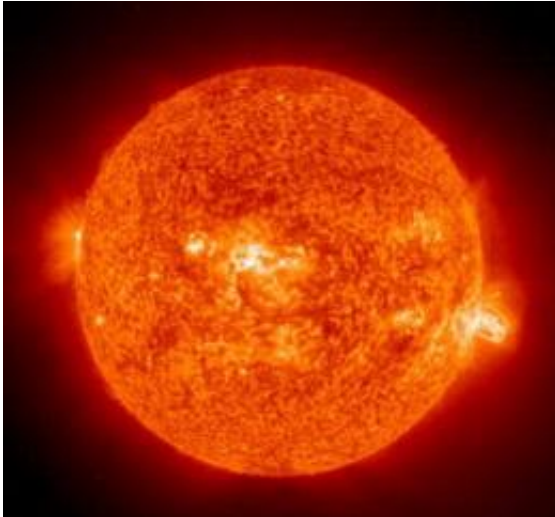


# Huge solar flare jams radio, satellite signals: NASA

17 February 2011



A NASA image of an erupting solar flare (R). The strongest solar flare in four years disrupted radio communications in southern China, according to the China Meteorological Administration.

A powerful solar eruption that triggered a huge geomagnetic storm has disturbed radio communications and could disrupt electrical power grids, radio and satellite communication in the next days, NASA said.

A strong wave of charged plasma particles emanating from the Jupiter-sized sun spot, the most powerful seen in four years, has already disrupted radio communication in southern China.

The Class X flash -- the largest such category -- erupted at 0156 GMT Tuesday, according to the US space agency.

"X-class flares are the most powerful of all solar events that can trigger radio blackouts and long-lasting radiation storms," disturbing telecommunications and electric grids, NASA said Wednesday.

Geomagnetic storms usually last 24 to 48 hours -- but some could last for many days, read a statement from the US National Weather Service.

"Ground to air, ship to shore, shortwave broadcast and amateur radio are vulnerable to disruption during geomagnetic storms. Navigation systems like GPS can also be adversely affected."

NASA's Solar Dynamics Observatory said it saw a large coronal mass ejection (CME) associated with the flash blasting toward Earth at about 560 miles per second (900 kilometers per second).

The flare spread from Active Region 1158 in the sun's southern hemisphere, which had so far lagged behind the northern hemisphere in flash activity. It followed several smaller flares in recent days.

"The calm before the storm," read a statement on the US National Weather Service Space Weather Prediction Service.

"Three CMEs are enroute, all a part of the Radio Blackout events on February 13, 14, and 15 (UTC). The last of the three seems to be the fastest and may catch both of the forerunners about mid to late ... February 17."

The China Meteorological Administration reported that the solar flare caused "sudden ionospheric disturbances" in the atmosphere above China and jammed shortwave radio communications in the southern part of the country.

The CMA warned there was a high probability that large solar flares would appear over the next three days, the official Xinhua news agency reported.

The British Geological Survey (BGS) said meanwhile that the solar storm would result in spectacular Northern Lights displays starting Thursday.

One coronal mass ejection reached Earth on February 14, "sparking Valentine's Day displays of the Northern Lights (aurora borealis) further south than usual."

"Two CMEs are expected to arrive in the next 24-48 hours and further... displays are possible some time over the next two nights if skies are clear," it said.

The office published geomagnetic records dating back to the Victorian era which it hopes will help in planning for future storms.

"Life increasingly depends on technologies that didn't exist when the magnetic recordings began," said Alan Thomson, BGS head of geomagnetism.

"Studying the records will tell us what we have to plan and prepare for to make sure systems can resist solar storms," he said.

A 2009 report by a panel of scientists assembled by NASA said that a sustained and powerful solar flare outbreak could overwhelm high-voltage transformers with electrical currents and short-circuit energy grids.

The report, titled "Severe Space Weather Events -- Understanding Societal and Economic Impacts" warned that such a catastrophic event could cost the United States alone up to two trillion dollars in repairs in the first year -- and it could take up to 10 years to fully recover.

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