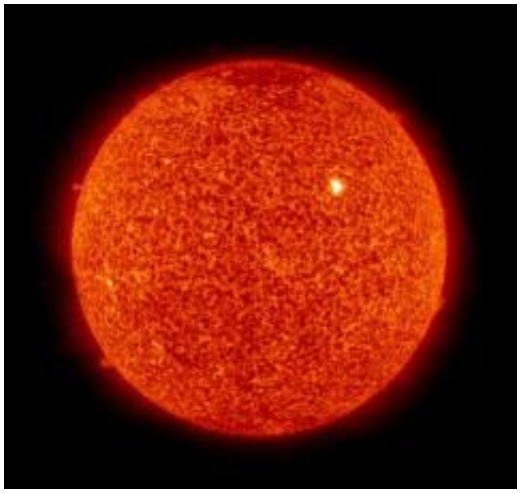
Warning: Sunspot cycle beginning to rise

8 May 2009, By RANDOLPH E. SCHMID , AP Science Writer



FILE - In this undated image provided by NASA's Solar and Heliospheric Observatory (SOHO) shows a new sunspot, upper right, which after many weeks of a blank sun with no sunspots and very few sunspots this entire year, emerged Sept. 23, 2008. When the sun sneezes it's Earth that gets sick. It's time for the sun to move into a busier period for sunspots, and while forecasters expect a relatively mild outbreak by historical standards, one major solar storm can cause havoc with satellites and electrical systems here. (AP Photo/NASA/ESA, FILE)

(AP) -- When the sun sneezes it's Earth that gets sick. It's time for the sun to move into a busier period for sunspots, and while forecasters expect a relatively mild outbreak by historical standards, one major solar storm can cause havoc with satellites and electrical systems here.

Like hurricanes, a weak cycle refers to the number of storms, but it only takes one powerful storm to create chaos, said scientist Doug Biesecker of the National Oceanic and Atmospheric Administration's space weather prediction center.

A report by the National Academy of Sciences found that if a storm as severe as one in 1859 occurred today, it could cause $1 trillion to $2 trillion in damage the first year and take four to 10 years to recover.

The 1859 storm shorted out telegraph wires, causing fires in North America and Europe, sent readings of Earth's magnetic field soaring, and produced northern lights so bright that people read newspapers by their light.

Today there's a lot more than telegraph lines at stake. Vulnerable electrical grids circle the globe, satellites now vital for all forms of communications can be severely disrupted along with the global positioning system. Indeed, the panel warned that a strong blast of solar wind can threaten national security, transportation, financial services and other essential functions.

The solar prediction center works closely with industry and government agencies to make sure they are prepared with changes in activity and prepared to respond when damage occurs, Biesecker said in a briefing.

While the most extreme events seem unlikely this time, there will probably be smaller scale disruptions to electrical service, airline flights, GPS signals and television, radio and cell phones.

On the plus side, the solar storms promote the colorful auroras, known as the northern and southern lights, high in the sky over polar areas.

An international panel headed by Biesecker said Friday it expects the upcoming solar cycle to be the weakest since 1928.

The prediction calls for the solar cycle to peak in May 2013 with 90 sunspots per day, averaged over a month. If the prediction proves correct it will be the weakest cycle since a peak of 78 daily sunspots in 1928.

Measurement of sunspot cycles began in the 1750s.

The panel described solar storms as eruptions of

energy and matter that escape from the sun. At least some of this heads toward the Earth.

Solar cycles of more and fewer sunspots last several years and the cycle currently building up will be number 24 since counting began.

It's only the third time researchers have tried to make such a forecast. In 1989 a panel predicted Cycle 22, which peaked that year. And in 1996 scientists predicted Cycle 23.

Both earlier groups did better at predicting timing than intensity, according to Biesecker.

The last solar minimum occurred in December, the researchers said.

W. Dean Pesnell of the National Aeronautics and Space Administration said the forecasts are based on such indicators as the strength of the sun's magnetic field at the poles and the reaction of the Earth's magnetic field to the sun. Both are weak right now, he said, with only a few sunspots visible since 2007.

A preliminary forecast issued in 2007 was split over the outlook for the upcoming cycle, Biesecker said the researchers have now reached consensus.

On the Net:

NOAA: http://www.noaa.gov

NASA: http://www.nasa.gov

Space Weather Center: http://www.spaceweather.gov