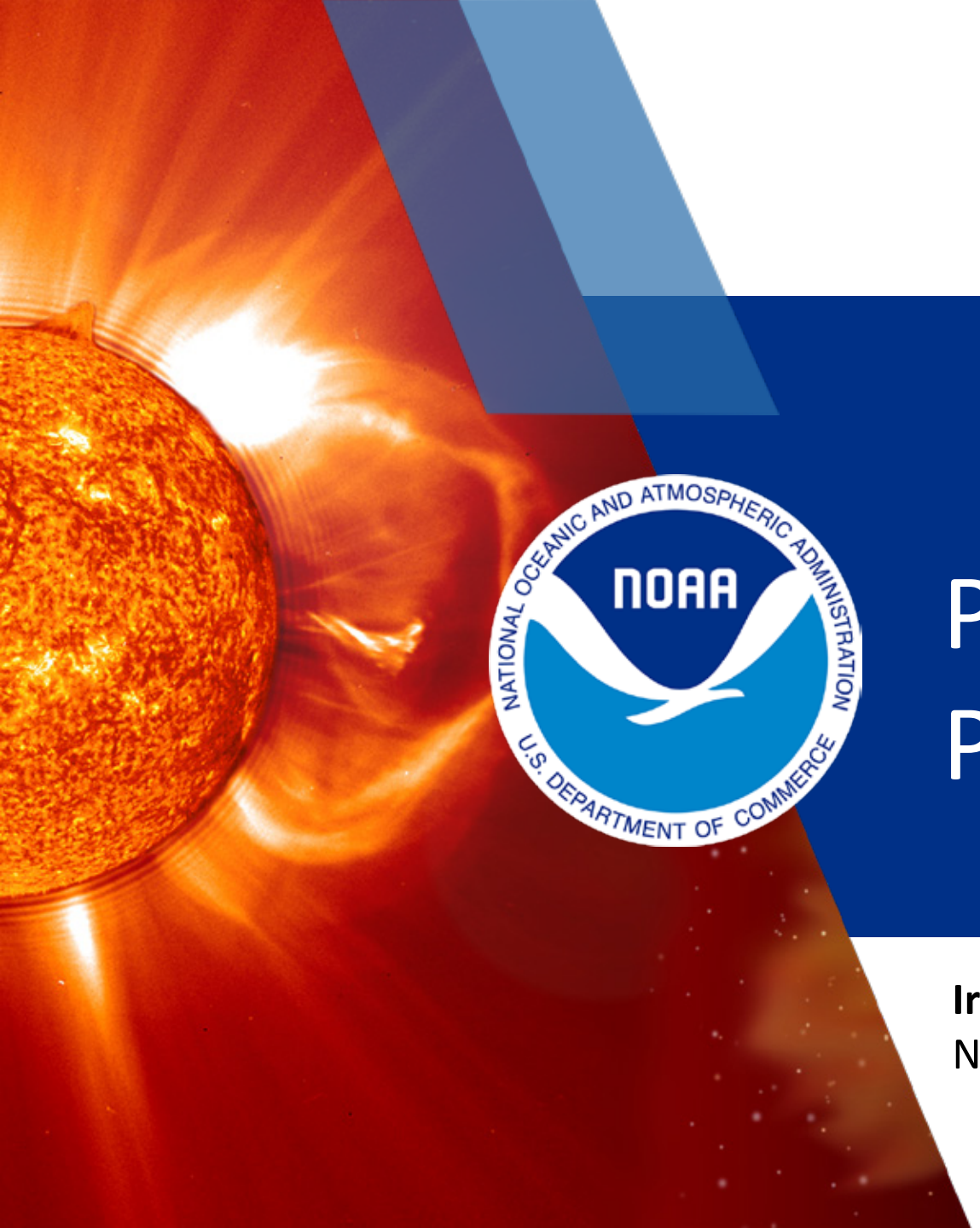
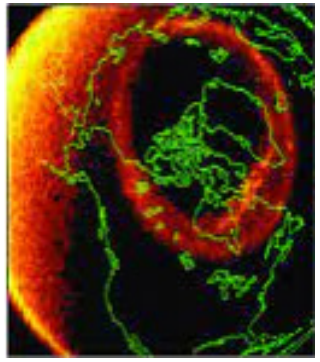
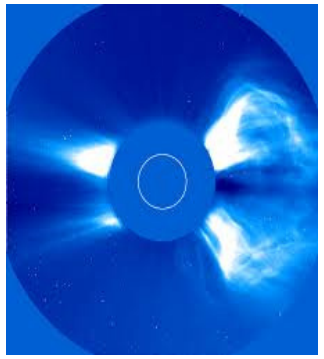


