National Aeronautics and Space Administration

The Integrated Space Weather Analysis System

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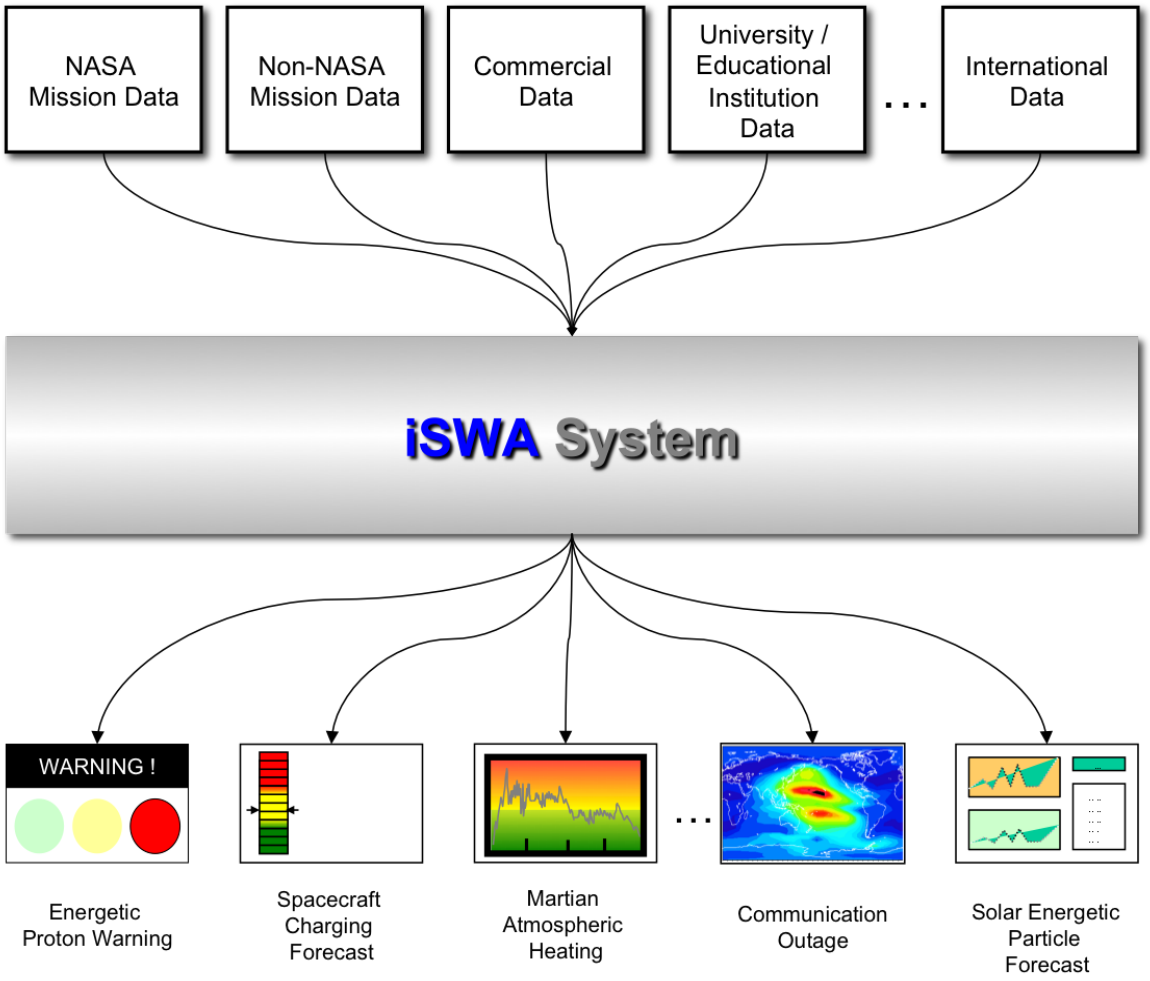
Space Weather REDI 2017

https://ccmc.gsfc.nasa.gov/iswa

How Do You Quickly Determine Past, Present, & Expected Space Weather Impacts?

iNTEGRATED SPACE WEATHER ANALYSIS SYSTEM



Highly diverse and distributed space weather data consisting of the latest observational data along with the most advanced space weather model simulation output.

iSWA system collects data from a large and evolving list of sources. Data is sorted, characterized, and processed into 'mission decision supporting' products in response to individual user queries.

iSWA generates and provides a user-configurable display panel that can be accessed from a standard web browser. The end user can then customize their display to focus on specific products of interest.

