Mapped out final product

V1.4 – combined by orbits

Guide

Underlined words indicate a group.

Not-underlined words indicate data.

The position within the sub lists indicates the organization of the groups.

Green highlighted data indicates it is of the type GeoTraj (has coordinates).

Pink highlighted data indicates it is of the Geo2D type (has coordinates).

Yellow highlighted data indicate it is of the 1D type.

Blue highlighted data indicate it is of the 2D type.

Without being highlighted indicates the type showed a - . This seems to be a scalar, a chart or unknown (looks like a description). Assume a scalar unless otherwise noted.

Acronyms – a chart of acronyms

Fire

* MODIS/Aqua\_Thermal\_Anomalies/Fire\_5-Min\_L2\_Swath\_1km\_V061
  + Orbit #
    - Algorithm QA
    - ArchiveMetadata.0 - chart
    - CMG night
    - CoreMetadata.0 - chart
    - Fire mask
    - FP AdjCloud – number of adjacent cloud pixels
    - FP AdjWater – number of adjacent water pixels
    - FP CMG col
    - FP CMG row
    - FP confidence – detection confidence
    - FP land – land pixel flag
    - FP latitude – latitude of fire pixel
    - FP line – granule line of fire pixel
    - FP longitude – longitude of fire pixel
    - FP MAD DT – background brightness temperature difference mean absolute deviation
    - FP MAD R2 – background channel 2 reflectance mean absolute deviation
    - FP MAD T21 – background channel 21/22 brightness temperature mean absolute deviation
    - FP MAD T31 – background channel 31 brightness temperature mean absolute deviation
    - FP MeanDT – mean background brightness temperature difference
    - FP MeanR2 – background channel 2 reflectance
    - FP MeanT21 – channel 21/22 brightness temperature of background
    - FP MeanT31 – channel 31 brightness temperature of background
    - FP NumValid – number of valid background pixels
    - FP power – fire radiative power
    - FP R2 – channel 2 reflectance of fire pixel
    - FP RelAzAng – relative azimuth angle
    - FP sample – granule sample of fire pixel
    - FP SolZenAng – solar zenith angle
    - FP T21 – channel 21/22 brightness temperature of fire pixel
    - FP T31 – channel 31 brightness temperature of fire pixel
    - FP ViewZenAng – view zenith angle
    - FP WinSize – background window size
* MODIS/Terra\_Thermal\_Anomalies/Fire\_5-Min\_L2\_Swath\_1km\_V061
  + Orbit #
    - Algorithm QA
    - ArchiveMetadata.0 - chart
    - CMG night
    - CoreMetadata.0 - chart
    - Fire mask
    - FP AdjCloud – number of adjacent cloud pixels
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    - FP ViewZenAng – view zenith angle
    - FP WinSize – background window size

Lightning

* Non-Quality\_Controlled\_Lightning\_Imaging\_Sensor\_(LIS)\_on\_International\_Space\_Station\_(ISS)\_Science\_Data\_V2
  + Orbit #
    - one second
      * Alert summary – alert summary flag
      * Attitude quality flag
      * Boresight threshold - Most likely threshold value applied to the boresight position given the solar zenith angle, assuming clouds present
      * Ephemeris quality flag
      * Event count – raw event count and counts surviving filters at each processing stage
      * External alert – bit masked status of external factors
      * Instrument alert – bit masked status of instruments
      * Noise index – a metric indicating noise level
      * Platform alert – bit masked status of platform
      * Position vector – location of platform in Earth Centered Rotational coordinates
      * Processing alert – bit masked status of processing algorithms
      * Solar vector - unit vector from center of earth to sun in ECR coordinates
      * TAI93 time - whole second value starting before and continuing beyond one orbit
      * Thresholds - values of the instrument threshold settings for each 256 count background interval
      * Transform matrix – components of transform from pixel plane-boresight coordinates to ECR coordinates of boresight and pixel plane
      * Velocity vector - velocity of platform in ECR coordinates
    - orbit summary
      * Configuration code – software status
      * End longitude – orbit end location longitude
      * GPS start – orbit start time GPS
      * Id number – the orbit number designation
      * Inspection code – inspection status
      * One second address – HDF record of first one second data
      * One second count – number of point data records
      * Point data address – HDF record of first point data
      * Point data count – number of point data records
      * Start longitude – orbit start location longitude
      * Summary image address – HDF record of first summary image
      * Summary image count – number of summary images
      * TAI93 end – orbit end time TAI93
      * TAI93 start – orbit start time TAI93
      * UTC start – orbit start time UTC
    - Point
      * Bg\_summary
        + Address – image number within orbit
        + Boresight – background image boresight position/ lat lon location of center pixel
        + Corners – lat/lon locations of corner pixels
        + TAI93 time – TAI93 time of the background image
      * Lightning
        + Area

