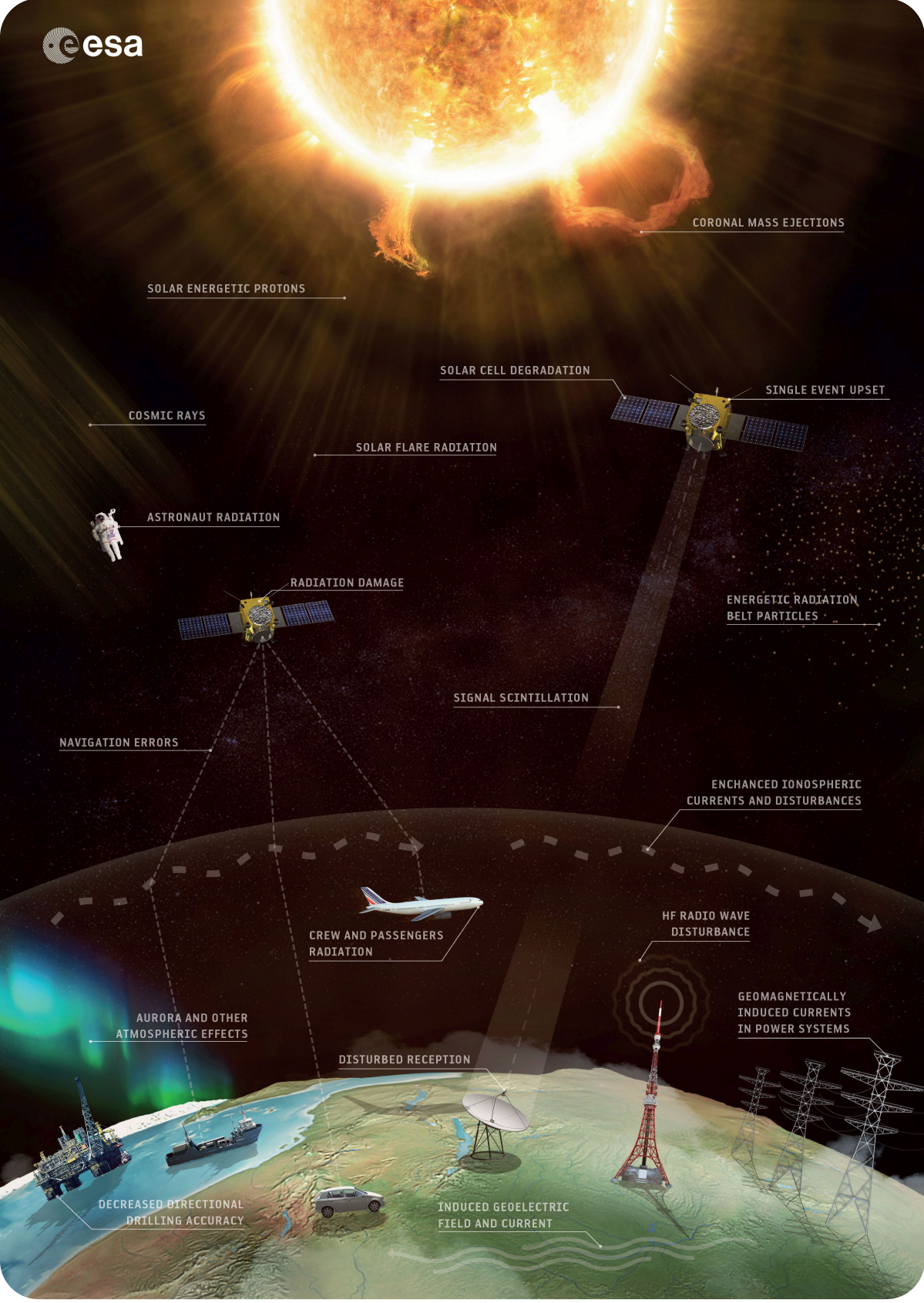


Space Weather Week!

