

# Recent developments in the Helioviewer Project

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# Helioviewer Server System

- Serves all Helioviewer Project clients.
- Ingests JPEG2000 files from multiple locations.
  - *AIA, HMI - LMSAL*
  - *SWAP - ROB*
  - *LASCO C2/C3, STEREO A/B, EUVI, COR 1/2 - GSFC*
  - *MDI, SXT no longer operational*



# Helioviewer Server System

- Main server (helioviewer)
  - 38 TB available
  - doubling of capacity coming soon.



# Helioviewer Server System

- Development / Backup server (delphi)
  - 38 TB available
  - offline at present for repairs
- Much improved data replication between the two servers.

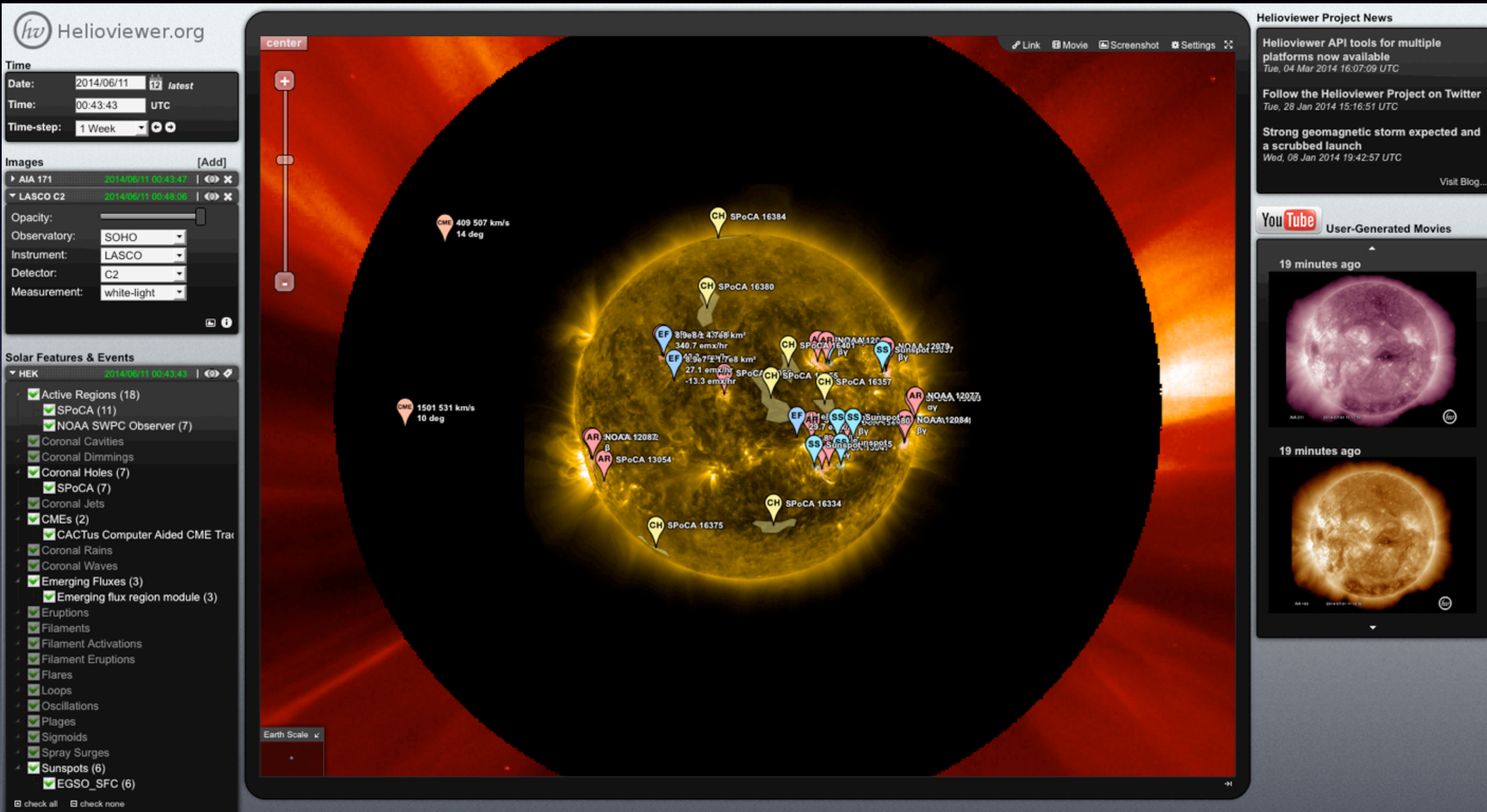


# Helioviewer Server System

- GSFC mandate to move both servers to different network.
  - delphi first (testing the transition)
  - then helioviewer
  - scheduled for the end of 2014



# Helioviewer.org





# Helioviewer.org

- Heliophysics Event Knowledgebase features and events.
- Movie reproducibility.
- Coverage stats: [helioviewer.org/coverage/](https://helioviewer.org/coverage/).



# Helioviewer API

- Moving API code out of helioviewer.org branch.
- Move API code to *git* / *GitHub*.
- New version of API under development



# Helioviewer API

- API Version 1
  - <http://v1.helioviewer.org/>
- API Version 2 under development
  - <http://v2.helioviewer.org/>
- New version supports more complex data, some simplification of requests.



# Helioviewer API

- Version 1 of the API: **data source** can be specified **hierarchically** or using the **sourceId**:
  - <http://helioviewer.org/api/index.php?action=getJP2Image&observatory=SDO&instrument=AI&detector=AI&measurement=171&date=2014-07-01T18:10:45Z&json=true&jpip=true>
  - <http://helioviewer.org/api/index.php?action=getJP2Image&sourceId=10&date=2014-07-01T18:10:45Z&json=true&jpip=true>



# Helioviewer API

- Version 2: data source specified using *sourceId* only
  - <http://v2.helioviewer.org/api/getJP2Image/?sourceId=10&date=2014-07-01T18:10:45Z&json=true&jpip=true>
  - better security properties, simpler API



# Helioviewer API

- Version 1
  - will be available for two years after publication of Version 2
  - no new features.
- Version 2
  - Under development.
  - *Ideas? - this is a good opportunity to re-think how the Helioviewer Project operates.*



# JP2Gen

- IDL tools for converting FITS data to JPEG2000 images for use with the Helioviewer Project.
- Is intended to make use of an instrument team's standard data preparation and summary image pipelines



# JP2Gen

- *“If you can write out a JPEG file, you can write out a JPEG2000 file”*
- Development using Launchpad.net hosting for JP2Gen is deprecated: all further development will take place using *git / GitHub*.
  - *<https://github.com/Helioviewer-Project>*



# New data sources

- Entire TRACE archive being converted.
- STEREO A/B EUVI, COR 1/2 archived images almost complete.
- Next up - Hinode XRT.
- Interest from CHROTeI, CoMP, RHESSI.



# Future: new data types

- Spectroscopic data.
- Maps of derived data products.
  - physical quantity map (e.g. temperature)
  - an estimate of the *confidence* in the physical quantity.