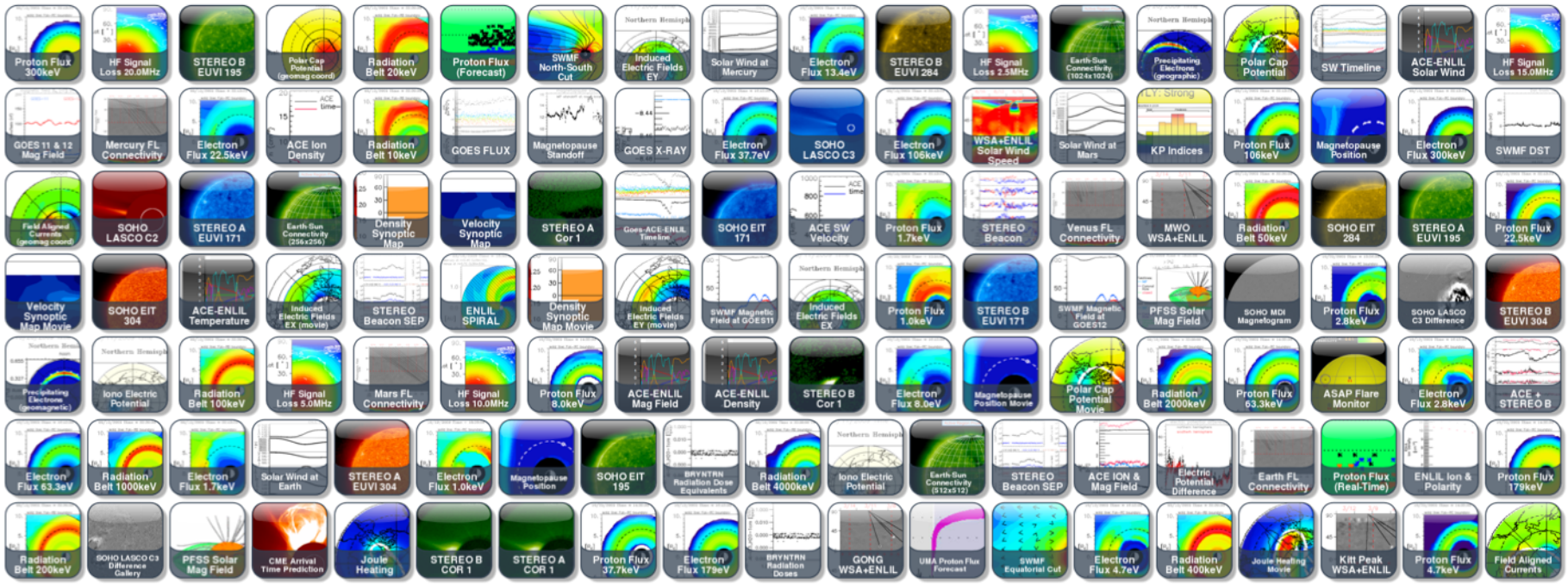
iNTEGRATED SPACE WEATHER ANALYSIS SYSTEM

iSWA Solution & Deliverables

1. Acquire, ingest, and produce NASA relevant space weather information
2. Utilize both observational and simulation/model data
3. Produce and provide real-time data streams
4. Categorize and archive data for historical impact analysis
5. Provide customizable and highly configurable displays
6. Disseminate through the most widely deployed and accessible interface – the web

