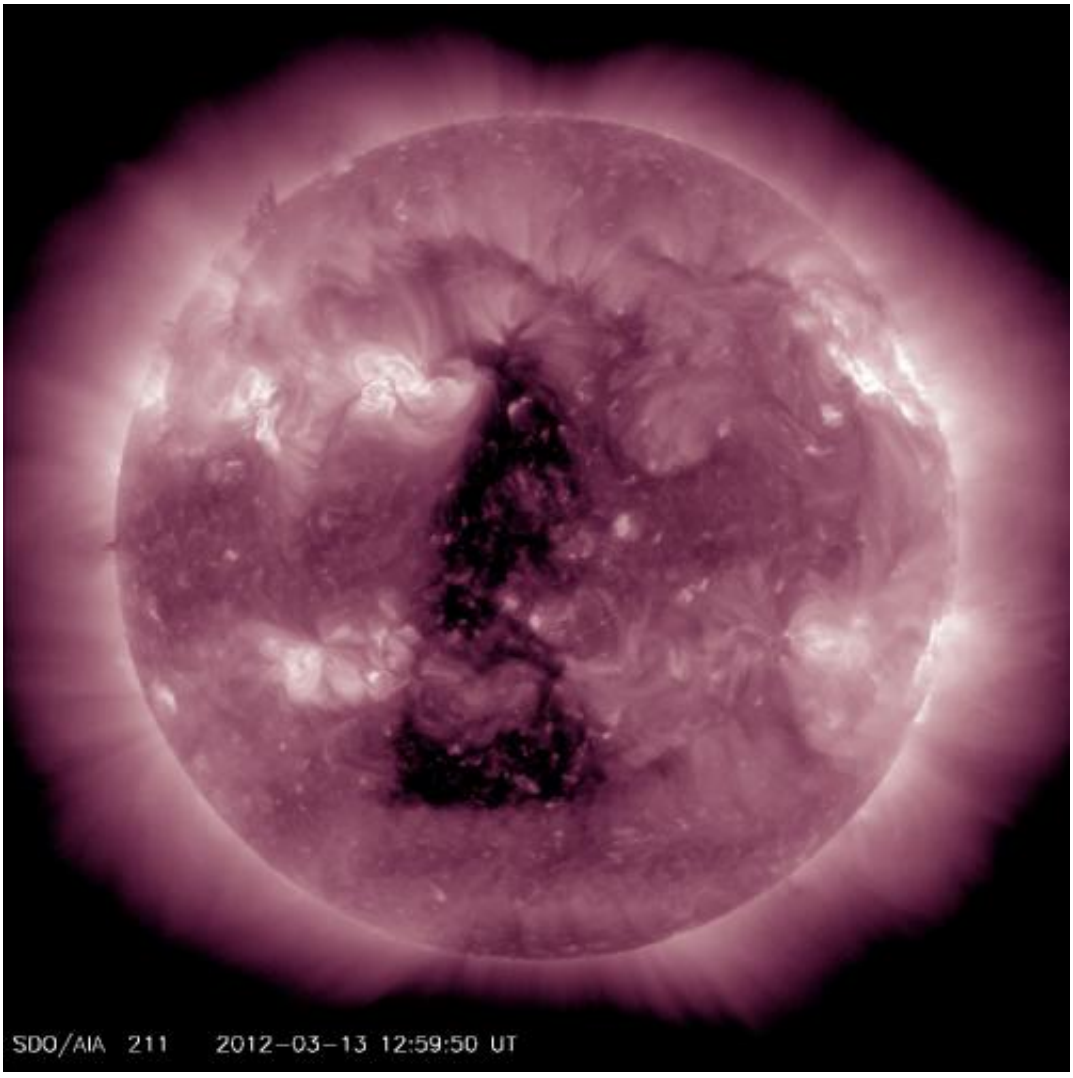
Huge coronal hole is sending solar wind our way

March 14 2012, by Jason Major



SDO AIA 211 image showing a large triangular hole in the Sun's corona on March 13

An enormous triangular hole in the Sun's corona was captured earlier today by NASA's Solar Dynamics Observatory, seen above from the AIA 211 imaging assembly. This gap in the Sun's atmosphere is allowing more charged solar particles to stream out into the Solar System… and toward Earth as well.

