



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

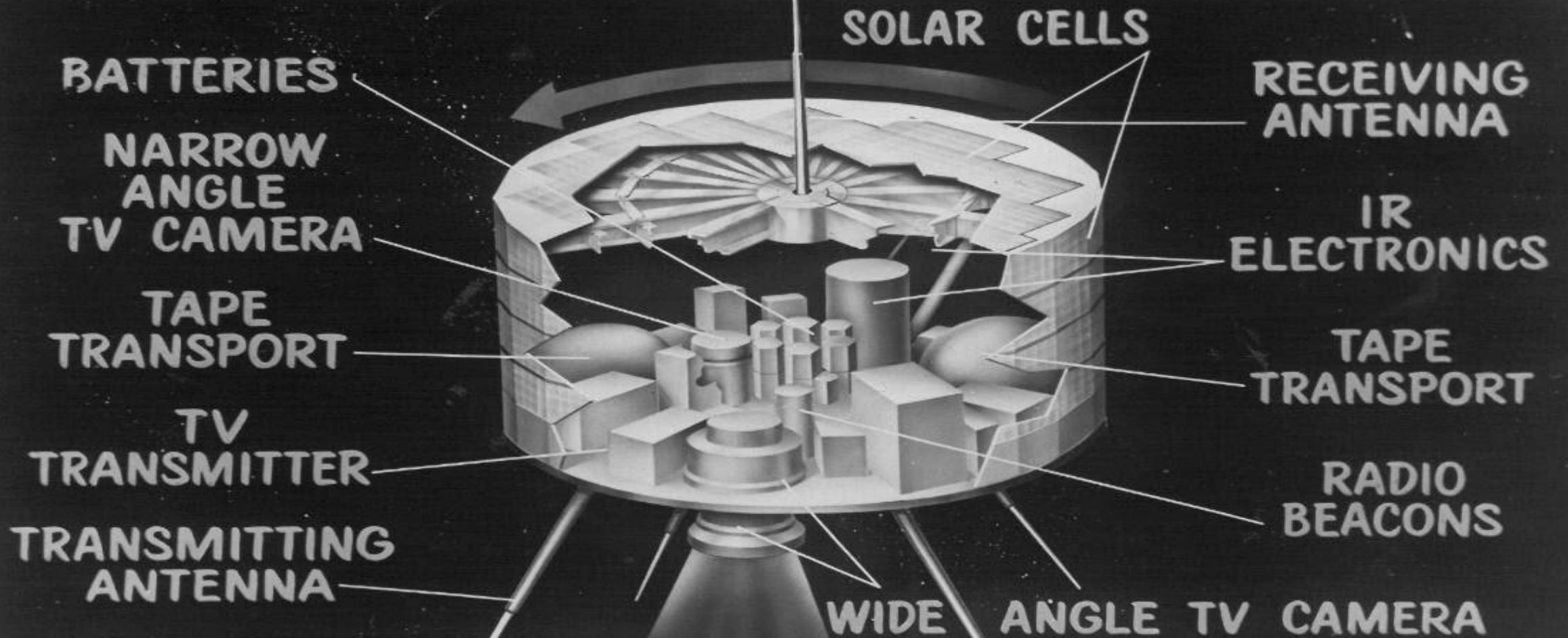
Dr. Stephen Volz, Assistant Administrator
NOAA Satellite and Information Service





SCIENCE. SERVICE. STEWARDSHIP.

TIROS



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

2018

2019

Lost Year?

