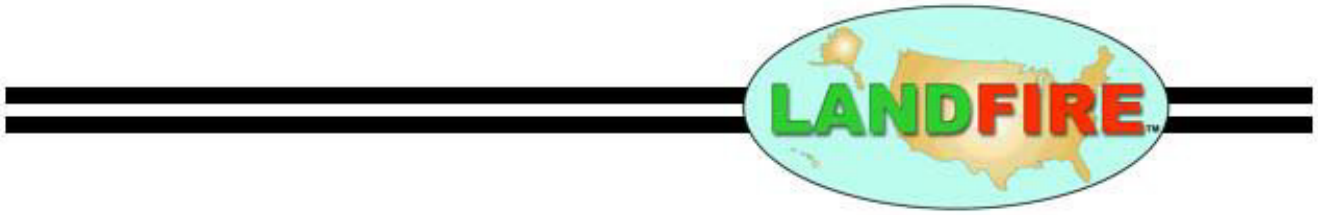
LF-PRD-027
Version 4
August 2024



LANDFIRE Products Service (LFPS) User Guide

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Contents

Document History

Document Name	Version	Date	Reason	Author/Responsible Party
LANDFIRE Products Service (LFPS) User Guide	1	June 2022	Initial version	Todd Doerr Marci Hyser
LFPS User Guide	2	July 2022	Updates	Todd Doerr Marci Hyser
LFPS User Guide	3	August 2023	Update to Edit Rule	Susan Embrock
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Introduction and Background

The Landscape Fire and Resource Management Planning Tools (LANDFIRE) program produces national scale, spatial products that represent the best available contiguous data for the United States (U.S.). LANDFIRE (LF) products/data characterize the current states of vegetation, fuels, fire regimes, and disturbances. Additional products include reference data, land management activities databases, and ecological models. LF data are crucial to fire modeling to support both operational decision making and fuels planning.

While many of the products are inputs to downstream LF products that are critical to wildland fire management (e.g., fuels, fire regimes), many of the upstream products (e.g., vegetation, cover, height) are also valued as standalone products for natural resource managers and researchers. LF is an important suite of data beyond wildland fire management.

The LF program currently delivers products using three (3) main delivery formats (See LANDFIRE Program: Get Data). Each of these options allow for users to access LF spatial data (raster and vector) for further use and analysis. Each of these methods allows users to order product layers one at a time and use as is with minimal processing (such as modifying output map projection) as part of delivery.

1. Users can obtain product layers using a clip and ship type delivery from the LF Data Distribution System via the program's website.
2. For larger area analysis, users can download product layers in extent mosaics (CONUS, Alaska, Hawaii, and the insular areas)
3. LF product layers can also be streamed into users' systems via REST and WCS calls.

Now, the LF Program has developed another method to facilitate access to its products. The LF Product Service (LFPS) is a RESTful Application Programming Interface (API) that 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.

Features of the LF Products Service include:

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

Accessing the LANDFIRE Products Service

The LFPS can be accessed in several ways:

- Python, php, unix wget, or anything that can make a URL request (including an internet browser)
- Scripting tools like Postman (https://www.postman.com/)
- ESRI's REST API/Web Interface https://lfps.usgs.gov/arcgis/rest/services/LandfireProductService/GPServer/LandfireProductService

The REST API/Web Interface is used by humans for manual processing.

The URL interface is meant to be used by machines and isn't supposed to be friendly to humans. It's easy to set up scripts to grab data using this URL interface, which is the primary intended use of the LFPS, and is why the web interface is limited in robustness.

