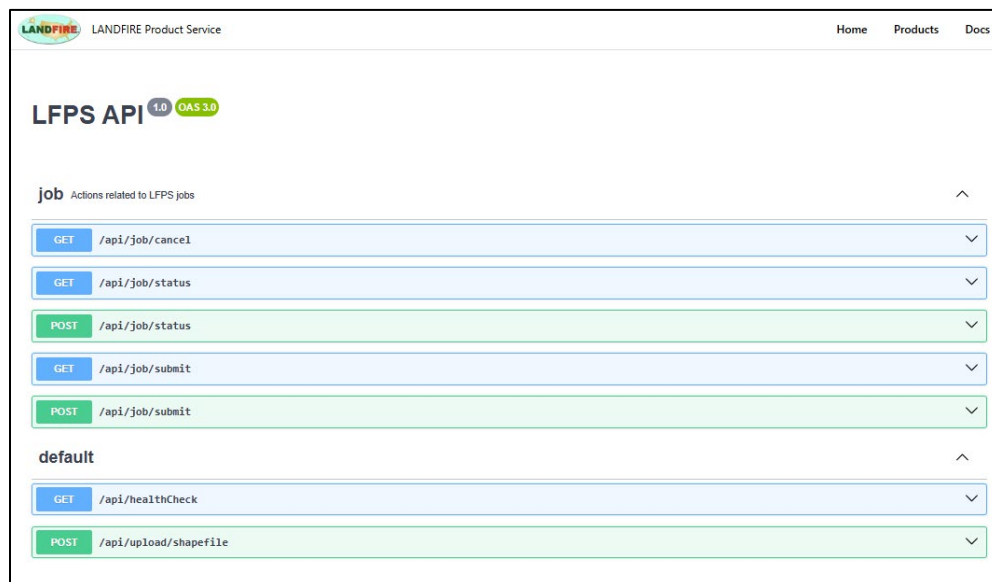


Figure 3 – LFPS API

Section 4 Example Requests

Below are two identical requests - one made via Web Interface and the second via URL request. The requests are for eight (8) layers used to run fire behavior models from the LF 2023 (v.2.4.0) version at a 90m resolution reprojected to the California Albers NAD83 (2011) coordinate system (EPSG:6414) with edits to update the fuel products.

- **Layer List:** ELEV2020;SLPD2020;ASP2020;240FBFM40;240CC;240CH;240CBH;240CBD
- **Area of Interest:** -123.7835 41.7534 -123.6352 41.8042
- **Output Projection:** 6414
- **Output Resolution:** 90
- **Edit Rule:**

```
{
  "edit": [
    {
      "condition": [
        {
          "product": "ELEV2020", "operator": "lt", "value": 500
        }
      ],
      "change": [
        {
          "product": "240FBFM", "operator": "st", "value": 181
        },
        {
          "product": "240CBH",
          "operator": "ib", "value": 5
        }
      ]
    }
  ]
}
```
- **Email:** required user email
- **Priority Code:** used only for key wildland fire systems and provisioned by LF leadership.

4.1 Request Example 1: via Web Interface Request

Figure 4, below shows how users can submit requests using the Web Interface form (<https://lfps.usgs.gov>) and providing the required parameters. Required parameters are denoted with a red asterisk next to the field name.

LANDFIRE LANDFIRE Product Service Home Products Docs

Layer List *
List of Landfire layers delimited with semicolons (;).
ELEV2020;SLPD2020;ASP2020;240FBFM40;240CC;240CH;240CBH;240CBD

Area of Interest *
Space-separated coordinates in W, S, E, N order. Must be in WGS84 (4326). Or you may enter a Map Zone number. Refer to https://fips.usgs.gov/arcgis/rest/services/AK_HI_US_map_zones/MapServer/0 to determine the map zone for your AOI.
-123.7835 41.7534 -123.6352 41.8042

Output Projection
Optional projection for the output file. Can be a well-known integer ID (WKID) or a well-known text (WKT).
6414

Resample Resolution
Optional resolution of output tif file. Valid values: any integer value greater than 30 and less than or equal to 9999. 30 will be used if none is provided.
90

Edit Rule
Optional JSON string of edits.
{
 "product": "240CBH",
 "operator": "ib",
 "value": 5
}

Edit Mask
Optional JSON string of itemIDs to use in the Edit Rule.
[{"itemID": "i0976699c-b1e7-446d-9efc-b3b61578ca08"}, {"itemID": "i5ddc77d3-8e2b-43ae-83d0-453d0c8062cf"}]

Email Address *
@ test@test.com

Priority Code
Optional 6-digit code for prioritized processing.
☐ ☐ ☐ ☐ ☐ ☐

Submit

Figure 4 – The New LFPS Form

4.2 Request Example 2: via URL Request

Users must follow standard URL encodings

https://www.w3schools.com/tags/ref_urlencode.asp to build a full request.

