



Suomi-NPP VIIRS METOC Utility

Satellite Meteorological Applications Section

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NRL VIIRS Cal/Val Web Page

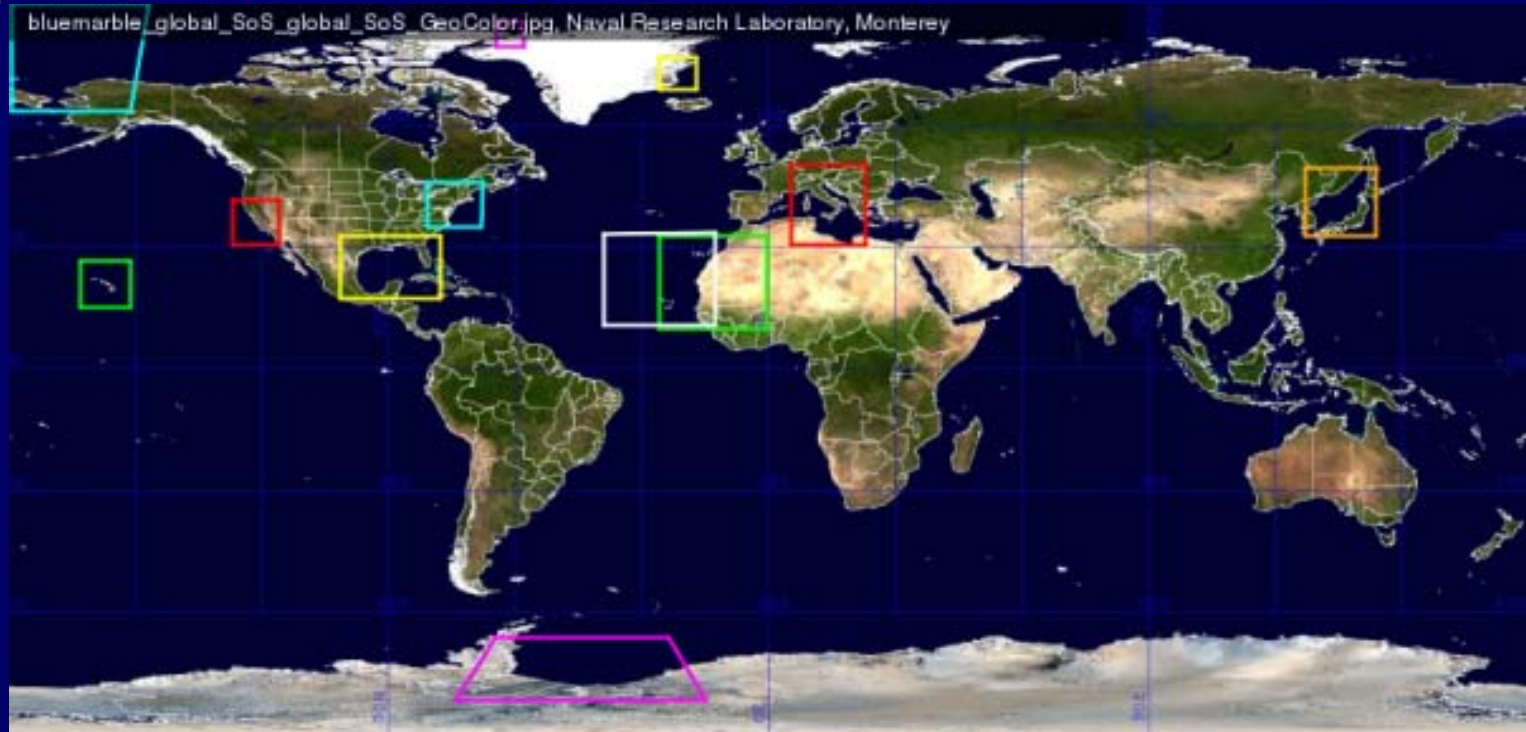


VIIRS

[Feedback?](#) [About VIIRS](#) [NextSat](#)



Select VIIRS area of interest in the image map below.



<http://www.nrlmry.navy.mil/VIIRS.html>

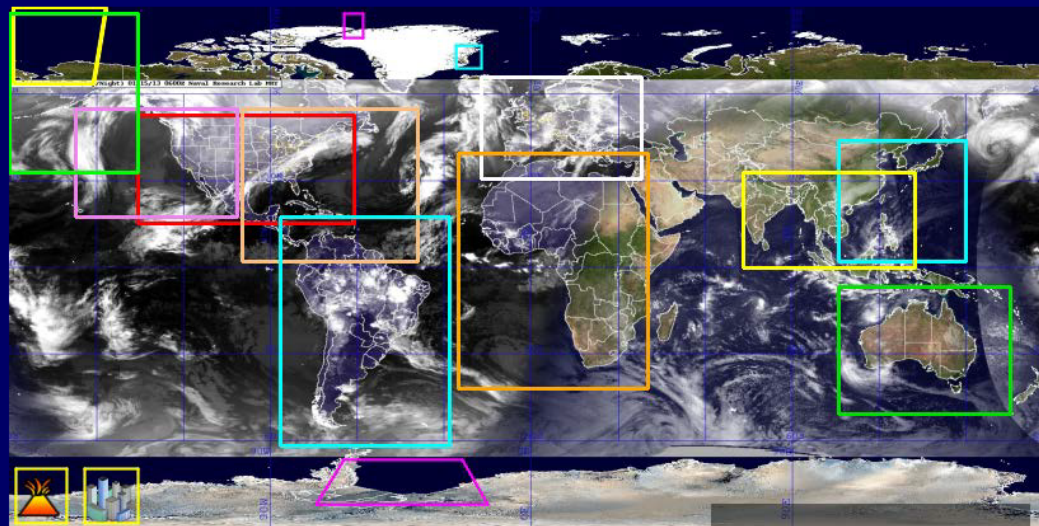


NexSat

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Select NEXSAT area of interest in the image map below.



Volcanoes Cities

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*NEXSAT: 3.33.00 Cluster (Released: 01/02/13)
Page Generated: Tue Jan 15 09:24 2013 GMT
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*Acknowledgement: Technical collaboration with the **Cooperative Institute for Research in the Atmosphere** *

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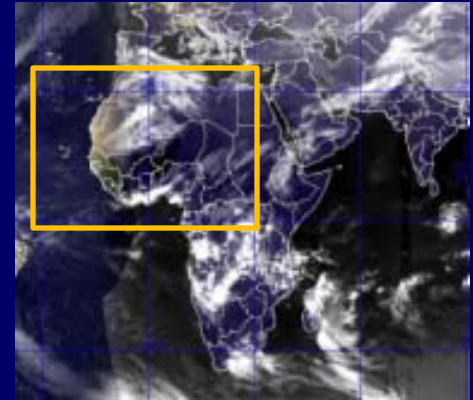
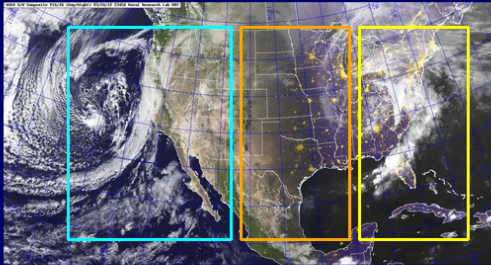


Sectored Domains

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[Global_Map](#) [CONUS](#) /CONUS/

Select either CONUS or the sub-areas using the image map below.

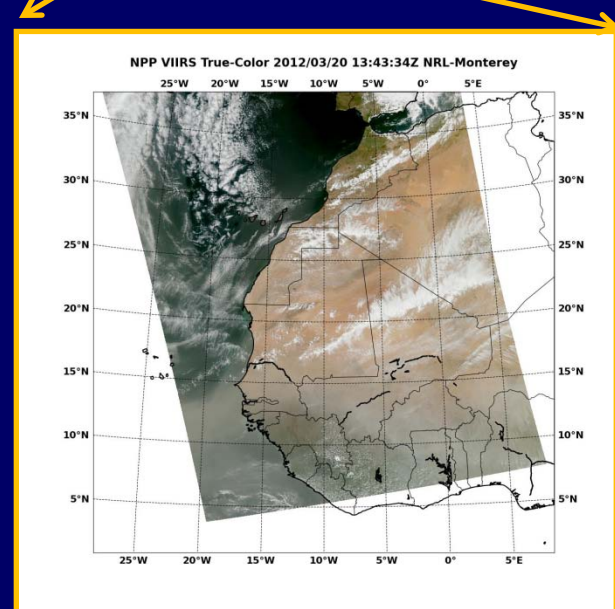
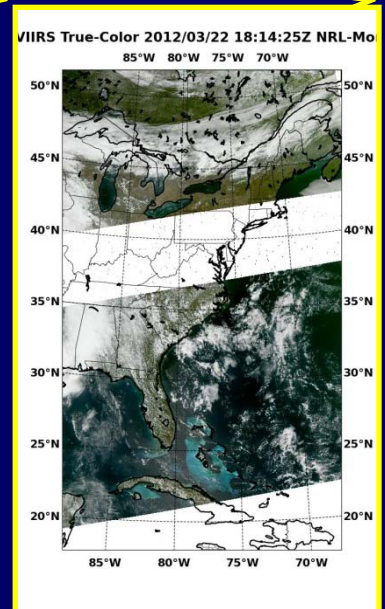
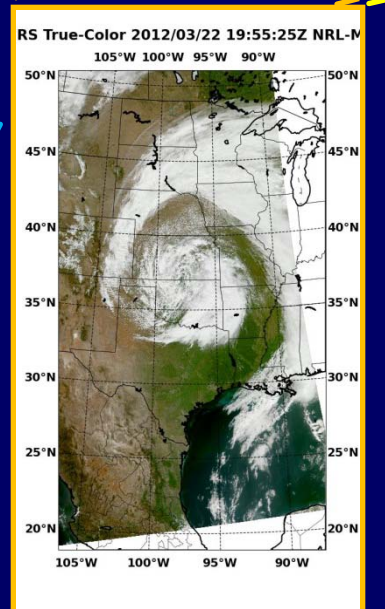
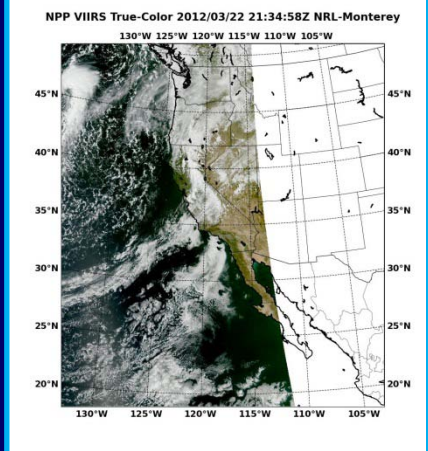


