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## Current Conditions

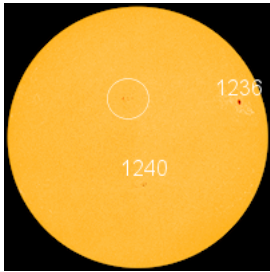
### Solar wind

speed: **609.4** km/sec  
density: **1.6** protons/cm<sup>3</sup>  
[explanation](#) | [more data](#)  
Updated: Today at 1154 UT

### X-ray Solar Flares

6-hr max: **B2** 0918 UT Jun24  
24-hr: **B2** 0001 UT Jun24  
[explanation](#) | [more data](#)  
Updated: Today at: 1100 UT

### Daily Sun: 24 Jun 11



A new sunspot is emerging at the circled location. Credit: SDO/HMI

### Sunspot number: 47

[What is the sunspot number?](#)  
Updated 23 Jun 2011

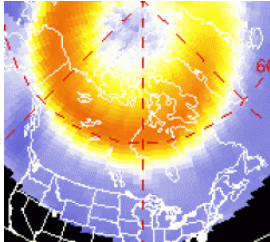
### Spotless Days

Current Stretch: 0 days  
2011 total: 1 day (<1%)  
2010 total: 51 days (14%)  
2009 total: 260 days (71%)  
Since 2004: 820 days  
Typical Solar Min: 486 days  
Updated 23 Jun 2011

### The Radio Sun

10.7 cm flux: **96** sfu  
[explanation](#) | [more data](#)  
Updated 23 Jun 2011

### Current Auroral Oval:



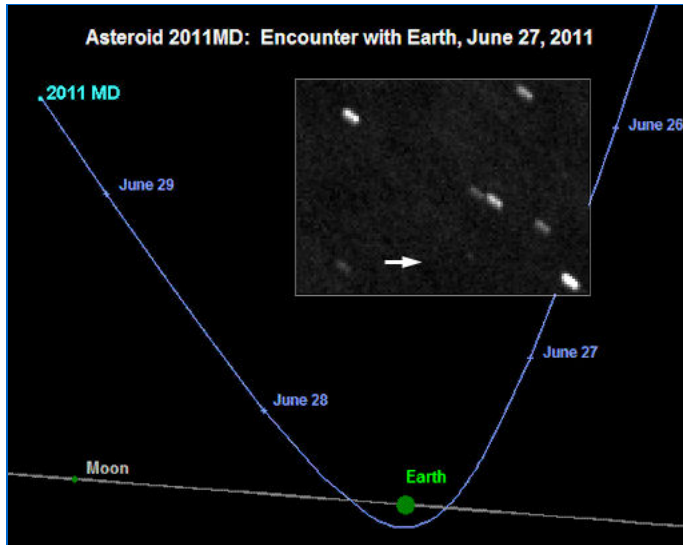
## What's up in space

Turn your cell phone into a field-tested satellite tracker.  
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**STORM WARNING:** A fast-moving stream of solar wind is buffeting Earth's magnetic field. The combined effect of this stream plus a CME expected to arrive on June 24th has prompted NOAA forecasters to declare a 30% to 35% chance of geomagnetic storms during the next 24 hours. High-latitude sky watchers should [be alert](#) for [auroras](#).

**ASTEROID FLYBY:** Newly-discovered asteroid 2011 MD will pass only 12,000 kilometers (7,500 miles) above Earth's surface on Monday June 27 at about 9:30 a.m. EDT. NASA analysts say there is no chance the space rock will strike Earth. Nevertheless, the encounter is so close that Earth's gravity will sharply alter the asteroid's trajectory:



At closest approach, 2011 MD will pass in broad daylight over the southern Atlantic Ocean near the coast of Antarctica. As the asteroid recedes from Earth, it will pass through the zone of geosynchronous satellites. The chances of a collision with a satellite or manmade space junk are extremely small, albeit not zero.

