Arctic impact on weather and climate (Blue-Action) (39390) - DTU Orbit (16/10/2018)

**Arctic impact on weather and climate (Blue-Action) (39390)**

Blue-Action will provide fundamental and empirically-grounded, executable science that quantifies and explains the role of a changing Arctic in increasing predictive capability of weather and climate of the Northern Hemisphere. To achieve this Blue-Action will take a transdisciplinary approach, bridging scientific understanding within Arctic climate, weather and risk management research, with key stakeholder knowledge of the impacts of climatic weather extremes and hazardous events; leading to the co-design of better services. This bridge will build on innovative statistical and dynamical approaches to predict weather and climate extremes. In dialogue with users, Blue-Arctic will take stock in existing knowledge about cross-sectoral impacts and vulnerabilities with respect to the occurrence of these events when associated to weather and climate predictions. Modeling and prediction capabilities will be enhanced by targeting firstly, lower latitude oceanic and atmospheric drivers of regional Arctic changes and secondly, Arctic impacts on Northern Hemisphere climate and weather extremes. Coordinated multi-model experiments will be key to test new higher resolution model configurations, innovative methods to reduce forecast error, and advanced methods to improve uptake of new Earth observations assets are planned. Blue-Action thereby demonstrates how such an uptake may assist in creating better optimized observation system for various modelling applications. The improved robust and reliable forecasting can help meteorological and climate services to better deliver tailored predictions and advice, including sub-seasonal to seasonal time scales, will take Arctic climate prediction beyond seasons and to teleconnections over the Northern Hemisphere. Blue-Action will through its concerted efforts therefore contribute to the improvement of climate models to represent Arctic warming realistically and address its impact on regional and global atmospheric and oceanic circulation. The project is coordinated by DMI, Denmark and is funded by EU Horizon 2020 Programme Blue Growth.

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