

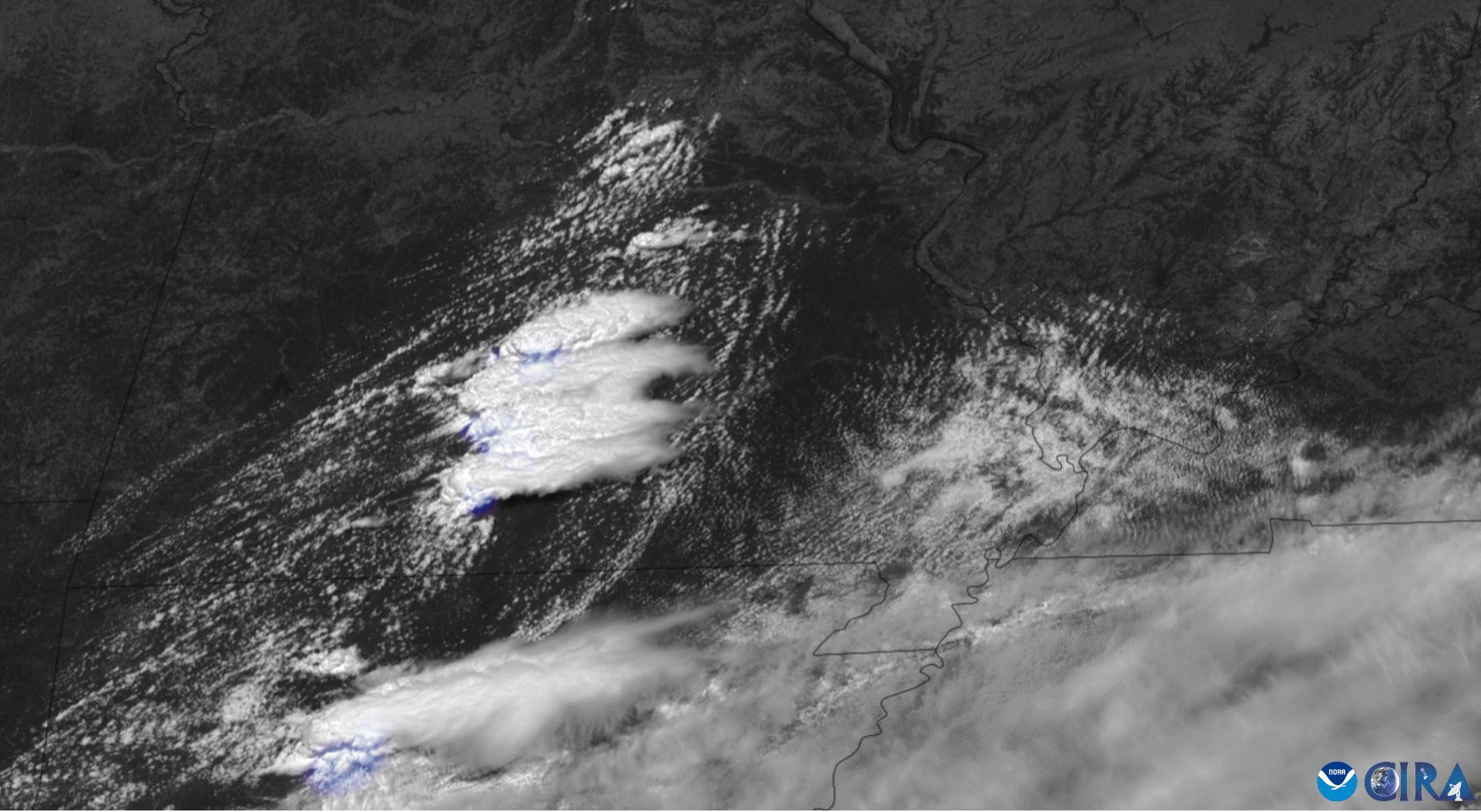
NOAA Update to the National Academies Committee on Earth Science and Applications from Space

