

Session on « Key solar observables for assessing long-term changes in the Geospace »

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The objective of this session was to investigate the solar drivers of long-term variability of the terrestrial environment, with a special focus on the impact on climate. Indeed, our present understanding of the Sun-climate connections on long time scales relies heavily on the availability and quality of the observations. This is really science at action because new measurements are coming out, or are being revised. Several international projects are presently addressing these issues, such as the FP7 SOLID project, COST Action TOSCA, the SCOSTEP/ROSMIC project, and more.

This one-slot session had four solicited review talks, and was accompanied by a poster session. Whereas the oral part was well attended, with over 100 participants, the poster session unfortunately suffered from a lack of dedicated time, and visibility.

The four reviews addressed

- *The New Sunspot Number: a Full Recalibration* (F. Clette) presented the ongoing work that has led to the production of a new and highly-awaited sunspot number, whose 20th century grand maximum now does not stand out anymore as compared to past levels.
- *From Maunder Minimum to the recent Grand Solar Maximum* (M. Lockwood, given by C. Scott) gave a fascinating overview of the long-term variability of the Heliosphere since the Maunder minimum.
- *On the Influence of Energetic Particle Precipitation on the Climate System: the Challenges and Problems in Measuring Energetic Electron Precipitation Into the Atmosphere* (M. Clilverd): convincingly showed what are the challenges in properly measuring energetic electron fluxes, and how this impacts our present understanding of their variability.
- *The Influence of Solar Variability Past, Present and Future, on North Atlantic Climate* (J. Knight, given by D. Jackson). Interestingly, the North Atlantic region (modelled and observed) has shown greater evidence for a solar signal, and is presently attracting considerable interest.

The 8 posters complemented these talks by addressing more specific issues, such as the making of new proxies and composites, their statistical analysis, and our ability to predict them.