West

Central

East

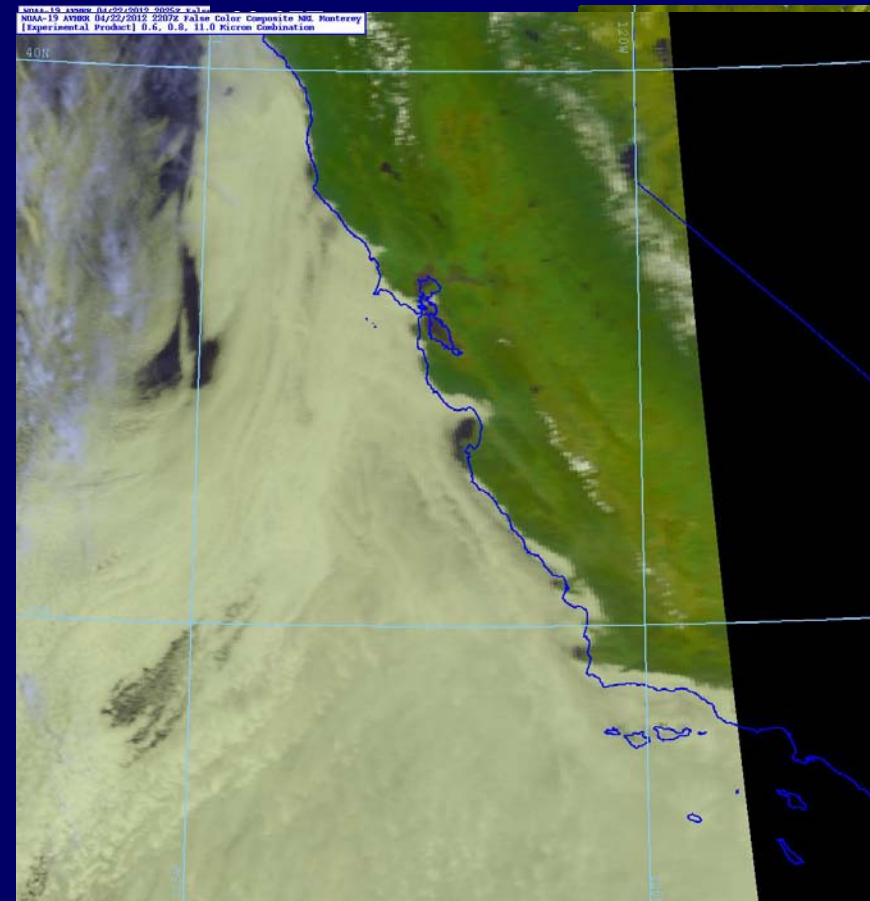
Northwest Africa





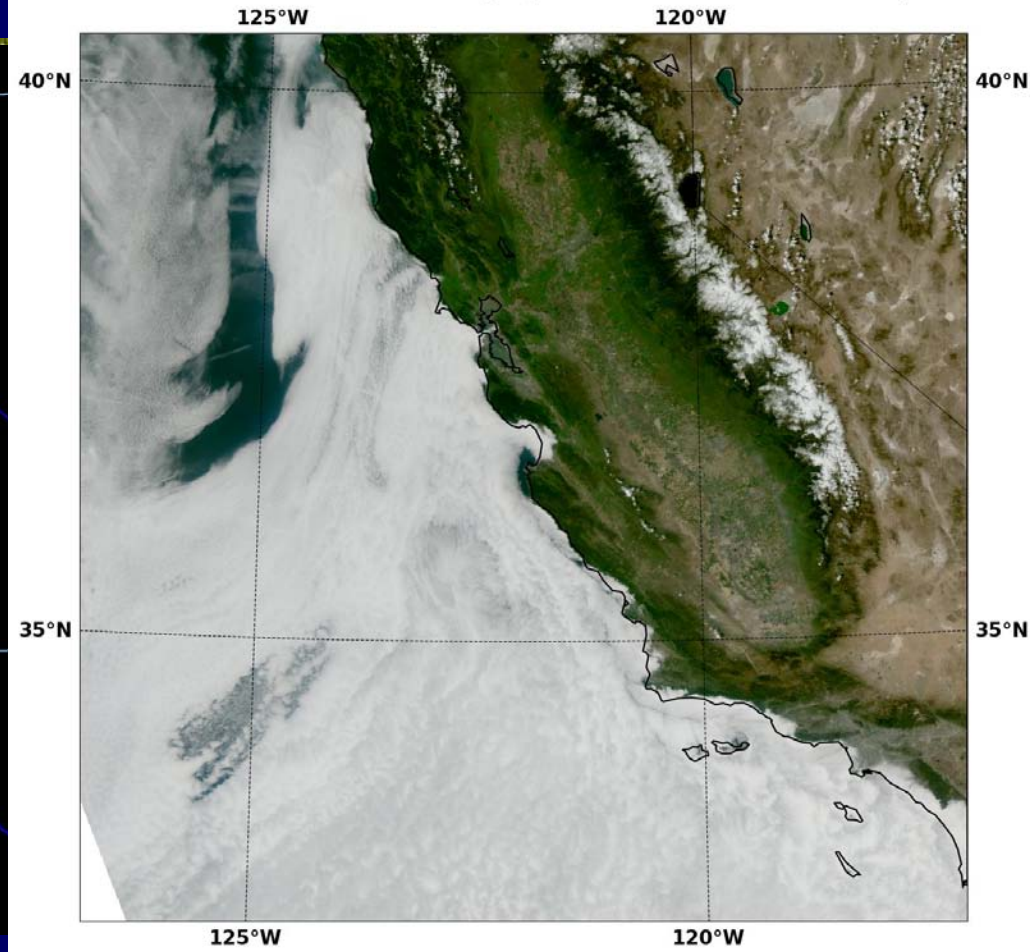
Comparing AVHRR to VIIRS true color

NOAA-19 AVHRR



Edge of scan effects not as bad as NOAA-16 but still noticeable slight degradation observed toward the left

NPP VIIRS True-Color 2012/04/22 20:17:39Z NRL-Monterey



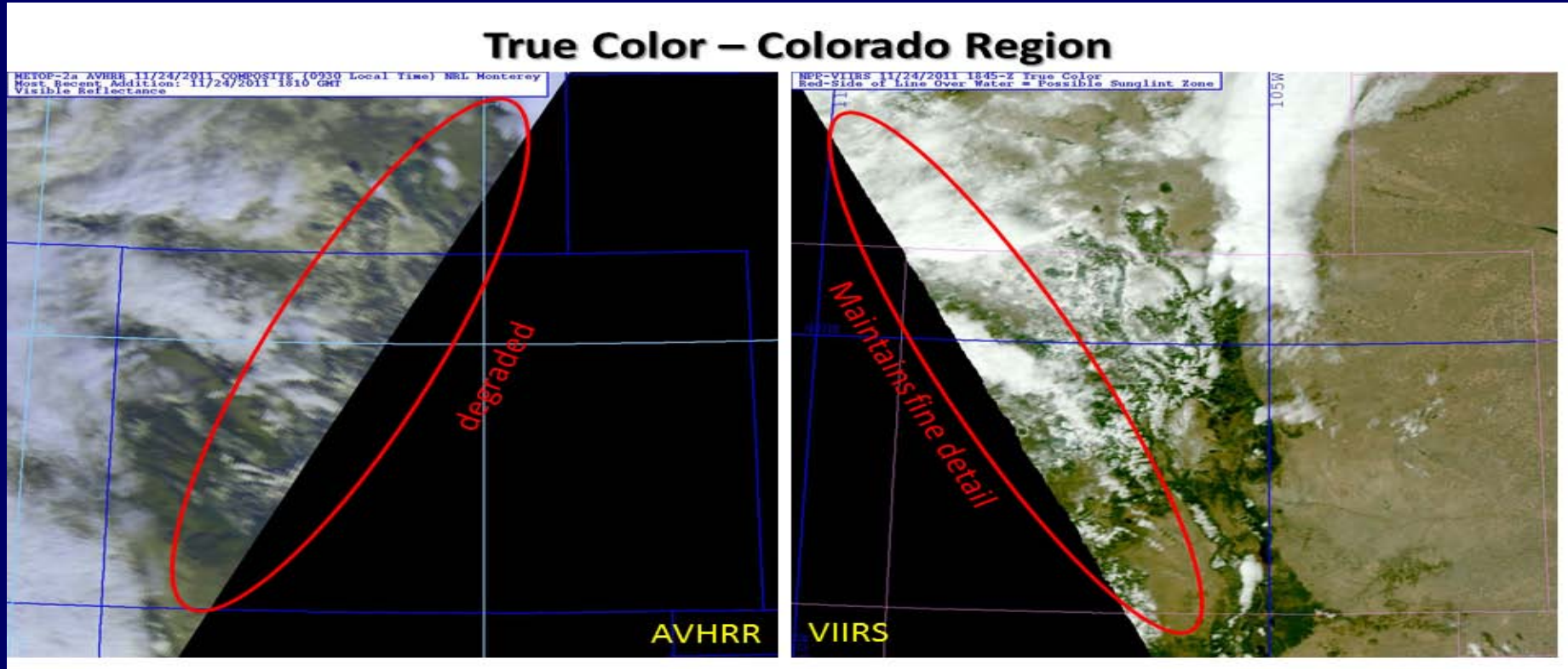
<- Edge of scan
Nadir ->

VIIRS maintains its integrity



Edge of Scan improvements

Comparing AVHRR to VIIRS true color

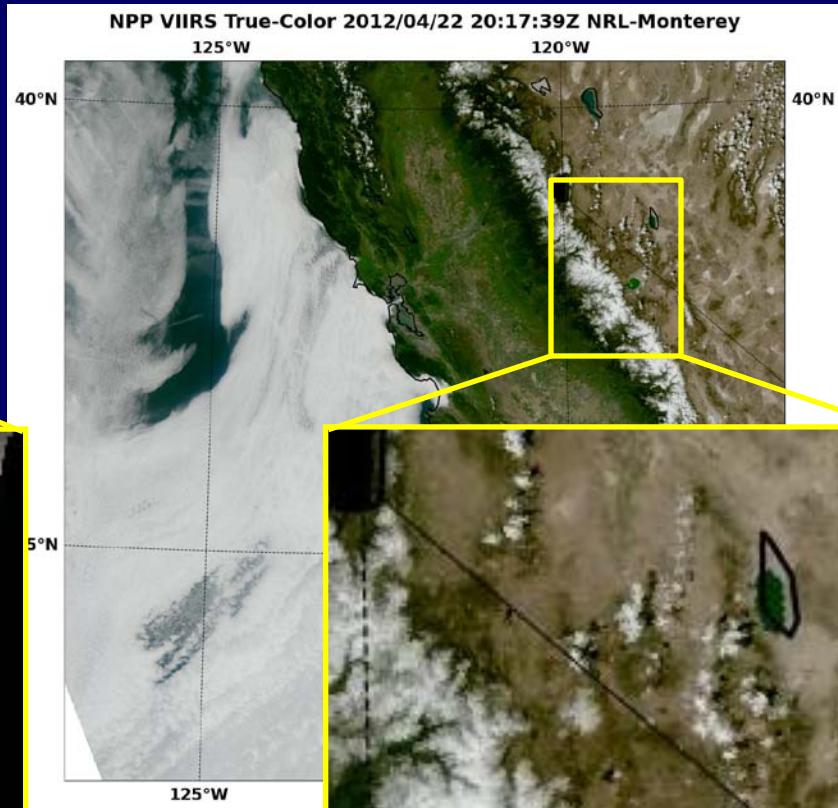
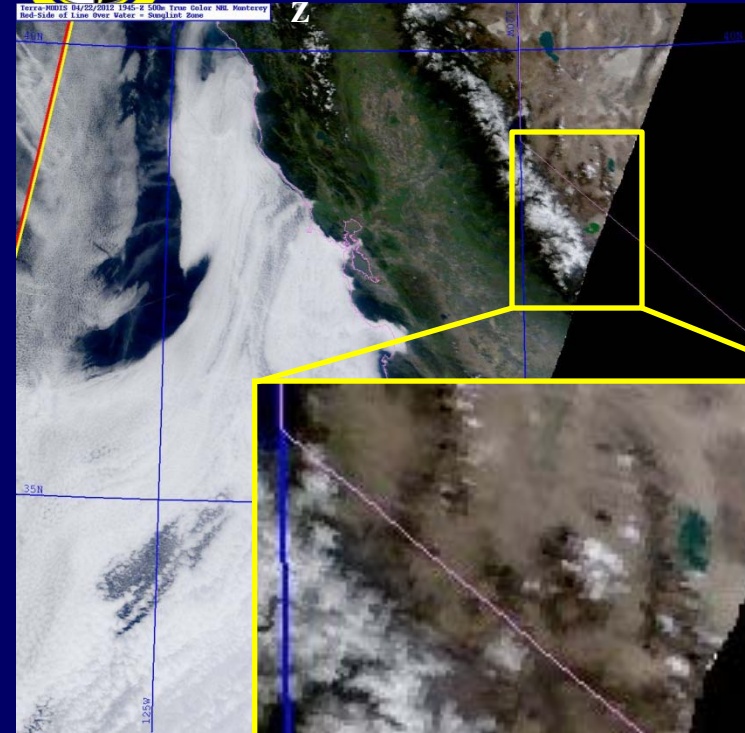


VIIRS borrows from DMSP OLS cross-track scanning technology that maintains the fine detail from nadir to edge of scan. In contrast, MODIS and AVHRR imagery become increasingly degraded away from nadir.



