



NOAA ESPDS – NDE

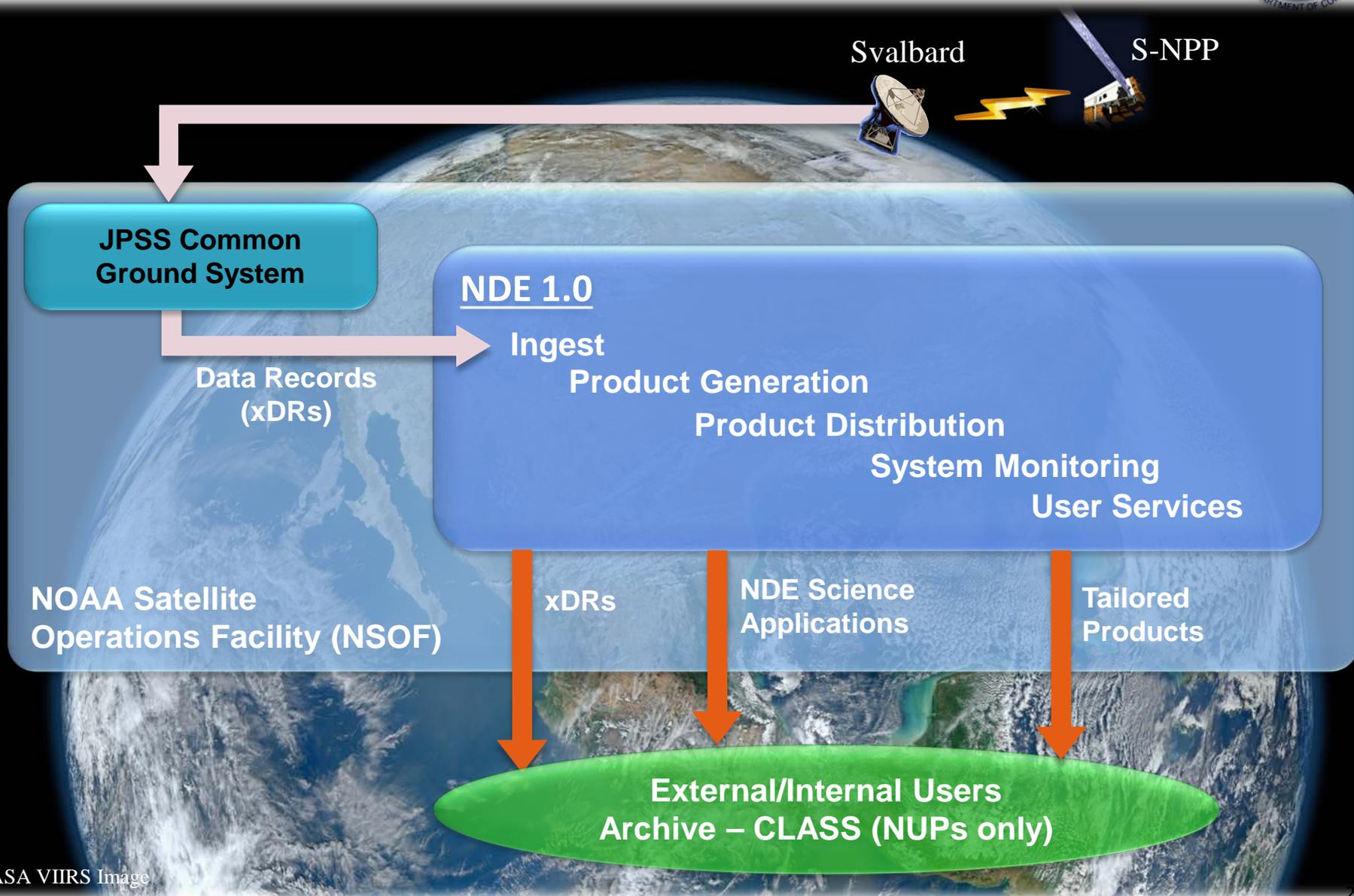
An Operational Enterprise Ground Solution
for S-NPP and Beyond

2015 AMS Annual Meeting

Dylan Powell, Ph.D.
Lockheed Martin
ESPDS-NDE Development Science Engineer
dylan.powell@noaa.gov
Office Phone: () -

Peter MacHarrie, Solers Inc.
Dan Beall, Solers Inc.
Jamison Hawkins, Lockheed Martin

NDE 1.0 Operational in June 2014



NDE 1.0 Operations

30 Day Performance (December 2014)



Ingest	
Ingested Data	103 TB (4,904,851 files)
Product Generation	
Number of Production Jobs	1,510,997
Generated Data	25.1 TB (2,815,623 files)
Production Job Success Rate	99.992%
Product Distribution	
Distributed Data	28.8 TB (4,481,362 files)
Distribution Job Success Rate	99.947%
Subscription Based Services	
Number of Users	29
Number of Subscriptions (active)	254





