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Product: Daily Forecast of Geomagnetic Activity
Issued: 2024 December 31 09:06UTC
Prepared by the Athens Space Weather Forecasting Center
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**I. Solar activity**
*--Current Status*
Solar Flux (10.7cm) measured on 30.12.2024 at 23:00 UTC was 224 sfu.
The background X-Ray flux is at the class C3.1 level.
Two X-class flares and several M-class flares were produced on December 30.
---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 364 Km/s on December 31 at 03:20 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 -9 nT on December 31 at 09:30 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 quiet levels with Kp=1.

**IV. 3-day Geomagnetic Activity Forecast**
The geomagnetic field is expected to be at quiet to strong storm (G3) levels on December 31 due to the CME, at quiet to minor storm (G1) levels on January 01 and at quiet to unsettled levels on December 02.

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| **Date** | **Ap index forecast** | **Geomagnetic Activity level** |
| 31.12.2024 | 40 | Quiet to Strong (G3) |
| 01.01.2025 | 20 | Quiet to Minor Storm (G1) |
| 02.01.2025 | 08 | Quiet to Unsettled |

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