Terra-MODIS 19:45

NPP VIIRS True-Color 2012/04/22 20:17:39Z NRL-Monterey
125°W 120°W



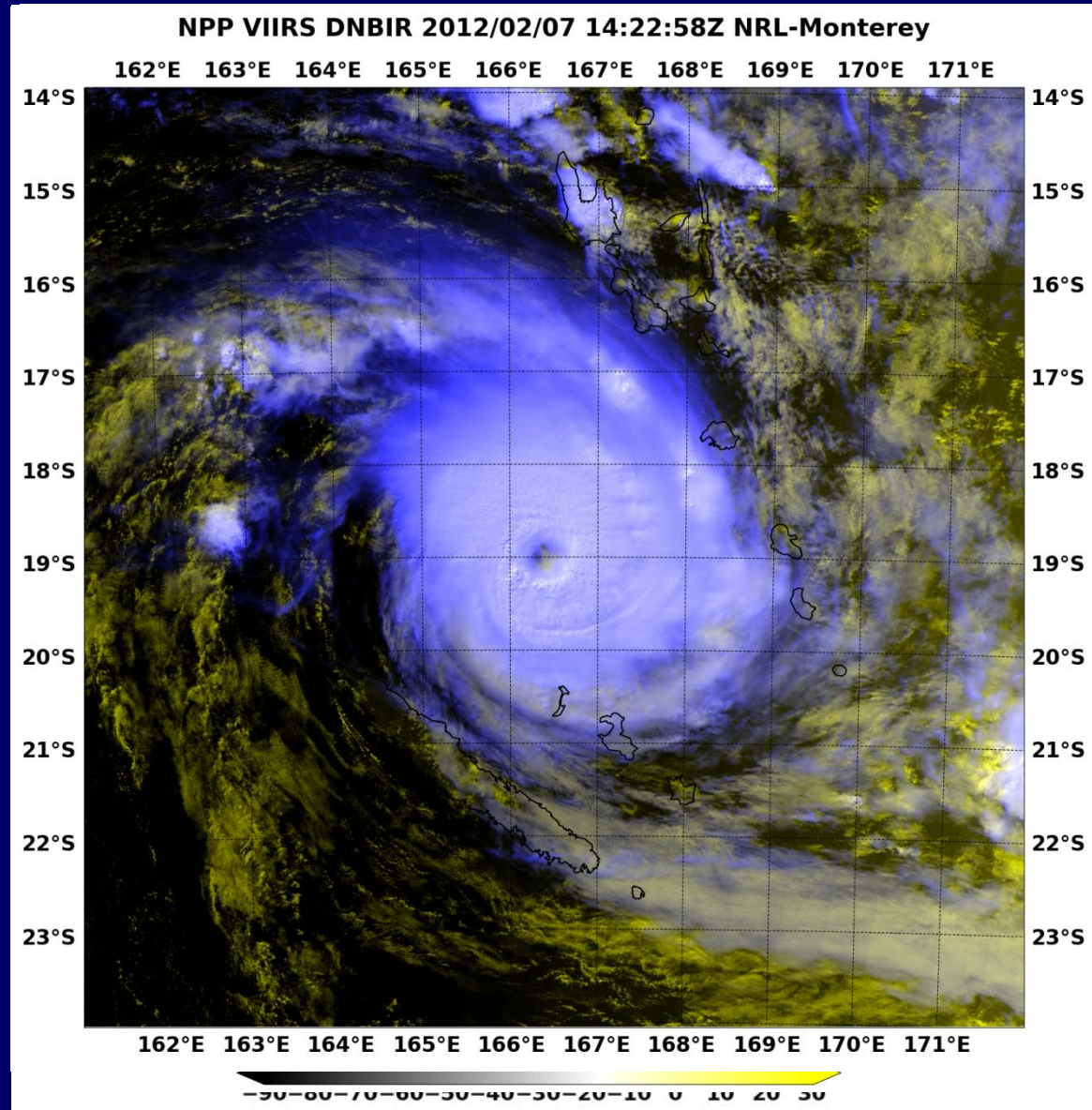
From
provid

that MODIS e

Zoomed
views
provide the
actual story



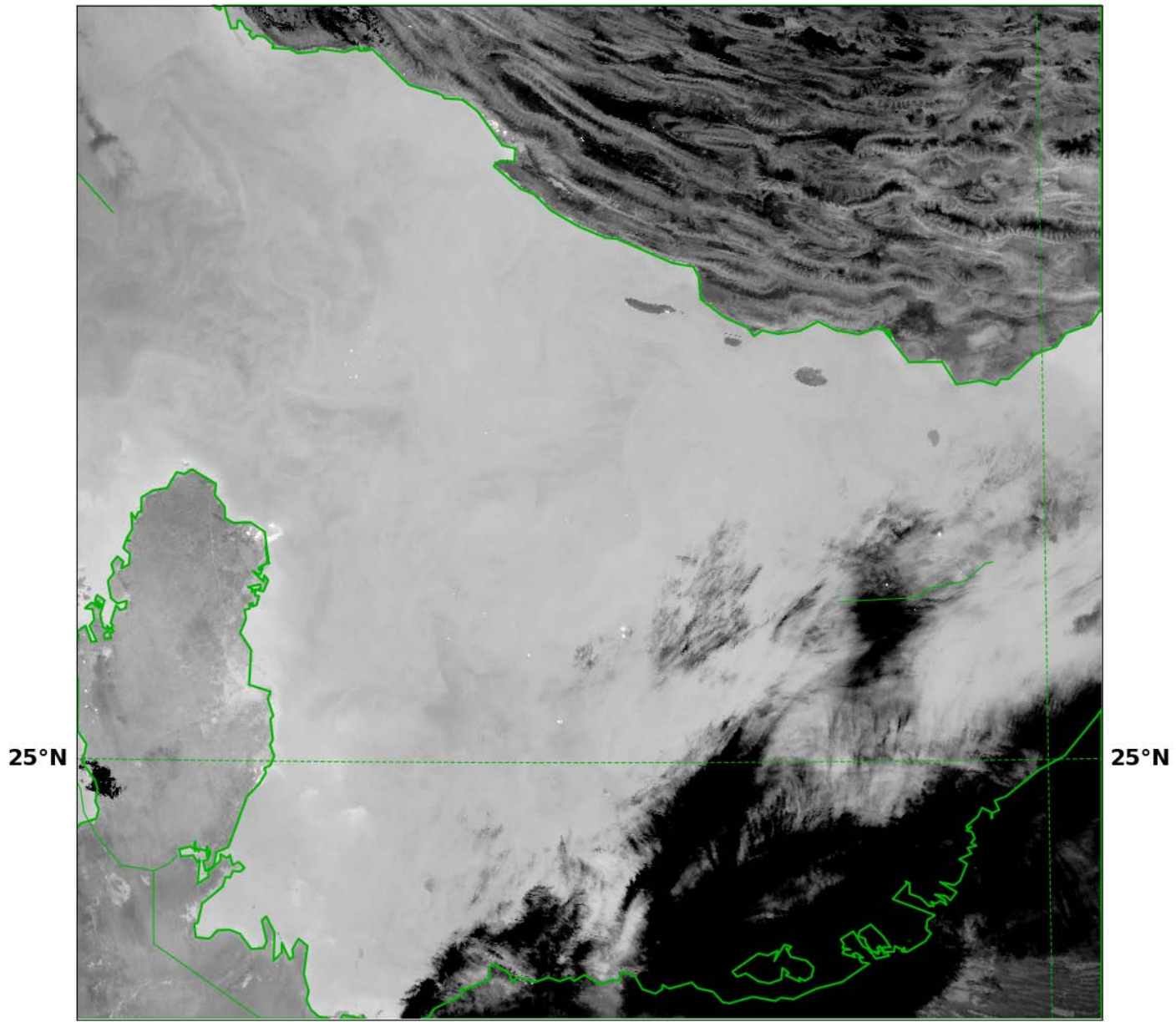
VIIRS Day Night Band Views TC





NPP VIIRS hotspots 2012/04/17 22:24:58Z NRL-Monterey

55°E



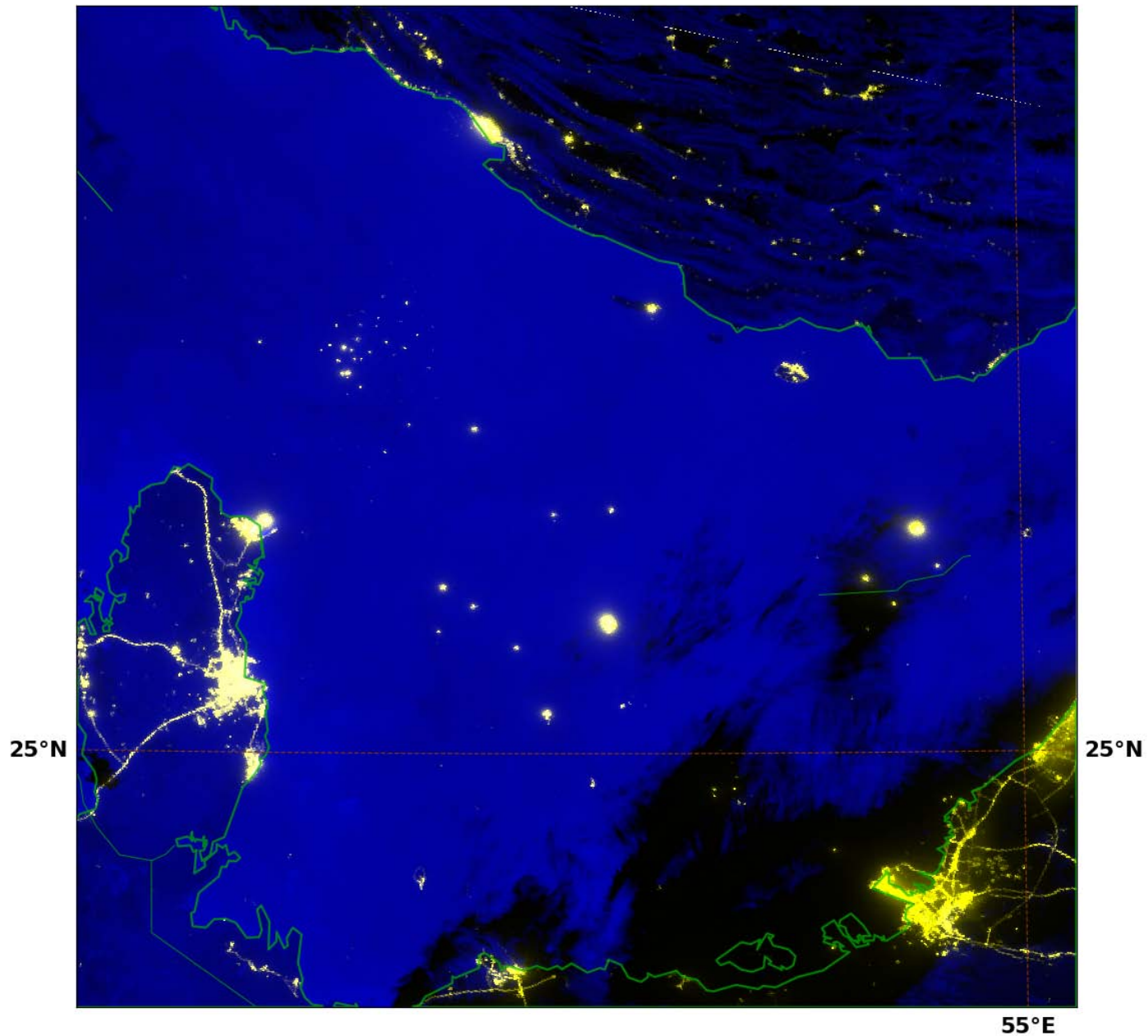
55°E





NPP VIIRS pointsources 2012/04/17 22:24:58Z NRL-Monterey

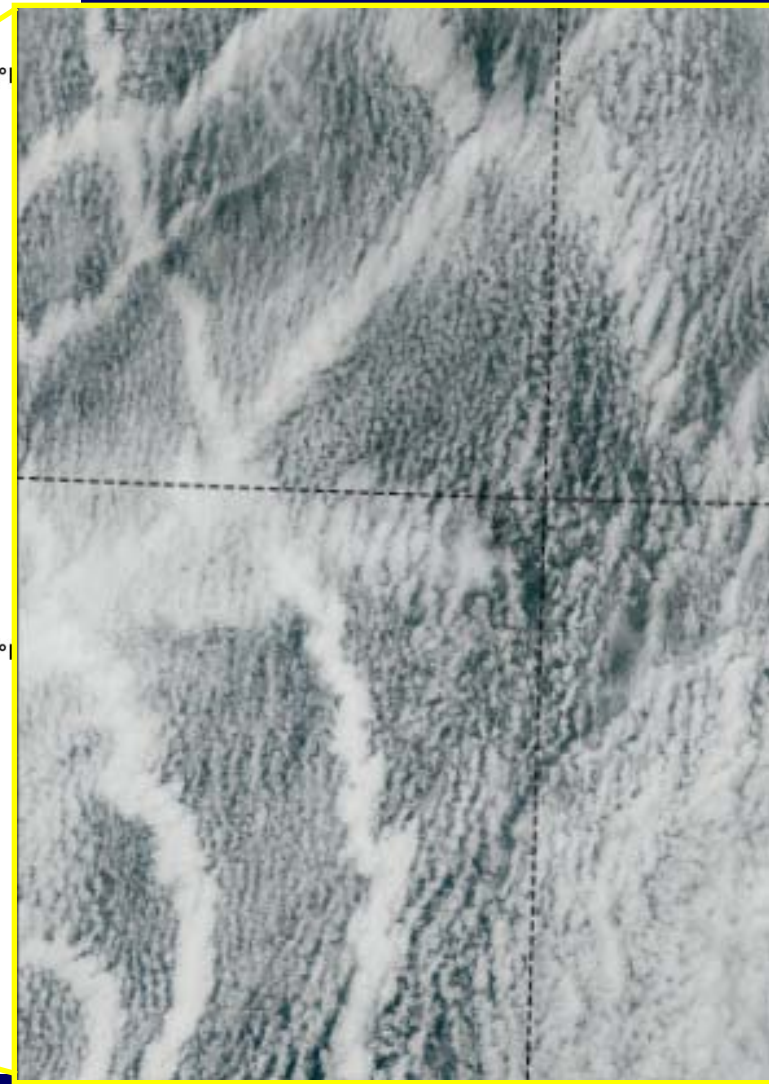
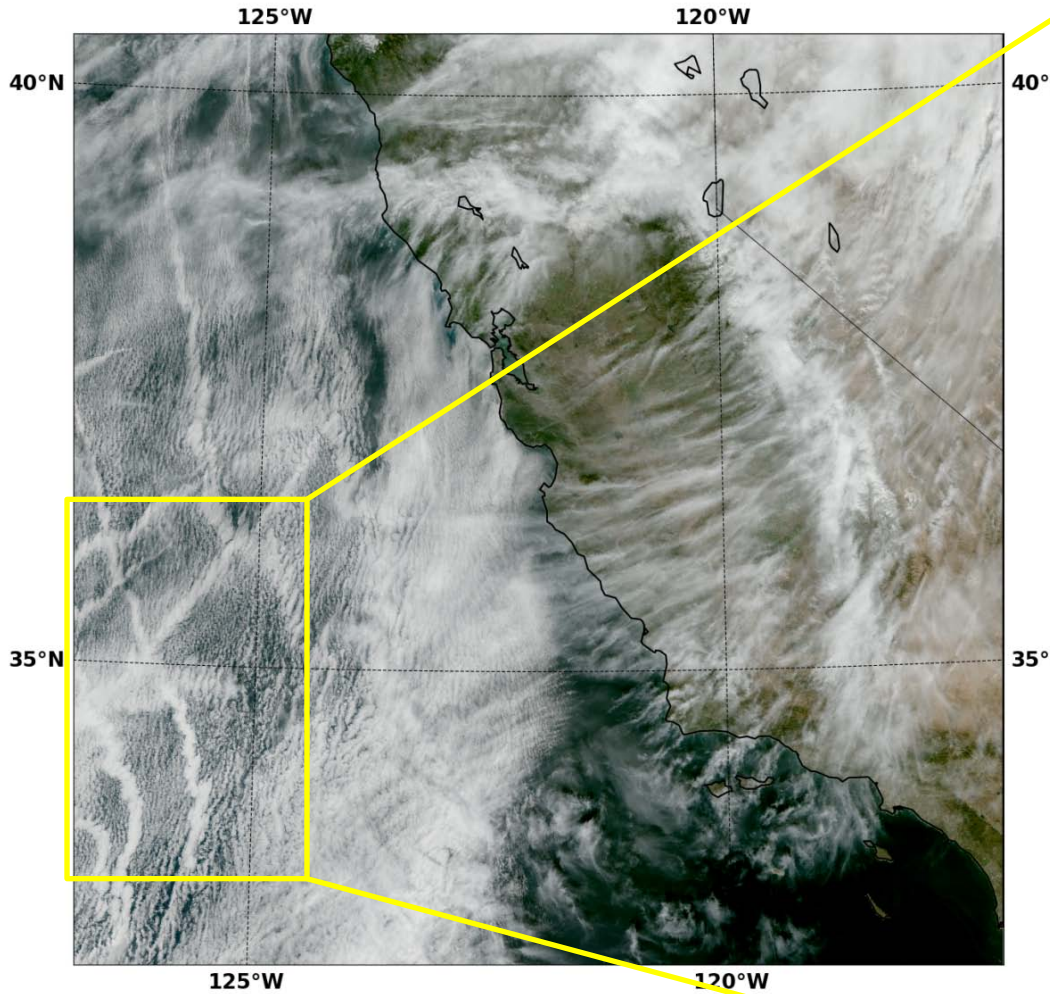
55°E





