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Poster
In May 2024, Active Region 13664 produced over 90 flares, 6 of which were associated with the main Earth-directed coronal mass ejections that impacted the near-Earth environment on May 10th. The Moon to Mars Space Weather Analysis Office monitored, analyzed, and documented these events as they unfolded including the historical arrival of these CMEs. Much of the space weather community sees these May storms, also known as the Gannon Storms, as a historic event with numerous CMEs arriving and producing the strongest geomagnetic storm witnessed since Solar Cycle 23. However, Solar Cycle 25 was not finished with creating historical events.

In January 2026, a single X-class flare from Active Region 14366 produced a fast Earth-directed CME, accelerating particles towards Earth causing the strongest solar energetic particle event seen since October 2003. The arrival of the CME only increased the level of the solar energetic particles before they dropped below threshold on January 22nd.

Both of these events were historically significant, but for very different reasons. In this poster we compare these different historical cases and show the complexity of the two events from a space weather analyst's perspective with the Moon to Mars Space Weather Analysis Office at NASA Goddard Space Flight Center.
Poster session day
Thursday, April 30, 2026
Poster location
14
Meeting homepage
2026 Space Weather Workshop
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