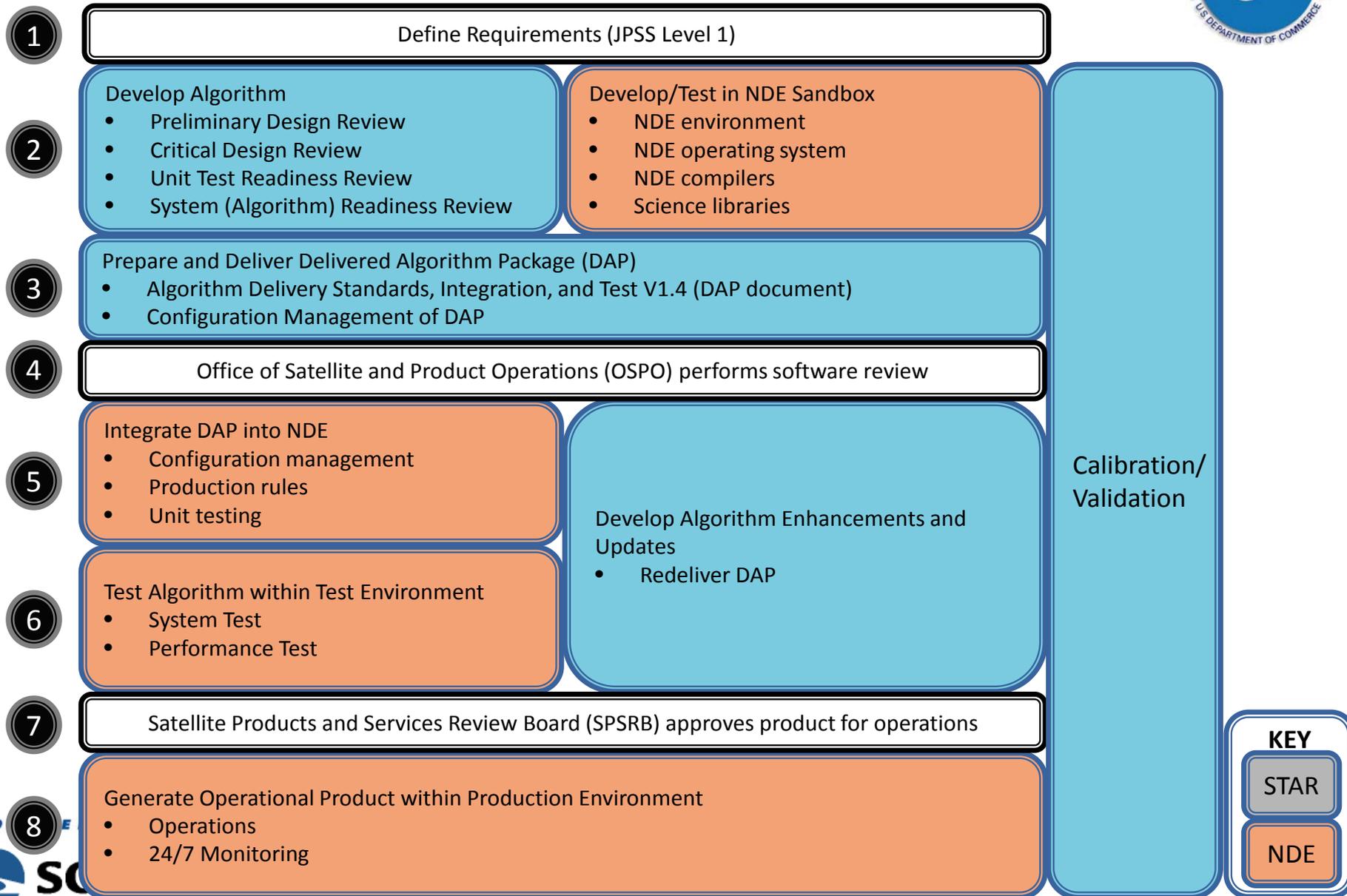
ESPDS NDE Product Generation

- ▶ Process for algorithm development and transition from STAR is mature
- ▶ Well defined and simple interface for algorithm integration allowing for repeatable process and small integration team
- ▶ Easily scalable (just add processors) and highly available (all algorithms are deployed to multiple processors)
- ▶ Allows for processing of any satellite data
 - Data driven (no schedules)
 - Define inputs/outputs
 - Define parameters (flags, static ancillary data, etc.)

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 **SOLERS**
An Employee Owned Company

