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Poster
The Gannon geomagnetic storm of 10-13 May 2024 was the first time that the National Oceanic and Atmospheric Administration (NOAA) Space Weather Prediction Center issued an Extreme G5 geomagnetic event warning since the 2003 Halloween storms. Although the May 2024 space weather events produced beautiful aurora in lower latitudes (as low as southern Florida), the reality is that these were challenging operational conditions for critical infrastructure operators, particularly for electricity transmission and satellite networks. Scientists and engineers modeling space weather impacts urgently need new data to advance our fundamental scientific understanding of these operational hazards as highlighted by the US National Space Weather Strategy and Action Plan. Therefore, it is imperative to collect perishable operational decision data from critical infrastructure operators. Firstly, this poster reports the range of mitigation options identified for power and satellite networks from a systematic literature review, broken down chronologically. Secondly, we gather mitigation decision data to provide a historical log of the steps taken to protect critical infrastructure during solar cycle 25. This involves contacting over 160 distinct power and satellite entities for information related to actions taken prior to, during, and following recent events. Data has been recorded through interviews and targeted surveys of over 30 electricity transmission and satellite operators, including via the ChronoStorm survey (www.chrono-storm.com). This study enables future generations of scientists and engineers to better understand how to mitigate space weather hazards, and further inform critical infrastructure protection decisions, ensuring national security.

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