

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input style="background-color: #cccccc;" type="button" value="go!"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	

SPACE WEATHER  
 Current conditions  
**Solar wind**  
 speed: **297.8** km/sec  
 density: **2.4** protons/cm<sup>3</sup>  
[explanation](#) | [more data](#)  
 Updated: Today at 0716 UT

**X-ray Solar Flares**  
 6-hr max: **A0** 0710 UT  
 Jun18  
 24-hr: **A0** 0710 UT  
 Jun18  
[explanation](#) | [more data](#)  
 Updated: Today at: 0710 UT

Daily Sun: 18 June 09

Tiny sunspot 1021, which appeared yesterday, is already fading away. Credit: SOHO/MDI

**more images:** [from Pavol Rapavy](#) of Observatory Rimavska Sobota, Slovakia; [from Jacob Bassøe](#) of Copenhagen, Denmark

**Sunspot number: 11**  
[What is the sunspot number?](#)  
 Updated 17 Jun 2009

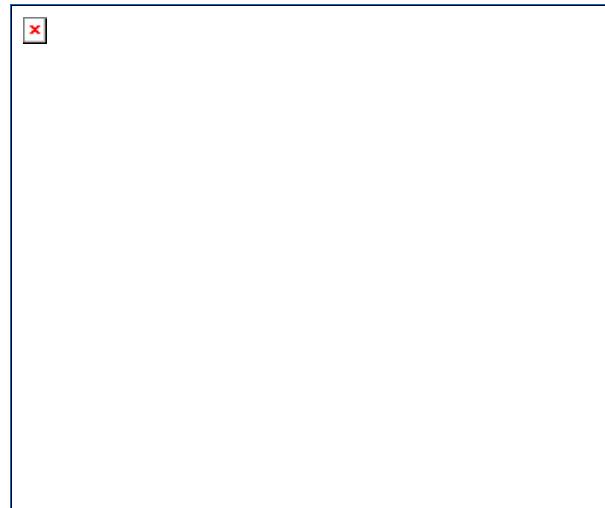
**Spotless Days**  
 Current Stretch: 0 days  
 2009 total: 131 days (78%)  
 Since 2004: 642 days

What's up in Space June 18, 2009

**AURORA ALERT:** Did you sleep through the [Northern Lights](#)? Next time get a wake-up call: [Spaceweather PHONE](#).

**MYSTERY OF THE MISSING SUNSPOTS:** Where have all the sunspots gone? Scientists studying a jet stream deep inside the sun may have found the answer. Get the [full story](#) from Science@NASA.

**NIGHT-SHINING CLOUDS:** "Breathtaking. A crackerjack display. The best in years!" These are a few of the things veteran observers are saying about the ongoing "noctilucent storm" over Europe. The electric-blue clouds have been sighted from Belgium, Denmark, Estonia, Latvia, the Netherlands, France, Germany, Poland, Russia and the British Isles. Click on the image to launch a movie recorded by Chris Rollwagen of Potsdam, Germany ([DivX required](#)):



**Two movie formats are available: [Quicktime](#) or [AVI](#)**

"This was a very strong display," he says. "The clouds were bright and showed an intense contrast to the deep blue sky. I'm hoping for more in the nights ahead."

He'll probably get his wish. For reasons no one fully understands, noctilucent clouds tend to be most active during years of solar minimum. 2009 is such a year. The sun is in the pits of the deepest solar minimum in nearly a century, and many researchers expect a banner season for these [mysterious clouds](#).

[2009 Noctilucent Photo Gallery](#)  
 [previous years: [2008](#), [2007](#), [2006](#), [2005](#), [2004](#), [2003](#)]

Cool links:

June

18

2009

[Toys which are out of this world from SpaceToys.com](#)

[makers of the David Levy Comet Hunter](#)

[satellite tracking](#)

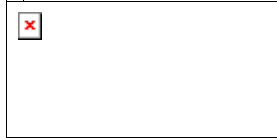
[space weather alerts](#)

**Share Your Expertise**  
 Write and share your knowledge on science with the online world  
[knoI.google.com](#)

[solar movies by gary palmer](#)

Typical Solar Min: 485 days  
[explanation](#) | [more info](#)  
Updated 17 Jun 2009

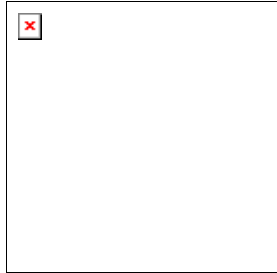
Far side of the Sun:



This [holographic image](#) reveals no sunspots on the far side of the sun.  
Image credit: SOHO/MDI

**Planetary K-index**  
Now: **Kp= 0** quiet  
24-hr max: **Kp= 2** quiet  
[explanation](#) | [more data](#)

Current Auroral Oval:



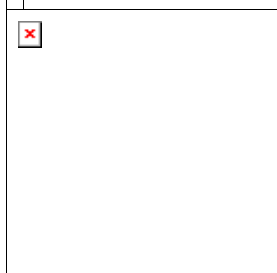
Switch to: [Europe](#), [USA](#), [New Zealand](#), [Antarctica](#)  
Credit: NOAA/POES