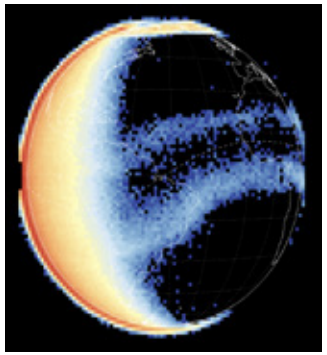
PROSWIFT Act Progress Update

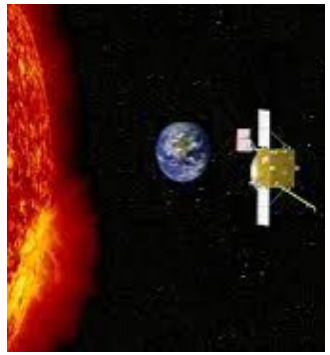
Irene Parker, Deputy Assistant Administrator for Systems
NOAA Environmental Satellite, Data, and Information Service

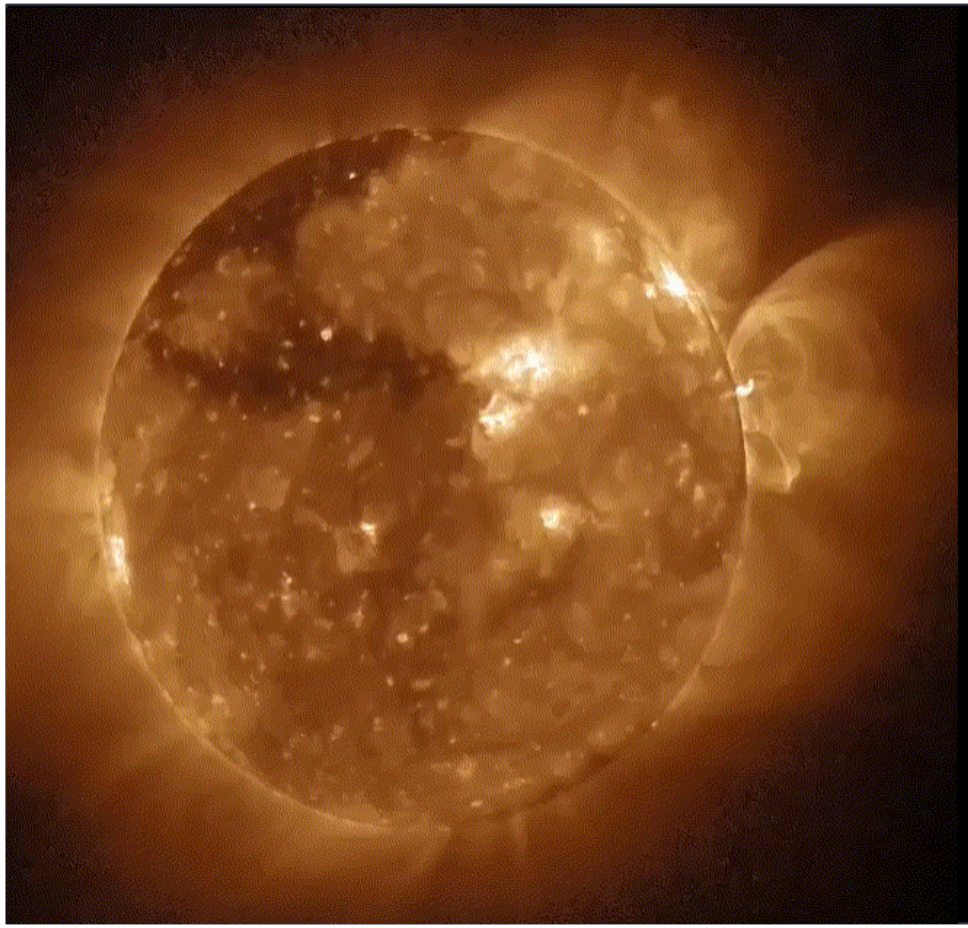
NOAA is a Trusted Source of Space Weather Data & Services