Example Request

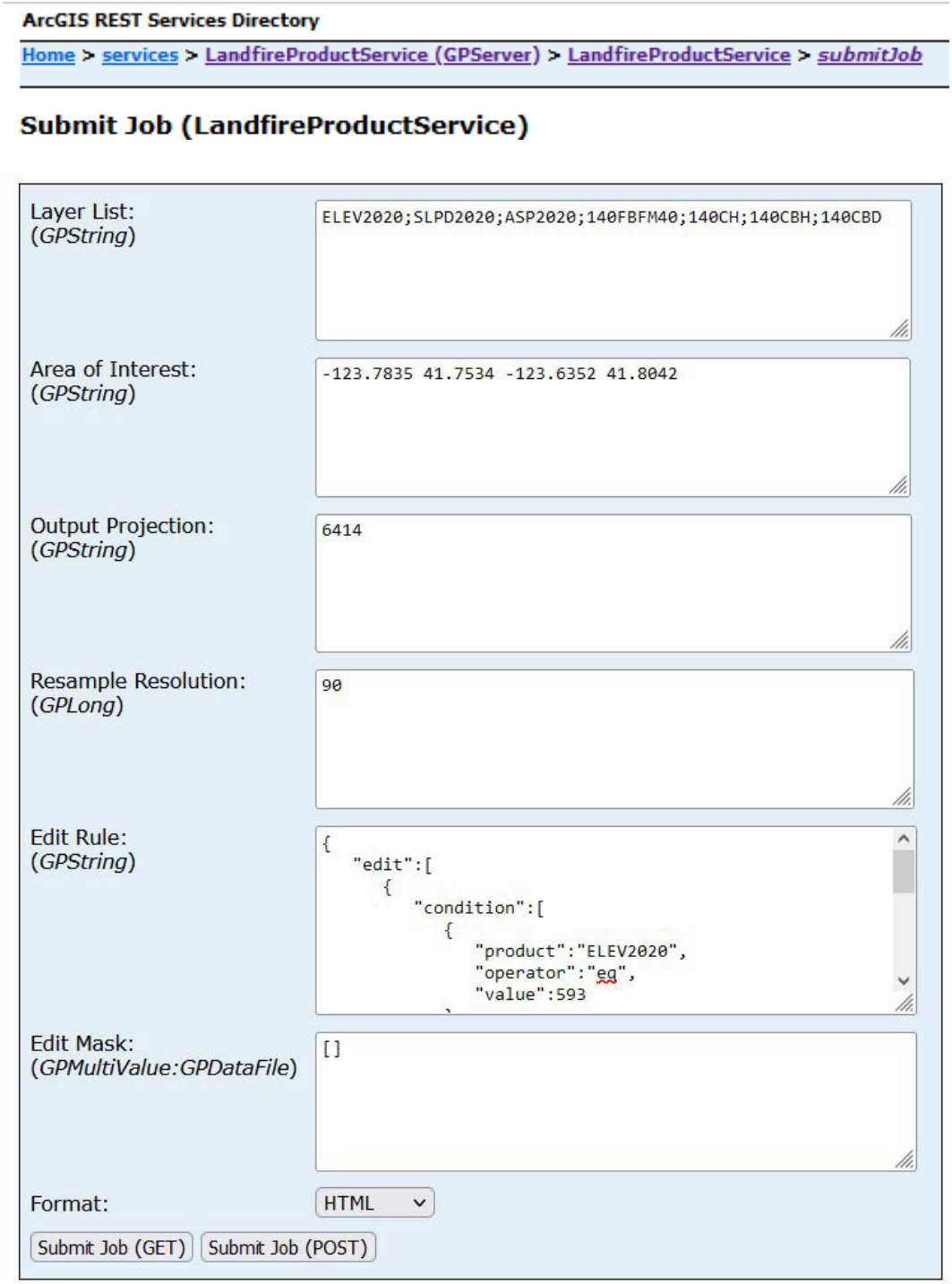
Below are two identical requests - one made via a URL and the second with ESRI's REST API Web Interface. The requests are for eight (8) layers used to run fire behavior models from the LF 2014 (v.1.4.0) version at a 90m resolution reprojected to the California Albers NAD83 (2011) coordinate system (EPSG:6414) with edits to update the fuel products.

