

VIIIRS Imagery EDR Team

- NESDIS/StAR (D. Hillger, D. Molenar, D. Lindsey, T. Schmit – GOES liaison)
- CIRA/CSU (S. Miller, S. Kidder, S. Finley, H. Gosden, R. Brummer, C. Seaman)
- CIMSS/SSEC (T. Achtor, T. Jasmin, T. Rink)
- Aerospace (T. Kopp, J. Drake, J. Feeley)
- NOAA/NGDC (C. Elvidge)
- AFWA (J. Cetola)
- NIC (P. Clemente-Colon)
- Northrop Grumman (K. Hutchison, R. Mahoney)
- NASA (W. Thomas, P. Meade)
- NOAA/OSPO (A. Irving)
- NASA/SPoRT (G. Jedlovec, M. Smith)
- FNMOC (J. Tesmer)
- NRL (J. Hawkins, K. Richardson, J. Solbrig)
- Northrup Grumman (K. Hutchinson, P. Meade)
- NOAA/OSPO (A. Irving, M. Ruminski)
- NASA/SPoRT (G. Jedlovec, M. Smith)



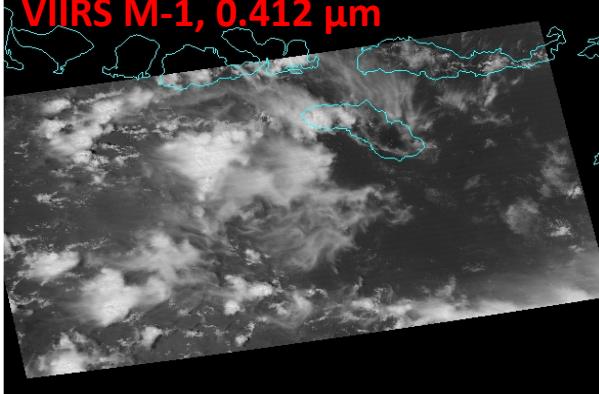
VIIRS Bands, Primary Purpose, Spectral Range

		Specification									
Band No.	Driving EDR(s)	Spectral Range (um)	Horiz Sample Interval (km) (track x Scan)		Band Gain	Ltyp or Ttyp (Spec)	Lmax or Tmax	SNR or NEdT (K)	Measured SNR or NEdT (K)	SNR Margin (%)	
			Nadir	End of Scan							
Reflective Bands	M1	Ocean Color Aerosol	0.402 - 0.422	0.742 x 0.259	1.60 x 1.58	High Low	44.9 155	135 615	352 316	723 1327	105% 320%
	M2	Ocean Color Aerosol	0.436 - 0.454	0.742 x 0.259	1.60 x 1.58	High Low	40 146	127 687	380 409	576 1076	51.5% 163%
	M3	Ocean Color Aerosol	0.478 - 0.498	0.742 x 0.259	1.60 x 1.58	High Low	32 123	107 702	416 414	658 1055	58.2% 155%
	M4	Ocean Color Aerosol	0.545 - 0.565	0.742 x 0.259	1.60 x 1.58	High Low	21 90	78 667	362 315	558 882	54.1% 180%
	I1	Imagery EDR	0.600 - 0.680	0.371 x 0.387	0.80 x 0.789	Single	22	718	119	265	122.7%
	M5	Ocean Color Aerosol	0.662 - 0.682	0.742 x 0.259	1.60 x 1.58	High Low	10 68	59 651	242 360	360 847	49% 135%
	M6	Atmosph. Correct.	0.739 - 0.754	0.742 x 0.776	1.60 x 1.58	Single	9.6	41	199	394	98.0%
	I2	NDVI	0.846 - 0.885	0.371 x 0.387	0.80 x 0.789	Single	25	349	150	299	99.3%
	M7	Ocean Color Aerosol	0.846 - 0.885	0.742 x 0.259	1.60 x 1.58	High Low	6.4 33.4	29 349	215 340	545 899	154% 164%
Emissive Bands	M8	Cloud Particle Size	1.230 - 1.250	0.742 x 0.776	1.60 x 1.58	Single	5.4	165	74	349	371.6%
	M9	Cirrius/Cloud Cover	1.371 - 1.386	0.742 x 0.776	1.60 x 1.58	Single	6	77.1	83	247	197.6%
	I3	Binary Snow Map	1.580 - 1.640	0.371 x 0.387	0.80 x 0.789	Single	7.3	72.5	6	165	2650.0%
	M10	Snow Fraction	1.580 - 1.640	0.742 x 0.776	1.60 x 1.58	Single	7.3	71.2	342	695	103.2%
	M11	Clouds	2.225 - 2.275	0.742 x 0.776	1.60 x 1.58	Single	0.12	31.8	10	18	80.0%
	I4	Imagery Clouds	3.550 - 3.930	0.371 x 0.387	0.80 x 0.789	Single	270	353	2.5	0.4	84.0%
	M12	SST	3.660 - 3.840	0.742 x 0.776	1.60 x 1.58	Single	270	353	0.396	0.12	69.7%
	I5 M13	SST	3.973 - 4.128	0.742 x 0.259	1.60 x 1.58	High Low	300 380	343 634	0.107 0.423	0.044 --	59% --
		Fires	3.973 - 4.128	0.742 x 0.259	1.60 x 1.58	Single	300	340	0.072	0.036	50.0%
LWIR	M14	Cloud Top Properties	8.400 - 8.700	0.742 x 0.776	1.60 x 1.58	Single	270	336	0.091	0.054	40.7%
	M15	SST	10.263 - 11.263	0.742 x 0.776	1.60 x 1.58	Single	300	343	0.07	0.028	60.0%
	I5	Cloud Imagery	10.500 - 12.400	0.371 x 0.387	0.80 x 0.789	Single	210	340	1.5	0.41	72.7%
	M16	SST	11.538 - 12.488	0.742 x 0.776	1.60 x 1.58	Single	300	340	0.072	0.036	50.0%

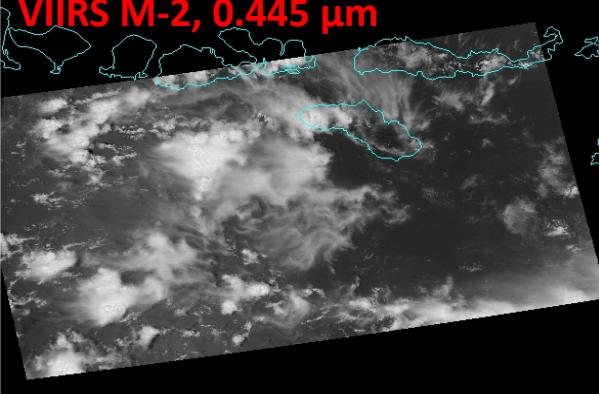
HSI uses 3 in-scan pixels aggregation at Nadir



