

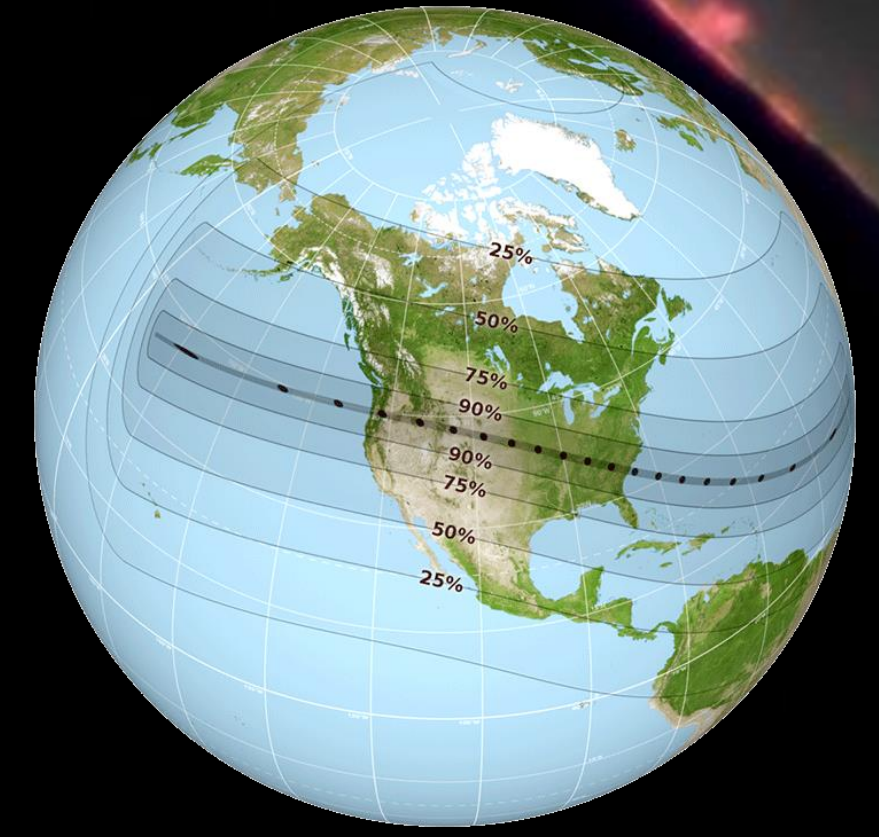
# THE 'GREAT AMERICAN' ECLIPSE 2017: THE CORONA AND CHROMOSPHERE



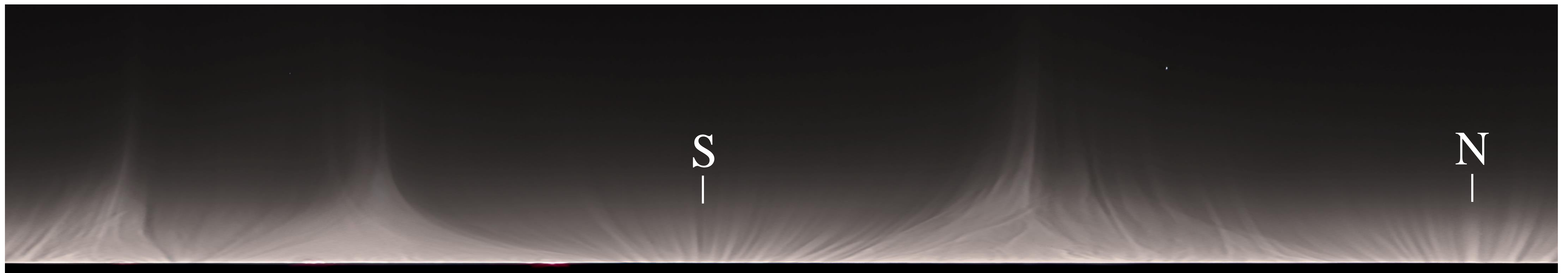
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The poster shows the 2017 Total Solar Eclipse best images taken during the totality by the expedition team. It shows how active the Sun is from its bottom layers to a distance of several solar radii. Using standard equipment in similar configurations it was possible to produce high dynamic range compositions of the corona as well as high quality images of the Sun's chromosphere. Although the Sun might be an easy target to photograph, the preparation and training carried out by the team was extraordinary important due to the very short duration of the totality (2min 30sec).

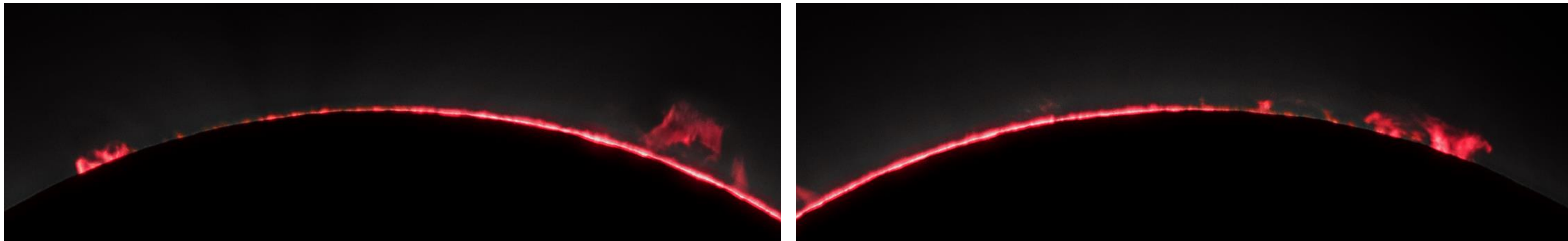


## THE SOLAR CORONA



The solar corona is the highest layer of the Sun atmosphere and it extends over millions of kilometers into space. Although the temperature reaches over 1.000.000K the density is incredibly low compared to other layers. This 2D map of the Sun shows the particles flowing out.

## THE SOLAR CHROMOSPHERE



Right above the photosphere, the chromosphere shows interesting features such as prominences and spicules. A few seconds before the end of the totality, these features can be photographed without any filter using short exposure times. A big prominence can be seen on the left image.

The red color is due to the H-alpha line at a wavelength of 6562.8Å.

## HIGH DYNAMIC RANGE IMAGE OF THE SUN



HDR images are made using several images of different exposure with and a wide range of luminosities. They are processed based on the gradients of the images and stacked together. This technique allows us to see not just the corona but also the Moon and some background stars such as Regulus ( $\alpha$  Leo) on the middle left.

[http://cesar.esa.int/index.php?Section=Total\\_Eclipse\\_2017](http://cesar.esa.int/index.php?Section=Total_Eclipse_2017)