Space Weather
Current conditions
Solar wind
speed: 346.0 km/sec
density: 8.2 protons/cm³
Updated: Today at 0616 UT

X-ray Solar Flares
6-hr max: A0 0610 UT Aug 11
24-hr: A0 0610 UT Aug 11
Updated: Today at 0610 UT

Daily Sun: 07 Aug 09

The sun is blank--no sunspots.
Credit: SOHO/MDI

NOTE: The Solar and Heliospheric Observatory is passing through a telemetry keyhole. Daily sun images will be intermittently delayed until routine contact is established later this week.

Sunspot number: 0
Updated 09 Aug 2009

Spotless Days
Current Stretch: 30 days
2009 total: 172 days (78%)
Since 2004: 683 days
Updated 09 Aug 2009

Far side of the Sun:
July 22, 2009
Earthside farside
This holographic image reveals no sunspots on the far side of the sun.
Image credit: SOHO/MDI

Planetary K-index
Now: Kp= 1 quiet

What’s up in Space
August 11, 2009

THERE’S AN APP FOR THAT: You can now experience the Perseid meteor shower on your iPhone. It’s cloud-proof! Learn more and give it a try.

SPACEWEATHER RADIO: The US Air Force Space Surveillance Radar is scanning the skies over North America. When a Perseid meteor passes overhead--"ping"--there is an echo. Tune into Spaceweather Radio for a live audio feed from the radar facility.

PERSEID UPDATE: The Perseid meteor shower is about to peak. The show begins after sunset on Tuesday, August 11th, and continues until dawn on Wednesday, August 12th. Sky watchers could see dozens of meteors per hour. (continued below)

A time of particular interest is 0800 UT (1 am PDT) on August 12th. That’s when Earth is expected to pass through a denser-than-usual filament of dust from the shower’s parent Comet Swift-Tuttle. For an hour or so, rates could surge to 200 per hour. Bright moonlight will blot out many of those Perseids, but even a fraction of 200 is a good show. Observing tips may be found in the Science@NASA story “The Perseids are Coming.”

2009 Perseid Photo Gallery

EVOLUTION OF AN IMPACT: Since July 19th, when Anthony Wesley of Australia discovered the scattered remains of a mystery impactor in the high clouds of Jupiter, amateur astronomers around the world have been photographing the planet every night. "German astronomer Hans Joerg Mettig has converted some of the best images into polar projections," says Theo Ramakers, "and I have stitched them together to make a movie." Click on the image to set the scene in motion:

Cool links:
archives
August 2009

You: an electricity fool?
A shocking secret electric co’s don’t want you to know
www.Power4Home.com

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Planetary K-index
Now: Kp= 1 quiet

http://spaceweather.com/
24-hr max: Kp= 2 quiet

Current Auroral Oval:

Switch to: Europe, USA, 
New Zealand, Antarctica
Credit: NOAA/POES

Interplanetary Mag. Field
B_{total}: 0.8 nT
B_z: 0.6 nT south

Coronal Holes:

There are no coronal holes on the 
Earth-facing side of the sun. Credit: 
Hinode X-ray Telescope

Animations: large, small, zoom

The 3-week animation, which begins with Wesley's discovery image, 
shows the cindery cloud expanding, swirling, and ultimately being torn 
into three or more pieces by turbulent south polar winds. "The spot 
has really progressed dramatically," says Ramakers.

No one knows how the movie will end. Planetary scientists say the 
debris could evolve in interesting and unexpected ways before it 
finally disperses some weeks from now. Astronomers who wish to 
contribute scenes can monitor the cloud near Jupiter's System II 
latitude 210°. For predicted times when it will cross the planet's 
central meridian, add 2 hours to Sky and Telescope's predicted transit 
times for Jupiter's Great Red Spot.

more images: from Brian Combs of Buena Vista, Georgia; from Mike 
Hood of Kathleen, Georgia; from George Tarsoudis of 
Alexandroupolis - Evros, Greece; from W. Verhesen of Sittard, The 
Netherlands; from Glenn Jolly of Gilbert, Arizona; from Alphajuno of 
League City, Texas;

2009 Noctilucent Photo Gallery

July 2009 Aurora Gallery

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 August 11, 2009 there were 1067 potentially hazardous 
asteroids.
August 2009 Earth-asteroid encounters:

<table>
<thead>
<tr>
<th>Asteroid</th>
<th>Date (UT)</th>
<th>Miss Distance</th>
<th>Mag.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009 MC9</td>
<td>Aug. 7</td>
<td>70.3 LD</td>
<td>16</td>
<td>1.2 km</td>
</tr>
<tr>
<td>2009 OF</td>
<td>Aug. 8</td>
<td>15.4 LD</td>
<td>18</td>
<td>220 m</td>
</tr>
<tr>
<td>2007 RQ17</td>
<td>Aug. 9</td>
<td>8.4 LD</td>
<td>17</td>
<td>130 m</td>
</tr>
<tr>
<td>2000 LC16</td>
<td>Aug. 17</td>
<td>75.6 LD</td>
<td>14</td>
<td>2.0 km</td>
</tr>
<tr>
<td>2006 SV19</td>
<td>Aug. 21</td>
<td>59.2 LD</td>
<td>16</td>
<td>1.3 km</td>
</tr>
</tbody>
</table>

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.

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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...