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Product: Daily Forecast of Geomagnetic Activity
Issued: 2024 December 30 09:24UTC
Prepared by the Athens Space Weather Forecasting Center
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**I. Solar activity**
*--Current Status*
Solar Flux (10.7cm) measured on 29.12.2024 at 23:00 UTC was 255 sfu.
The background X-Ray flux is at the class C5.1 level.
One X1.1 flare and several M-class flares were produced on December 29.
AR3936 erupted on December 29 at 07:18 UT peak time producing a X1.1-Class solar flare and a radio blackout of category R3.
---CME arrival forecast
A CME was observed on December 29 at 06:24 UT.The source is associated with the M2.0 solar flare from AR3939 (S17E30) starting on December 29 at 04:40 UT. This CME is expected to reach Earth on December 31 between at 09:46 UT and at 21:48 UT.

**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 406 Km/s on December 29 at 17:10 UT during the last 24 hours.
The solar wind speed from STEREO A was detected 400 Km/s during the last 24 hours.
The vertical component of IMF Bz reached the max value -7 nT on December 30 at 04:15 UT during the last 24 hours.
The geomagnetic field was at quiet to unsettled levels during the last 24 hours.
The Kp index now is at unsettled levels with Kp=3.

**IV. 3-day Geomagnetic Activity Forecast**
The geomagnetic field is expected to be at quiet to unsettled levels on December 30, at quiet to strong storm (G3) levels on December 31 due to the CME and at quiet to minor storm (G1) levels on January 01.

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| **Date** | **Ap index forecast** | **Geomagnetic Activity level** |
| 30.12.2024 | 08 | Quiet to Unsettled |
| 31.12.2024 | 40 | Quiet to Strong (G3) |
| 01.01.2025 | 20 | Quiet to Minor Storm (G1) |

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