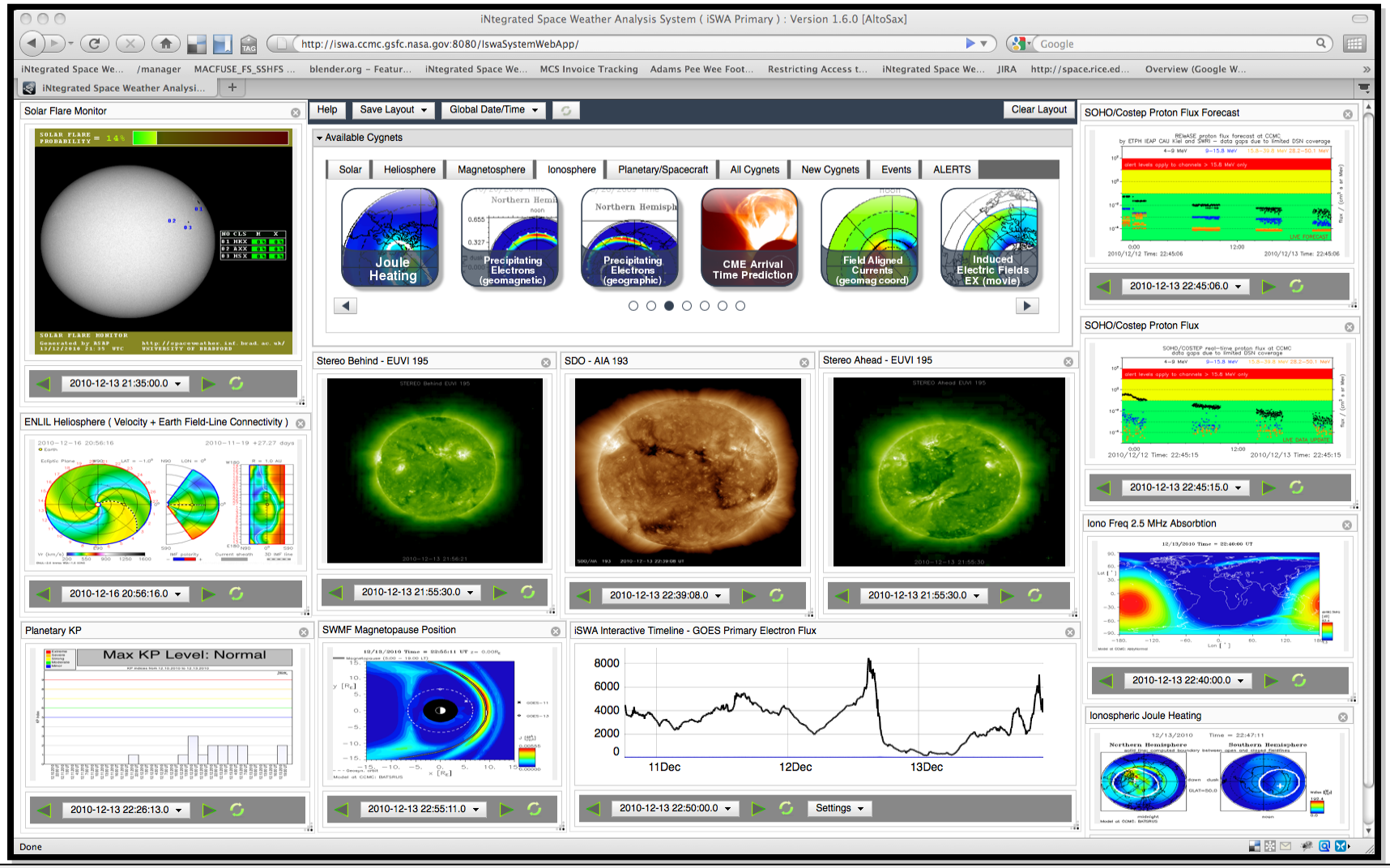
Innovative Dissemination

ISWA has >300 products including modeling results and comprehensive sets of observational data.



