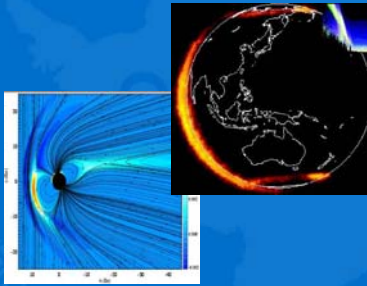


# ICESTAR: Interhemispheric Conjugacy Effects in Solar-Terrestrial and Aeronomy Research

Linking Near-Earth Space to Polar Regions



<http://www.siena.edu/physics/ICESTAR/>

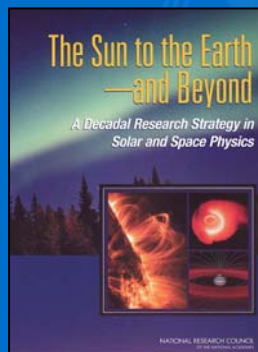


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## Challenge

Understand the geospace environment in the polar regions and its dynamical response to external forcing from solar activity



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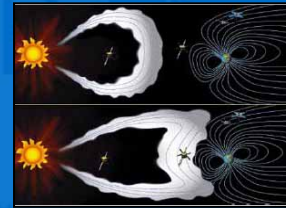
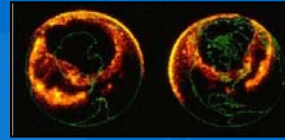
## ICESTAR Goals

- To identify and quantify mechanisms that control interhemispheric regional differences and/or commonalities in the electrodynamics of the Earth's magnetosphere-ionosphere system and aeronomy of the upper atmosphere over the Arctic and Antarctic
- and
- To develop a “virtual data portal” linking together a large number of globally distributed geophysical databases, including both data serving applications and visualization tools; this will enable a systems view of the polar upper atmosphere and geospace



## ICESTAR - Four Thematic Action Groups

- Similarities and differences between the Northern and Southern polar upper atmospheres
- Atmospheric consequences of the global electric circuit
- Dynamics of the inner magnetospheric particles, fields and the polar atmosphere
- Creating a data portal for all polar data sets and modeling results

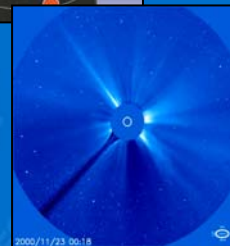
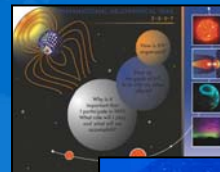


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## ICESTAR

- Understanding the interactions between and collective behavior of the Earth system
- Providing a material link between the Sun and Earth through the polar regions



**"To use the unique vantage point of the polar regions to develop and enhance observatories studying the Earth's inner core, the Earth's magnetic field, geospace, the Sun and beyond."**



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