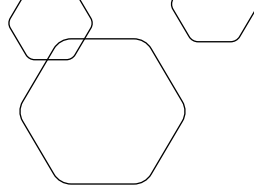


# Our Active Star

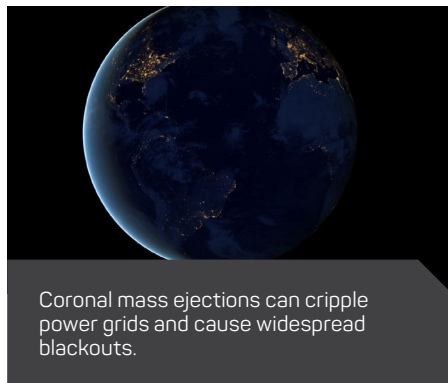
Changes to the Sun's magnetic field can have a big impact on life on Earth.



A solar flare erupts off the Sun in 2012.

**LEARN MORE:**  
[nasa.gov/content/goddard/the-difference-between-flares-and-cmes](https://nasa.gov/content/goddard/the-difference-between-flares-and-cmes)

**We live in the extended atmosphere of an active star—the Sun.** Earth and the other planets orbit through a constant flow of *solar wind*. Solar wind consists of electricity, matter, and magnetism streaming from the Sun out past the most distant planets. NASA scientists study the Sun to learn more about our place in the universe, and to better understand the ways sudden changes to the Sun's system can affect life on Earth.



Coronal mass ejections can cripple power grids and cause widespread blackouts.

The Sun sometimes emits massive bursts of electromagnetic radiation and charged particles. These events, known as *solar flares* and *coronal mass ejections*, can affect life on Earth and equipment orbiting the planet. Solar flares can disrupt communications on Earth and signals between spacecraft. Coronal mass ejections can disable entire power grids! Fortunately, a whole fleet of NASA satellites and solar observatories keep watch to try to predict these events.