



Sunspot Number Revision

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We will present here the effort that was undertaken by the whole solar community to achieve the revision of the Sunspot Series. This well-known index of solar activity had not been revised since its creation by Rudolf Wolf in 1849 and the disagreement between the Sunspot Number and Group number prompted us to reevaluate both series.

The corrections we describe here use newly recovered historical sunspot records as well as original sunspot data. For the 17th and 18th century, the results confirm the low solar activity during the Maunder Minimum. Over the 19th century, the k scaling coefficients of individual observers were recomputed using new statistical methodologies, like the "backbone" method resting on a chain of long-duration observers.

After identifying changes in the observing methods, two major inhomogeneities were corrected in 1884 in the Group Number and in 1947 in the Sunspot Number. A full recomputation of the group and sunspot numbers was done for the last 50 years, with original data from the 270 stations archived by the World Data Center - SILSO in Brussels.

The new Sunspot Number series definitely exclude a progressive rise in average solar activity between the Maunder Minimum and an exceptional Grand Maximum in the late 20th century.

Residual differences between the Group and Sunspot Numbers over the past 250 years confirm that they reflect different properties of the solar cycle.

We conclude on the implications for Space and Earth climate studies and solar cycle and on important new conventions adopted for the new series as a framework open to future improvements of those unique data series.