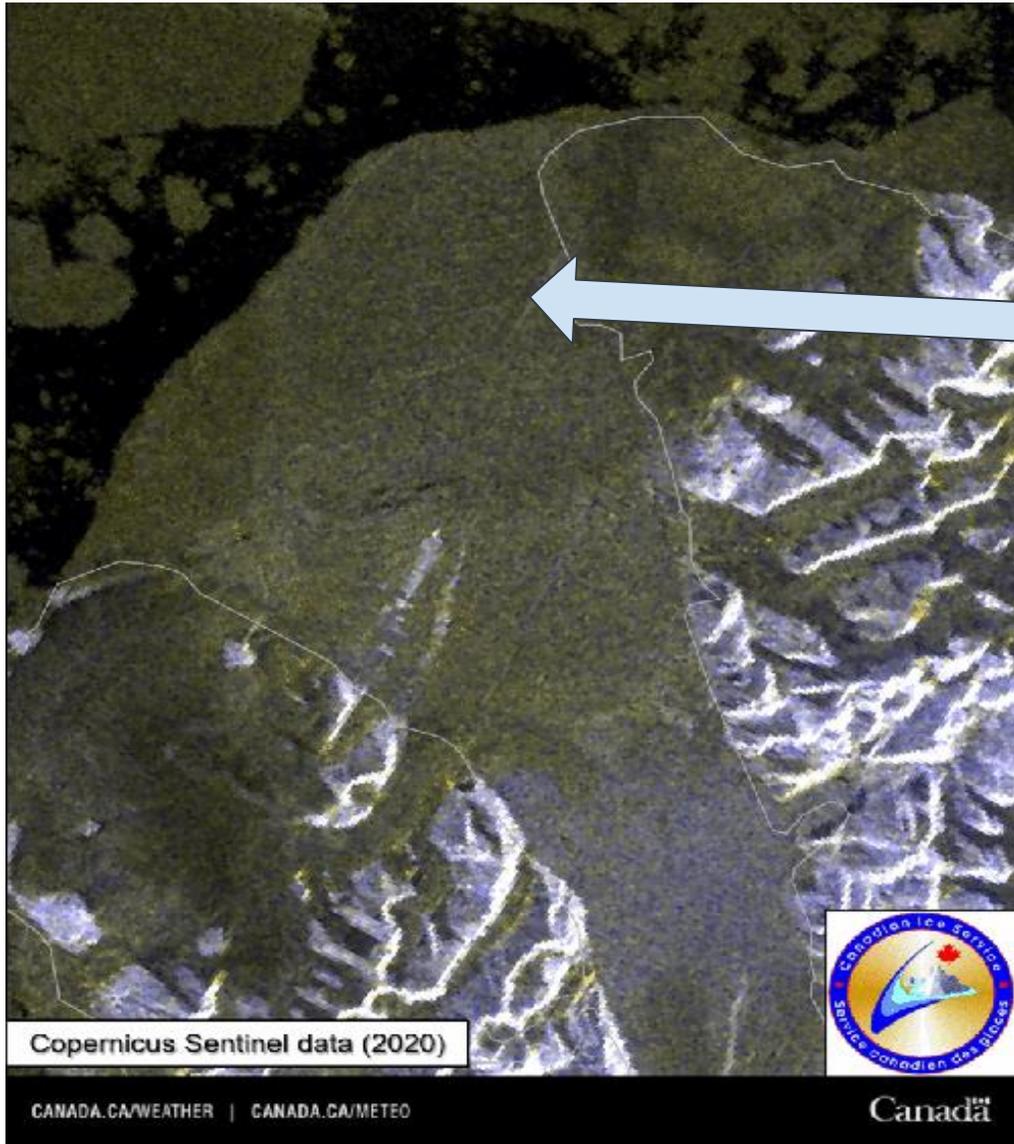
2021

2022



Melting Ice Caps: Milne Ice Shelf Collapse Aug. 4

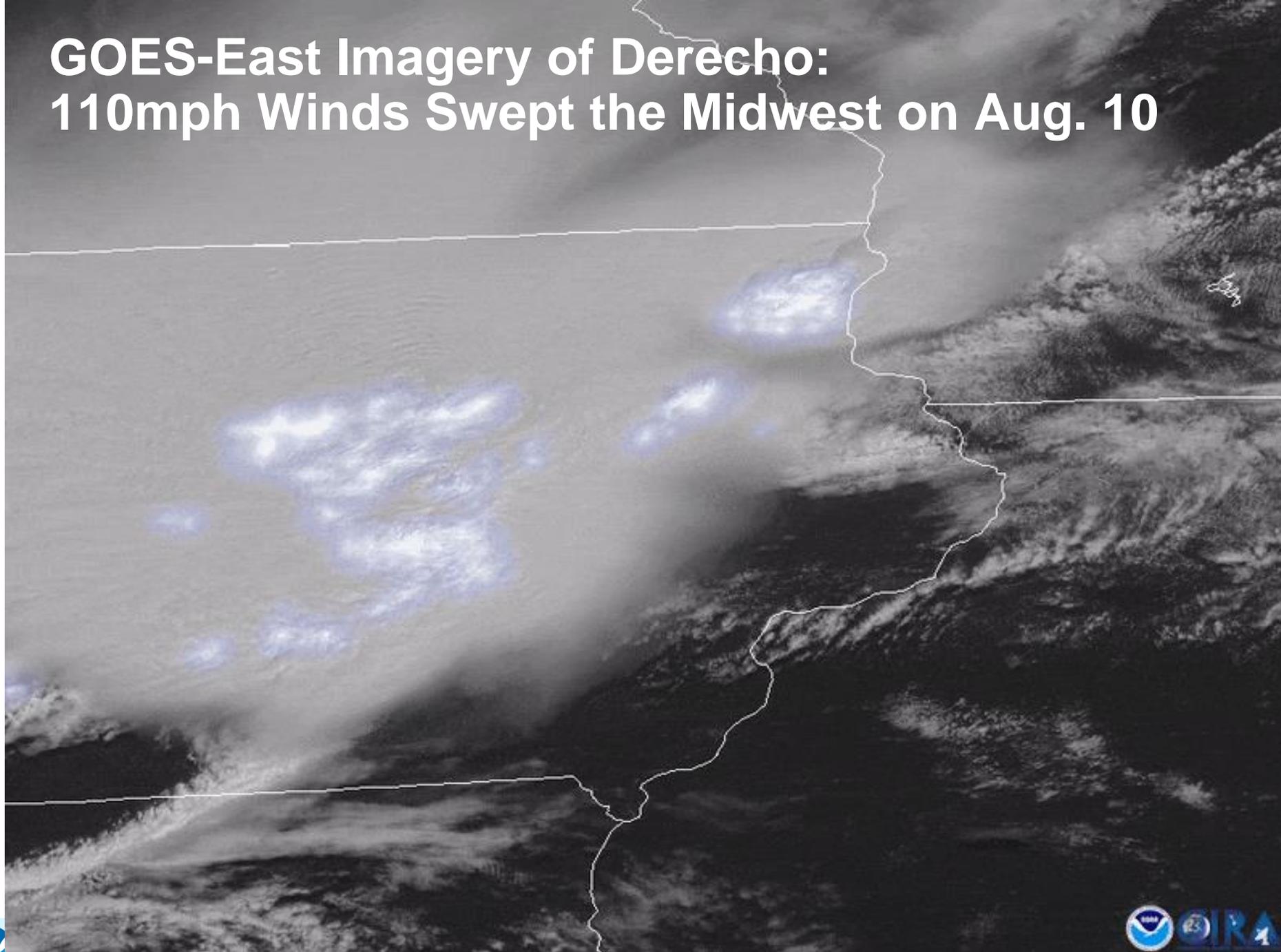
Canada's largest intact ice shelf lost more than 30 square miles -- an area larger than the island of Manhattan.



