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## Variability and Trends of Surface Solar Radiation in Europe based on satellite- and surface-based data

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The EUMETSAT Satellite Application Facility on Climate Monitoring (CM SAF) generates satellite-based high-quality climate data records, with a focus on the global energy and water cycle. The new concept of Interim Climate Data Records (ICDRs) that extend the fixed-length Climate Data Records (CDRs) into 'near-realtime' in a consistent way, enables climate monitoring at a higher level of accuracy.

It has been found in recent studies based on surface and satellite data that on average SSR has been increasing in the last 3 decades in Europe (e.g. Sanchez-Lorenzo et al. 2017, Pfeifroth et al. 2018) - especially in spring and summer. Here we use the latest SARAH-2.1 TCDR (1983-2017), potentially together with its corresponding ICDR (2018 onwards), to analyze if the found positive trends in SSR are about to continue. In this respect, the satellite-based data record will be compared and validated with surface measurements given by the Baseline Surface Radiation Network (BSRN), the World Radiation Data Center (WRDC) and the Global Energy Balance Archive (GEBA). A reasonable line of potential reasons for the found spring and summertime brightening in Europe is discussed.