NASA – LANCE FIRMS MODIS Active Fire Text files

Contents:

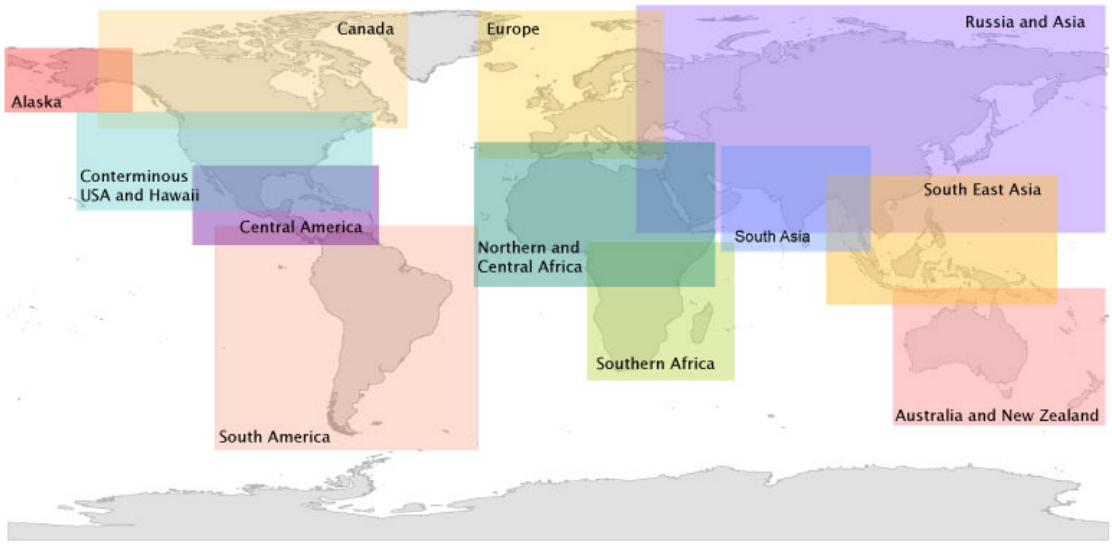
1. How to download the Active Fire Text files

To access the ftp site you need to be registered in the NASA EOSDIS User Registration System. If you already have an account, you can download the Text files from:
ftp://nrt1.modaps.eosdis.nasa.gov/FIRMS/ on the primary system and
ftp://nrt2.modaps.eosdis.nasa.gov/FIRMS/ on the backup system.

If you need to register go to: https://users.eosdis.nasa.gov/urs

Please note: registration for access to the FTP site at University of Maryland will not be carried across to LANCE FIRMS and users will have to create an account in EOSDIS if they do not already have one.

The MODIS Active Fire Text files are available as global and regional files. Please refer to the following image to determine which region you are interested in.



The Active Fire Text files are posted on an FTP site at approximately 00:00 UTC each morning. The file continues to be updated as is processed through the day (so the text file changes throughout the day). If you want to use the Active Fire Text files in near-real time, you should check what time of day the Aqua or Terra satellite passes over your area (see http://earthdata.nasa.gov/data/nrt-data/help/faq#rapid6). The file should be updated within three hours of satellite overpass.

2. Naming Convention of the Active Fire Text files

The naming convention for the Active Fire Text files begins with the region name (except for the Global files), MODIS active fire product name, and the Julian day. For example: CS_Africa_MCD14DL_2011041.txt

"2011" is the year and "041" is the Julian day of the active fire detection. This equates to March 10, 2011.

A Julian Day Calendar and converter can be found at:
http://earthdata.nasa.gov/data/nrt-data/help/faq/julian-day-calendar

3. About the Active Fire Text Files

The attribute fields are as follows:

1. Latitude
2. Longitude
3. Brightness Temperature (Kelvin)
4. Along scan pixel size
5. Along track pixel size
6. Date of acquisition
7. Time of acquisition (UTC)
8. Satellite (A=Aqua and T=Terra)
9. Confidence (0 – 100%)
10. Version (Collection and source)
11. Brightness T31 (Kelvin)
12. FRP (Fire Radiative Power) (MW)

Notes:

- The along scan and along track pixel sizes are included. Although the algorithm produces 1km fire pixels, MODIS pixels get bigger toward the edge of scan.
- The confidence value is based on a collection of intermediate algorithm quantities used in the detection process. A detection confidence intended to help users gauge the quality of individual hotspot/fire pixels. This confidence estimate, which ranges between 0 and 100%, is used to assign one of the three fire classes (low-confidence fire, nominal-