LFPS Form URL: <https://lfps.usgs.gov/api/job/submit>

Full LFPS Request URL:

[https://lfps.usgs.gov/api/job/submit?Output_Projection=6414&Resample_Resolution=90&Layer_List=ELEV2020;SLPD2020;ASP2020;240FBFM40;240CC;240CH;240CBH;240CBD&Area_of_Interest=-123.7835%2041.7534%20-123.6352%2041.8042&Edit_Rule={\"edit\":{\"condition\":{\"product\":\"ELEV2020\",\"operator\":\"lt\",\"value\":500}},\"change\":{\"product\":\"240FBFM40\",\"operator\":\"st\",\"value\":181},{\"product\":\"240CBH\",\"operator\":\"it\",\"value\":5}}}&Email=<required user email>](https://lfps.usgs.gov/api/job/submit?Output_Projection=6414&Resample_Resolution=90&Layer_List=ELEV2020;SLPD2020;ASP2020;240FBFM40;240CC;240CH;240CBH;240CBD&Area_of_Interest=-123.7835%2041.7534%20-123.6352%2041.8042&Edit_Rule={\)

Section 5 Parameters

5.1 Product Layer List (Required)

The Product Layer List (see example below) is a required parameter. It lists LF product layers separated by semicolons in the order desired within the LF Products File.

```
Layer_List=ELEV2020;SLPD2020;ASP2020;240FBFM40;240CC;240CH;240CBH;240CBD
```

Not all versions of LF products will be available in the LFPS. As newer versions are released, older versions will be removed for a full list and comparison of all [LF product versions](#) visit LANDFIRE Product Versions. Currently, we provide two base mapped versions and three updated versions on all LF distribution sites. A table with the available LF products is provided at <https://lfps.usgs.gov/products>. Its contents include LF Data Products by Name, Theme, Acronym, Layer Name (use for Layer List Parameter), and Version. Data availability by Geographic Area (GeoArea) is also indicated. Current product availability can also be found at [LANDFIRE \(LF\) Program: Data page](#). Note that although data is available via the LFPS for the Conterminous U.S., Alaska (AK), and Hawaii (HI), data is not available for Insular Areas (e.g. Pacific and Caribbean Islands and Territories).

5.2 Area of Interest (Required)

An area of interest (AOI), defined by a bounding box or a map zone, is required. An example is listed below.

```
Bounding Box:  
Area_of_Interest=-123.7835%2041.7534%20-123.6352%2041.8042
```

OR

```
Map Zone:  
Area_of_Interest=13
```

The bounding box is defined by latitude and longitude in decimal degrees in WGS84 that are space delimited and listed in the following order: lower left longitude (W), lower left latitude (S), upper right longitude (E), upper right latitude (N).

The map zone option is defined by entering a LF map zone for the AOI. Map Zone Map Service: https://lfps.usgs.gov/arcgis/rest/services/AK_HI_US_map_zones/MapServer/0. Figure 5, below, shows all the available LF map zones.

