
Operating in risky sand and dust storm environments in Northern Africa, the Middle East and Europe: a portfolio of climate services

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Abstract

Over the last few years, there has been an increasing need for Sand and Dust Storms (SDS) accurate information and predictions. SDS information is fundamental to support early warning systems, and preparedness and mitigation plans in addition to growing interest from diverse stakeholders in the aviation sector (including airlines, airports, engine manufacturers) and solar energy (plant operators and market consultants).

The ongoing ERA4CS "Dust Storms Assessment for the development of user-oriented Climate services in Northern Africa, the Middle East and Europe" (DustClim) project is enhancing our knowledge on the way SDS affect society by producing and delivering an advanced dust regional reanalysis. The resulting 10-year (2007-2016) dust reanalysis covers Northern Africa, the Middle East and Europe at a horizontal resolution of around 10km. This data set has been obtained by combining satellite remote sensing observations based on MODIS Deep Blue dust-filtered retrievals with the MONARCH chemical weather system.

Here, we will present our approach to developing purpose-specific products that help air quality, aviation and solar energy production industry in understanding and reducing SDS-related risks for long-term managing purposes. This process includes the identification of

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SDS-related 'objective threats', the dialogue with the identified final users (that includes industry partners and public stakeholders) and the portfolio of proposed services.

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