



RADARSAT

Space Weather
A Global Challenge

Canadian Perspective

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Canadian Space Agency
Agence spatiale canadienne

Canada

Space weather in Canada

- **Natural Resources Canada**

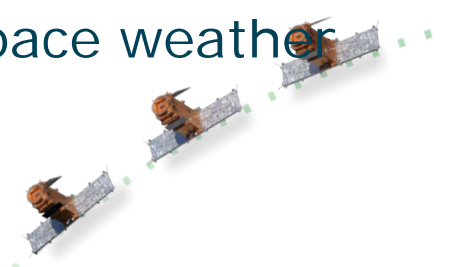
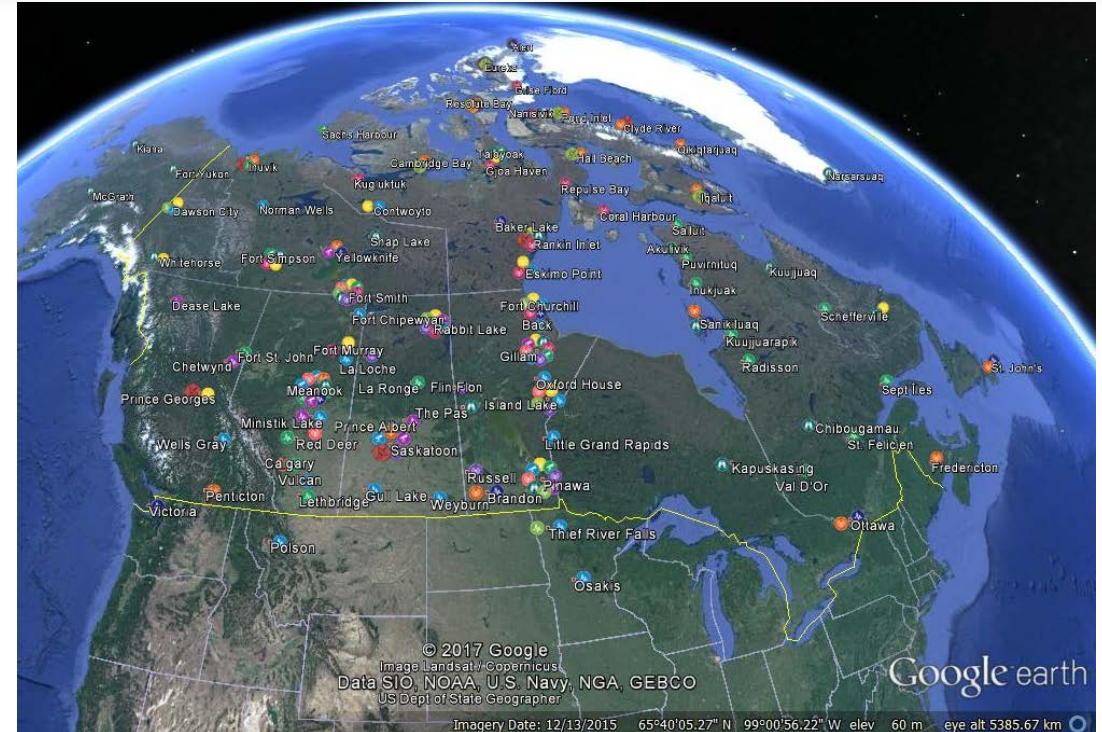
- Forecasts
- Critical Infrastructure support

- **National Research Council**

- F10.7 Solar Flux Measurements and expertise

- **Canadian Space Agency**

- Scientific space missions
- Data gathering and analysis to further space science in support of space weather



Natural Resources Canada

- **Space Weather Forecasting**

- Alerts sent to
 - Government Operations Centre
 - Critical Infrastructure Operators
- Member of the International Space Environment Service network (ISES)