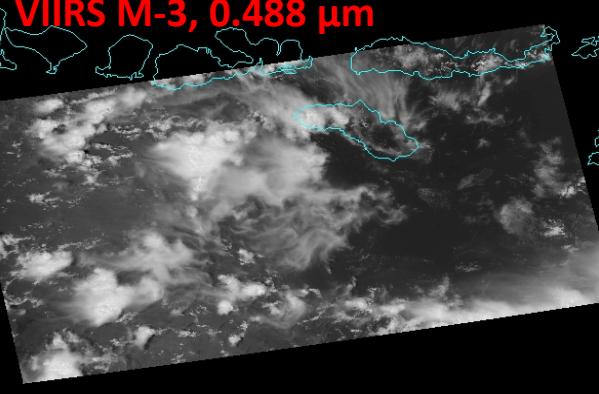
VIIRS M-1, 0.412 μm



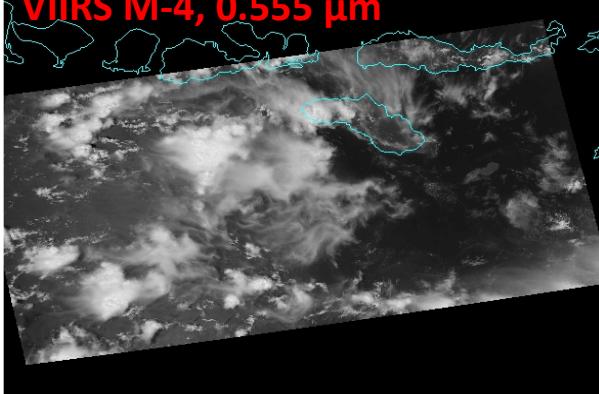
VIIRS M-2, 0.445 μm



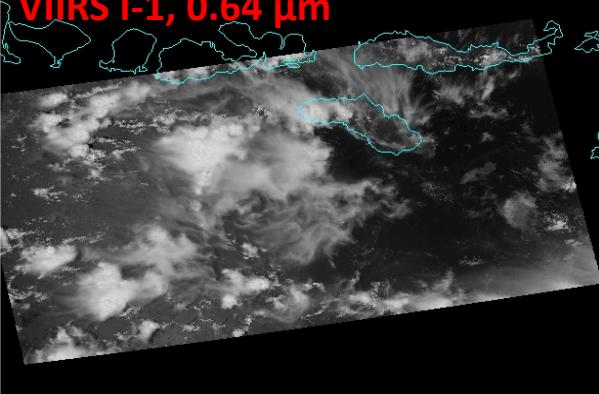
VIIRS M-3, 0.488 μm



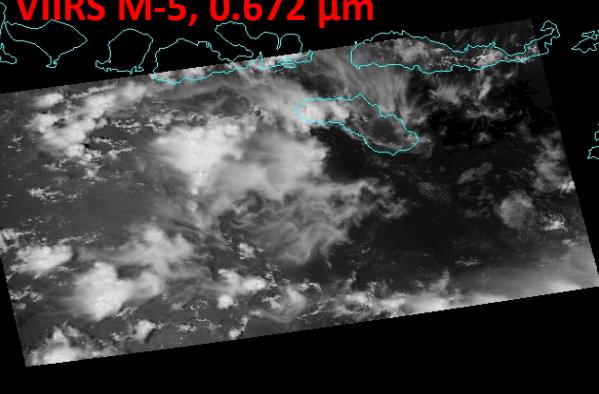
VIIRS M-4, 0.555 μm



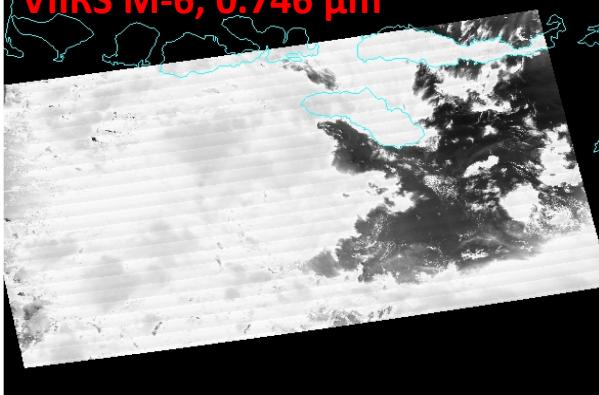
VIIRS I-1, 0.64 μm



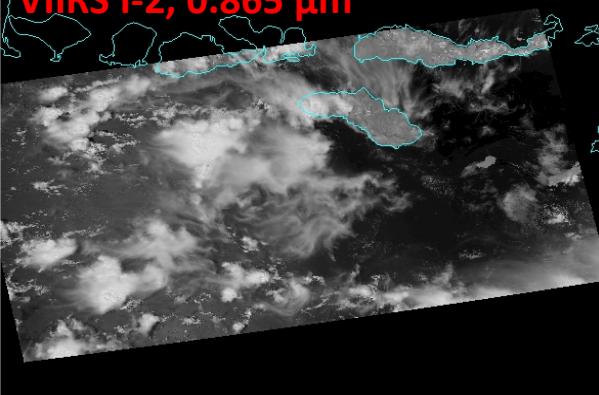
VIIRS M-5, 0.672 μm



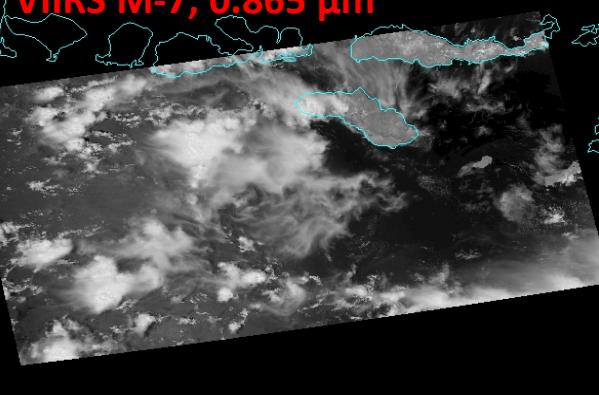
VIIRS M-6, 0.746 μm



VIIRS I-2, 0.865 μm



VIIRS M-7, 0.865 μm



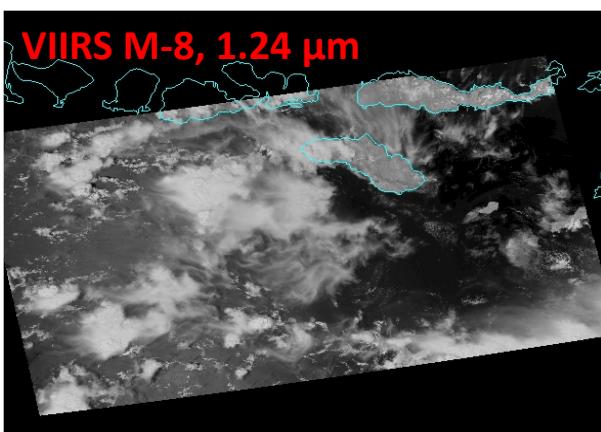
VIIRS Bands, Primary Purpose, Spectral Range

		Specification										
	Band No.	Driving EDR(s)	Spectral Range (um)	Horiz Sample Interval (km) (track x Scan)		Band Gain	Ltyp or Ttyp (Spec)	Lmax or Tmax	SNR or NEdT (K)	Measured SNR or NEdT (K)	SNR Margin (%)	
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		M3	Ocean Color Aerosol	0.478 - 0.498	0.742 x 0.259	1.60 x 1.58	High Low	32 123	107 702	416 414	658 1055	58.2% 155%
		M4	Ocean Color Aerosol	0.545 - 0.565	0.742 x 0.259	1.60 x 1.58	High Low	21 90	78 667	362 315	558 882	54.1% 180%
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		M5	Ocean Color Aerosol	0.662 - 0.682	0.742 x 0.259	1.60 x 1.58	High Low	10 68	59 651	242 360	360 847	49% 135%
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		M7	Ocean Color Aerosol	0.846 - 0.885	0.742 x 0.259	1.60 x 1.58	High Low	6.4 33.4	29 349	215 340	545 899	154% 164%
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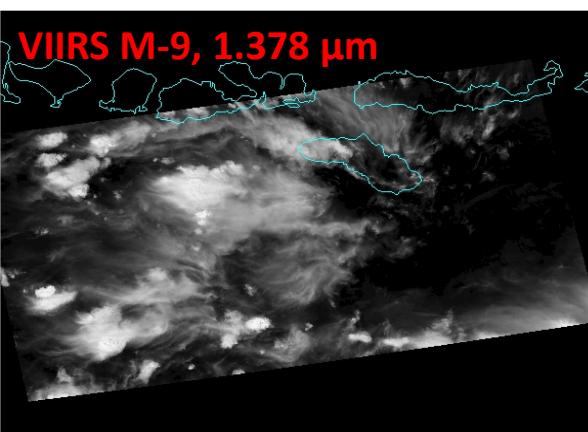


VIIRS M-8, 1.24 μm



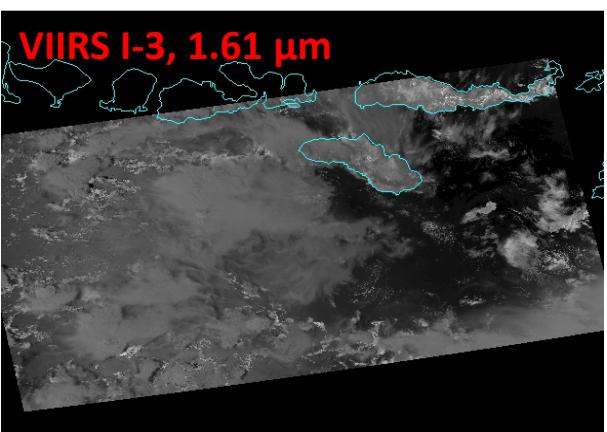
VIIRS 2012-01-20 05:25:51 UTC - Image Display

VIIRS M-9, 1.378 μm



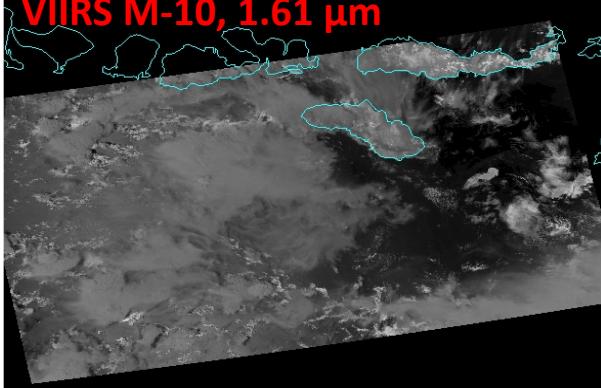
VIIRS 2012-01-20 05:25:51 UTC - Image Display

