

Katherine
Garcia-Sage
NASA GSFC
Jonathon Smith, NASA GSFC/CUA
Kyle Murphy, independent contractor
Jeff Klenzing, UMBC
Nat Mathews, NASA GSFC/UMD
Doug Rowland, NASA GSFC
Mike Shoemaker, NASA GSFC
Peter Schuck, NASA GSFC
Andreas Weiss, NASA GSFC/UMBC
Eftyhia Zesta, NASA GSFC
Francesca DiMare, NASA GSFC/CUA
Edwin Dove, NASA GSFC
Denny Oliveira, NASA GSFC/UMBC
Apexa Patel, NASA GSFC/ADNET
Poster

The rapid proliferation of objects in Low Earth Orbit (LEO) has created an urgent need for improved orbit prediction and uncertainty quantification. The CONTIGO (Collaboration for Observational and Numerical Thermosphere with Integrated Geospace Orbits) project addresses this by building a flexible, open-source framework for thermospheric density determination and orbit propagation that bridges the gap between space weather research and operations. During the first year of the CONTIGO project, we have developed critical foundations for (1) orbit-based density determination, (2) a prototype data assimilation framework, and (3) assessment of neutral density impacts on orbit determination/prediction using the General Mission Analysis Tool (GMAT). This work represents advancement toward providing open source, collaborative tools linking Heliophysics research to its orbital drag-related impacts. Here we show initial results from our first year and outline goals and areas of potential collaboration for the ongoing project.

Poster session day

Wednesday, April 29, 2026

Poster location

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Meeting homepage

[2026 Space Weather Workshop](#)

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