

RWC-India report 13 August 2024

From: RWC-India [Regional Warning Center(RWC) of India for Space Environment], CSIR-NPL, New Delhi-110012

Relative Sunspot Number for 13 August 2024 is 245

10.7 CM Flux for 12 August 2024 is 272

Magnetic Activity [Ap] for 11 August 2024 is 028

Solar Activity Summary from 11/2100Z to 12/2100Z: Solar activity has been at moderate levels for the past 24 hours. The largest solar event of the period was a M1 event observed at 11/2358Z from Region 3780 (S11W20). There are currently 11 numbered sunspot regions on the disk.

Solar Activity Forecast: Solar activity is expected to be moderate with a chance for X-class flares on days one, two, and three (13 Aug, 14 Aug, 15 Aug).

Geophysical Activity Summary 11/2100Z to 12/2100Z: The geomagnetic field has been at minor storm to severe storm levels for the past 24 hours. Solar wind speed reached a peak of 534 km/s at 12/0738Z. Total IMF reached 23 nT at 11/2255Z. The maximum southward component of Bz reached -20 nT at 12/1017Z. Electrons greater than 2 MeV at geosynchronous orbit reached a peak level of 125 pfu.

Geophysical Activity Forecast: The geomagnetic field is expected to be at unsettled to minor storm levels on day one (13 Aug), quiet to active levels on day two (14 Aug) and quiet levels on day three (15 Aug). Protons have a slight chance of crossing threshold on days one, two, and three (13 Aug, 14 Aug, 15 Aug).

10.7 CM Predicted

13 Aug-15 Aug 285/270/270

Magnetic Activity Ap Predicted

13 Aug-15 Aug 040-012-008

Energetic Particle

24 hr Summary

The greater than 10 MeV proton flux has remained at background levels. The greater than 2 MeV electron flux was at normal to moderate levels.

Forecast

There is a slight chance for S1 (Minor) conditions through 15 Aug as a few magnetically complex regions remain in geoeffective locations. The greater than 2 MeV electron flux is expected to remain at normal to moderate levels over 13-15 Aug.

Solar Wind

24 hr Summary

The solar wind environment was enhanced throughout the period due to persistent CME effects. Total field reached 23 nT and the Bz component was southward, by as much as -20 nT, for prolonged periods after 12/0100 UTC. The Bz component has been on a gradual rise since roughly 15 UTC but remains negative. Solar wind speeds increased from around 475 km/s early in the period to a peak of 535 km/s, it declined and has remained around 440 km/s.

Forecast

Solar wind parameters are expected to remain enhanced through 13 Aug with sustained, but weakening CME influences.

Global Propagation Summary

Latitude Band

Date	Low	Middle	High
12 Aug	Normal	Normal-poor	Poor

PCA Event : No event.

Global Propagation Forecast

Latitude Band

Date	Low	Middle	High
13 Aug	Normal	Poor-fair	Poor-fair
14 Aug	Normal	Fair-normal	Fair
15 Aug	Normal	Normal	Normal-fair

COMMENT: HF radio communication conditions on UT day 12-Aug at middle to high latitudes were degraded due to geomagnetic storm activity. HF radio communication conditions are expected to be degraded over 13-Aug for middle to high latitudes then improving. Shortwave fadeouts are possible.

Regards,

RWC-India

Date: 13/08/2024.