NDE Algorithm Development



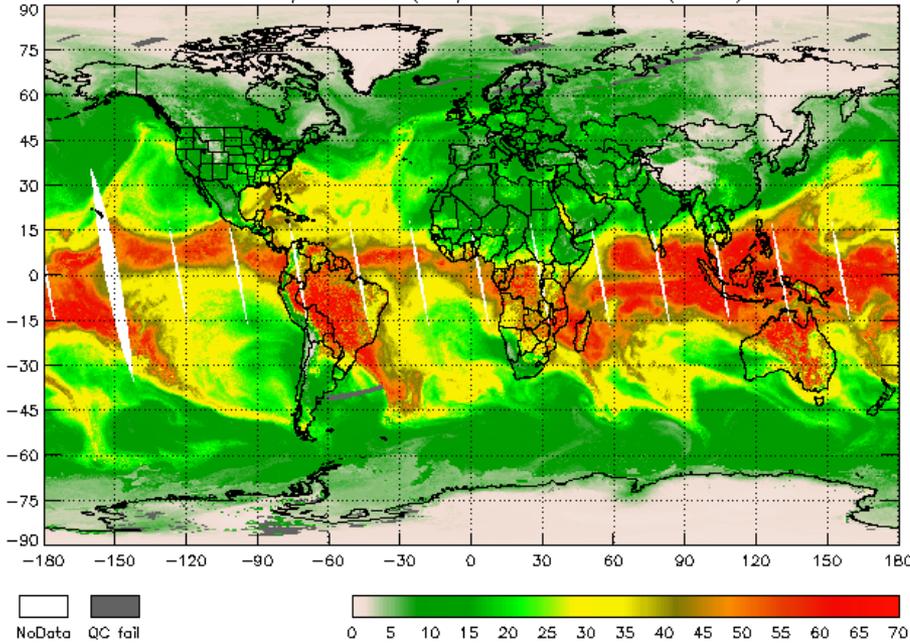
NDE Product Generation

Operational Science Applications



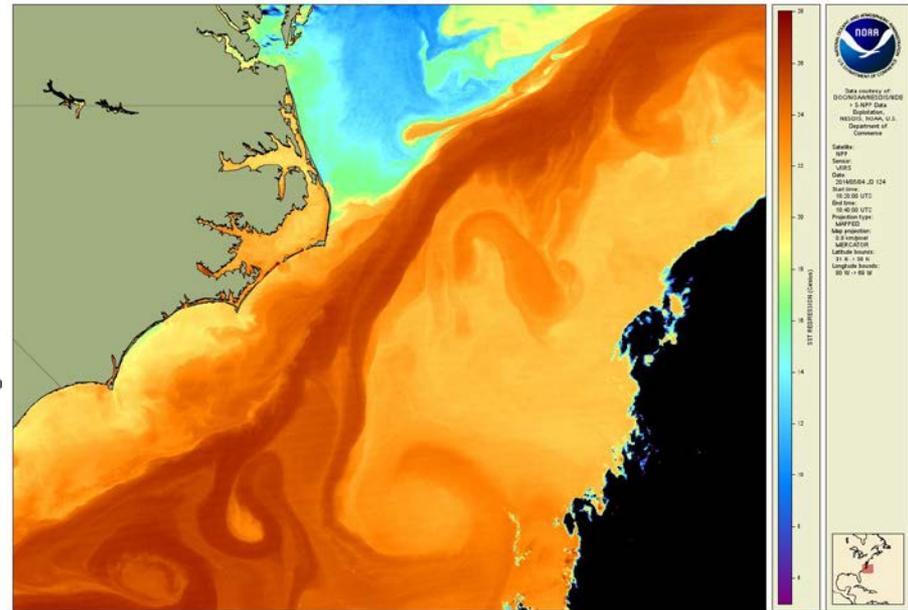
Total Precipitable Water

MIRS NPP/ATMS TPW (mm) 2014-12-22 Asc (V3259)



Microwave Integrated Retrieval System (MiRS)

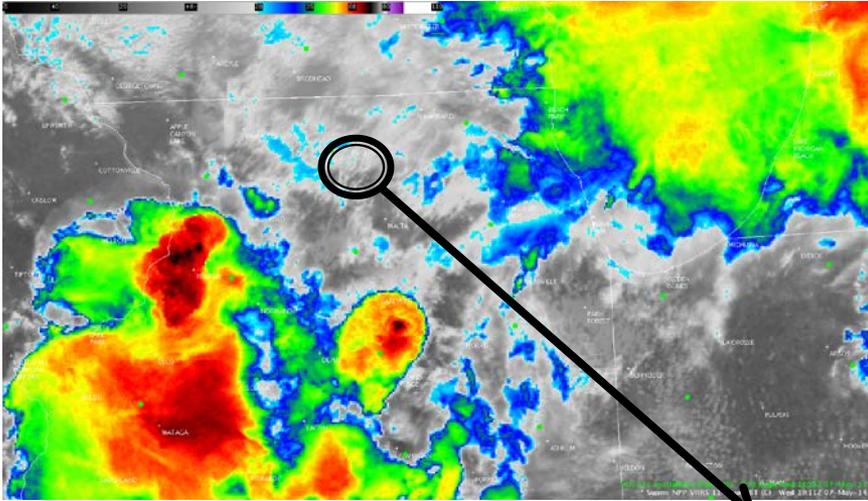
Sea Surface Temperature



Advanced Clear-Sky Processor for Oceans (ACSPO)

