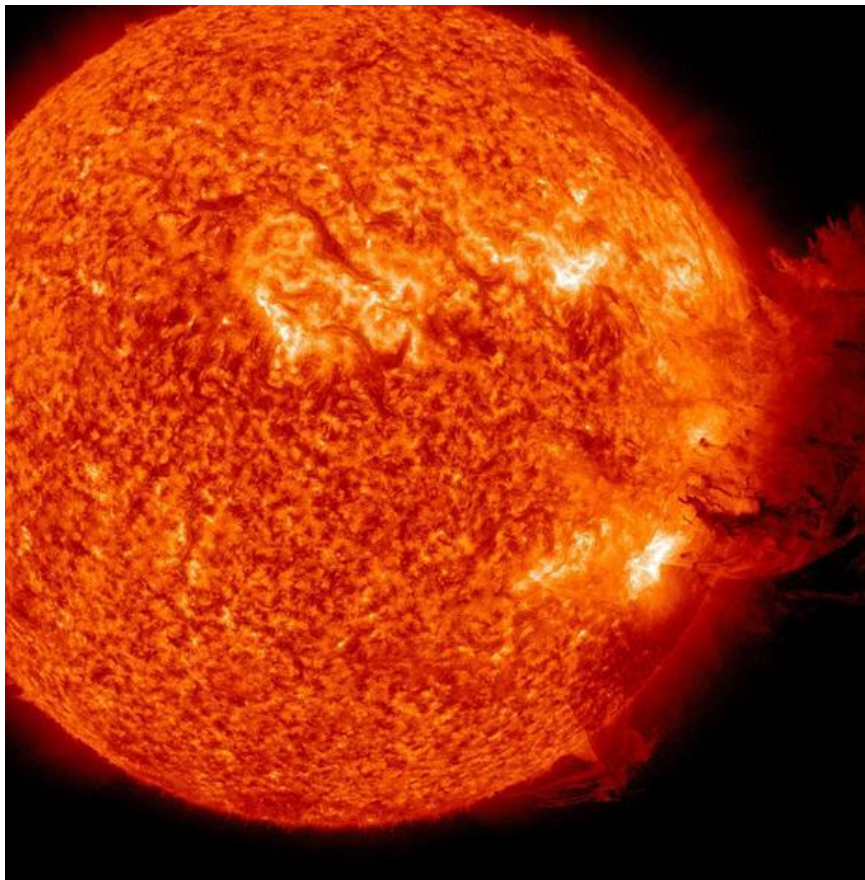


Sunspotters Always something new out of Sol!

1. 'Dark Fireworks' on the Sun

"We'd never seen anything like it," says Alex Young, a solar physicist at the Goddard Space Flight Center. "Half of the sun appeared to be blowing itself to bits."

