

December 2018 has been a very quiet month in the sense of solar activity. A number of only 5 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. December was also a very quiet month in the sense of proton flux levels of solar flares (SFs). No solar flare with magnitude $> C1.0$ was recorded during this period.

December was less active month in the sense of geomagnetic activity in contrary to November. The interaction of a high-speed solar wind stream from coronal holes on December 28 triggered a minor geomagnetic storm of G1 level (Fig. 1). Active conditions noticed also on December 2, 7-8, 10, 20 and 30 as a result of the interaction of a high-speed solar wind streams from coronal holes with Earth's magnetosphere.

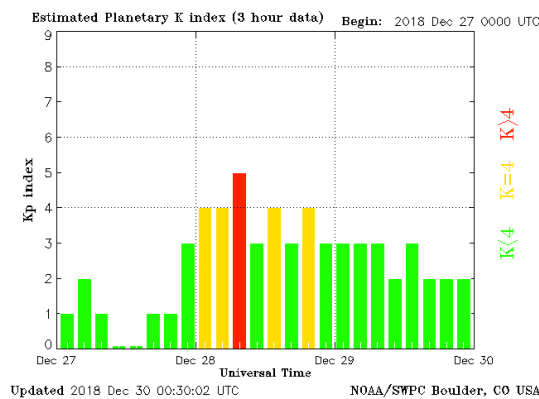
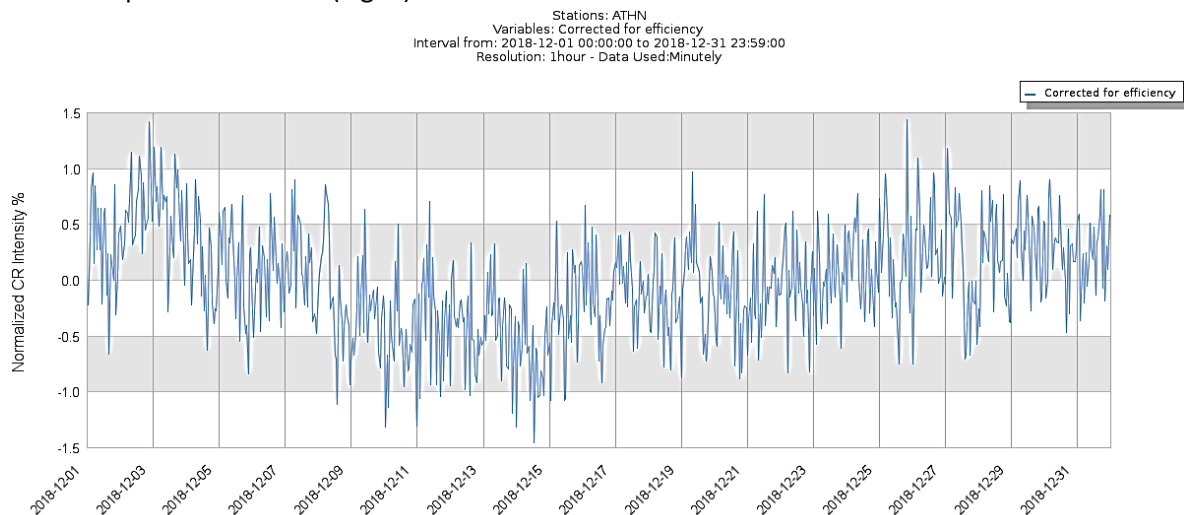


Figure 1: The Kp index values during the minor G1 geomagnetic storm of December 28. (from ftp://ftp.swpc.noaa.gov/pub/warehouse/2018/2018_plots/kp/)

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 2.5% (Fig. 2).



Data retrieved via NMDB are the property of the individual data providers. These data are free for non commercial use to within the restrictions imposed by the providers. If you use such data for your research or applications, please acknowledge the origin by a sentence like: 'We acknowledge the NMDB database (www.nmdb.eu), founded under the European Union's FP7 programme (contract no. 213007), and the PIs of individual neutron monitors for providing data.'

Figure 2: Hourly corrected for pressure and efficiency values of the cosmic ray intensity recorded by Athens Neutron Monitor Station from 01-31/12/2018 (From the multi station data service of Athens NM Station)