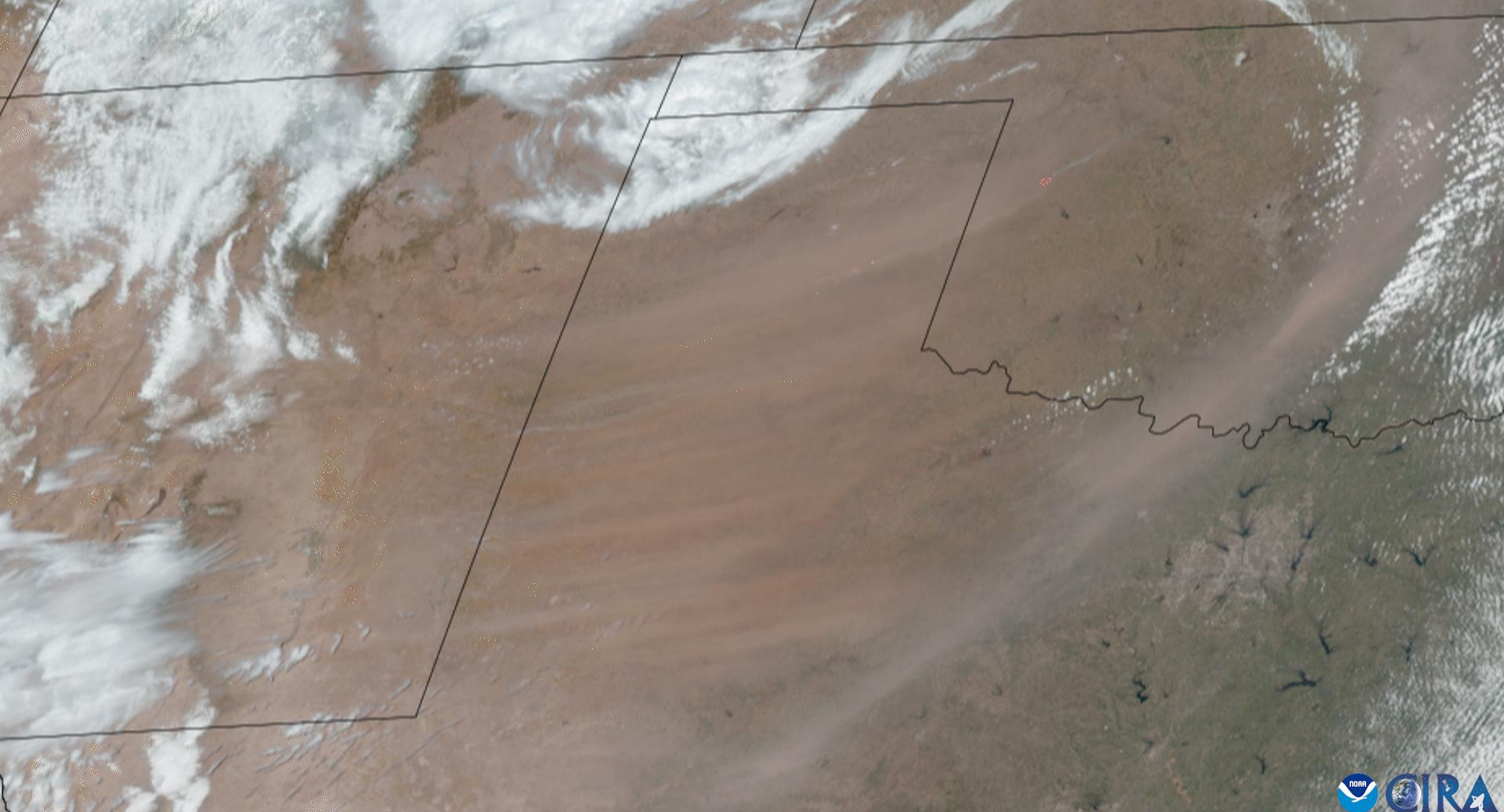
NESDIS

National Environmental Satellite,
Data, and Information Service

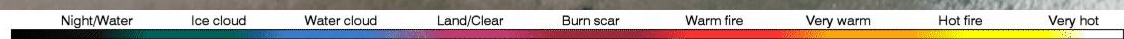
March 25, 2026

Tim Walsh, NESDIS Deputy Assistant Administrator for
Systems (acting)





