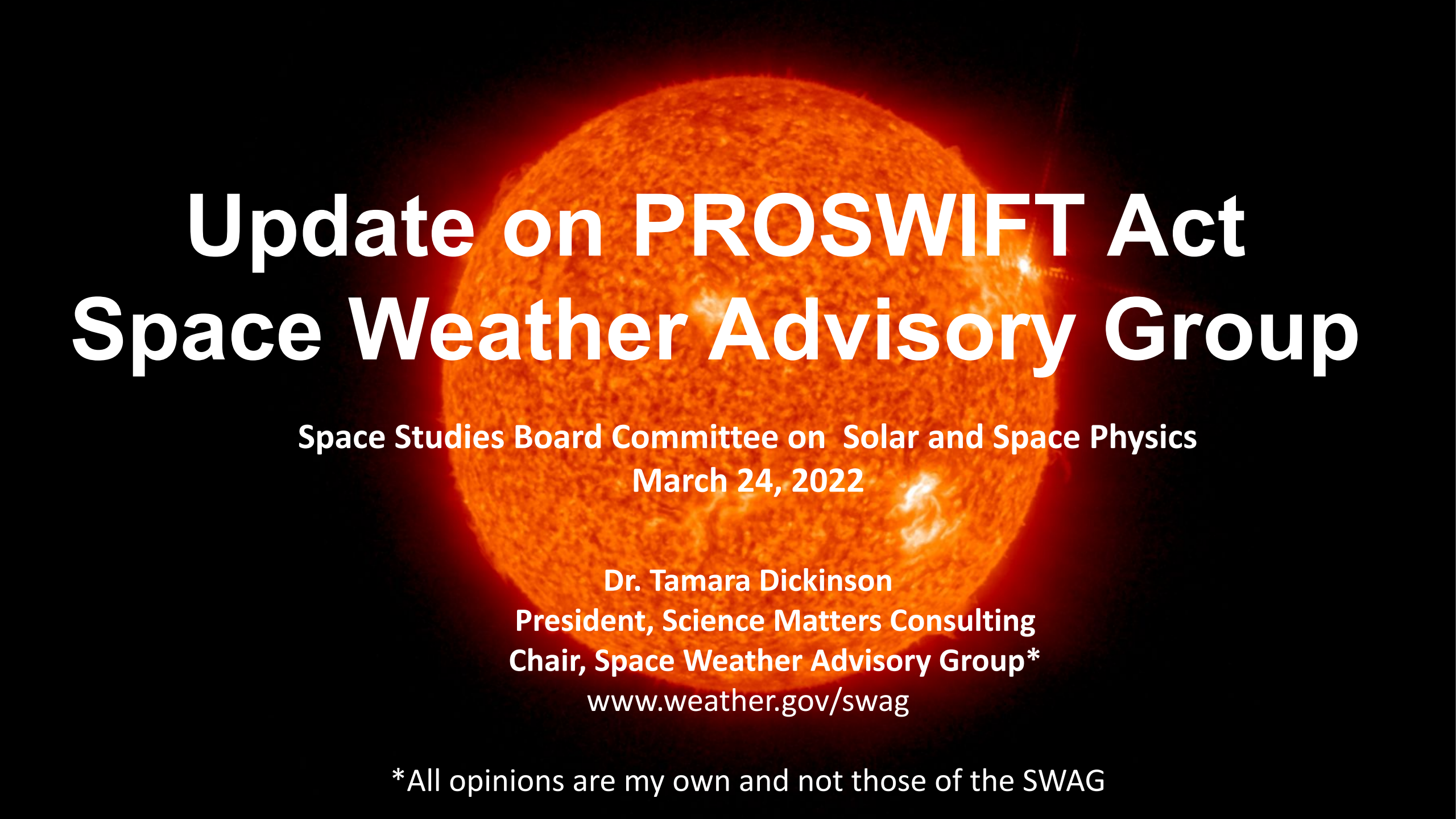


# Update on PROSWIFT Act Space Weather Advisory Group

**Space Studies Board Committee on Solar and Space Physics**
**March 24, 2022**

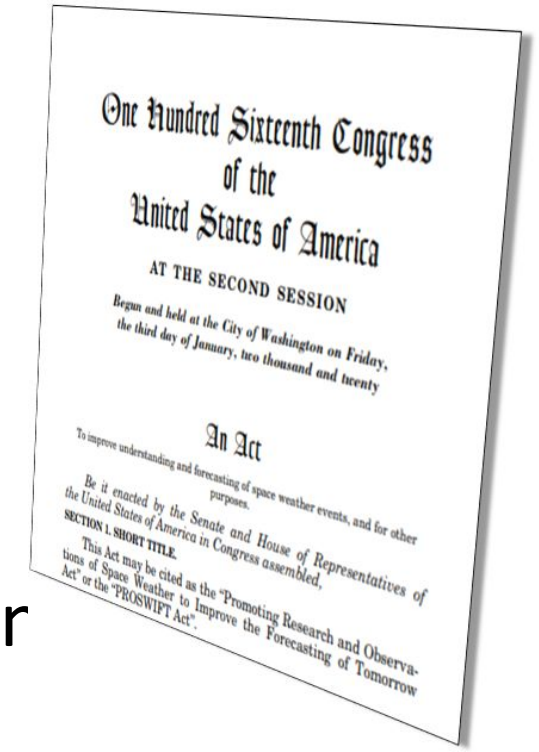
**Dr. Tamara Dickinson**
**President, Science Matters Consulting**
**Chair, Space Weather Advisory Group***
www.weather.gov/swag

*All opinions are my own and not those of the SWAG

# PROSWIFT Act - Overview

## Basic Elements

- 60601 Space weather
  - Role of Federal Agencies
  - Interagency Working Group (SWORM)
  - Interagency Agreements
  - **Space Weather Advisory Group (SWAG)**
- 60602 Integrated strategy
- 60603 Sustaining and advancing critical observatior
- 60604 Research activities
- 60605 Space weather data
- 60606 Knowledge transfer and information exchange (NASEM Roundtable)
- 60607 Pilot program commercial sector
- 60608 Benchmarks



One Hundred Sixteenth Congress
of the
United States of America

AT THE SECOND SESSION

Begun and held at the City of Washington on Friday, the third day of January, two thousand and twenty

An Act

To improve understanding and forecasting of space weather events, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Promoting Research and Observations of Space Weather to Improve the Forecasting of Tomorrow Act" or the "PROSWIFT Act".

# PROSWIFT Act - SWAG

ESTABLISHMENT - The **NOAA Administrator** … shall establish a **space weather advisory group** (SWAG) for the purposes of receiving advice .. that informs the interests and work of the **interagency working group** - White House Space Weather Operations, Research, and Mitigation (SWORM)

COMPOSITION - Composed of not more than 15 members **appointed by the interagency working group** (SWORM), (NOAA appoints the Chair) of whom

- 5 members representatives of the **academic** community
- 5 members representatives of the **commercial** space weather sector
- 5 members nongovernmental representatives of the space weather **end user** community

# PROSWIFT Act - SWAG

TERMS - Each member appointed 3 years terms

*All members are appointed as representatives on the SWAG, expressing the **views and interests of the respective space weather community and/or end-user sector**; they are, therefore, not Special Government Employees. *As such, members are not subject to the ethics rules applicable to Government employees, except that they must not misuse Government resources or their affiliation with the Committee for personal purposes*