Address – area record number

Alert flag - bit masked status of instrument, platform, external factors and processing algorithms

Approx. threshold - estimated value of 8-bit threshold for the area determined from background level or solar zenith angle

Child address – address of first flash in a sequential list

Child count – number of flashes in area

Cluster index – area clustering probability, pixel density metric; higher numbers indicate area is less likely to be noise

Delta time - time between first and last event that compose the area

Density index – lightning activity, spatial density metric; higher if area geolocated in a region of high lightning activity

Footprint – unique area extent

Grandchild count – number of groups in area

Greatgrandchild count – number of events in area

Grouping sequence – area time order

Grouping status – end status of the area

Location - lat/lon radiance-weighted centroid

Net radiance – total radiance of the area

Noise index – signal to signal plus noise ratio

Oblong index - metric indicating how oblong the area is

Observe time - duration of observation of the region where the area occurred

Parent address – area parent record number

TAI93 time - TAI93 time of 1st event in area

* + - * + Event

Address – event record number

Alert flag - bit masked status of instrument, platform, external factors and processing algorithms

Amplitude - uncalibrated optical amplitude reported by instrument (a 7-bit digital count)

Approx. threshold - estimated value of 8-bit threshold for the event; from bg level or solar zenith angle

Bg radiance - background radiance associated with pixel at time of event

Bg value - level of background illumination (16-bit) at time of event

Bg value flag - event background illumination flag

Cluster index - pixel density metric; higher numbers indicate event less likely to be noise

Density index - spatial density metric; higher if event geolocated in a region of high lightning activity

Footprint – unique area extent

Glint index - angle between line of sight vector and direct solar reflection vector

Grouping sequence - time sequence of event used when grouping algorithm is applied

Location

Noise index - signal-to-signal plus noise ratio

Observe time - duration of observation of the region where the event occurred

Parent address - event parent record number

Radiance – calibrated radiance

Sza index – event solar zenith angle

TAI93 time - TAI93 time of event

X pixel – CCD pixel column

Y pixel – CCD pixel row

* + - * + Flash

Address – flash record number

Alert flag - bit masked status of instrument, platform, external factors and processing algorithms

Approx. threshold - estimated value of 8-bit threshold for the flash determined from background level or solar zenith angle

Child address - address of 1st group in a sequential list

Child count - number of groups in flash

Cluster index - pixel density metric; higher numbers indicate flash is less likely to be noise

Delta time - time between first and last group that compose the flash

Density index - spatial density metric; higher if flash geolocated in a region of high lightning activity

Footprint - unique flash extent

Glint index - flash solar glint cosine

Grandchild count - number of events in flash

Grouping sequence - time sequence of flash used when grouping algorithm is applied

Grouping status – end status of the flash

Location

Noise index - signal-to-signal plus noise ratio

Oblong index - metric indicating how oblong the flash is

Observe time - duration of observation of the region where the flash occurred

Parent address - flash parent record number

Radiance - sum of event radiances composing this flash

TAI93 time - TAI93 time of 1st event in flash

* + - * + Group

Address – group record number

Alert flag - bit masked status of instrument, platform, external factors and processing algorithms

Approx. threshold - estimated value of 8-bit threshold for the group determined from background level or solar zenith angle

Child address - address of 1st event in a sequential list

Child count - number of events in group

Cluster index - pixel density metric; higher numbers indicate group is less likely to be noise

Density index - spatial density metric; higher if group geolocated in a region of high lightning activity

Footprint – unique group extent

Glint index - group solar glint cosine

Grouping sequence - time sequence of group used when grouping algorithm is applied

Grouping status – end status of the group

Location

Noise index - signal-to-signal plus noise ratio

Oblong index - metric indicating how oblong the group is

Observe time - length of observation of the region where the group occurred (viewtime approximation at group centroid)