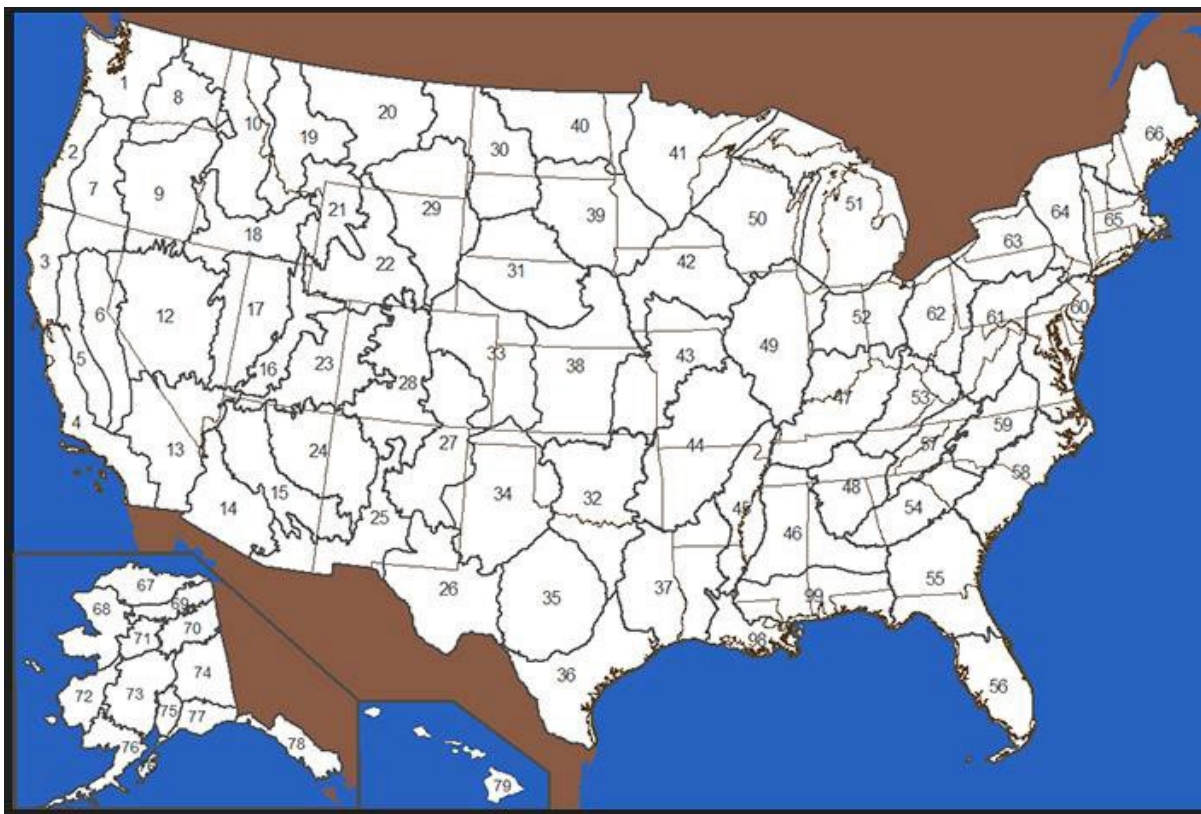


Figure 5 – LANDFIRE Map Zones

5.3 Output Projection (Optional)

By default, the service will return the product bundle in a localized Albers projection intended to keep the output product aligned with North and to keep the cell sizes constant.

If a different projection is desired, it can be requested using either a well-known integer ID (WKID value) or the well-known text (WKT). The example below shows 2 ways to provide the output projection for “NAD83(2011) / California Albers” using the WKID (6414) or using the WKID text to use in the LFPS form or in the URL request.

WKID value:

Output_Projection=6414

OR

WKID text for 6414:

For LFPS form:

```
PROJCS["NAD83(2011) / California
Albers",GEOGCS["NAD83(2011)",DATUM["NAD83_National_Spatial_Reference_System_2
011",SPHEROID["GRS
1980",6378137,298.257222101],TOWGS84[0,0,0,0,0,0,0]],PRIMEM["Greenwich",0,AUT
HORITY["EPSG","8901"]],UNIT["degree",0.0174532925199433,AUTHORITY["EPSG","912
2"]],AUTHORITY["EPSG","6318"]],PROJECTION["Albers_Conic_Equal_Area"],PARAMETE
R["latitude_of_center",0],PARAMETER["longitude_of_center",-
120],PARAMETER["standard_parallel_1",34],PARAMETER["standard_parallel_2",40.5
],PARAMETER["false_easting",0],PARAMETER["false_northing",-
4000000],UNIT["metre",1,AUTHORITY["EPSG","9001"]],AXIS["Easting",EAST],AXIS["
Northing",NORTH],AUTHORITY["EPSG","6414"]]
```

For URL request:

```
Output_Projection="PROJCS["NAD83(2011) / California
Albers",GEOGCS["NAD83(2011)",DATUM["NAD83_National_Spatial_Reference_Syste
m_2011",SPHEROID["GRS
1980",6378137,298.257222101],TOWGS84[0,0,0,0,0,0,0]],PRIMEM["Greenwich",0,A
UTHORITY["EPSG","8901"]],UNIT["degree",0.0174532925199433,AUTHORITY["EP
SG","9122"]],AUTHORITY["EPSG","6318"]],PROJECTION["Albers_Conic_Equal_Are
a"],PARAMETER["latitude_of_center",0],PARAMETER["longitude_of_center",-
120],PARAMETER["standard_parallel_1",34],PARAMETER["standard_parallel_2",4
0.5],PARAMETER["false_easting",0],PARAMETER["false_northing",-
4000000],UNIT["metre",1,AUTHORITY["EPSG","9001"]],AXIS["Easting",EAST],A
XIS["Northing",NORTH],AUTHORITY["EPSG","6414"]]"
```

5.4 Resample Resolution (Optional)

Resampling is requested when the desired resolution is coarser than the native 30m of the LF products. The valid values for this box are integers between 31 and 9999. If not used, the default value is 30m.

