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Description

Sand and dust storms (SDS) are an important threat to life, health, property, environment and economy in many countries, and play a significant role in different aspects of weather, climate and atmospheric chemistry. There is an increasing need for SDS accurate information and predictions to support early warning systems, and preparedness and mitigation plans. In alignment with the mission of the WMO Sand and Dust Storm Warning Advisory and Assessment System, DustClim will make a major step forward in the way SDS affects society by producing and delivering an advanced dust regional model reanalysis for Northern Africa, Middle East and Europe covering the satellite era of quantitative aerosol information, and by developing dust-related services tailored to specific socio-economic sectors.

The novelties of the DustClim reanalysis include its unprecedented high-resolution, the assimilation of satellite products over dust source regions with specific dust observational constraints, and a thorough evaluation using a wide variety of observations and data from experimental campaigns. There is currently a very limited integration of dust information into practice and policy. In this context, DustClim will not only provide reliable information on SDS trends and current conditions, but will also develop dust impact assessment pilot studies for three key economic sectors (air quality, aviation and solar energy). Since the beginning of the project, there will be a continuous exchange between the scientific teams and the main user communities. This collaboration is fundamental for better defining the dust parameters to be investigated and to design and optimise the future provision of dust services.

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