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



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

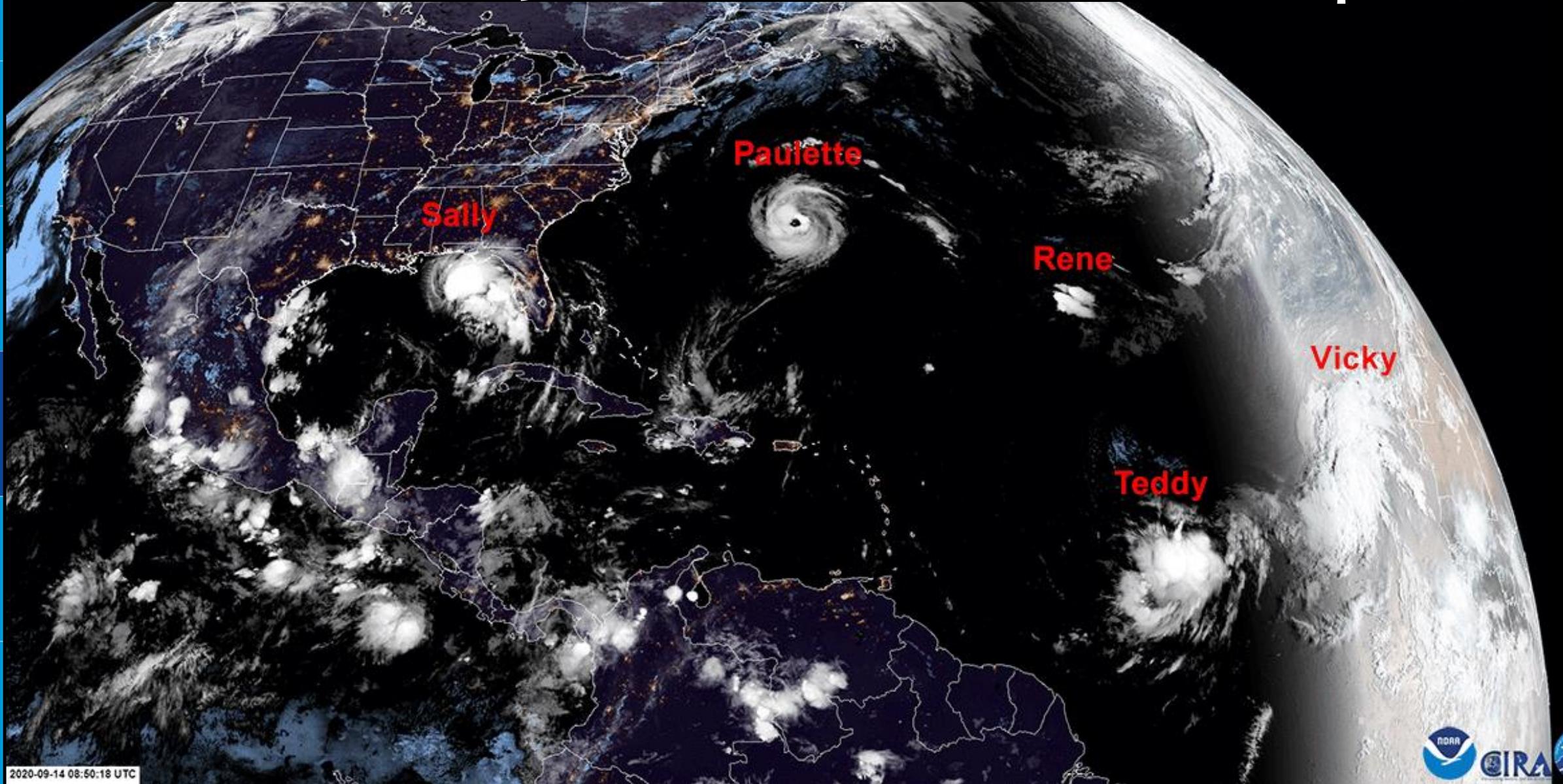


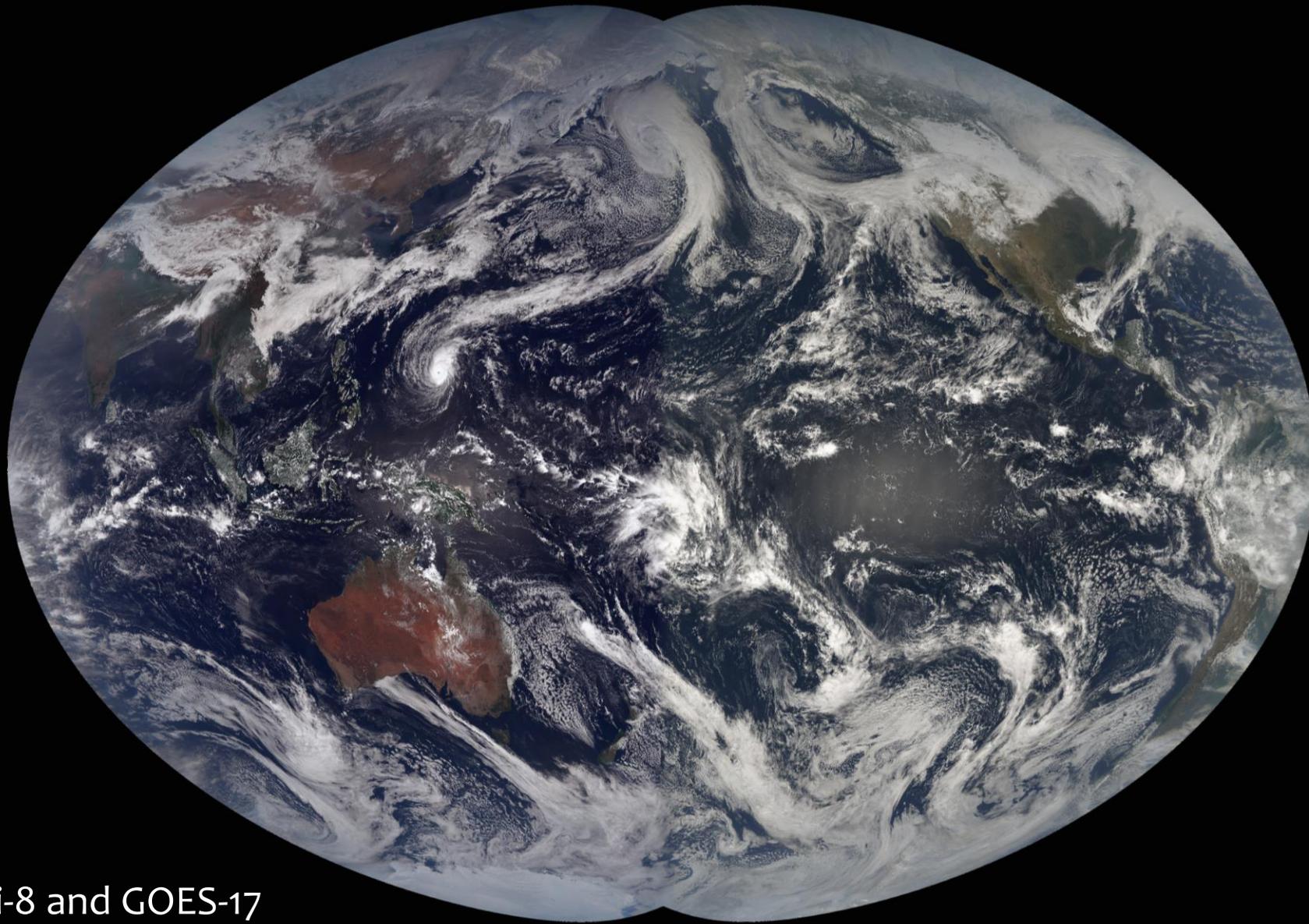


Speed and Ferocity: Hurricane Laura Grows from Cat 1 to Cat 4 in less than 18 hours!