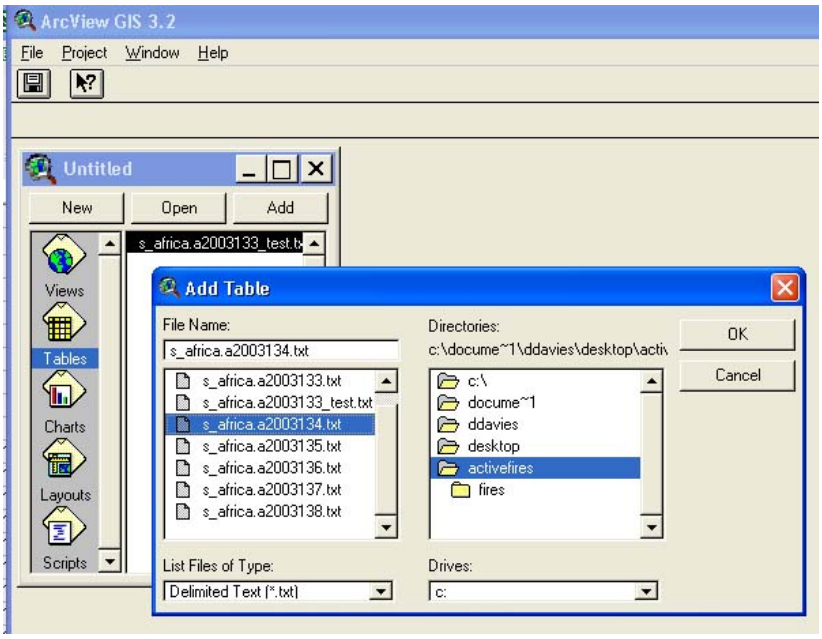
confidence fire, or high-confidence fire) to all fire pixels within the fire mask. The confidence field has been improved with Collection 5 to more accurately identify questionable hotspot/fire pixels.

- Version: Refers to collection and source. The number before the decimal refers to the collection (e.g. MODIS Collection 5). The number after the decimal indicates the source of Level 1B data; data processed in near-real time by NASA-LANCE Rapid Response will have the source code ".0". Data sourced from MODAPS (with a 2 month lag) and processed by FIRMS using the standard MOD14 thermal anomalies algorithm will have a source code ".1". For example, data with the version listed as "5.0" is collection 5 and processed by Rapid Response; 5.1 is Collection 5 data processed by MODAPS. For more information on collections and on the differences between Rapid Response and MODAPS, please see http://earthdata.nasa.gov/data/nrt-data/help/faq#firms35
- Brightness Temperature: Brightness temperature of the fire pixel measured in Kelvin.
- Brightness Temperature Channel 31: Channel 31 brightness temperature of the fire pixel measured in Kelvin.
- FRP (Fire Radiative Power): Depicts the pixel-integrated fire radiative power in MW (MegaWatts).

4. Downloading the text files and incorporating them into ESRI ArcMap and ArcView

4.1 Displaying active fire data in ESRI ArcMap

1. Open ArcCatalog and go to the txt file you want to display.
2. Right click on the file and select:
   "Create Feature Class" -> "From XY table"
3. Click on "Spatial Reference of Input Coordinates" and "select"
   "Geographic Coordinate Systems" / "World" / "WGS 1984.prj"
   Click "Add" "OK" and "OK" again to create the shp file.
4. To load the data into ArcMap; open ArcMap, click on the Add Data button (or select File / Add data) and select the shape file you created.



4.2 Displaying the active fire data in ESRI ArcView 3.x

1. Add a table to your ArcView project.
2. Navigate to the drive and directory where your txt file is stored.

Note: Under the "List Files of Type" pull down menu, choose "Delimited text (*.txt)".

3. Select the file you just created and click OK. It will open into a new table window.
4. Open the view you are working in (if necessary create a new one).
5. Once in your view choose **View / Add event theme…** from the top menu. Select the table you have just imported

Note: make sure the X field represents longitude and Y field represents latitude, and then click OK.

6. Turn on the layer visibility to see all fires as points. Use "Convert to shapefile…" in the theme menu if you want to store the file as an ArcView shapefile permanently.

Citation Information

The data and graphics from FIRMS can be used freely. Please acknowledge NASA/LANCE - FIRMS as the data source and read the disclaimer (see below) for more information about using this data.

For online reference, please use: NASA LANCE - FIRMS, 2012. MODIS Active Fire Detections. Data set. Available on-line [http://earthdata.nasa.gov/data/nrt-data/firms].

Disclaimer

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