NOAA provides:

- Observational Data
- Storm Forecasting
- Data Management

Space Weather impacts infrastructure and activities vital to **national security** and the **U.S. economy**

An intense space weather event that damages the power grid in multiple locations has the potential to cause year-long power outages with global economic impacts ranging from $2.4 to 3.4 Trillion.

PROSWIFT Act

NOAA's Responsibilities

- **Provide operational space weather monitoring, forecasting, and long-term data archiving and access** for civil applications
- **Maintain ground-based and space-based assets** to provide observations needed for space weather forecasting, prediction, and warnings
- **Provide research** to support operational responsibilities
- **Develop requirements** for space weather forecasting technologies and science

Maintaining baseline capabilities (§ 60603)

NASA is committed to supporting SOHO and ACE

NOAA is providing resources to:

- Maintain legacy instrumentation on COSMIC-2, Metop series, legacy POES and GOES-N Series, GOES-R series, and DSCOVR
- Integrate instruments into GOES-U

NOAA is expanding partnerships to meet observational requirements:

- Federal - NASA and DoD (e.g., PUNCH)
- International - EUMETSAT, ESA, CSA, and ISRO (e.g., Vigil)

Sustaining & Enhancing Observations (§ 60603)

Space Weather Observations (SWO) Portfolio

Space Weather Follow On (SWFO)

- ✓ **Development underway for:**
  - SWFO-L1 Observatory (Bus + Instruments)
  - Compact Coronagraph (CCOR) for GOES-U
  - Ground Segment
- ✓ **Completed agreements** with NASA, NRL, and European Space Agency (L1 & L5)
- ✓ **On track for launches in 2024** (CCOR-1 on GOES-U) **and 2025** (SWFO L1 Observatory as rideshare with NASA IMAP Mission)

Space Weather Next (SW Next)

- ✓ Planning for **continuity of observations**:
  - L1 and L5 orbits
  - Geostationary orbit
  - Ground support networks
- ✓ **Formulation underway** for Program, L1 Series Project, and L5 Project
- ✓ **Engaging stakeholders** via user outreach, partnerships, and market research

Data Access and Information Sharing (§ 60605-07)

Commercial Data Program

Commercial Space Weather Data Pilot

- July 2022 - Awarded contracts for a pilot study of ionospheric radio occultation data to Spire, GeoOptics, and PlanetiQ

Radio Occultation Data Buys

- March 2023 - Awarded contracts for near-real-time satellite-based GNSS Radio Occultation and ionospheric measurements *that meet space weather data requirements* to PlanetiQ and Spire