Web-based. User configurable. Available world-wide.
One-stop shop for state-of-the-art information!
https://ccmc.gsfc.nasa.gov/iswa

Unprecedented Access to Space Weather Information



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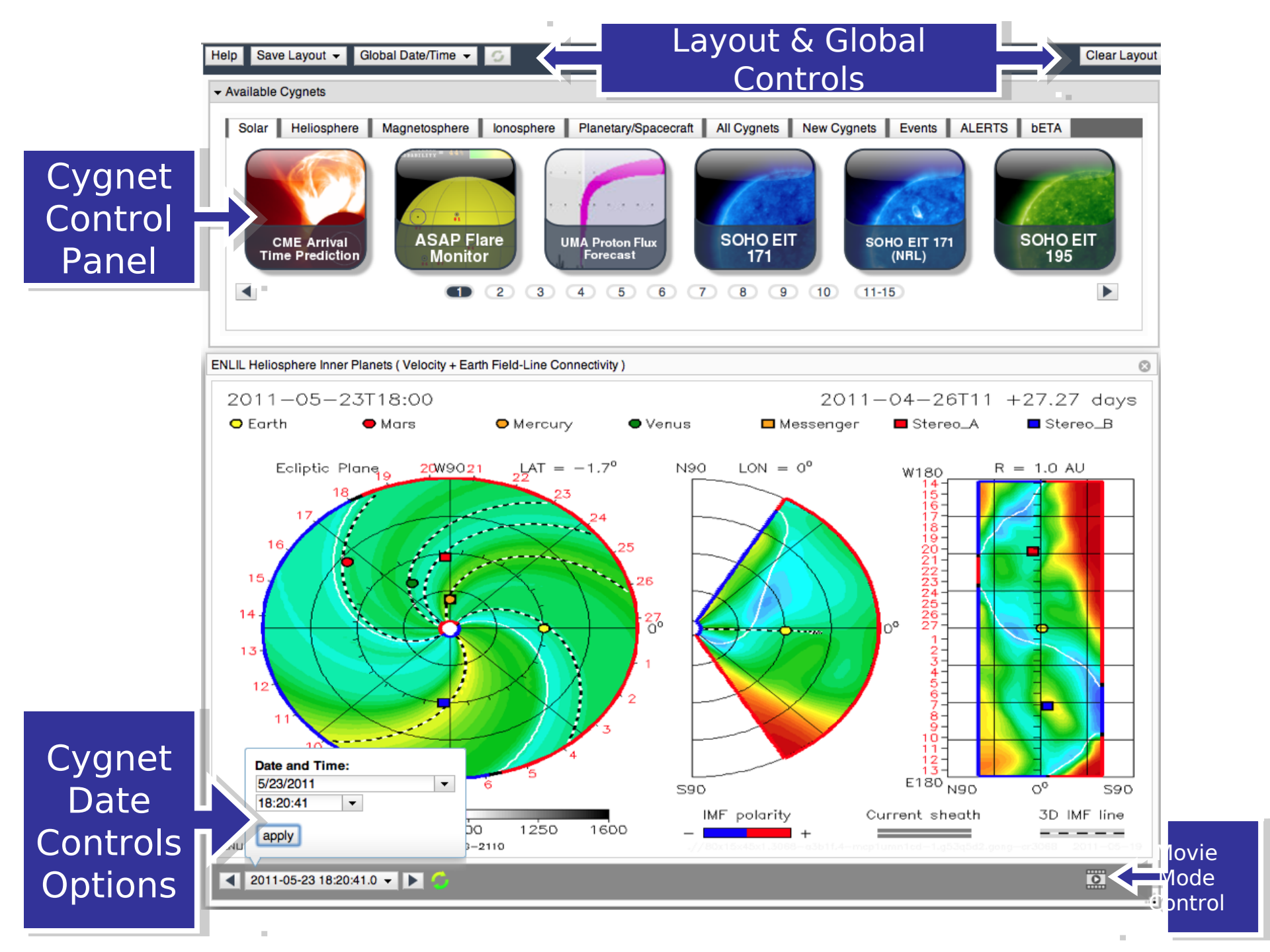
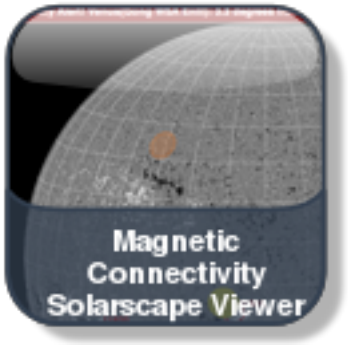