2025-03-14 | 17:16 UTC | GOES-16 | ABI | GeoColor + Fire Temperature



Outline

1. Administration Priorities & The NESDIS Mission
2. Update on the NESDIS Programs
3. Partnerships

The background of the slide is a composite image. The top portion shows a dark, star-filled space. Below this, a horizontal band shows the Earth's horizon with a thin layer of atmosphere. The bottom portion shows a high-angle view of the Earth's surface, featuring a large body of water on the left and a dark, mountainous landmass on the right, all under a blue sky with light clouds.

Administration Priorities & The NESDIS Mission



NOAA Priorities

- Numerical Weather Prediction: Securing U.S. leadership via NOAA-industry-academic partnerships.
- Commercial Data: Augmenting core observing capabilities with commercial integration.
- AI & Autonomous systems: Accelerating mission delivery and innovation where appropriate.
- Spectrum: Ensuring continued access to frequencies critical to Earth observation.
- Space Weather: Elevating as a core priority mission area.
- Cloud Modernization: Advancing data access, processing, and timeliness.
- Research-to-Operations (R2O): Accelerating the deployment pipeline.



NESDIS Mission

Essential to National Security, Safety, & Prosperity

- Operates the Nation's weather satellites, 24/7
- Acquires next-generation terrestrial and space weather observation satellites
- Provides data and imagery for predictive environmental, atmospheric, and heliophysics modeling from our own satellites, our partners', and the commercial sector
- Maintains one of the most comprehensive archives of environmental data on Earth





Vision for the Future

Integrated Observing Systems and Transformational Weather Services

- GEO, LEO, and SWO observations complementing a growing global network of partner and commercial satellites
- Operational data and information systems for environmental observations and modeling
- Accurate, reliable, and trusted NOAA information products available to all users and serving as the baseline for new data science applications
- Early detection of environmental hazards, utilized on the front lines for emergency response





Prioritizing Key Mission Requirements & Integration

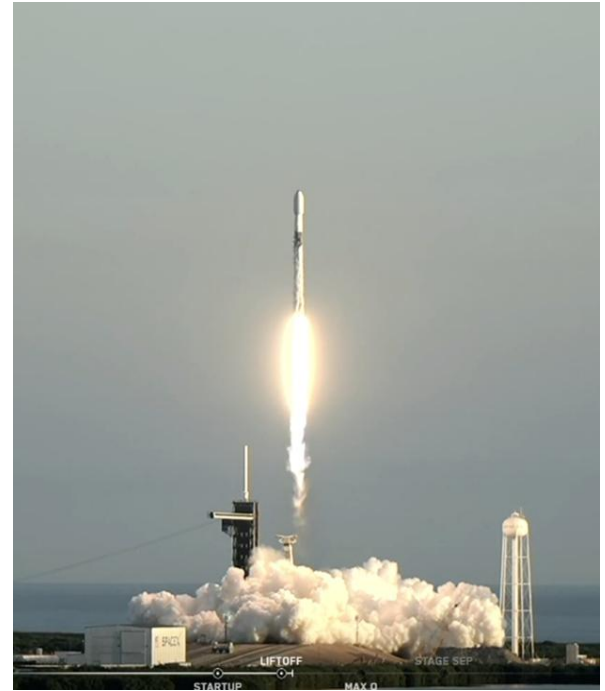
Impact, Integration & Efficiency

- Data-Driven ROI: We are prioritizing investments based on quantifiable operational return, decisively sunsetting legacy programs to fund the future of life-saving science.
- Cross-Agency Integration: We are synchronizing operations across all Line Offices so that shared space-based assets seamlessly empower multiple missions.
- Gap-Driven Consolidation: We are systematically evaluating our modeling capabilities to close operational gaps and give forecasters exactly what they need.



