



On the land-sea contrast in the solar resource climatology over Europe

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Understanding the solar energy potential and its spatiotemporal variations is of growing importance as the use of solar energy becomes more and more widespread. Here, we utilize existing satellite records of the solar surface radiation (SSR; also called global radiation) over Europe to quantify the land-sea contrast in the solar resource climatology. It is well known that clouds tend to form more frequently over land than over the sea, in particular during the summer half of the year. However, this is something that seems not to have raised significant attention in solar resource mapping studies. Our preliminary results indicate a relatively strong summer time land-sea contrast in the climatological SSR over all countries surrounding the Baltic Sea. At Helsinki and Heringsdorf (German Baltic coast), for example, moving ca 50 km across the coastline corresponds to an increase of 10—15 % in the climatological SSR. Our study aims to scrutinize this land-sea contrast in the SSR on the European scale.