- **Layer List:** `ELEV2020;SLPD2020;ASP2020;140FBFM40;1 40CC;140CH;140CBH;140CBD`
- **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": "140FBFM",
       "operator": "st",
       "value": 181
      },
      {
       "product": "140CBH",
       "operator": "ib",
       "value": 5
      }
      ]
    }
  ]
}
```

Request Example 1: via ESRI's REST API/Web Interface Request

https://lfps.usgs.gov/arcgis/rest/services/LandfireProductService/GPServer/LandfireProductService/submitJob



Request Example 2: via URL Request

For this example, in addition to request input information, we also need the LFPS form URL and the ASCII URL encoding (https://www.w3schools.com/tags/ref_urlencode.asp) to build the full URL for this request. In the

LFPS Form URL:
https://lfps.usgs.gov/arcgis/rest/services/LandfireProductService/GPServer/LandfireProductService/submitJob?

Full LFPS Request URL:

https://lfps.usgs.gov/arcgis/rest/services/LandfireProductService/GPServer/LandfireProductService/submitJob?**Output_Projection**=6414&**Resample_Resolution**=90&**Layer_List**=ELEV2020;SLPD2020;ASP2020;140FBFM40;1 40CC;140CH;140CBH;140CBD&Area_Of_Interest=-123.7835%2041.7534%20-123.6352%2041.8042&**Edit_Rule**={"edit":[{"condition":[{"product":"ELEV2020","operator":"lt","value":1100}],"change":[{"product":"140FBFM40","operator":"st","value":163},{"product":"140CBH","operator":"st","value":15},{"product":"140CBD","operator":"st","value":27},{"product":"140CC","operator":"st","value":66},{"product":"140CH","operator":"ib","value":50}]},{"condition":[{"product":"ELEV2020","operator":"lt","value":1200},{"product":"ELEV2020","operator":"ge","value":1100}],"change":[{"product":"140FBFM40","operator":"st","value":162},{"product":"140CBH","operator":"st","value":8},{"product":"140CBD","operator":"st","value":17},{"product":"140CC","operator":"st","value":36},{"product":"140CH","operator":"db","value":50}]}]}

Description of Request Requirements

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

Two 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)

Four 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.

Product Layer List (Required)

```
{
 "paramName": "Layer_List",
 "dataType": "GPString",
 "value": "ELEV2020;SLPD2020;ASP2020;140FBFM40;140CC;140CH;140CBH;140CBD"
}
```

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

Not all versions of LF products will be available in the LFPS. As newer versions are released, older versions will be removed. The base mapped versions (LF 2001/ 1.0.5 and LF 2016 Remap / LF 2.0.0) will always be available via the LFPS; however, only the three updated versions (e.g., LF 2012 / 1.3.0) will persist.

A table with the currently available LF product layers is provided at https://lfps.usgs.gov/helpdocs/LFProductsServiceUserGuide.pdf. Its contents include LF Data Products by Name, Theme (Fire Regime, Fuel, Topographic, Vegetation, Disturbance, Seasonal (MoD- FIS), Transportation, and Map Zones), Abbreviation, 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 Products - Overview (usgs.gov). Note that although data are available via the LFPS for the Conterminous U.S., Alaska (AK), and Hawaii (HI), data are not available for Insular Areas (IA: Pacific and Caribbean Islands and Territories).

Area of Interest (Required)

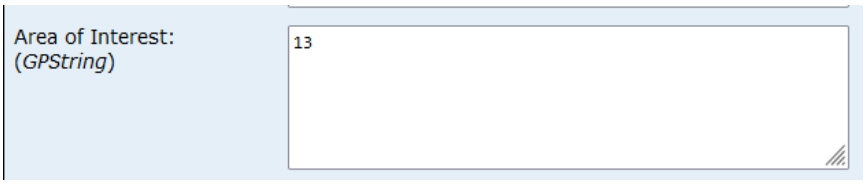
```
{
 "paramName": "Area_of_Interest",