TERM LIMITS -

Members: no more than 2 consecutive terms

Chair: no more than 2 terms, regardless of whether the terms are consecutive

# Committee Members

**SWAG Nongovernmental End-User Representatives**

**Tamara Dickinson, SWAG Chair**
Science Matters Consulting

**Mark Olson**
North American Electric Reliability Corporation

**Michael Stills**
United Airlines (retired)

**Craig Fugate**
One Concern (former FEMA Adm)

**Rebecca Bishop**
Aerospace Corp.

**SWAG Commercial Sector Representatives**

**Jennifer Gannon**
Computational Physics, Inc.

**Conrad Lautenbacher**
GeoOptics, Inc. (former NOAA Adm)

**Seth Jonas**
Lockheed Martin

**Kent Tobiska**
Space Environment Technologies

**Nicole Duncan**
Ball Aerospace

**SWAG Academic Community Representatives**

**Tomas Gombosi**
University of Michigan, Ann Arbor

**Delores Knipp**
University of Colorado, Boulder

**Scott McIntosh**
National Centers for Atmospheric Research

**Heather Elliott**
Southwest Research Institute

**George Ho**
Johns Hopkins University Applied Physics Laboratory

# PROSWIFT Act - SWAG Duties

**Advise White House SWORM Subcommittee on:**

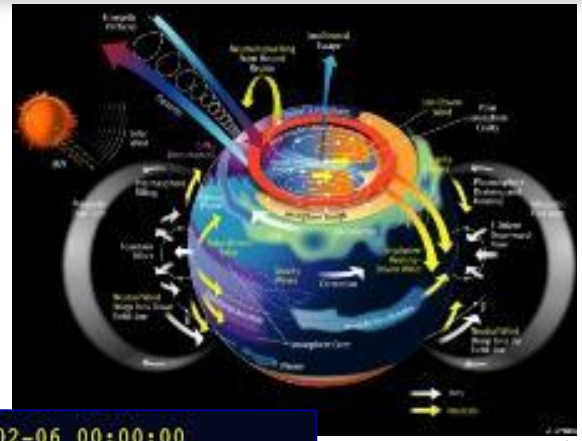
- Facilitating advances in the space weather enterprise of the US
- Improving the ability of the US to prepare for, mitigate, respond to, and recover from space weather phenomena
- Enabling the coordination and facilitation of R2O2R
- Developing and implementing the integrated strategy for coordinated observation

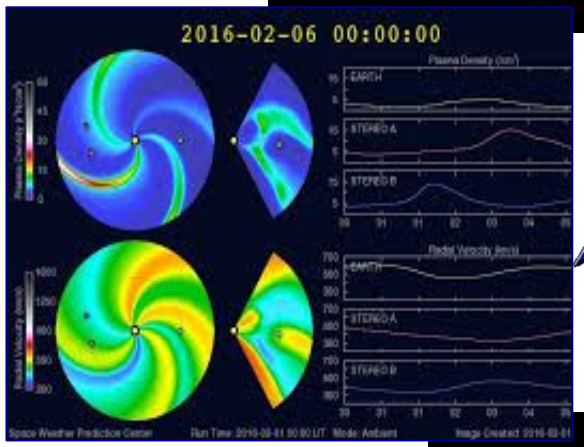
**Conduct a comprehensive user needs survey of space weather products**

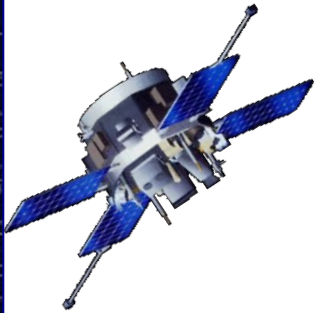
# PROSWIFT Act - User Survey

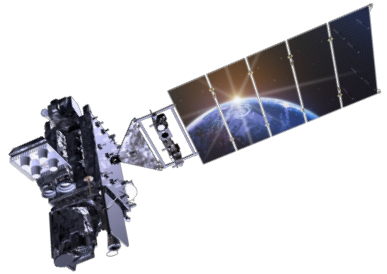
The comprehensive **user needs survey** of space weather products will identify:

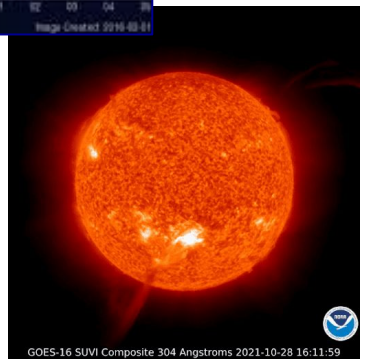
- space weather research
- observations
- forecasting
- prediction
- modeling advances required to improve space weather products.







