



Integrated approach for the development across Europe of user oriented climate indicators for GFCS high-priority sectors: Agriculture, disaster risk reduction, energy, health, water and tourism

Work Package 6

Deliverable 6.3

Report on the reliability and uncertainties associated with the (hindcast-type) seasonal forecasts of selected sectorial INDECIS indices



European Research Area
for Climate Services



Climate



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Overview

In order to investigate the added values of the INDECIS-ISD, a series of pilot sectorial applications have been developed, aiming to assess the applicability of INDECIS-ISD in terms of seasonal forecasting as well as the sectorial climate change impact based on INDECIS derived indices in the context of the latest climate change scenarios.

This report focus on the applicability of INDECIS-ISD in terms of seasonal forecasting. To this end, the skills of seasonal forecast systems and the applicability of seasonal forecast outputs for 3 sectors (agriculture, energy and tourism) have been evaluated through a series of selected indices from INDECIS-ISD. Reliability and uncertainties have been estimated using standard verification methodology. The comparison allows to assess the quality and usability of newly developed sectorial indices at seasonal scale, for monitoring and/or early-warning purposes and it also contributes to the design of basic semi-automated free climate services (e.g. monitors and watches) prepared to meet general sectorial needs.

The work has been organized around several **pilot studies**, focusing on areas with different environmental conditions in North Sea, Spain and Finland and the results are presented in the annexes to this report:

Annex A:

Seasonal predictions of wind-power-derived indices: A case study in the North Sea

Authors: Jaume Ramon, Llorenç Lledó (Barcelona Supercomputing Center, Barcelona, Spain)

Annex B:

Seasonal forecast for the wine sector – Douro Valley case study

Authors: Nube González-Reviriego and Raül Marcos-Matamoros (Barcelona Supercomputing Center, Barcelona, Spain)

Annex C:

Applications of seasonal forecasting for agriculture, winter tourism and hydropower

Authors: Andrea Vajda, Otto Hyvärine, Tiina Ervasti, Alexey Karpechko, Jaakko Ikonen (Finnish Meteorological Institute, Helsinki, Finland)

Annex D:

Seasonal predictability of Fire Weather Index (INDECIS-ISD 128) components over Europe

Authors: Rodrigo Manzanas, Joaquin Bedia, Ana Casanueva, Manuel del Jesús, Sixto Herrera (UC/IHC)