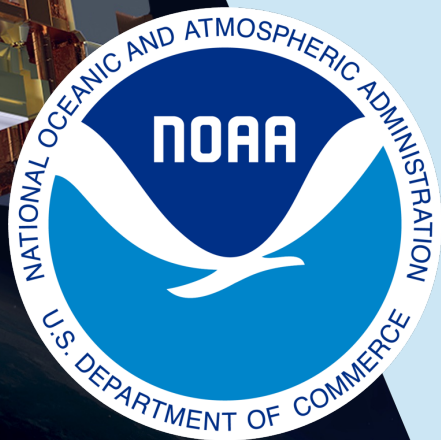




The JPSS Program

Satya Kalluri
Chief Scientist
JPSS

Satya.kalluri@noaa.gov



NOAA
National Environmental Satellite,
Data, and Information Service

SNPP, NOAA20, NOAA21: Final Operational Configuration



Launched into Low Earth Orbit—512 miles

14x Orbits Earth 14 times pole-to-pole with SNPP

2x Images entire globe twice a day



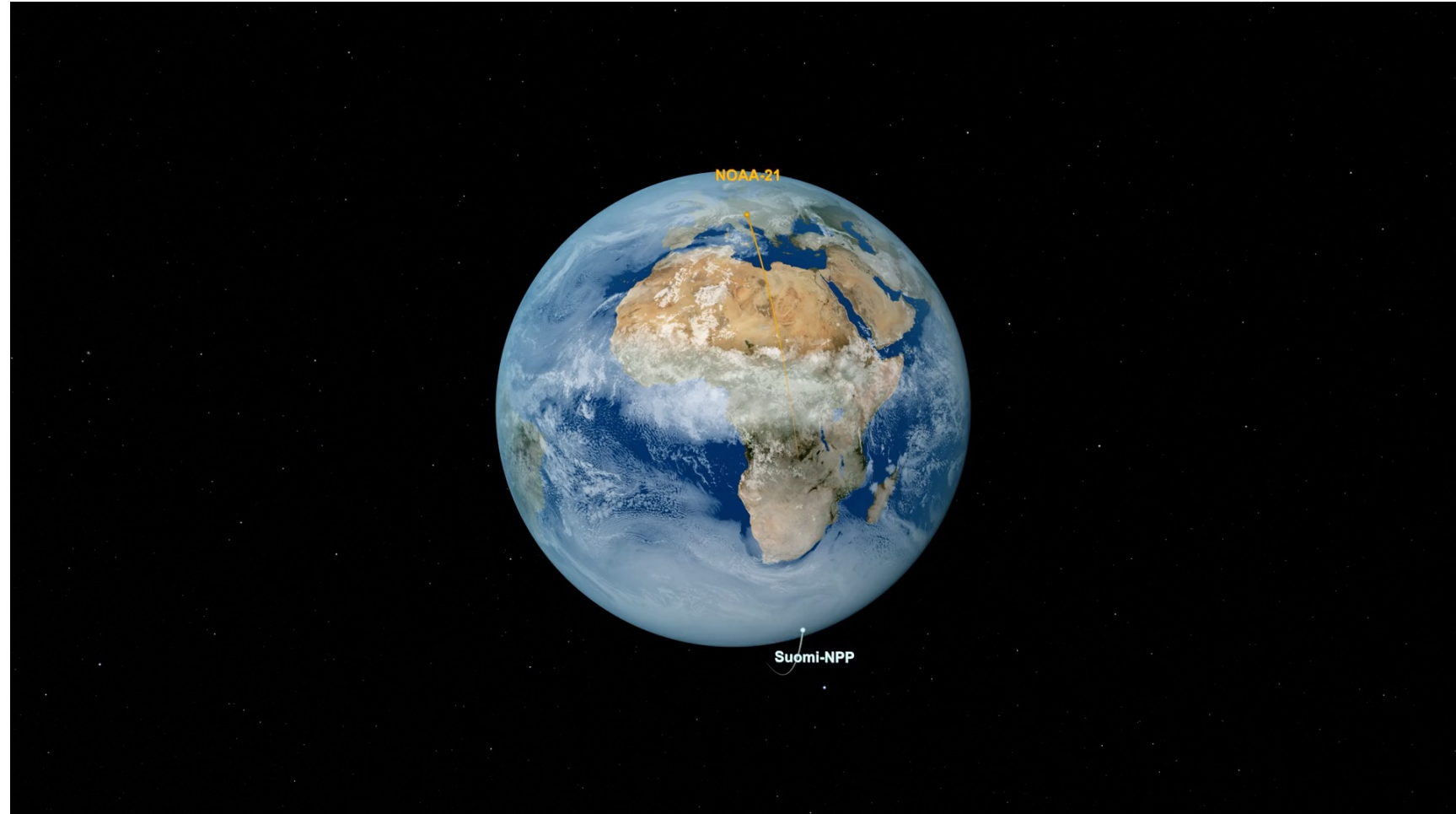
State of the art instrumentation to collect data on Earth's atmosphere, lands, and oceans



Sends more than 2,000 gigabytes of data to Earth every day



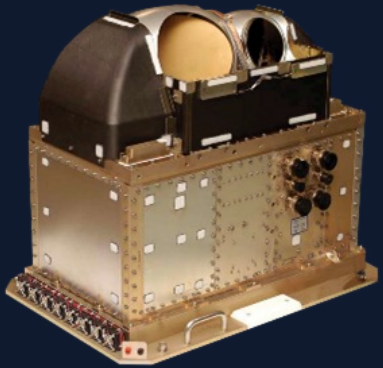
NOAA-20 (previously JPSS-1) flies in the same orbit as Suomi NPP, 50 minutes apart



JPSS-1 and JPSS-2 Instruments

ATMS

Advanced Technology
Microwave Sounder



ATMS and CrIS together provide high vertical resolution temperature and water vapor information needed to maintain and improve forecast skill out to 5 to 7 days in advance for extreme weather events, including hurricanes and severe weather outbreaks.

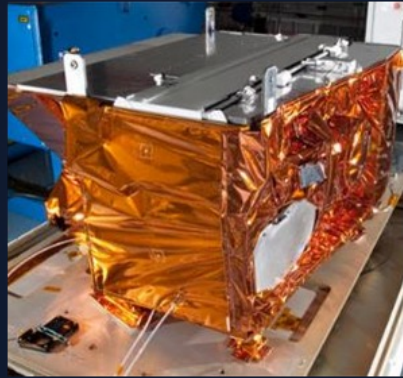
CrIS

Cross-track
Infrared Sounder



VIIRS

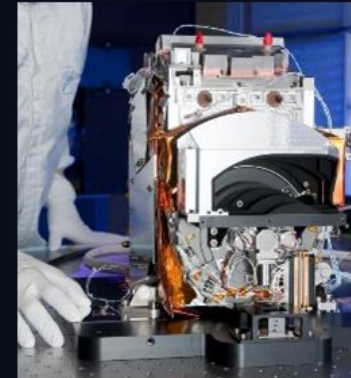
Visible Infrared Imaging
Radiometer Suite



VIIRS provides many critical imagery products including snow/ice cover, clouds, fog, aerosols, fire, smoke plumes, vegetation health, phytoplankton and chlorophyll abundance.

OMPS

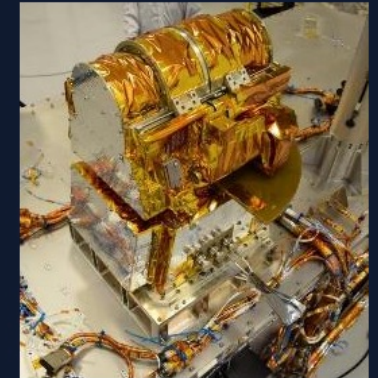
Ozone Mapping and
Profiler Suite



Ozone spectrometers for monitoring ozone hole and recovery of stratospheric ozone and for UV index forecasts.

CERES

Clouds and the Earth's
Radiant Energy System



Scanning radiometer which supports studies of the Earth Radiation Budget (ERB).