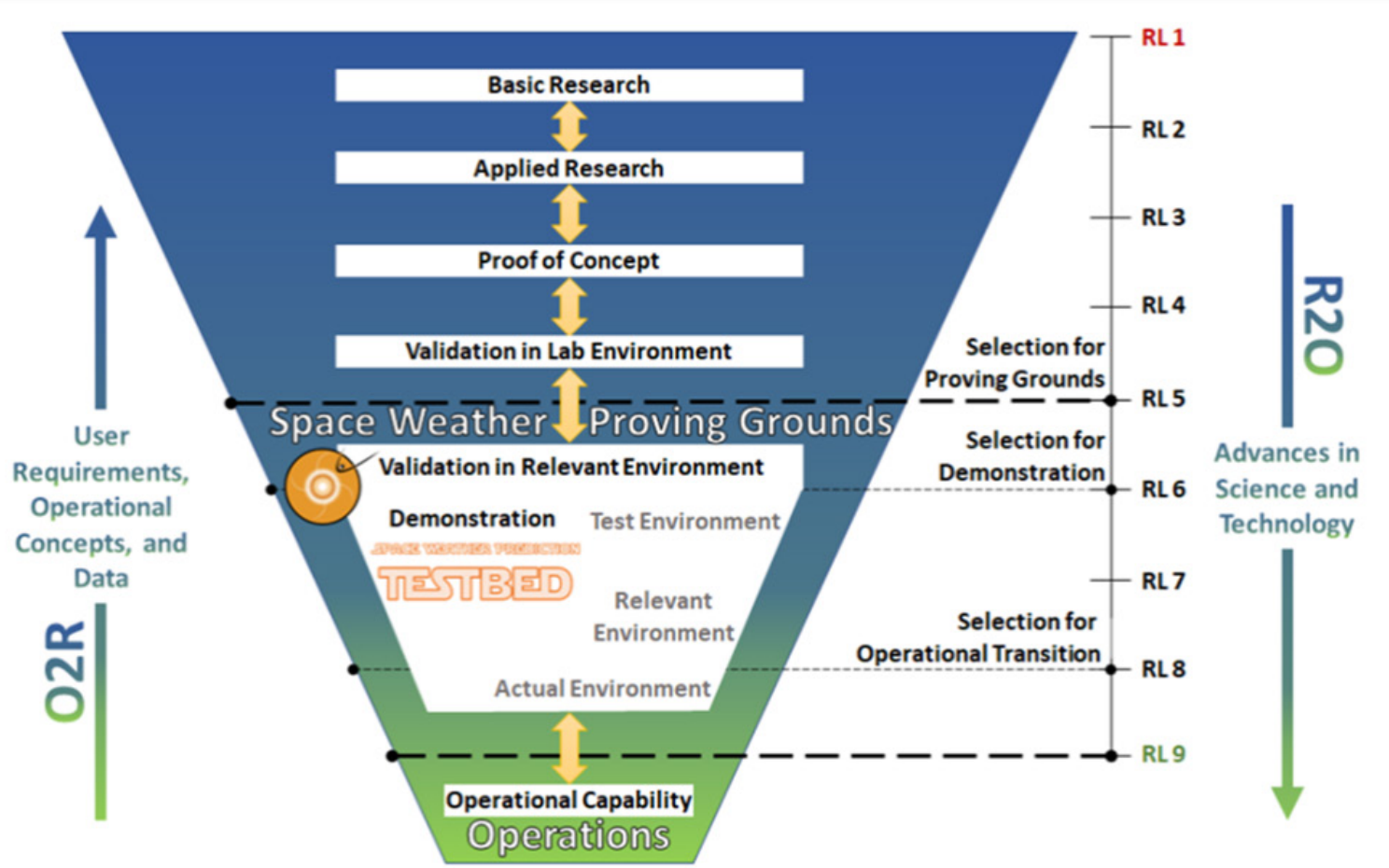
Research to Operations to Research (§ 60604)

Multi-agency effort:

- Published a formal R2O2R Framework
- MOA between NOAA, NASA, NSF, and DOD

Together we will:

- Communicate operational needs
- Support research to improve models and data utilization
- Accelerate transition to ops



