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 News and information about the Sun-Earth environment

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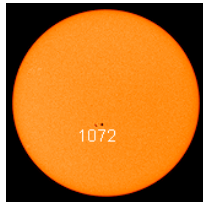
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SPACE WEATHER
Current conditions

Solar wind
 speed: **364.3** km/sec
 density: **0.4** protons/cm³
[explanation](#) | [more data](#)
 Updated: Today at 1006 UT

X-ray Solar Flares
 6-hr max: **B1** 0515 UT May23
 24-hr: **B1** 0515 UT May23
[explanation](#) | [more data](#)
 Updated: Today at: 1005 UT

Daily Sun: 23 May 10



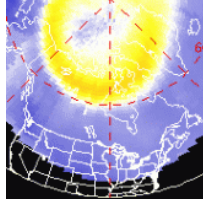
Sunspot 1072 is growing and poses a slight threat for C-class solar flares. Credit: SOHO/MDI

Sunspot number: 20
[What is the sunspot number?](#)
 Updated 22 May 2010

Spotless Days
 Current Stretch: 0 days
 2010 total: 33 days (23%)
 2009 total: 260 days (71%)
 Since 2004: 801 days
 Typical Solar Min: 486 days
[explanation](#) | [more info](#)
 Updated 22 May 2010

The Radio Sun
 10.7 cm flux: **73** sfu
[explanation](#) | [more data](#)
 Updated 22 May 2010

Current Auroral Oval:



Switch to: [Europe](#), [USA](#), [New Zealand](#), [Antarctica](#)
 Credit: NOAA/POES

Planetary K-index
 Now: **Kp= 0** quiet
 24-hr max: **Kp= 1** quiet
[explanation](#) | [more data](#)

Interplanetary Mag. Field
 B_{total}: **3.7** nT
 B_z: **1.1** nT south
[explanation](#) | [more data](#)
 Updated: Today at 1006 UT

Coronal Holes:

What's up in Space

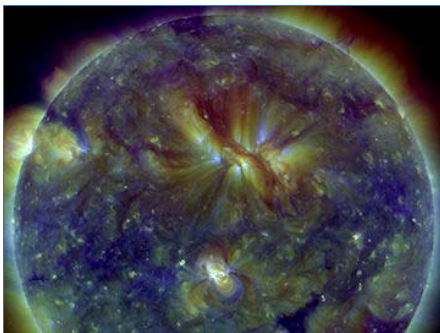
May 23, 2010

NEW AND IMPROVED: Turn your iPhone or iPod Touch into a field-tested *global* satellite tracker. The [Satellite Flybys app](#) now works in all countries.



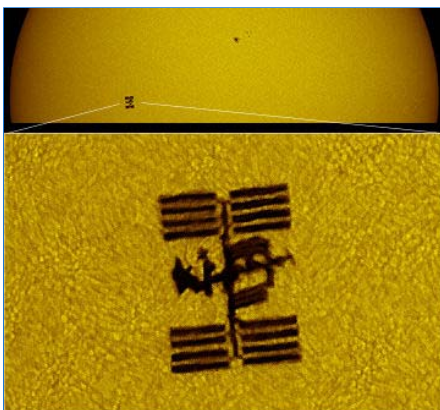
BIG MYSTERY: In a surprising development that has transformed the appearance of the solar system's largest planet, one of Jupiter's two main cloud belts has completely disappeared. Get the [full story](#) from Science@NASA.

ALIEN BEAUTY: Multiwavelength images of the sun beamed to Earth by NASA's [Solar Dynamics Observatory](#) (SDO) have a beauty that can only be described as ... alien. We've never seen the sun quite like this before. Consider the following picture taken just hours ago by SDO's Atmospheric Imaging Assembly:



The image is a composite of three extreme ultraviolet wavelengths: 211 Å (false-color red) 193 Å (green) and 171 Å (blue), each tracing a different gas temperature ranging from 1 to more than 2 million degrees K. Highlights of today's sun include an enormous magnetic filament, a coronal hole, and a new sunspot: [labels](#). And that's just for starters. The [high-resolution copy](#) of this image shows many more weird and interesting things. Go ahead and take a look; it really is your star.