**Discontinued after JPSS-1 (NOAA-20)*

NORTHROP GRUMMAN

HARRIS

Raytheon



NORTHROP GRUMMAN

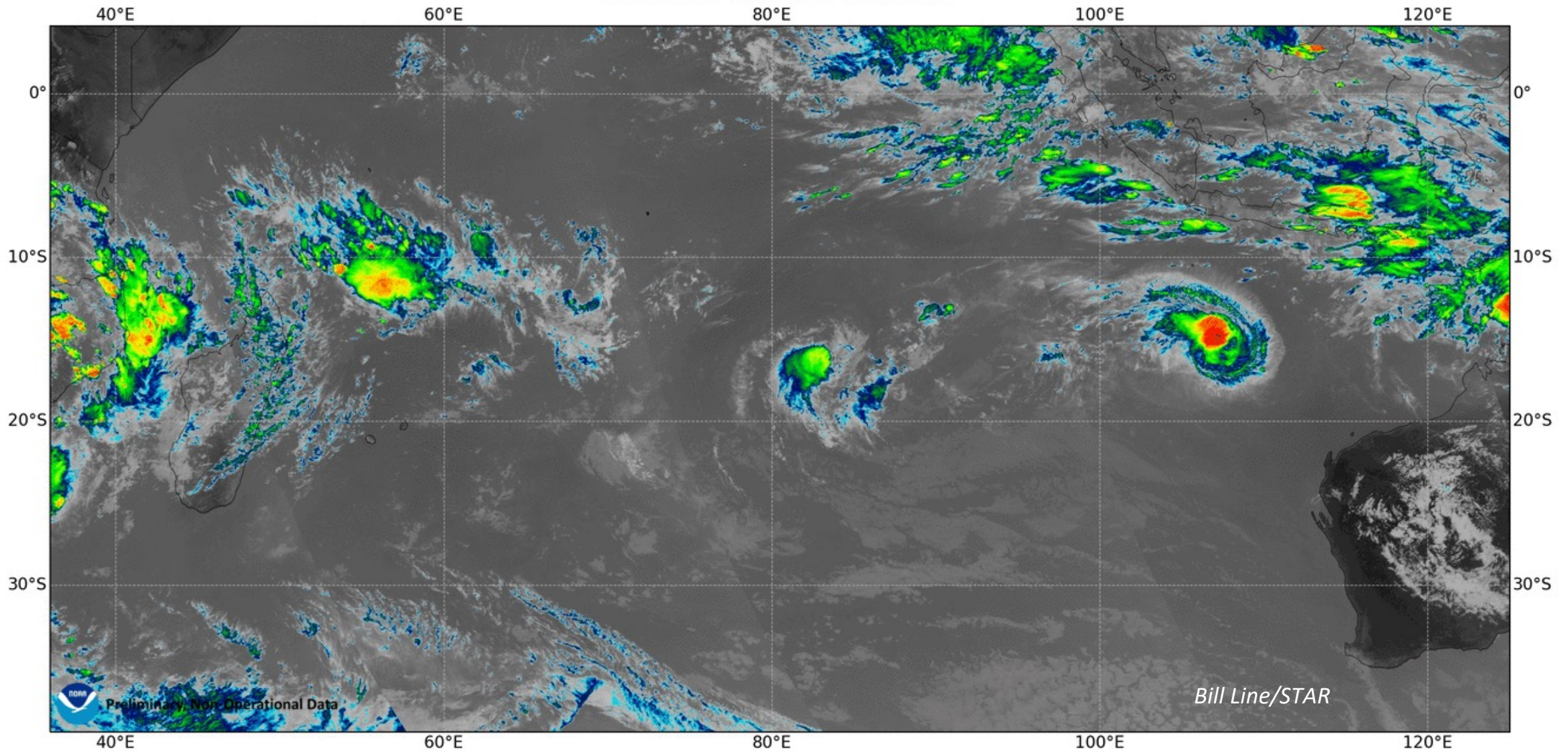


JPSS-2

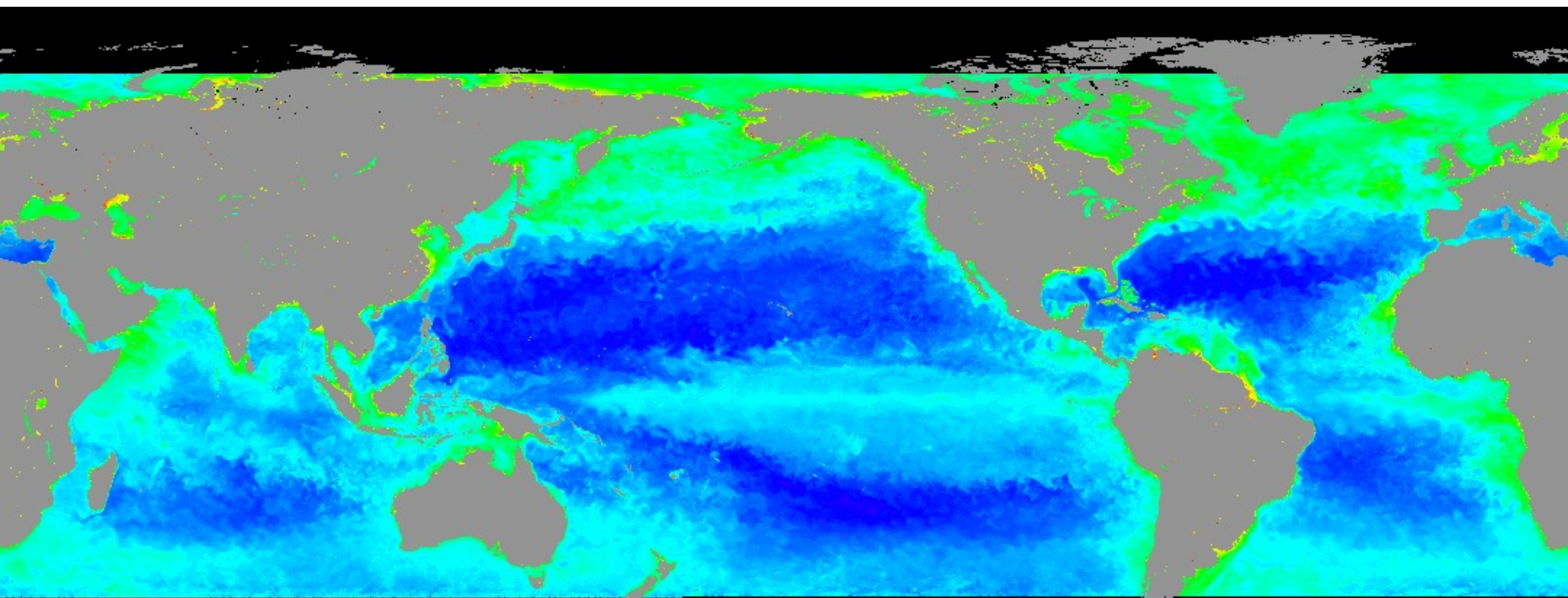