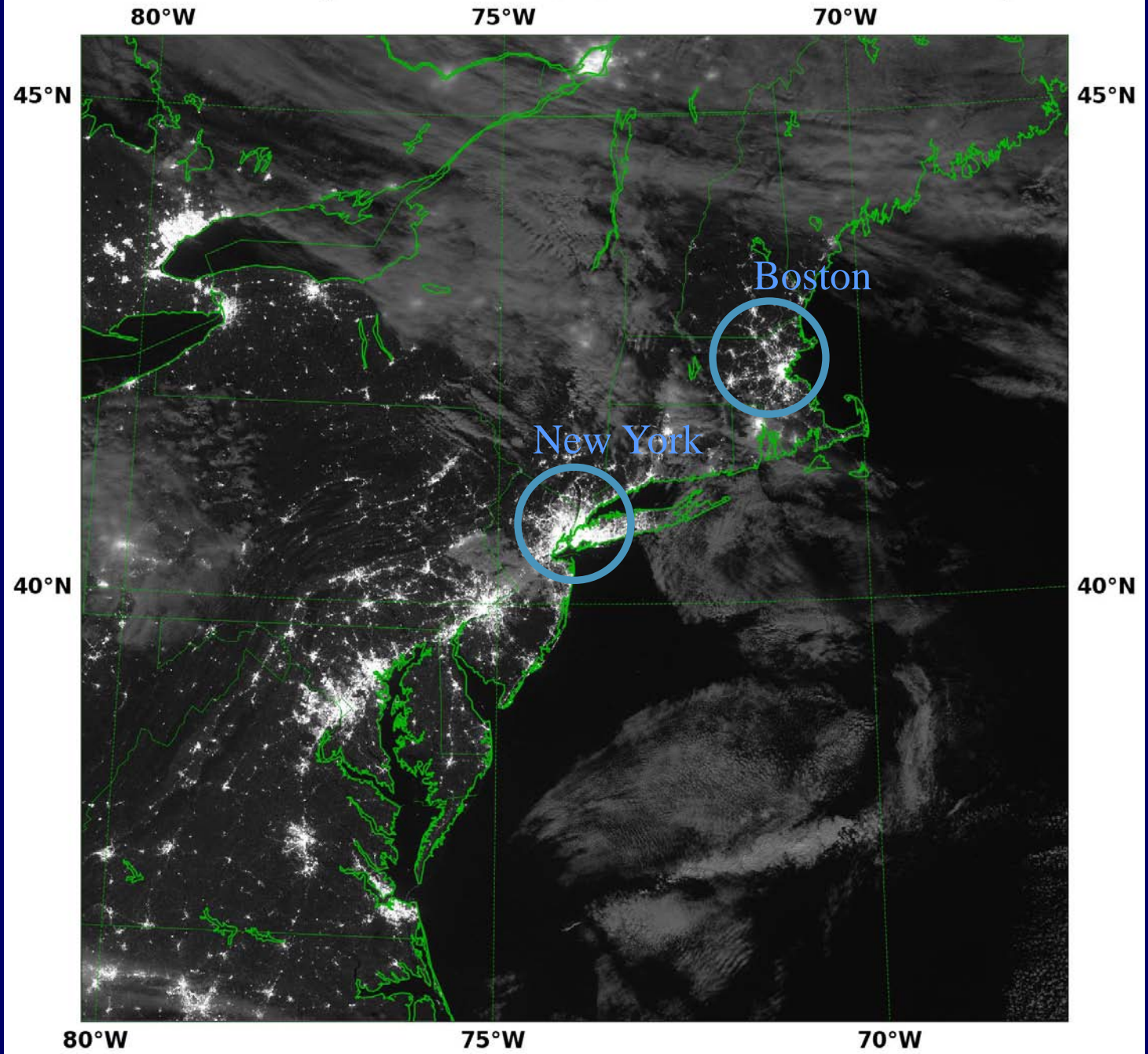
Ship Tracks over East Pacific

NPP VIIRS True-Color 2012/02/21 21:00:56Z NRL-Monterey



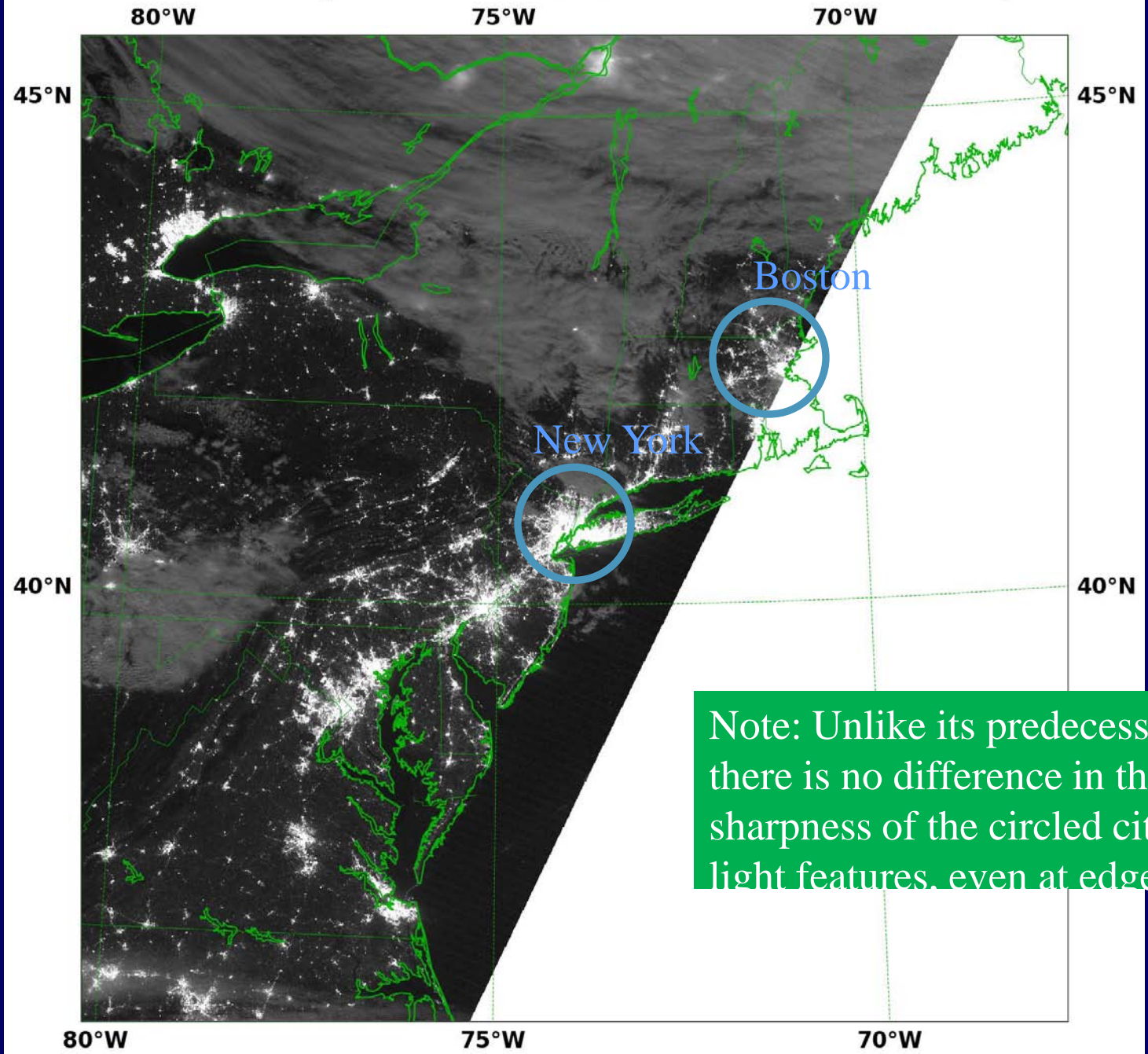


NPP VIIRS Night-Visible 2012/04/09 06:16:51Z NRL-Monterey





NPP VIIRS Night-Visible 2012/04/09 07:56:26Z NRL-Monterey

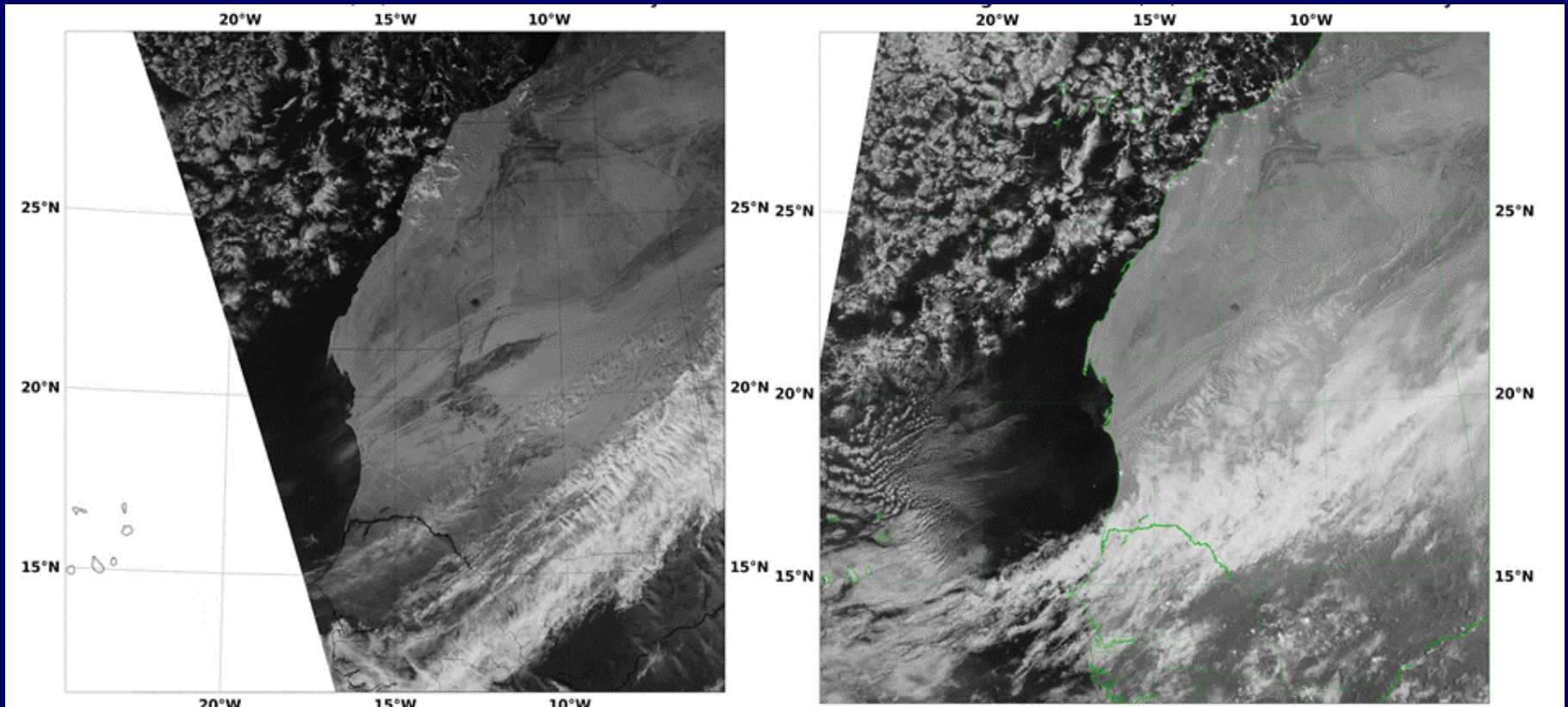


Note: Unlike its predecessors, there is no difference in the sharpness of the circled city night light features, even at edge of



DNB of Africa

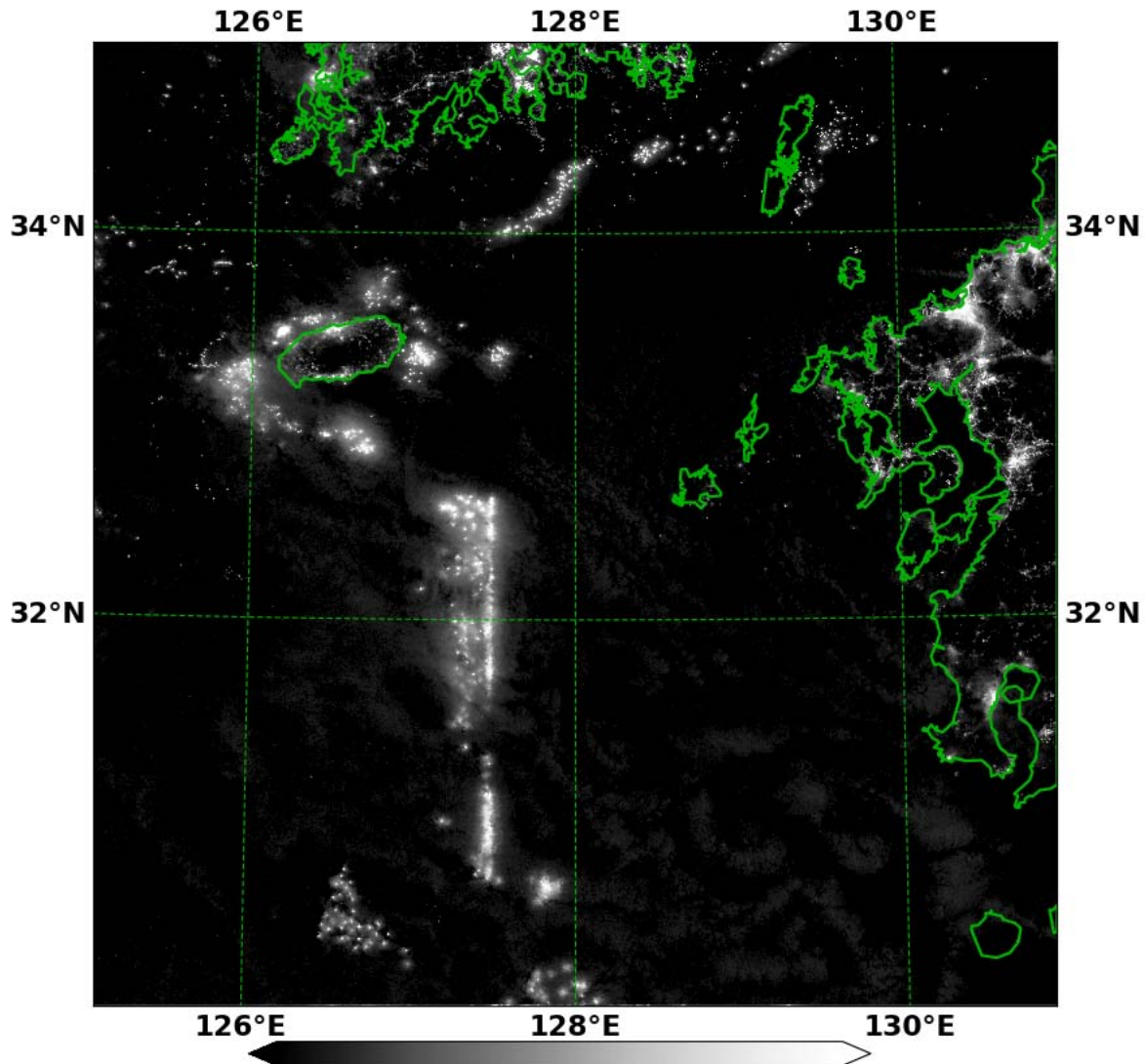
Which is Day, which is Night?





Tracking Fishing Fleets @ Night

NPP VIIRS Night-Visible 2012/11/07 16:52:34Z
NRL-Monterey



Fishery
boundary
between
Japan-China
waters



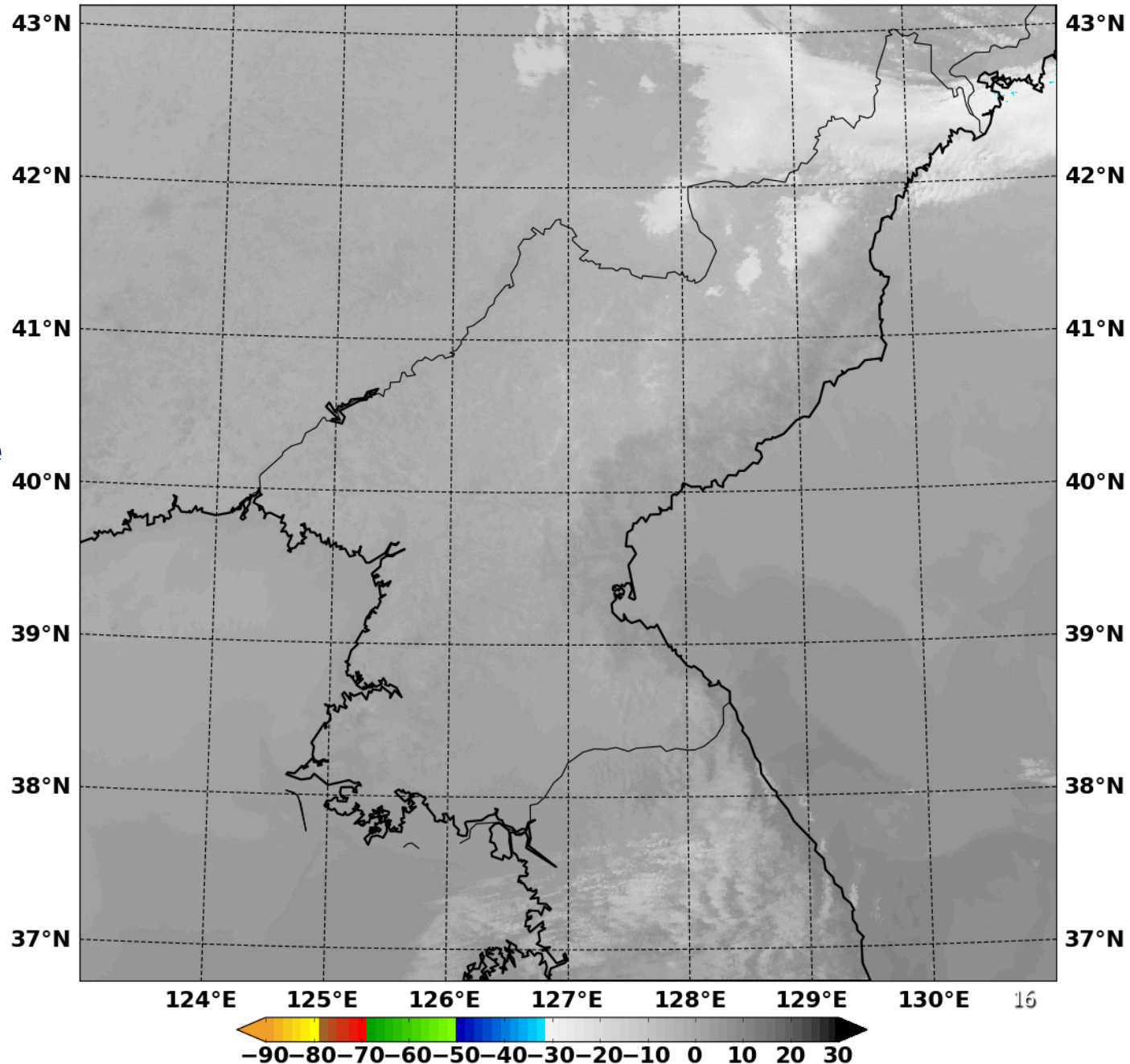
NPP VIIRS Infrared 2012/04/08 16:46:02Z NRL-Monterey