VIIRS I-3, 1.61 μm



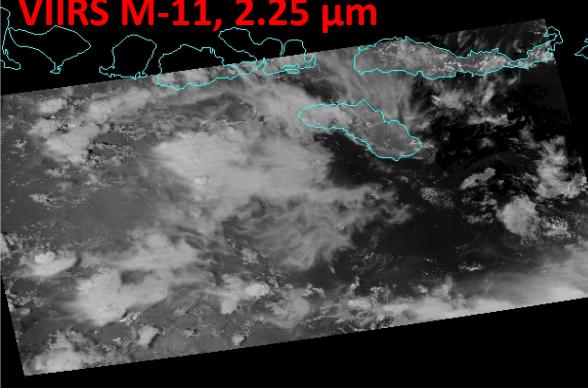
VIIRS 2012-01-20 05:25:51 UTC - Image Display

VIIRS M-10, 1.61 μm



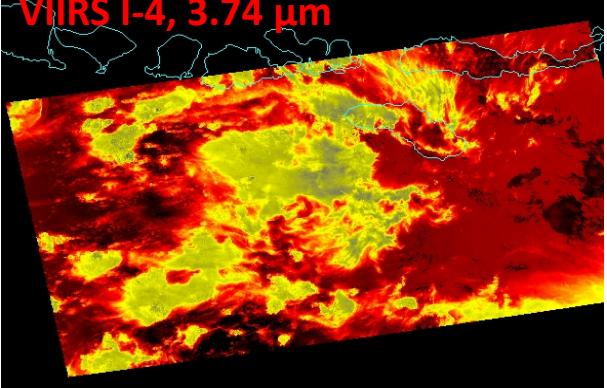
VIIRS 2012-01-20 05:25:51 UTC - Image Display

VIIRS M-11, 2.25 μm



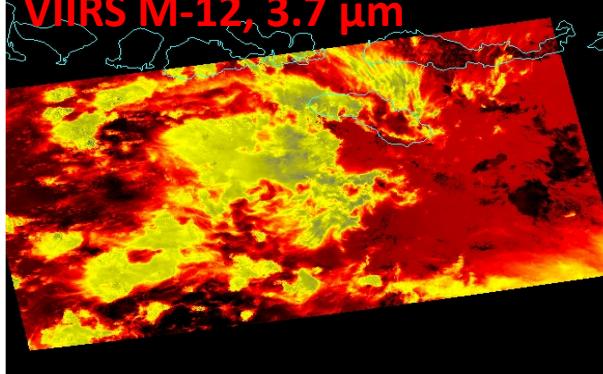
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VIIRS I-4, 3.74 μm



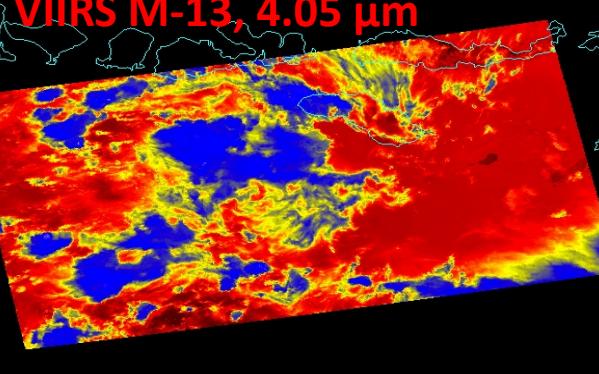
VIIRS 2012-01-20 05:25:51 UTC - Image Display

VIIRS M-12, 3.7 μm



VIIRS 2012-01-20 05:25:51 UTC - Image Display

VIIRS M-13, 4.05 μm



VIIRS 2012-01-20 05:25:51 UTC - Image Display

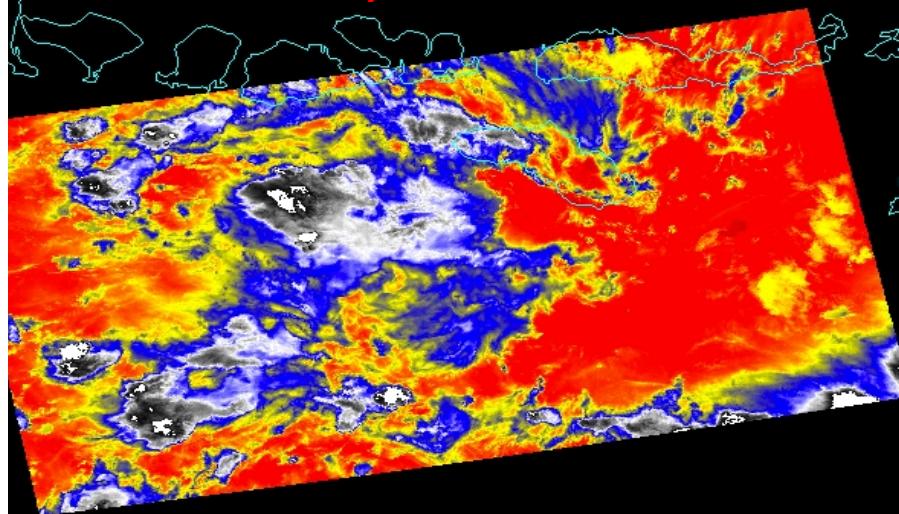
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Emissiv	LWIR	M14	Cloud Top Properties	8.400 - 8.700	0.742 x 0.776	1.60 x 1.58	Single	270	336	0.091	0.054	40.7%
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		M16	SST	11.538 - 12.488	0.742 x 0.776	1.60 x 1.58	Single	300	340	0.072	0.036	50.0%

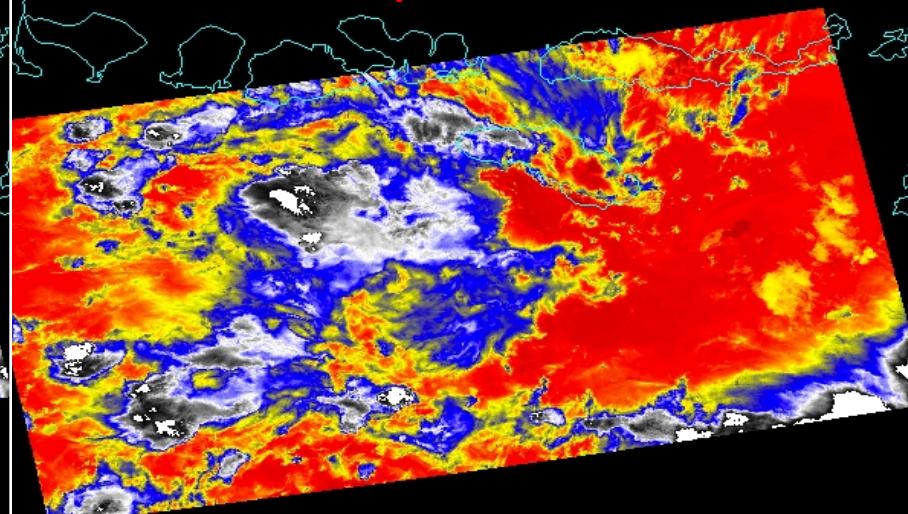
HSI uses 3 in-scan pixels aggregation at Nadir