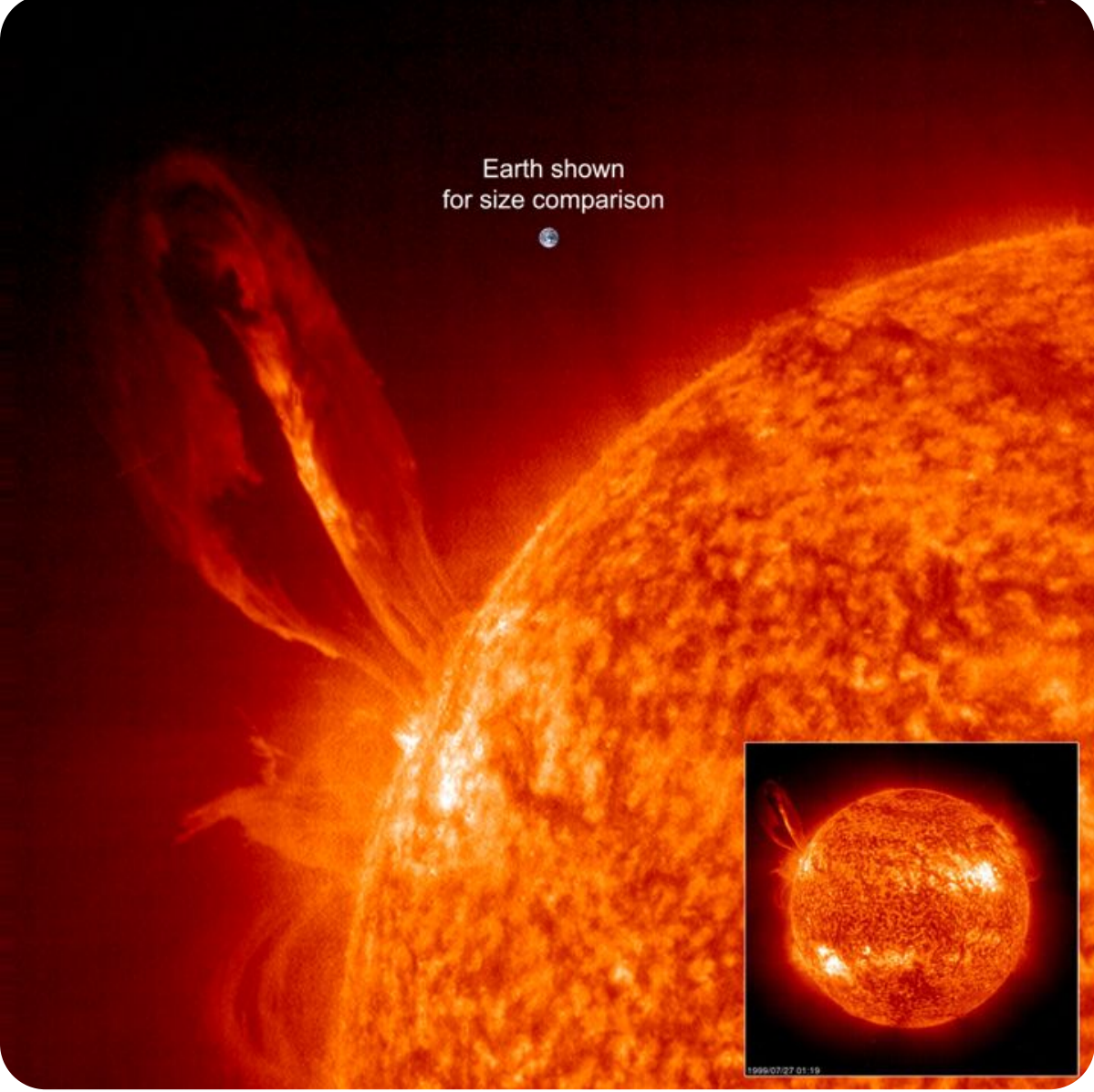


See some of the ways in which space weather can affect us
[Access the image](#)