NOAA21 Captures Over 9000km, 17 Day Journey of Freddy

20230210 NOAA-21 VIIRS M15

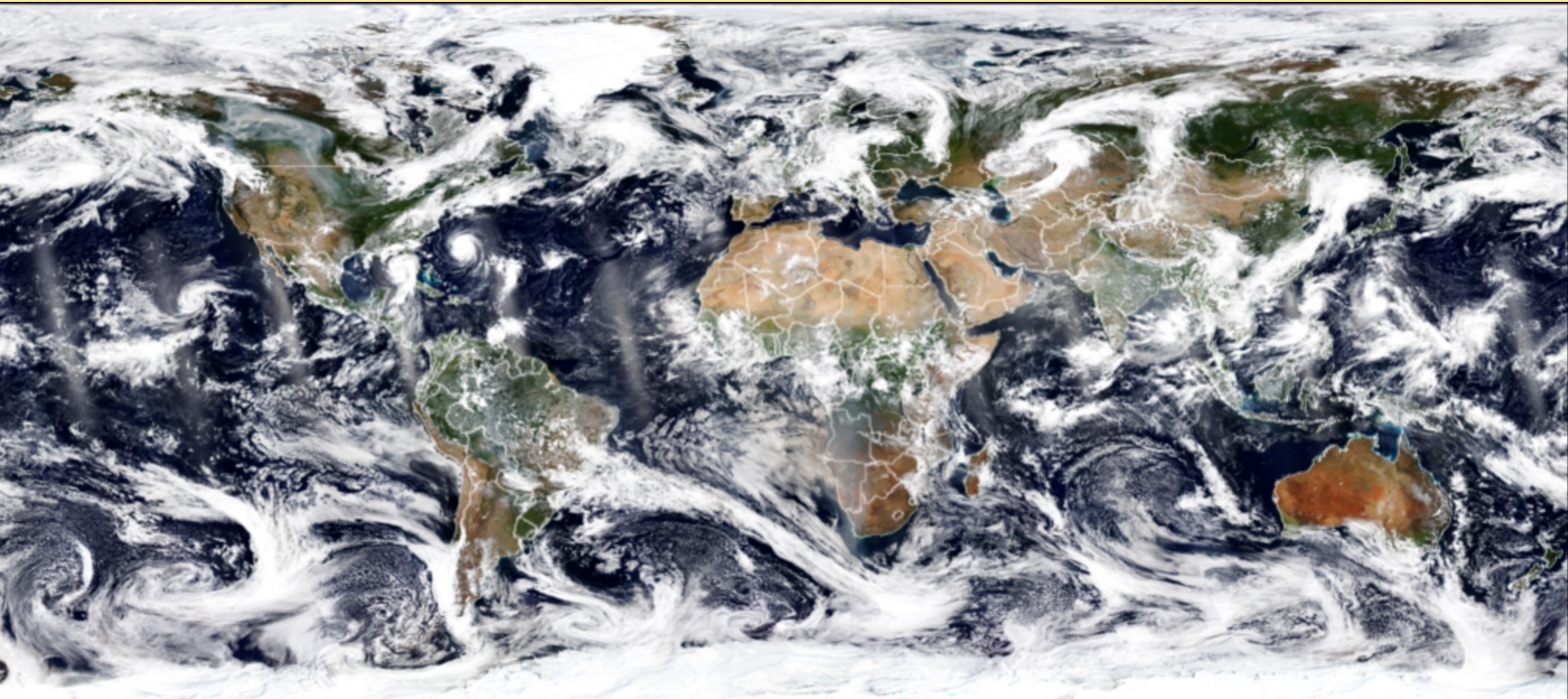


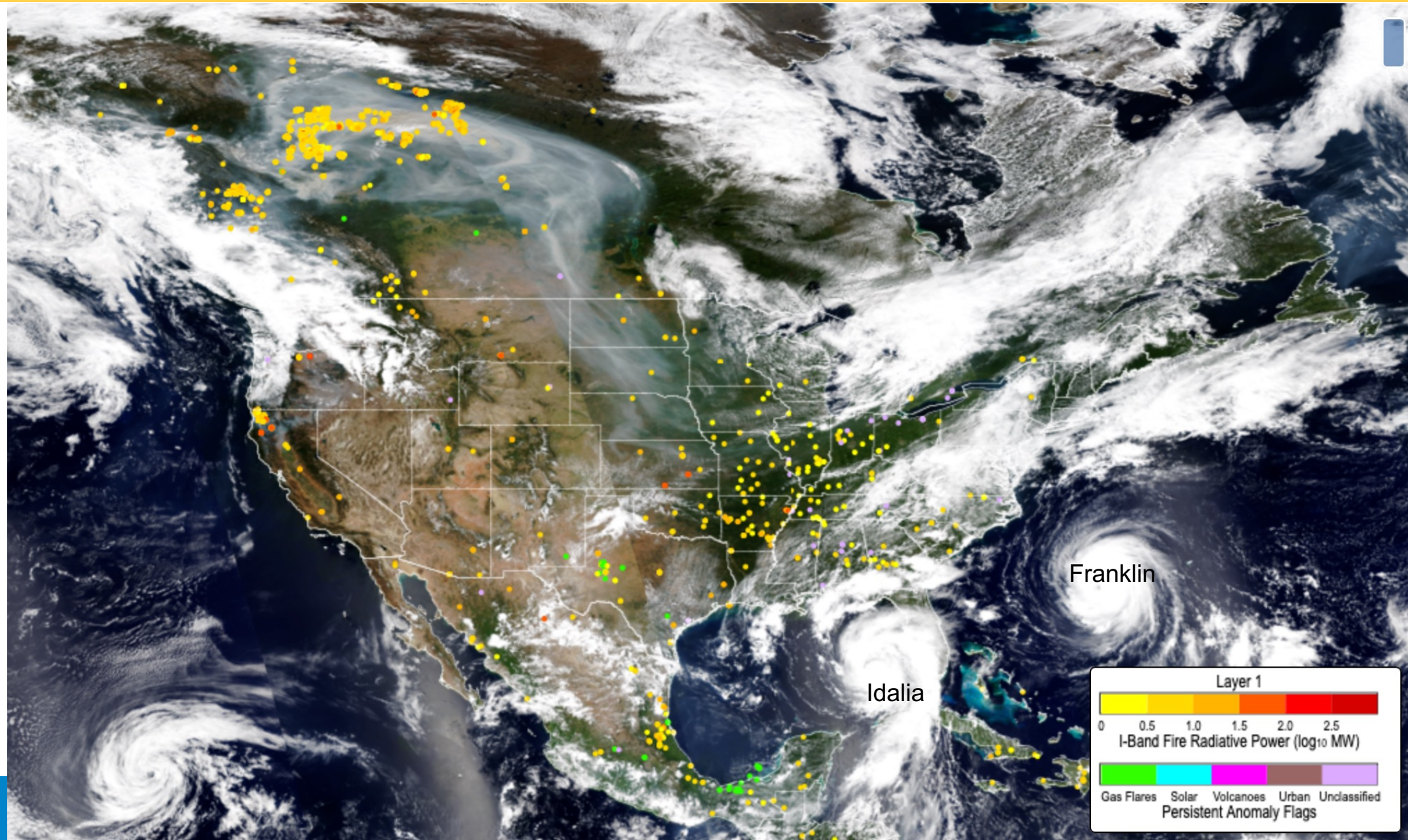
Ocean Color Capabilities on SNPP - First on a NOAA Mission

