Output Factsheet

Output title: Pilot implementation of Drought Watch – 1st Pilot Action (O6.1a)

Summary of the output (max. 2500 characters)

Drought User Service, later renamed and branded as "Drought Watch", was tested over the 5 partner countries of DriDanube consortium: Czech Republic, Croatia, Montenegro, Romania and Slovenia. This Pilot action was carried out through performing comparison-analysis of near-real-time Drought Watch products with archived national ground measurements data or other already-established (reliable) national drought monitoring products. Respective partner institution chose different regions in their pilot country (mostly vulnerable areas) and different investigating window (mostly known past drought events) in order to see whether Drought Watch datasets behave in line with ground data (match or mismatch, time delay, under-/over-estimations etc.), and this way test Drought Watch reliability.

The Drought Watch products that were under testing in 5 pilot countries were mostly Soil Water Index (SWI) anomalies, Normalized Difference Vegetation Index (NDVI) anomalies, and reporters' data on status of soil and vegetation obtained from national reporting networks. They were compared to the ground data available, which varied in each of the 5 pilot countries. Examples of ground data used in testing the Drought Watch: thermal (such as heat intensity for the summer season), precipitation (monthly and crop specific interval of the rainfall regime), soil moisture reserve on different depths for different crops (winter wheat and maize), modelled surface water balance, modelled soil saturation.

The observed findings from the analysis revealed that satellite data provided in Drought Watch can be useful for drought monitoring since SWI and NDVI anomalies are generally similar to the ground data information, although there are situations in which differences are observed between the satellite data and soil moisture and meteorological data analysed. This is probably related to the nature of the SWI and NDVI computation and spatial resolution of the instruments, the variables taken in consideration in the calculation of each indicator (SWI/NDVI anomalies, soil moisture).

Contribution to the project and Programme objectives (max. 1500 characters)

The pilot implementation of Drought Watch in 5 partner countries directly contributes to:

- Project specific objective 1: "Improvement of drought monitoring by operational innovative service";
- Project specific objectives 2: "Unification of drought risk assessments";
- DTP Priority Axis 2: Strengthen transnational water management and flood risk prevention; Improve preparedness for environmental risk management;
- DTP Priority Axis 4: Improve institutional capacities to tackle major social challenges; Support to the governance and implementation of the EUSDR.

Contribution to EUSDR actions and/or targets (max. 1500 characters)

With the organization of the national training for stakeholders on use of the tool and final national seminar in 1st-pilot-action participating countries where the results of the Drought Watch were introduced to a wider public (national authorities, stakeholders etc.), and practical testing of the drought indices integrated in the tool, this output has direct contribution to:

1) EUSDR Priority Area 4, Action 12: organisation of DriDanube events to strengthen general awareness;

2) EUSDR Priority Area 5, Action 4: to strengthen cooperation among drought response authorities (early warning system, management); harmonizing regional disaster risk assessment methods and measures also through early detection of drought signals via Drought Watch; comparable data/information system on extreme events integrated into the Drought Watch (also remote sensing datasets).

Performed testing, if applicable (max. 1000 characters)

The output itself presents the testing of Drought Watch tool in 5 out of 10 DriDanube countries (Czech Republic, Croatia, Montenegro, Romania and Slovenia), focusing on known past drought years in respective country (i.e. 2007, 2012, 2013, 2015).

Integration and use of the output by the target group (max. 2000 characters)

Drought Watch was designed in an iterative approach with wide range of stakeholders from all set of target groups – national authorities, sectoral agencies, interested stakeholders including NGOs, as well as interested end-users such as farmers or farmers' associations. At the national drought seminar organized in every pilot country, the results of the Drought Watch were introduced to a diverse group of participants. They expressed their interest in the DriDanube tools and outputs for further use in their operational work. Links to the Drought Watch tool and National Reporters Networks were provided to the stakeholders on several occasions, including before, during and after the national drought seminars.

With good feedback on reliability of the datasets in the tool, the project partner institutions and some interested stakeholders (i.e. national hydrometeorological services, insurance companies and farmer associations) are starting to use the tool more frequently in their operational day-to-day work. It is foreseen that simply knowing of the tool and familiarisation with it would support its operational use and integration-into-work also by wider range of stakeholders.

Geographical coverage and transferability (max. 1500 characters)

In the scope this pilot action, the reliability of Drought Watch products was analysed in 5 partner countries in order to test usefulness of the tool in day-to-day activities of end-users. Findings from the analysis can act as good example and starting point for any further testing of the tool. At the same time, the tool enables wide geographical coverage of integrated datasets that extends beyond the scope of the 5 testing countries – at its widest it covers all Europe while the smallest cross-section of all indices is the territory of 10 DriDanube countries. Therefore, this approach in testing the reliability of Drought Watch dataset can be used in any country under the coverage of certain Drought Watch product.

Durability (max. 1500 characters)
The pilot action reports on results of the testing done for Czech Republic, Croatia, Montenegro, Romania and Slovenia are timeless documents that can be used as a material for any kind of future analysis of the Drought Watch. They also can be a good practice of knowledge-transfer. While this pilot action used the approach of time-specified analysis of past known drought events, the testing of the tool can be performed real-time, means through present checking of the Drought Watch datasets in comparison to the existing national monitoring (in order to use this information as complementary or additional support in regular drought monitoring).
Synergies with other projects/ initiatives and / or alignment with current EU policies/ directives/ regulations, if applicable (max. 1500 characters)
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Output integration in the current political/ economic/ social/ technological/ environmental/ legal/ regulatory framework (max. 2000 characters)
Presenting the Drought Watch tool at numerous occasions and the results of the tool analysis can act as a green sign to many national authorities to use the tool for better monitoring of current (drought) conditions in order to detect its first signs earlier, and to quantify historic drought events. Along with the Danube Drought Strategy, also developed within the frame of DriDanube project, the tool can directly support the cooperation between the emergency response authorities and stakeholders.