



NOAA

Satellite and
Information
Service

Sept. 29, 2020

The Coming Decade of Development: Creating the Next-Gen Systems for 2025, 2030 and Beyond

Community Meeting on NOAA Satellites

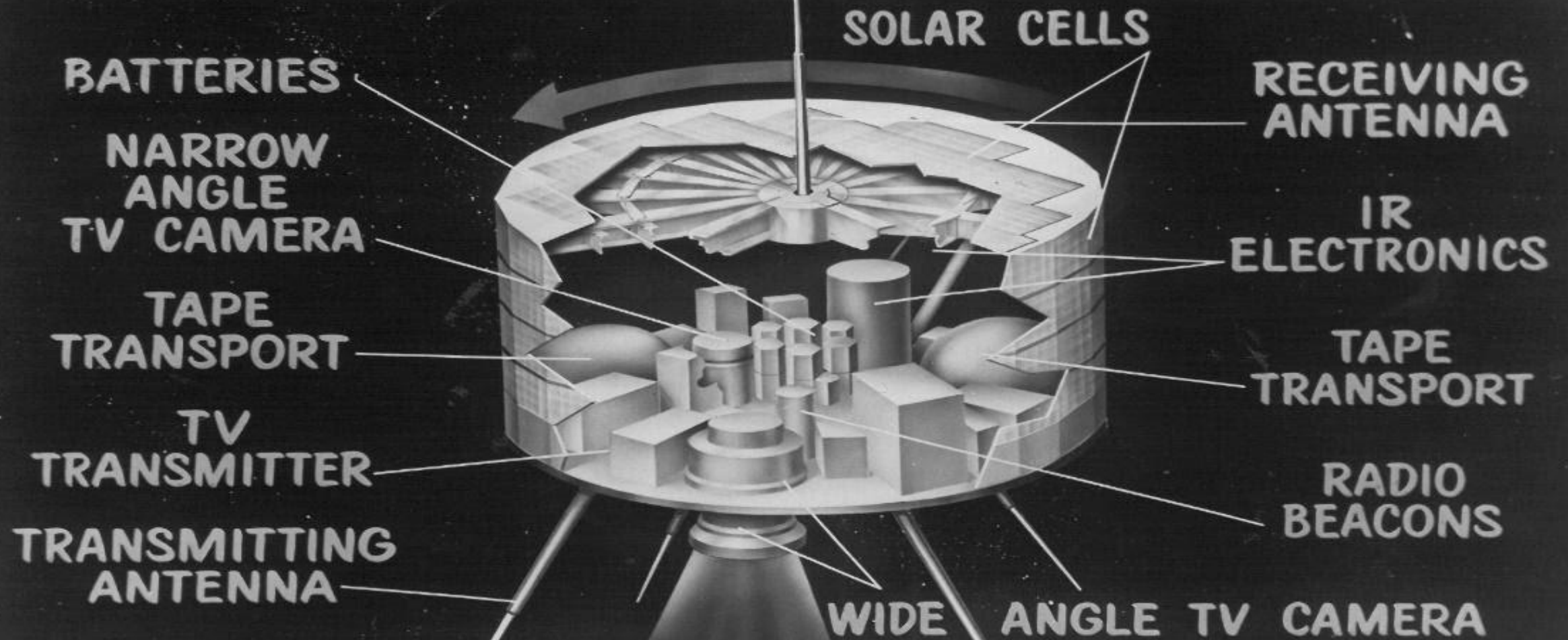
Dr. Stephen Volz, Assistant Administrator
NOAA Satellite and Information Service





SCIENCE. SERVICE. STEWARDSHIP.

TIROS



60th Anniversary of the first flight of TIROS, the World's 1st Weather Satellite

2018

2019

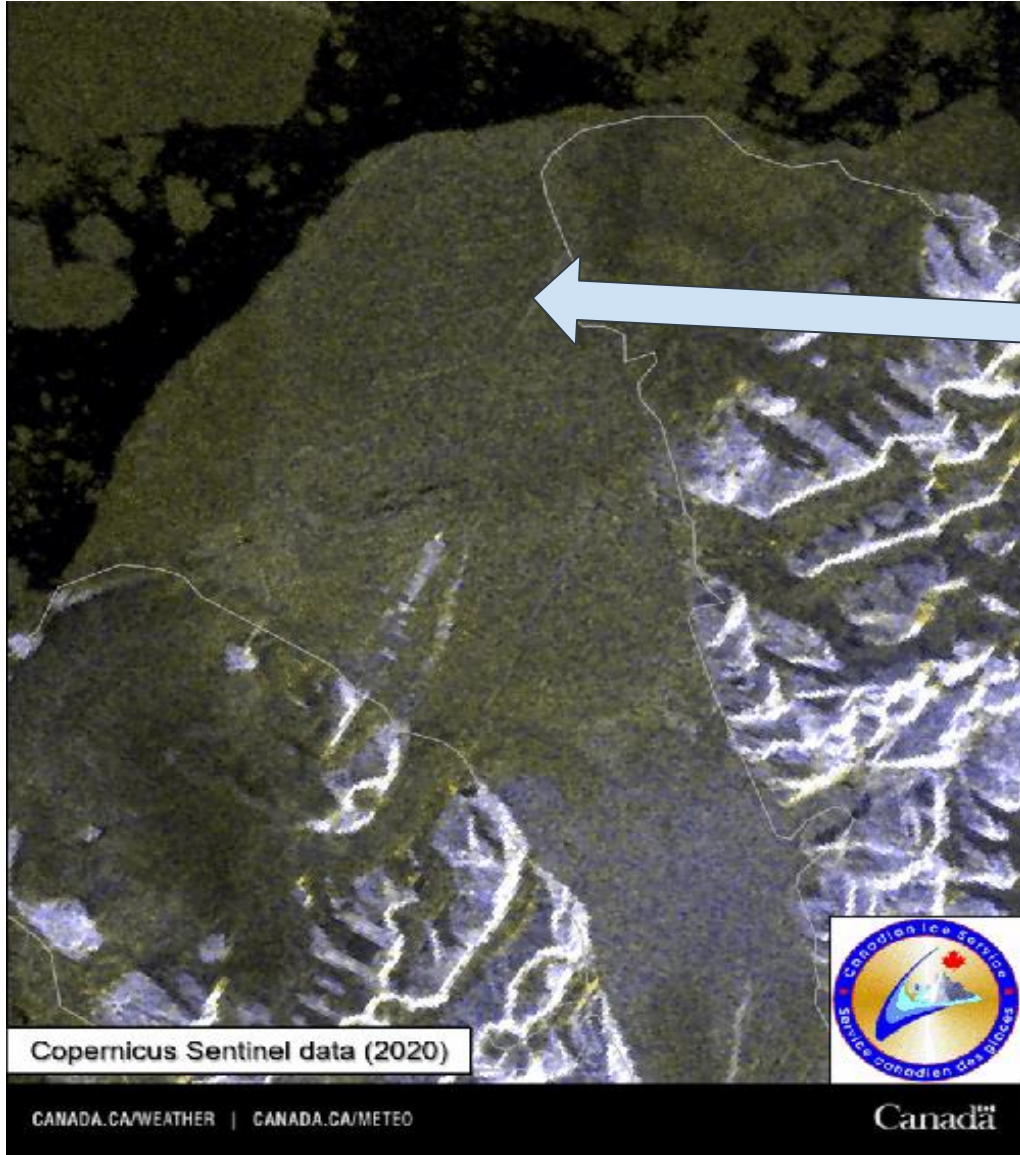
Lost Year?

