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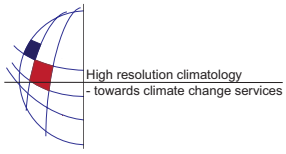

Impact of inter-annual variability of solar radiation on energy supply estimation

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In order to assist solar energy developers, planners and policy-makers for their long term decisions solar radiation variability as a function of main climatic modes (eg ENSO) is explored for Australia. Firstly, high quality in-situ solar radiation observations are used to assess reanalyses products so as to be able to use the latter to extend the relatively short period of the observations. It is found that inter-annual variability of solar radiation over Australia varies on a range of about 20% which, when converted into solar energy yield over say a season, becomes a very important factor in both planning and operations and therefore could severely harm the return on investment for solar energy projects. The advantage of using different reanalyses products for solar radiation, along with their quality, will also be discussed.