Wind Atlas of Aegean Sea with SAR data - DTU Orbit (09/11/2017)

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The Global Wind Atlas project is established to create a “free-to-use” wind atlas of the whole globe. The modelling chain of the project includes micro-scale models and new reanalysis datasets. Local measurements are planed to be use for test and validation. Unfortunately, it is not always possible to find long term offshore measurement to make wind statistics. The main reason is the cost of setup and maintenance of an offshore mast. One of the regions which has high potential in wind resources but so far is without any long term offshore measurement is the Aegean sea. Recent developments in satellite radar technologies made it possible to use Synthetic Aperture Radars (SAR) for wind speed and direction measurements at offshore locations. In this study, a new technique of making wind atlases is applied to the region of Aegean Sea is presented. The method has been tested and validated in the North Sea and Baltic Sea but it is the first time it is used for a large scale Mediterranean area. The available dataset is provided by European Space Agency’s ENVISAT mission and recorded between 2002 and 2012. The presented method gives the ability to calculate the wind resource map of an offshore location including statistical parameters to be used in wind resource assessment models/software.

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