

Space Weather Council

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*** All opinions expressed are my own

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Space Weather Council (SWC)

- ▶ Established by NASA, reports through HPAC
- ▶ May 2023 report available on SWC website
- ▶ Feb 2024 ppts available, report forthcoming

The Space Weather Council Charter

The Space Weather Council (SWC) is established as a means to secure the counsel of community experts across diverse areas, on matters relevant to space weather in support of the NASA Heliophysics Division (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 NASA HPD space weather strategic mission is to establish a preeminent space weather capability that supports human and robotic space exploration and meets national, international, and societal needs. This is done by advancing measurement and analysis techniques and expanding knowledge and understanding that improves space weather forecasts and nowcasts. Ultimately, the HPD enables the space weather forecasting capability that the Agency and Nation require, in partnership with NASA's Artemis Program and other Federal agencies, and international partners. This includes the development and launch of missions/instruments that advance our knowledge of space weather and improve its prediction, and the transitioning of technology, tools, models, data, and knowledge from research to operational environments.

The SWC shall be a standing subcommittee of the HPAC. As such, the SWC shall report to and be responsive to actions levied by the HPAC. As appropriate, the SWC may seek scientific and programmatic input from the heliophysics and space weather communities at large on matters relevant to their actions.

Examples of the broad range of activities relevant to space weather that the SWC may be called on to address include the following:

- Articulate key scientific drivers for space weather research including focused research-to-operations-to-research topics, strategic observations, and others;
- Evaluate expected capabilities and rideshare opportunities for achieving HPD goals;
- Evaluate HPD space weather goals and objectives;
- Provide input and advice on relevant HPD space weather activities such as actions drawn from the National Space Weather Strategic and Action Plan, collaboration with other national and international agencies, ground-based observations, and its role in the Artemis and human exploration endeavor.

[Space Weather Council - NASA Science](#)

Last Meeting: February 22 – 23, 2024

- ▶ Report finalized by HPAC
- ▶ Task 1: Space Weather Enterprise Coordination
 - ▶ Joint appointments in SWAG selections
 - ▶ Space Weather Scales
- ▶ Task 2: Observational & modeling gap filling considerations
 - ▶ OSE/OSSEs to evaluate filling gaps, interagency development, modeling analog
 - ▶ End-user & researcher connections
 - ▶ Data Sparseness – data assimilation & synthetic data
 - ▶ Improving model technical capabilities – uncertainty quantification, data assimilation, validation
- ▶ Task 3: Human Exploration
 - ▶ Accelerate R2O2R development timeline
 - ▶ Coordinate model requirements btwn agencies
 - ▶ Solar particle event forecast requirements
 - ▶ Increase HPD communication of M2M/Artemis activities
- ▶ Task 4: R2O2R
 - ▶ “One NOAA strategy” establishes SW office in OAR
 - ▶ ES’s Applied Science Program lessons learned and personnel overlap
 - ▶ Investigate coordination with NOAA space weather ground system & tech development

Next Meeting: Aug/Sept 2024

- ▶ Space Weather Scales – considerations & impacts
 - ▶ How are scales used in research?
 - ▶ What potential impacts could result from changes?
- ▶ Models for coordination – international & domestic
 - ▶ What are specific examples of effective international coordination across large scientific intra-governmental projects?
 - ▶ What characteristics make them successful?
 - ▶ How were they formed, what is their funding structure?