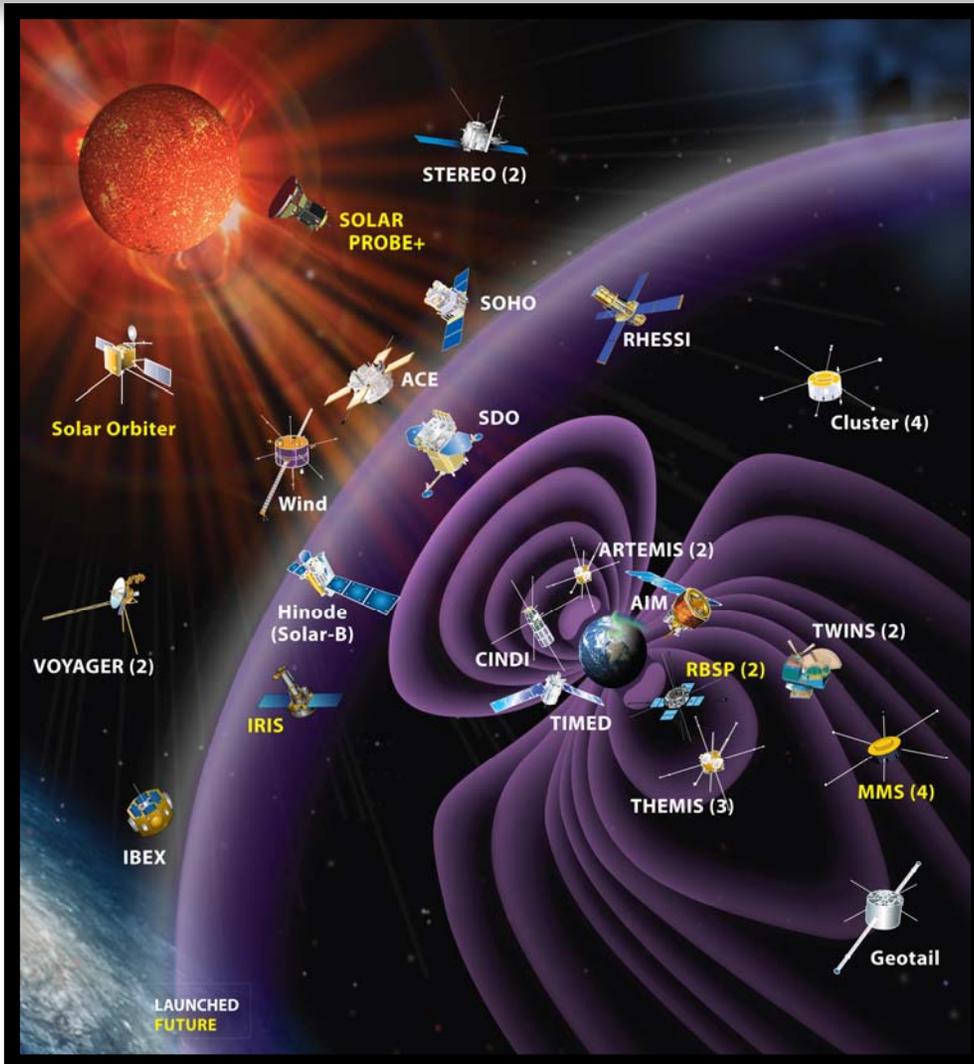


Impacts of Space Weather
Chuck Gay, Deputy Associate Administrator,
Science Mission Directorate, NASA Headquarters
Space Weather Enterprise Forum, June 5, 2012

Impacts of Space Weather

Heliophysics System Observatory (HSO)



The Heliophysics System Observatory (HSO) utilizes the entire NASA fleet of solar, heliospheric, and geospace spacecraft as a distributed observatory to discover the larger scale and/or coupled processes at work throughout the complex system that makes up our space environment.

The HSO consists of 17 operating missions: Voyager, Geotail, Wind, SOHO, ACE, Cluster, TIMED, RHESSI, TWINS, Hinode, STEREO, THEMIS, AIM, CINDI, IBEX, SDO, ARTEMIS

Heliophysics Program 2012-2018

Solar Terrestrial Probes

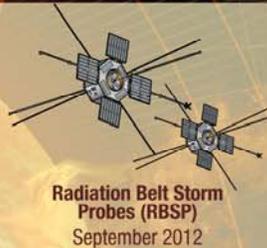


Magnetospheric Multiscale (MMS)
March 2015



STP #5

Living With a Star



Radiation Belt Storm Probes (RBSP)
September 2012



Space Environment Testbeds (SET)
January 2014



Solar Orbiter Collaboration (with ESA)
January 2017



Solar Probe Plus
July 2018

Explorers



Interface Region Imaging Spectrograph (IRIS)
June 2013



Future Explorer Mission(s)
2016-2018

Research Program



- | | | | | |
|-----------------------------|---------------------|-----------------------|-------------------------|---------------------|
| EVE Calibration - June 2012 | RockOn - June 2012 | RockSat - August 2012 | ACCESS - October 2012 | DXL - December 2012 |
| FORTIS - June 2012 | SUMI - July 2012 | VERIS - August 2012 | SLICE - October 2012 | HYPE - 2013 |
| IMAGER- June 2012 | DFS - July 2012 | EUNIS - August 2012 | Micro-X - November 2012 | |
| | HI-C - July 2012 | EVEX - September 2012 | XACT - November 2012 | |
| | FOXSI - August 2012 | RAISE - October 2012 | VESPR - November 2012 | |