VIIRS M-14, 8.55 μm



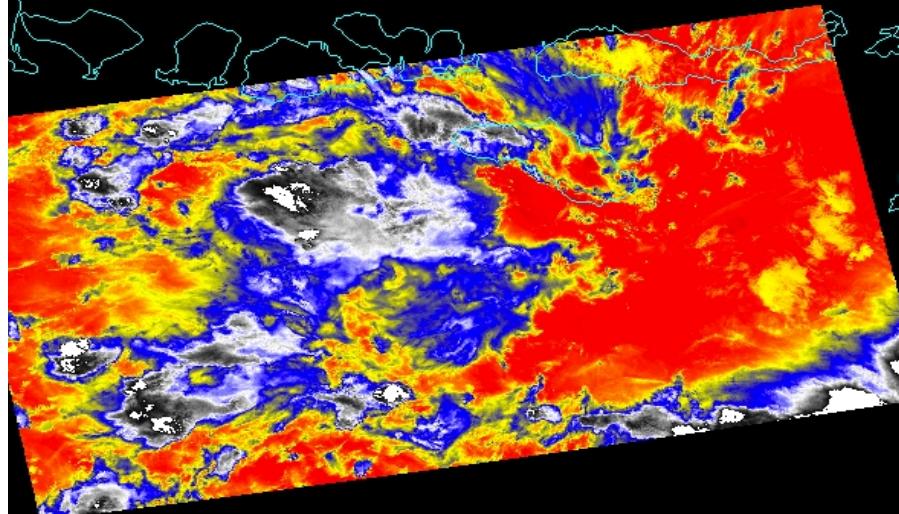
VIIRS M-15, 10.76 μm



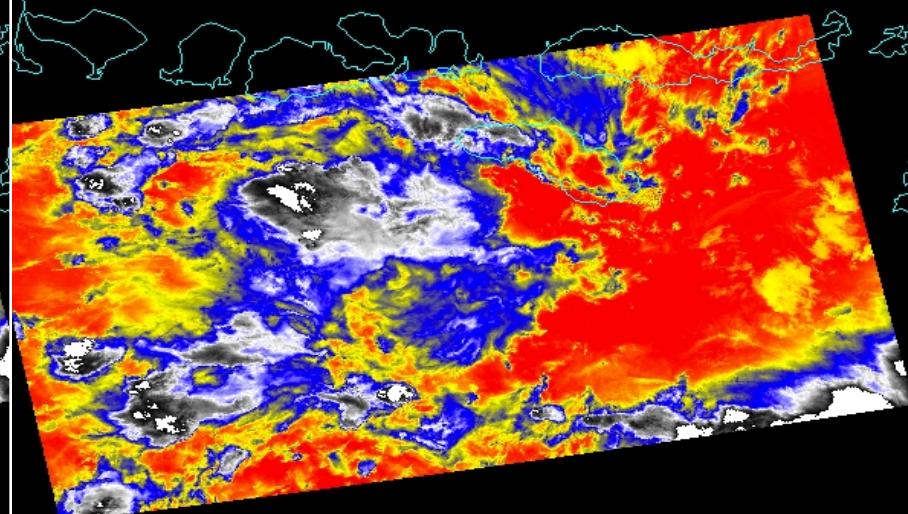
VIIRS 2012-01-20 05135151 UTC - Image Display

VIIRS 2012-01-20 05135151 UTC - Image Display

VIIRS I-5, 11.45 μm



VIIRS M-16, 12.01 μm

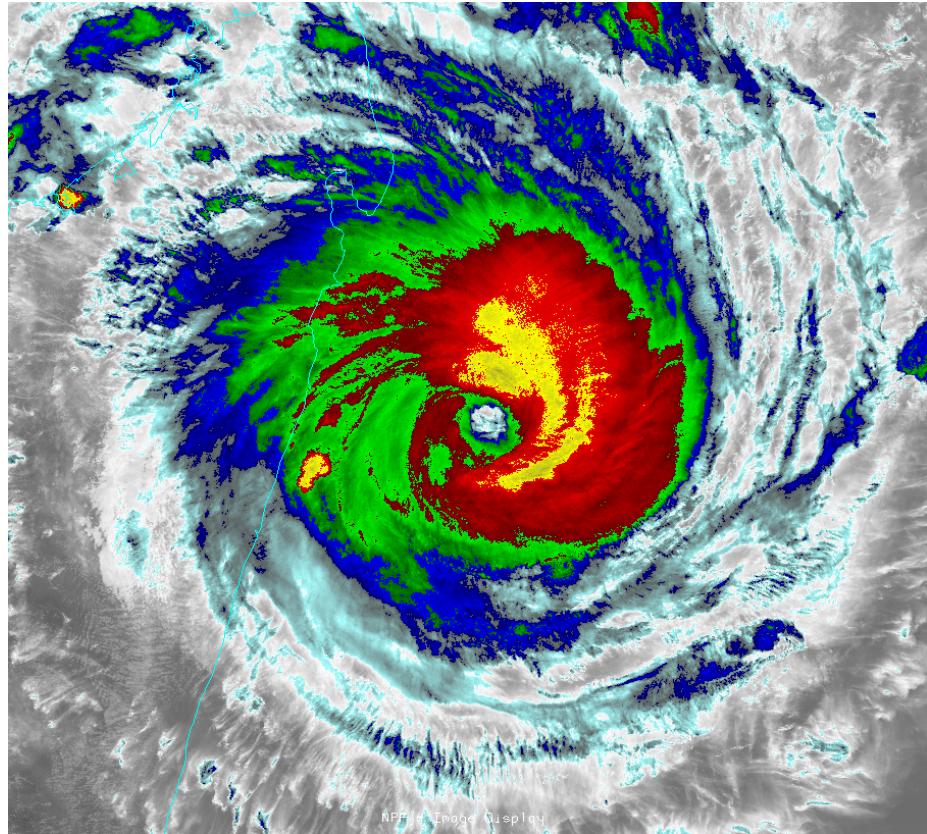


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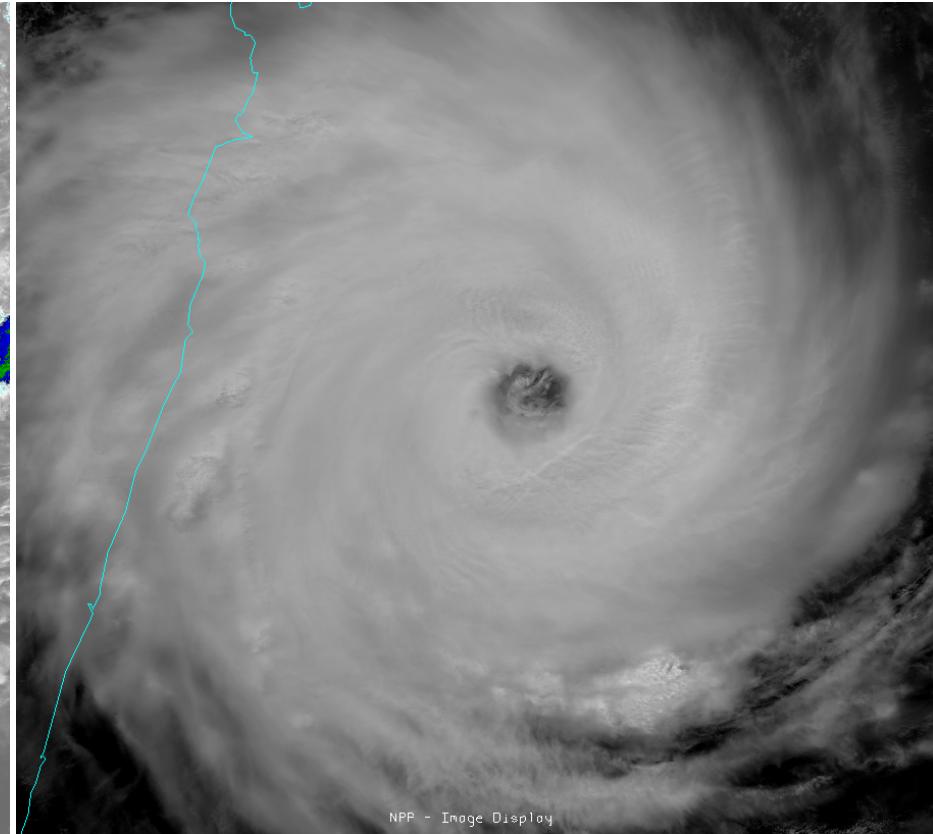
VIIRS 2012-01-20 05135151 UTC - Image Display

VIIIRS Imagery Examples

Tropical Cyclone Giovanna east of Madagascar
13 February 2012 at 0947 UTC



VIIRS channel I-5 (IR window, 11.45 μm)



