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On 8–9 May 2024, the government held the first-ever end-to-end Space Weather (SWx) Tabletop Exercise (TTX), which provided opportunities for participants to better understand the preparedness and response challenges associated with the threat of an impending space weather event. Jointly sponsored by NOAA, NASA, NSF, and FEMA, the exercise incorporated federal, state, local, and tribal considerations to improve our nation’s whole-of-government preparedness for space weather events.

The TTX scenario involved a series of solar events that drove a range of adverse space weather effects, including i) intense radiation exposure to satellites, astronauts, and commercial aviation; ii) radio communications outages and disruptions; iii) loss of functionality or degraded performance of GPS for precision navigation and timing; iv) degraded ability to communicate with and track on-orbit satellites; and v) local- to regional-scale power outages.

It is important to note that, by chance, the SWx TTX occurred at the same time that a significant real-world space weather event—the largest geomagnetic disturbance in more than 20 years (i.e., the “Gannon Storm”)—began. These extraordinary events required key participants to divide their time between the simulated actions of the TTX and real-world needs.

The TTX was designed to provide a low-stress, no-fault environment for generating dialogue about the challenges of preparing for and responding to an impending SWx event. Participants from over thirty government departments and agencies, including senior leaders, interacted at two locations: the Johns Hopkins Applied Physics Laboratory (APL) in Laurel, Maryland, and FEMA Region 8 (R8) in Denver, Colorado.

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