

Step 5: Sun-Solar System Connection Roadmap

Targeted Outcome to Capabilities to Implementation

Targeted Outcome: Phase 2025+, Our home in space
Transition Geospace Prediction to Operational Use

Targeted Understanding

Understand the system dynamics throughout geospace

Understand the system coupling throughout geospace

Understand the system nonlinearities throughout geospace

Enabling Capabilities & Measurements

Complete coverage of I-T system

Complete coverage of inner magnetosphere

Complete coverage of dayside boundaries

Continuous solar and upstream solar wind measurements

Coordinated/simultaneous measurements in connected regions of geospace

Conjugate auroral imaging

Mature data assimilation techniques

Robust, mature, and fast global geospace modeling tools

Complete coverage of magnetotail

Implementation Phase 1: 2005-2015

Existing Assets:
MagCon, AMS, ITM-Waves, GEMINI, Dayside Boundary Con.

Rocket Campaigns:
Regular launches (weather balloons)

New Strategic Missions:
IMC, ITC

New Explorer Missions:
Conjugate auroral imagers, ACE replacement

Theory advancements:
System nonlinearities and feedbacks

Modeling Advancements:
Operational transition of GGCMs