2021

2022



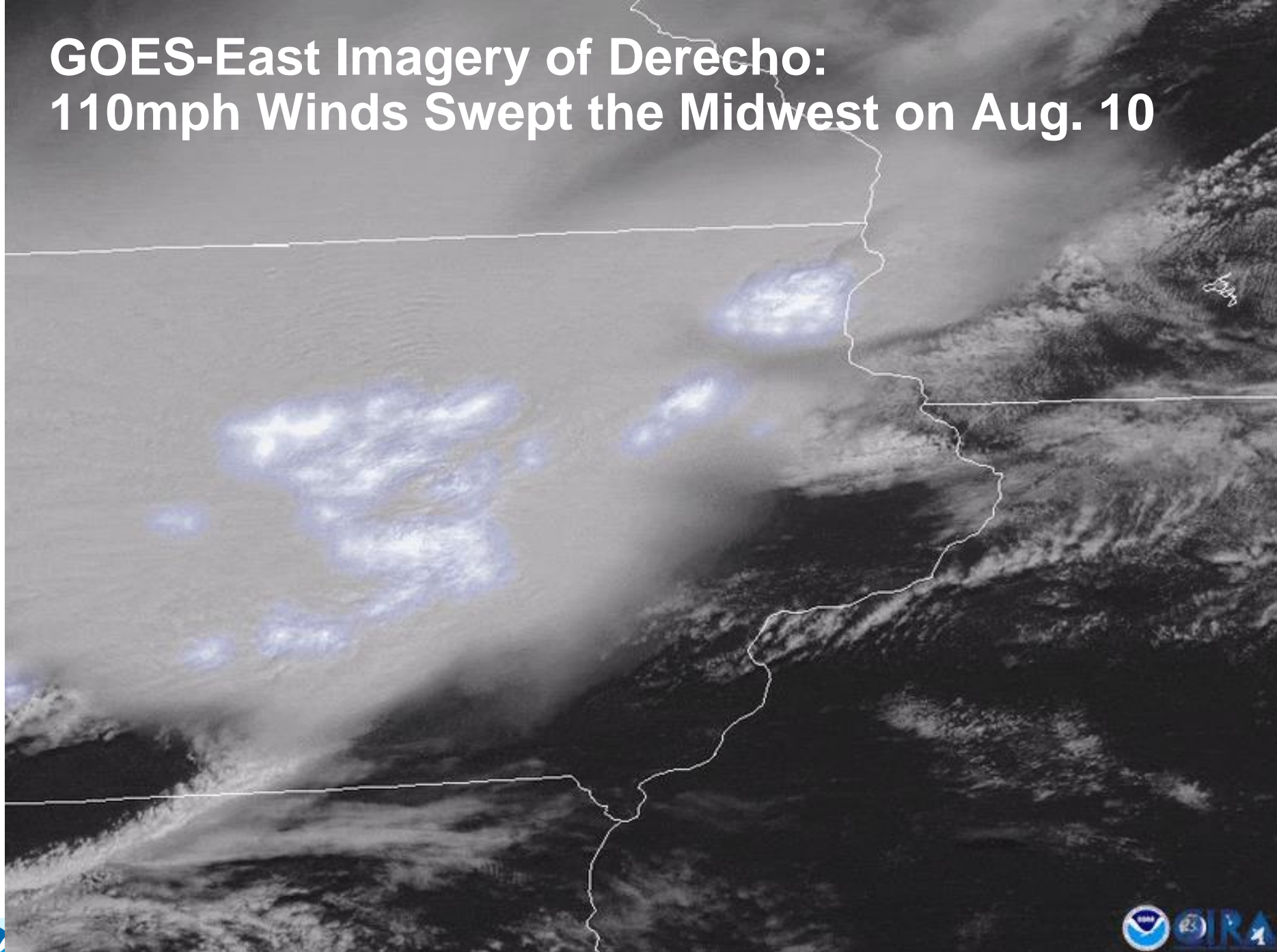
Melting Ice Caps: Milne Ice Shelf Collapse Aug. 4



Canada's largest intact ice shelf lost more than 30 square miles -- an area larger than the island of Manhattan.

<https://twitter.com/i/status/1293617433614442497>

GOES-East Imagery of Derecho: 110mph Winds Swept the Midwest on Aug. 10





Speed and Ferocity: Hurricane Laura Grows from Cat 1 to Cat 4 in less than 18 hours!