Layout & Global Controls
Cygnet Control Panel
Cygnet Date Controls Options
Movie Mode Control
Help
Save Layout
Global Date/Time
Clear Layout
Available Cygnets
Solar
Heliosphere
Magnetosphere
Ionosphere
Planetary/Spacecraft
All Cygnets
New Cygnets
Events
ALERTS
bETA
CME Arrival Time Prediction
ASAP Flare Monitor
UMA Proton Flux Forecast
SOHO EIT 171
SOHO EIT 171 (NRL)
SOHO EIT 195
1 2 3 4 5 6 7 8 9 10 11-15
ENLIL Heliosphere Inner Planets (Velocity + Earth Field-Line Connectivity)
2011-05-23T18:00
2011-04-26T11 +27.27 days
Earth
Mars
Mercury
Venus
Messenger
Stereo_A
Stereo_B
Ecliptic Plane
LAT = -1.7°
N90
LON = 0°
W180
R = 1.0 AU
S90
E180
IMF polarity
Current sheath
3D IMF line
Date and Time:
5/23/2011
18:20:41
apply
2011-05-23 18:20:41.0

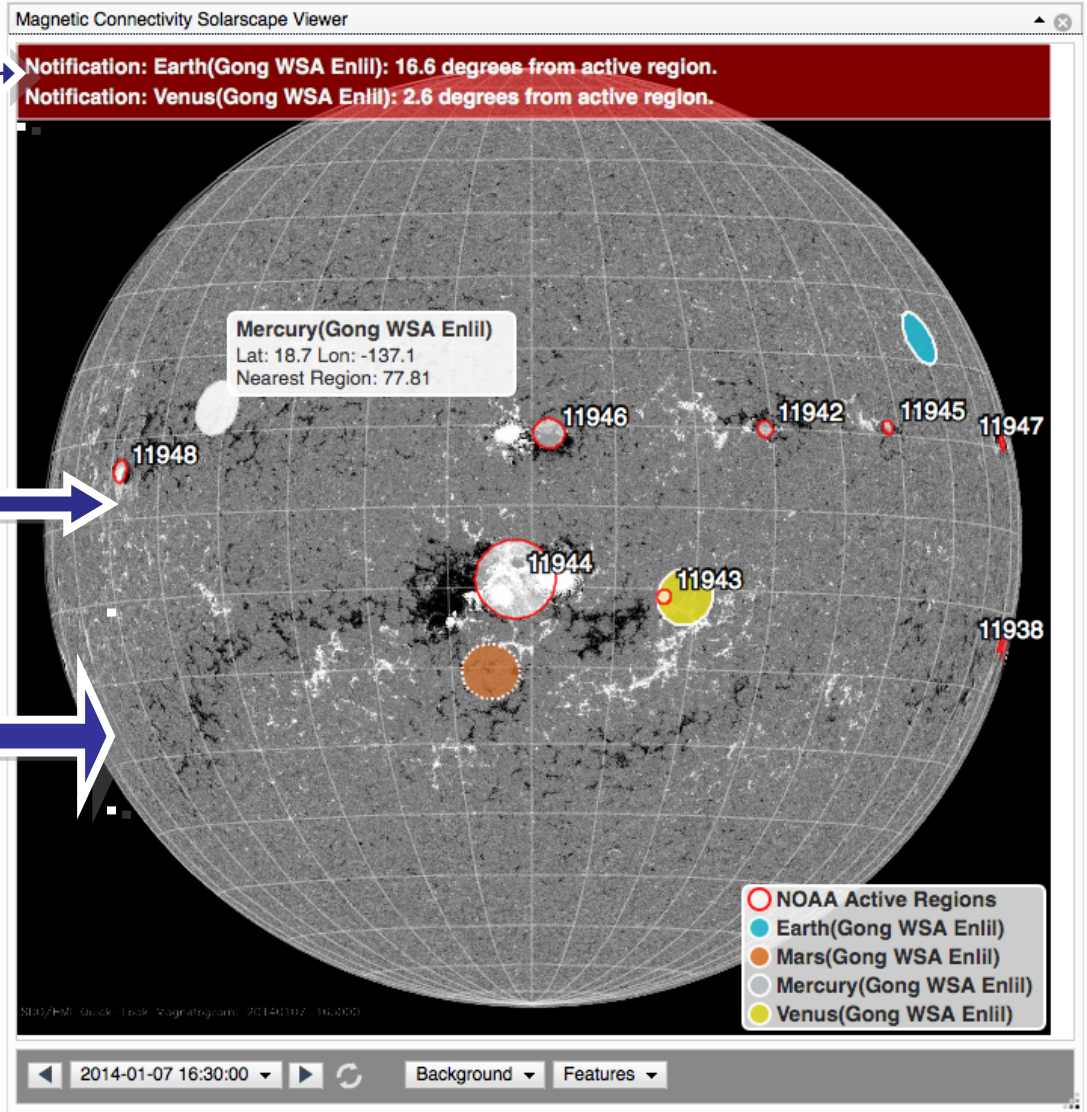
Dynamically Generated & Interactive Products: Solarscape



