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 News and information about the Sun-Earth environment

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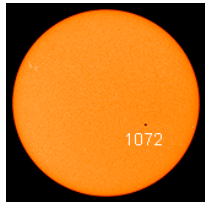
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SPACE WEATHER
Current conditions

Solar wind
 speed: **304.2** km/sec
 density: **0.3** protons/cm³
[explanation](#) | [more data](#)
 Updated: Today at 1115 UT

X-ray Solar Flares
 6-hr max: **A4** 0820 UT May25
 24-hr: **A5** 0100 UT May25
[explanation](#) | [more data](#)
 Updated: Today at 1115 UT

Daily Sun: 25 May 10



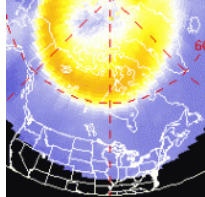
Sunspot 1072 is quiet and poses little threat for strong solar flares.
 Credit: SOHO/MDI

Sunspot number: 17
[What is the sunspot number?](#)
 Updated 24 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 24 May 2010

The Radio Sun
 10.7 cm flux: **73** sfu
[explanation](#) | [more data](#)
 Updated 23 May 2010

Current Auroral Oval:



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

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

Interplanetary Mag. Field
 B_{total}: **3.6** nT
 B_z: **1.1** nT south
[explanation](#) | [more data](#)
 Updated: Today at 1116 UT

Coronal Holes:

What's up in Space

May 25, 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.

SECRET SPACE PLANE: NASA's space shuttle program may be winding down, but the US Air Force's is just getting started. On April 22nd, the USAF launched an unmanned mini-shuttle from Cape Canaveral on a secret mission widely thought to involve reconnaissance. The [X-37B](#) can now be seen gliding through the night sky shining about as brightly as the stars of the Big Dipper. On Sunday night, [Gary O.](#) photographed it streaking over the treetops of his home in Fort Davis, Texas:

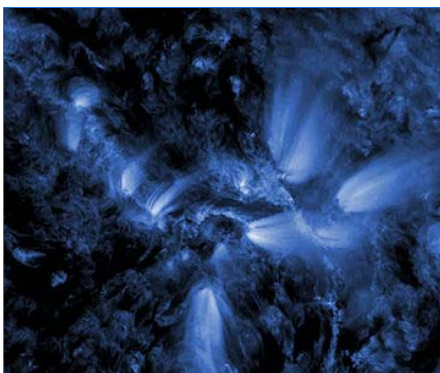


"This was my first chance to photograph the X-37B," says Gary. "It was easy to see. I estimate its magnitude at about +2.8."

The whereabouts of the X-37B were unknown until May 20th when amateur satellite watchers Greg Roberts of Cape Town, South Africa, and Kevin Fetter of Brockville, Canada, independently spotted it. Another satellite sleuth, Ted Molczan of Toronto, Canada, combined their observations to determine the space plane's orbit. With this information in hand, Fetter was able to find the X-37B again the next night; [here it is](#) on May 21st passing the 3rd-magnitude star Sadalsuud in Aquarius.

Ready to see for yourself? You can turn your iPhone into a [secret shuttle tracker](#), or check our [Simple Satellite Tracker](#) for X-37B flyby times. Readers who photograph the X-37B are invited to [submit images here](#).

SOLAR BLAST: A magnetic filament on the sun erupted yesterday, May 24th, and the blast hurled a coronal mass ejection (CME) in the general direction of Earth. NASA's Solar Dynamics Observatory recorded the action around the blast site in 10xHDTV resolution:



[Click to view a 0.6 MB movie](#)

Shortly after the eruption, the Solar and Heliospheric Observatory (SOHO) spotted a billion-ton CME racing away from the sun; [movie](#). NOAA forecasters say there is a 35% chance of geomagnetic activity on May 27th when the cloud delivers a glancing blow to Earth's

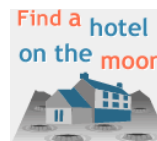
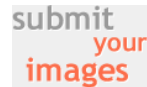
Cool links:

[archives](#)

May

25

2010



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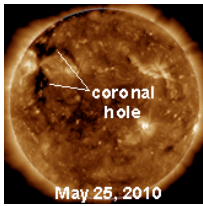
Harvest the Sun Power We Been Doing Solar Since 1998
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[mecasolar.com](#)



A new coronal hole is turning to face Earth. A solar wind stream flowing from this hole could reach our planet on or about May 31st. Credit: SDO/AIA

SPACE WEATHER NOAA Forecasts

Updated at: 2010 May 24 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 24 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 %

magnetic field. High-latitude sky watchers should be [alert for auroras](#).

Bonus: Can you find the star cluster in the CME movie? [Here it is](#).

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 25, 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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