The 2012 fire season was particularly active over the Conterminous United States. Major fire events occurred in the Western US. These fire events caused major losses and gained widespread media attention. Monitoring multiple fires over such a large area is a challenge to fire management agencies. The 2012 fire season was also the first one in North America when observations from the Visible Infrared Imaging Radiometer Suite (VIIRS), on the Suomi National Polar-orbiting Partnership (SNPP) satellite, were available. The standard VIIRS Active Fire Product, generated by the SNPP Interface Data Processing Segment (IDPS), processes radiometric measurements from the VIIRS 750m moderate resolution bands using a heritage algorithm from the Moderate Resolution Imaging Spectroradiometer (MODIS) on the NASA Earth Observing System (EOS) Terra and Aqua satellites. To assist product evaluation and user readiness, the Joint Polar Satellite System (JPSS) Active Fire Algorithm Development and Validation team have developed a web-based data visualization, analysis, and distribution system that provides near-real-time data and a rolling archive of all VIIRS fire observations over North America. For select cases, near-simultaneous observations from Aqua MODIS were also presented for comparison. The data were also converted into geospatial formats to assist on-site fire managers in evaluating the usefulness of the product in daily operations. The JPSS Active Fire Team was also engaged in generating imagery for select fire events derived using an experimental detection algorithm from the 375m VIIRS imager bands. This imagery was also provided for end user evaluation and to the public through various online outlets. This presentation will provide a summary of lessons learned during the 2012 fire season through examples of major fire events and plans for improved data products, data distribution, and applications.

**SUOMI NPP VIIRS ACTIVE FIRE GOVERNANCE AND PRODUCT STATUS**

<table>
<thead>
<tr>
<th>M-band 750m (nadir)</th>
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<tr>
<td>MIR/TIR detection and characterization (IDPS and experimental replacement product)</td>
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<th>M-band 375m (nadir)</th>
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<tr>
<td>MIR/TIR detection (experimental product)</td>
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</table>

**VIIRS Active Fire Product Development**

- Operational product generated by IDPS (Interface Data Processing Segment)
- Part of integrated processing chain
- Low latency
- Detections only
- Locations only (no fire map)

**Algorithm updates**

- Experimental MODIS continuity product produced by LandPEATE (Product Evaluation and Test Element)
- Detections and Fire Radiative Power
- Spatially explicit fire mask
- Spatial and temporal aggregates

**Upstream processing updates**

- Product information
- Evaluation portal
- User-friendly formats
- Limited data distribution

**DIRECT READOUT**

- Can run EPIRES, NASA locally developed code
- Stand-alone

**IPDS Evaluation and Improvements**

- Early release product
- Minimally validated
- May still contain significant errors
- Versioning not established until baseline is determined
- Available to allow users to gain familiarity with data formats and parameters
- Product is not appropriate as the basis for quantitative scientific publications, studies, and applications

**Examples of SNPP fire observations in 2012**

- VIIRS 4/7/12 18:15 UTC
- MODIS 4/7/12 18:45 UTC
- VIIRS 8/23/12 20:10 UTC
- MODIS 8/23/12 20:55 UTC
- VIIRS 11/12/12 19:55 UTC
- MODIS 11/12/12 20:45 UTC

**BOF product comparison with near-simultaneous observations from Aqua MODIS**

- M-band 750m (nadir)
- MIR/TIR detection and characterization (IDPS and experimental replacement product)
- M-band 375m (nadir)
- MIR/TIR detection (experimental product)

**BOF product comparison with near-simultaneous observations from Aqua MODIS**


**Partnership with the direct broadcast community**

- First page of the Incident Report, Fire Progression Matrix and SNPP VIIRS Fire detections (over a MODIS burned area map) for the Whitewater-Baldy fire event. Evaluation is ongoing to analyze the utility of VIIRS fire information to assist on-site fire management support by National Weather Service Incident Meteorologists (IMETs).

**Analysis of Major Individual Fire Events**

- MODIS 5/25/2012 0730 MDT Bob Cordts, PLSC
- MODIS 6/10/2012 20:00 MDT

**Summary and Conclusions**

- Assessment of the VIIRS fire product using 2012 fire observations is encouraging
- Active Fires product has been declared Beta maturity and is publicly available
- User Readiness and Proving Ground activities are reaching out to various users
- Implementation of Direct Readout processing system is underway

**Acknowledgment**

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