

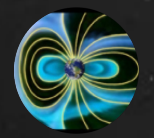


GDC is a **Heliophysics Decadal Survey-recommended** mission.

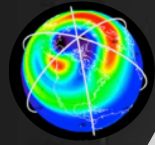
GDC will provide the **first global picture of the upper atmosphere** using critically-needed direct observations.

GDC will demonstrate **new real-time space weather data** capabilities.

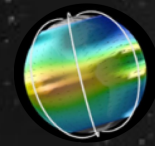
GDC's fleet will provide input for and improve **data-starved models**.



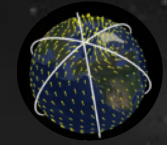
Magnetosphere Coupling



Heating



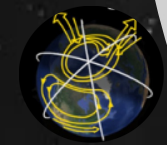
Tidal Forcing



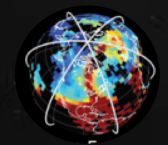
Wind Flow



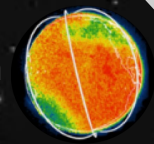
Aurora



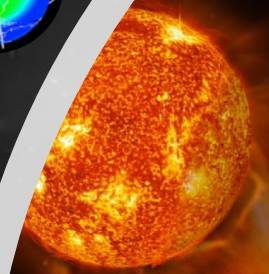
Currents



Storm Forcing

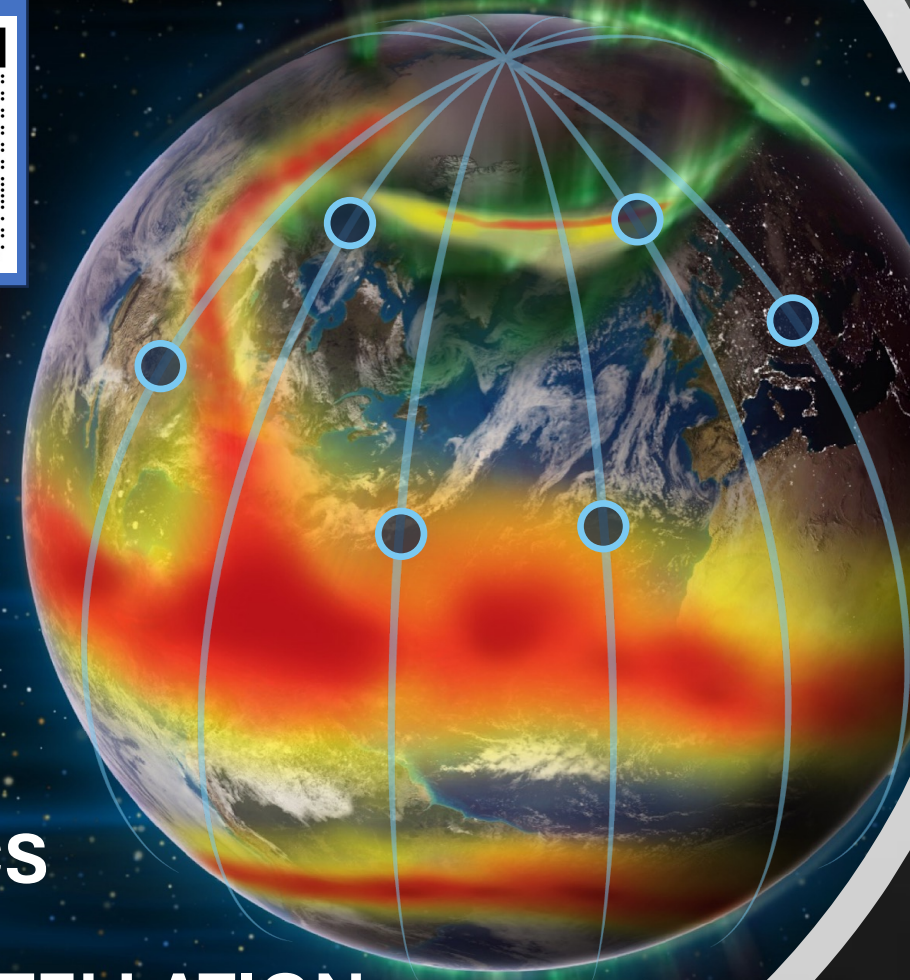


Composition



GEOSPACE DYNAMICS CONSTELLATION

Geospace Dynamics Constellation embarks on a mission to unveil the intricate links in unprecedented detail defining the state of the Earth's upper atmosphere!



