

## **Solar Cycle 24 Trends in Space Weather**

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Space weather issues arised in the solar cycle 24 ascending and maximum phases (2009-2014) as regards geoeffective CMEs and HSSs are detailed to show the cause-effect chain from Sun to Earth's magnetosphere, on the background of space climate characterization at long-term timescales. In the years considered in our study, the number of magnetospheric events associated to ICMEs and HSSs progressed, illustrating the increasing geoeffectivity of the solar activity in the ascending and the maximum phases of the solar cycle 24. We look at the major events in which magnetic storms were triggered by ICMEs and/or HSSs and analyze the evolution of related CMEs and, respectively, coronal holes. The latitude dependence of the ring current and auroral electrojet effects on the geomagnetic activity as recorded by European geomagnetic observatories is investigated too.