Resample_Resolution=90

Resampling is completed via nearest neighbor. See [ESRI documentation](#) if additional details on resampling methodology are required. When resampling is requested, the resample resolution is written to the metadata file within the products file.

<MDI key="ResampleResolution">90</MDI>

5.5 Edit Rule (Optional)

Edit rules can be used to modify products.

For LFPS form:

```
{ "edit": [ { "condition": [ { "product": "ELEV2020", "operator": "lt", "value": 500 } ], "change": [ { "product": "240FBFM40", "operator": "st", "value": 181 }, { "product": "240CBH", "operator": "ib", "value": 5 } ] } ] }
```

For URL request:

```
Edit_Rule={ \"edit\": [ { \"condition\": [ { \"product\": \"ELEV2020\", \"operator\": \"lt\", \"value\": 500 } ], \"change\": [ { \"product\": \"240FBFM40\", \"operator\": \"st\", \"value\": 181 }, { \"product\": \"240CBH\", \"operator\": \"ib\", \"value\": 5 } ] } ] }
```

There are two parts to applying an edit rule: Condition and Change.

For each condition met for the given product listed, the changes listed will be applied; where each change/condition requires a ‘product, operator and value’ component. If no condition is given, then the change will be applied across everywhere the operator logic is met.

Multiple conditions can exist for the same product. The order of condition and changes also matters, as they are applied in the order listed. The logic that connects each change edit listed between each condition edit in a single Edit Rule array is the “AND” logical condition, while multiple Edit Rule arrays can be listed to simulate the “OR” logical condition. An example of this can be seen below in a readable format.

```
{
  "edit": [
    {
      "condition": [
        {
          "product": "ELEV2020",
          "operator": "lt",
          "value": 500
        }
      ],
      "change": [
        {
          "product": "240FBFM",
          "operator": "st",
          "value": 181
        },
        {
          "product": "240CBH",
          "operator": "ib",
          "value": 5
        }
      ]
    }
  ]
}
```

```

    ]
  }
]
"edit": [
  {
    "condition": [
      {
        "product":
        "ELEV2020",
        "operator": "lt",
        "value": 1200
      },
      {
        "product":
        "ELEV2020",
        "operator": "gt",
        "value": 1100
      }
    ],
    "change": [
      {
        "product":
        "240FBFM",
        "operator":
        "st", "value":
        181
      },
      {
        "product": "240CBH",
        "operator":
        "ib", "value": 5
      }
    ]
  }
]
}
}

```

The above example includes two Edit Rules, which simulates OR, and two conditions for the same product are also used, simulating 'between'. In this example, the logic states: When the Elevation (ELEV2020) pixel value is less than 500 OR when Elevation is greater than 1100 AND less than 1200 (Between 1100 and 1200), set FBFM40 pixel value to 181 AND add 5 to the CBH pixel value.

The results after modifications are then used in the final composite raster bundled out to user.

The final output will include details of the edit rules within the metadata files, such as the example below when just using the first input rule instead of the two edit rules as the example above.

```

<MDI
key="EditRule">{"edit":[{"condition":[{"product":"ELEV2020","operator":"lt","value":500}],"cha
nge":[{"product":"
240FBFM40","operator":"st","value":181},{product":"240CBH","operator":"ib","value":5}}]}</
MDI>

```

If an Edit Mask is included (explained in the next section), then all edits will be limited to within the extent of the mask applied.

The Product component of a change edit rule can only be one of the following Fuel theme products:

Product
Fire Behavior Fuel Model 13
Fire Behavior Fuel Model 40
Forest Canopy Base Height
Forest Canopy Bulk Density
Forest Canopy Cover
Forest Canopy Height

5.5.1 Description of Parameters Used to Create Edit Rule(s)

Parameter Type	Type	Description
Product	String (required)	LF Product
Operator	String (required)	Conditional or Change Operator to create edit rules
Value*	Number (required)	Value
Mask	String (optional)	Conditional & Change rules will only apply where both the mask and the extent intersect.

**The CV (clear value) change operator does not require a "value."*

5.5.1.1 Product

Defines the Product(s) on which the changes will be made.

5.5.1.2 Operator

The Conditional Operator is used to define the relationship to base the changes on.

Conditional Operator	Description
EQ	Is equal to the specified value
GE	Is greater than or equal to the specified value
GT	Is greater than the specified value
LE	Is less than or equal to the specified value
LT	Is less than the specified value
NE	Is not equal to

The Change operator is used to define the type of change to the Product. Unlike Conditional operators, multiple change attributes cannot exist for the same Product in a single rule.

