Offshore wind resource mapping for Europe by Synthetic Aperture Radar (SAR) satellite data - DTU Orbit (03/12/2018)

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For the New European Wind Atlas (NEWA) project with 8 participating countries during 5 years (March 2015 – March 2020) we will develop a new wind atlas covering most of the European countries as well as most of the offshore areas in Europe. For the offshore atlas we will rely on a combination of satellite remote sensing observations and atmospheric modelling. The satellite data include Synthetic Aperture Radar (SAR) from the European Space Agency from Envisat and the Copernicus mission Sentinel-1. SAR has the advantage of high spatial resolution such that we can cover near-coastal areas where many wind farms are planned. In the Danish RUNE project near-shore offshore winds are investigated from SAR, atmospheric modelling and ground-based remote sensing lidar. In the European Space Agency project ResGrow SAR wind resource maps at various locations in the European Seas are used to estimate the wind resource at specific sites highly relevant for wind farming. The SAR-based methodology for offshore wind resource assessment and selected results are presented.

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