

The sunspot number time series: a full recalibration of the primary 300-year record of solar activity.

Dr. Frédéric Clette, Royal Observatory of Belgium

The sunspot number series is a unique reference for retracing quantitatively the level of solar activity, as an input to analyses and models in various disciplines, from solar physics to Earth climate.

Over the past 3 years, a new joint effort has been initiated by the World Data Center SILSO, at the Royal Observatory of Belgium, jointly with a community of about 40 researchers worldwide, in order to revisit the existing series, as it was initially produced at the Zürich Observatory. By including new data and new diagnostics, several sources of inhomogeneities have been identified, some of them causing large biases by up to 40%, affecting entire sections of the series.

We will review those new findings and also consider some of the implications, like the absence of a progressive upward trend in solar activity cycles over the past 250 years in the resulting recalibrated sunspot number.