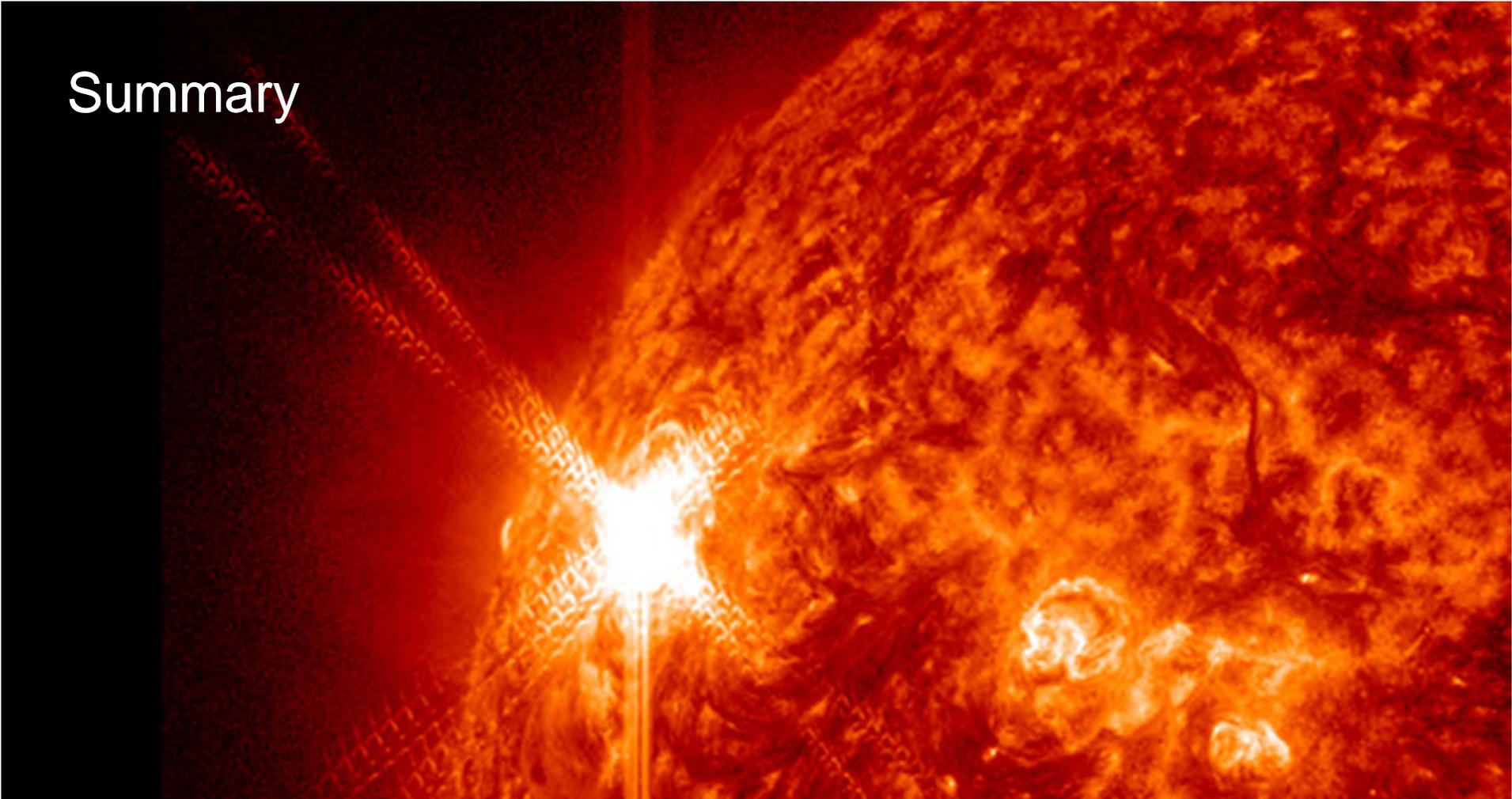
- | | |
|-----------------------------------|--------------------------------------|
| ASTRA - August 2012/New Mexico | BARREL #1 - December 2012/Antarctica |
| NSCAP - September 2012/New Mexico | BARREL #2 - December 2013 |
| GRIPS - September 2012/New Mexico | |

Ongoing

Heliophysics Missions
Astrophysics Missions
Planetary Missions

2012 2013 2014 2015 2016 2017 2018

Summary



- Focused research programs are guiding the design and operation of productive scientific missions.
- At the same time, we are pursuing a deeper understanding of the fundamental physical processes that underlie the awesome phenomena of space.
- The payoff will be understanding how technological systems, human society, and the habitability of planets are affected by solar variability.