1800 UTC AUG 27

1200 UTC AUG 27

0600 UTC AUG 27

0000 UTC AUG 27

1800 UTC AUG 26

1200 UTC AUG 26

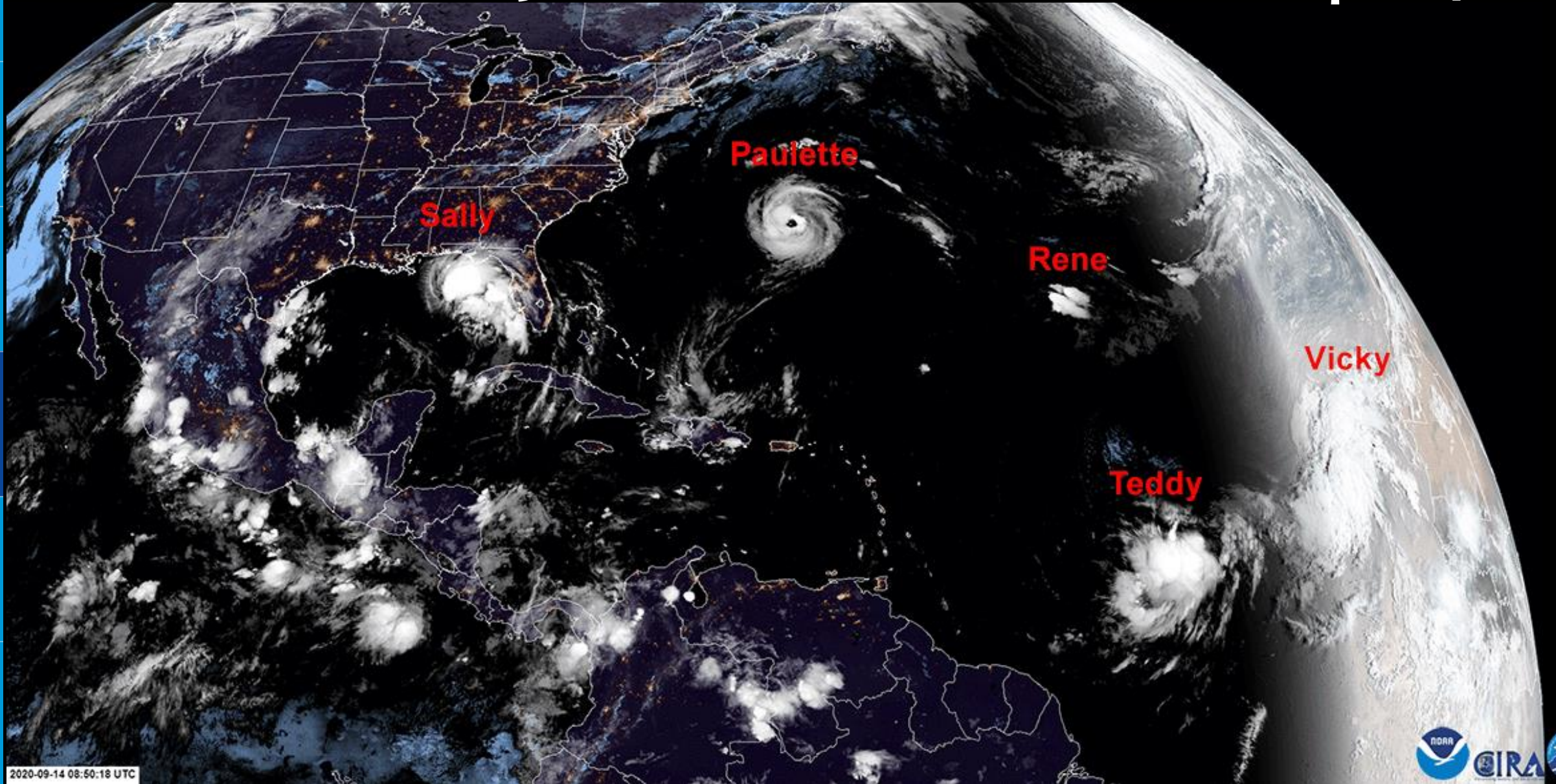
0600 UTC AUG 26

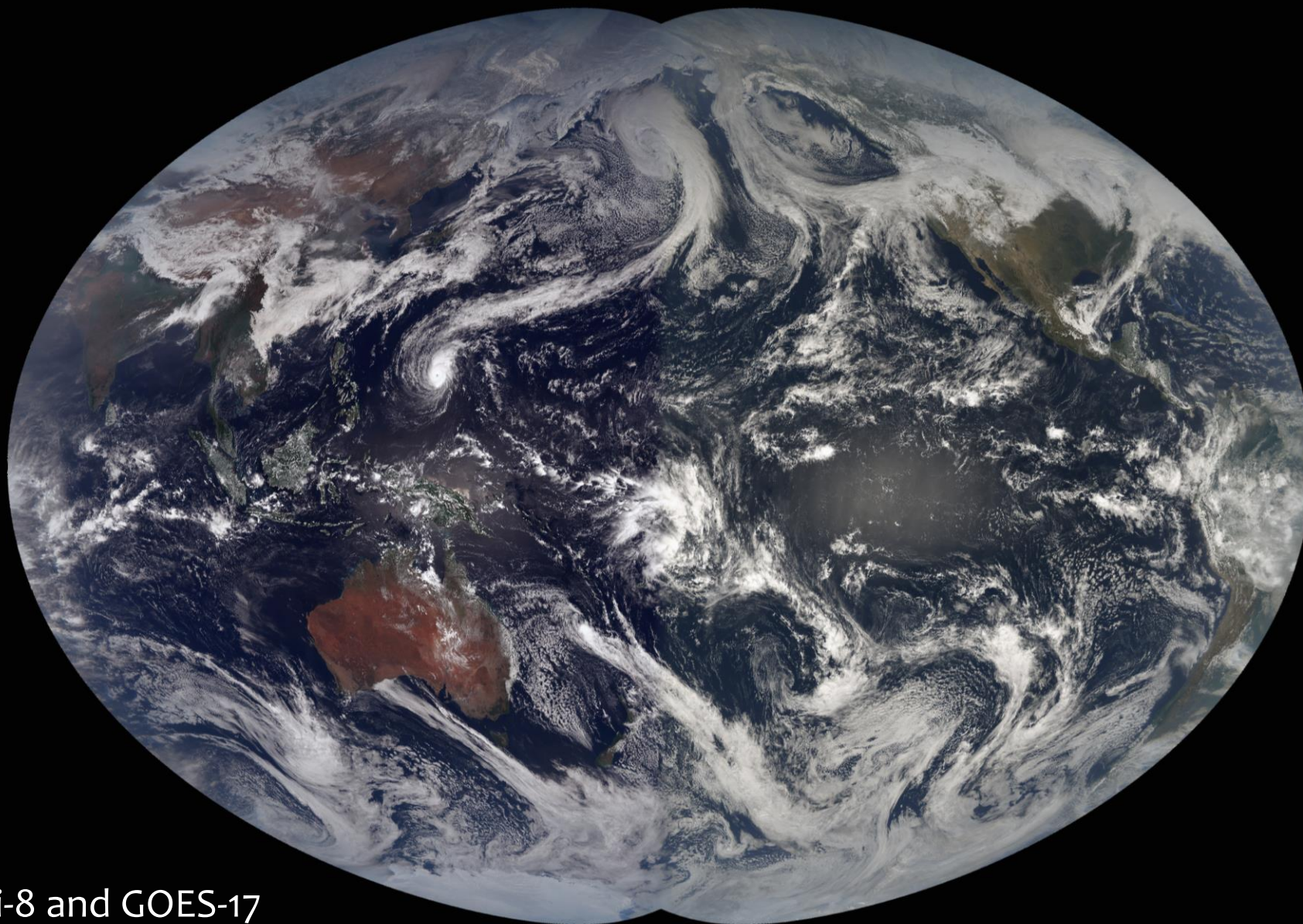
0000 UTC AUG 26

1800 UTC AUG 25

1200 UTC AUG 25

GOES-East Shows 5 Named Atlantic storms on Sept. 14



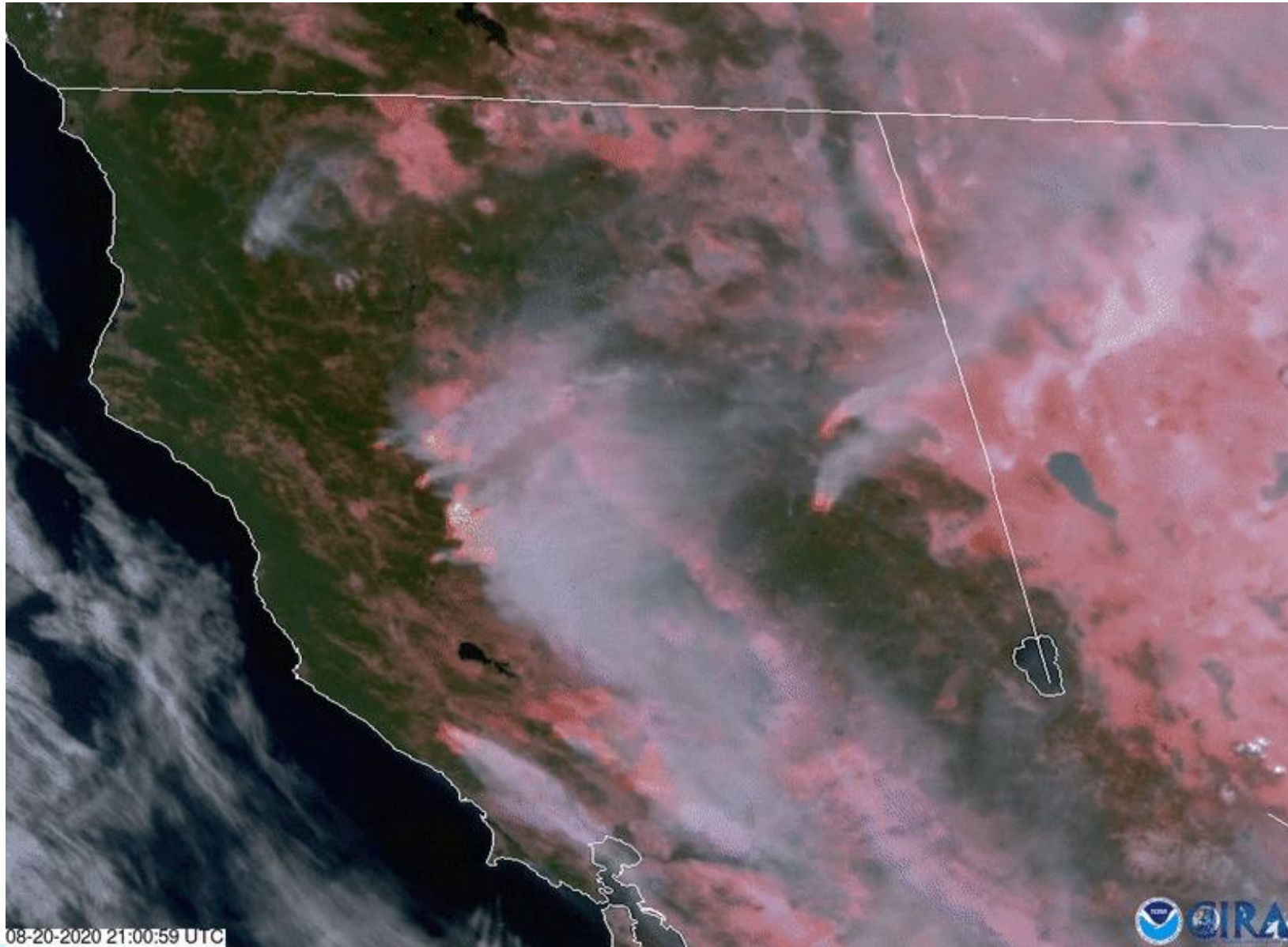


Himawari-8 and GOES-17