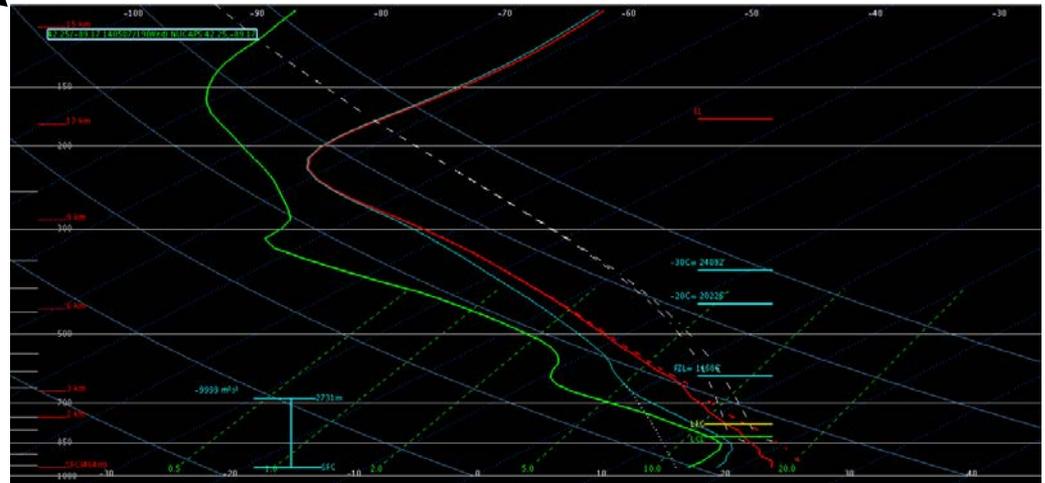
NDE Product Generation

Operational Science Applications



VIIRS IR Image

AWIPS2 NUCAPS Sounding

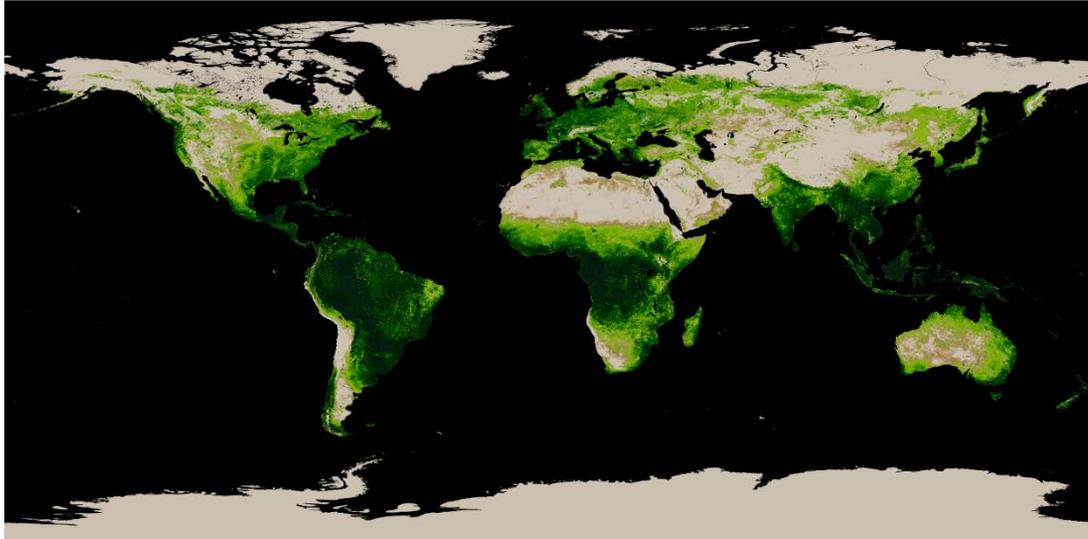


NOAA Unique CrIS/ATMS Processing System (NUCAPS)