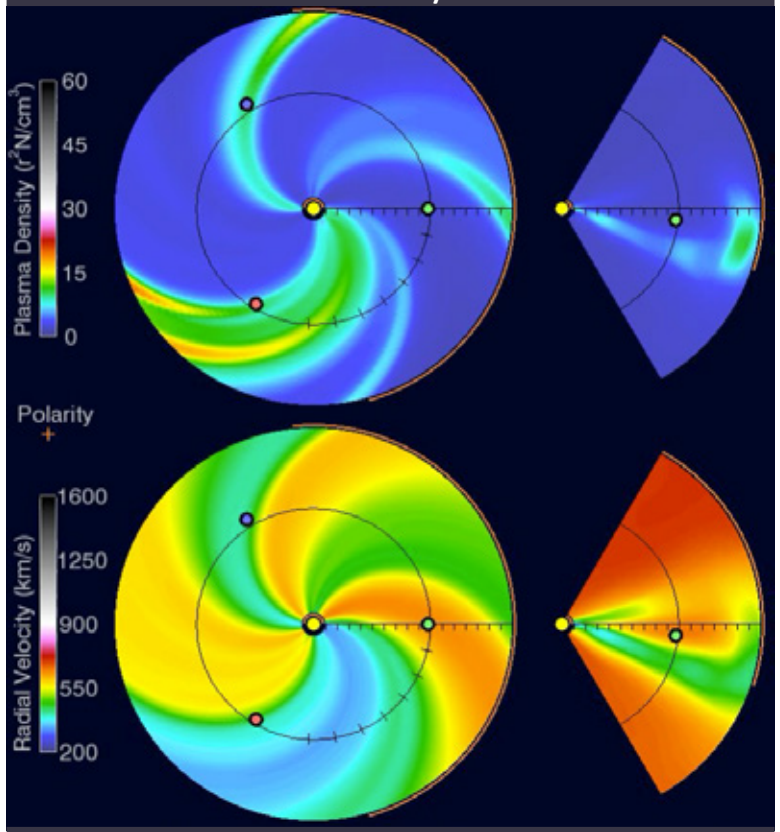
Space Weather Prediction Testbed

FY 2023 Budget Provides $1.75 Million, partially funding Testbed

- New appropriations will permit SPWC to begin building the Testbed Facility
- Held a highly successful inaugural R2O2R exercise with Aviation Industry in 2022
- FY23 Satellite Industry R2O2R Exercise Focusing on Neutral Density & Satellite Drag

