

Effects of solar flares arriving on Earth

August 6 2011, By RANDOLPH E. SCHMID , AP Science Writer

(AP) -- The impact of a series of eruptions on the sun began arriving at Earth on Friday and could affect some communications for a day or so.

Operators of electrical grids are working to avoid outages, but the [National Oceanic and Atmospheric Administration](#) says some satellite communications and Global Positioning Systems could face problems.

Three [solar flares](#) erupted on the sun starting Tuesday, and the strongest electromagnetic shocks were being felt Friday by the ACE spacecraft, a satellite that measures radiation bursts a few minutes before they strike Earth, said Joseph Kunches, a scientist at NOAA's [Space Weather Prediction](#) Center in Boulder, Colo.

Tom Bogdan, director of the center, said the sun is going from a quiet period into a busier cycle for solar flares and an increase in the number of such blasts is expected over the next three to five years.

Solar flares send out bursts of [electromagnetic energy](#) that strike the Earth's magnetic field. The most common impacts for the average person are the glowing auroras around the north and south poles, and the researchers said those could be visible this weekend.

The magnetic blasts, which Bogdan likened to a tsunami in space, can also affect electronic communications and electrical systems. A 1989 solar flare knocked out the electrical systems in Quebec, Canada, but the current [solar storm](#) is not expected to be that powerful. On a scale of 1 to 5, he said, it is probably a 2 or 3.

But more significant solar storms are expected in the next few years, he said.

The most powerful known solar storm occurred in 1859, Bogdan said. There were not as many vulnerable electrical items then, but it did knock out telegraph services, even burning down some telegraph stations, he said.

Other serious solar blasts occurred in 1921 and 1940, he noted, and Kunches recalled one on Halloween in 2003.

More information: www.swpc.noaa.gov/

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Citation: Effects of solar flares arriving on Earth (2011, August 6) retrieved 20 September 2024 from <https://phys.org/news/2011-08-effects-solar-flares-earth.html>

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