Parent address - group parent record number

Radiance - sum of event radiances composing this group

TAI93 time - TAI93 time of all events in group

* + - * Point summary
        + Area count – total number of areas in the file
        + Event count – total number of events in the file
        + Flash count – total number of flashes in the file
        + Group count – total number of groups in the file
        + Vt count – total number of viewtimes in the file
      * Viewtime
        + Alert flag - reflects status of instrument, platform, external factors and processing algorithms
        + Approx. threshold - threshold of instrument corresponding with grid cell position, proxied from solar zenith angle at a time halfway between start and end time
        + Effective obs - time of observation of the grid cell, adjusted by the percentage of area in the grid cell within the FOV
        + Location
        + TAI93 end - TAI93 whole second when location was last within FOV
        + TAI93 start - TAI93 whole second when location was first within FOV

Nitrogen\_Dioxide

* OMI/Aura\_NO2\_Tropospheric\_Stratospheric\_&\_Total\_Columns\_MINDS\_1-Orbit\_L2\_Swath\_13\_km\_x\_24\_km\_V1\_(OMI\_MINDS\_NO2)\_at\_GES\_DISC
  + Orbit #
    - ANCILLARY DATA
      * Cloud Fraction – effective cloud fraction
      * Cloud Fraction Std – precision
      * Cloud Pressure – cloud pressure
      * Cloud Pressure Std – precision
      * Cloud Radiance Fraction – cloud radiance fraction
      * Scene LER – scene Lambertian Equivalent Reflectivity
      * Scene Pressure – scene pressure
      * Terrain Height – terrain height
      * Terrain Pressure – terrain pressure
      * Terrain Reflectivity – terrain reflectivity
      * Tropopause Pressure – tropopause pressure
      * X Track Quality Flags – Cross-track quality flags
    - GEOLOCATION DATA
      * FoV75 Area – mean area for 75% field of view pixels on the WGS-85 Ellipsoid
      * FoV75 Corner Latitude – corner latitudes for 75% fov pixels on the WGS-85 Ellipsoid (CCW relative to flight direction: LL,LR,UR,UL)
      * FoV75 Corner Longitude – corner longitudes for 75% fov pixels on the WGS-85 Ellipsoid (CCW relative to flight direction: LL,LR,UR,UL)
      * Ground Pixel Quality Flags
      * Latitude
      * Longitude
      * Relative Azimuth Angle – sun + 180 – view
      * Scattering Weight Pressure
      * Seconds In Day – seconds after UTC midnight
      * Solar Azimuth Angle
      * Solar Zenith Angle
      * Spacecraft Attitude
      * Spacecraft Latitude
      * Spacecraft Longitude
      * Time – TAI93 at Start of Observation
      * UTC – UTC at Start of Observation – string
      * Viewing Azimuth Angle
      * Viewing Zenith Angle
    - nCorners – ground pixel corner number
    - nLevels – pressure level number
    - nTimes – along track line number
    - nXtrack – cross track position number
    - SCIENCE DATA
      * Amf Strat – stratospheric Air Mass Factor
      * Amf Strat Std – precision
      * Amf Trop – tropospheric amf
      * Amf Trop Std – precision
      * Column Amount NO2 – NO2 vertical column density
      * Column Amount NO2 Std – precision
      * Column Amount NO2 Strat – NO2 stratospheric column density
      * Column Amount NO2 Strat Std – precision
      * Column Amount NO2 Trop – NO2 Tropospheric column density
      * Column Amount NO2 Trop Std – precision
      * Scattering Weight – scattering weight profile
      * Slant Column Amount NO2 – NO2 slant column density
      * Slant Column Amount NO2 Std – precision
      * Vcd Quality Flags – vertical column density quality flags

Power\_Outages

* VIIRS/NPP\_Gap-Filled\_Lunar\_BRDF-Adjusted\_Nighttime\_Lights\_Daily\_L3\_Global\_500m\_Linear\_Lat\_Lon\_Grid
  + Orbit #
    - Data Fields
      * DNB BRDF Corrected NTL – bidirectional reflectance distribution function corrected day-night band radiance
      * DNB Lunar Irradiance – lunar irradiance
      * Gap Filled DNB BRDF Corrected NTL – Gap filled BRDF corrected DNB radiance
      * Latest High Quality Retrieval – latest high quality BRDF corrected DNB radiance retrieval
      * Mandatory Quality Flag – mandatory quality flag of BRDF corrected DNB radiance
      * QF Cloud Mask – Cloud mask status
      * Snow Flag – snow/ice status
    - FILE ATTRIBUTES
    - \_HDFEOS CRS
    - StructMetadata.0 - chart