#### Wildfire - v2 The 🤇 Domain Portfolio: Weather Imagery | Domain: Natural Disasters | API Name: Wildfire - v2 Weather Standard HTTP Cache-Control headers are used to define caching length. The TTL value is provided in the HTTP Header as an absolute time value using the "Expires" parameter. Example: "Expires: Fri, 12 Jul 2013 12:00:00 GMT". Company **Geography:** Global **Attribution Required: YES** Attribution Requirements: Clients must include the citation and disclaimer An IBM Business information provided here. Terms of use: Can be used commercially. Can be used to create derivative works. Can be used to redistribute data. Citation: IBM acknowledges the use of data and imagery from LANCE FIRMS operated by NASA's Earth Science Data and Information System (ESDIS) with funding to LANCE FIRMS and ESDIS provided by NASA Headquarters.

# aimer

https://earthdata.nasa.gov/earth-observation-data/near-real-time/citation#ed-lance-discl

**Disclaimer:** 

#### **Overview**

The Feature Data Service (FDS) API provides geographic features for a number of products. The client can use these features to render a visual representation of data.

- FDS provides geometric vector data where each feature can be a set of points, a polygon or set of polygons, a linestring or set of linestrings, or any other valid GeoJSON type
- Each feature is described by a set of geographic coordinates and a set of properties.
- Each feature is uniquely identified by the combination of its product key, feature key and valid time; the valid time is used to assign the feature to a unique feature set.
- For additional details about FDS, please see the <u>Weather Company Data | Data Visualization Weather Imagery | Common Usage Guide</u>

Using FDS products requires a multi-step workflow to retrieve the necessary data for the specific product data request. Step 2 requires the 'time' value parameter, found in the response from Step 1.

- Step 1: Get Product Info Provides time-based labels for the feature sets that are currently available.
- Step 2: Get Features for a Single Tile Provides all geographic features for a single tile, taken from a single feature set within a specific product.

### **URL Construction**

### Step 1: Get Product Info

**Required Parameters:** productKey, apiKey=yourApiKey || Optional Parameters: meta, max-times https://api.weather.com/v2/vector-api/products/productKey>/info?apiKey=yourApiKey

The [/products/{productKey}/info] request provides the labels for the feature sets that are currently available. These labels are required as input for the subsequent [/products/{productKey}/features] request, and they are invoked in that request's 'time' parameter.

https://api.weather.com/v2/vector-api/products/603/info?meta=true&max-times=12&apiKey=yourApiKey

### Step 2: Get Features for a Single Tile

**Required Parameters:** productKey, time, lod, x, y, apiKey=yourApiKey || Optional Parameters: declutter, tile-size https://api.weather.com/v2/vector-api/products/countKey</features?time=<time>&lod=<lod>&x=<x>&y=<y>&apiKey=yourApiKey

The [/products/{productKey}/features] request provides a set of features for a single tile, from a particular feature set within a particular product. Each feature contains a small set of key metadata properties, including its ID and valid time, which are required as input for any subsequent [/products/{productKey}/feature-details] request, as the 'feature-id' and 'valid-time' parameters.

https://api.weather.com/v2/vector-api/products/603/features?time=1656375300000&lod=7&x=34&y=52&tile-size=256&apiKey=yourApiKey

# Product Data Dictionary: 603 - Wildfire

The source of the data is NASA's Moderate Resolution Imaging Spectroradiometer (MODIS). The data from this Earth Observing System (EOS) is served to users by the MODIS Land Science Team and the MODIS Adaptive Processing System (MODAPS).

More specifically, the data source is a MODIS Near Real Time (NRT) Thermal Anomalies/Fire product, listed as the following data set:

## MODIS/Terra Thermal Anomalies/Fire 5-Min L2 Swath- 1km (short name MOD14)

The "Thermal Anomalies/Fire" products are described in more detail on NASA's official MODIS website:

https://modis.gsfc.nasa.gov/data/dataprod/mod14.php

### The JSON data includes the following fields:

<b>Field</b> Found in the GeoJSON response, in each feature's <b>properties</b> field	Description
confidence	Detection confidence estimate, ranging from 0% to 100%; while the meaning may vary in different parts of the world, the field can be useful in excluding false positives
brightness	Channel 21/22 brightness temperature of the fire pixel measured in Kelvin. A measure of the photons at a particular wavelength, received by the satellite and presented in units of temperature.
scan	Along Scan pixel size
	The algorithm produces 1km fire pixels but MODIS pixels get bigger toward the edge of scan. Scan and track reflect actual pixel size.
track	Along Track pixel size
	The algorithm produces 1km fire pixels but MODIS pixels get bigger toward the edge of scan. Scan and track reflect actual pixel size.
satellite	MODIS Satellite; A = Aqua and T = Terra.

version	Version identifies the collection (e.g. MODIS Collection 6) and source of data processing: Near Real-Time (NRT suffix added to collection) or Standard Processing (collection only). "6.1NRT" - Collection 61 NRT processing "6.1" - Collection 61 Standard processing
bright_t31	Brightness temperature 31 (Kelvin)
	Channel 31 brightness temperature of the fire pixel measured in Kelvin.
frp	Fire Radiative Power (MW - megawatts)
	Depicts the pixel-integrated fire radiative power in MW (megawatts).
date	Acquisition date for the data
time	Time of the satellite overpass, in UTC