

The Solar Dynamics Observatory: SDO

SDO: The Mission

Launched in 2010, First Living with a Star Mission

Journey To the Stars video link

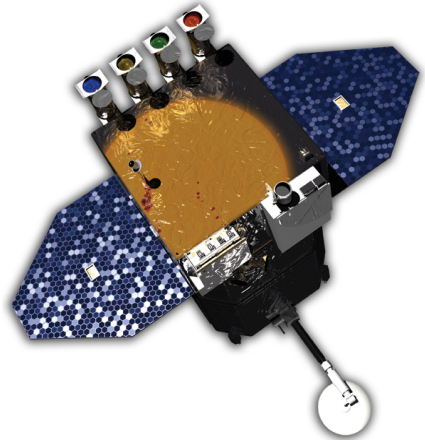
<http://vimeo.com/8679190>

Designed to understand the causes of solar variability and its impacts on Earth

SDO: The Science

Instruments to study the Sun's interior, atmosphere, and solar wind all day every day

Atmospheric Imaging Assembly (AIA)
EUV Variability Experiment (EVE)
Helioseismic and Magnetic Imager (HMI)



Activity	Prediction Type	Prediction Time
Flares	Probability of occurrence, location	Today, tomorrow, next week
CMEs	Probability of occurrence, location, geoeffectiveness	Today, tomorrow, next week
Active region emergence and growth	Location of emergence, rate of growth	Today, next month

SDO: Educational Resources

SDO Curriculum (Elementary K–6 and Secondary 7–12)

<http://sdo.gsfc.nasa.gov/epo/educators/>

CIRES Education Outreach Solar kit:

<http://cires.colorado.edu/education/outreach/projects/eve/>

Contact Emily.Kellagher@colorado.edu

SID Monitors

<http://sid.stanford.edu/>

All About EVE videos

<http://vimeo.com/4480035>

CIRES Education Outreach channel

<http://vimeo.com/user1459836>

The Solar Dynamics Observatory: SDO

NASA Goddard SDO website

<http://sdo.gsfc.nasa.gov/>

NASA SDO website

http://www.nasa.gov/mission_pages/sdo/main/index.html

SDO APP

<http://itunes.apple.com/us/app/sdo-iphone-version/id455184323?mt=8>

<http://itunes.apple.com/us/app/3d-sun/id347089078?mt=8>

Helioviewer

<http://www.helioviewer.org/>

SPACE WEATHER:

Why do we care about space weather?

Energy and radiation from the Sun can:

- Create blackouts on Earth when they cause surges in power grids.
- Disrupt our navigation systems (i.e. aircraft, GPS).
- Interfere with communication systems on Earth.
- Cause colorful auroras, often seen in the higher latitudes.
- Harm astronauts in space.
- Damage sensitive electronics on orbiting spacecraft, like SDO.

Student citizen science Space Weather forecasting

<http://sdo.gsfc.nasa.gov/swx/>