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Offshore wind resource mapping using satellite observations

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Offshore wind mapping using satellite observations has been developed in the last decade. The archives of scatterometer and SAR images useful for ocean wind mapping contain data from around 8 to 15 years. For the statistical analysis it is important to include high numbers of observations. For scatterometer the wind resource analysis can be done based on around 6.500 individual readings, i.e. two observations daily since July 1999. Comparison results between meteorological observations at the Horns Rev offshore wind farm has been shown to compare well with QuikSCAT winds. Also SAR-based wind mapping has been compared to the same observations with good results. At present new analysis using more observations, available through the ESA EO Scandia-SAR project, show new maps of offshore winds in the North Sea and Baltic Sea. During year 2009 the first analysis for the new EU-Norsewind project (2008-2012) will be conducted. This project aims to map wind resource for a large offshore region in Northern Europe based on satellite, lidar and masts offshore.