Change Operator	Description
CM	Clamp to a minimum – if the Product value is less than the specified value, set it to that value.
CV *	Clear the value – set the Product value to NO DATA (-9999)

Change Operator	Description
CX	Clamp to a maximum - if the Product value is greater than the specified value set it to that
DB	Decrease by – subtract the associated value from the attribute value; if the new value is out of range, set it to the minimum value for the Product
IB	Increase by – add the associated value to the attribute value; if the new value is out of range, set it to the maximum value for the Product
MB	Multiply by – multiply the attribute value by the associated value; if the new value is out of range, set it to the maximum value for the Product
ST *	Set to - Set the Product to the given value

**CV and ST are the only Change operators that can be used for the fuel model product.*

5.5.1.3 Value

The Value is used with both the conditional operator and change operator and must be numeric.

Limits (minimum and maximum) for the following LF products will be used when editing. If an editing rule would result in a value outside of the limits, they will be clamped to the limits. These limits have been set according to real world values.

Value limits for Products that can be edited.

LF Product	Minimum	Maximum
Fuel Model (either 13 or 40)	1	255
Canopy Cover (%)	0	100
Canopy Base Height (m*10)	0	1000
Canopy Height (m*10)	0	1000
Canopy Bulk Density (kg/m3 *100)	0	50

For example, the following edit rule requests that wherever elevation has a value less than 500, apply an edit (mb) on the Canopy Cover product by multiplying its pixel value by 3.

<MDI

```
key="EditRule">{"edit":[{"condition":{"product":"ELEV2020","operator":"lt","value":500},"change":{"product":"240CC","operator":"mb","value":3}}]}
```

For example, if the starting pixel value in the Canopy Cover product is 40%, MB 3 from the edit rule would result in a value of 120% which exceeds the limit of 100%. That pixel in the final product would be a value of 100, or 100%.

5.6 Edit Mask (Optional)

Edit Mask(s) can be used to limit Edit Rule(s) to specific areas using uploaded shapefiles. The "Edit Mask" is a zip container that can contain multiple shapefiles and must be uploaded into the system for use. To use a shapefile for an Edit Rule, specify the "mask" field with a shape file name as shown in the example below.

For LFPS form:

```
[{"itemID": "i7bf62e3f-c044-4a57-9751-8d4ec9621a20"}]]}
```

For URL request:

```
Edit_Mask=[{"itemID": "i7bf62e3f-c044-4a57-9751-8d4ec9621a20"}]]}
```

Edit Rule input in readable format:

```
{
  "edit": [
    {
      "mask": "multipoly_wgs84.shp",
      "condition": [
        {
          "product": "ELEV2020",
          "operator": "lt",
          "value": 500
        }
      ],
      "change": [
        {
          "product": "240FBFM40",
          "operator": "st",
          "value": 181
        },
        {
          "product": "240CBH",
          "operator": "ib",
          "value": 5
        }
      ]
    }
  ]
}
```

To confine edits to a specific location within the AOI, shapefile(s) may be uploaded for use.

- A shapefile can be a polygon, line, or point type.
- The shapefile must be compressed into a zip file.
- The shapefile must comply with ESRI shapefile naming rules with only letters, numbers, underscores and hyphens.
- The shapefile must have a defined projection, but the projection does not need to match that of the requested output projection or the AOI.
- Users may either place multiple shapefiles into the zip file if planning to do multiple rounds of edits, or each shapefile can be uploaded in separate zip files.
- Currently, the size limit of a single zip file is 1MB. Anything larger will fail to upload. The size limit can be increased if needed.
- Shapefiles persist on the server for 24 hours.

5.6.1 Uploading Masks via the LFPS Form

- Upload the zipped shapefile(s) using the upload icon in the “Edit Mask” section:

Edit Mask
JSON string of itemIDs to use in the Edit Rule.

```
[{"itemID":"i0976699c-b1e7-446d-9efc-b3b61578ca08"}, {"itemID":"i5ddc77d3-8e2b-43ae-83d0-453d0c8062cf"}]
```




- A new window form to add the zip file will display.

Upload Shapefile ×

Shapefile *
A .zip file containing one or more shapefiles.

polygon_wgs84.zip

Description
File description.




Upload

- Click on the field showing the zip filename example.
- Navigate and select the zipped shapefile to be uploaded and click “Open”.
- After the zip file now shows in the Shapefile field, an option “Description” information could be added, if not added, click on “Upload”.
- Once the file is uploaded, an itemID will be added in the Edit Mask field. The Item ID and Item name are required to use the mask. The Item name is required to specify which shapefile is to be used because it is possible to upload multiple shapefiles in a single zip folder.