Judging from the brightness of the asteroid, it measures only 5 to 20 meters in diameter. According to JPL's Near Earth Object Program office, one would expect an object of this size to come this close to Earth about every 6 years on average. For a brief time, it will be bright enough to be seen even with a medium-sized backyard telescope. [\[observing tips\]](#) [\[3D orbit\]](#)

**SUNSPOT VS. WILDFIRE:** On June 21st, while working a raging wildfire in north Florida, medivac pilot Chris Lambert looked up at the sun and saw a dark spot through the smoke. "Was it a transit of Mercury?" He emailed the question to his friend, solar photographer Stephen W. Ramsden. "I knew exactly what he was looking at," says Ramsden, "because I had been imaging it all week at public astronomy events in Atlanta." It was sunspot AR1236:

Friday, Jun. 24, 2011

### archives

June  
24  
2011  
view



### AdChoices

#### University of Phoenix

Online and Campus Degree Programs. Official Site - Classes Start Soon.  
Phoenix.edu

#### Emergency Water Supply

8 Gal of Pure Water a Day from Air 12 Stage Filtration- Works on Solar  
www.EcolobBlue.com

#### The BQ24650 from TI

High Efficiency Synchronous Switch Mode Charge Control for Solar Power  
TI.com/bq24650npl

#### Solar Defect Analysis

Solar Wafer Defect Analysis using semiconductor metrology  
www.silybwafers.com



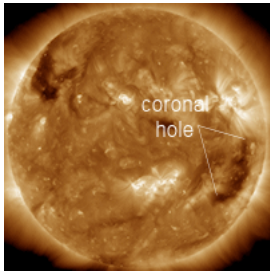


Switch to: [Europe](#), [USA](#), [New Zealand](#), [Antarctica](#)  
 Credit: NOAA/POES

**Planetary K-index**  
 Now: **Kp= 2 quiet**  
 24-hr max: **Kp= 3 quiet**  
[explanation](#) | [more data](#)

**Interplanetary Mag. Field**  
 $B_{total}$ : **3.4 nT**  
 $B_z$ : **0.6 nT north**  
[explanation](#) | [more data](#)  
 Updated: Today at 1157 UT

**Coronal Holes: 24 Jun 11**



Earth is inside a solar wind stream flowing from the indicated coronal hole.  
 Credit: SDO/AIA.



"I explained to Chris that he was simply using the ancient Chinese method of watching the sun through thick smoke or at sunrise and sunset in order to record these giant islands of magnetism on the sun's surface," continues Ramsden. "I sent him back [a closeup photo](#) that I had taken earlier that morning of the same feature. Good luck to Chris and all the firefighters risking their lives around the country to fight these epic blazes."

**more images:** [from Jerry Dzuricky](#) of Erie, PA; [from Piet Berger](#) of Eys, The Netherlands; [from Charles Beanland](#) at the Bay of Gibraltar, Europe;

**SPACE WEATHER NOAA Forecasts**



Updated at: 2011 Jun 23 2200 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: 2011 Jun 23 2200 UTC

**Mid-latitudes**

	0-24 hr	24-48 hr
ACTIVE	30 %	15 %
MINOR	30 %	10 %
SEVERE	20 %	05 %

**High latitudes**

	0-24 hr	24-48 hr
ACTIVE	25 %	20 %
MINOR	35 %	15 %
SEVERE	30 %	10 %

[June 2011 Aurora Gallery](#)

[Aurora alerts: [text](#), [voice](#)] [previous Junes: [2010](#), [2008](#), [2001](#)]

[June 15th Lunar Eclipse Gallery](#)