NESDIS Recent Accomplishments

- SWFO-L1 launched last September and now at L1. Renamed SOLAR-1.
- Successfully completed the Pre-Ship Review for Libera, the last instrument to be integrated onto a JPSS satellite!
- Developed a new Wildland Fire Data Portal, which provides open access to the experimental products from the Next Generation Fire System (NGFS).
- Signed an Other Transaction Authority (OTA) agreement with Raytheon for the Critical Design Review (CDR) study of a weather imagery prototype mission that will mature weather imagery capabilities under the Near Earth Orbit Network (NEON) Stratus project.
- Updated our Management Control Plan with NASA.





National Environmental Satellite Data and Information Service (NESDIS)



Assistant Administrator (NESDIS) Irene Parker (A)	Deputy Assistant Administrator, NESDIS James Donnellon	Office of Satellite and Product Operations (OSPO) Scott Leonard (A)	Center for Satellite Applications and Research (STAR) Kristen Tronvig (PDO)	National Centers for Environmental Information (NCEI) Derek Arndt	Office of Common Services (OCS) Heather Kilcoyne
	Deputy Assistant Administrator for Systems, NESDIS Timothy Walsh (A)				
	Senior Scientist Michael Ford	Office of Geostationary Earth Orbit Operations (GEO) Edward Grigsby	Office of Low Earth Orbit (LEO) Jim Valenti (A)	Office of Space Weather Observations (SWO) Richard (Greg) Marlow	
	Systems Architecture and Engineering (SAE) Dan St Jean (A)				
Chief of Staff, NESDIS Todd Harding (A)	International and Interagency Affairs (IIAD) Mary Ann Kutny (A)		Office of the Chief Financial Officer / Chief Administrative Officer (CFO/CAO) Dave Holst	Office of the Assistant Chief Information Officer (ACIO) Rick Miner (A)	

(A) = Acting
(PDO) = Performing non-exclusive functions and duties of



A photograph of Earth from space, showing the curvature of the planet and the dark void of space filled with stars. The image is used as a background for a presentation slide.

Update on the NESDIS Programs

Modernizing NOAA Observing Systems

- Future NESDIS satellite programs will continue to tie to key weather observational requirements and advance the capabilities of NOAA satellites
 - GeoXO, NEON, and SW Next will fly advanced, next-gen instruments, building on the capabilities of the instruments currently flying on GOES-R, JPSS, and SWFO
 - Leverage commercial capabilities, and continue to foster interagency and international partnerships
- NESDIS will develop observations towards becoming a world leader in NWP computing
 - Advancing global and regional models, hurricane modeling, and severe weather prediction.

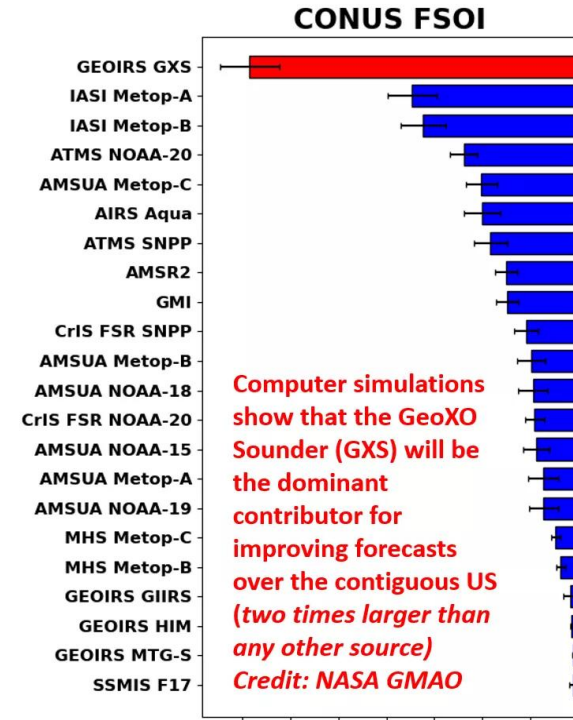
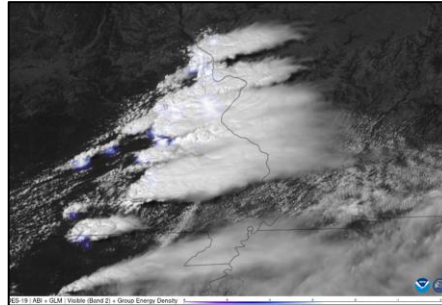