Alerts/Notifications

User Selectable Features
(MAG4, NOAA Active Regions,
CCMC Magnetic Connectivity)

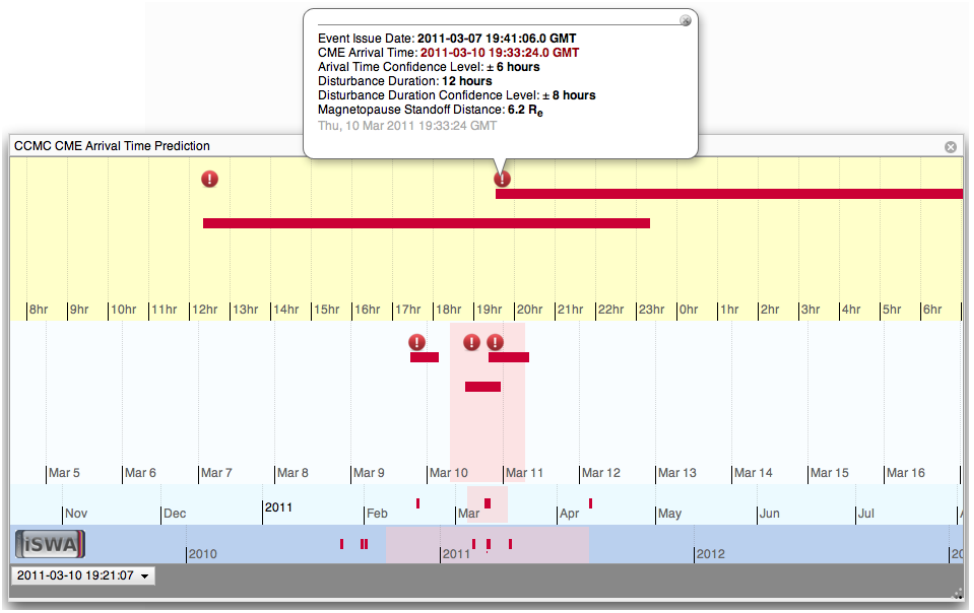
User Selectable Background
(SDO , Generic Grid)