06 November 2018

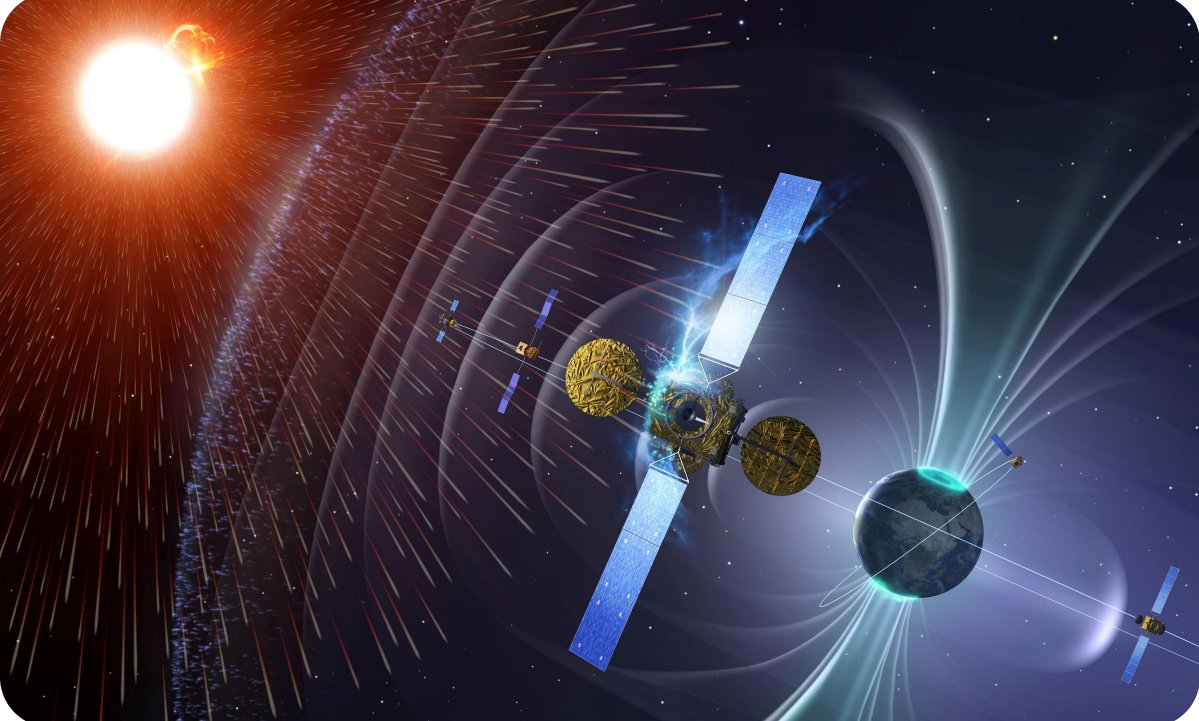
What is the weather like where you are today? We are all used to checking the weather forecast and thinking about how it will affect our day. But did you know that there is weather in space? 5 – 9 November 2018 is European Space Weather Week, the perfect time to find out more.

The Sun gives out lots of charged particles, sometimes called the “solar wind”. These particles can impact the magnetic field surrounding our planet. Sometimes they cause beautiful effects, like the aurora. In addition, our region of space can be influenced by energetic particles like galactic cosmic rays! The conditions in space produced by these particles is what we call “space weather”.



ESA look out for solar eruptions that may lead to extreme space weather
[Access the image](#)

Most space weather is very mild, and does not affect us very much. This is why we do not need to check the space weather forecast every day before leaving our houses! It is something that ESA scientists monitor though, as very strong solar winds can disrupt or even damage satellites in orbit, as well as power grids on the ground. Imagine having no satellite navigation systems, mobile phones, or electricity! That would be very disruptive, and take time to fix. ESA estimate that an extreme space weather event could cause damage and trouble worth about €15 billion – a lot of money!



Charged particles from the Sun can cause satellite malfunctions
[Access the image](#)

Solar storms are particularly dangerous for astronauts in space. Without as much of Earth's magnetic field to protect them, the crew of the International Space Station are exposed to more radiation than we are on the ground. Imagine it is the future, and you are on a spaceship travelling to Mars. You would definitely want to keep track of space weather, as strong solar winds could bring deadly radiation, meaning you would need to take shelter in a special compartment of your ship.

In the future, as we rely increasingly on satellites, and journey further out into space, ESA's knowledge of space weather will become all the more important in keeping us and our society safe.

Cool fact: ESA's Space Situational Awareness Programme uses instruments in space and on Earth to monitor space weather!