Edit Mask
JSON string of itemIDs to use in the Edit Rule.

```
[{"itemID":"i793f2aa9-9e72-4caa-8cc5-28cd6e2ec1c5"}]
```



5.6.2 Uploading Masks via a Machine to Machine (M2M) Call

Masks can be uploaded programmatically using M2M, you can call the service like the example below. For more information about how to do this call, visit “/api/upload/shapefile” API documentation at <https://lfps.usgs.gov/docs/api>

```
curl -X 'POST' \
  'https://devlfps.cr.usgs.gov/api/upload/shapefile' \
  -H 'accept: application/json' \
  -H 'Content-Type: multipart/form-data' \
  -F 'file=@multipoly_wgs84.zip;type=application/x-zip-compressed'
```

The response will be the following, and the “itemID” and “itemName” are required for using the mask.

```
{
  "itemId": "iabb73319-0c3e-43de-982a-e8c59a048231",
  "itemName": "multipoly_wgs84.zip",
  "description": null,
  "date": "2025-04-04T15:51:41.545Z",
  "committed": true,
  "success": true
}
```

5.6.3 Using Masks in the LFPS Form

To use a mask:

- The Item ID (itemId) must be specified in the Edit Mask parameter.
- The name of the shapefile (itemName) must be specified in your Edit Rule.

```
{"edit":[{"mask":"multipoly_wgs84.shp","condition":[{"product":"ELEV2020","operator":"lt","value":500}], "change":[{"product":"230VCC","operator":"st","value":181}]}]}
```

The screenshot shows a web form with two main sections: "Edit Rule" and "Edit Mask".

Edit Rule
Optional JSON string of edits.

The text area contains the following JSON:

```
{
  "edit": [
    {
      "mask": "multipoly_wgs84.shp",
      "condition": [
        {
          "product": "ELEV2020",
          "operator": "lt",
          "value": 500
        }
      ],
      "change": [
        {
          "product": "230VCC",
          "operator": "st",
          "value": 181
        }
      ]
    }
  ]
}
```

Edit Mask
Optional JSON string of itemIDs to use in the Edit Rule.

The text area contains the following JSON:

```
[{"itemId": "ib3afb016-cae0-463c-b817-1b7dbcaee4a8"}]
```

There is an "Upload" button (represented by an upward arrow icon) to the right of the Edit Mask text area.

Section 6 Retrieving a LANDFIRE Products File

The system checks the status of each request every 5 seconds and when the order has completed processing, a link is shared for the user to download the products bundle.

The files are returned in the compressed file "<Job ID>.zip." The zip file contains both the GeoTIFF and associated metadata in the following files:

- <Job ID>.tfw
- <Job ID>.tif
- <Job ID>.tif.aux.xml

Once completed, the product file remains available for 6 hours. If not retrieved in time, a "404 – File" or "directory not found" will be returned and it will need to be requested again.

From the web interface, the LFPS product can be retrieved from the "Download File" from the job status page, shown below in Figure 6.

LANDFIRE Product Service

Home Products Docs

Pending Executing Succeeded

Job ID: c1c4f302-c3d3-4c8d-8b21-24f21cea264c

Job Status: Succeeded

Queue Position: N/A

Job Messages:

- Start Time: Friday, April 4, 2025 12:02:52 PM
- AOI: -123.7835 41.7534 -123.6352 41.8042
- Entering ValidateCoordinates()
- Entering DetermineRegion()
- region: US_
- Exiting DetermineRegion()
- US_ELEV2020
- US_SLPD2020
- US_ASP2020
- US_230FBFM40
- US_230CC
- US_230CH
- US_230CBH
- US_230CBD
- No Output projection input provided.
- Entering CreateLocalProjection()
- local projection string:
PROJCS["Albers",GEOGCS["GCS North American 1983",DATUM["D North American 1983",SPHEROID["GRS 1980",6376137.0,298.257222101]],PRIMEM["Greenwich",0.0],UNIT["Degree",0.0174532925199433]],PROJECTION["Albers"],PARAMETER["False_Easting",0.0],PARAMETER["False_Northing",0.0],PARAMETER["Central_Meridian",-123.70935],PARAMETER["Standard_Parallel_1",41.7534],PARAMETER["Standard_Parallel_2",41.8042],PARAMETER["Latitude_Of_Origin",41.776800000000004],UNIT["Meter",1.0]]
- Exiting CreateLocalProjection()
- Start creating geotif
- Finished creating geotif
- Start zipping of files
- All files zipped successfully.
- Job Finished
- Succeeded at Friday, April 4, 2025 12:03:03 PM (Elapsed Time: 11.47 seconds)

[Download File](#)

Figure 6 – LFPS Status Page with Download File

From the URL request, the zip product can be retrieved via a unique URL. An example of the URL is below.

