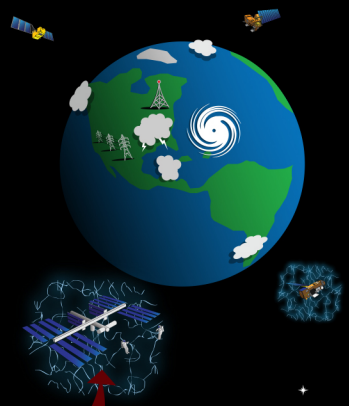
Stormy Space Weather

Weather satellites follow clouds, track storms, and provide the data needed to make important meteorological forecasts. But there's another type of weather out there that requires some satellites to direct part of their attention away from Earth, too—it's called space weather!

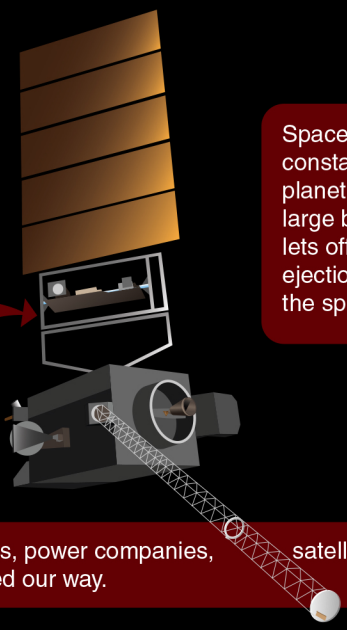


Coronal mass ejection

Solar flare

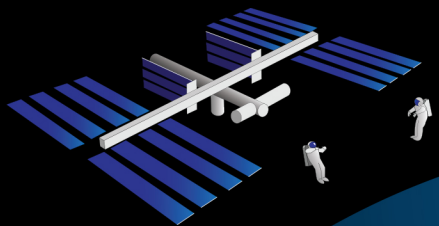
These particles can damage satellites, power lines, and radio communications. And if there were any astronauts floating around the International Space Station, they would be in trouble, too.

But there's good news! A new group of satellites—called the GOES-R series—will be keeping a close eye on earth weather AND space weather. These satellites will improve our ability to look for the first sign of a solar flare or coronal mass ejection, and they will monitor the space around Earth for an increase in high-energy particles from the sun.

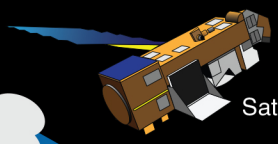


Space weather is caused by the Sun. Our Sun is constantly sending particles and energy across the planets of our solar system. It has been known to let off large bursts of energy called solar flares. Sometimes it lets off something even bigger—a coronal mass ejection. Both can hurl particles toward Earth at nearly the speed of light.

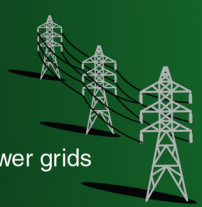
With an early warning from satellites like the GOES-R series, power companies, satellite operators, and even astronauts will have enough time to adapt to any troubling space weather headed our way.



Astronauts outside the International Space Station



Satellites



Power grids

Radio communications

SciJinks in a Snap!