 "value": "-123.7835 41.7534 -123.6352 41.8042"
```

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

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, lower left latitude, upper right longitude, upper right latitude.

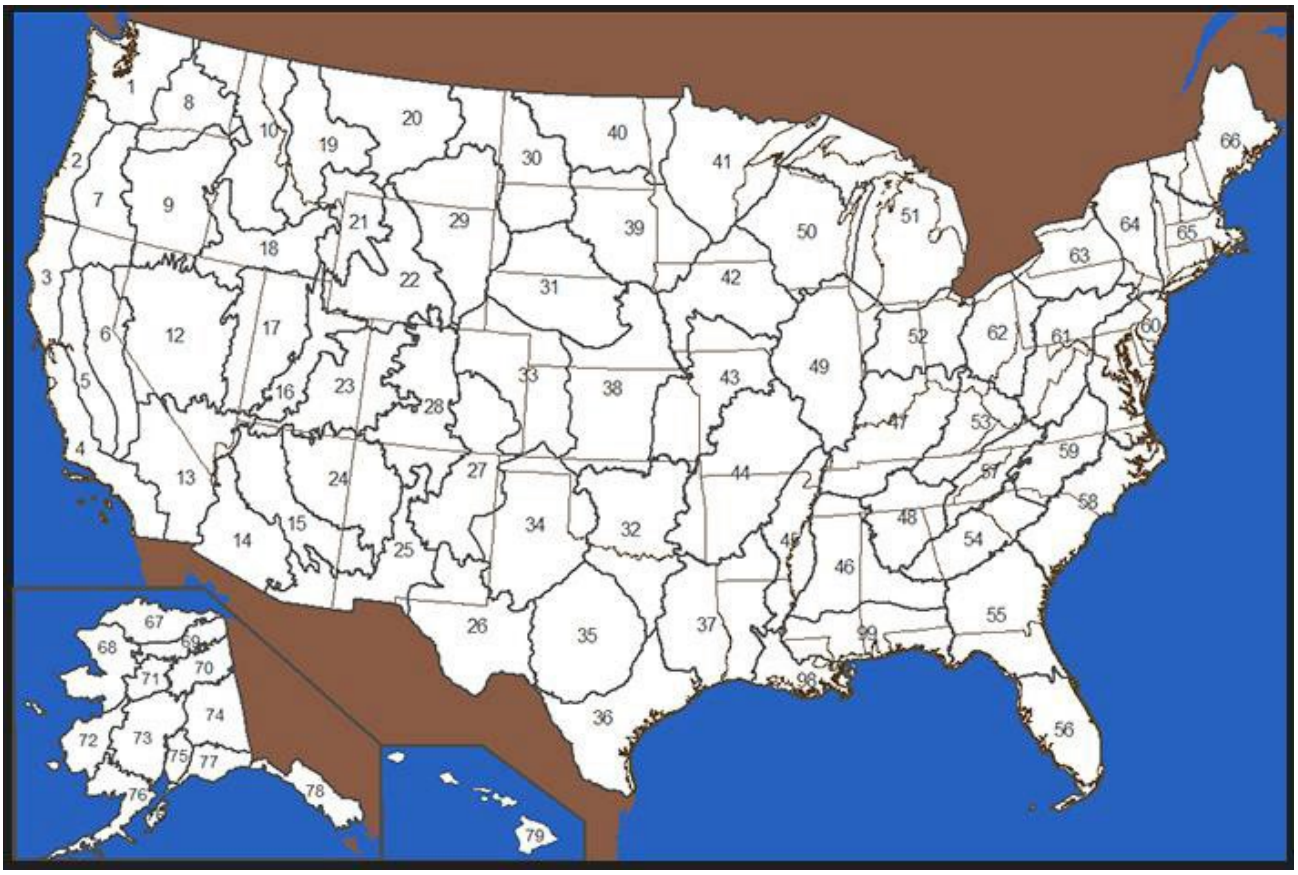
The map zone option is defined by entering a LANDFIRE map zone for the AOI.




```
{
 "paramName": "Area_of_Interest",
 "dataType": "GPString",
 "value": "13"
}
```

Map Zone Map Service: https://lfps.usgs.gov/arcgis/rest/services/AK_HI_US_map_zones/MapServer/0

LANDFIRE Map Zones



Output Projection (Optional)


```
{
 "paramName": "Output_Projection",


 "value":
"PROJCS[\"WGS_1984_Web_Mercator_Auxiliary_Sphere\",GEOGCS[\"GCS_WGS_1984\",DATUM[\
"D_WGS_1984\",SPHEROID[\"WGS_1984\",6378137.0,298.257223563]],PRIMEM[\"Greenwich\"
,0.0],UNIT[\"Degree\",0.0174532925199433]],PROJECTION[\"Mercator_Auxiliary_Sphere\
"],PARAMETER[\"False_Easting\",0.0],PARAMETER[\"False_Northing\",0.0],PARAMETER[\"
Central_Meridian\",0.0],PARAMETER[\"Standard_Parallel_1\",0.0],PARAMETER[\"Auxilia
ry_Sphere_Type\",0.0],UNIT[\"Meter\",1.0]]"
```


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).

Resample Resolution (Optional)

```
{
 "paramName": "Resample_Resolution",
 "dataType": "GPLong",
 "value": 90
}
```

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.

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>
```

Edit Rule (Optional)

```
{
   "edit": [
   {
      "condition": [
      {
      "product": "ELEV2020",
      "operator": "lt",
      "value": 500
      }],
      "change": [
      {
       "product": "140FBFM",
       "operator": "st",
       "value": 181
      },
      {
       "product": "140CBH",
       "operator": "ib",
       "value": 5
      }
      ]
    }
  ]
}
```

