



Next-Generation Earth & Space Observations

Integrating NOAA's Strategic Enterprise



National Environmental Satellite,
Data, and Information Service

3/24/26

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NOAA Priorities

Numerical Weather Prediction



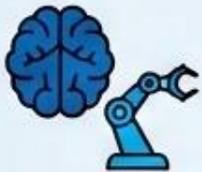
Securing U.S. leadership via NOAA-industry-academic partnerships.

Commercial Data



Augmenting core observing capabilities with commercial integration.

AI & Autonomous systems



Accelerating mission delivery and innovation where appropriate.

Research-to-Operations (R2O)



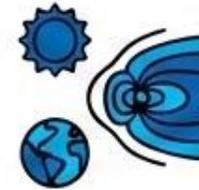
Accelerating the deployment pipeline.

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.



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 streamlining our modeling capabilities to close operational gaps and give forecasters exactly what they need.



Aligning with National Space Directives

Advancing U.S. Leadership in Space



National Priorities:

Aligning NOAA's observational roadmap with executive directives for space domain leadership.



Commercial Catalyst:

Utilizing innovative business practices to actively stimulate the U.S. commercial space economy.



Dual Benefit:

Enhancing internal forecasting capabilities while fostering external industry growth.

Implementing Administration Policy



PRESIDENTIAL ACTIONS

ENABLING COMPETITION IN THE COMMERCIAL SPACE INDUSTRY

(Aug 13, 2025)

- “...enhance American greatness in space by enabling a competitive launch marketplace and substantially increasing commercial space launch cadence and novel space activities by 2030.”



PRESIDENTIAL ACTIONS

ENSURING AMERICAN SPACE SUPERIORITY

(Dec 18, 2025)

- “Growing a vibrant commercial space economy through the power of American free enterprise”
- “Improving high-value space and Earth weather forecasting and operations to meet needs on Earth and beyond, utilizing improved business approaches...”



Valuing Information Over Hardware

A Paradigm Shift in Acquisition:



Data as the Core Asset: Prioritizing the environmental information itself over the platforms that collect it.



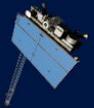
Model-Driven Requirements: Future sensing and acquisition strategies will be focused on saving lives and property.



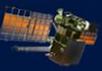
Optimized Procurement: Maximizing data intake capacity while operating within existing top-line budget realities.



Current and Future Satellite Missions



SWx Series
SOLAR-A



SWFO
SOLAR-1 - Launched 2025



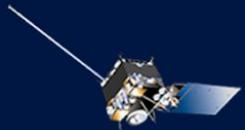
DSCOVR
Operational 2016



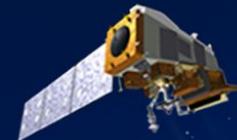
GeoXO Series
GOES-West - Launch Date
GOES-East - Launch Date



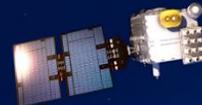
GOES-R Series
GOES-16 - Operational 2017
GOES-17 - Operational 2019
GOES-18 - Operational 2023
GOES-19 - Operational 2025



EWS-G2
Operational



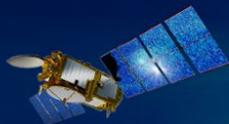
JPSS Series
Suomi-NPP - Operational 2014
NOAA-20 - Operational 2018
NOAA-21 - Operational 2023
JPSS-3 - Launches 2033
JPSS-4 - Launches 2028



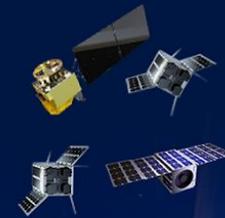
COSMIC-2
Operational 2020



DMSP
DMSP-16 - Operational
DMSP-17 - Operational
DMSP-19 - Operational



Jason-3
Operational 2016



NEON
Quicksounder - 2026
Series-1
Series-2
Series-3



The Commercial Constellation



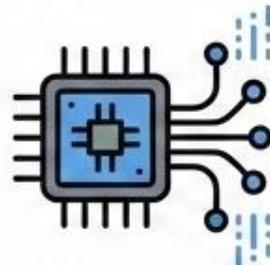
Evolving Space and Ground

Agile and Forward-Looking Systems



Family of Services

Government backbone, partnerships, and commercial data buys.