QuickSounder

Next Generation Geostationary Observations Will Improve NWP

NOAA's Geostationary Extended Observations (GeoXO) satellite system will expand observations of Earth that the GOES-R Series currently provides from geostationary orbit.

New Hyperspectral Sounding on GeoXO will provide real-time information about the vertical distribution of atmospheric moisture, winds, and temperature



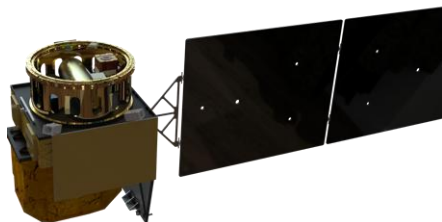
NEON Program provides continuity for JPSS while expanding capabilities

QuickSounder Project

Demonstrate operational observations can be obtained with a small, commercial-based satellite on a compressed schedule



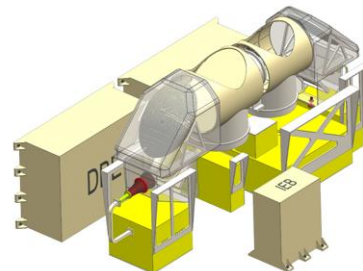
ATMS EDU



QuickSounder Concept

Series-1 Project

Provide microwave soundings essential to the performance of the NWP global models



High Performance
Microwave Sounder Concept



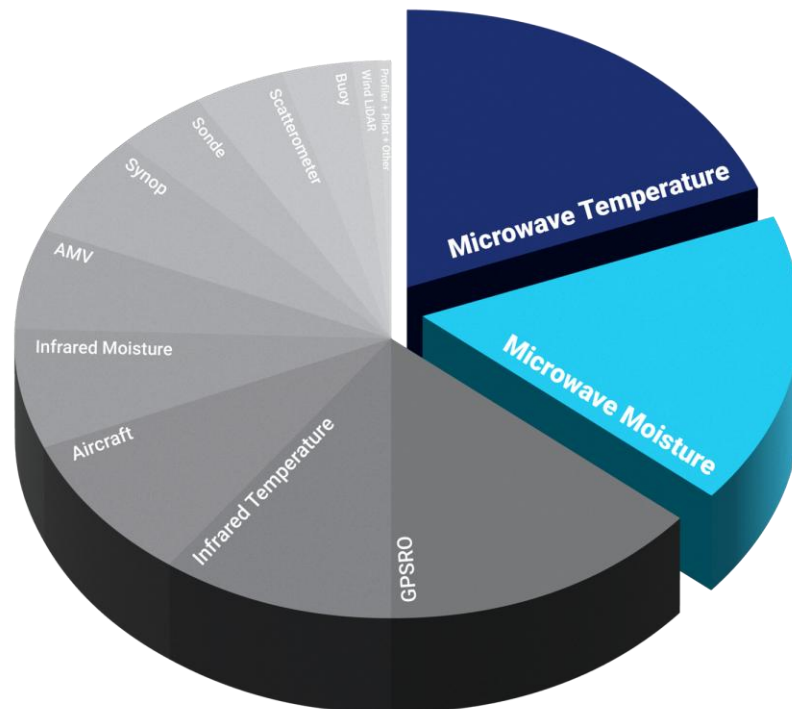
Series-1 Satellite

QuickSounder Render Credit: Southwest Research Institute/Richard Menchaca

Next Generation LEO Observations

The first series of LEO's next generation of satellites, the Near Earth Orbit Network (NEON), will focus on advancing microwave sounding, critical for numerical weather prediction (NWP).

