

Downloading VIIRS Active Fire Data

Updated 25 January 2013

The user community will find five primary options available to download Suomi-NPP VIIRS (Visible Infrared Imager Radiometer Suite) Active Fire data. The diagram on page 2 should help individuals choose their preferred method to access the data. Step-by-step instructions are provided in the next pages. Users should find similar – if not identical – data content regardless of the provider accessed. All distributed products listed below are based on the algorithm and processing code within the NOAA/NESDIS Interface Data Processing Segment (IDPS), therefore at this moment the NOAA/CLASS Data Archive System represents the official VIIRS data source. Small differences may exist among files downloaded from different sources due to unique processing systems, software sub-versions, and data formats (e.g., 84sec versus 5min orbit segments) used. The range of selectable data acquisition dates will also vary depending on the data provider of your choice.

The baseline VIIRS active fire product is currently composed of vectors (1D) containing the list of latitude/longitude and corresponding image element (line/sample) values of individual fire pixels detected. The data are distributed in HDF5 or HDF4 file formats. Users are encouraged to find the most appropriate software packages to open/read those files based on their own needs. Further enhancements to the VIIRS active fire detection product are being developed, including a fire detection mask (2D array) and radiative power (FRP) retrieval, mimicking the NASA MODIS *Fire and Thermal Anomalies* (MOD14/MYD14) product. Future updates to this document will be released as the new data sets become available.

The VIIRS active fire product maturity status is currently “*Beta*”. In short, the data are public however they are not science/application-ready and may contain errors. The main intent is to allow users to become familiar with VIIRS data format and characteristics. Please see the following URL for more information on individual maturity levels and what they entail:

<http://www.jpss.noaa.gov/science-maturity-level.html>

Additional information on the Beta status of the Active Fires product is available in the “readme” document on NOAA’s CLASS website:

http://www.class.ngdc.noaa.gov/notification/pdfs/VIIRS_Active%20Fire%20ARP_Release_Readme_final.pdf

Users are referred to the VIIRS Active Fire Science Team dedicated URL for more information involving the active fire data set:

<http://blaze.umd.edu/>

Please use the “*Contact Us*” form for submitting questions and/or comments. Make sure to explore all the material posted on the website above as it may help answer most questions.

Other questions and/or issues concerning product performance, including reporting of data anomalies should be directed to:

Dr. Wilfrid Schroeder (wilfrid.schroeder@noaa.gov)

Dr. Louis Giglio (giglio@hermes.geog.umd.edu)