Advanced Capabilities

Exploring optical com relays and dynamic data preprocessing.



Maximized Sensor Value

Optimizing how telemetry is filtered and stored at downlink ground stations to reduce latency.

Expanding Commercial Partnerships

Modernizing Data Procurement



Agile Pathways

Establishing flexible procurement vehicles to make commercial data a core operational component.



Data-as-a-Service (DaaS)

Shifting to a structure that procures data “by the drip” with continuous vendor onboarding.



Future Distribution

Actively evaluating how this modern data-acquisition paradigm interacts with traditional distribution and archiving models.



Critical Sensing Spectrum

Sustaining the Observational Foundation



Mission-Critical Continuity: Highlighting spectrum integrity as a foundational requirement for our life-saving public safety operations.



Objective Impact Assessment: Utilizing advanced simulations to explicitly quantify the effects of signal interference on predictive weather models.



Executive Decision Support: Providing the administration with the comprehensive data required to make fully informed policies regarding active and passive bands.

Powering Next-Generation Global Modeling

Securing NWP Leadership



Unified Ensembles: Streamlining development toward a high-resolution, global ensemble forecasting system.



Advanced Assimilation: Utilizing next-generation space observations as the primary fuel for these predictive models.



Prioritizing Space Weather Resiliency

A National Safety Imperative



Beyond Science:
Elevating space environment monitoring to a critical infrastructure protection role.



Enhanced Detection:
Expanding observational capacity to predict solar events that threaten power and communication grids.

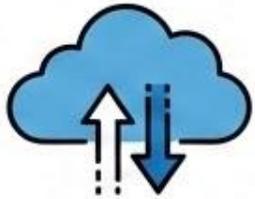


Commercial Integration:
Leveraging commercial data streams (e.g., Total Electron Content) to build out our warning capabilities.



Revolutionizing IT Infrastructure

The Computational Backbone



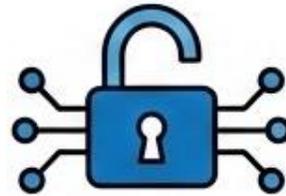
Enterprise Transformation

Executing a NOAA-wide shift toward centralized cloud storage and High-Performance Computing (HPC).



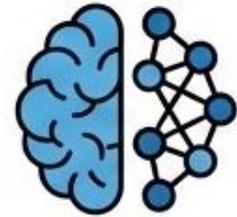
Operational Agility

Migrating critical forecaster tools (like AWIPS) into the cloud to remove localized bandwidth bottlenecks.



Democratizing Access

Leveraging cloud architecture to streamline how the broader research community and public accesses our data archives.



AI Readiness

We are building comprehensive historical reanalysis datasets to serve as the training foundation for future AI-enhanced forecasting tools.

Advancing NOAA Science

Optimizing for Operations



Elevating Numerical Weather Prediction (NWP): Optimizing our observational data streams for rapid, seamless assimilation into next-generation forecast models.



Advancing Space Weather Science: Developing the robust scientific foundation required to operationalize new space weather observations.



Accelerating Commercial Data Injection: Streamlining our scientific pipelines to rapidly ingest, validate, and deploy emerging commercial datasets.



The Path Forward

Fostering Innovation and Partnership

-  **Cultural Transformation:** Promoting an internal environment that supports calculated risk-taking to accelerate Research-to-Operations (R2O).
-  **Global Collaboration:** Strengthen mutually beneficial global partnerships to ensure access to the high-quality data required to extend forecast lead times, improve accuracy, and protect lives.
-  **Continuous Improvement:** Ensuring observation requirements remain tethered to core legislative mandates and life-saving user needs.

THANK YOU