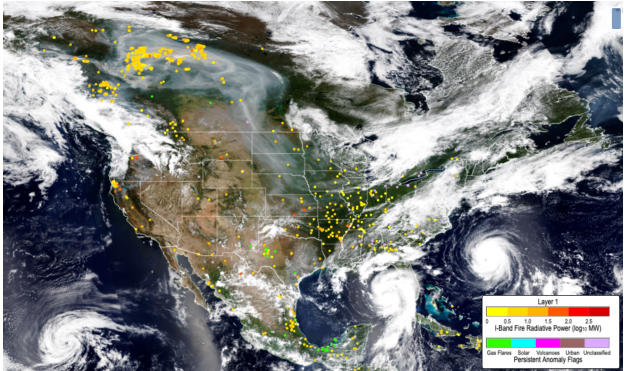


STAR
Ocean Color

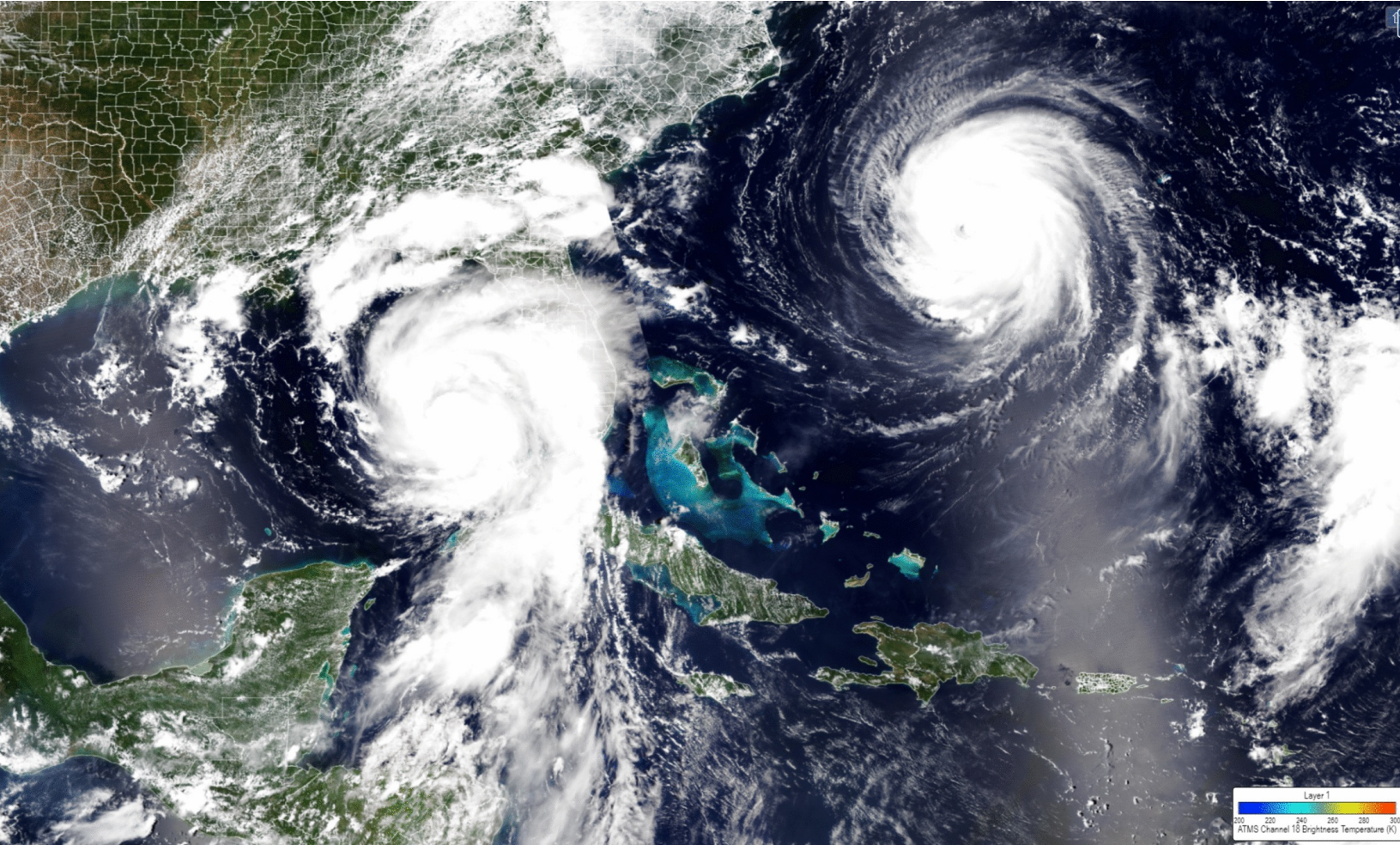
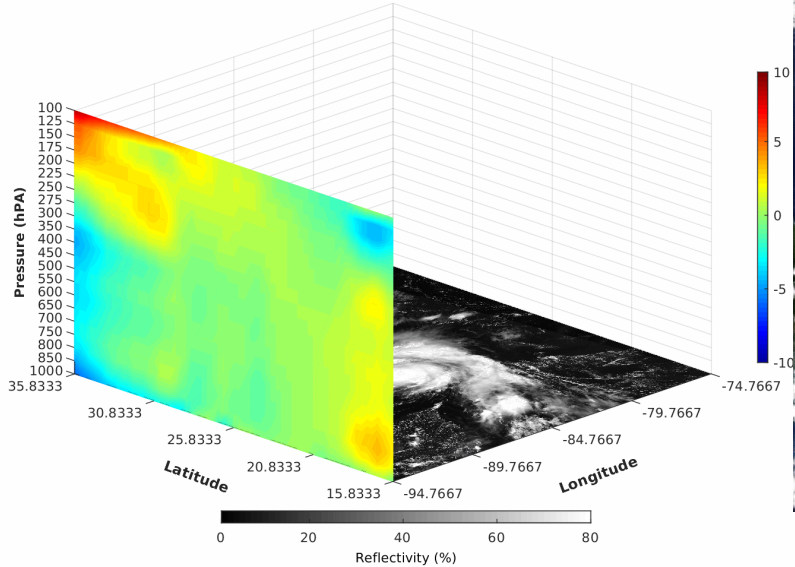
2021-07-17



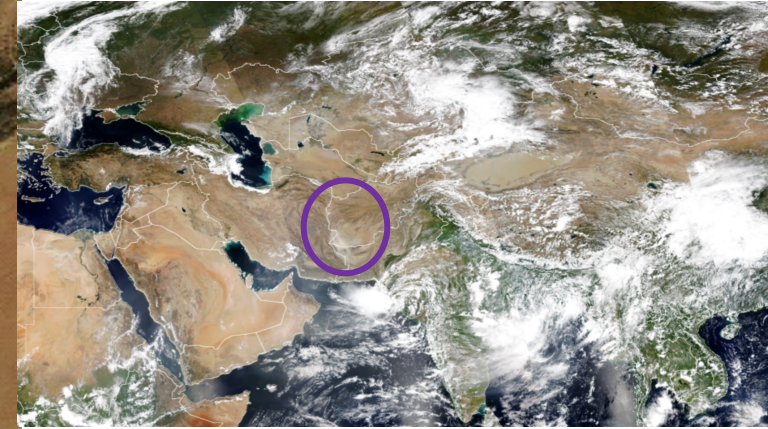
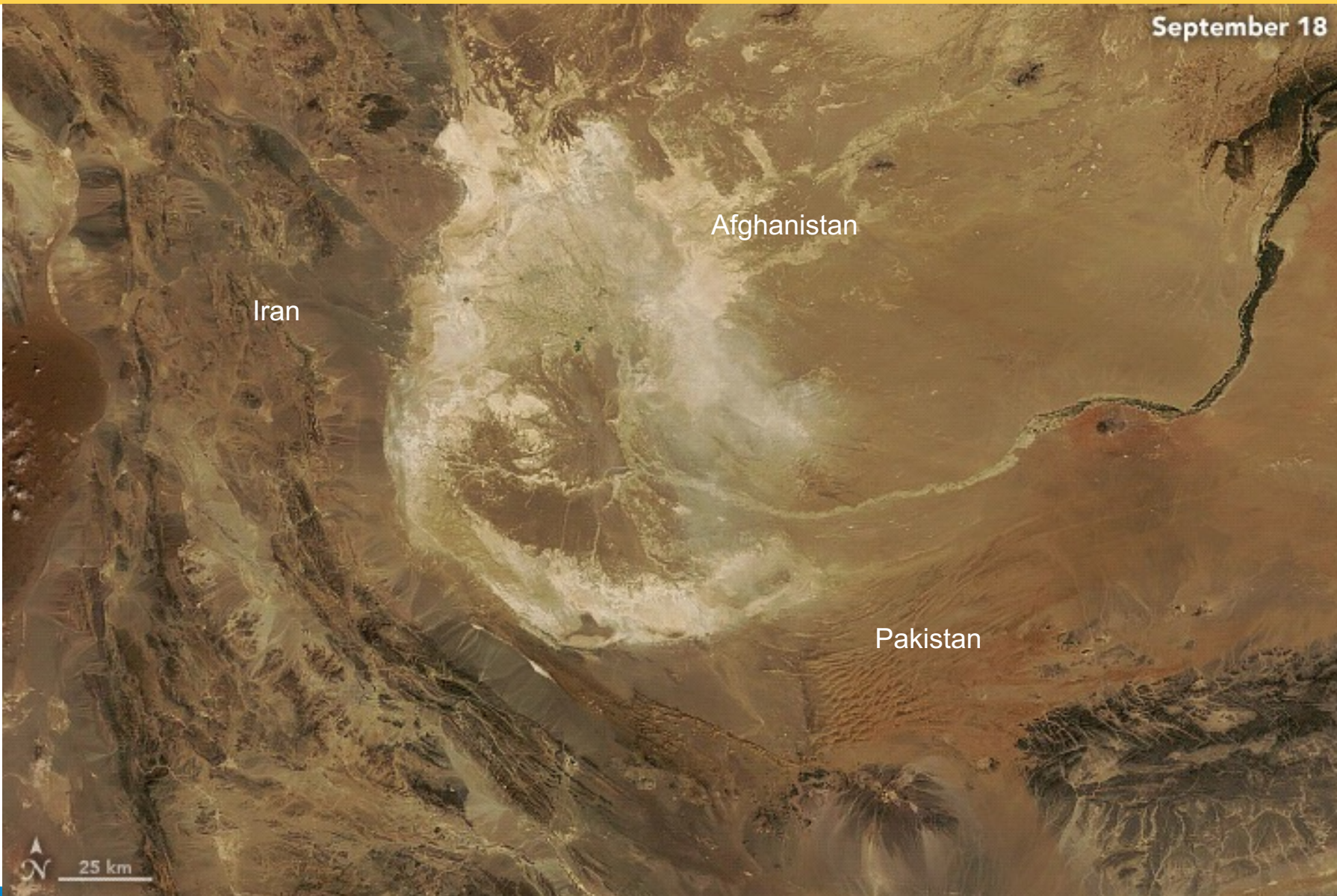