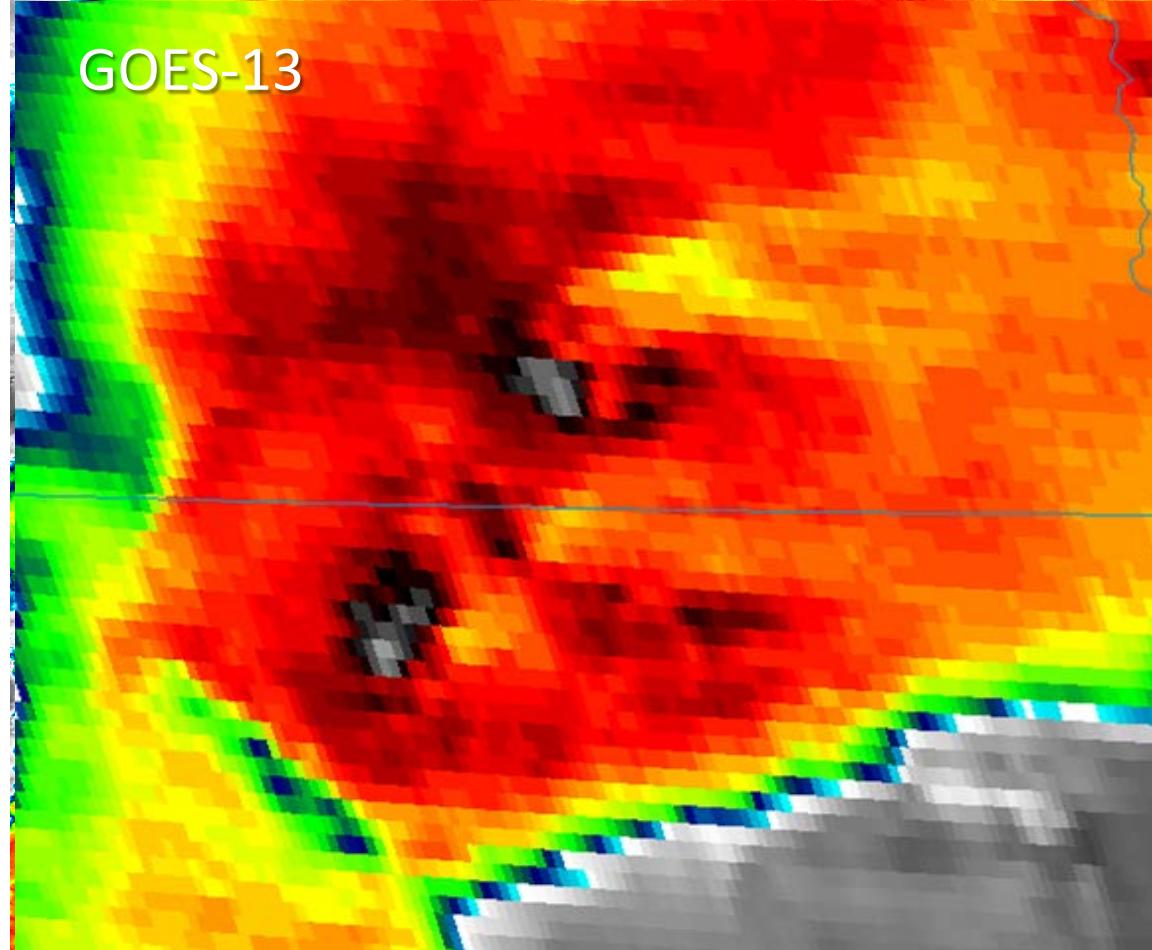
VIIRS channel I-1 (visible, 0.64 μm)



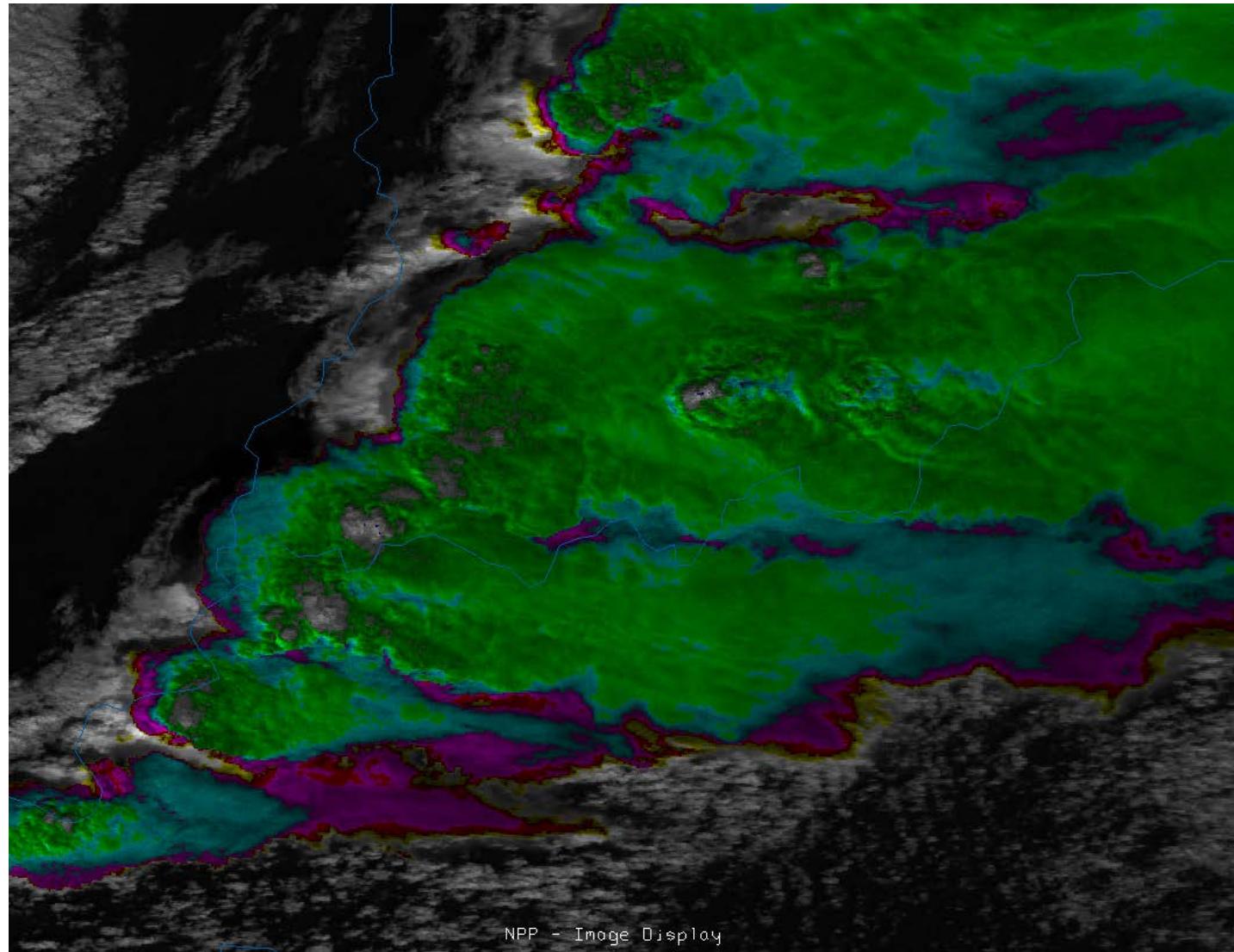
NPP/VIIRS 4/14/2012, 1925Z Bands I01 (0.64 μm)& I05 (11 μm)



