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Product: Daily Forecast of Geomagnetic Activity
Issued: 2024 July 31 08:51UTC
Prepared by the Athens Space Weather Forecasting Center
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**I. Solar activity**
*--Current Status*
Solar Flux (10.7cm) measured on 30.07.2024 at 23:00 UTC was 220 sfu.
The background X-Ray flux is at the class M1.0 level.
Eight M-class solar flares were produced on July 30 and the largest was the M9.4.
AR3772 erupted on July 30 at 19:38 UT peak time producing a M9.4 class solar flare and a radio blackout of category R2.
No obviously Earth directed CMEs were observed in available LASCO imagery on July 26.
An equatorial coronal hole (CH1233) rotated across the central meridian on July 30-31.
---CME arrival forecast
A CME was observed on July 27 at 06:36 UT. The source is an M3.1 flare from AR3762. This CME was expected to reach Earth between on July 29 at 20:36 UT and on July 30 at 02:31 UT according to EAM predictions.
A full halo CME was observed on July 28 at 02:24 after the M9.9 flare.This CME was expected to reach Earth on July 30 between at 09:26 UT and at 20:04 UT according to EAM predictions.
Another CME was observed on July 29 at 13:25 UT. The source is the M8.7 flare peaking on July 29 at 12:55 UT from AR3762. This CME is expected to reach Earth between on July 31 at 23:13 UT and on August 01 at 08:00 UT according to EAM predictions.

**II. Solar Energetic Particle Events**
Protons and electrons fluxes are quiet.

**III. Interplanetary and Geomagnetic conditions**
The solar wind speed measured by ACE satellite reached the max value 502 Km/s on July 30 at 11:40 UT during the last 24 hours.
The solar wind speed from STEREO A was detected 500 Km/s during the last 24 hours.
The vertical component of IMF Bz reached the max value -5 nT on July 30 at 05:15 UT during the last 24 hours.
The geomagnetic field was at quiet tο minor storm (G1) levels during the last 24 hours.
The Kp index now is at quiet levels with Kp=2.

**IV. 3-day Geomagnetic Activity Forecast**
The geomagnetic field is expected to be at quiet to moderate storm (G2) levels on July 31-August 01 due to the effect of CMEs and at quiet to active levels on August 02.

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| **Date** | **Ap index forecast** | **Geomagnetic Activity level** |
| 31.07.2024 | 25 | Quiet to Moderate storm (G2) |
| 01.08.2024 | 25 | Quiet to Moderate storm (G2) |
| 02.08.2024 | 10 | Quiet to Active |

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Athens Space Weather Forecasting Center
Physics Department, National & Kapodistrian University of Athens
Athens Neutron Monitor Station A.NE.MO.S
Tel.: +30 210 727 6901
email: spaceweather@phys.uoa.gr
URL: http://spaceweather.phys.uoa.gr
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