IDALIA 29 August 2023



Dusty Skies in Southern Asia (SNPP +NOAA20 VIIRS, Terra MODIS)

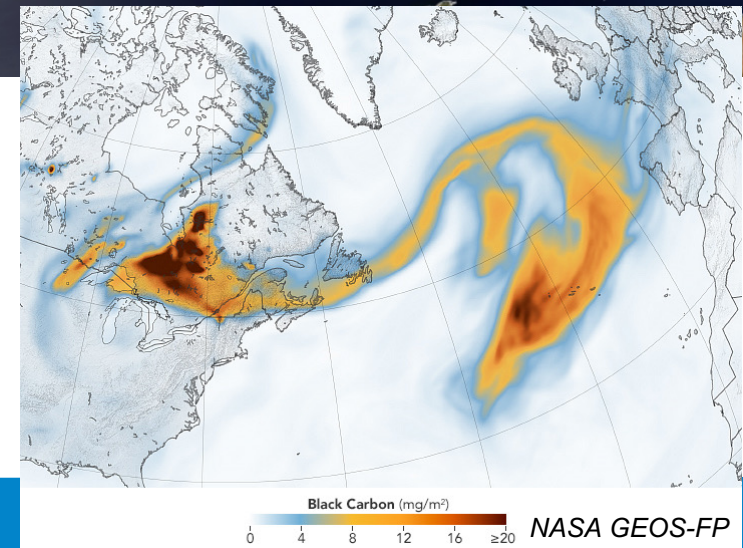
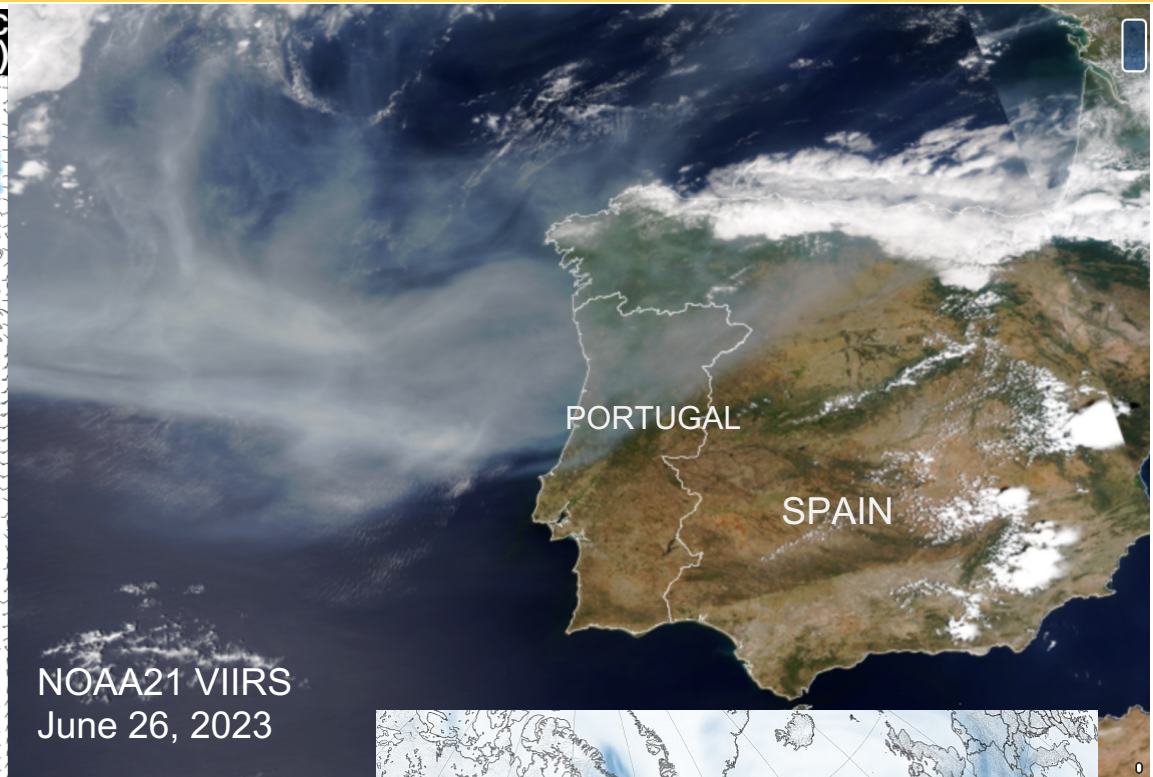
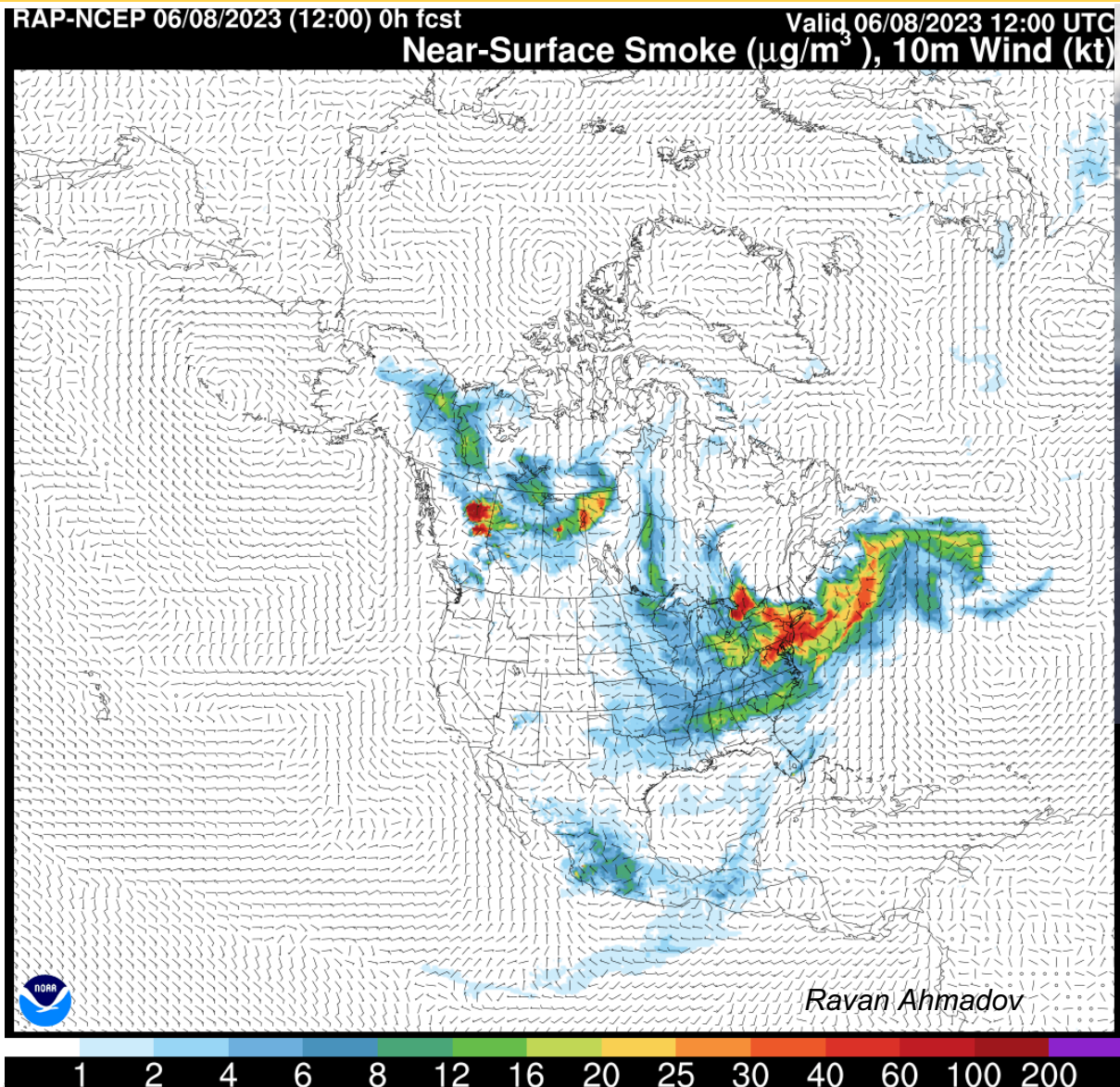