Primary VIIRS Active Fire Data Download Options

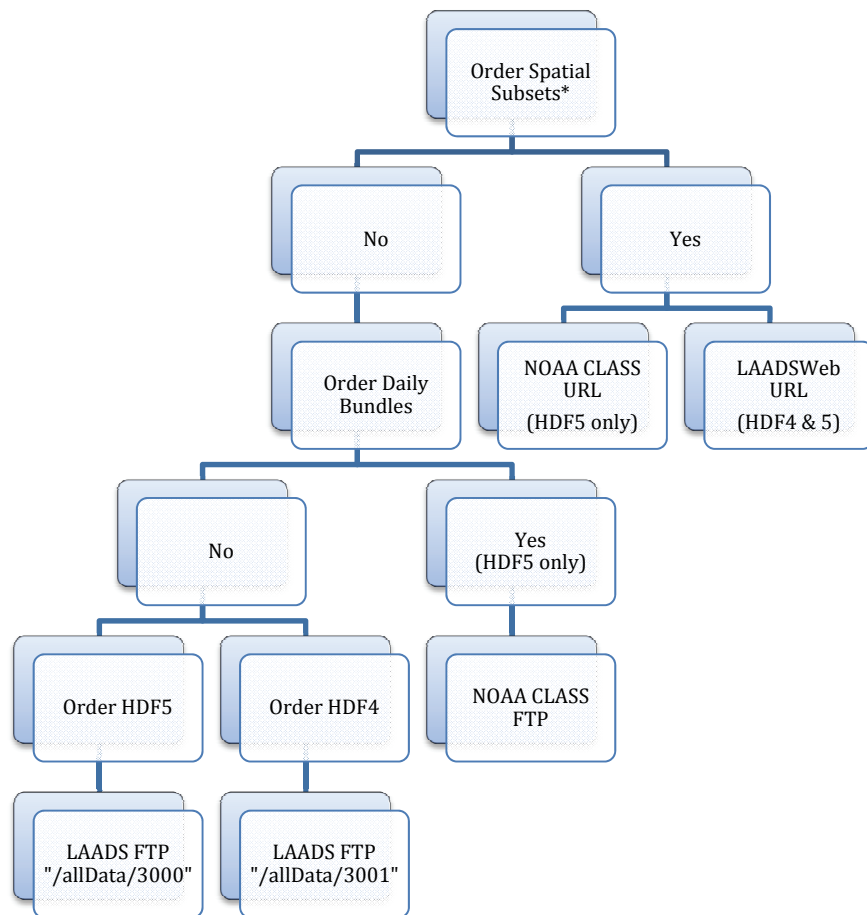


Figure 1: VIIRS Active Fire data access options.

*Ordering of spatial subsets indicates the option to select files that intersect a particular region of interest; data are delivered as full-size swath tiles (~84sec or 5min orbit segments) without any resizing/subsetting being performed.

Option 1: NOAA CLASS Data Archive System (Web)

This should be your preferred option along with *Option 2* when downloading data that must intersect a given spatial and temporal window and therefore requires user input. Files are delivered exclusively as ~5min tiles in **HDF5** file format.

Step-by-step procedure:

- (1) Open an internet browser and go to <http://www.class.noaa.gov/>
- (2) First, you must register (first-time users) by clicking on the “*Register*” button near the top of the page. Enter your information and create a new user account
- (3) Login using your account information
- (4) Click on the drop-down bar labeled:
“*Please select a product to search*”
and select:
“*NPP Visible/Infrared Imager/Radiometer Suite (VIIRS)*”
then click on:
“*Go*”
- (5) Choose spatial & temporal domains of interest
- (6) On “Node”, select:
“*Ascending*” for daytime data
“*Descending*” for nighttime data
“*Either*” for both
- (7) On “Satellite”, select:
“*NPP*”
- (8) On “Datatype”, under “Application Related Product” select:
“*VIIRS Active Fires ARP (public 05/03/2012)*”
- (9) Click “*Search*”
- (10) On the new window containing the search results in tabular format, check the boxes in the “Shopping Cart” column containing the files of interest or alternatively click the “*Select All*” button above the table, and then click the “*Update*” button also located above the table. Note that you won’t be automatically redirected. In order to see you shopping cart, click on the “*Goto Cart*” button above the table.
- (11) In the shopping cart window, all selected files will be listed. By clicking on “Advanced Options” you will find additional options. Note that these do not apply to the Active Fire product but you may find it useful when

ordering other VIIRS data sets. Note also that the active fire product is distributed through the NOAA CLASS system as a ~**5min** (orbit segment) tile and **HDF5** format only. Different from other available VIIRS data sets, CLASS does NOT provide the de-aggregate file version (i.e., 84sec tiles) for the Active Fire product.

- (12) Click on the "*Place Order*" button
- (13) You will be notified via email once your order has been processed and the files are ready for download

Additional data download options on next pages

Option 2: LAADSWeb Data Archive System (Web)

This should be your preferred option along with *Option 1* when downloading data that must intersect a given spatial and temporal window and therefore requires user input. Files are delivered as **84sec** or **5min** tiles, and in **HDF5** (84sec) or **HDF4** (5min) format. No user registration is required.

