

June 2015 has been an active month in the sense of solar activity. In the sense of coronal mass ejections (CMEs) June 2015 was a less active month than the previous one but these CMEs were more geoeffective. A number of 117 CMEs have been spotted, with 9 CMEs with angular width $90^\circ < \alpha < 180^\circ$ and 3 HALO CME resulting into distinct modulation of the galactic cosmic rays (source: <http://sidc.oma.be/cactus/catalog.php>). June was also very active in the sense of solar flares (SFs). A number of 209 C, M and X-class SFs spotted with 197 C and 12 M-class SFs, the most energetic one being a M7.9 on 25/06/2015 at 08:16 UT from the AR 2371, N12W40 (Fig. 1).

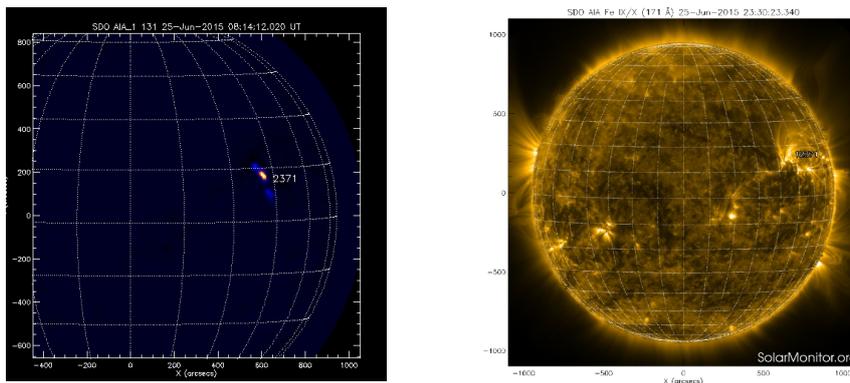


Figure 1: The M7.9 solar flare of 25/06/2015 at 08:16 peak time (from solarmonitor.org)

In the sense of geomagnetic activity June 2015 was very active month with two geomagnetic storms in the period of 4 days from June 22 to June 26. An intense geomagnetic storm (G4) started in the middle hours of June 22nd around 15:00UT as a result of the interaction of a series of CMEs with Earth's magnetosphere. This storm lasted for about 24 hours and then one more geomagnetic storm (G1) started on June 25th around 06:00 UT and lasted for about 12 hours (Fig. 2).

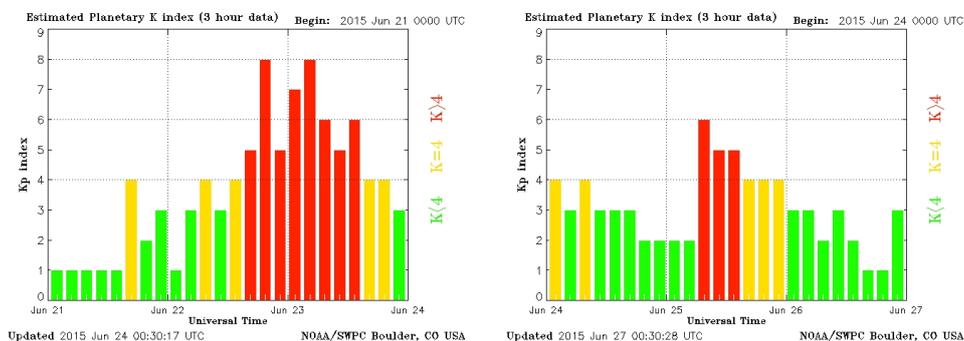


Figure 2: The two geomagnetic storms (G4) of June 22nd and (G1) of June 25th.

A small Forbush decrease is spotted in 14-15 June 2015 as a result of the interaction of a high speed stream of solar wind stream with Earth's magnetosphere with a recovery phase of 4-5 days. A series of partial and HALO CMEs hit Earth's magnetosphere in the period of June 22 – June 25 producing geomagnetic storms. The most intense geomagnetic storm G4 was noticed on June 22-23 and then a G1 storm noticed on June 25. The result of these events spotted on the cosmic ray intensity as an important Forbush decrease with a recovery phase of about 10

days. Hourly values of the cosmic ray intensity recorded at the Athens neutron monitor station (cut-off rigidity 8.53 GV) are illustrated in Fig. 3. It is important the major decrease of the cosmic ray intensity for the polar station (MCMU) in contrast with the decrease for a middle latitude station as Athens (ATHN).

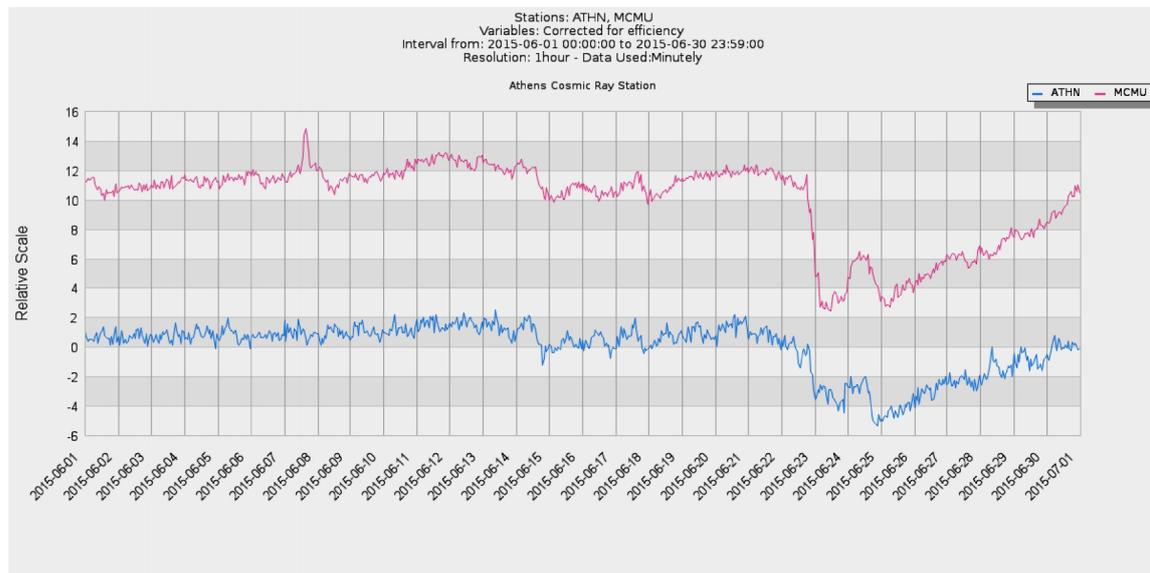


Figure 3: The corrected for pressure and efficiency counting rate of the Athens (ATHN) and McMurdo (MCMU) Neutron Monitor Stations from 01-30/06/2015 (From multi station service of Athens CR Station).

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