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Focus Group Protocol for Space Weather Advisory Group User Survey

SPACE SITUATIONAL AWARENESS SECTOR

Focus Group Information

Focus Group time/date:

Moderator: [Add before focus group]

Focus Group Participants: [Make sure people complete the sign in sheet]

Focus Group Protocol

Welcome

Good [morning/afternoon] and thank you so much for agreeing to participate in this focus group.

Introduction

My name is [name] and I am a member of the Space Weather Advisory Group also known as the SWAG.

I am joined by [name] for today's conversation who is assisting by taking notes as we go along.

Our time is limited so rather than go around the group, please say your name and organization before you speak for the first time.

Purpose of The Focus Group

The purpose of this focus group is to understand how space weather affects your work and what forecasts, products, and services you would like to see.

The SWAG will use the information gathered to identify the space weather research, observations, forecasting, prediction, and modeling advances required to improve space weather products.

The PROSWIFT Act, which led to the SWAG's formation, also laid out the topics for the user survey. We will be asking you questions about current use and future needs for space weather information, technological systems, components, or elements affected by space weather, and current and future risk reduction and resilience activities.

Ground Rules

We want this to be a discussion so please feel free to respond to each other's comments. That said, let's go over the ground rules for today's conversation.

1. We would like everyone to participate so I might call on you if I haven't heard from you in a while.
2. There are no right or wrong answers. Every person's experiences and opinions are valued and important. Speak up when you agree or respectfully, when you disagree. We want to hear a range of opinions.
3. What is said here today stays here. We want folks to be comfortable sharing information so please do not discuss who said what once you leave.
4. We want to capture everything you say so we will record the conversation. By participating today, you are consenting to being recorded. No one will be identified by name in our report. The recording will only be used for note taking. As required by the PROSWIFT Act, the results of the user need survey(s) including any recommendations will be compiled into a report that will be delivered to Congress as well as made public.

Thank you again for your time and cooperation. Before we begin, do you have any questions for me?

Let's begin with your current use of space weather observations, information and forecasts:

1. Which environmental conditions and parameters are important for your operations?
2. How do you consider space weather information in STM decisions?
3. How does your system monitor for relevant space weather conditions?
4. What are your sources for space weather information?
    a. [Probe: How does your enterprise use the NOAA Space Weather Prediction Center website as a source for space weather information?
5. What other new or non-traditional sources of space weather data could be used for the STM sector?
6. Are you satisfied with the current quality and utility of space weather observations?

We have talked about current use of space weather observations, information and forecasts. Let's talk about future needs:

7. What space weather forecasts, lead-times, and products are needed to implement future operations?
8. What type of information related to neutral density/drag issues and space/upper atmosphere conditions would be useful for operational mitigations, or technical mitigations?
    a. What spatial and temporal resolution is needed?

Let’s turn to technological systems, components, or elements affected by space weather:

9. How does space weather affect common and specialized activities? [Examples: Launch operations, Tracking, Guidance-Navigation & Control (GNC), Station-keeping, Collision Avoidance and Debris Awareness, De-orbit and Re-entry, Specialized or newer/developing capabilities, Autonomous Operations, Orbit-Raising, Rendezvous)
10. What are current or planned collaborations with the environmental research communities to improve resilience?

Finally, let’s talk about current and future risk reduction and resilience activities:

11. What technological mitigation is used to reduce vulnerabilities or risk?
12. What kinds of tabletop exercises have you developed and implemented to explore space weather sensitivities to severe or extreme geomagnetic storms?
13. Which specific altitude or latitude regimes are more problematic for your operations?
14. How do any of your reduction/resilience activities rely on GNSS data availability?
15. How can operations be modified to compensate for periods of predicted or known space environment variations?
    a. What are the limiting factors to the proposed operation modifications? (e.g., lead-time, max operation mode duration, 24/7 in-person monitoring, etc.)

16. Are there known barriers or challenges to implementing the proposed mitigations?

17. What operating system improvements are required to compensate for neutral density or wind perturbations?

Last Question

18. Are there any other things that we have not asked about that you wish to share?

Wrap Up

Those are all the questions we have for you. Let us know if you are interested in keeping in touch and please let us know who else to speak with as part of this effort. We hope to have initial results from the SWAG User Survey by AGU and AMS. Thank you once again for your time and energy.