Step-by-step procedure:

- (1) Open an internet browser and go to:
<http://ladsweb.nascom.nasa.gov/data/search.html>
- (2) Click on the drop-down bar labeled:
"Satellite/Instrument"
and select:
"Suomi NPP/VIIRS"
- (3) Click on the drop-down bar labeled:
"Group"
and select for **84sec HDF5** files:
"NPP Level 2 Products"
and under *"Products"* list select:
"NP5_AVAF_L2 – HDF5 VIIRS Active Fire ARP"

or else select for **5min HDF4** files:
"NPP Level 2 5-Minute Products"
and under *"Products"* list select:
"NPP_AVAF_L2 – VIIRS/NPP Active Fires 5-Min L2 Swath ARP 750m"
- (4) Define your temporal window of interest in the box labeled *"Temporal Selection"* by clicking on the drop-down bar labeled:
"Temporal Type"
and select the appropriate option
- (5) In *"Collection Selection"* box, click on the drop-down bar labeled:
"Collection"
and select:
"3000 – NPP VIIRS – IDPS Aggregation Chain" when ordering the **84sec HDF5** files above or else:
"3001 – NPP VIIRS – LandPEATE Products" when ordering the **5min HDF4** files above
- (6) Define your spatial window of interest in the box labeled *"Spatial Selection"* by clicking on the drop-down bar labeled:
"Coordinate System"
and select the appropriate option
- (7) In the *"Coverage Selection"* box select *Day/Night/Both* as appropriate.
- (8) Click the *"Search"* button
- (9) In the *Search Results* page that opens up, select files of interest and click *"Add Files to Shopping Cart"* or else the *"Order Files Now"* button
- (10) Enter your email as prompted and click on *"Order"*. You will be notified via email once your order has been processed and the files are ready for download.

Option 3: NOAA CLASS Data Archive System (ftp)

This should be your preferred option when downloading global data sets from recent acquisition dates (~60 days) allowing for the use of ftp scripts. Data are provided as *.tar file bundles containing several ~5min active fire **HDF5** files each. Typically, two *.tar files will cover a 24h period.

Step-by-step procedure:

(1) Connect via ftp to:

Server: *ftp-npp.class.ngdc.noaa.gov*

User: *anonymous*

Password: your email address

(2) Go to directory of your choice indicating the calendar date of interest and enter the line commands as exemplified below:

cd 20130101 (this directory contains data acquired on 01 Jan 2013)

cd VIIRS/VIIRS-Active-Fires-ARP

bin

prompt

mget VIIRS.tar*

bye

The commands above will download the following tar files to your machine:

VIIRS_VIIRS-Active-Fires-ARP_20130102_00001.tar

VIIRS_VIIRS-Active-Fires-ARP_20130102_00002.tar

Together, these two files should contain all ~5min active fire product tiles generated for 01 Jan 2013.

Additional data download options on next pages

Option 4: NASA LAADS Data Archive System (ftp) – HDF5

This should be your preferred option when downloading global data sets allowing for the use of ftp scripts. Data are provided as individual active fire **~84sec HDF5** files.

Step-by-step procedure:

(1) Connect via ftp to:

Server: *ladsweb.nascom.nasa.gov*

User: *anonymous*

Password: your email address

(2) Go to directory of your choice indicating the calendar date of interest and enter the line commands as exemplified below:

cd /allData/3000/NP5_AVAF_L2

cd 2013/001 (this directory contains data acquired on 01 Jan 2013 where 001 indicates day of year [0-365/366])

bin

prompt

mget AVAFO_npp_d20130101_t10.h5*

bye

The commands above will download all active fire product files acquired during the 10th hour (UTC) on 01 Jan 2013 to your machine (i.e., ~10:00:00 – 10:59:59UTC).

Additional data download options on next page

Option 5: NASA LAADS Data Archive System (ftp) – HDF4

This should be your preferred option when downloading global data sets allowing for the use of ftp scripts. Data are provided as individual active fire **5min HDF4** files.

Step-by-step procedure:

(1) Connect via ftp to:

Server: *ladsweb.nascom.nasa.gov*

User: *anonymous*

Password: your email address

(2) Go to directory of your choice indicating the calendar date of interest and enter the line commands as exemplified below:

cd /allData/3001/NPP_AVAF_L2

cd 2013/001 (this directory contains data acquired on 01 Jan 2013 where 001 indicates the day of year [0<>365-366])

bin

prompt

mget NPP_AVAF_L2.A2013001.10.hdf*

bye

The commands above will download all active fire product files acquired during the 10th hour (UTC) on 01 Jan 2013 to your machine (i.e., 10:00:00 – 10:59:59UTC).