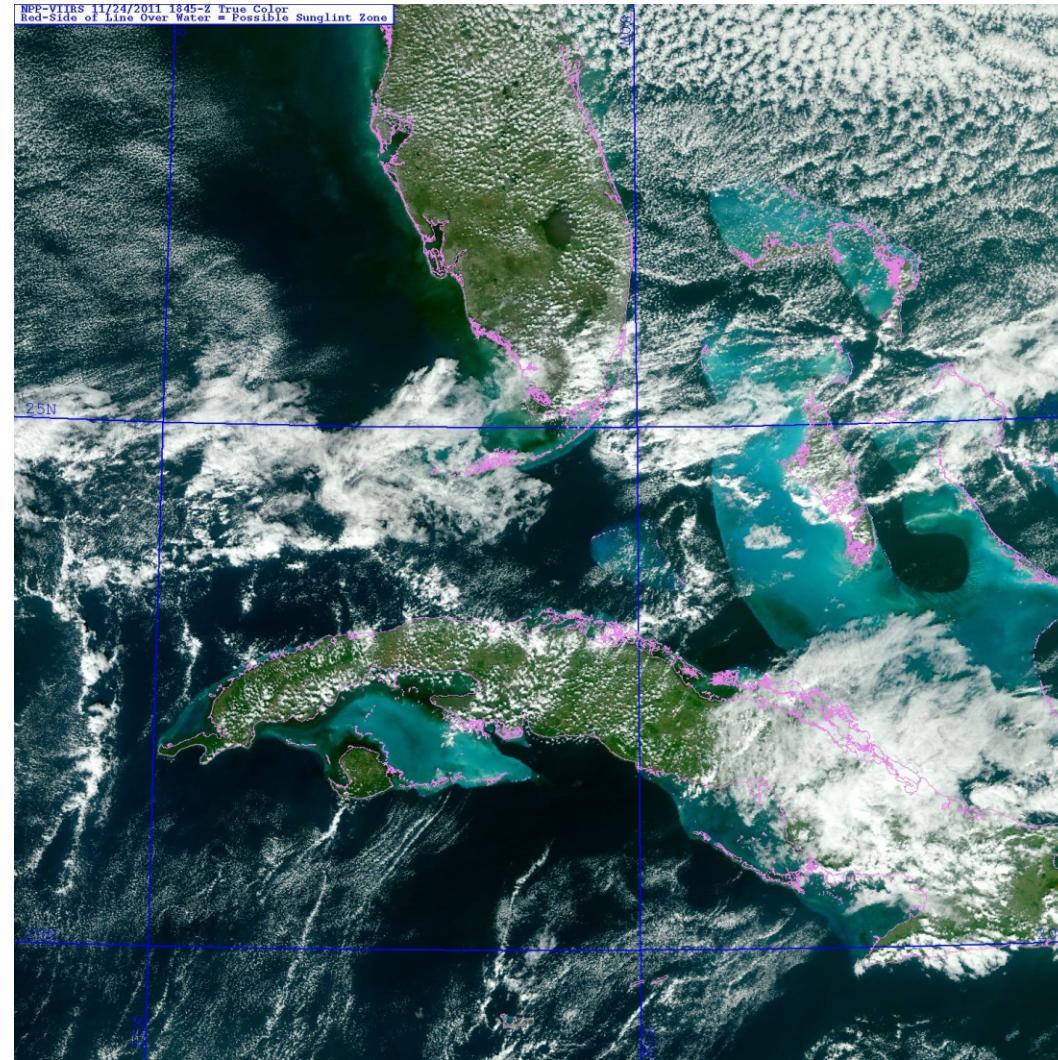
Norman, OK Storm Case Study



Blended VIS/IR

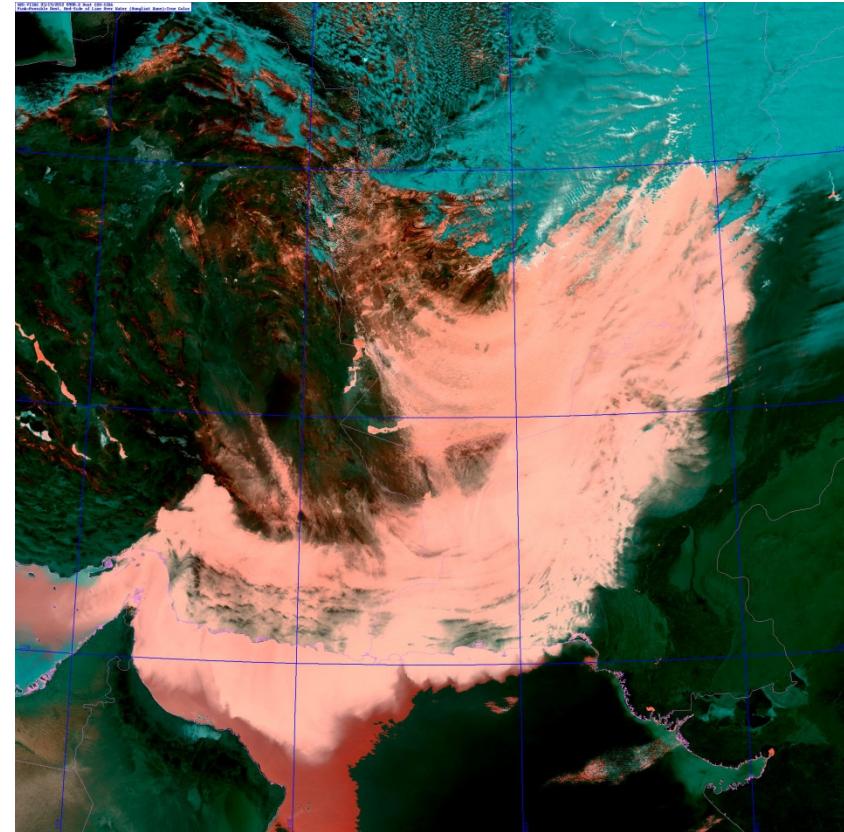
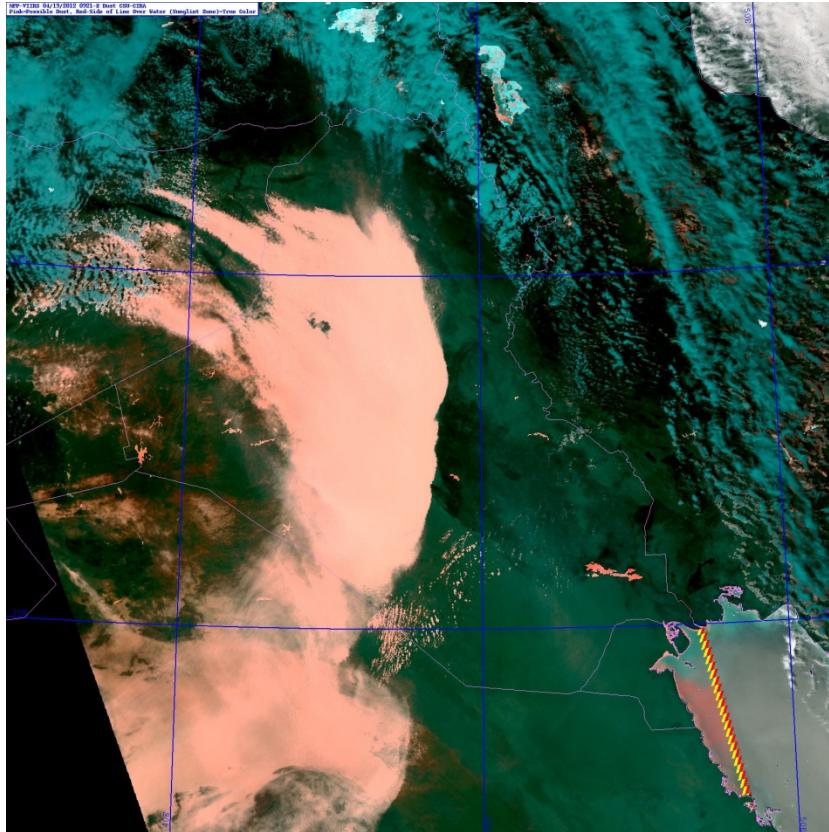


Natural Color



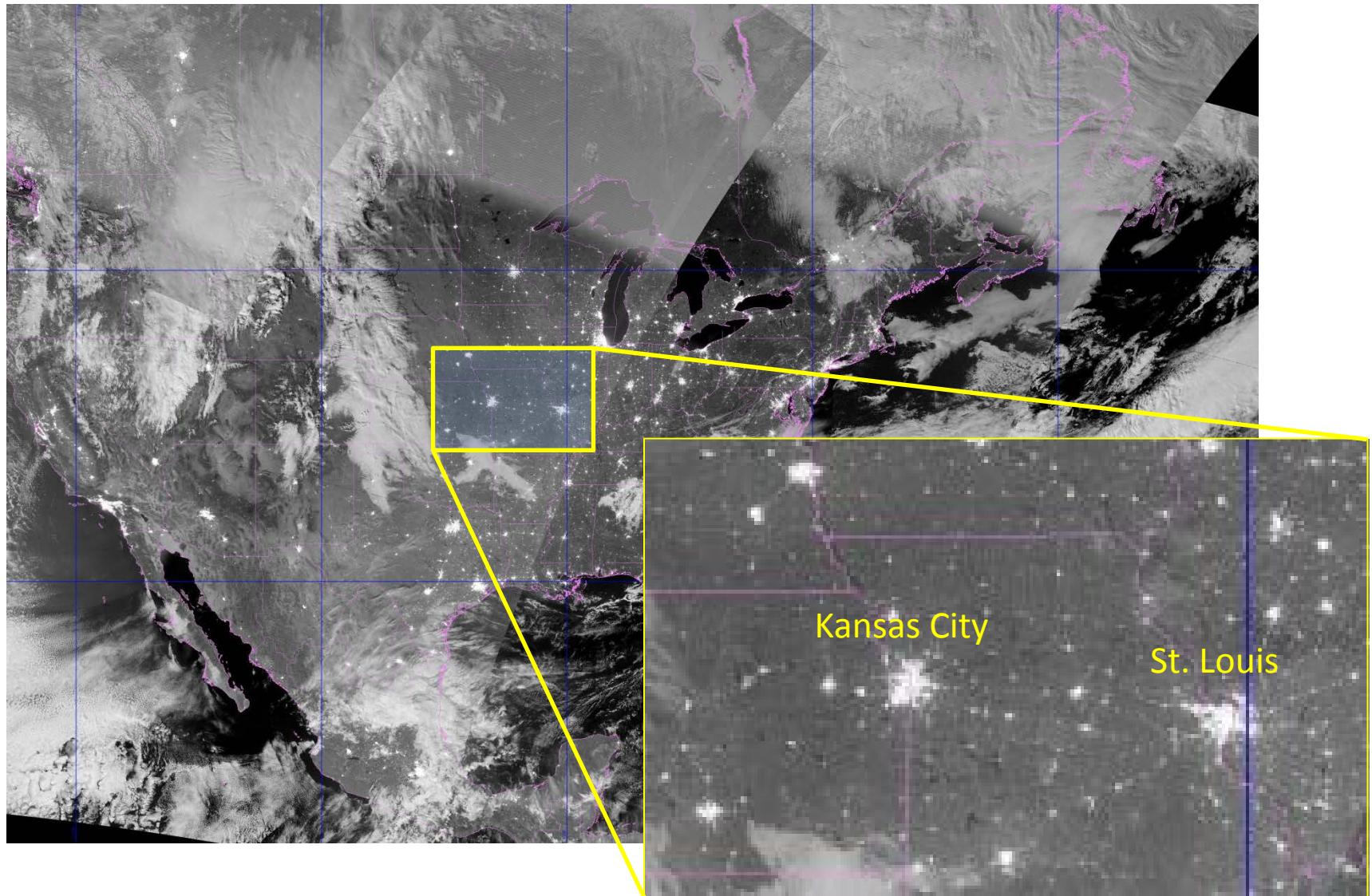
**VIIRS M-band (750 m) true-color/RGB image (for 24 November 2011)
over Southern Florida, Cuba and The Bahamas.**