These measurements are the two largest-impact sources of observations for forecasts.



Impact of Observations By Source to NWP
March 1, 2024–March 31, 2024

NOAA Satellites Observe Space Weather

- SOLAR-1 sustains NOAA's foundational set of space-based space weather observations and measurements to ensure continuity of critical data.
- SOLAR-1 launched September 24th (Falcon 9 rideshare)
- On-orbit commissioning will run from January-April before SOLAR-1 is declared operational Preliminary data processing at NWS Space Weather Prediction Center (SWPC) and NESDIS NCEI going well
- Agreements in place with NASA, NRL, and European Space Agency (L1 & L5 cooperation)
- Successful 2024 launch of CCOR-1 on GOES-19 (operational as GOES-East)



CCOR-1 integration onto GOES-U
Image Credit: Lockheed Martin



Spacecraft assembly
Image credit: BAE Systems



SWFO-L1 Spacecraft
Image Credit: BAE Systems

BAE SYSTEMS

Next Generation Space Weather Observations

- SOLAR-A, the first project of the SW Next program, provides continuity for SOLAR-1 measurements of the solar wind, thermal plasma, the sun's magnetic field, and corona.
- SOLAR implementation:
 - Department approval July 2024; NASA key decision point "B" December 2024
 - Contracts awarded for spacecraft and all SOLAR-A instruments
 - Mission PDR completed March 11-12, 2026
- SW Next's L5 Project: Joint PDR/CDR scheduled for May 2026





Commercial Data & Partnerships

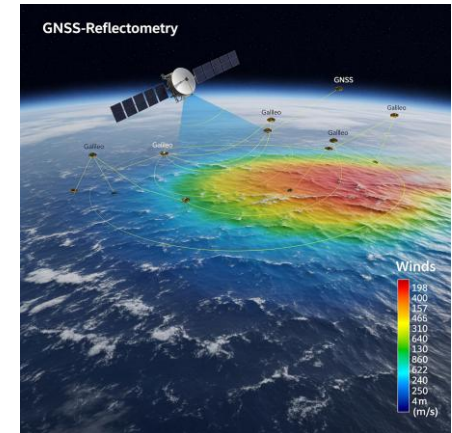
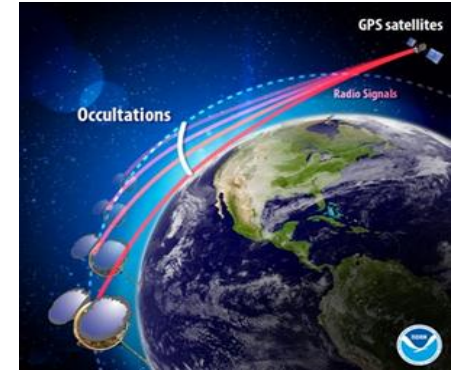
LEO


FAMILY OF SYSTEMS



NESDIS Commercial Data Program

- The **NESDIS Commercial Data Program** acquires and assesses value-added commercial space-based environmental observation data to support NOAA's operational weather forecast mission.
 - In 2025-2026, additional operational radio occultation (RO) data purchases, critical to numerical weather prediction (NWP), continued under the 5-year contract awarded in 2023. In FY26, this includes successful transition from pilot to operations for GNSS-RO total electron count (TEC) for space weather applications.
- The **Commercial Weather Data Pilot (CWDP)** studies assess the quality, characteristics, and impacts of available commercial observations and assess potential benefits to NWP by additional commercial capabilities over the current US government LEO backbone.



A satellite view of Earth showing cloud patterns and weather systems. The image is a high-resolution satellite photograph of the Earth, showing a large portion of the globe. The colors are predominantly dark blues and blacks, representing the oceans and the night sky, with white and light blue clouds scattered across the surface. Several prominent weather systems are visible, including large-scale cyclones or hurricanes with distinct white eyes. The text "Thank You! Questions?" is overlaid in the center of the image in a white, sans-serif font.

Thank You!
Questions?