AMAZING TRANSIT: Yesterday (May 22nd) in Switzerland, Thierry Legault photographed the International Space Station (ISS) and space shuttle Atlantis passing directly in front of the sun. The docked spacecraft were framed by "solar fire" as they raced by new sunspot 1072:



[View the full-disk transit](#)

"I have never had such good seeing conditions and this image surpasses any transit image I've [done before](#)," says Legault. "The sunspot area is also very sharp." He recorded the split-second transit using a solar-filtered 6" refracting telescope.

NASA's shuttle program is coming to an end later this year, and Atlantis is making her final scheduled visit to the ISS. For this reason, the STS-132 [mission patch](#) shows Atlantis heading into the sunset. There is, however, a possibility that [Atlantis might fly again](#). If so, make that sunset a solar transit.

3D BONUS: On May 16th, less than an hour before Atlantis docked

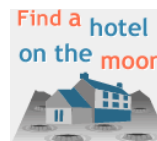
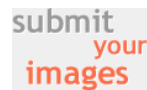
Cool links:

archives

May

23

2010



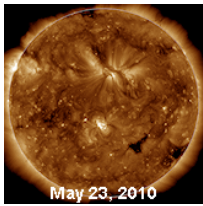
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There are no large coronal holes on the Earth-facing side of the sun.
Credit: SDO/AIA

**SPACE WEATHER
NOAA
Forecasts**

Updated at: 2010 May 22 2201 UTC

FLARE	0-24 hr	24-48 hr
CLASS M	01 %	01 %
CLASS X	01 %	01 %

Geomagnetic Storms:
Probabilities for significant disturbances in Earth's magnetic field are given for three activity levels: [active](#), [minor storm](#), [severe storm](#)

Updated at: 2010 May 22 2201 UTC

Mid-latitudes

	0-24 hr	24-48 hr
ACTIVE	05 %	05 %
MINOR	01 %	01 %
SEVERE	01 %	01 %

High latitudes

	0-24 hr	24-48 hr
ACTIVE	05 %	05 %
MINOR	01 %	01 %
SEVERE	01 %	01 %

to the ISS, Legault recorded a slightly-fuzzier but still impressive transit of the two across the sun. Scroll to [the bottom of this page](#) to view a 3D movie of the event. You'll have to cross your eye to merge two images of the sun into a single 3D globe.

May 2010 Aurora Gallery

[previous Mays: [2008](#), [2005](#), [2004](#), [2003](#), [2002](#)] [[aurora alerts](#)]

Near-Earth Asteroids

Potentially Hazardous Asteroids (PHAs) are space rocks larger than approximately 100m that can come closer to Earth than 0.05 AU. None of the known PHAs is on a collision course with our planet, although astronomers are finding [new ones](#) all the time.

On May 23, 2010 there were **1127** potentially hazardous asteroids.

May 2010 Earth-asteroid encounters:

Asteroid	Date(UT)	Miss Distance	Mag.	Size
2010 JR34	May 14	5.8 LD	21	12 m
2003 HR32	May 17	55.2 LD	17	1.0 km
2010 JN71	May 26	8.2 LD	18	245 m

Notes: LD means "Lunar Distance." 1 LD = 384,401 km, the distance between Earth and the Moon. 1 LD also equals 0.00256 AU. MAG is the visual magnitude of the asteroid on the date of closest approach.

Essential Links

[LINK](#) [NOAA Space Weather Prediction Center](#)

The official U.S. government space weather bureau

[LINK](#) [Atmospheric Optics](#)

The first place to look for information about sundogs, pillars, rainbows and related phenomena.

[LINK](#) [Solar and Heliospheric Observatory](#)

Realtime and archival images of the Sun from SOHO.

[LINK](#) [STEREO](#)

3D views of the sun from NASA's Solar and Terrestrial Relations Observatory

[LINK](#) [Daily Sunspot Summaries](#)

from the NOAA Space Environment Center

[LINK](#) [Current Solar Images](#)

from the National Solar Data Analysis Center

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