"https://lfps.usgs.gov/arcgis/rest/directories/arcgisjobs/landfireproductservice_g_pserver/je1f82c5b127a40b9aeb5356d9972d69f/scratch/je1f82c5b127a40b9aeb5356d9972d69f.zip"

Section 7 API Endpoints

The table below provides a summary of the API endpoints to the LFPS with the purpose descriptor.

Purpose	Endpoint
Submit Job	/api/job/submit
Job Status	<a href="/api/job/status?JobId=<Job ID>">/api/job/status?JobId=<Job ID>
Cancel Job	<a href="/api/job/cancel?JobId=<Job ID>">/api/job/cancel?JobId=<Job ID>
Upload Shapefile	/api/upload/shapefile
Service Health	/api/healthCheck

7.1 API Endpoint Details

7.1.1 Submit Job

Methods: GET, POST

- This endpoint allows LFPS jobs to be submitted.

Request

Parameter	Data Type	Description	Required
Email	String	Identify the job requestor.	X
Layer_List	String	List of Landfire layers delimited with semicolons (;).	X
Area_of_Interest	String	Area of Interest. Space separated coordinates in W, S, E, N order. Must be in WGS84 (4326). Or you may enter a Map Zone number.	X
Output_Projection	String	Output projection.	
Resample_Resolution	Integer	Resolution of output TIF file. Valid values: any integer value greater than 30.	
Edit_Rule	JSON	JSON string of edits.	
Edit_Mask	JSON	JSON array of files uploaded to the server using the /api/upload/shapefile endpoint.	
Priority_Code	String	Code to determine user priority.	

Response

Parameter	Data Type	Description
jobId	String	Unique ID for the job. <i>This is the job queue ID, not the ESRI job ID.</i>
status	String	Status of the job in the queue

7.1.2 Job Status

Methods: GET, POST

- This endpoint provides the status and details on a submitted LFPS job.

Request

Parameter	Data Type	Description	Required
JobId	String	Job ID. <i>This is the job queue ID, not the ESRI job ID.</i>	X

Response

Parameter	Data Type	Description
jobId	String	Job ID. <i>This is the assigned UUID of the job, not the ESRI job ID.</i>
status	String (enum)	Status code. <i>Pending: New v2 response as job waits in new job queue.</i> All other status responses are identical to v1.
messages	Array of messages	Messages have a type and description
queuePosition	Integer	<i>Parameter provides the actual position in job queue. Will be -1 if the job is executing</i>

7.1.3 Cancel Job

Methods: GET

- This endpoint allows LFPS jobs to be cancelled.

Request

Parameter	Data Type	Description	Required
JobId	String	Job ID. <i>This is the job queue ID, not the ESRI job ID.</i>	X

Response

Parameter	Data Type	Description
jobId	String	Job ID. <i>This is the job queue ID, not the ESRI job ID.</i>
status	String	Returned status will be 'Canceled'

7.1.4 Upload Shapefile

Methods: POST

- This endpoint allows the user to upload a shapefile for use in the Edit_Mask and Edit_Rule parameters.

Request

Parameter	Data Type	Description	Required
file	.zip	Max file size is 1mb. Same as the current system. Files are automatically deleted after 1 hour.	X

Response

Parameter	Data Type	Description
itemId	String	The item ID corresponding to the uploaded .zip file.
itemName	String	The name of the .zip file that was uploaded.
description	String	Not used by ESRI.
date	Date	Date the upload occurred.
committed	Boolean	Upload successful status.

7.1.5 Health Check

Methods: GET

- This supports users the ability to query this endpoint to check if the service is running. In the event a user gets a response that the service is not running, please send a message to the LANDFIRE helpdesk (helpdesk@landfire.gov) so this issue can be logged and worked on.

Request

- None

Response

Parameter	Data Type	Description
success	Boolean	True or false

For any endpoints with a failed request, the user will receive the following response:

Parameter	Data Type	Description
message	String	Error message from API
success	Boolean	false

Section 8 Messaging

After the service has received a request, a series of messages are presented. These include messages on the status of the process and error messages.

8.1 Examples of the Informative Messages

General information

- Start Time: <start date and time of the LFPS job run>
- AOI: <requested AOI>
- Entering ValidateCoordinates()
- Entering DetermineRegion()
- region: <Region of the AOI>
- Exiting DetermineRegion()
- <List of products in the Layer List >
- No Output projection input provided.
- Entering CreateLocalProjection()
- local projection string: <Projection WKID text string>
- Exiting CreateLocalProjection()
- Start creating geotif

Optional information for Output Projection

- Start resample of geotif
- Finish resample of geotif

General information

- Finished creating geotif

Optional information for Edit Rule and Edit Mask

- Start editing geotif
- Edit Round: <N>
- Finished editing geotif

Map Zone input information

- Start extracting data to map zone
- Finished extracting data to map zone

General information

- All files zipped successfully.