# PROSWIFT Act - User Survey

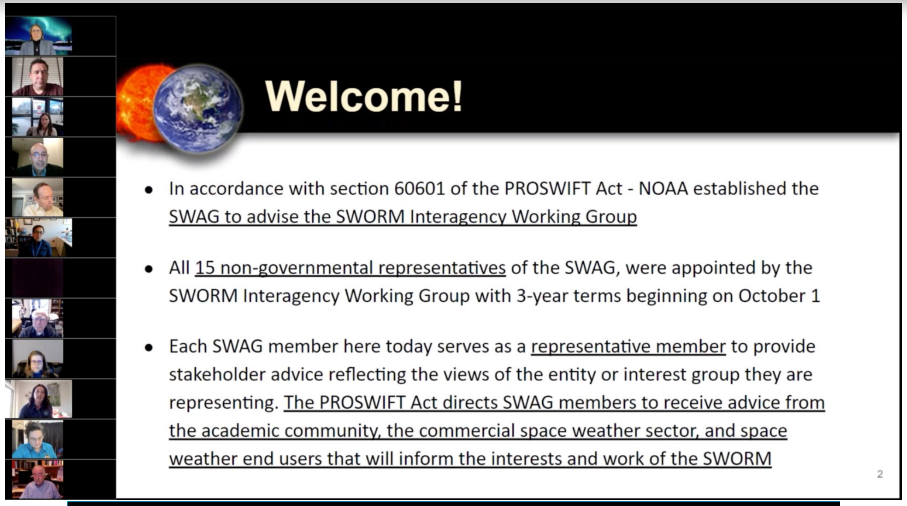
**User Survey Requirements:**

1. Assess the **adequacy of Federal Government goals** for lead time, accuracy, coverage, timeliness, data rate, and data quality for space weather observations and forecasting;
2. Identify options and methods to **advance the above goals**;
3. Identify **opportunities for collection of data** to address the needs of space weather users;
4. Identify methods to **increase coordination of space weather R2O2R**;
5. Identify opportunities for new technologies, research, and instrumentation to aid in understanding, monitoring, modeling, prediction, and warning of space weather; and
6. Identify methods and technologies to **improve preparedness** for space weather.

# SWAG Meetings

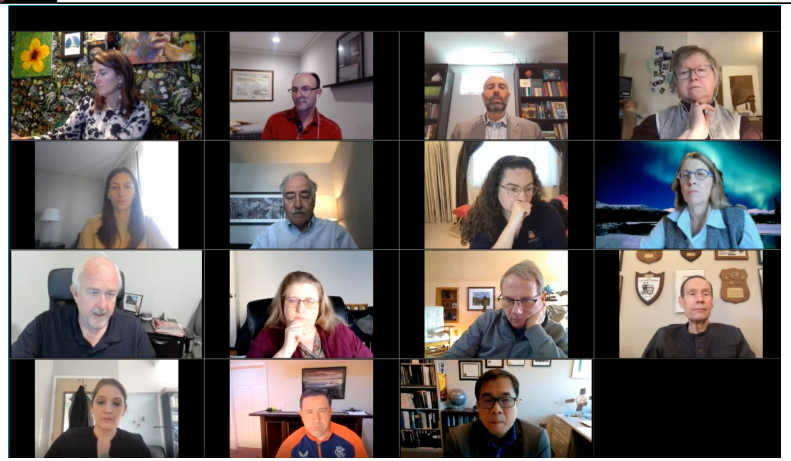
**December 1, 2021 (virtual)**

- Briefings by SWORM Co-Chairs (OSTP, NWS, DHS)
- PROSWIFT Act overview of SWAG duties
- Kicked off discussion of  the user needs survey




**March 17-18, 2022 (virtual)**

- Briefing by SWORM
- Defined user needs survey process and sectors
- Related activities - SW Roundtable and NASA SWC
- Brainstormed other topics to address