Edit rules can be used to modify products. 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. 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.
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.

```
{
   "edit": [
   {
      "condition": [
      {
      "product": "ELEV2020",
      "operator": "",
      "value": 0
      }],
      "change": [
      {
       "product": "140FBFM",
       "operator": "st",
       "value": 181
      },
      {
       "product": "140CBH",
       "operator": "ib",
       "value": 5
      }
      ]
    }
  ]
   “edit”: [
   {
      "condition": [
      {
      "product": "ELEV2020",
      "operator": "gt",
      "value": 500
      },
      {
      "product": "ELEV2020",
      "operator": "lt",
      "value": 600
      }],
      "change": [
      {
       "product": "140FBFM",
       "operator": "st",
       "value": 181
      },
      {
       "product": "140CBH",
       "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 everywhere the Elevation pixel value is not equal to 0 OR when Elevation is greater than 500 AND less than 600 (Between 500 and 600), 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.

<MDI key="EditRule">{"edit":[{"condition":[{"product":"ELEV2020","operator":"lt","value":500}],"change":[{"product":"140FBFM40","operator":"st","value":181},{"product":"140CBH","operator":"ib","value":5}]}]}</MDI>

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

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."

Product

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

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)
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.

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":"140CC","operator":"mb","value":5}]}]}</MDI>

ie. 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%.

Edit Mask (optional)

```
{
 "paramName": "Edit_Mask_1",
 "dataType": "GPMultiValue:GPDataFile",
 "value": [{"itemID": "i7bf62e3f-c044-4a57-9751-8d4ec9621a20"}]
}
```

```
{
  "edit": [{"mask":
  "Edit_Mask_1.shp",
  "condition": [{
   "product": "ELEV2020",
   "operator": "lt",
   "value": 500
  }],
  "change": [
   {
    "product": "140FBFM",
    "operator": "st",
    "value": 181
   },
   {
    "product": "140CBH",
    "operator": "ib",
    "value": 5
   }
  ]
 }]}
}
```

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 (see below). To use a shapefile for an Edit Rule, specify the "mask" field with a shape file name inside the "condition" field e.g., "condition": ["mask":"multipoly_wgs84.shp.

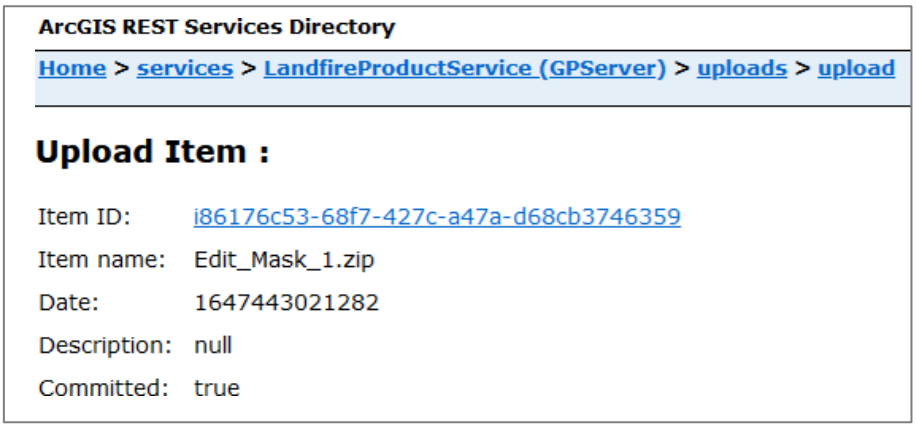
To confine edits to a specific location within the AOI, shapefile(s) may be uploaded for use.

- 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 (no special characters, spaces, etc.).
- 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 60 minutes.

Uploading Masks via the ArcGIS Services Directory

- Upload the zipped shapefile(s) using the Upload subservice: https://lfps.usgs.gov/arcgis/rest/services/LandfireProductService/GPServer/uploads/upload
- Use the Browse button to navigate and select the zipped shapefile to be uploaded.
- Select the Format in which the response will be displayed (HTML/JSON).
- Press “Upload Item”

- Once uploaded, the following is shown. 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.



Uploading Masks via a Machine to Machine (M2M) call

Masks can be uploaded programmatically using M2M, you can call the service like this:

```
curl -X POST -F
'file=@C:\cygwin64\home\user\lf58556644_us_lf_zones.zip' -F
'f=pjson'
https://lfps.usgs.gov/arcgis/rest/services/LandfireProductService/GPSe
rver/uploads/upload
```

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

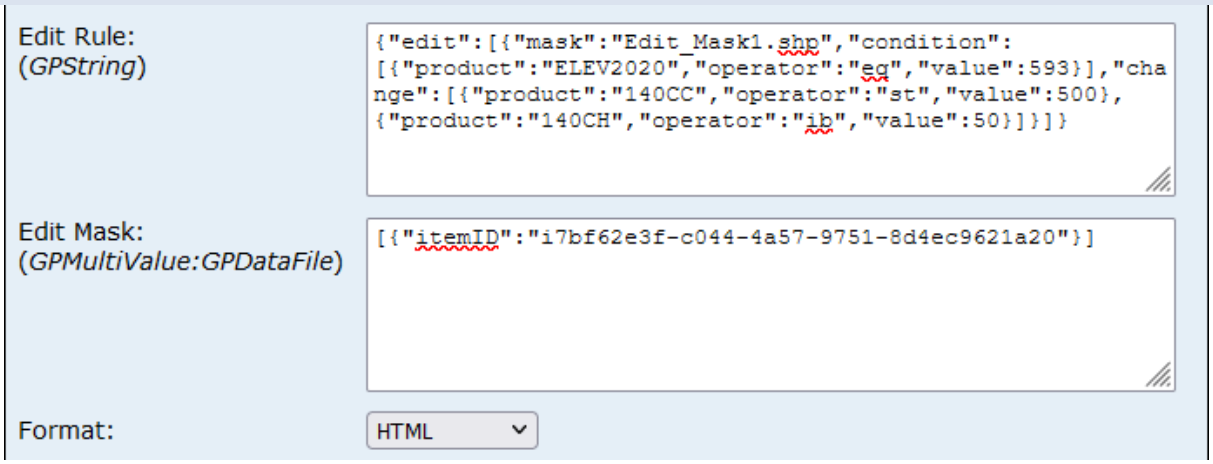
```
{"success":true,"item":{"itemID":"ic3b3101e-bc02-4f42-b26c-
fb0826c13483","itemName":"lf58556644_us_lf_zones.zip","descript
ion":"sample","date":16056
23226464,"committed":true,"serviceName":"LandfireProductService.
GPServer","contentType":" application/zip"}}
```


Using the Mask in a Request

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":"Edit_Mask1.shp","condition":[{"product":"ELEV2020","ope
rator":"eq","value":
593}],"change":[{"product":"140CC","operator":"st","value":500},{"product
":"140CH","operator":"ib","value":50}]}]}
```

Retrieving a LANDFIRE Products File

The system checks the status of each request every 15 seconds and when the order has completed processing, a link is shared for the user to download the products bundle.

The products bundle can be retrieved via a unique URL.


```
{
 "paramName": "Output_File",
 "dataType": "GPDataFile",
 "value": {"url":
"https://lfps.usgs.gov/arcgis/rest/directories/arcgisjobs/LandfireProductService_g
pserver/je1f82c5b127a40b9aeb5356d9972d69f/scratch/
je1f82c5b127a40b9aeb5356d9972d69f.zip"}
}
```


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 60 minutes. If not retrieved in time, a "404 – File" or "directory not found" will be returned and it will need to be requested again.

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.