**Interplanetary Mag. Field**

$B_{total}$ : **2.8** nT  
 $B_z$ : **0.0** nT

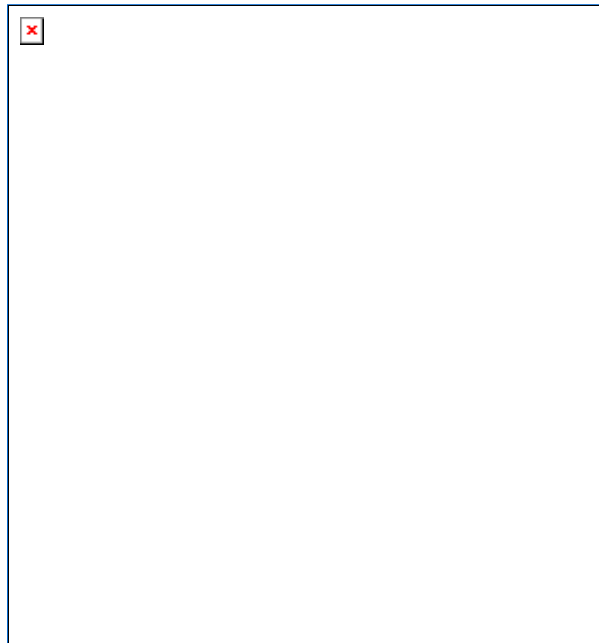
[explanation](#) | [more data](#)  
Updated: Today at 0717 UT

Coronal Holes:



**NLC OBSERVING TIPS:** Look west 30 to 60 minutes after sunset when the Sun has dipped 6° to 16° below the horizon: [diagram](#). If you see luminous blue-white tendrils spreading across the sky, you've probably spotted a noctilucent cloud. Although noctilucent clouds appear most often at high latitudes, they have been [sighted](#) in recent years as far south as Colorado, Utah and Virginia.

**GREAT RED SPOT RIVAL:** Astronomers are monitoring a new red spot forming in Jupiter's northern hemisphere--a brick-red storm nearly as large as the Great Red Spot itself. On June 17th, amateur astronomer Christopher Go of the Philippines photographed it using an 11-inch [Celestron telescope](#):

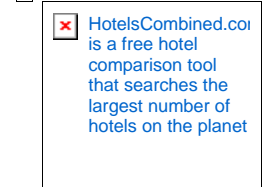
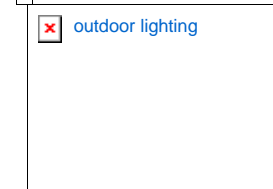
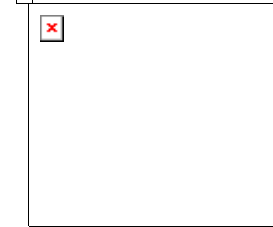
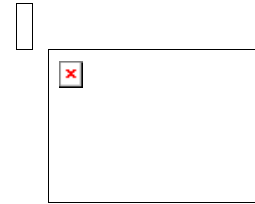


"I have been monitoring the new spot since mid-April," says Go. "At first it was relatively small. In late May it began to grow rapidly, and just last week John Rogers of the British Astronomical Association issued an alert for everyone to observe it."

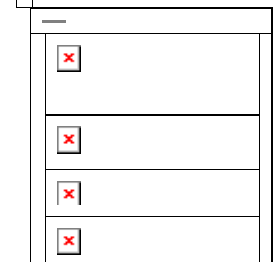
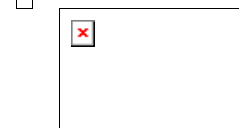
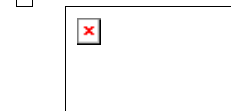
"I hope to get an 890 nanometer 'methane band' image of this object in a few days," adds Go. "A good methane image will prove whether or not the new spot is a genuine anticyclonic storm."

Stay tuned!

**EXTRA:** Jupiter's atmosphere is rich in methane (CH<sub>4</sub>), a molecule which absorbs 890 nm light. Viewed through an 890 nm filter, anticyclonic storms such as the Great Red Spot rise above the absorbing methane layer and appear bright. That is why a methane band image will reveal the nature of the new spot.



**Earth Science Help**  
Earn Middle/High School Credits In Courses You Didn't Pass. Enroll Now  
[www.KeystoneCreditReco](http://www.KeystoneCreditReco)



There are no coronal holes on the Earth-facing side of the sun. Credit: SOHO Extreme UV Telescope

SPACE WEATHER NOAA Forecasts

Updated at: 2009 Jun 17 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: 2009 Jun 17 2201 UTC

Mid-latitudes

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

High latitudes

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

## Explore the Sunspot Cycle

### 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 18, 2009 there were 1063 potentially hazardous asteroids.

#### June 2009 Earth-asteroid encounters:

Asteroid	Date(UT)	Miss Distance	Mag.	Size
<a href="#">2009 KR21</a>	June 1	0.7 LD	16	21 m
<a href="#">2009 KL8</a>	June 1	5.1 LD	18	63 m
<a href="#">2003 QQ104</a>	June 9	36.8 LD	14	2.9 km
<a href="#">1994 CC</a>	June 10	6.6 LD	13	1.2 km
<a href="#">2001 FE90</a>	June 28	7.0 LD	13	435 m
<a href="#">2002 KL6</a>	June 28	57.5 LD	16	1.4 km
<a href="#">2006 MV1</a>	June 30	9.6 LD	23	20 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

[NOAA Space Weather Prediction Center](#)

The official U.S. government space weather bureau

[Atmospheric Optics](#)

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

[Solar and Heliospheric Observatory](#)

Realtime and archival images of the Sun from SOHO.

[STEREO](#)

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

[Daily Sunspot Summaries](#)

from the NOAA Space Environment Center

[Current Solar Images](#)

from the National Solar Data Analysis Center

[Science Central](#)

[more links...](#)

[Compare air travel around the globe with Airfares Flights](#)

[Christmas Cards](#)

**SunPower for your Home**  
Try our custom solar calculator now Up to 50% more solar power!  
[www.SunPowerCorp.com](http://www.SunPowerCorp.com)



©2008, SpaceWeather.com -- This site is penned daily by [Dr. Tony Phillips](#).