Best practices of DHF monitoring and forecasting
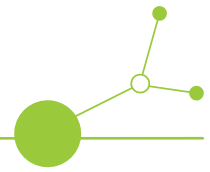
BEST PRACTICES OF DHF MONITORING AND FORECASTING

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Report description

The goal of this deliverable is to assess the state of the art of drought, heatwave, and fire weather (DHF) monitoring and forecasting. This is described in: Catalogue of best practises in DHF monitoring – analysis report. The report consists of three parts: 1) a spreadsheet summarizing the characteristics of the tools and products operated by the Clim4Cast partners and other state-of-the-art DHF systems (*DHF_Catalogue.xlsx*); 2) partner reports of their practices of DHF monitoring and forecasting (*Partners_DHF_tools.pdf*) in which each Clim4cast partner described in detail the DHF systems they, or their associated partners, operate, described their methodologies, and pointed out their advantages and disadvantages; 3) the report on state-of the art of DHF monitoring and forecasting systems (*Review_report_DHF.docx*) which summarizes the results from point 1) and 2) and shows preliminary conclusions on the lessons learnt.

In the first step outlined above, we collected all required technical information about DHF systems in the excel file. This summarizes the data of 21 online drought tools. Most of these tools utilize multiple variables for drought monitoring and forecasting (e.g. Standardized Precipitation Index, Evaporative Stress Index, or soil moisture anomalies) that are then presented as spatial layers. Hence, we have described around 100 systems/information layers in total for droughts. For fire weather there are 11 tools showing a total of 40 layers (e.g. Fire Weather Index, fire danger, or burnt area), and 12 tools for heat-stress showing around 30 layers (e.g. thermal comfort, heat stress). The collected technical information of these layers include, for example, the used input data, models, temporal and spatial resolution, and forecasting time.

In the partners report of their DHF systems, we describe the tools in more detail. In addition, we summarize our conclusions from the various years they have been in use - i.e., what are the strengths and potential improvements of our tools. This includes information from each partner about a total of 50 layers for DHF monitoring and forecasting.

This Catalogue of best practises in DHF monitoring – analysis report is one of the key objectives of Clim4cast. It assesses the state-of-the-art of DHF monitoring and forecasting not only operated by the project partners but also other tools, products, and platforms that exist around the World.