24-25 February 2019 in Mollweide Projection



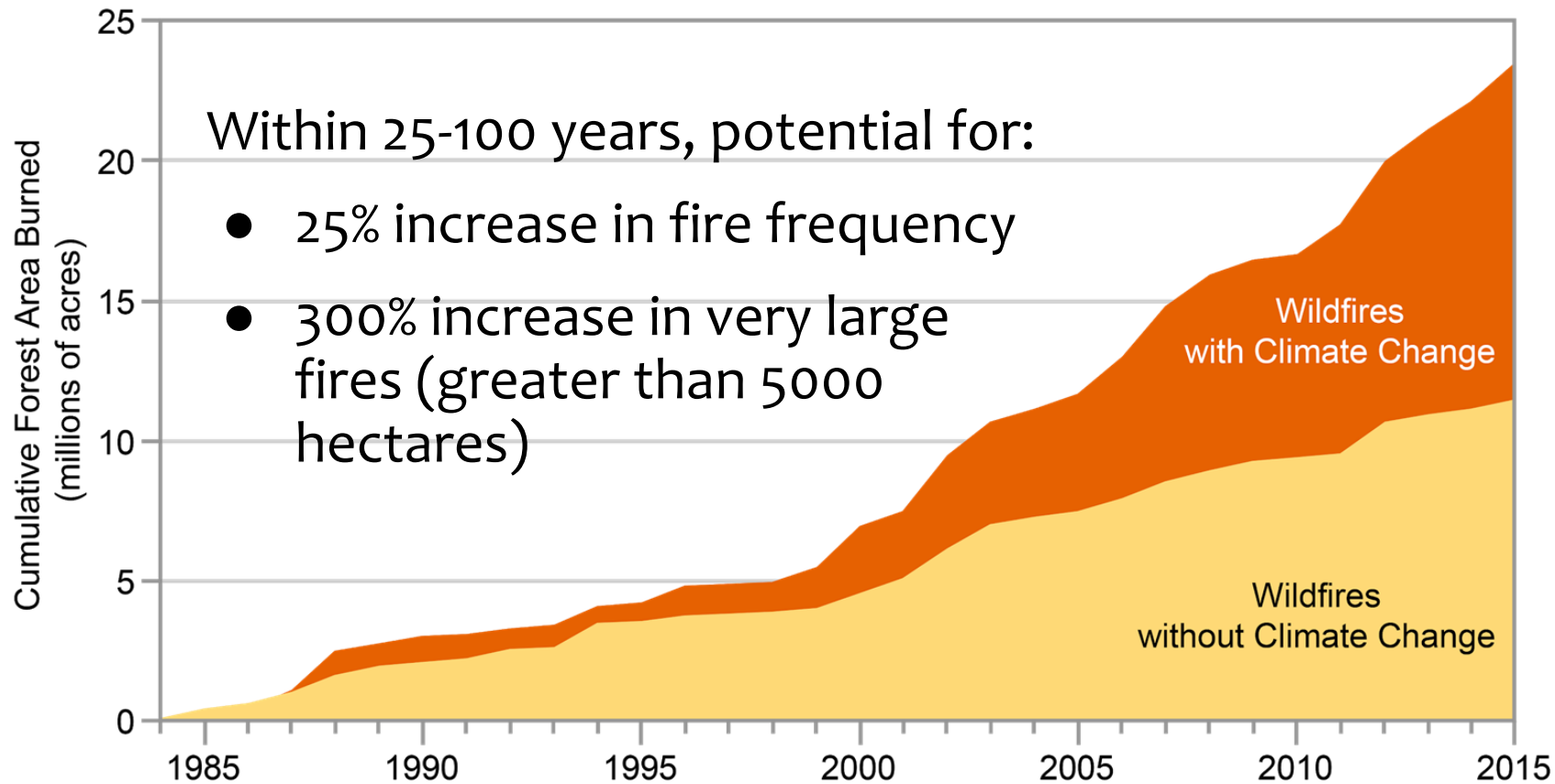


Western Wildfires: Multiple West Coast Fires, Aug. 20





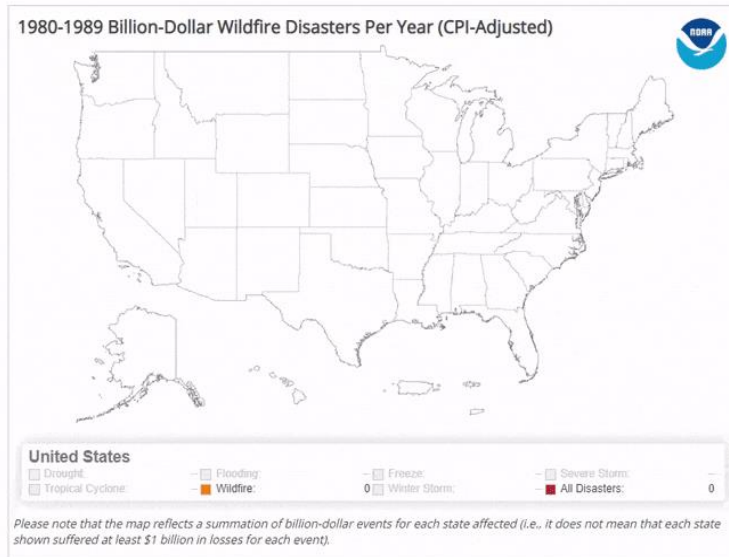
Impact of Climate Change: Fires in the Southwest



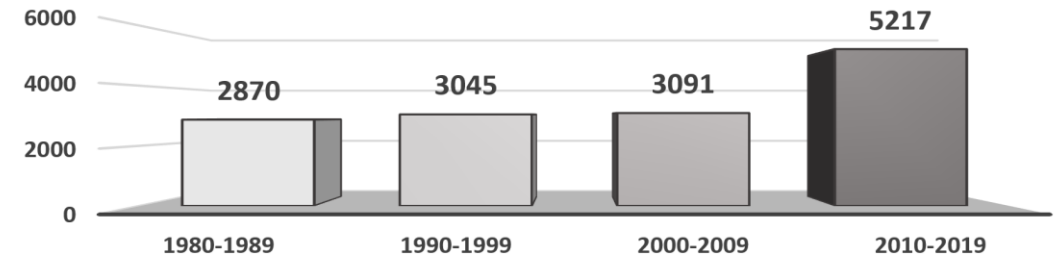
Graph and statistics cited from 4th National Climate Assessment:

<https://nca2018.globalchange.gov/chapter/25/>

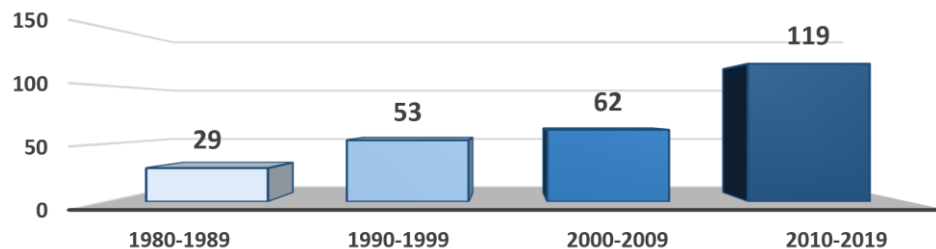
Billion Dollar Disaster Record



Deaths

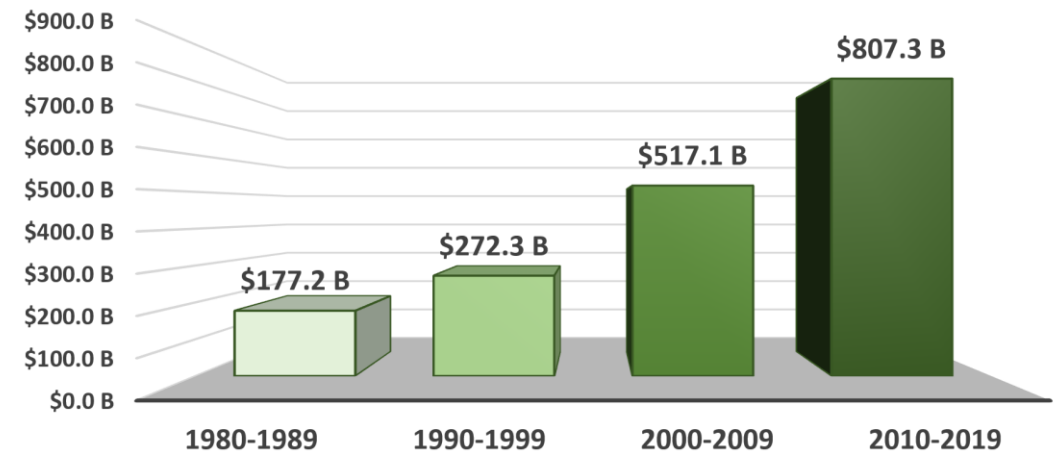


Number of U.S. Billion-Dollar Events



c.f. NOAA National Centers for Environmental Information (NCEI) U.S. Billion-Dollar Weather and Climate Disasters (2020). <https://www.ncdc.noaa.gov/billions/>

