

September 2020 has been a more quiet month in the sense of solar activity. A number of 12 CMEs has been spotted (source <http://sidc.oma.be/cactus/catalog.php>) with angular width $w < 90^\circ$. These CMEs together with the high-speed streams of solar wind for this month resulted to a distinct modulation of the galactic cosmic rays. September was also very quiet month in the sense of proton flux levels of solar flares (SFs). Only one solar flare with magnitude $> C1.0$ was recorded during this period. This flare was a C1.1 noticed on 25/09/2020, 00:38 UT peak time from AR2773 with coordinates N28E36 (Fig. 1).

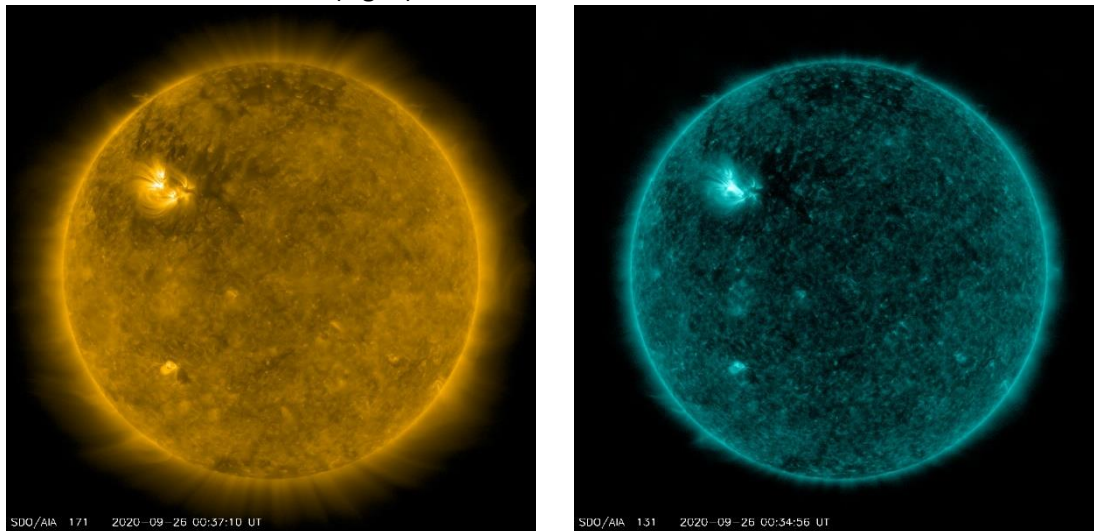


Figure 1: The C1.1 solar flare of 25/09/2020 at 00:38 UT peak time (from <https://sdo.gsfc.nasa.gov/data/aiahmi/>)

September was a more active month in the sense of geomagnetic activity in contrary to previous months. The interaction of Earth's magnetosphere with high-speed solar wind streams from coronal holes on September 27-28 triggered minor geomagnetic storms of G1 level. The Kp index values during the period September 27-29 are presented in Fig. 2. The interaction of Earth's magnetosphere with high-speed solar wind streams from coronal holes on September 1-2, 14, 23-26 and 29-30 triggered minor geomagnetic disturbances. These disturbances during this month were spotted on the cosmic ray intensity as Forbush effects, recorded at Athens Neutron Monitor Station (cut-off rigidity 8.53 GV) with amplitudes varied from 1% up to almost 3.5%.

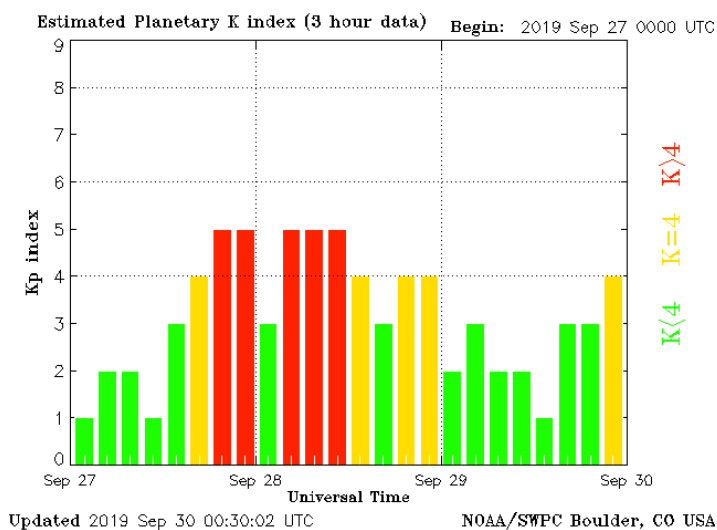


Figure 2: Kp index values for the period September 27-29. A high-speed stream of solar wind triggered a geomagnetic storm of G1 level. (from ftp://ftp.swpc.noaa.gov/pub/warehouse/2019/2019_plots/kp/)