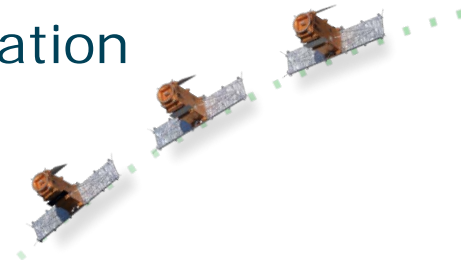
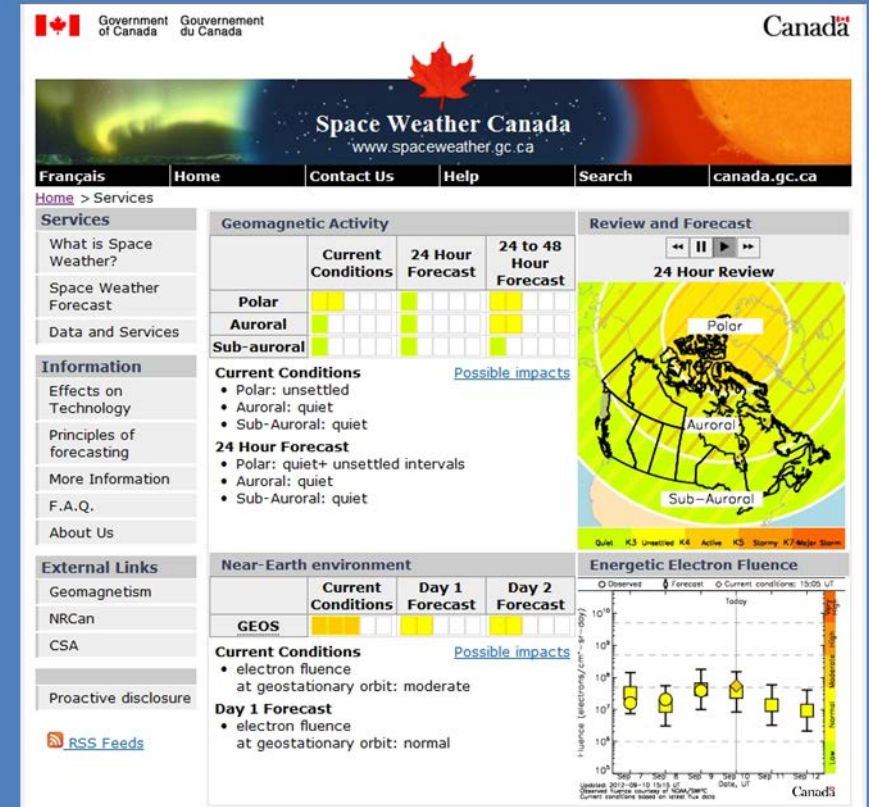
- **Ground Measurement Network**

- Magnetometers, Riometers

- **Protection of critical infrastructure**

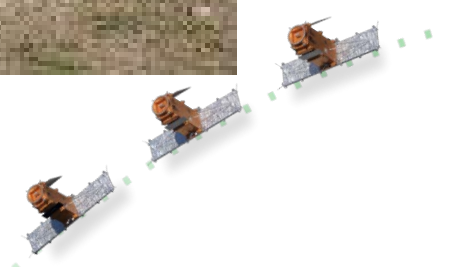
- Supports critical infrastructure operators risk assessment and mitigation

Canadian Space Weather Forecast Centre
NRCan Canadian Hazards Information Service



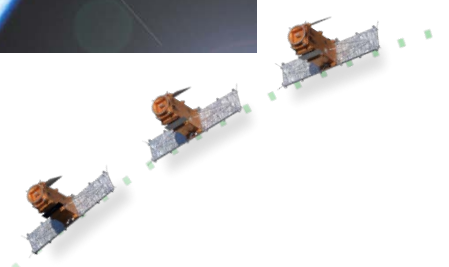
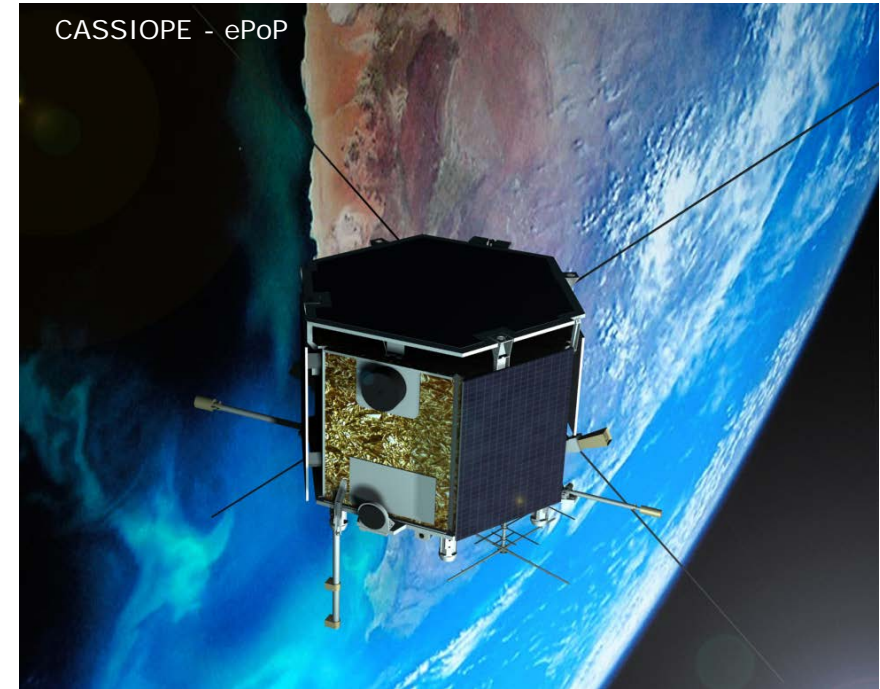
National Research Council