124°E 125°E 126°E 127°E 128°E 129°E 130°E

VIIRS IR 0146 Local

Poorly resolves
low clouds/fog due
to small thermal
separation with
background

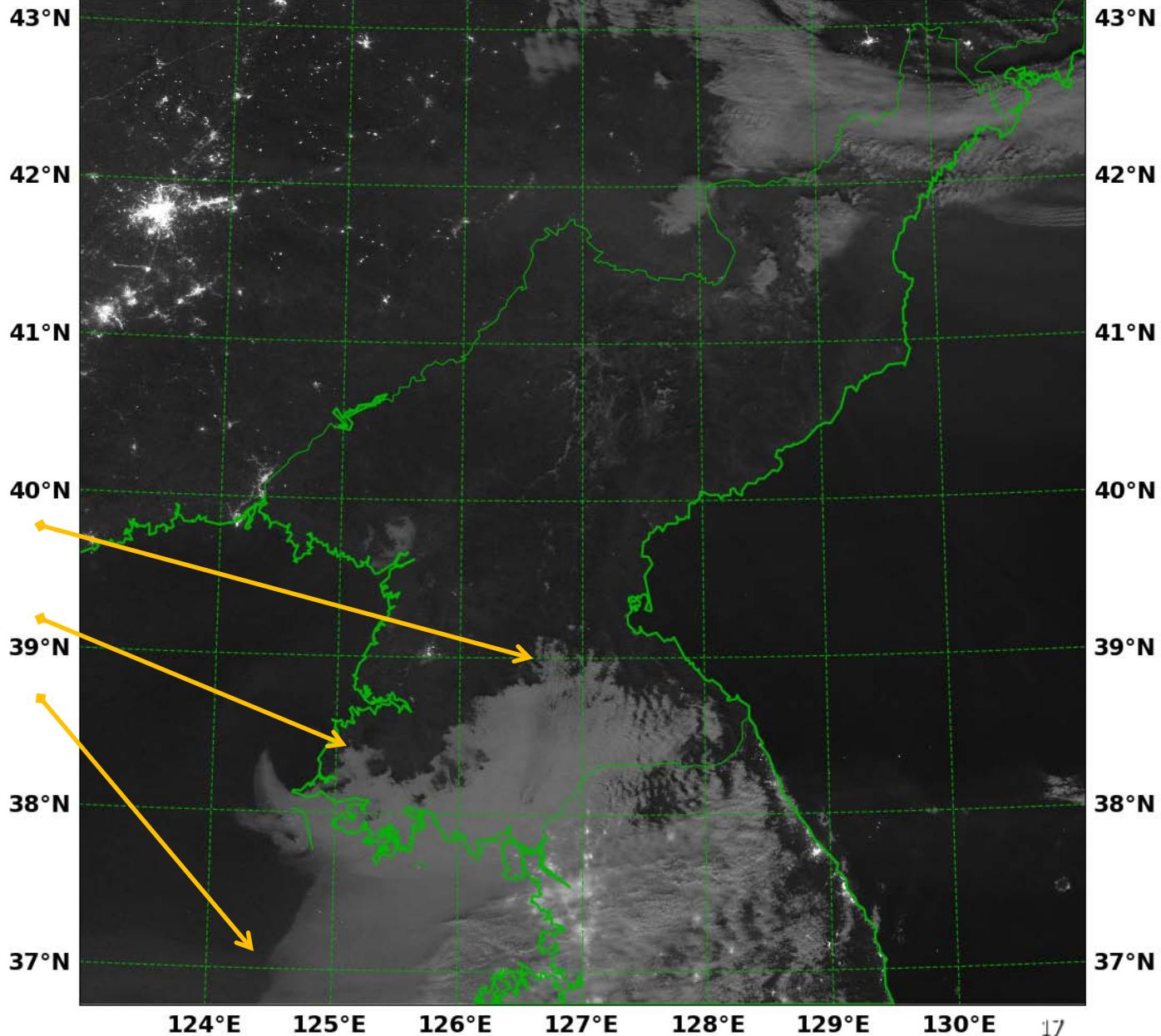
Are there any low
clouds in this
scene?





NPP VIIRS Night-Visible 2012/04/08 16:46:02Z NRL-Monterey

124°E 125°E 126°E 127°E 128°E 129°E 130°E



**VIIRS Day Night
Band
0146 Local**

**Low clouds/fog
extend offshore into
northern portions of
S. Korea & southern
portions of N. Korea**

City lights - white

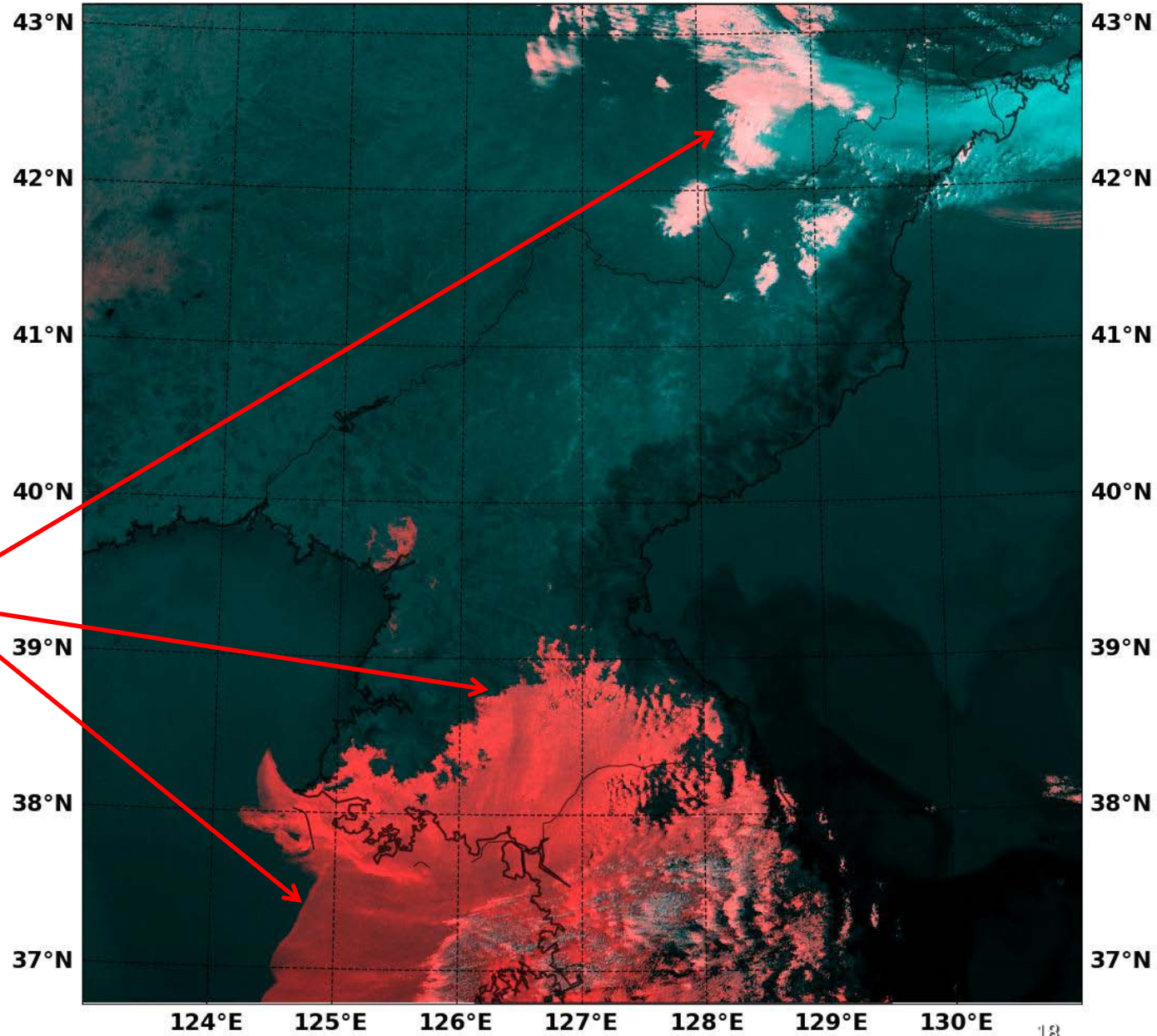
124°E 125°E 126°E 127°E 128°E 129°E 130°E 17