Multi-Spectral Dust Enhancement



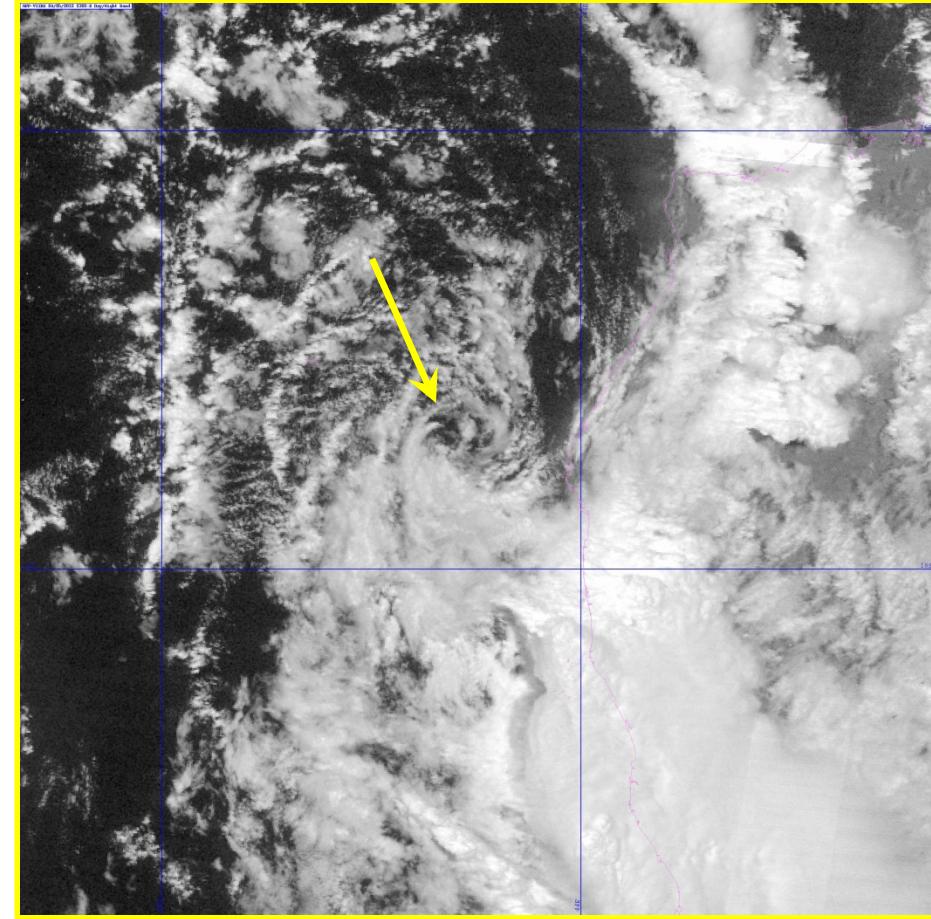
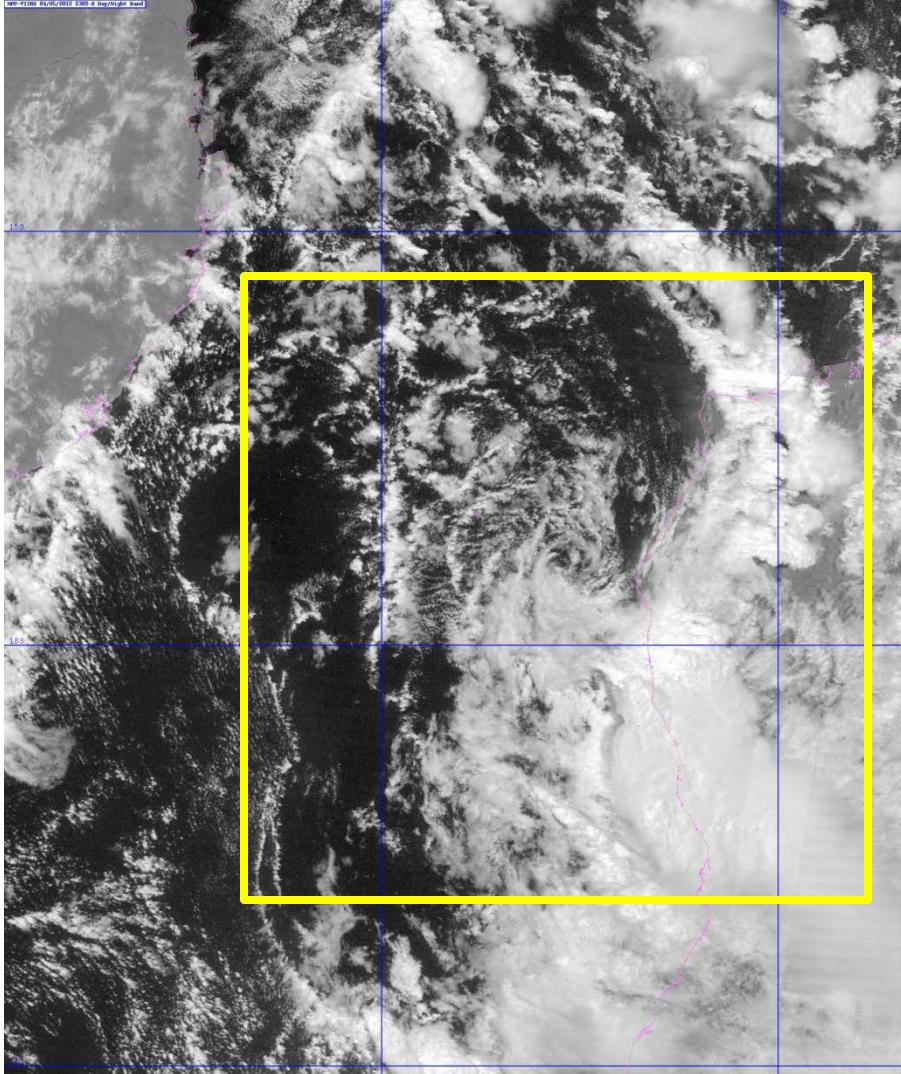
→ Translating capabilities developed and demonstrated on Terra/Aqua MODIS heritage sensors.

VIIRS Day/Night Band (DNB)



VIIIRS Day/Night Band (DNB)