Dynamic Product with User Selectable Features From Several Sources

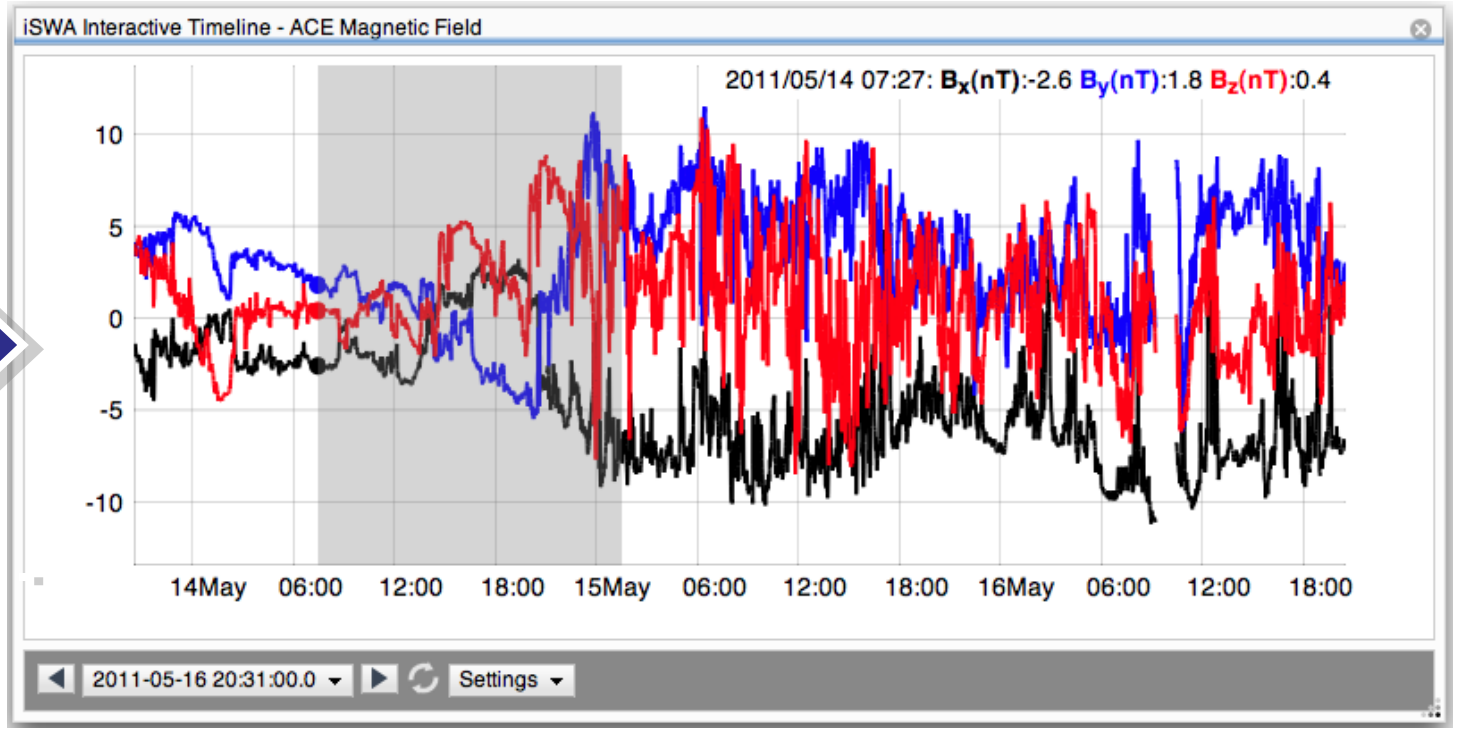
iSWA

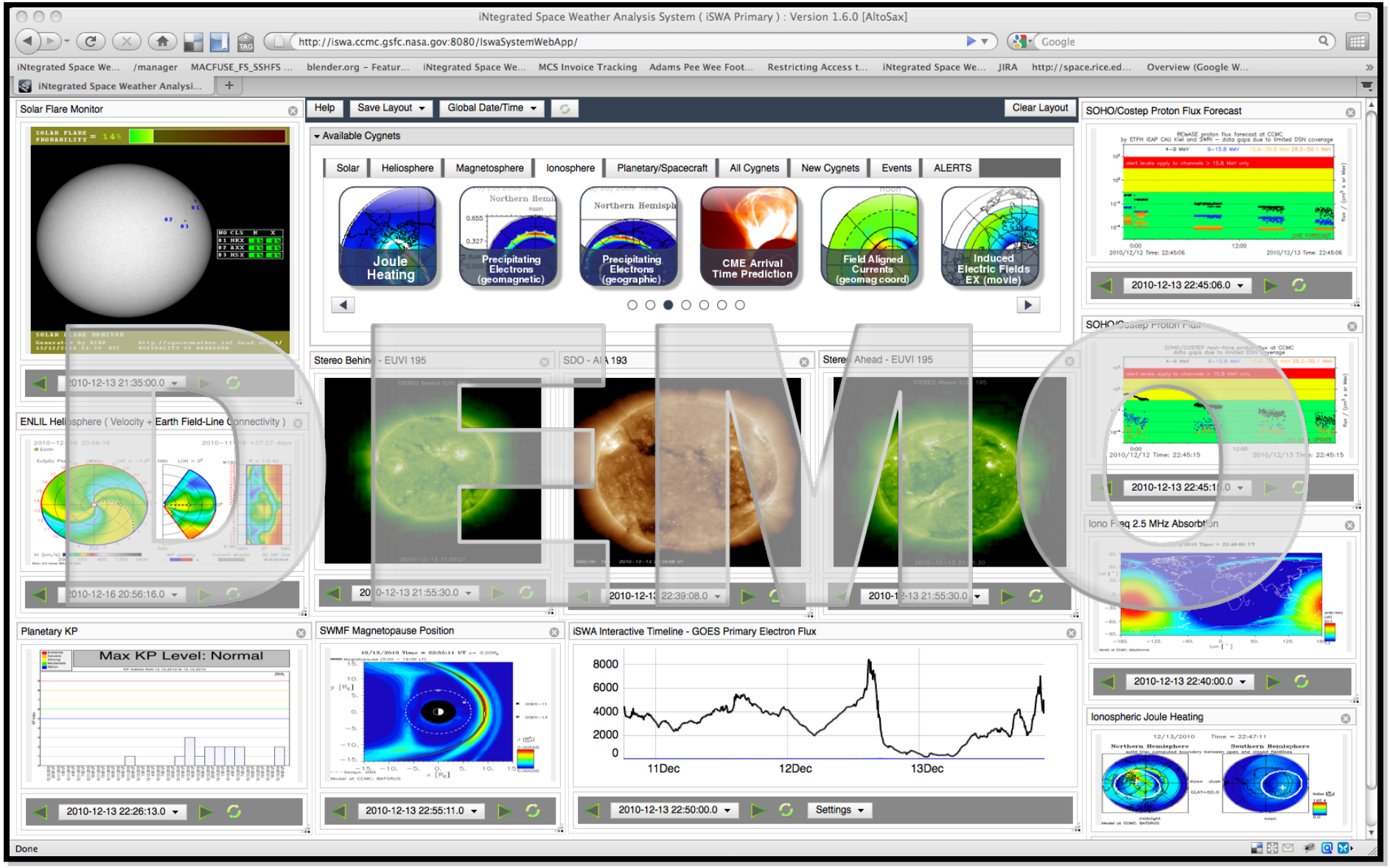
Interactive Timelines



Interactive CME alert tool with chronological record of NASA Center issued CME time of arrival predictions

Interactive timeline tool with pan, zoom, mouse-over, and quantity toggling functionality





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