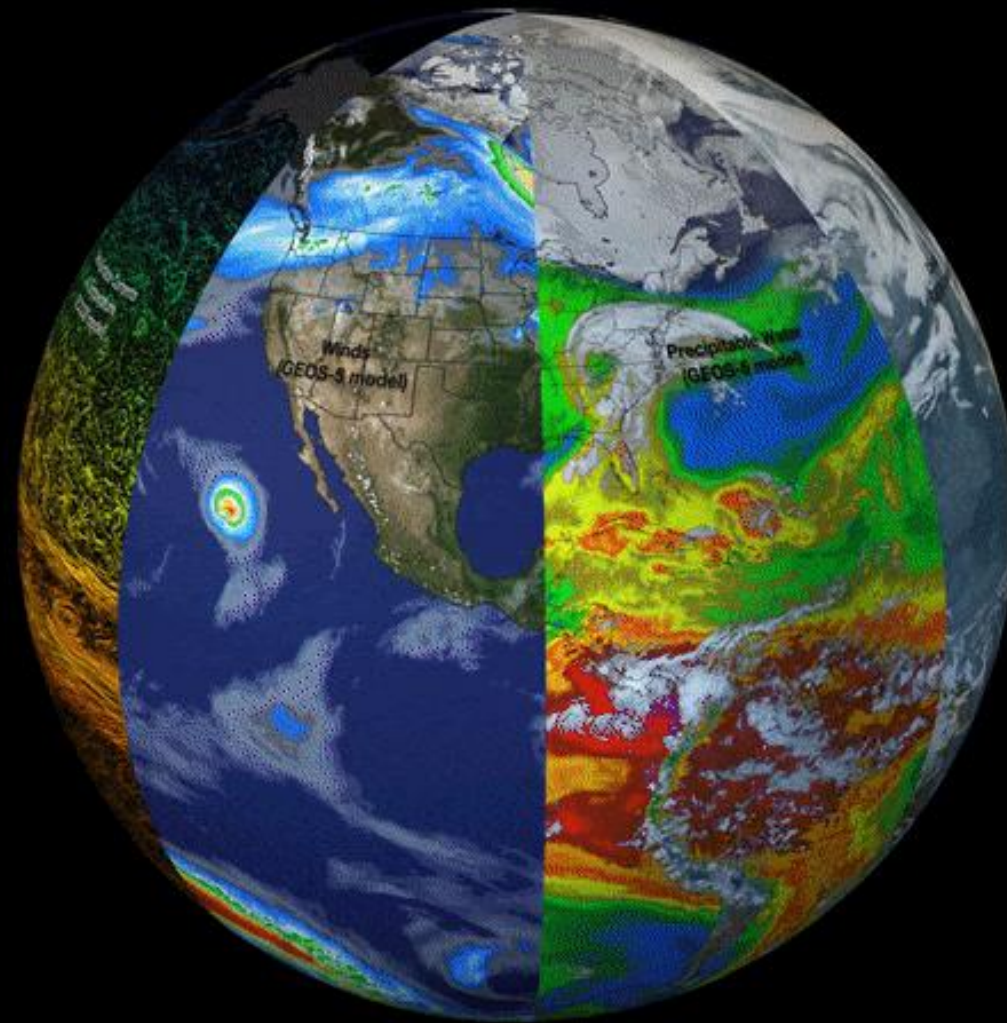
Cost (Billions)



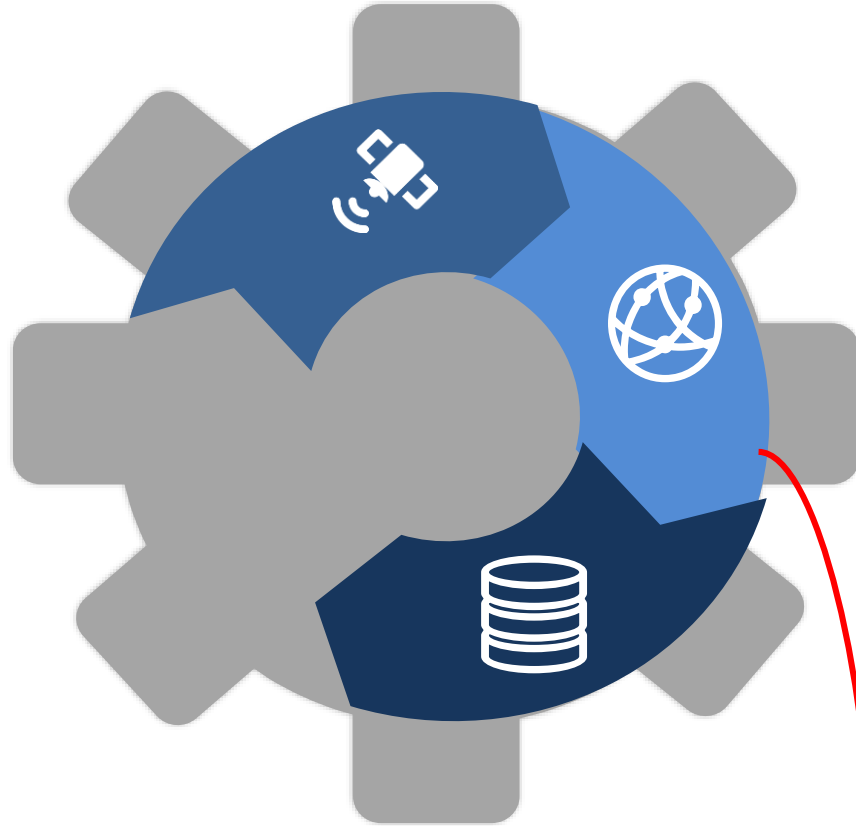


NESDIS Aspiration

Provide a truly integrated digital understanding of our earth environment that can evolve quickly to meet changing user expectations by leveraging our own capabilities and partnerships



NESDIS Leads in Innovative Systems, Product, and Service Delivery; Leverages Partner Satellite Tech and Commercial Distribution



Products and Services that are Useful, Usable, and Used

Sat Tech Innovation

Instrument & Mission innovation; smallsat constellations; Commodity spacecraft and data services; basic science process research

Product and Service Innovation

Observing system integration; Global data archives; Operational constellation management; Cloud operations; Artificial Intelligence; Rigorous User Needs Assessment

Commercial Applications

Apps; Emerging Digital Interface and Distribution; Enhanced & Tailored Products and Services; Cloud platforms

NESDIS Sweet Spot



NESDIS Strategic Objectives

NESDIS
Reimagined



Advance terrestrial observational leadership in geostationary and extended orbits

***GEO Initiative
FY2020/21***



Advance Space Weather observational leadership in LEO, GEO, and extended orbits.