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

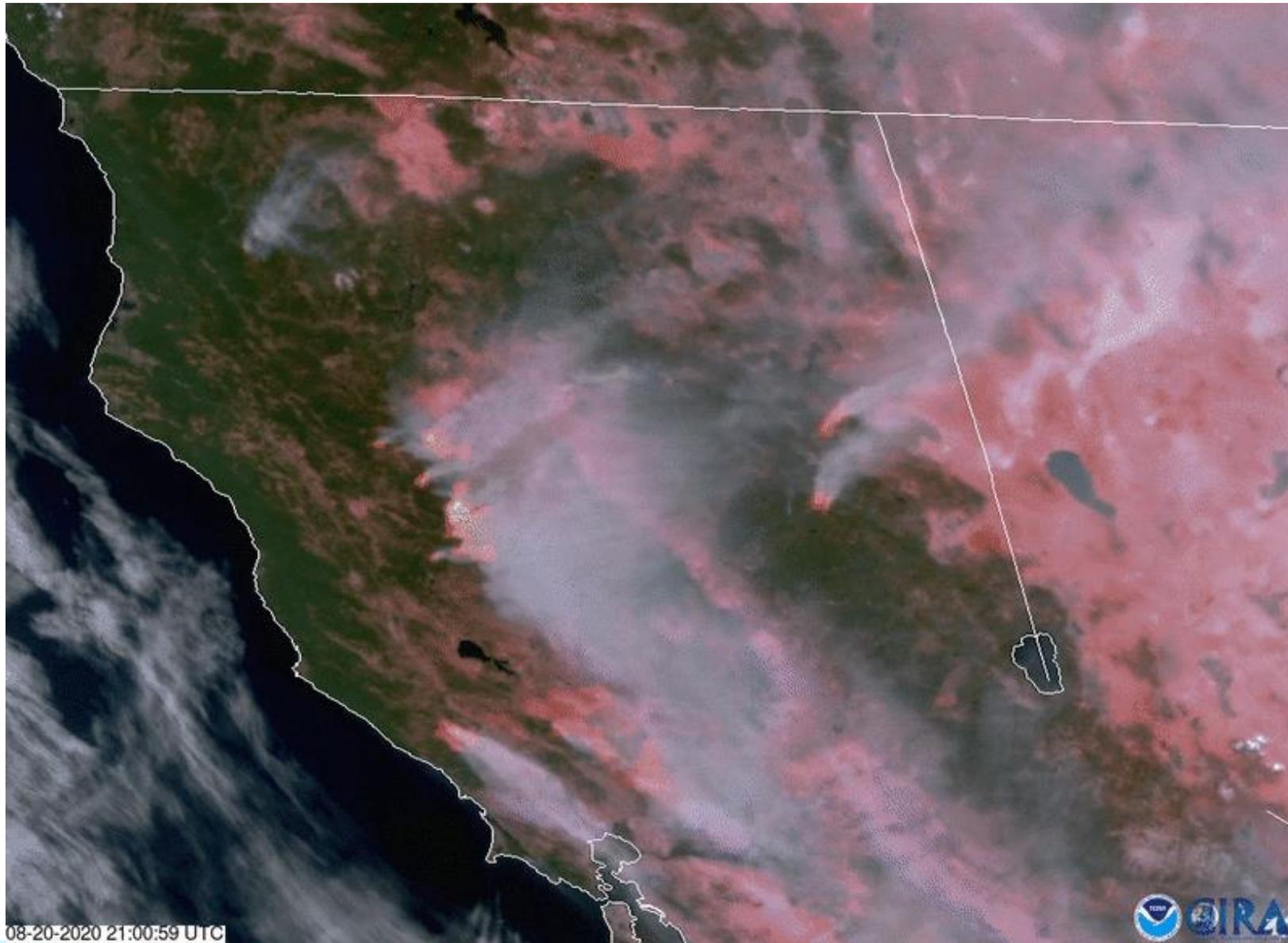




Himawari-8 and GOES-17
24-25 February 2019 in Mollweide Projection



Western Wildfires: Multiple West Coast Fires, Aug. 20

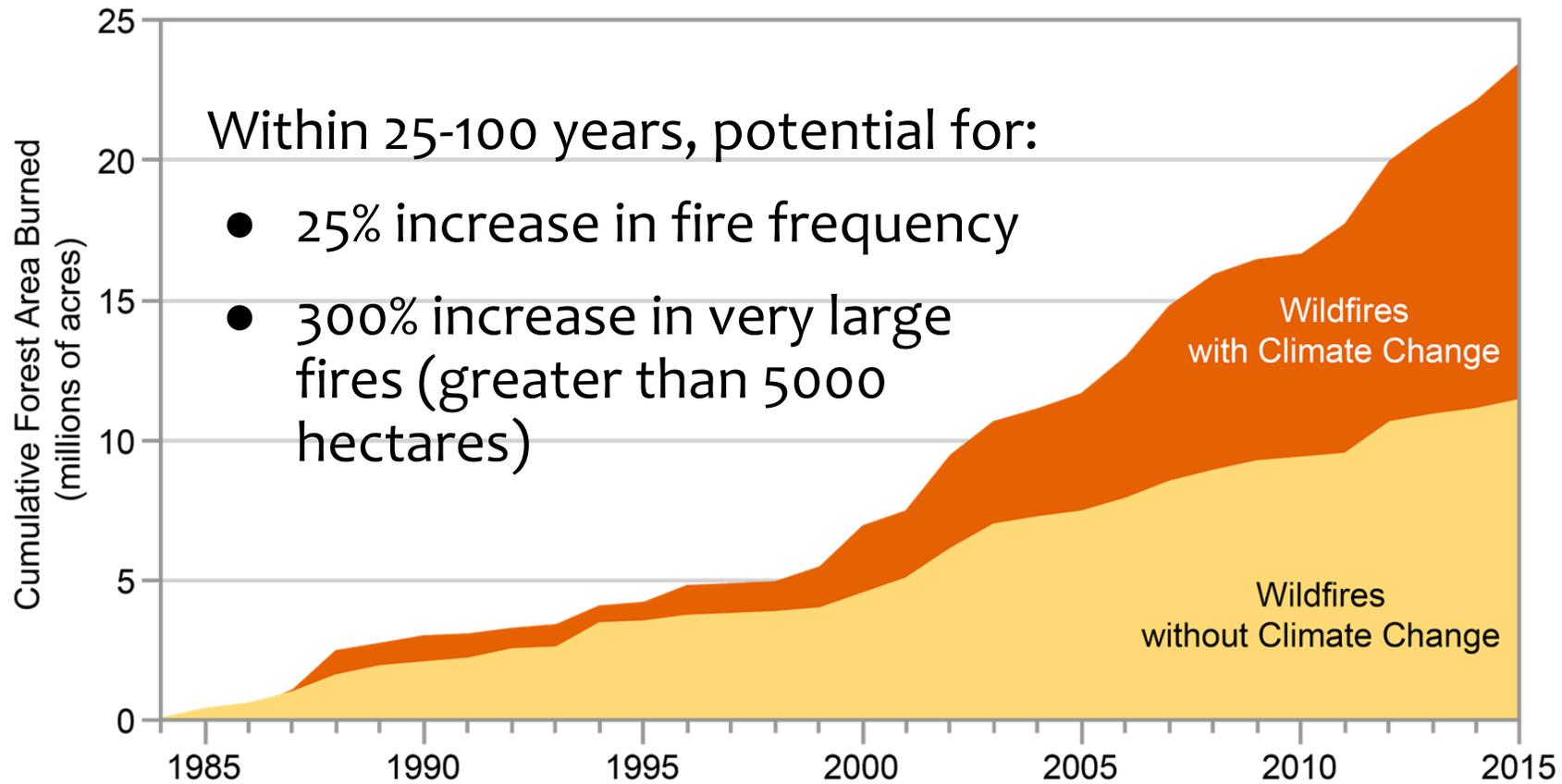


08-20-2020 21:00:59 UTC