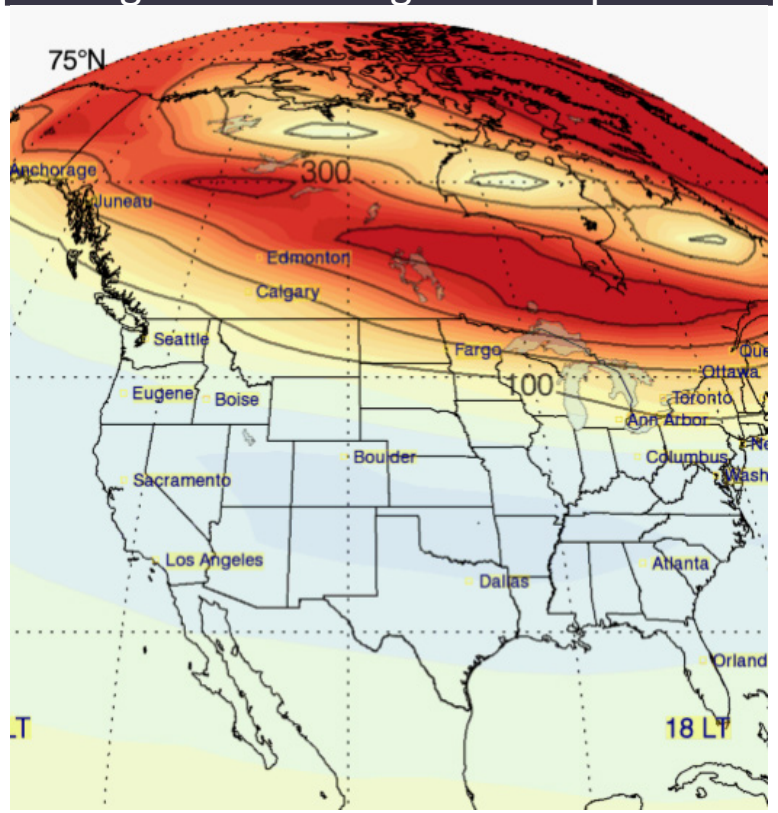
Space Weather Modeling

WSA-Enlil
Solar Wind/CMEs



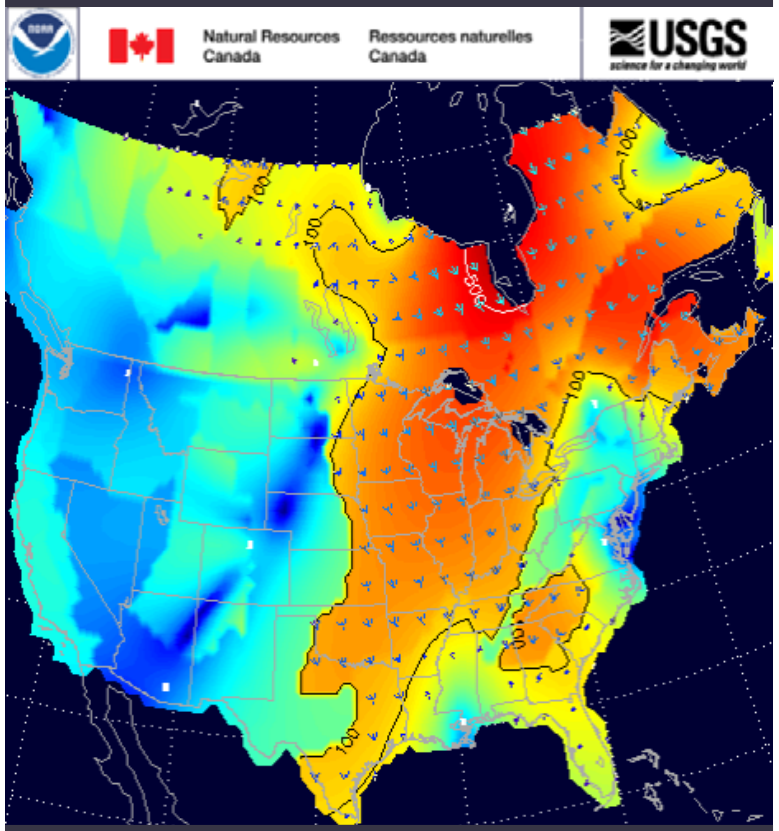
Version 3 and On-Demand

Geospace
Regional Geomagnetic Response



Coupled to Geoelectric to provide forecast

Geoelectric
Grid Resilience



Expansion to Canada

Coordination, Cooperation & Collaboration (§ 60601)

International	• European Space Agency • Coordination Group for Meteorological Satellites • World Meteorological Organization, Committee on Earth Observations, and Group on Earth Observations
Academic	• National Academy of Sciences Workshops (cosponsor) • Solar and Space Physics Decadal Survey (cosponsor)
Commercial	• Space-Based Commercial Data Pilot & Data Buy
Interagency	• NOAA-NASA - IAAs for SWFO Program & SW Next Program • NOAA-DoD (NRL) - IAAs for SWFO Program & SW Next Program

Coordination, Cooperation & Collaboration (§ 60601)

Space Weather Advisory Group (SWAG)

- **Purpose:** to advise the White House Space Weather Subcommittee (SWORM) on facilitating advances in the space weather enterprise
- **Organization**:
  - Established in April 2021; Led and managed by NOAA
  - 15 members appointed by the SWORM for a 3-year term beginning Oct 1, 2021
    - Non-governmental representatives (5 each from academic, end-user, & commercial provider sectors)
- **Accomplishments:**
  - Initiated effort to complete PROSWIFT-directed user-needs survey
  - Released a Recommendations Report in April 2023