According to media, as of 25 September, three people died and 2,017 have been injured and 130 people are still hospitalised across five cities in Sistan and Baluchestan Province, close to the Afghanistan border.

reliefweb

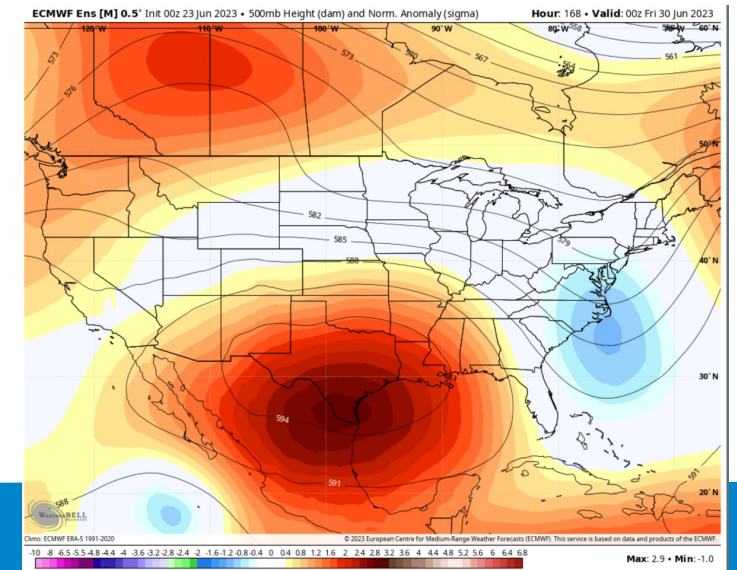
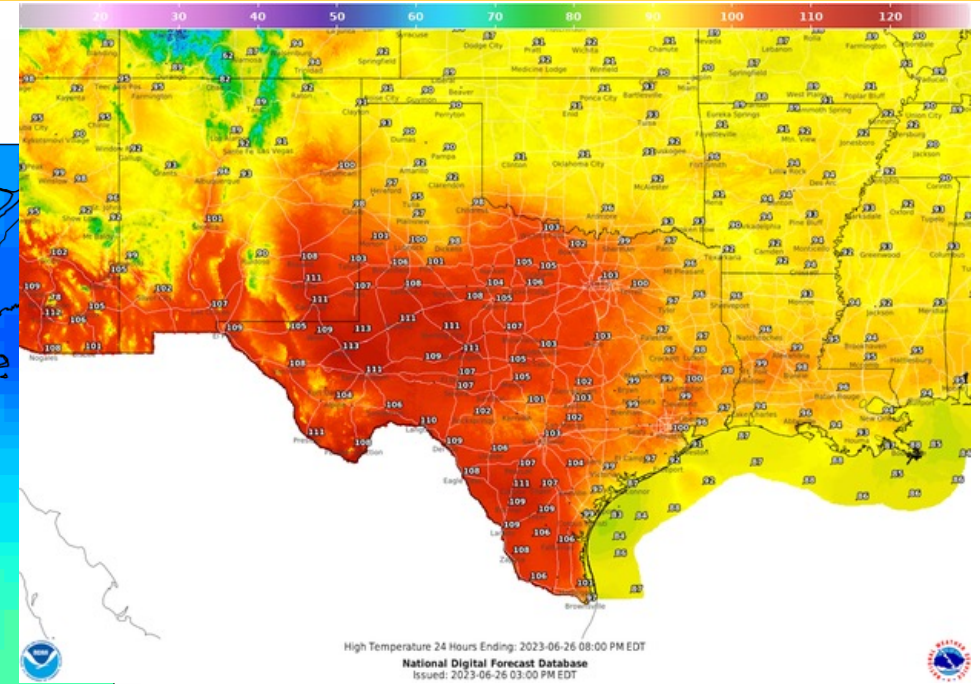
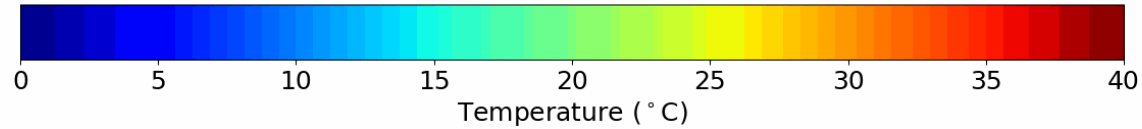
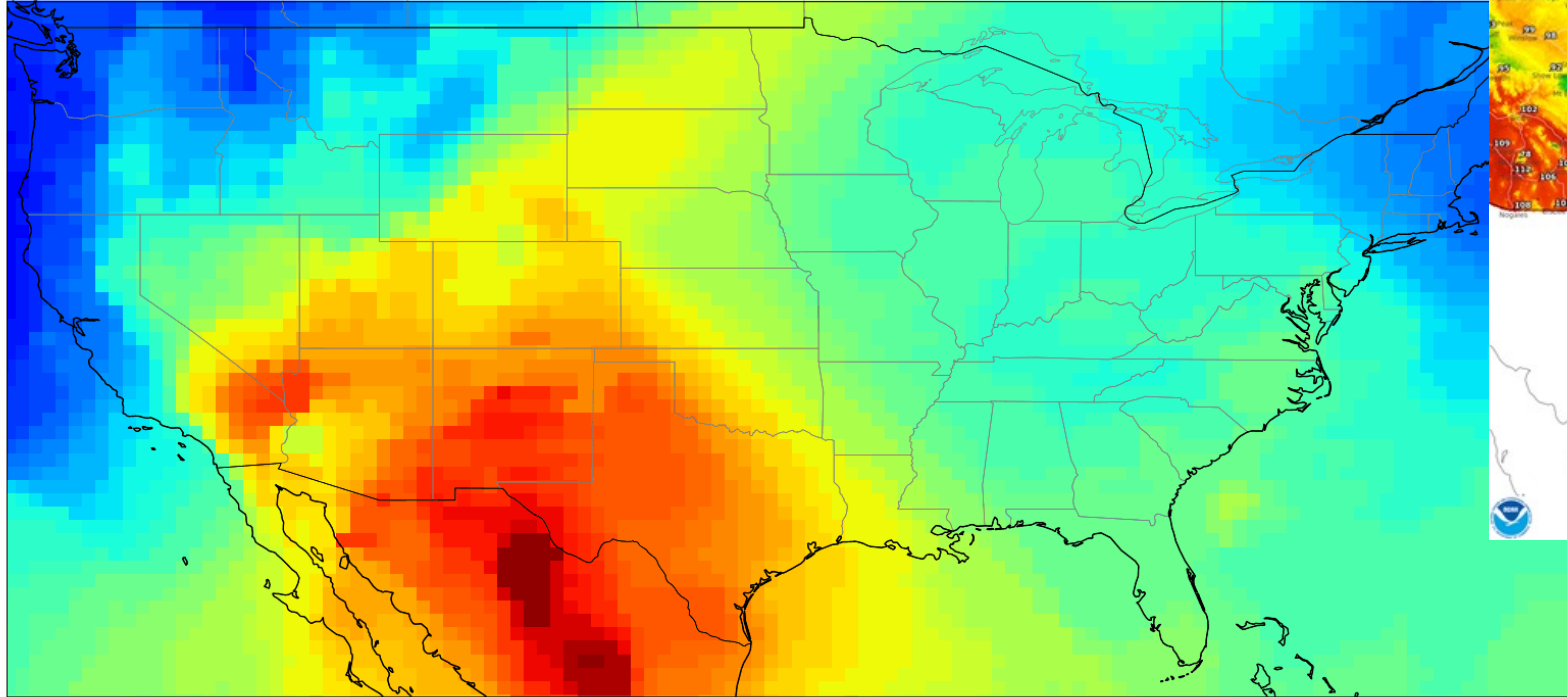
Dust from the ephemeral Hamun wetlands streamed over parts of Iran, Afghanistan, and Pakistan in September.
NASA Visible Earth

Canadian Fires Monitored by VIIRS



NUCAPS (CrIS+ATMS) Retrievals of Heat Wave (NOAA20)