Impact of Climate Change: Fires in in the Southwest



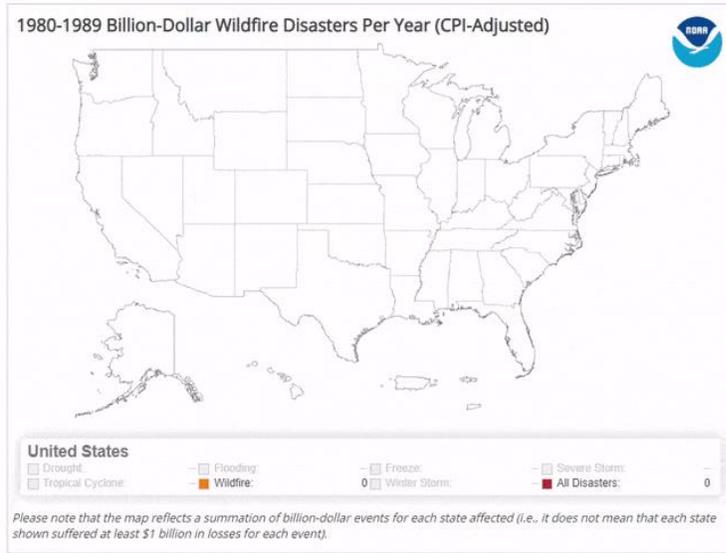
Within 25-100 years, potential for:

- 25% increase in fire frequency
- 300% increase in very large fires (greater than 5000 hectares)

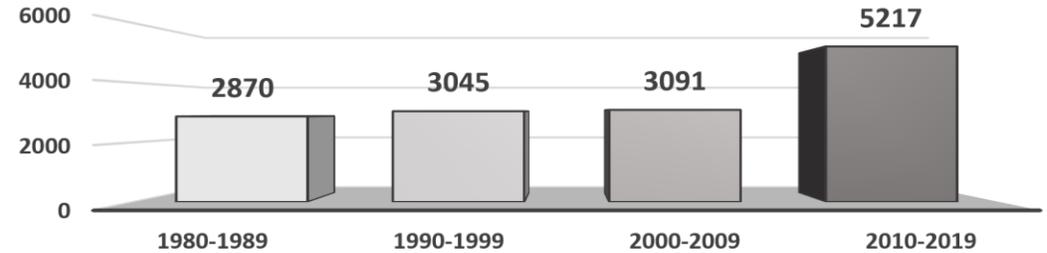
Graph and statistics cited from 4th National Climate Assessment:

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

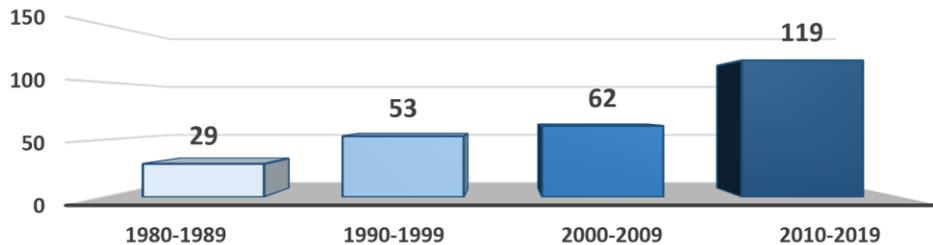
Billion Dollar Disaster Record



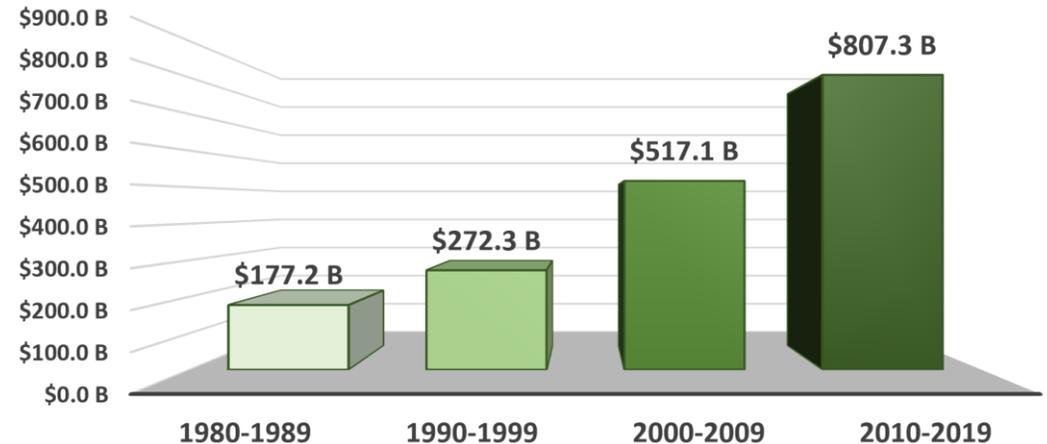
Deaths



Number of U.S. Billion-Dollar Events



Cost (Billions)

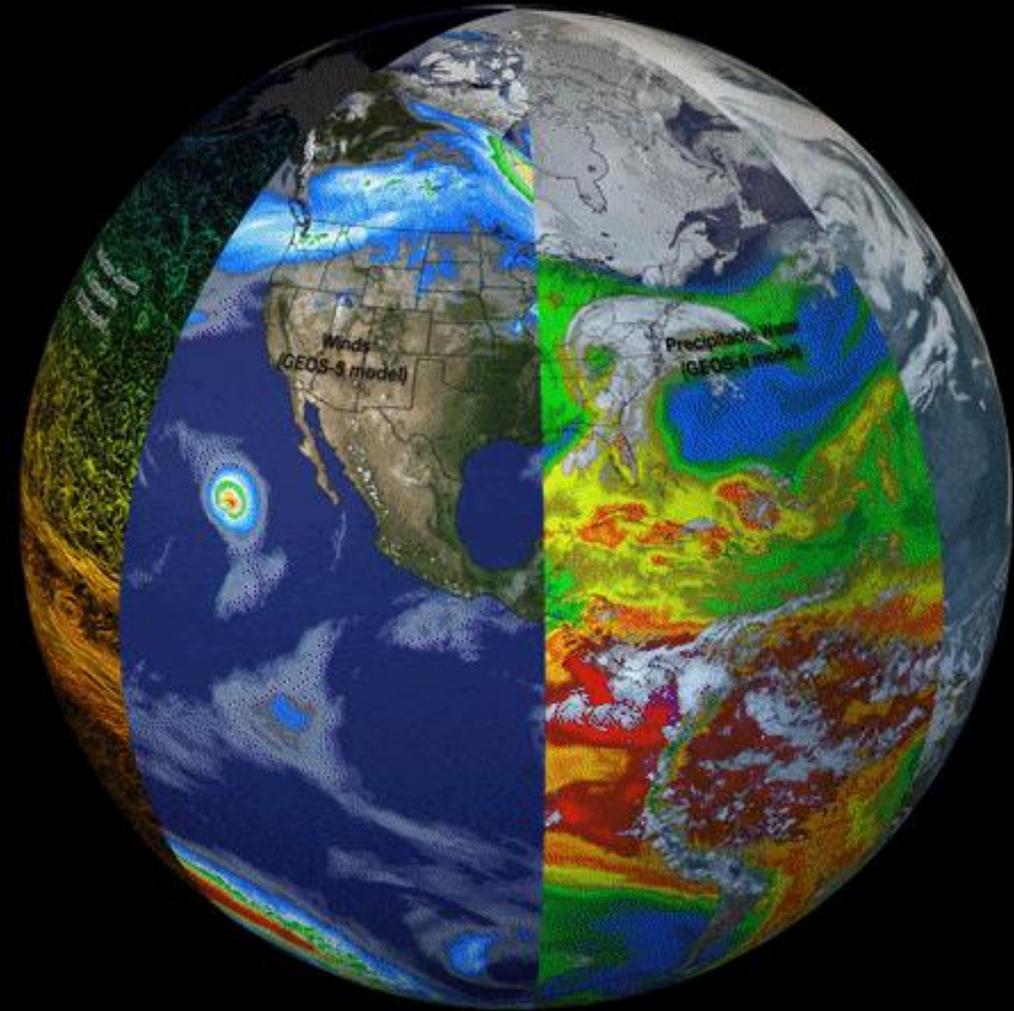


c.f. NOAA National Centers for Environmental Information (NCEI) U.S. Billion-Dollar Weather and Climate Disasters (2020). <https://www.ncdc.noaa.gov/billions/>

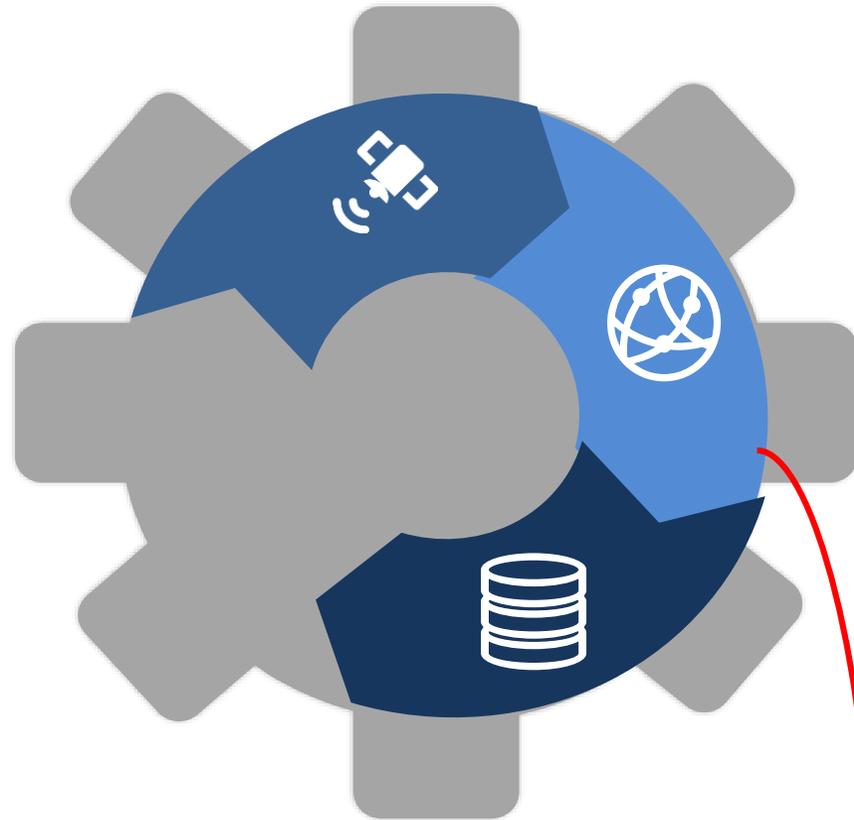


NESDIS Aspiration

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



<i>Products and Services that are Useful, Usable, and Used</i>	
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