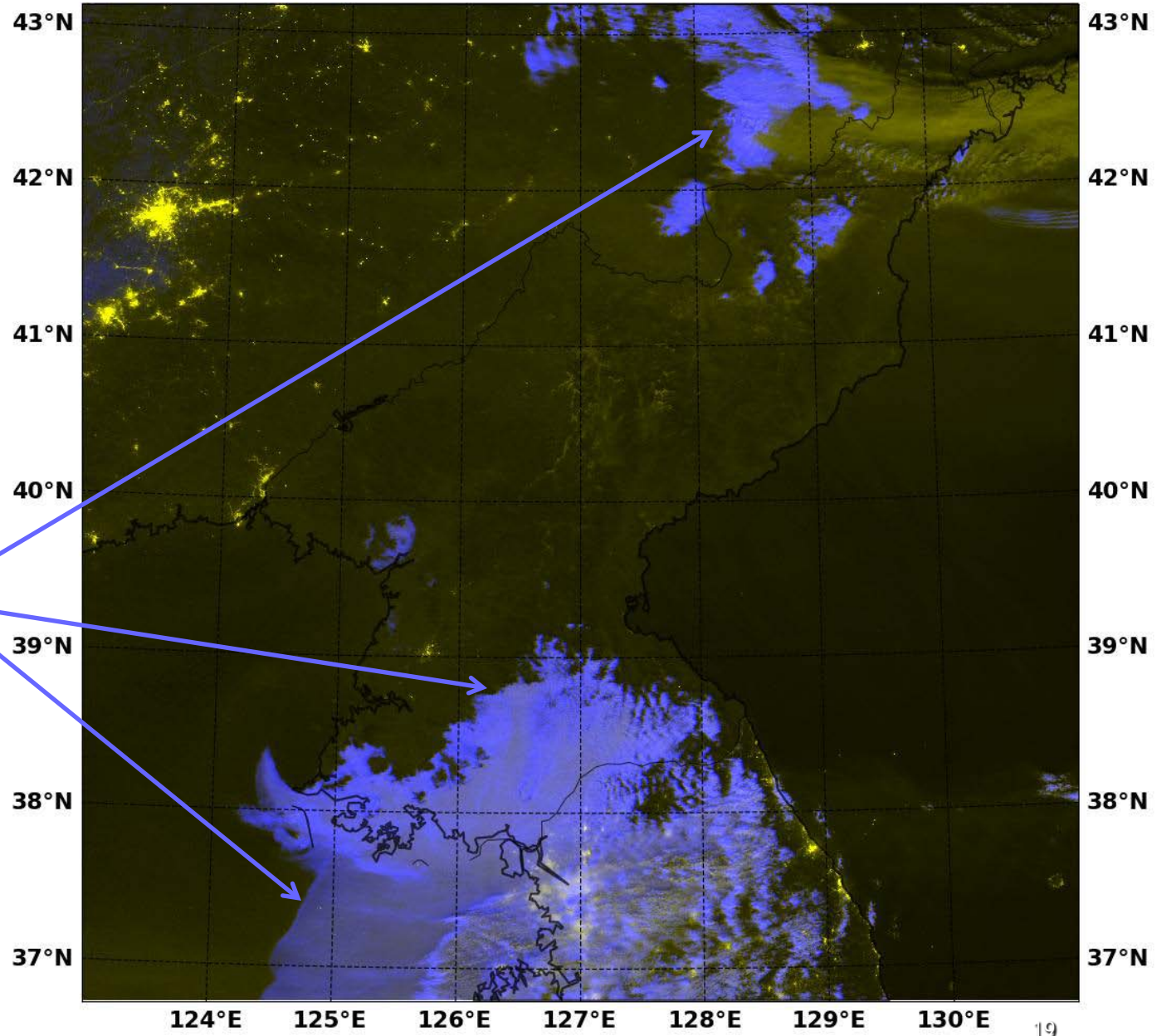




VIIRS IR 0146 Local

Multi-spectral
imagery enables
cloud layer
identification,
low clouds = red,
high clouds = cyan





