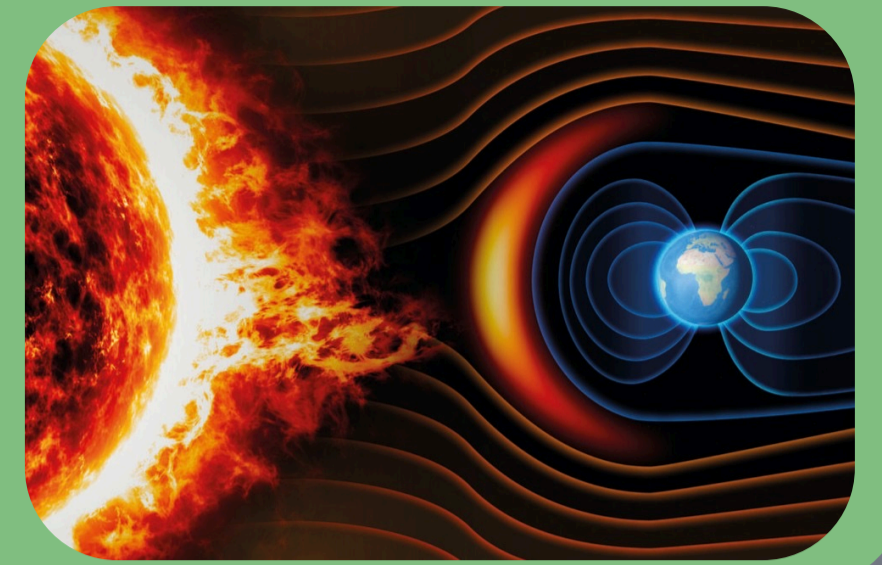


Our Sun is a powerful and life-giving **source of energy**. Sometimes the Sun can be very active and **send particles** and radiation towards Earth.

On Earth, we are shielded from most of these particles by our **magnetic field**. The magnetic field of Earth is like a **large bar magnet**.



The magnetic field guides some particles down towards the **polar regions** of Earth. These particles have an electric charge so when they are found in the atmosphere, they form an **electric current**.

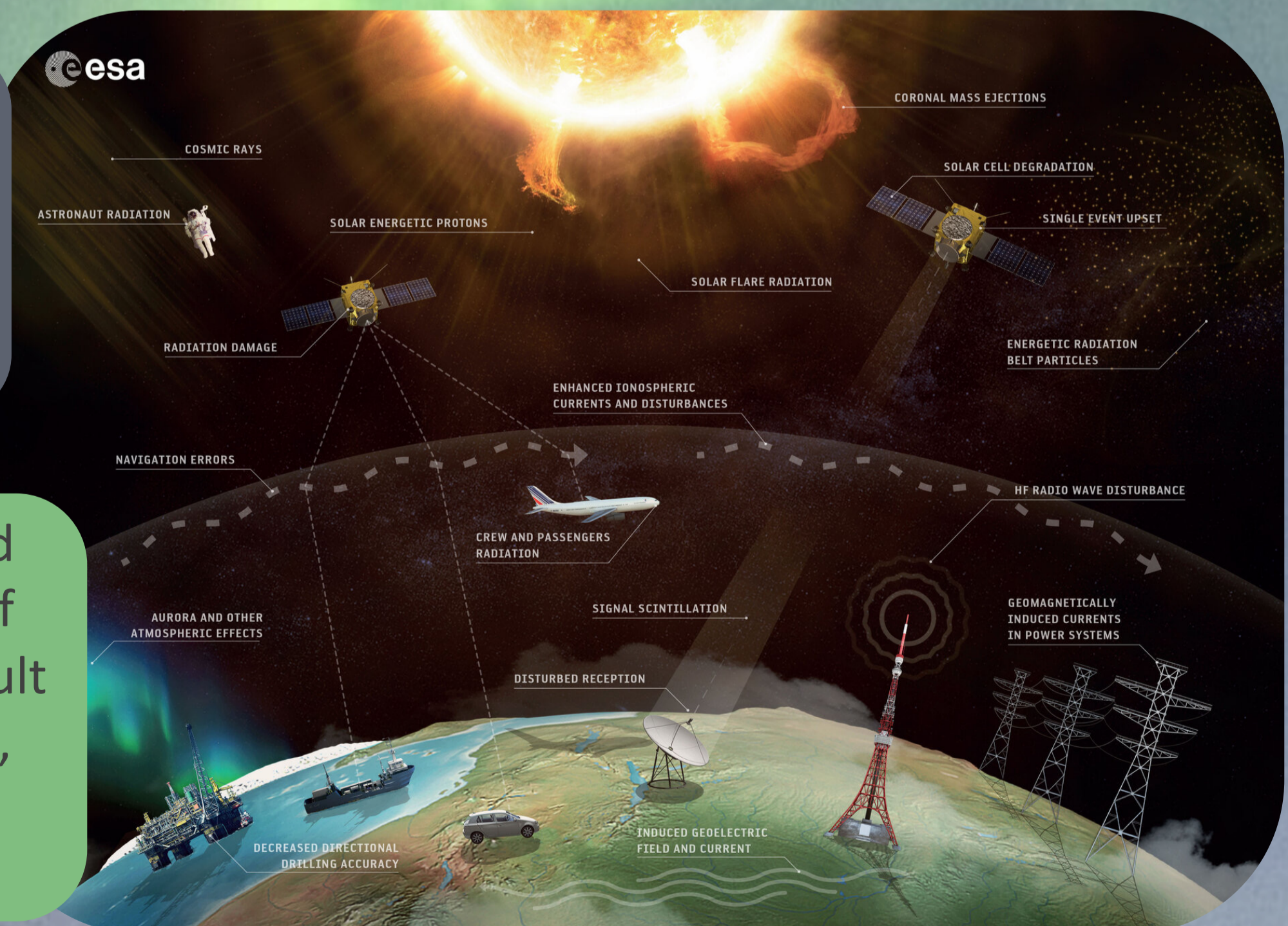
This is also how the **aurora** is formed. When there is a lot of activity, aurora and particles enter the space near Earth, we call this **Space Weather**.

WHAT IS SPACE WEATHER?

We live in a very **technology dependent society**. We speak on the phone to friends and family, we use long wires to send electricity to each other, to heat and light our homes, and we find out where we are using satellites in the sky.

When the activity in space is very high, the currents that are made by these extra particles can **affect electronics** on the ground.

It is possible that we would lose the ability to do any of these things. Which can result in **disruption to daily lives**, and in extreme conditions even loss of life.



At SuperDARN Canada, we measure **the ionosphere of Earth** (a layer of the atmosphere) and record data that tells us how the ionosphere is moving. This data helps scientists understand and learn how we can **prevent the harmful effects of Space Weather** to humans