**(Future) Late May or June, 2022 (virtual)**

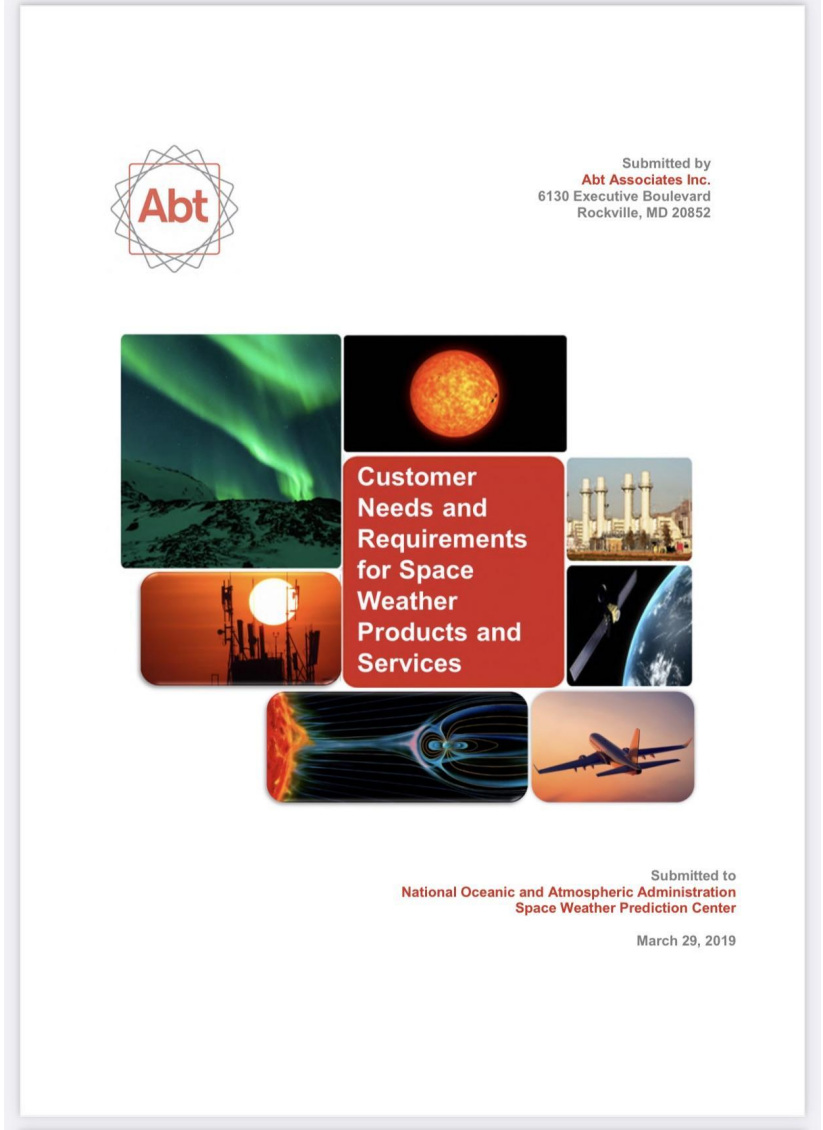
**For meeting information please visit: www.weather.gov/swag**

# Concurred on Survey Process Overview

1. Use one or more s**pace weather scenarios** to illustrate possible impacts
2. Use a set of **common questions** developed by SWAG in collaboration with NWS Social, Behavioral, and Economic Program
    a. May have additional **sector specific questions**
    b. Have questions reviewed by SWORM
3. **Space weather sectors to survey**
    a. **Divide SWAG into sector specific subgroups**
    b. Possibly do pilot on one or two sectors
4. **Develop sector specific plans to conduct user survey**
5. Assimilate results into **one or more products**

# Abt Associates Report 2019

- Electric Power Grid
- Global Navigation
- Satellite System
- Aviation
- Emergency Management



# Concurred Sectors

## Abt Report Sectors

- Electric Power Grid
- Satellite
- GNSS
- Aviation
- Emergency Management

## Additional Sectors

- Space Situational Awareness, Space Traffic Coordination
- Radio Frequency Application (comms and Radar)
- Human space flight
- National Security
- Research

# PROSWIFT Act - Roundtable

**§ 60606. Space weather knowledge transfer and information exchange**

NOAA, NASA, and NSF, shall enter into an arrangement with the NAESM to establish a Space Weather **Government-Academic-Commercial** Roundtable to facilitate **communication** and **knowledge transfer** among Government participants in the SWORM, the academic community, and the commercial space weather sector to:

- facilitate **advances** in space weather prediction and forecasting
- increase **coordination** of space weather R2O2R
- improve **preparedness** for potential space weather phenomena

# PROSWIFT Act - Roundtable

## Statement of Task

- Space Weather Roundtable meetings will engage experts and stakeholders across disciplines and sectors, with a focus initially on those issues identified in the National Space Weather Strategy and Action Plan and the PPROSWIFT Act that would benefit from greater engagement.
- Examples include space weather **benchmarks and scales**, **communication of risk**, steps to improve **R2O2R pathways**, commercial space weather **data buys**, and **resilience** to severe space weather events.

