

# CPAESS Discovery Seminar



## **SPEAKER** **Waqar Younas**

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## **Ionospheric Irregularities and GPS Positioning Errors Over CONUS: What Recent Storms Reveal About Mid-Latitude GPS Vulnerability**

**DATE: Wednesday, July 22, 2026**

**TIME: 11:00 AM – 12:00 PM MT (VIRTUAL)**

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Space weather disturbances are often considered to affect mainly low and high latitude regions, but recent geomagnetic storms have shown that mid latitude GPS can also be highly vulnerable. The May 2024 event served as a wake up call, revealing pronounced ionospheric irregularities and significant degradation in positioning accuracy across the continental United States. Building on this example, the presentation will examine several additional recent storms, comparing how mid latitude irregularities evolved and how strongly they impacted navigation performance.

The discussion will highlight the broader implications for GPS dependent systems and the growing need for improved monitoring and forecasting capabilities.



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