

Passage 2: Solar Storms Hit Earth

Flares from the sun cause beautiful night skies

Last week, the sun woke up after years of rest, sending strong flares of energy into the atmosphere. We couldn't feel it, but Earth was hit hard. The flares caused the largest solar storm the planet has seen in almost seven years.

The storm created arches of colorful lights in the sky called auroras. The lights can usually only be seen from the Earth's magnetic areas, like the North and South Poles.

On January 24, British astronomer John Mason watched one of the storm's auroras off the coast of Norway.

"It has been absolutely incredible," he said. "I saw my first aurora 40 years ago, and this is one of the best."

The Northern Lights

An aurora happens when a magnetic solar wind slams into Earth's upper atmosphere. It releases visible light in the process. The particles move toward Earth's magnetic poles, so they are called "the southern lights" or "the northern lights."

Michele Cahill, an Irish psychologist, was on a tour in Sweden when she saw the lights. She said the colorful show went on for more than an hour.

"We stopped the bus, and suddenly, it was just this gigantic display of dancing lights," Cahill said. "Literally one would have to lie on the ground to capture it all."

Effects of the Storm

The Northern Lights could be seen on January 24, from Skulsfjord, Norway.

Solar storms can cause beautiful sights, but it can also mean trouble. Experts from the National Oceanic and Atmospheric Administration said the biggest concern for last week's storm was radiation. Radiation mostly affects satellites and astronauts in space. Solar storms can cause power outages and damage satellites, which are needed for radio, TV and telephones. It can also cause communication problems for airplanes flying in the Polar Regions. This storm was expected to be so strong that some airlines re-routed planes.

The radiation particles from last week's storm traveled at 1,400 miles per second. They traveled 93 million miles from the Sun to the Earth. Luckily, it hit mostly north of Earth and did not cause any big problems.

The sun goes through an 11-year cycle of solar eruptions. Scientists have been expecting the eruptions to become more intense as the cycle enters its most active phase. The cycle is expected to peak in 2013. But in recent years the sun was quieter than normal. Many scientists thought it was going into a quiet cycle that happens about once a century.

Doug Biesecker is a scientist at the U.S. Space Weather Prediction Center. Biesecker says the quiet cycle does not seem likely now, and that the sun will get even more active in the next few months and years.

"To me this was a wakeup call," he said. "The sun is reminding us that solar max is approaching."