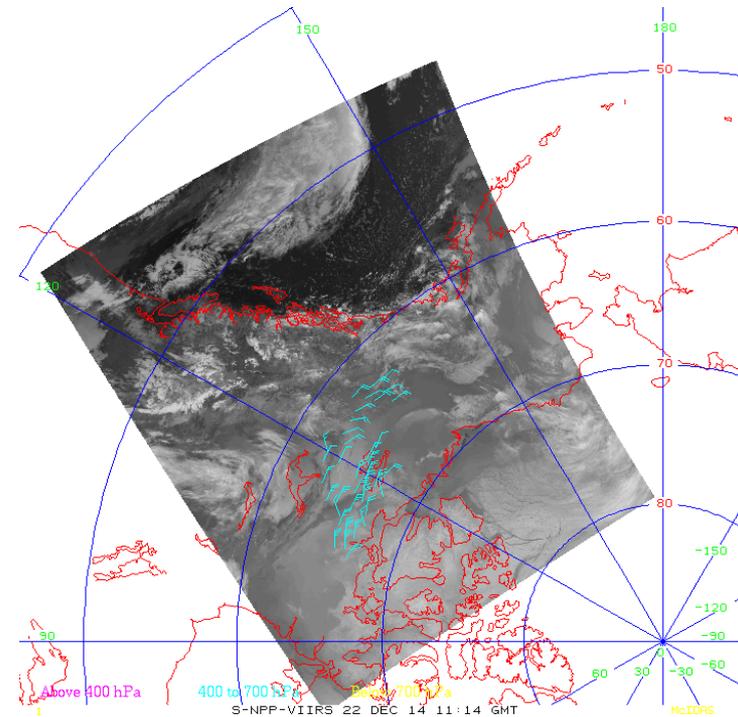


NDE Product Generation

Operational Science Applications



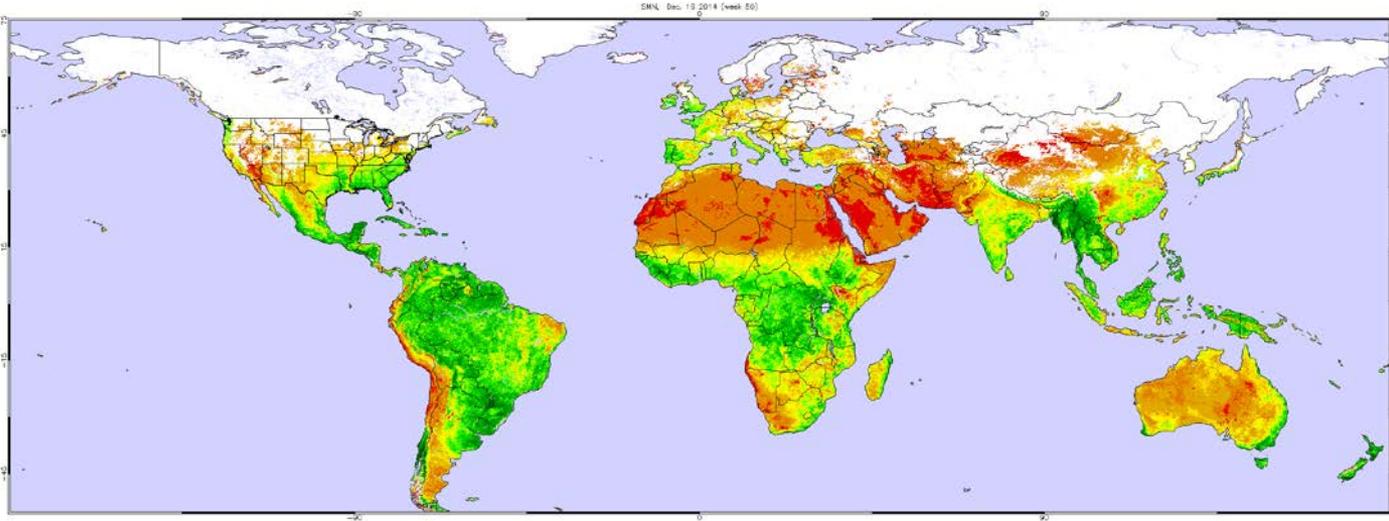
Green Vegetation Fraction (GVF)



VIIRS Polar Winds (VPW)

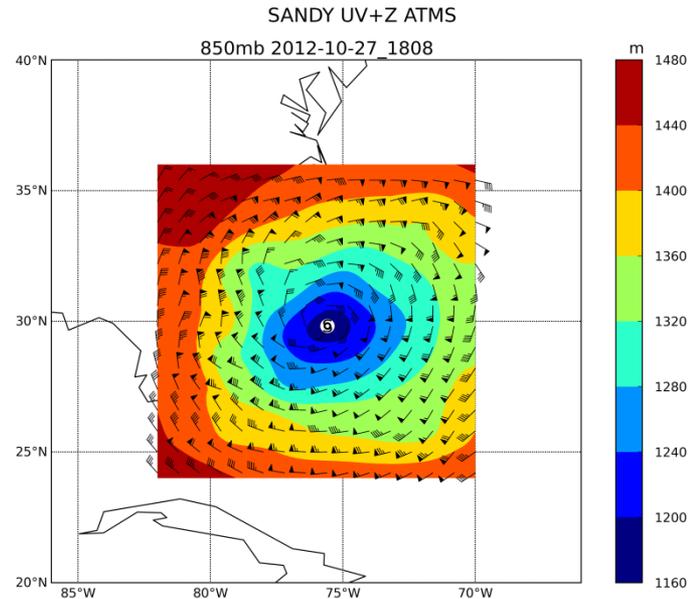
NDE Product Generation

Operational Science Applications



Vegetation Health (VH)