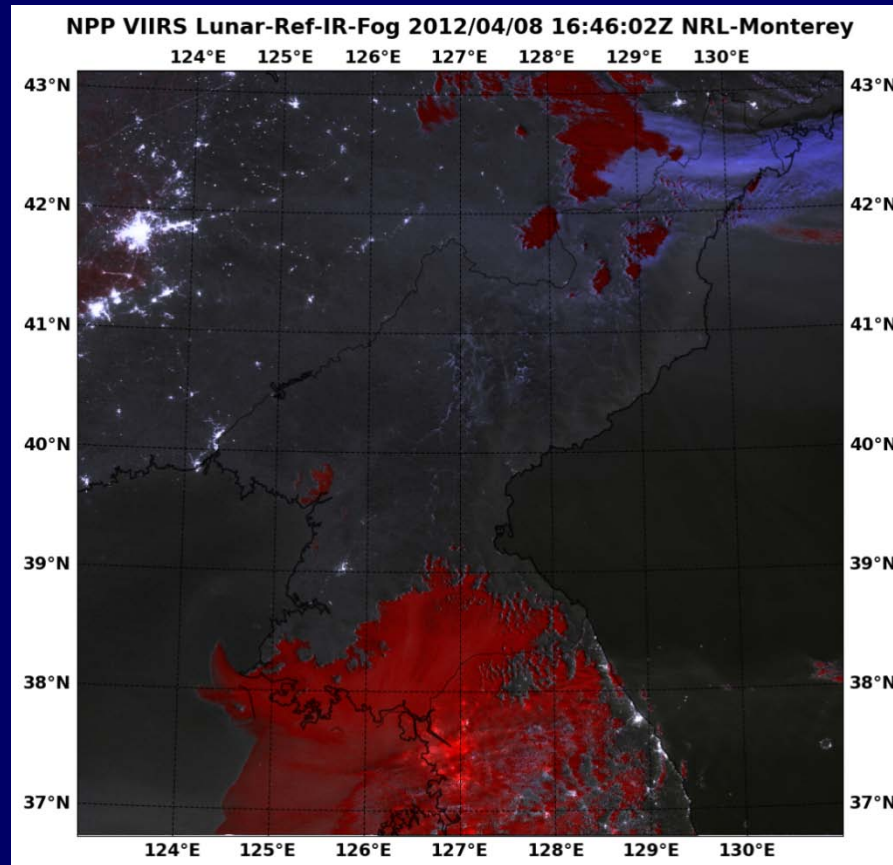
**VIIRS DNB+IR
0146 Local**

**Multi-spectral
imagery enables
cloud layer
identification,
low clouds = cyan,
high clouds = yellow**

City lights = yellow



Fog Detection





Oceanic Features via VIIRS

NPP VIIRS True-Color 2012/04/25 17:39:53Z NRL-Monterey

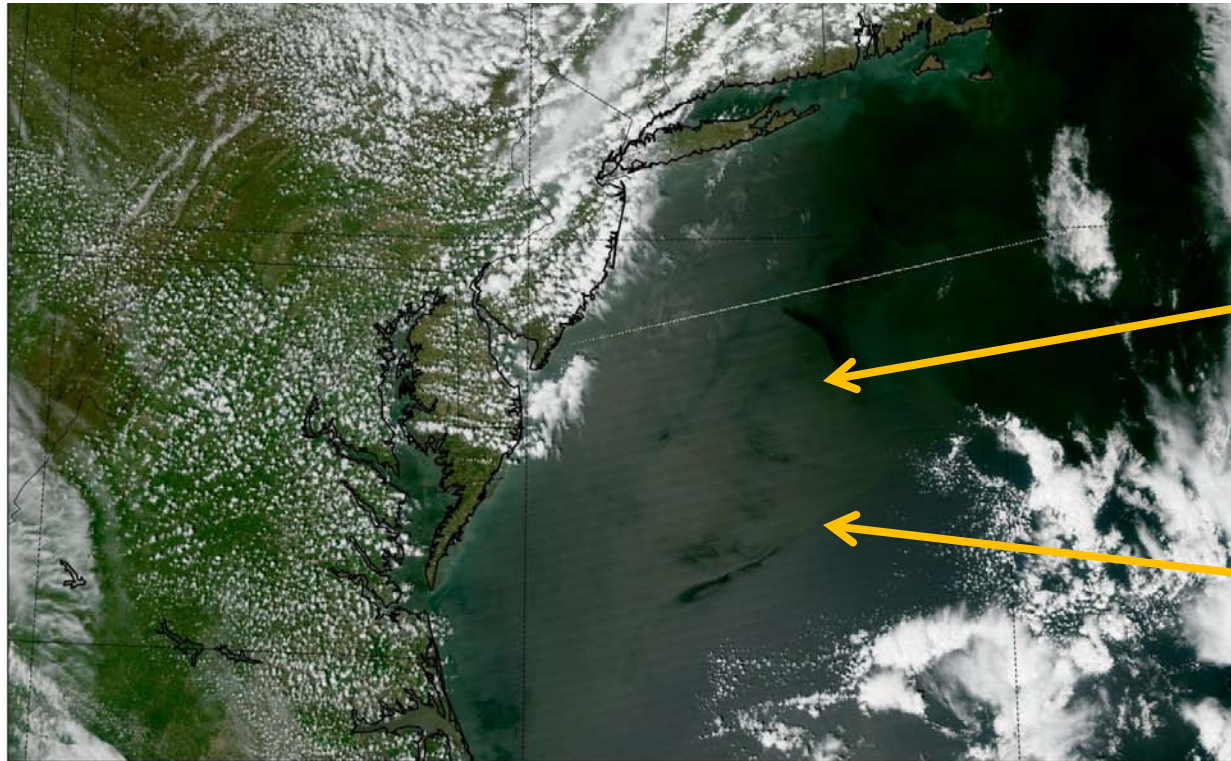
80°W

75°W

70°W

40°N

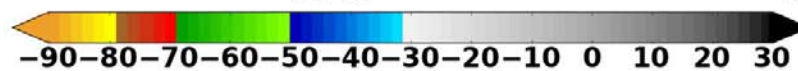
40°N



80°W

75°W

70°W

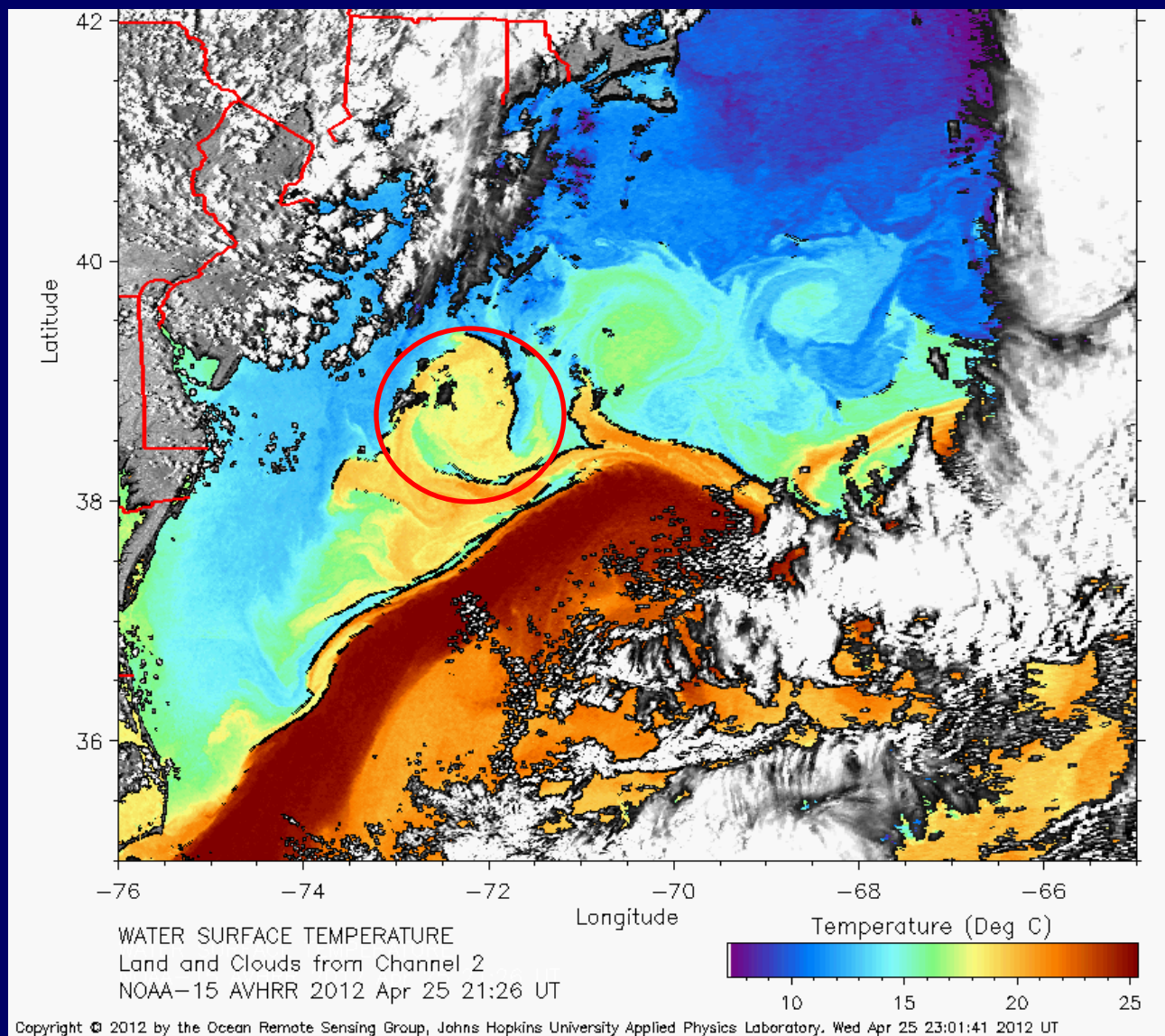


Warm Eddy

Gulf Stream North Wall

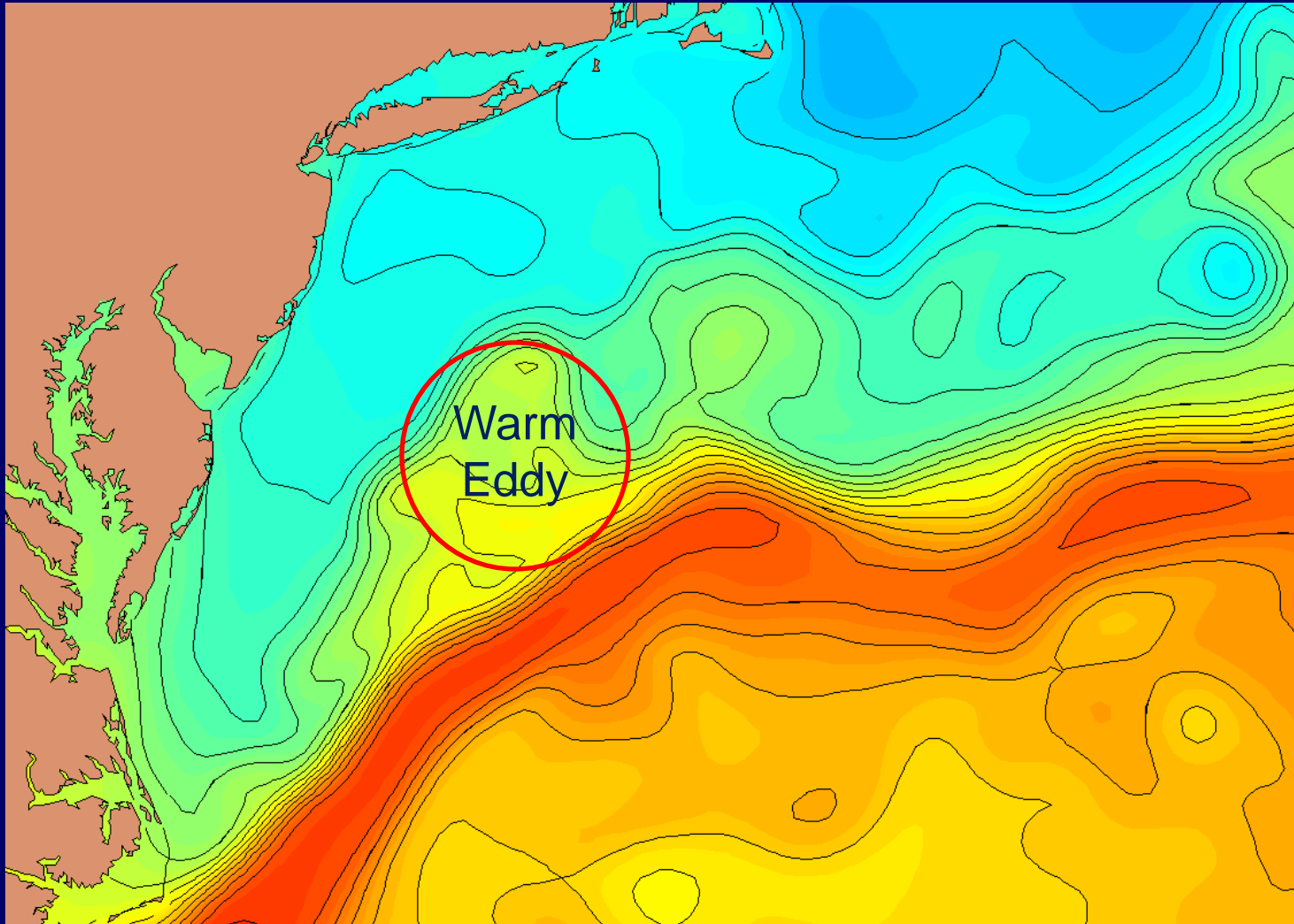


Oceanic Features via VIIRS





Oceanic Features via VIIRS



NCODA SST Analysis: 4-25-2012

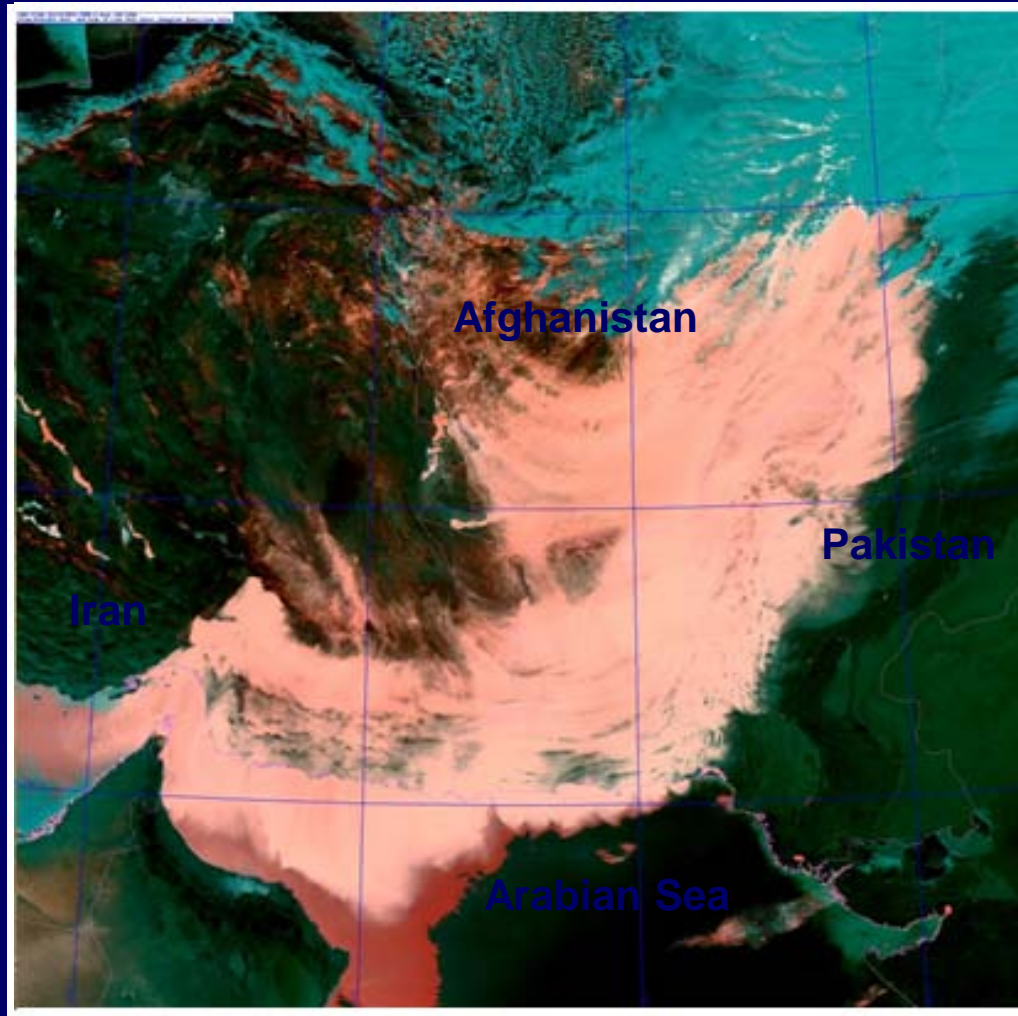


Achieving Readiness for NPP/JPSS