- F10.7 solar flux is one of the most widely used indices of solar activity
- The National Research Council performs world standard measurements since 1947



Solar-Terrestrial Missions supported by the Canadian Space Agency (CSA)

- **Geospace Observatory (GO) Canada**
 - Contribution agreements for space science data acquisition across Canada
- **NASA/THEMIS**
 - Ground observatories in Canada
- **ESA/Swarm**
 - Support Electric Field Instrument operations
- **Science & Application grants**
 - Science grants with Canadian Universities
 - Developing models
 - Space mission data analysis



Solar-Terrestrial Activities at CSA

Policy

- Space Weather Socioeconomic impact Study on Canadian Infrastructure
- UN/COPUOS space weather working group
- Canada-USA Bilateral on Space Weather

Solar-Terrestrial Science Advisory Committee (STSAC)

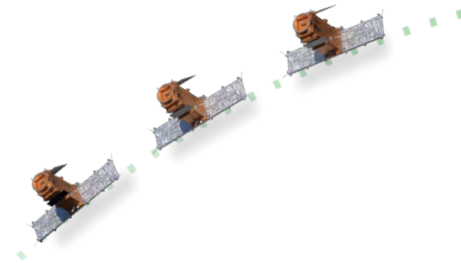
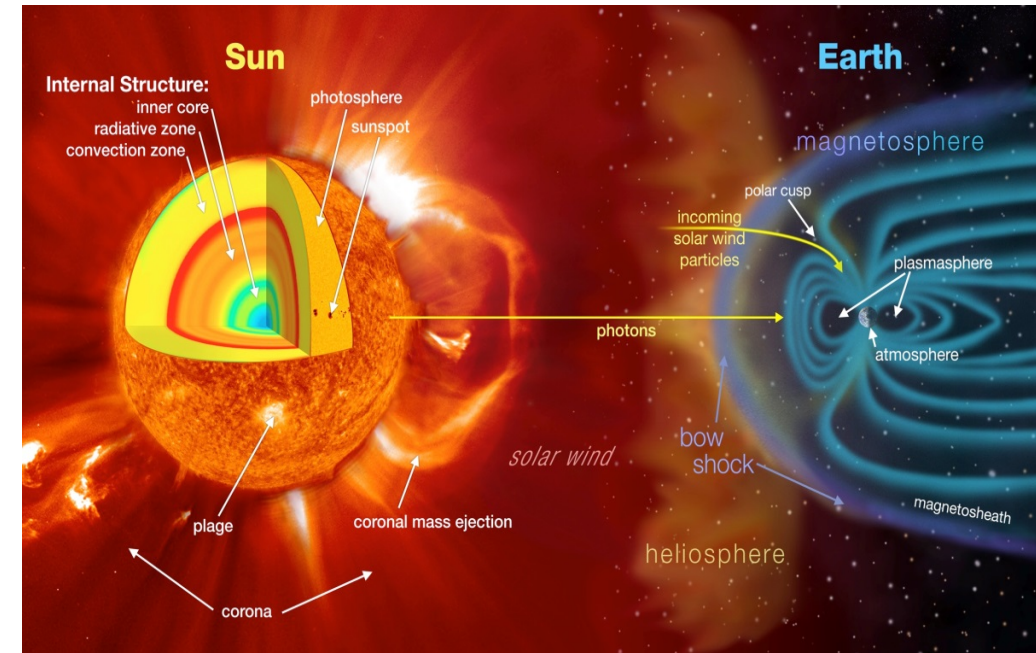
- Advises CSA on Solar Terrestrial Science issues in Canada

Space Science & Technology branch (SS&T)

- Flight for the Advancement of Science and Technology (FAST) grants
- Canada-Norway Sounding Rocket (CaNoRock) support
- Space Technology Development Program (STDP) contracts

Space Exploration

- Science maturation studies





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