S-NPP VIIRS Burned Area (VNP64A1)

Product Overview
- Monthly global burned area with date of burn mapped to nearest day
- Adapted MODIS MCD64A1 production code to use VIIRS data
- Retained 500-m MODIS grid for compatibility
- Limited C1 release due to artifacts in C1 cloud mask (fixed for C2)

Limitations and Strengths
- No morning VIIRS overpass
- 750-m (vs. 500-m) imagery – I-bands not designed for BA mapping
- Nevertheless, highly consistent with MODIS MCD64A1 product

![Graph showing comparison between C6 MODIS and C1 VIIRS data]

Global BA (Mha/month)

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Distribution Plan
• October 2019: Released sample of C1 VNP64A1
• Spring 2022 (?): C2 reprocessing
  – Re-tune VNP64A1
• Summer 2022 (originally Spring 2020): Release full suite of C2 VNP64A1 products
  – HDF, GeoTIFF, Shapefiles, CMG

C3 Maintenance/Refinement
• Update with “cross-tile” Collection 7 MODIS algorithm
  – Capture smaller burns
  – Modest improvement in cropland burn mapping
• Improve product fidelity by combining S-NPP and NOAA-20 VIIRS observations

Greatest concern remains the protracted delay in commencing the C2 reprocessing.
VIIRS Active Fire (VNP14/VNP14IMG)

Product Overview
- Level 2 swath + Level 3 gridded
- 375-m product is a significant improvement over MODIS and is used widely
- 750-m produce retained for continuity (more like MODIS)

Limitations and Strengths
- SDR-induced bad scans in C1 product – fixed for C2 but reprocessing still pending
- No morning VIIRS overpass
- Sub-optimal M13 location (tweaked for later VIIRS)
- Responsivity across swath is much more uniform
- Unprecedented sensitivity to small fires