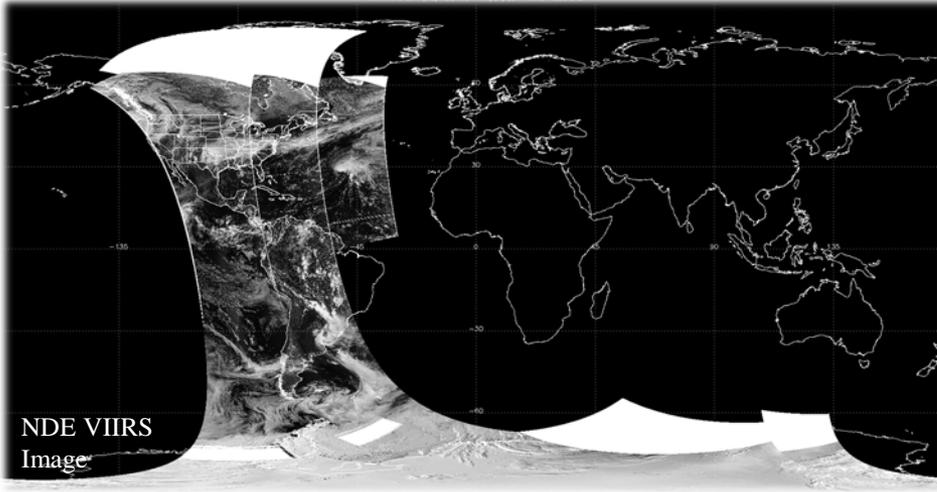
Tropical Cyclones (TC)