Examples of the Informative Messages

- esriJobMessageTypeInformative: Submitted
- esriJobMessageTypeInformative: Executing...
- esriJobMessageTypeInformative: Executing (LandfireProductService): <request string>
- esriJobMessageTypeInformative: Start Time: Tue May 04 15:31:07 2021
- esriJobMessageTypeInformative: Executing (LcpClip): <request string>
- esriJobMessageTypeInformative: Running script LcpClip...
- esriJobMessageTypeInformative: AOI: <requested AOI>
- esriJobMessageTypeInformative: Entering DetermineRegion()
- esriJobMessageTypeInformative: region: <Region of the AOI>
- esriJobMessageTypeInformative: Exiting DetermineRegion()
- esriJobMessageTypeInformative: <First product in the Layer List>
- esriJobMessageTypeInformative: Entering getISinfo()
- esriJobMessageTypeInformative: Exiting getISinfo()
- esriJobMessageTypeInformative: <Next product in the Layer List, repeated until all are listed>
- esriJobMessageTypeInformative: No output projection passed in
- esriJobMessageTypeInformative: Entering CreateLocalProjection()
- esriJobMessageTypeInformative: local projection string: <Projection text string>
- esriJobMessageTypeInformative: Exiting CreateLocalProjection()
- esriJobMessageTypeInformative: Start creating lGeoTIFF
- esriJobMessageTypeInformative: Start creating GeoTIFF
- esriJobMessageTypeInformative: Finished creating GeoTIFFesriJobMessageTypeInformative: Start editing GeoTIFF
- esriJobMessageTypeInformative: Edit Round: 1
- esriJobMessageTypeInformative: Finished editing GeoTIFF
- esriJobMessageTypeInformative: Start zipping of files
- esriJobMessageTypeInformative: All files zipped successfully.
- esriJobMessageTypeInformative: Job Finished
- esriJobMessageTypeInformative: Completed script LcpClip...

Examples of Error Messages

- *esriJobMessageTypeError:* ERROR 000854: The value is out of the range. Values must be > 30 and <= 9999
    - Requested an invalid resample resolution.
- *esriJobMessageTypeError: ERROR 999999: Error executing function. the input is not a geographic or projected coordinate system*
    - An invalid WKID was set.
- *esriJobMessageTypeError*: Error in accessing environment <outputCoordinateSystem>
    - Used an invalid WKT.
- *esriJobMessageTypeError:* Failed to execute (LcpClip)
- *esriJobMessageTypeError: Failed to execute (LandfireProductService)*
- *esriJobMessageTypeError*: ERROR: Not modifiable product: <list of non-Surface and Canopy products will appear here>
- *esriJobMessageTypeError:* ERROR: Failure reprojecting coordinates
    - Reprojection of user's input coordinates to Albers coordinates failed.
- *esriJobMessageTypeError:* ERROR: Failure ValidateCoordinates
    - User's input coordinates were either in the wrong order, not numeric, or didn't total 4.
- *esriJobMessageTypeError:* ERROR: Failure determining region.
    - Unable to determine CONUS, AK or HI region from user's input coordinates.
- *esriJobMessageTypeError:* ERROR: Input AOI did not fall with AK, HI nor CONUS
    - User's input coordinates don't fall within CONUS, AK or HI.
- *esriJobMessageTypeError:* ERROR: Failure clipToFeature
    - Unable to clip imagery from map zone.
- *esriJobMessageTypeError:* ERROR: Invalid Map Zone input
    - User's input map zone is invalid. This is the list of valid map zones: [1,2,3,4,5,6,7,8,9,10,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66 ,67,68,69,70,71,72,73,74,75,76,77,78,79,80,98,99]
- *esriJobMessageTypeError:* ERROR: Input AOI is out of range.
    - The AOI requested does not fall within the range where products exist. The valid range is -188, 18,-66, 72.
- *esriJobMessageTypeError:* ERROR 000735: Your Layer List (Layer_List) is empty.
    - Please provide a semicolon delimited list of layers.
- *esriJobMessageTypeError*: ERROR: JSON
    - User's Edit Rule json is not a properly constructed json.
- *esriJobMessageTypeError:* ERROR: Shapefile
    - The Edit Mask zip file doesn't exist, contains non-allowed characters, is empty, or doesn't contain a valid shapefile.
- *esriJobMessageTypeError:* ERROR: JSON Mask
    - The shapefile in Edit Mask zip file doesn't match shapefile name in Edit Rule json.
- *esriJobMessageTypeError*: ERROR: 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.
- *esriJobMessageTypeError:* ERROR: Invalid products
    - Due to a typo or user's input layers don't match any products listed in the LFPS Product Table.
- *esriJobMessageTypeError:* ERROR: compositing products into single geotif
    - An error occurred while combining layers into a single geotif.

- *esriJobMessageTypeError*: ERROR: Resampling geotif
    - An error occurred while resampling the geotif to a lower resolution
- *esriJobMessageTypeInformative:* Succeeded at Mon May 03 16:27:17 2021 (Elapsed Time: 52.75 seconds

User Assistance or Support – LANDFIRE Help Desk

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