



## **Time evolution and trends of sunshine duration over the western part of Europe**

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This work analyses sunshine duration variability in the western part of Europe (WEU) based on 79 series distributed across 7 countries (United Kingdom, Germany, Spain, France, Netherlands, Switzerland and Austria) for the period 1938-2004. Data from ECAD database is complemented with additional data from other sources (national meteorological services). For the data obtained by averaging all the original series, an overall decrease in the annual sunshine duration since 1950's until first years of 1980's is found, followed by an increase from then on. A remarkable maximum is reached in 2003. This behavior is in good agreement with the global dimming and brightening phenomena detected from surface solar radiation measurements and satellite estimations. As a result of this dimming-brightening evolution, the trend in annual sunshine duration over the whole period is non significant. When analyzing seasonal series, sunshine duration in spring shows the best correspondence with the annual series. Contrarily, sunshine duration in winter has a clear, significant, positive trend, specially marked from 1970's.