***SWFO Program
FY2020***



Evolve LEO architecture to enterprise system of systems that exploits and deploys new observational capabilities

***Next Gen Sounder Initiative
FY2020/21/22***



Develop agile, scalable ground capability to improve efficiency of service deliverables and ingest of data from all sources

***DACS Initiative
FY2021 & beyond***



Provide consistent ongoing enterprise-wide user engagement to ensure timely response to user needs



Deliver integrated program development to provide a suite of products and services



NESDIS Strategic Objectives

NESDIS
Reimagined



Advance terrestrial observational leadership in geostationary and extended orbits



Advance Space Weather observational leadership in LEO, GEO, and extended orbits.



Evolve LEO architecture to enterprise system of systems that exploits and deploys new observational capabilities



Develop agile, scalable ground capability to improve efficiency of service deliverables and ingest of data from all sources

A Renewed Focus on Continuous User Engagement



5 Provide consistent ongoing enterprise-wide user engagement to ensure timely response to user needs



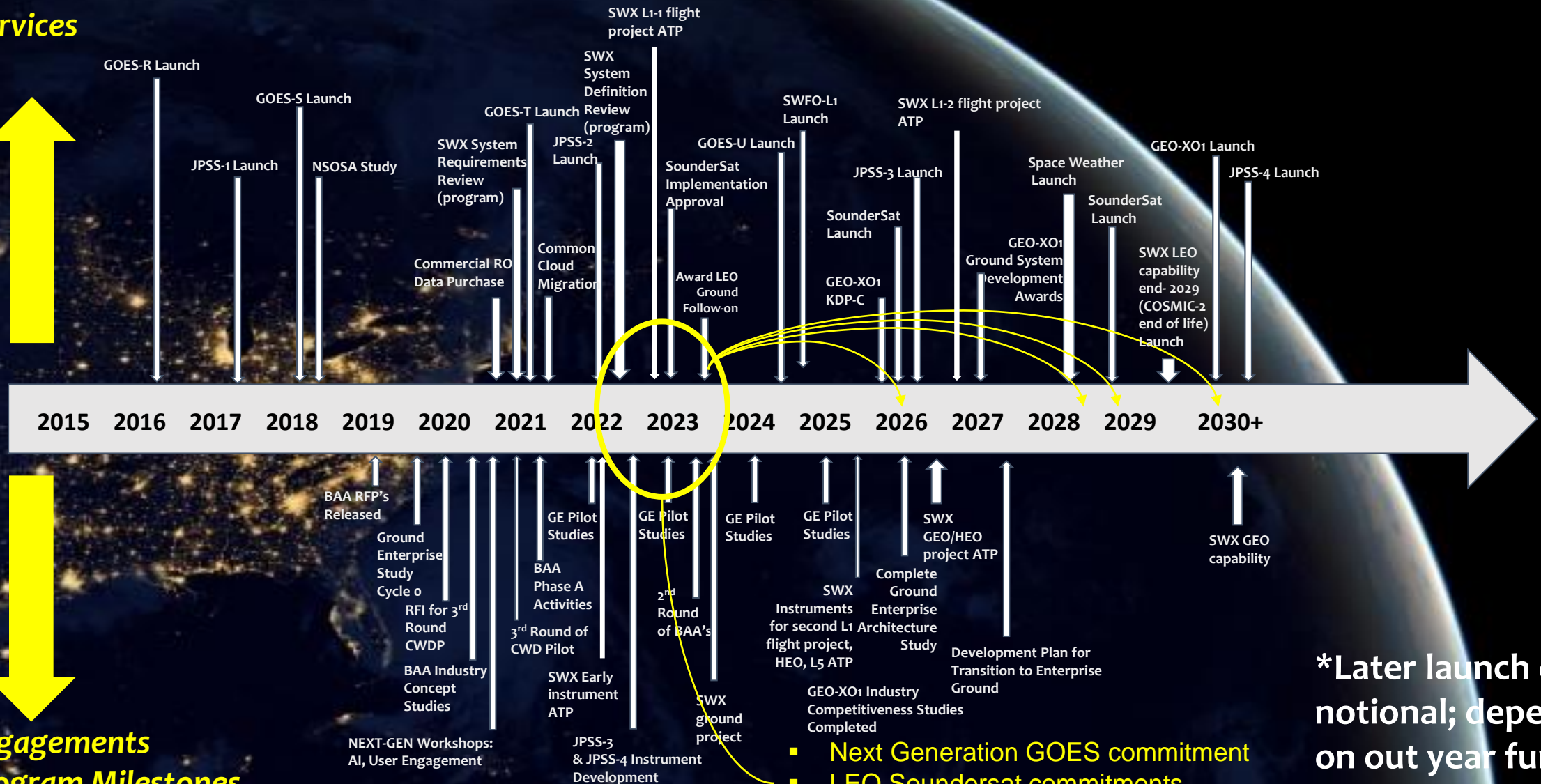
6 Deliver integrated program development to provide a suite of products and services