- Job Finished
- <Failed script LandfireProductService...>
- <Succeeded_or_Failed> at <end date and time LFPS job run>
(Elapsed Time: <processing time>)
- <Failed>

8.2 Examples of Error Messages

Error Location	Error Message	Additional information
Layer List	Your Layer List (Layer_List) is empty. Please provide a semicolon delimited list of layers	Layer list is a required input for LFPS
Layer List	Invalid products: <Layer_List>	Check the available products at https://lfps.usgs.gov/lfps/helpdocs/productstable.html
Area of Interest (AOI)	Your Areas of Interest (Area_of_Interest) is empty. Please provide an Area of Interest	Area of Interest is a required input for LFPS
Area of Interest (AOI)	Invalid Map Zone input <Area_or_Interest>	Valid map zones 1-10, 12-80, 98-99
Area of Interest (AOI)	Input AOI <Area_of_Interest> is out of range. Valid range is -188, 18, -66, 72	Area of Interest BBOX coordinate values incorrect
Area of Interest (AOI)	Input AOI did not fall with AK, HI, nor CONUS	User's input coordinates don't fall within CONUS, AK or HI
Area of Interest (AOI)	Failure determining region from outline map service	Outline map service down Unable to determine CONUS, AK or HI region from user's input coordinates
Area of Interest (AOI)	Failure getting zone extent	Utility service to get map zone based on BBOX input is not working
Area of Interest (AOI)	Failure validating coordinates	BBOX coordinate is not valid. Valid range is -188, 18, -66, 72 User's input coordinates were either in the wrong order, not numeric, or didn't total 4

Error Location	Error Message	Additional information
Output Projection	Invalid Output projection: <WKID_or_WKID_Text>	WKID number or WKID Text are not valid. To find more information about this input, go to https://epsg.io/
Output Projection	Failure reprojecting coordinates	Utility service to project geometry is not working causing the reprojection of user's input coordinates to Albers coordinates failed
Resample Resolution	The value is out of the range. Values must be > 30 and <= 9999	Requested an invalid resample resolution
Edit Rule	Edit Rule: Invalid JSON	Edit Rule JSON input is not valid. User's Edit Rule input is not a properly constructed JSON.
Edit Rule	Edit section missing	"edit" section is required in the Edit Rule input.
Edit Rule	Condition section missing or empty	"condition" section is invalid.
Edit Rule	Change section missing or empty	"change" section is invalid
Edit Rule	Not modifiable product: <<list of non-Surface and Canopy products will appear here>	The LF layers added in the Edit Rule input are not valid
Edit Rule	Condition or Change elements must be arrays	"condition" or "change" sections need to be JSON arrays
Edit Mask	JSON Mask <error_message>	The shapefile in Edit Mask zip file doesn't match shapefile name in Edit Rule input
Edit Mask	Shapefile: <error_message>	The Edit Mask zip file doesn't exist, contains non-allowed characters, is empty, or doesn't contain a valid shapefile
Edit Mask	No Edit Rule was provided to accompany zip file(s)	The Edit Rule json must contain a "mask" attribute if Edit Mask value was provided
Email Address	Invalid email	User email address invalid
Priority Code	Invalid <Priority_Code>. Add a valid code or leave it empty	
Data Processing	Clipping first LF layer FAILED	First step of the LFPS processing to use the ArcGIS clip the first LF layer failed

Error Location	Error Message	Additional information
Data Processing	Resampling clipped LF layer FAILED	If resampling resolution input, the ArcGIS resample failed when resampling the clipped geotif to a lower resolution
Data Processing	Compositing LF layers into single geotif	Combining layers into a single geotif using the ArcGIS composite bands failed
Data Processing	Extracting data to map zone	ArcGIS shapefile select, extract by mask and condition to get the final output by map zone area failed
Data Processing	Deleting and renaming files	Cleanup and updates of intermediate and final files failed when using the ArcGIS delete and rename raster functions
Data Processing	Failed script LandfireProductService Failed to execute (LandfireProductService)	Final info when LFPS job failed based on the error messages above

Section 9 User Assistance and Support

For assistance with the LFPS, contact the LANDFIRE Help Desk at helpdesk@landfire.gov. The LANDFIRE Help Desk responds to all LANDFIRE program questions and requests.