2023-06-20 PM Temperature at 850mb



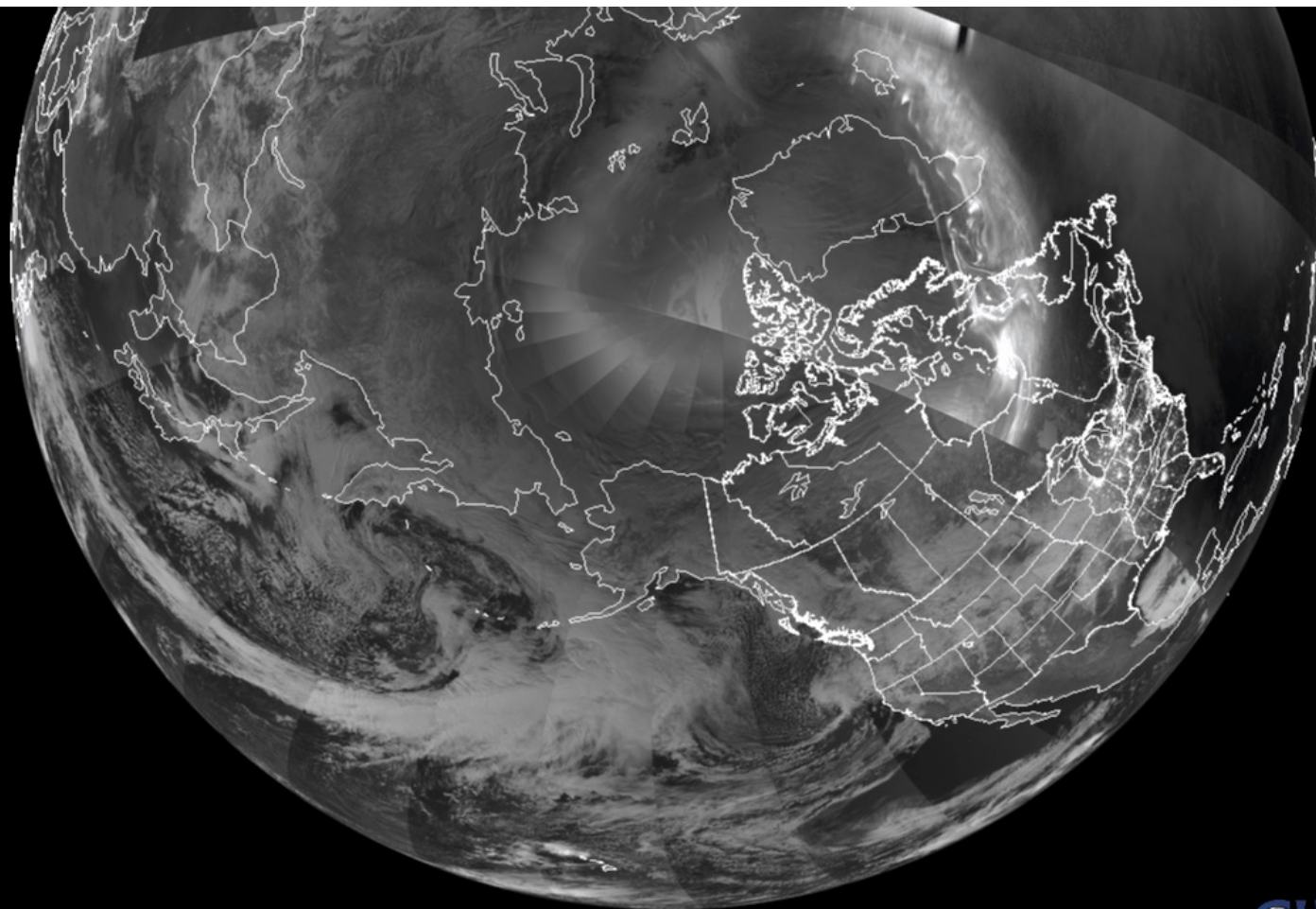
Rebekah Esmaili, STC

VIIRS Day Night Band (DNB)



The Day night Band on VIIRS built upon 40 years of experience with Operational Linescan System (OLS) revolutionized what we can see at night.

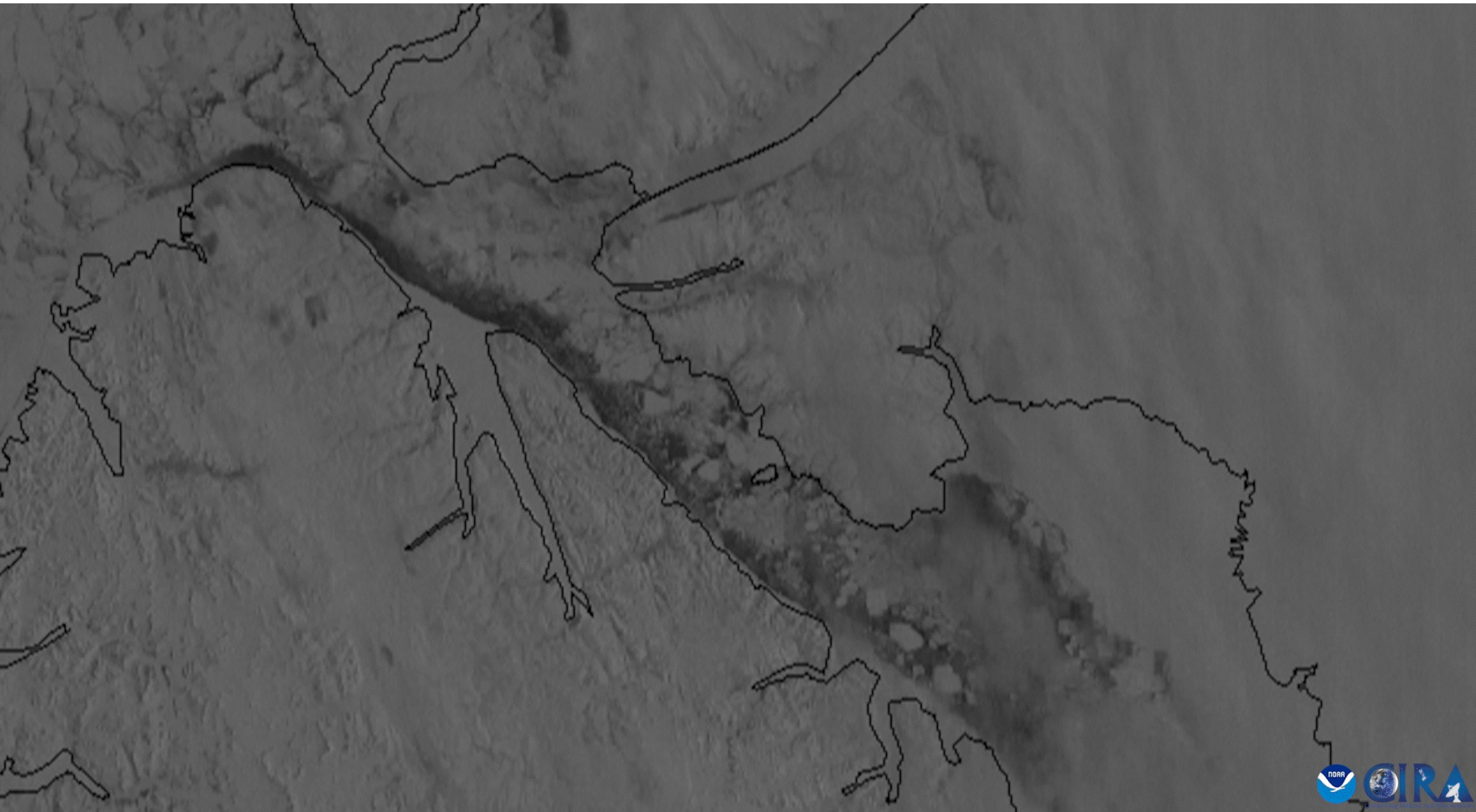
First capability on a NOAA mission.