# PROSWIFT Act - Roundtable

## Committee Composition

- About 15 members drawn from the government, public, and private sectors
- Membership may include subject matter experts; representatives from industries affected by space weather; government and other entities charged with forecasting space weather; representatives from the emergency response community; and experts on the social and economic impacts of space weather.
- NOAA, NASA, and NSF ex-officio members

# SWAG and Roundtable

## SWAG

Members: academic, commercial, nongovernment end users

Advise SWORM on:

- Facilitating advances in the space weather enterprise of the US
- Enabling the coordination and facilitation of R2O2R
- Improving the ability of the US to prepare for, mitigate, respond to, and recover from space weather phenomena
- Developing and implementing integrated strategy

Conduct user needs survey

## Roundtable

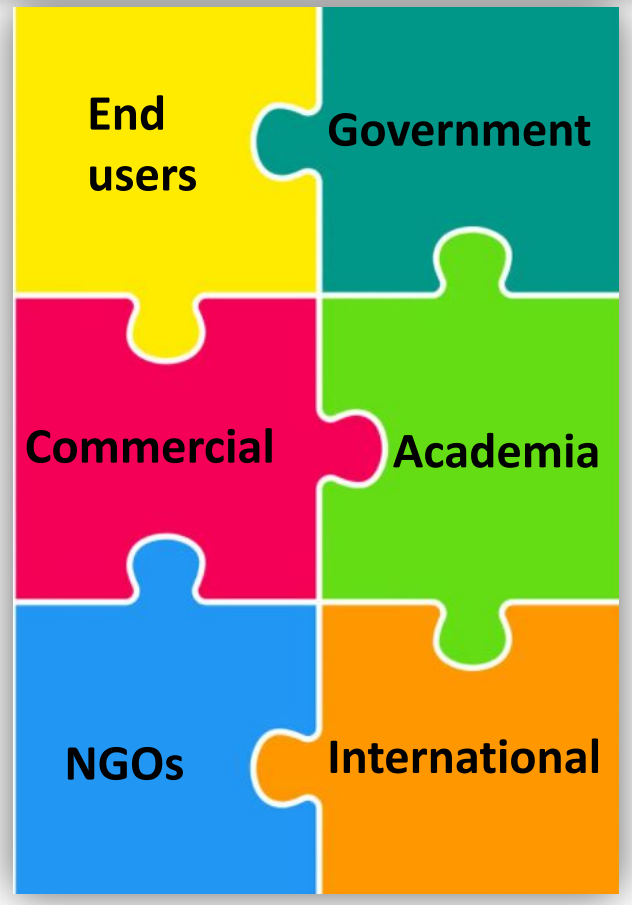
Members: academic, commercial, government (SWORM)

Facilitate communication and knowledge transfer among government (SWORM), academic and commercial space weather communities to:

- Facilitate advances in space weather prediction and forecasting;
- Increase coordination of space weather R2O2R;
- Improve preparedness for potential space weather phenomena

# Collaboration

- **<u>Collaboration and coordination will be key</u>**
- Volunteered to speak today and at the NASA Space Weather Council next meeting
- Creating a invite list for SWAG meetings to include Roundtable and SWC chairs and members
- Administrative meetings between SWAG, Roundtable, and SWC chairs and staff




**We are all working towards <u>one common goal</u>: to prepare and protect against the social and economic impacts of space weather phenomena.**

# THANKS!

www.weather.gov/SWAG

# NASA Space Weather Council

Established as a means to secure the counsel of community experts across diverse areas on matters relevant to space weather in support of the HPD.

- The SWC serves as a community-based, interdisciplinary forum for soliciting and coordinating community analysis and input and providing advice.
- It provides advice to the Heliophysics Advisory Committee (HPAC).

The SWC is a standing subcommittee of the HPAC. As such, the SWC reports to and is responsive to actions levied by the HPAC.

- SWC may seek scientific and programmatic input from the heliophysics and space weather communities at large on matters relevant to their actions.