TIMELINE TO TOMORROW: HOW WE'RE DEVELOPING NOAA'S NEXT-GEN SYSTEMS*

**Deliveries
Services**



**Engagements
Program Milestones**



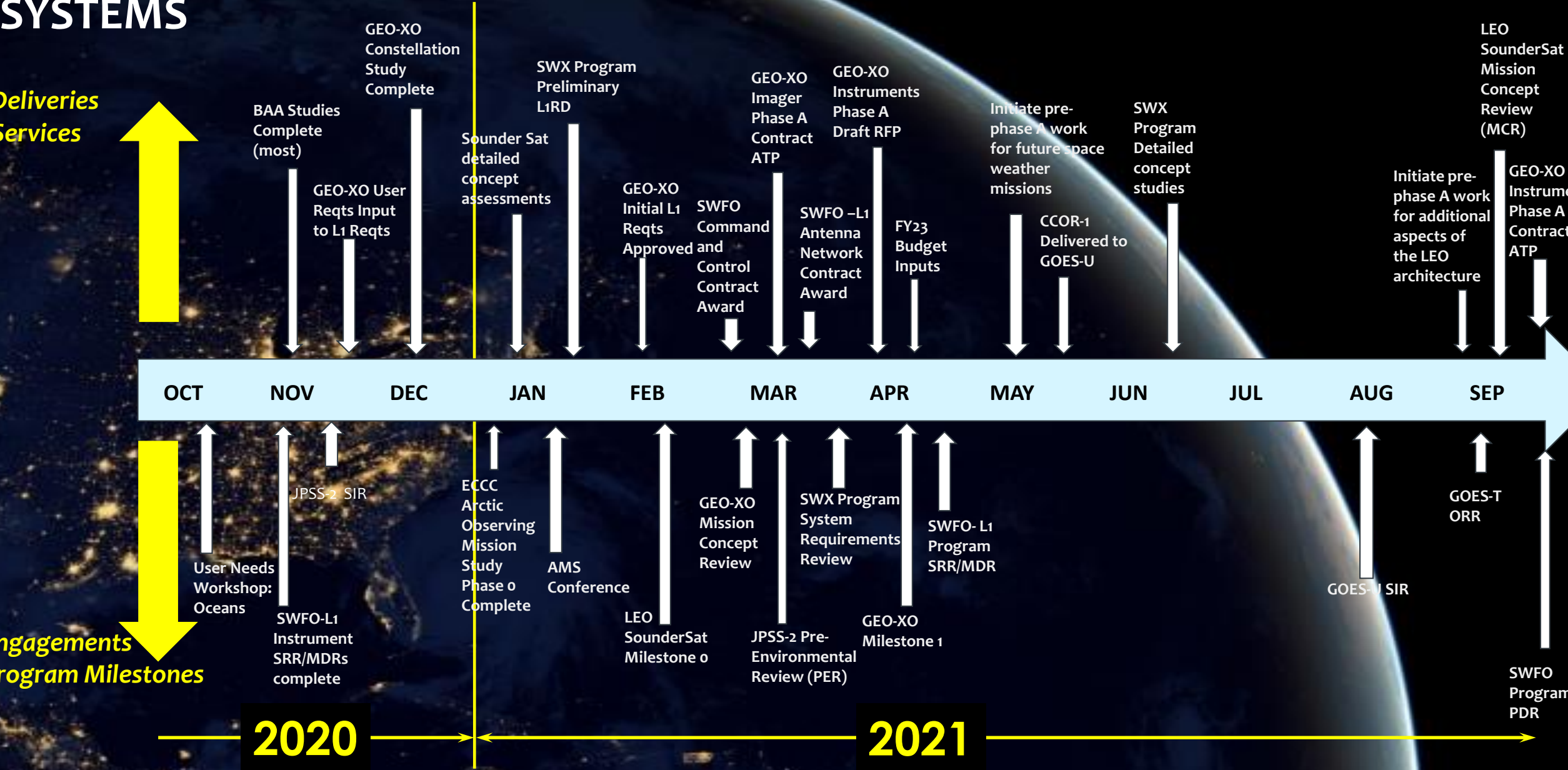
***Later launch dates
notional; dependent
on out year funding**

- Next Generation GOES commitment
- LEO Soundersat commitments
- Space Weather next gen definition

TIMELINE FOR NEXT YEAR: HOW WE'RE DEVELOPING NOAA'S NEXT-GEN SYSTEMS

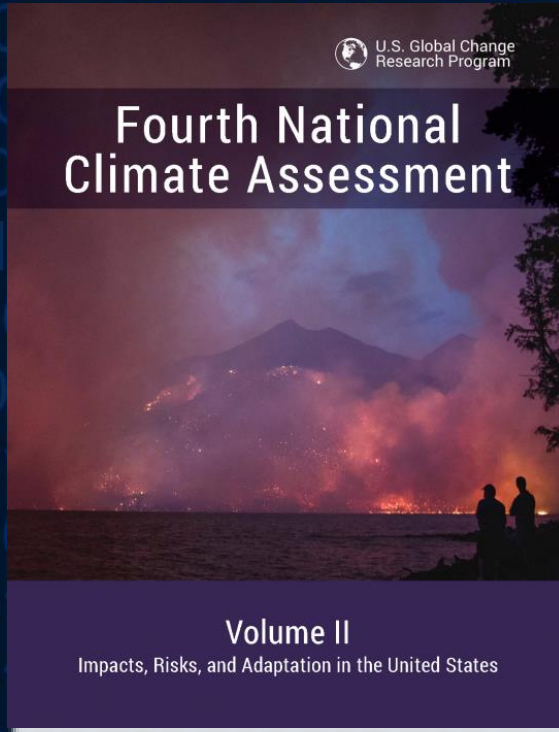
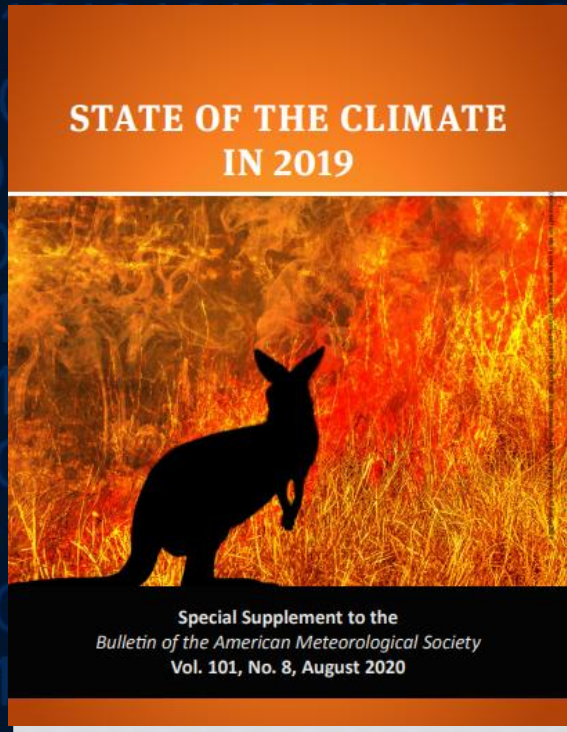
**Deliveries
Services**

**Engagements
Program Milestones**





We are beginning to understand the Earth as an integrated system for the first time, at just the right time, and maybe just in time.





Questions?