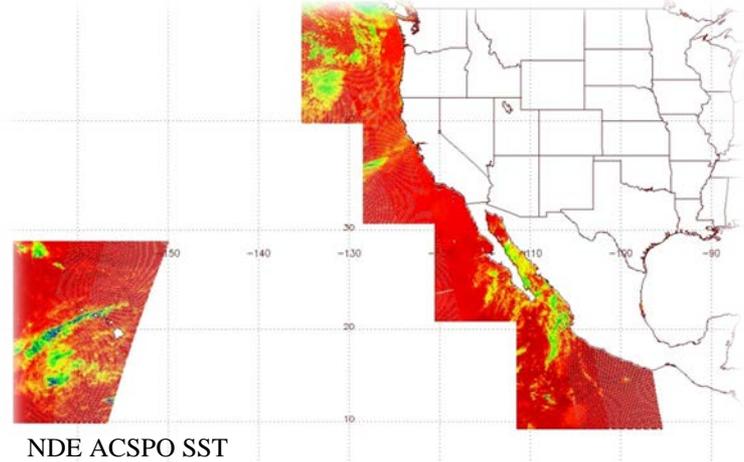
NDE Tailoring



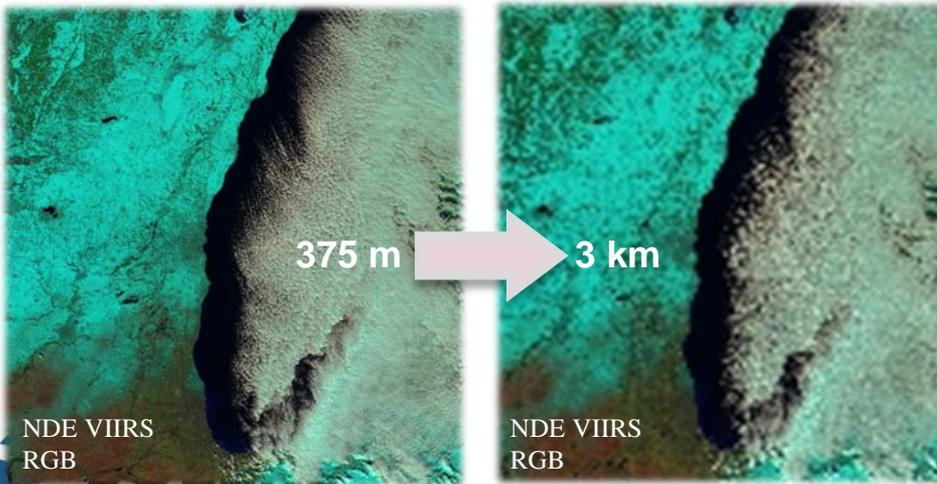
Aggregation



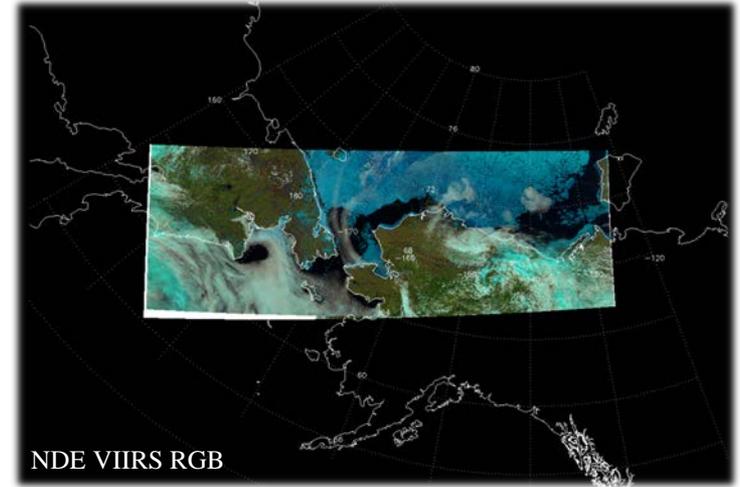
Filtering



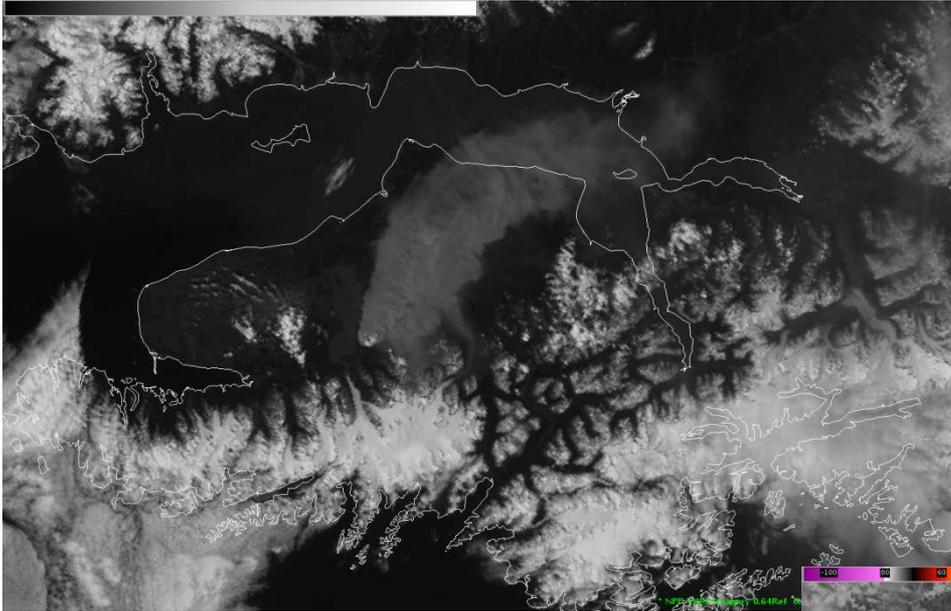
Resample



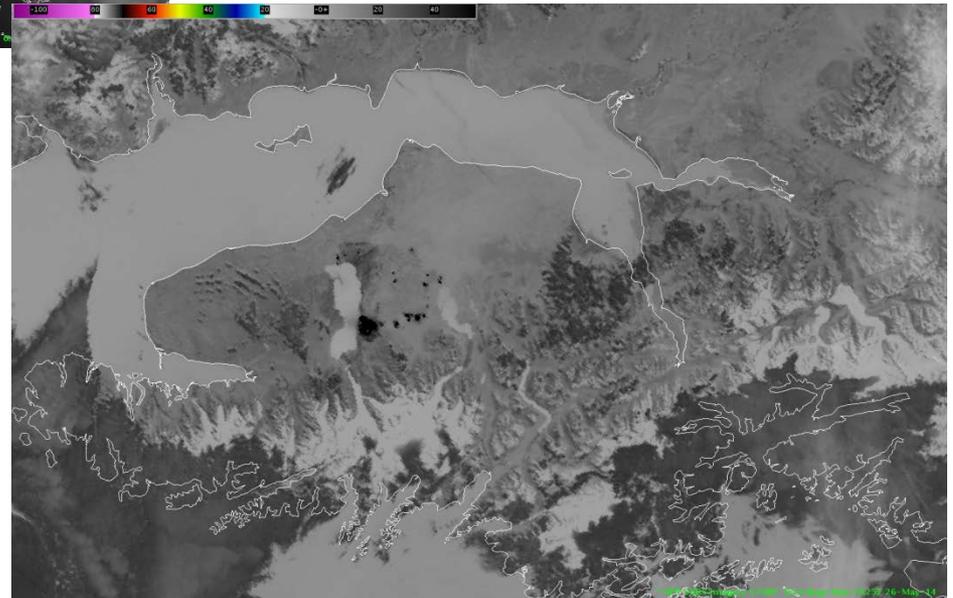
Remapping



NDE Tailoring – NWS AWIPS Alaska Region

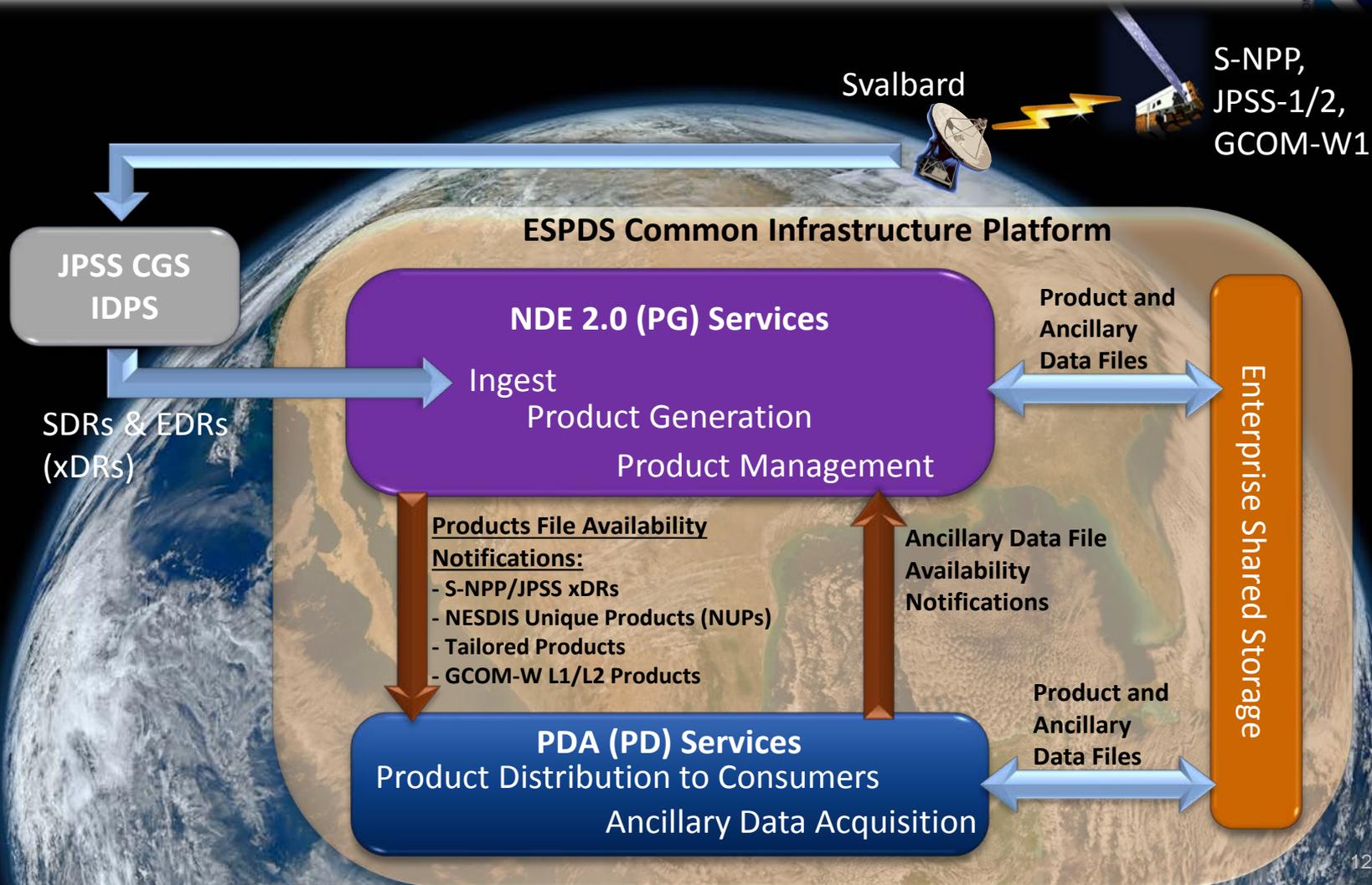


Funny River Fire, Alaska