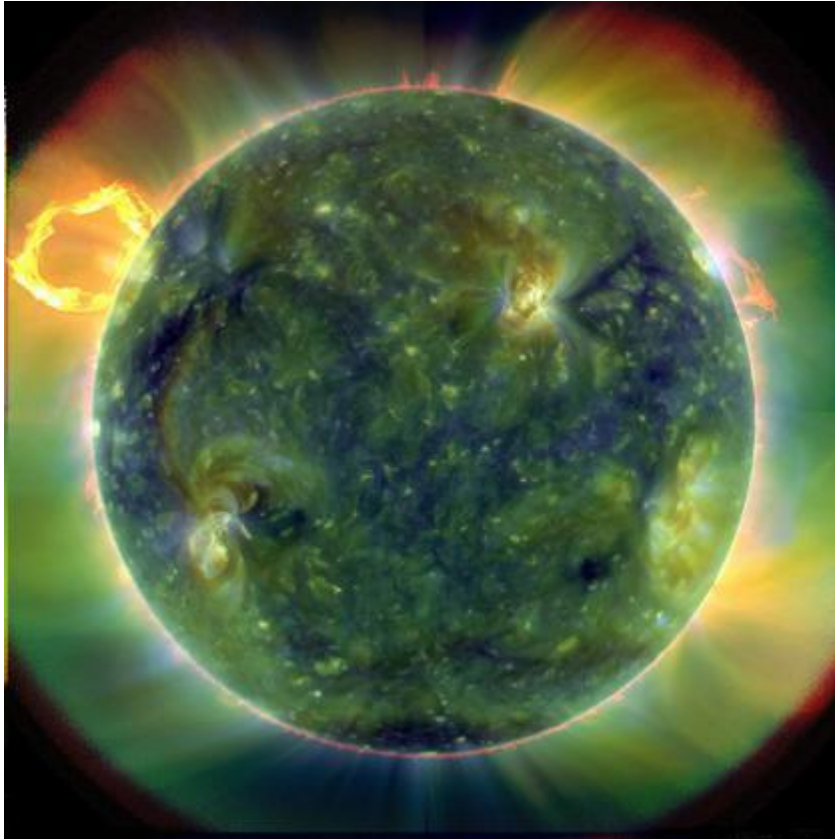


"Plasma blobs are funneled toward sunspots by magnetic fields. The plasma blobs were as big as planets, many larger than Earth. They rose and fell ballistically, moving under the influence of the sun's gravity like balls tossed in the air, exploding "like bombs" when they hit the stellar surface."

Article and video link at:

<http://wattsupwiththat.com/2011/07/12/sdo-sees-dark-fireworks-on-the-sun/#more-43349>

2. Flares last longer than expected – more energy impacts Earth



“Using SDO's Extreme ultraviolet Variability Experiment, or EVE instrument designed and built at CU-Boulder, scientists have observed that radiation from solar flares sometimes continues for up to five hours beyond the initial minutes of the main phase of a solar flare occurrence. **The new data also show that the total energy from this extended phase of the solar flare peak sometimes has more energy than that of the initial event.**”

<http://www.sciencedaily.com/releases/2011/09/110907163909.htm>

3. Cycle 24 has increased activity but still lags Cycle 23.

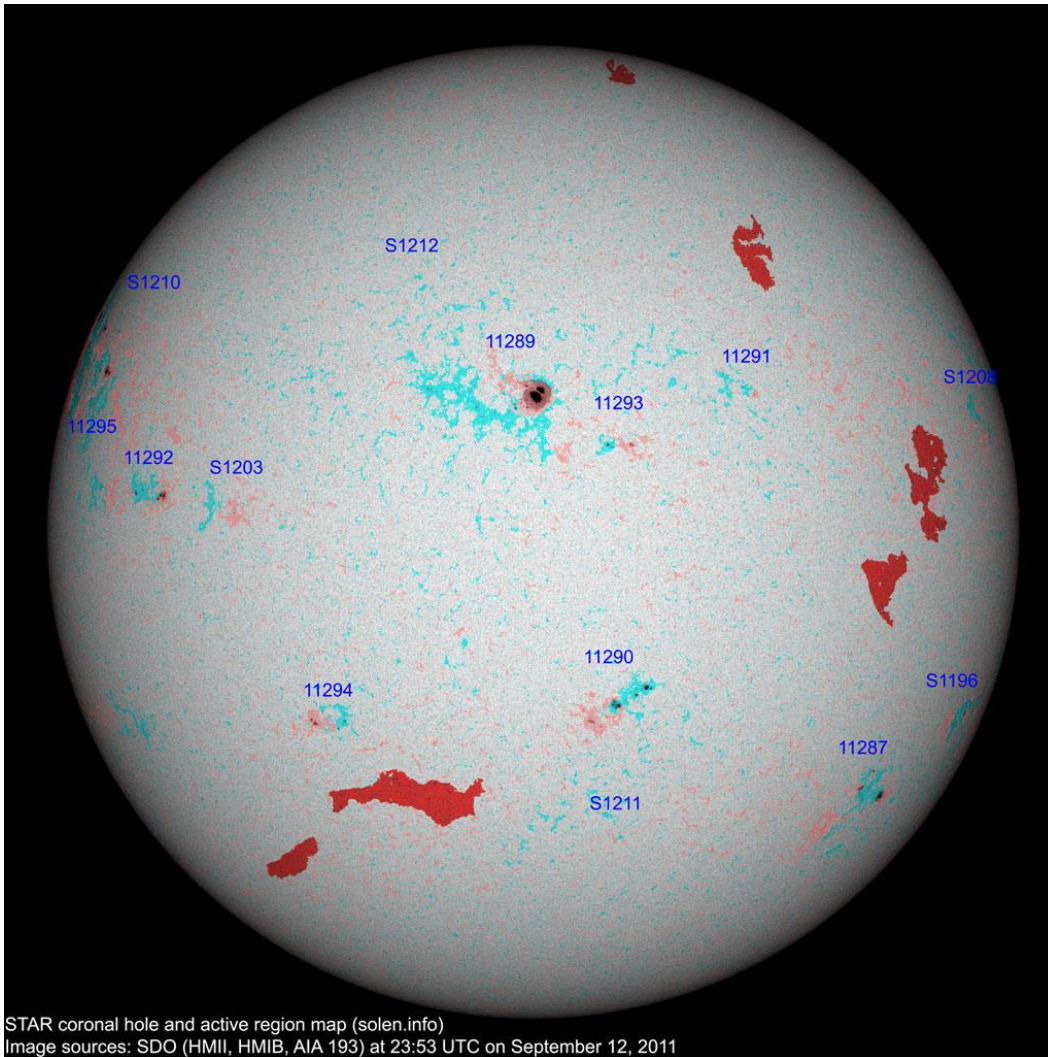
Cycles 21, 22 & 23 were the most active cycles in 400 years. Cycle 24 was predicted to be even stronger, but it's been downgraded 5 times over the last few years.

