

January 2019 has been a very quiet month in the sense of solar activity. A number of only 10 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. January was also a very quiet month in the sense of proton flux levels of solar flares (SFs). Only 5 solar flares with magnitude $> C1.0$ was recorded during this period. The most energetic solar flare was a C5.2 noticed on 30/01/2019, 06:11 UT peak time from AR2733 with coordinates N04W85 (Fig. 1).

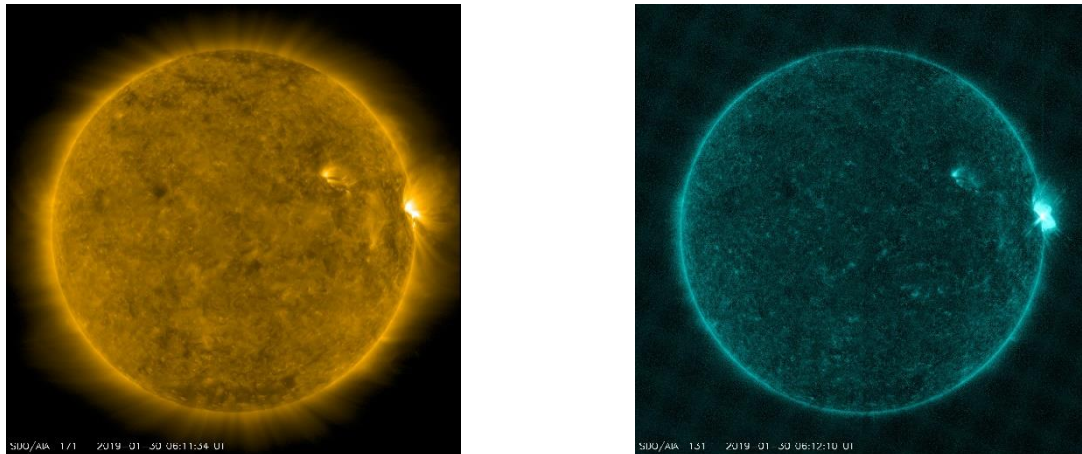
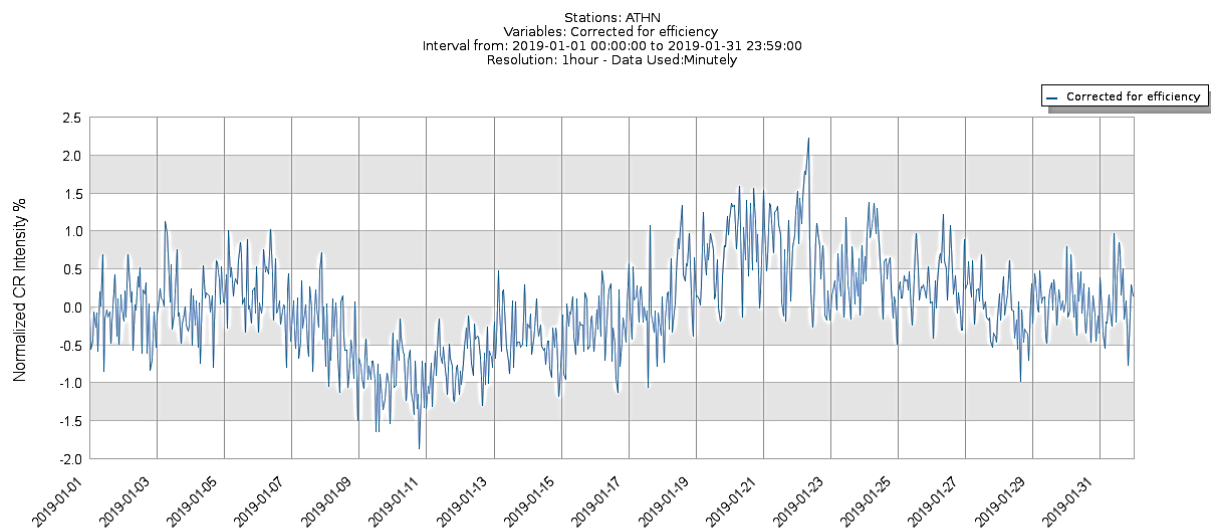


Figure 1: The C5.2 solar flare of 30/01/2019 at 06:11 UT peak time (from <https://sdo.gsfc.nasa.gov/data/aiahmi/>)

January was less active month in the sense of geomagnetic activity in contrary to December. The interaction of high-speed solar wind streams from coronal holes on January 05, 23-25 and 31 triggered minor geomagnetic storms of G1 level. Active conditions noticed also on January 04, 06, and 17 as a result of the interaction of a high-speed solar wind streams from coronal holes with Earth's magnetosphere.

The results of these events 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 3.0% (Fig. 2).



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Figure 2: Hourly corrected for pressure and efficiency values of the cosmic ray intensity recorded by Athens Neutron Monitor Station from 01-31/01/2019 (From the multi station data service of [Athens NM Station](http://athensnmst.uoa.gr))