**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 24, 2011 there were **1237** potentially hazardous asteroids.

**Recent & Upcoming Earth-asteroid encounters:**

Asteroid	Date(UT)	Miss Distance	Mag.	Size
<a href="#">2011 LT17</a>	Jun 15	4.6 LD	--	180 m
<a href="#">2004 LO2</a>	Jun 15	9.9 LD	--	48 m
<a href="#">2011 MD</a>	Jun 27	0.05 LD	--	13 m
<a href="#">2011 GA55</a>	Jul 6	64.1 LD	--	1.0 km
<a href="#">2011 EZ78</a>	Jul 10	37.3 LD	--	1.6 km
<a href="#">2003 YS117</a>	Jul 14	73.9 LD	--	1.0 km
<a href="#">2007 DD</a>	Jul 23	9.3 LD	--	31 m
<a href="#">2009 AV</a>	Aug 22	49.7 LD	--	1.1 km
<a href="#">2003 QC10</a>	Sep 18	50 LD	--	1.2 km
<a href="#">2004 SV55</a>	Sep 19	67.5 LD	--	1.2 km
<a href="#">2007 TD</a>	Sep 23	3.8 LD	--	58 m
<a href="#">2002 AG29</a>	Oct 9	77.1 LD	--	1.0 km

**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 web links**

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

The official U.S. government space weather bureau



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**3D Sun for iPhone**  
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## AR 1236 lightbridge and solar prominence

[Stephen W. Ramsden](#)

Image taken:

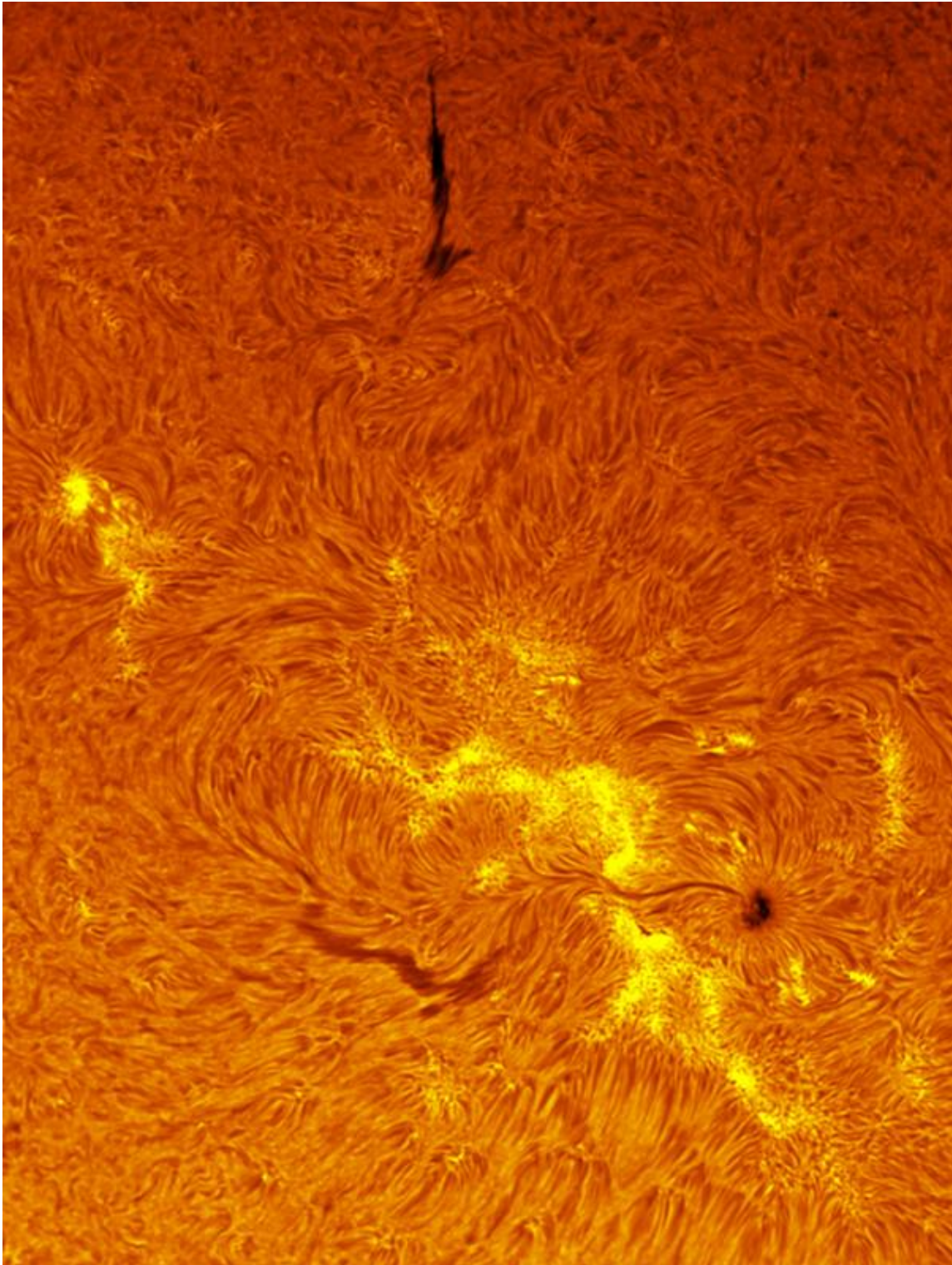
**Jun. 21, 2011**

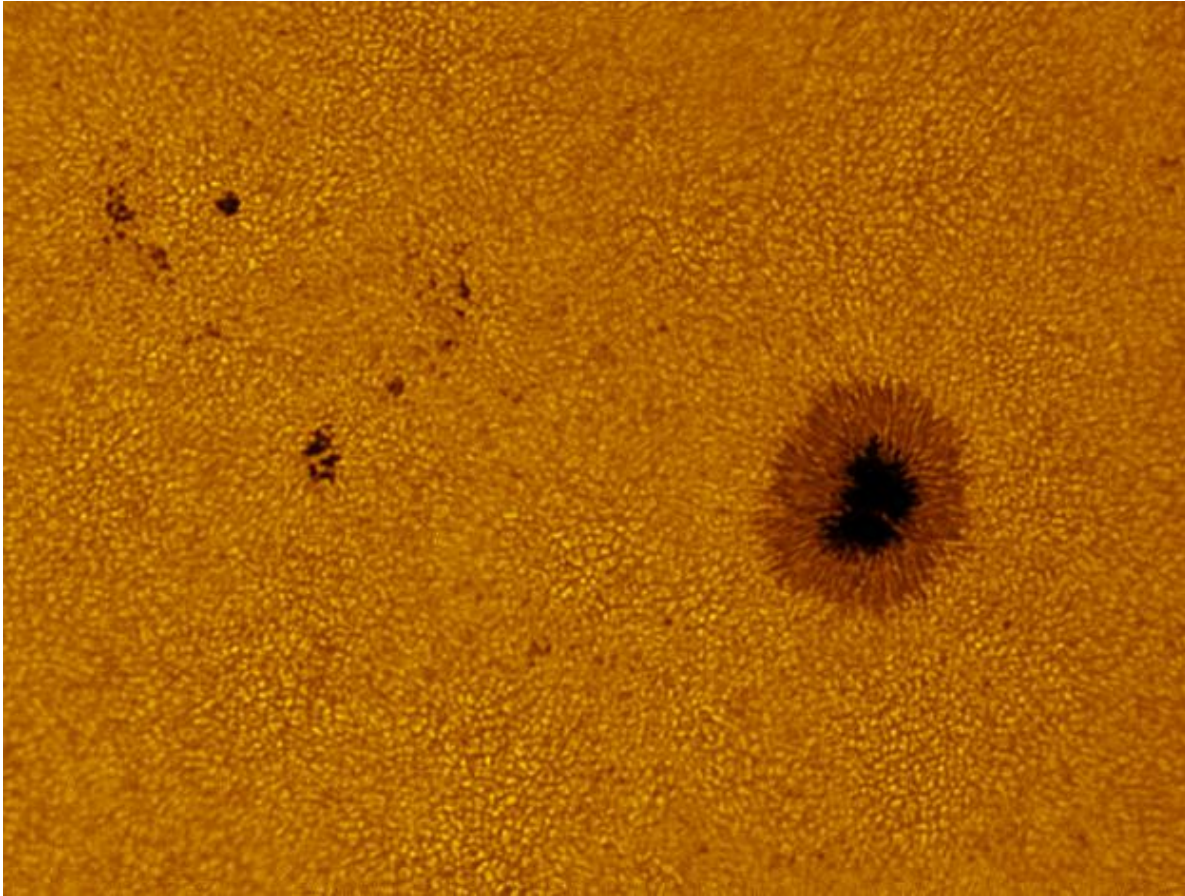
Location:

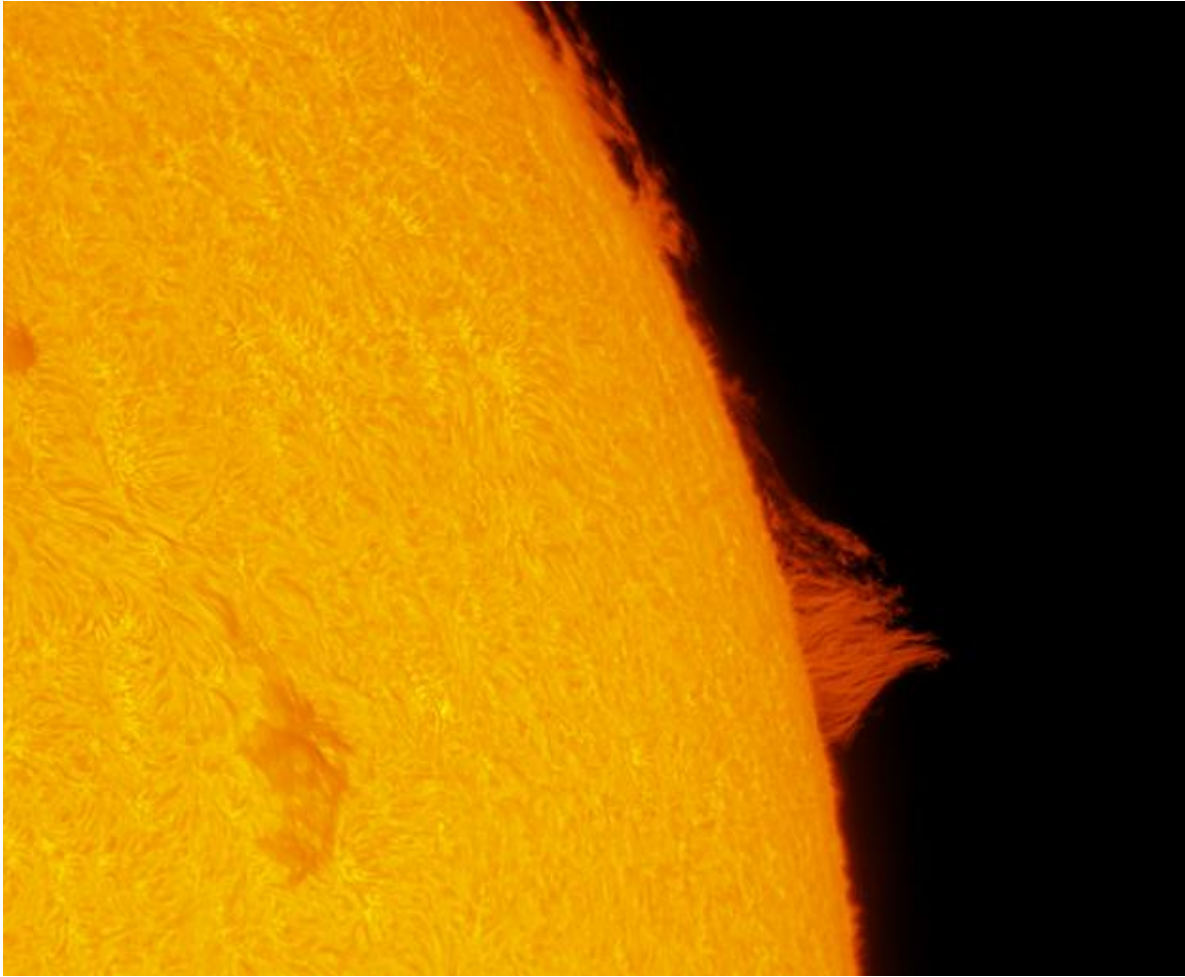
**Atlanta, GA**

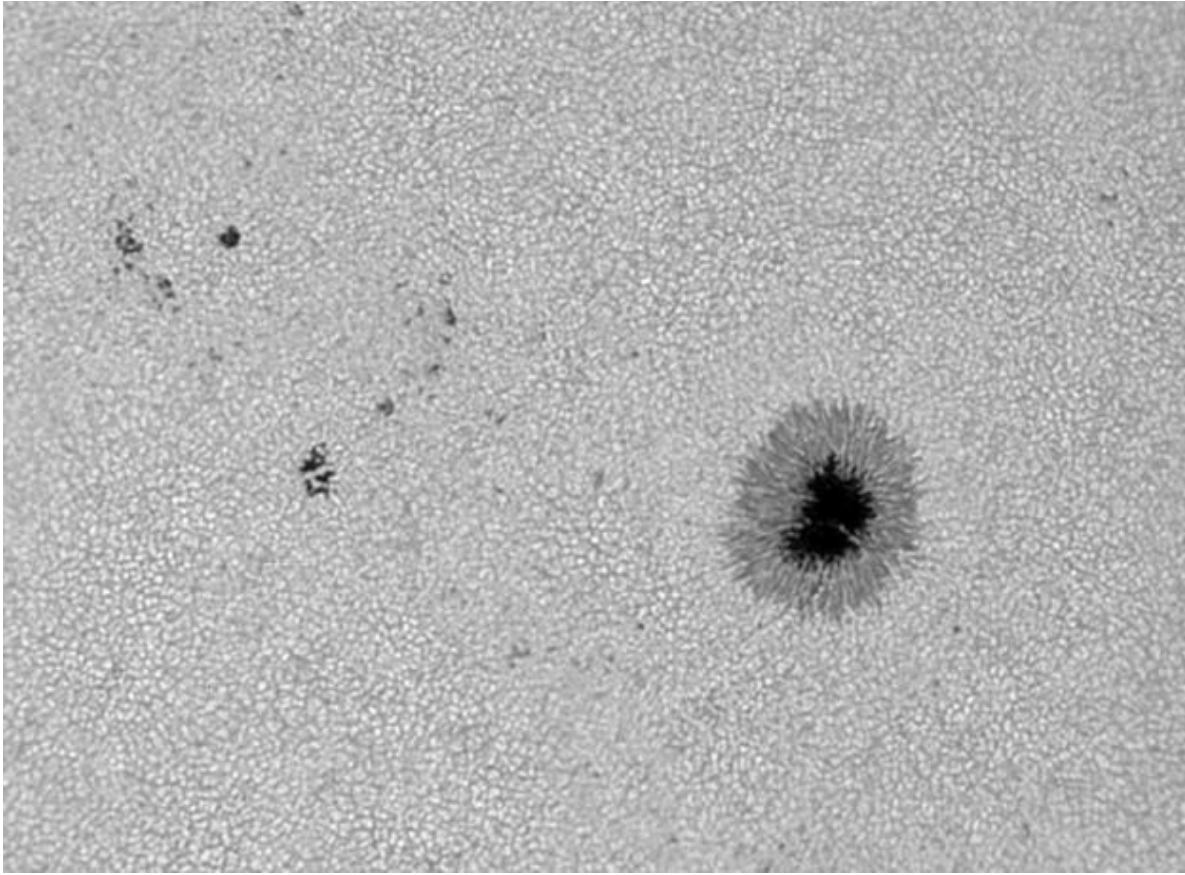
Details:

**The Summer Solstice greeted several dozen students at the Green Zone summer camp in Atlanta, GA with a massive light bridge hovering over Sunspot 1236. Solar astronomers are not quite sure what these features are but I am sure that they amazed me and the students all day long... These photos were taken by various students at the event with my equipment.**









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