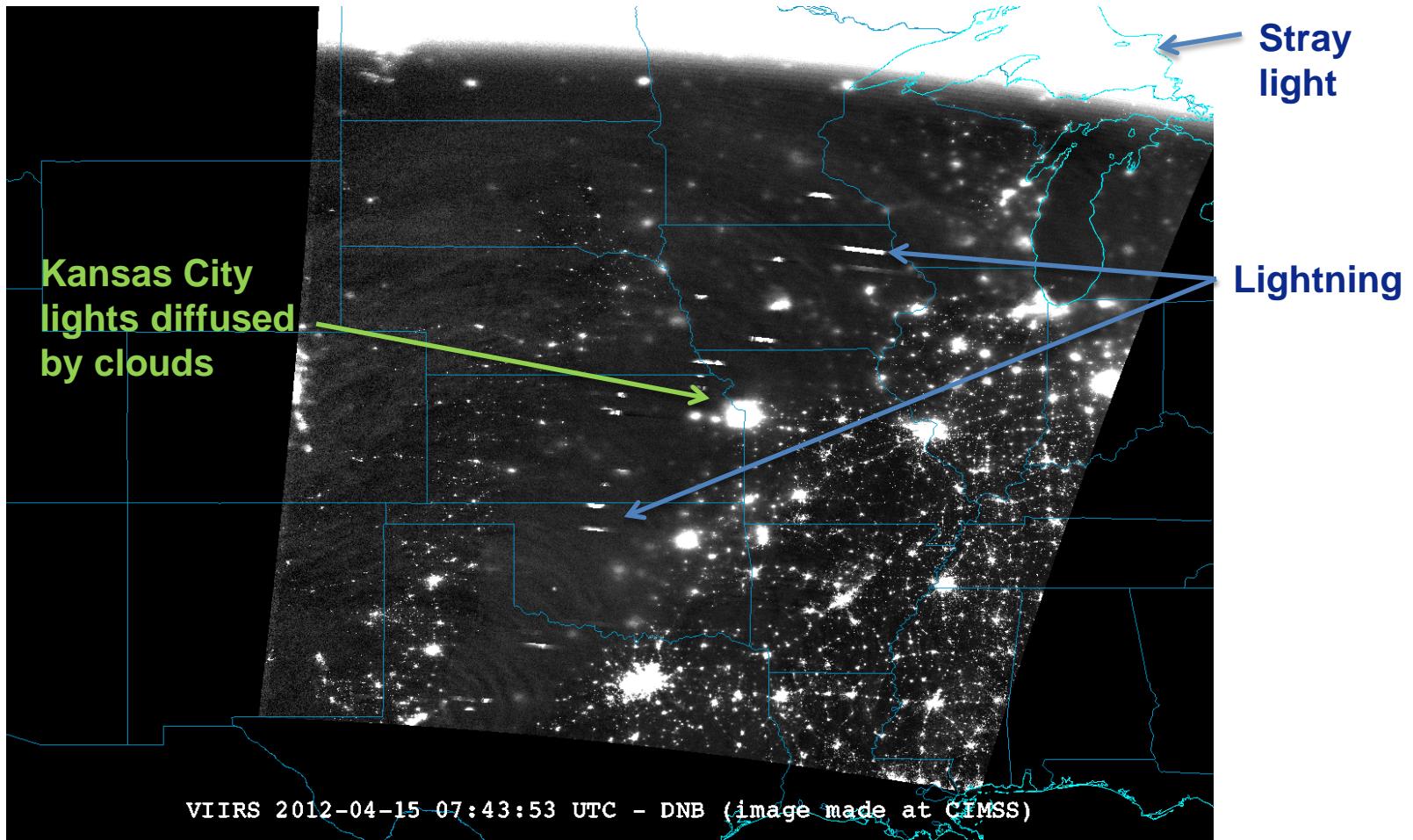
TC 97S 4/5/2012 2302 UTC





VIIRS DNB in AWIPS

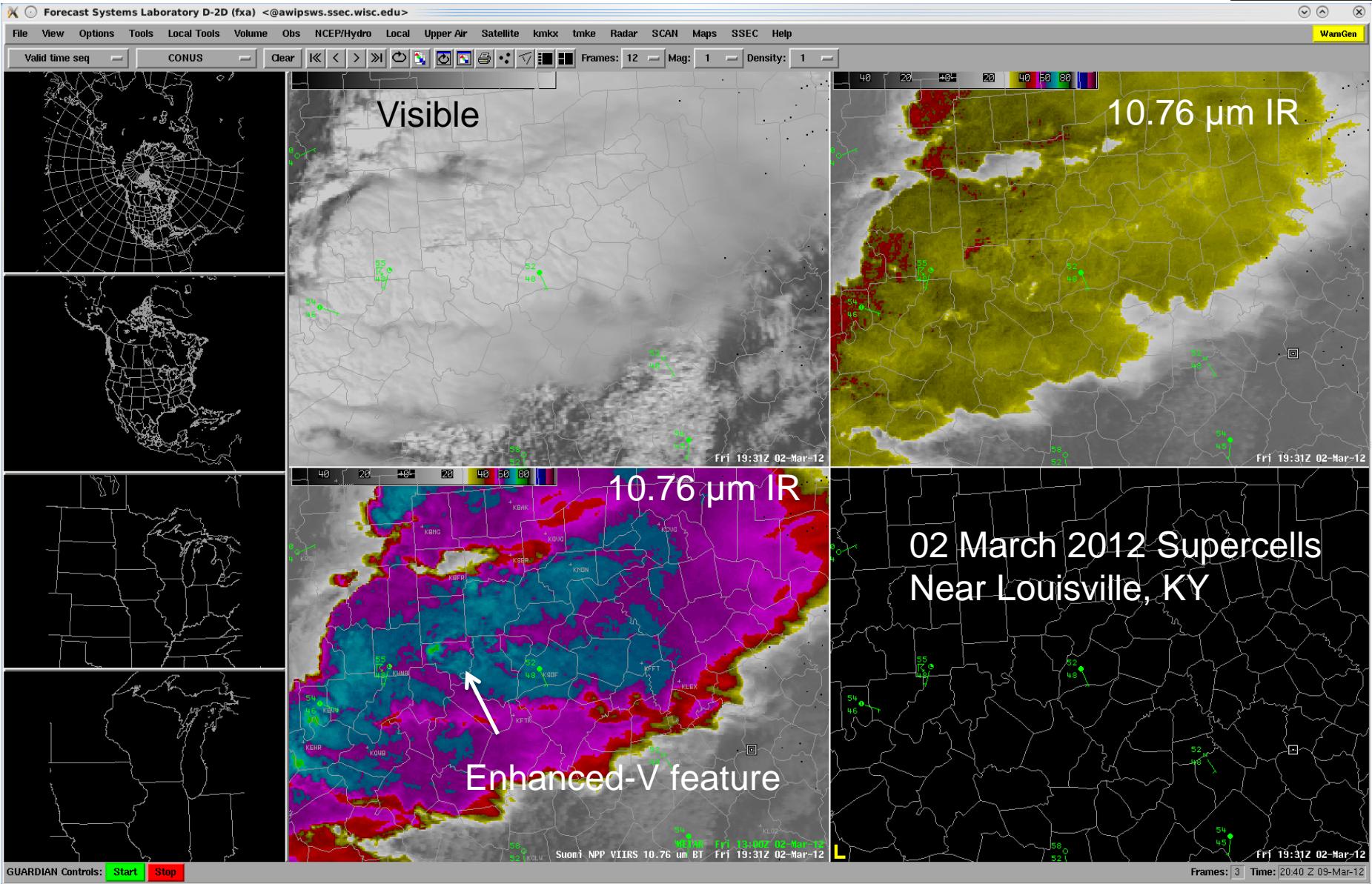
4/15/2012 0743Z



David Hoese, William Straka III, Ray Garcia, Kathy Strabala, Jordan Gerth (CIMSS)



VIIRS In AWIPS



David Hoes, William Straka III, Ray Garcia, Kathy Strabala, Jordan Gerth (CIMSS)

Suomi NPP Imagery Team Page

<http://rammb.cira.colostate.edu/projects/npp/>



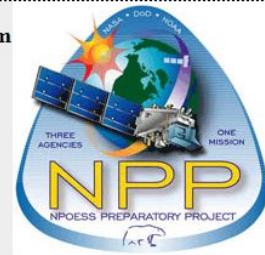
NPOESS Preparatory Project (NPP) VIIRS Imagery and Visualization Team

(Last updated: 2011-11-15)

The first of the **Joint Polar Satellite System (JPSS)** spacecraft, the **National Polar-orbiting Operational Environmental Satellite System (NPOESS) Preparatory Project (NPP)** satellite was successfully launched **at 0948 UTC on 28 October 2011**.

See NASA's [NPP launch video](#).

The **first visible/reflective images** are expected on **Launch+24 Days (~21 November 2011)**.
The **first infrared/thermal images** are expected on **Launch+42 Days (~9 December 2011)**.



The NESDIS/StAR Imagery and Visualization and Visualization Team (co-led by Don Hillger @ NOAA and Tom Kopp @ Aerospace Inc.) will be responsible for the checkout of imagery (and data) from the **Visible/Infrared Imager Radiometer Suite (VIIRS)** instrument on NPP.

A RAMSDIS Online display of **simulated/proxy VIIRS data** is available at http://rammb.cira.colostate.edu/ramsdis/online/npp_viirs.asp. The selected images may vary widely in location and size.

[NPP Orbital Passes](#) | [Reverse Chronology of NPP VIIRS Significant Events](#) | [NPP Reference Information/Websites](#)

NPP Orbital Passes

The NPP predicted track is plotted on GOES-13 full-disk 10.7 μm imagery to assist with matching NPP data with meteorological features of interest. Since the full disk scans occur every 3 hours, only the track within +/- 90 minutes of each scan is plotted.

NPP Imagery Blog Sites

<http://rammb.cira.colostate.edu/projects/npp/blog/>

<http://cimss.ssec.wisc.edu/goes/blog/archives/category/viirs>