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***



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

NESDIS Strategic Objectives



1
Advance terrestrial observational leadership in geostationary and extended orbits



2
Advance Space Weather observational leadership in LEO, GEO, and extended orbits.



3
Evolve LEO architecture to enterprise system of systems that exploits and deploys new observational capabilities



4
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

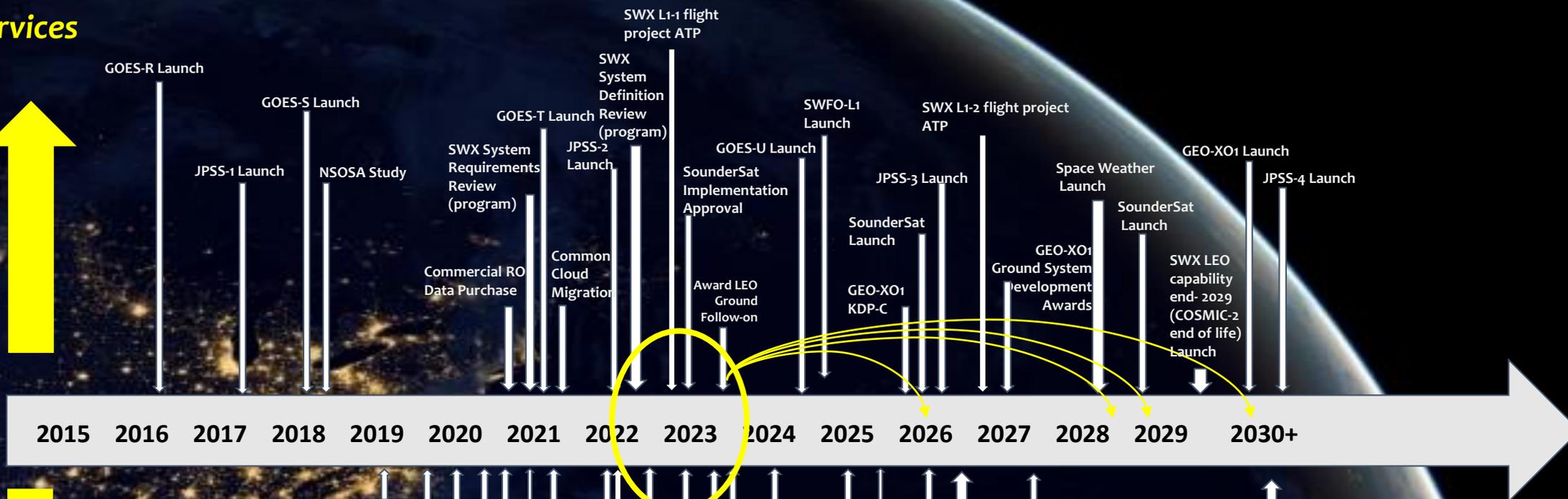
6



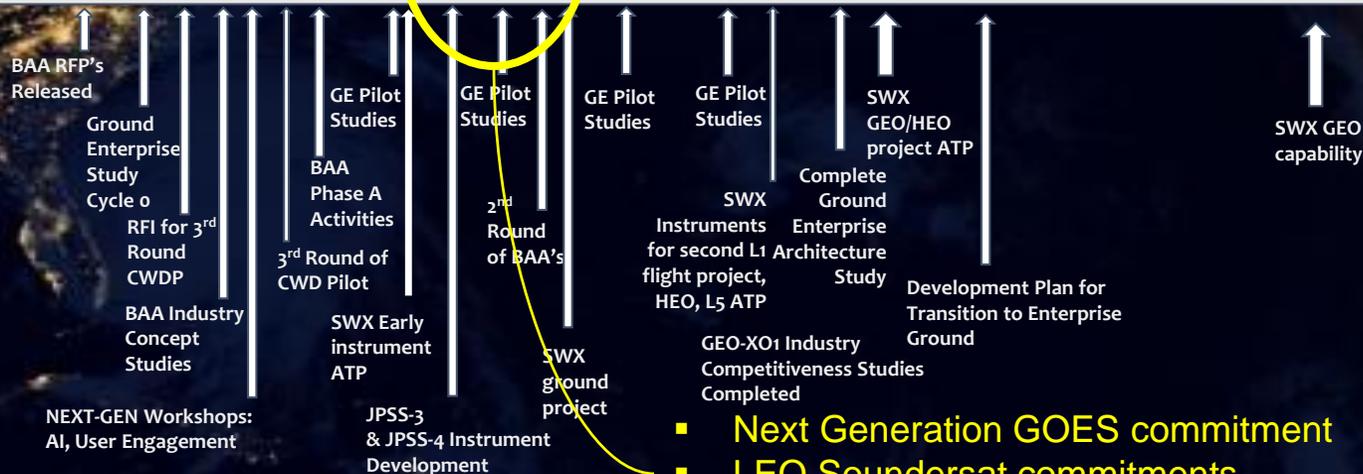
Deliver integrated program development to provide a suite of products and services