Knowledge Transfer and Information Exchange (§ 60606)

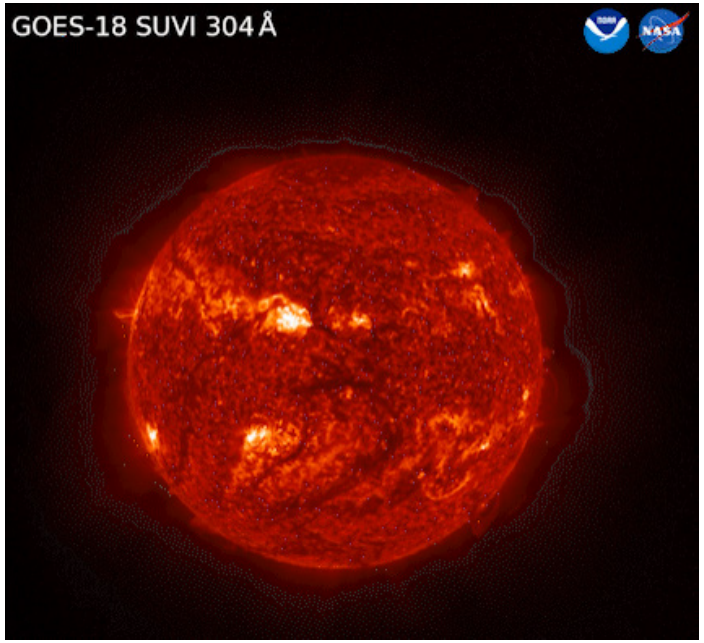
National Academies Government-Academic-Commercial Roundtable

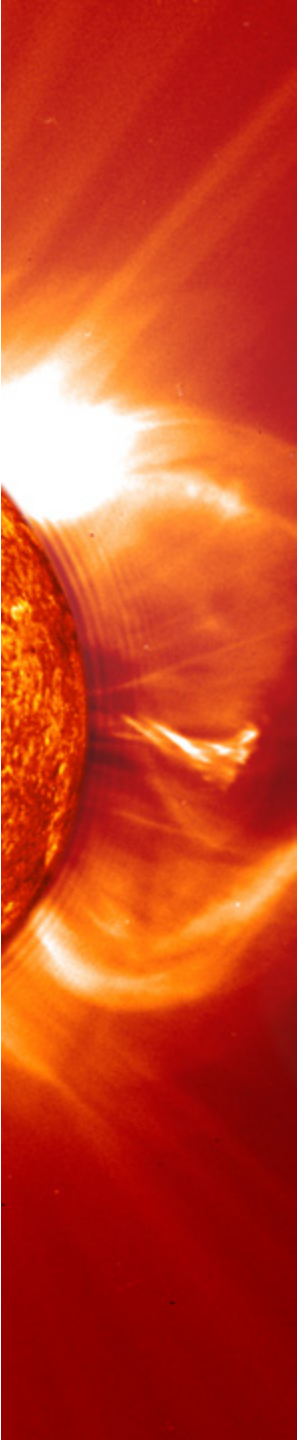
- **Purpose**: Facilitate communication and knowledge transfer among Government participants in the SWORM, the academic community, and the commercial space weather sector
  - NASA, NOAA, and NSF funding (5 years)
- **Updates**:
  - Held Fall 2022 and Spring 2023 Meetings

Meeting User Needs in Space Weather

NOAA will support users by providing:

- **Continuity** of critical observations from all applicable orbits (L1, GEO)
- **Longer-lead times** and **more accurate solar storm warnings** that require operational off-Sun-Earth-axis (L5) observations.
- Improved forecasts of the location of the auroral oval and probability of impacts to **aviation, energy, and defense**.
- New upper atmospheric weather and satellite drag forecasting for **aviation, space commerce, energy, and defense.**





Thank you!