Accomplishments/Achievements

Southwest Asia 19 Mar 2012 0900Z

Suomi NPP
launched
28 Oct 2011



Advanced development of MODIS dust algorithm in this project allowed for rapid development of VIIRS algorithm in current 6.4 work unit.

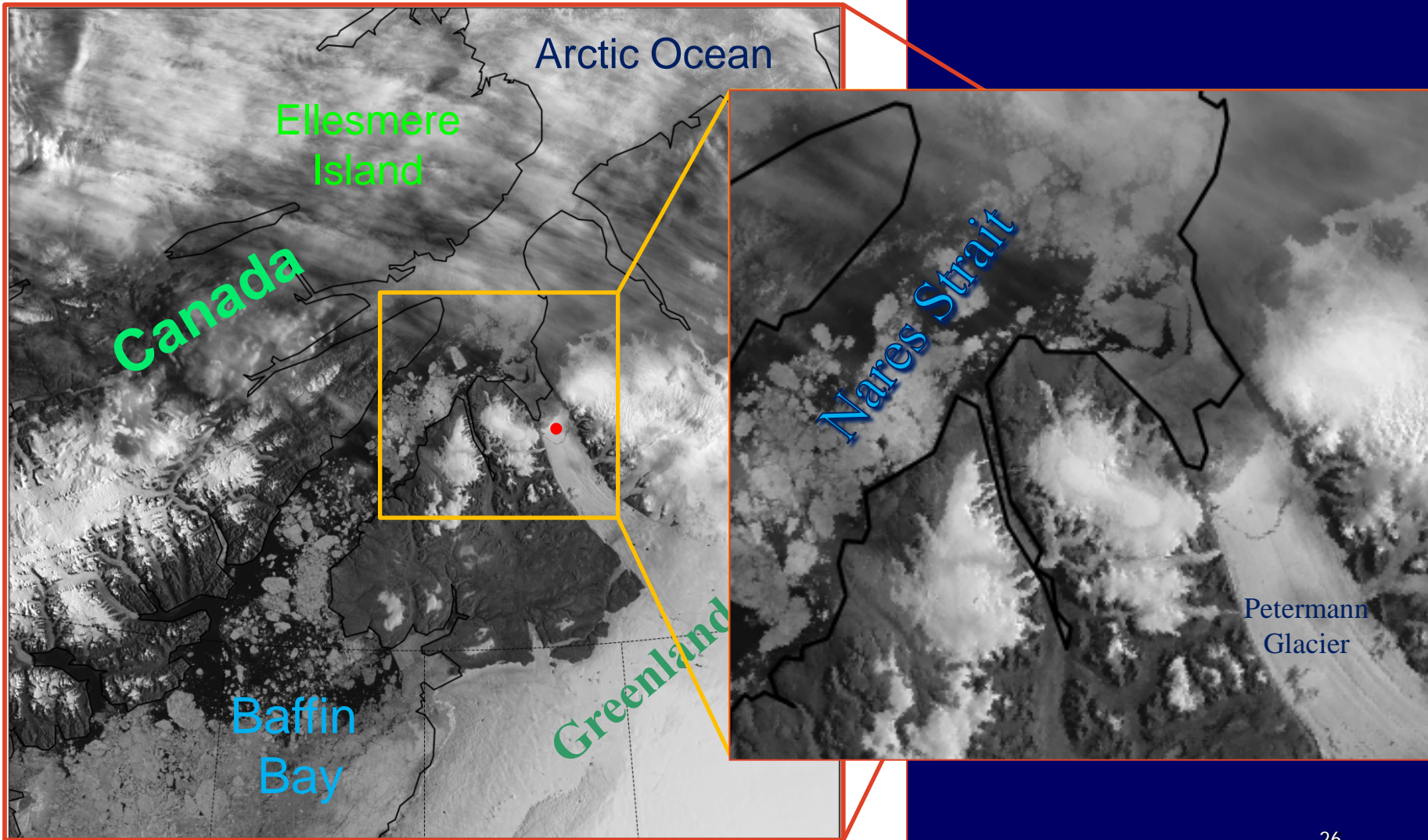
NRL Dust Enhancement SA Application NPP VIIRS Data



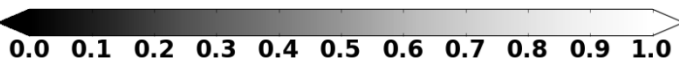
Suomi-NPP VIIRS Monitoring of Petermann Glacier “Calving” Event Initial break

NPP VIIRS Visible-Hires 2012/07/16 10:29:09Z NRL-Monterey

70°W 65°W 60°W



70°W 65°W 60°W





Tracking an Iceberg: Northwest Greenland



July 16 through August 15, 2012
VIIRS Visible (0.37 km)

NPP VIIRS Visible-Hires 2012/07/16 10:29:09Z NRL-Monterey

70°W 65°W 60°W