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

**Deliveries
Services**



**Engagements
Program Milestones**



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

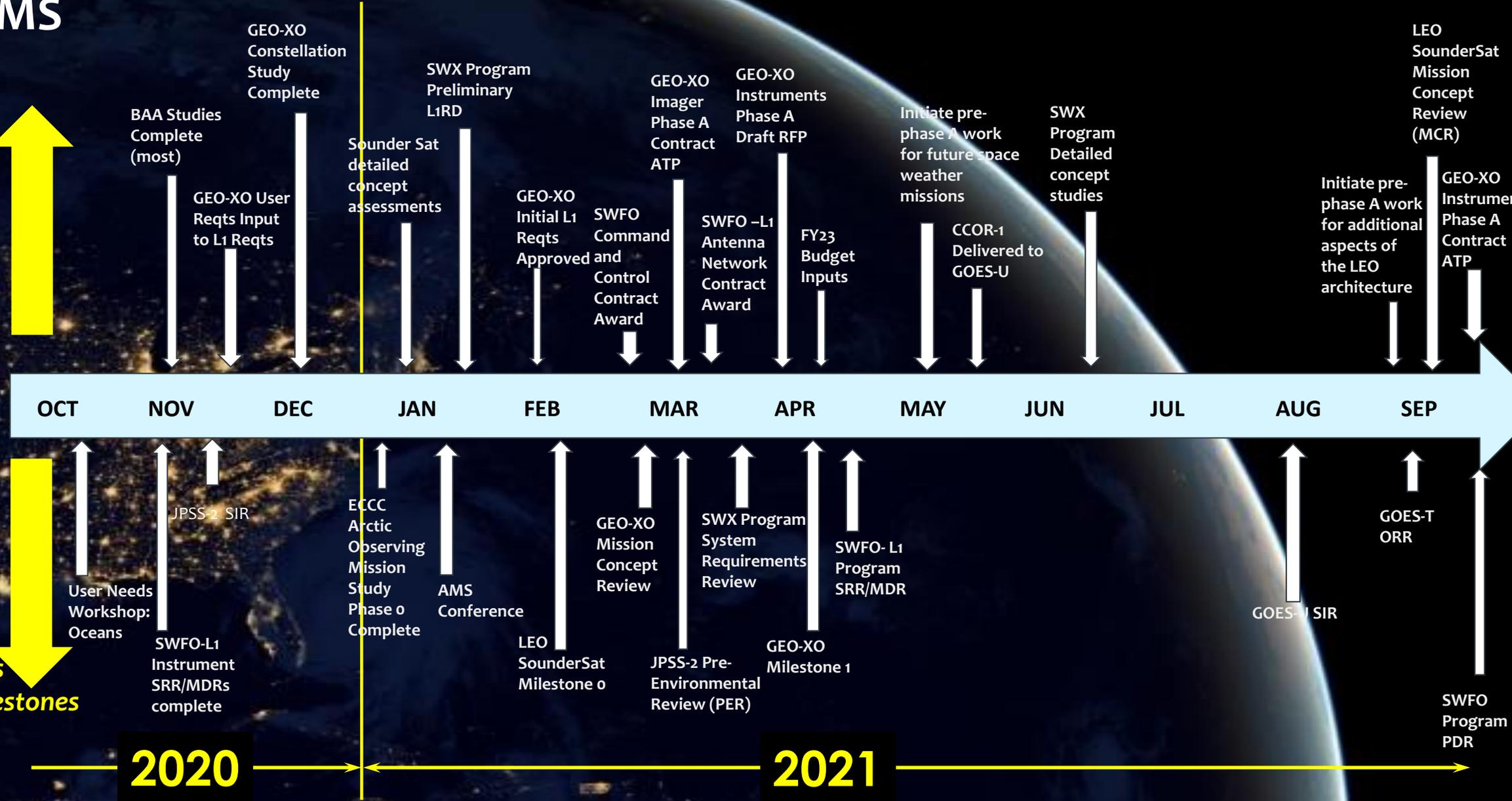
*Later launch dates notional; dependent on out year funding

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

Deliveries Services



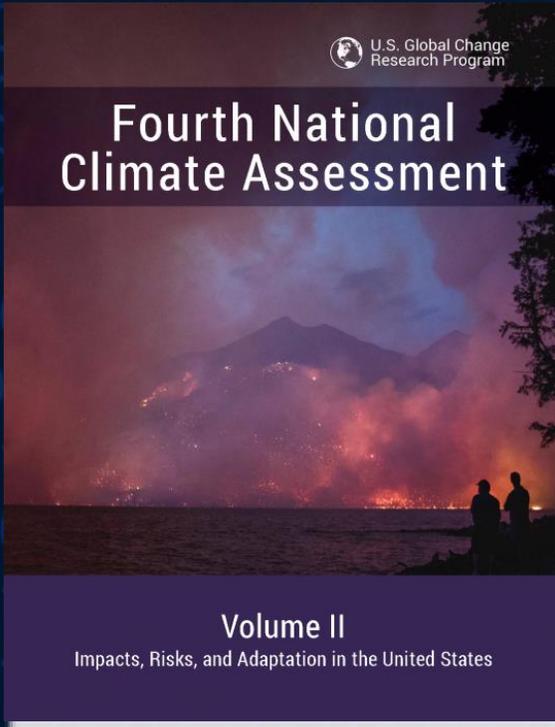
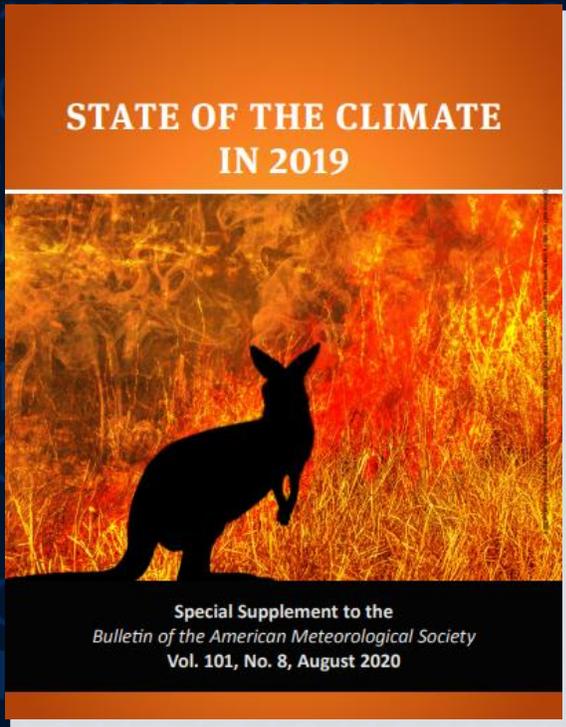
Engagements Program Milestones



2020

2021

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?

