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The public availability of space weather data and growing interest in aurora photography have expanded the use of real-time data and geomagnetic forecasts among aurora chasers. While important to critical infrastructure, real-time solar wind, geomagnetic indices, magnetometer data, and model outputs are now routinely used for planning and decision-making by the aurora photographers and tour guides. However, in practice, data interpretation and modelling limitations, including measurement latency and cadence, single-point upstream sampling, model uncertainty, and the complex coupling between solar wind drivers and magnetospheric response, may not be fully appreciated by the aurora chasers. Common misinterpretations arise from reliance on indices (e.g., Kp, Dst) as predictors of local visibility, treating global probabilistic auroral oval maps as indicators of specific sky conditions, or anchoring on specific forecast outputs (e.g., CME ETA, predicted Kp) despite their inherent uncertainty.

This poster discusses how some of the operational and research space weather data products are typically used in the aurora-chasing community, both hobby and professional, outlines key sources of uncertainty, and identifies common misinterpretations. Real-world interpretation behavior can provide valuable insight into public understanding of forecast uncertainty and improve communication strategies in space weather for the general public, as well as critical infrastructure stakeholders. Identifying common gaps in the interpretation of space weather data and forecasts can inform changes in public-facing product design and guide collaboration between operational centers, researchers, industry, and non-industry users of space weather data.
Poster session day
Tuesday, April 28, 2026
Poster location
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Meeting homepage
2026 Space Weather Workshop
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