2021-02-20 06:50:47 UTC



Arctic Ice Streaming Down Strait between Greenland and Ellesmere Island



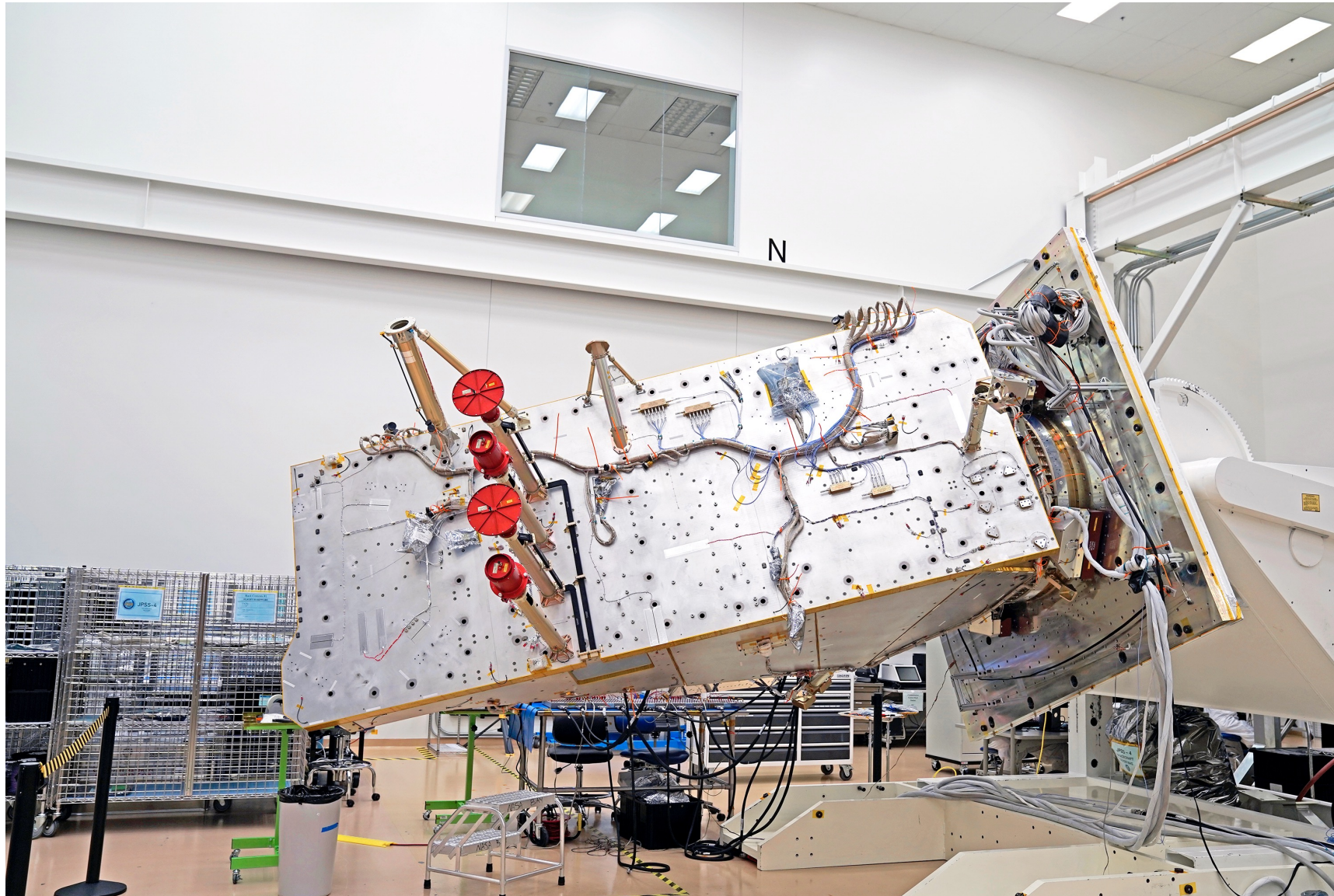


JPSS 4 Zenith (Top) View



The zenith panel of JPSS-4, early on in assembly. The spacecraft is attached to a rolover fixture to orient the satellite for assembly.

JPSS4 Nadir View (Earth Facing)



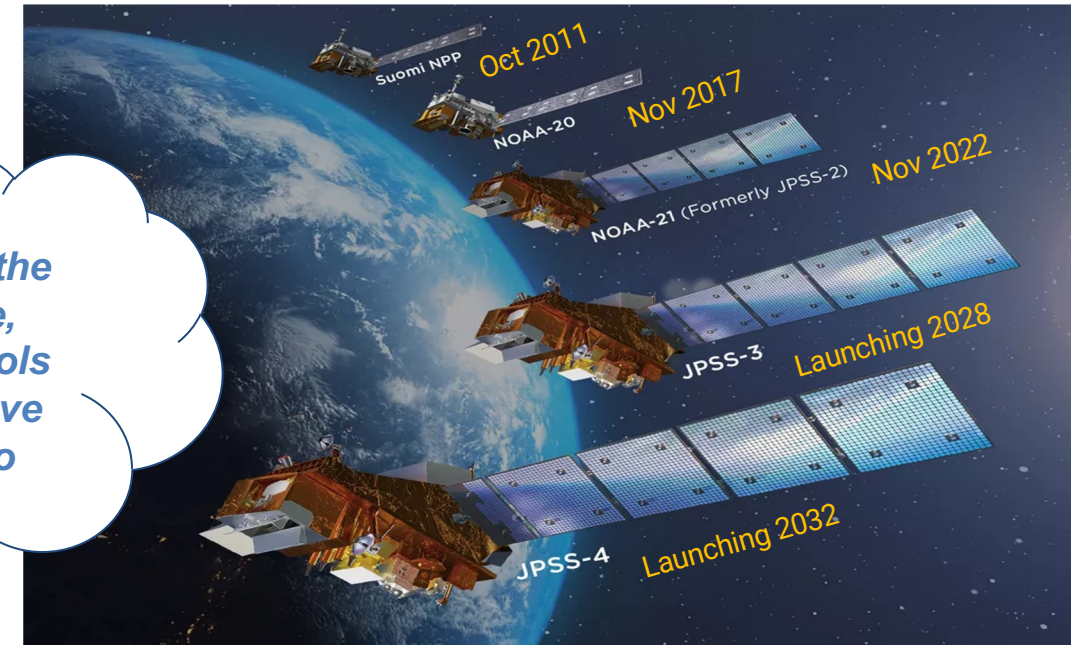
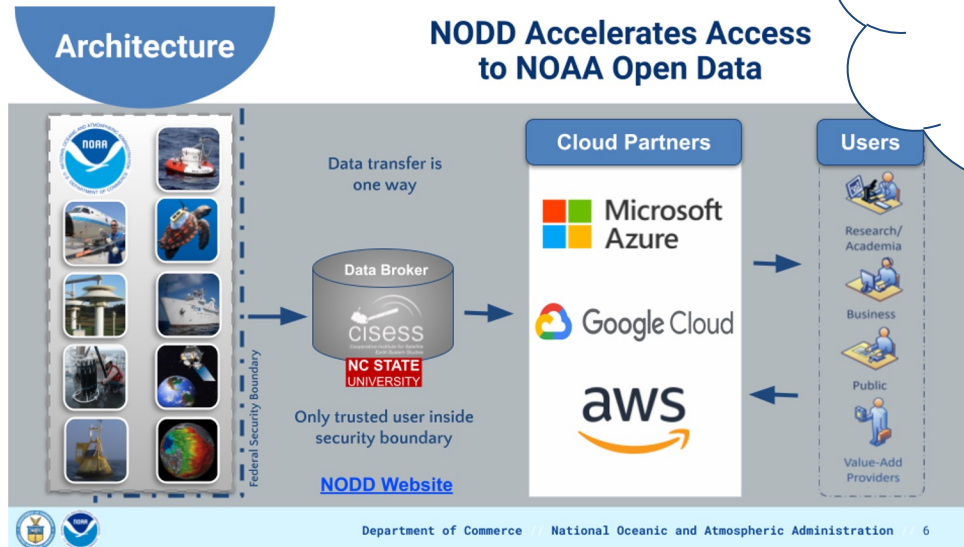
The nadir, or Earth-facing, deck of JPSS-4, early on in assembly. The instruments will be integrated on this panel of the spacecraft.

Near Real-Time JPSS Data via NOAA Open Data Dissemination (NODD)

In progress

- AWS - Registry of Open Data
- Google Cloud - Marketplace
- Microsoft - Planetary Computer

NODD leverages the CSPs' expertise, platforms, and tools in order to improve public access to NOAA data



NODD@NOAA.GOV

2023

FROM THE NOAA NESDIS OFFICE OF
LOW EARTH ORBIT (LEO) OBSERVATIONS

JPSS

ANNUAL SCIENCE DIGEST

EXPLORING THE IMPACT
AND APPLICATIONS OF
JPSS DATA



Download your copy today!

www.nesdis.noaa.gov/JPSS-digest





JPSS will continue to provide critical environmental observations till the end of the next decade!

Thank you!