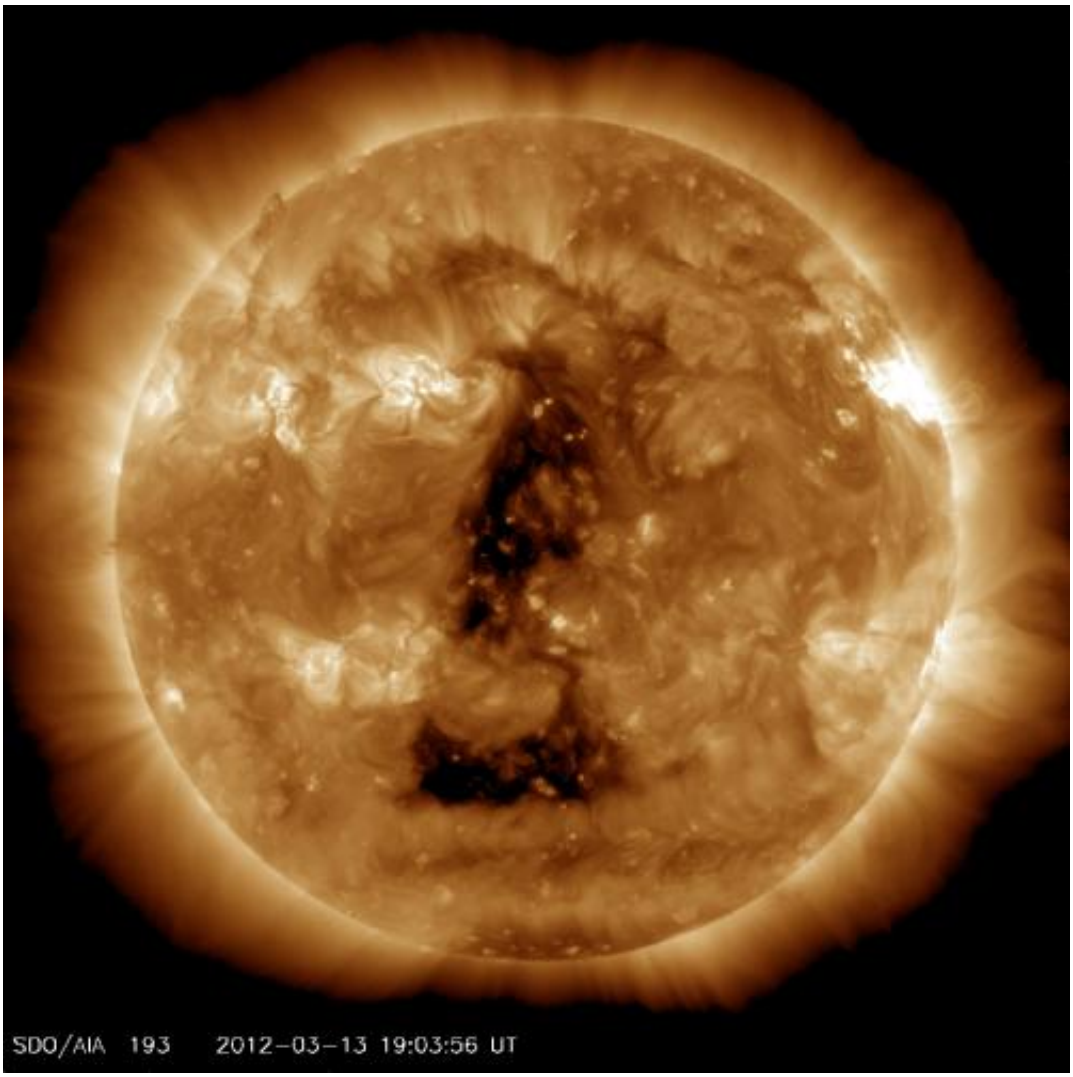
Normally, loops of magnetic energy keep much of the Sun's outward flow of gas contained. Coronal holes are regions — sometimes very large regions, such as the one witnessed today — where the magnetic fields don't loop back onto the Sun but instead stream outwards, creating channels for solar material to escape.

The material constantly flowing outward is called the solar wind, which typically "blows" at around 250 miles (400 km) per second. When a coronal hole is present, though, the wind speed can double to nearly 500 miles (800 km) per second.

Increased geomagnetic activity and even geomagnetic storms may occur once the gustier solar wind reaches Earth, possibly within two to three days.

The holes appear dark in SDO images because they are cooler than the rest of the corona, which is extremely hot — around 1,000,000 C (1,800,000 F)!

Here's another image, this one in another AIA channel (193):



AIA 193 image of the March 13 coronal hole

Keep up with the Sun's latest activity and see more images on NASA's SDO site here.

Source: Universe Today