VIIRS I1 (Visible)



VIIRS I3 (Fire)

NDE 2.0 Evolution



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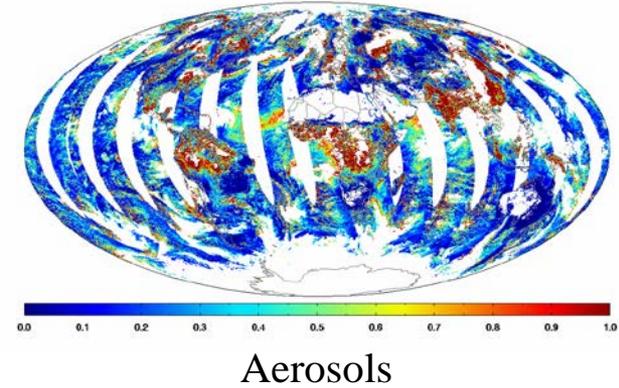
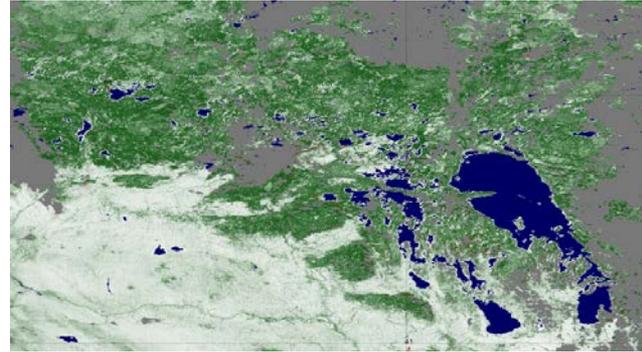
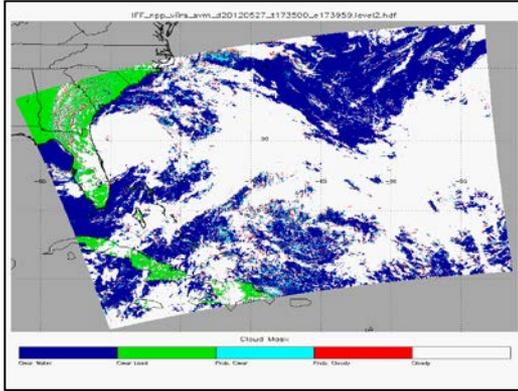
NASA VIIRS Image

NDE 2.0 Product Generation

Operational Science Applications



JPSS Risk Reduction Products



GCOM AMSR2 Products