Space Weather Impacts



Satellite Damage

Astronaut Safety

Navigation

Communication

Power Grid

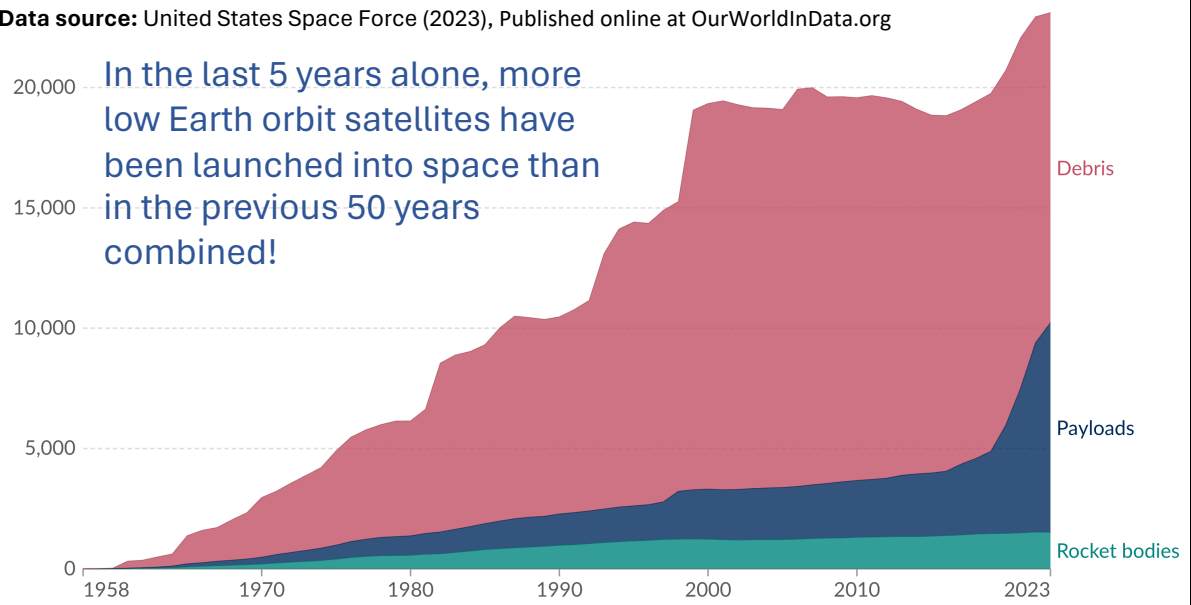
Aviation

Enhanced atmospheric drag in Low Earth Orbit (LEO)!

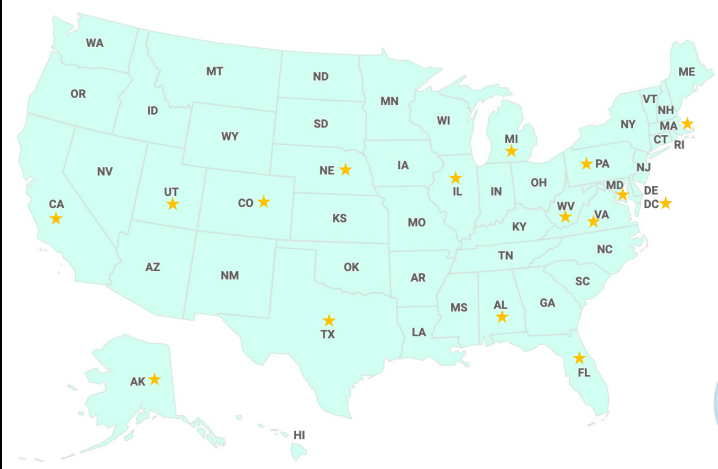


→ Prediction of orbital changes and re-entry times are critical to avoid collisions.
 → This requires understanding of the upper atmospheric response to space weather, that GDC will readily provide!

In October 2020, Congress passed the PROSWIFT Act with strong bipartisan support, which emphasized that: *“coordinated applied research of the thermosphere is necessary to improve space traffic coordination and avoid the negative consequences of space weather on the growing number and importance of space assets in LEO.”*



Satellite congestion will continue to increase, further challenging our ability to manage this crucial orbital region.



★ Location of major partners and institutions

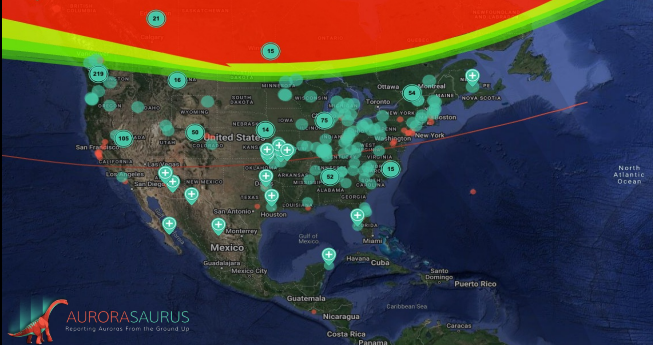
GDC Mission is a National Enterprise

43 Major Partners and Institutions in 16 States (as of March 2023)



And many international organizations

May 10-11, 2024 Geomagnetic Storm Aurora Map



GDC will study the effects of energy inputs that causes the beautiful aurora and space weather!



Photos: Getty Images/Ap Photos/Facebook