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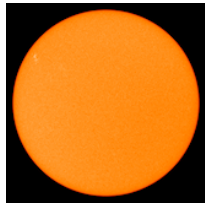
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SPACE WEATHER
Current conditions

Solar wind
 speed: **540.1** km/sec
 density: **2.4** protons/cm³
[explanation](#) | [more data](#)
 Updated: Today at 0445 UT

X-ray Solar Flares
 6-hr max: **A5** 2125 UT Jun16
 24-hr: **A6** 0525 UT Jun16
[explanation](#) | [more data](#)
 Updated: Today at: 2355 UT

Daily Sun: 16 Jun 10



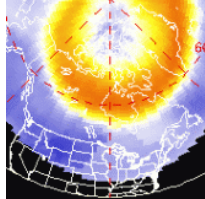
The Earth-facing side of the sun is blank--no sunspots. Credit: SOHO/MDI

Sunspot number: 0
[What is the sunspot number?](#)
 Updated 15 Jun 2010

Spotless Days
 Current Stretch: 1 day
 2010 total: 34 days (20%)
 2009 total: 260 days (71%)
 Since 2004: 802 days
 Typical Solar Min: 486 days
[explanation](#) | [more info](#)
 Updated 15 Jun 2010

The Radio Sun
 10.7 cm flux: **70**sfu
[explanation](#) | [more data](#)
 Updated 15 Jun 2010

Current Auroral Oval:



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

Planetary K-index
 Now: **Kp= 2** quiet
 24-hr max: **Kp= 4** unsettled
[explanation](#) | [more data](#)

Interplanetary Mag. Field
 B_{total}: **5.6** nT
 B_z: **3.7** nT south
[explanation](#) | [more data](#)
 Updated: Today at 0446 UT

Coronal Holes:

What's up in Space

June 17, 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.



HUBBLE FINDS NO DEBRIS: Even the Hubble Space Telescope cannot find any debris where a meteoroid apparently [hit Jupiter](#) on June 3rd. Today, researchers released [new HST images](#) of the impact site, which show nothing but uninterrupted clouds. The non-detection is consistent with a relatively small asteroid making a shallow impact in Jupiter's high atmosphere. [more](#)

CALIFORNIA ROCKET: Last night, sleepless sky watchers in California witnessed a bright light streak across the sky. It was not a meteor. "A unarmed Minuteman III rocket was launched from Vandenberg AFB at 3:01 PDT," reports Anthony Galvan III who took [this picture](#) from his backyard in Goleta, CA. "The missile's target was near the Kwajalein Atoll in the Marshall Islands, 4190 miles from the launch site." [more](#)

ELECTRIC BLUE CLOUDS: Observers in Europe are reporting brightening displays of [noctilucent clouds](#) (NLCs). "We had a lovely show last night," says Peter McCabe of Dundalk, Co.Louth, Ireland. "The electric-blue colors were striking." He took this picture using a [Canon 450D](#):



Photo details: Canon 450D, 20mm wide angle lens, 6 sec., f3.2, ISO100

"They were not the most intense NLCs I've seen, says McCabe, "but they bode well for the weeks ahead." Indeed, as northern summer unfolds, NLCs should become even more intense. The seasonal peak is not fully understood but it rarely fails to produce vivid displays in June and July.

Another factor boosting these strange clouds near the edge of space is the solar cycle. There is a well-known [correlation](#) between noctilucent clouds and sunspots. NLC activity tends to peak during (and just after) years of solar minimum, possibly because low solar activity allows the upper atmosphere to cool, promoting the growth of ice crystals that make up the clouds. With the sun slowly emerging from a [century-class minimum](#), the stage is set for a good season of NLC watching.

more images: [from Conor McDonald](#) of Maghera, Ireland; [from Martin McKenna](#) of Maghera, Co. Derry, N. Ireland; [from Pete Glastonbury](#) of Avebury, Wiltshire, UK; [from Stuart Atkinson](#) of Kendal, Cumbria, UK; [from George](#) of Moscow, Russian Federation;

Observing tips: Look west 30 to 60 minutes [after sunset](#) when the Sun has dipped 6° to 16° below the horizon. If you see luminous blue-white tendrils spreading across the sky, you may have spotted a noctilucent cloud. High-northern latitudes are favored.

GEOMAGNETIC ACTIVITY: A solar wind stream is buffeting Earth's magnetic field and causing geomagnetic activity around the poles. Zoltan Kenwell sends this picture taken June 16th from a lake shore 150 miles north of Edmonton, Alberta:

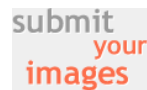
Cool links:

archives

June

17

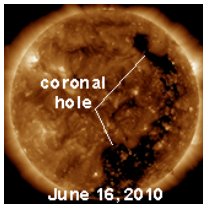
2010



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A solar wind stream flowing from the indicated coronal hole is expected to hit Earth on June 17th. Credit: SDO/AIA



Updated at: 2010 Jun 16 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 Jun 16 2201 UTC

Mid-latitudes

	0-24 hr	24-48 hr
ACTIVE	50 %	30 %
MINOR	20 %	10 %
SEVERE	05 %	01 %

High latitudes

	0-24 hr	24-48 hr
ACTIVE	60 %	40 %
MINOR	30 %	20 %
SEVERE	05 %	05 %



"The display was brief--only about 3 minutes from beginning to end--but beautiful," says Kenwell. "I was not disappointed!"

NOAA forecasters estimate a 60% chance of more geomagnetic activity tonight as the solar wind continues to blow. High-latitude sky watchers should remain [alert for auroras](#).

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 June 17, 2010 there were **1133** 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

[LINK](#) [Science Central](#)

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