It is still predicted to be weak.

“It was announced at the recent annual meeting of the Solar Physics Division of the American Astronomical Society (AAS/SPD) at New Mexico State University that the next 11-year solar sunspot cycle, Cycle 25, will be greatly reduced or will not occur at all. Magnetic fields erupting from the sun will be so weak that few if any sunspots will form. **The current sunspot cycle, Cycle 24, started out late and slow and will likely produce a very weak solar maximum in 2013.**”

But Cycle 24 doesn't seem to be “with the program”.

Sol had 14 active sunspots on September 12, 2011 and the sunspot number on the 13th was **171**.

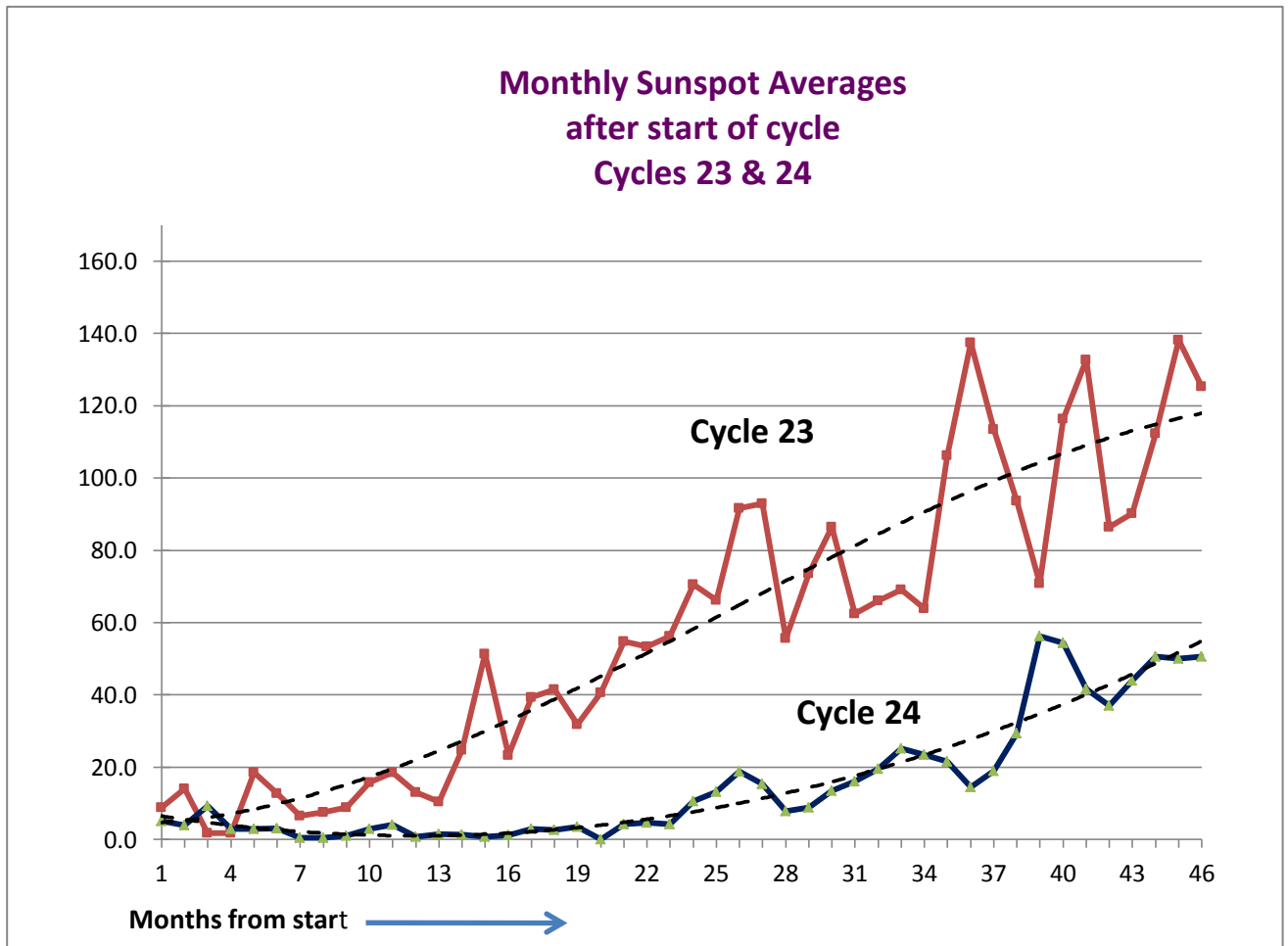


If it maintains this rate for September it will easily pass the “final, final” estimate of a maximum average of 50 spots in 2013.

4. Comparison of Cycle 23 and 24 ramping up to their maximum

Cycle 23 started July 1996 and Cycle 24 in Jan 2008.

Cycle 23 had two peaks after its “official start”: one after 48 months into the cycle and the second at 55 months.



Why is the gap between the curves important?

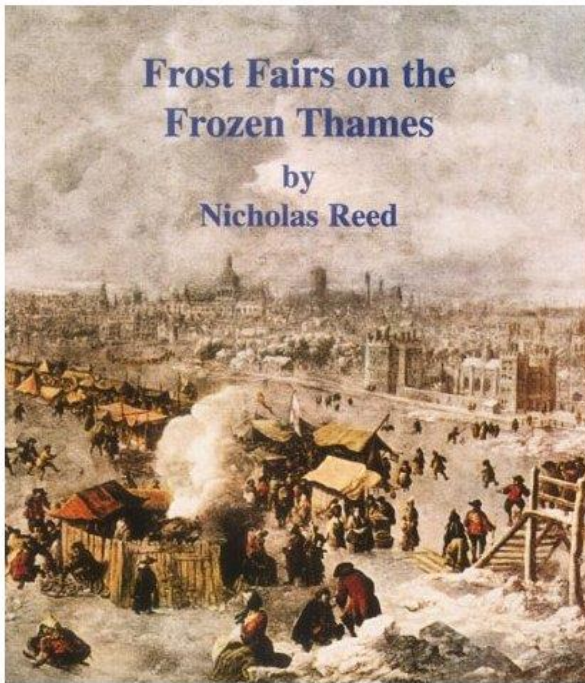
1. It represents less solar energy reaching the earth.
2. Less solar activity also results in a less intense solar magnetic shield for Earth and more cosmic rays entering atmosphere.
3. More cosmic rays, and this may be more important than the direct energy balance, **more cloud formation.**

4. More cloud formation results in less energy reaching the earth's surface as it reflects energy from the sun back into space. Think of clouds as Earth's umbrella.

5. "Been there done that", as in the lack of sunspots in the past is correlated with cooling in:

Little Ice Age 1300's to 1600's at maximum

Maunder Minimum 1645 to 1715



Link to Frost Fairs and Jane Austin's World

<http://janeaustensworld.wordpress.com/2009/01/16/the-last-frost-fair-on-the-thames-river/>

5. The Cosmic Ray Story and Clouds– Testing at CERN



Scientific wars! Political Intrigues! Coming soon in the next posting!

Stay tuned for the Cosmic Ray Story for our next edition as recent experiments at CERN for the first time confirm cloud formation chemistry by Cosmic rays.

Coming soon to your computer screen, the behind the scenes struggles and the political and scientific ongoing brawl!

Always something new, interesting and amazing from our nearest star ... Mother Sol.