

CONCEPT NOTE

Stakeholder Workshop on Earth observation-based information products for drought risk on a national basis

Organized by

DiMTEC, University of the Free State (UFS), South Africa

ZFL, University of Bonn

UNU-EHS

UNOOSA / UN-SPIDER

4 to 8 June 2018; Pretoria and Eastern Cape, South Africa

1. Background

The duration and intensity of droughts have generally increased in several regions of the world. Agriculture is especially affected, triggering direct consequences on food security, health, and the economic situation of a country. In recent years South Africa has been experiencing severe droughts that have affected cities and rural communities in several regions of the country dedicated to agriculture and livestock. Using South Africa as pilot country, the project *Earth Observation Based Information Products for Drought Risk Reduction at the National Level (EVIDENZ)* develops new Earth-Observation-based methods to monitor agricultural impacts due to droughts.

The project consortium has developed workflows which can be used to contribute to the monitoring of the implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030. Therefore, the workflows have been developed in accordance with the *Technical Guidance for Monitoring and Reporting on Progress in Achieving the Global Targets of the Sendai Framework for Disaster Risk Reduction*. The aim is to raise awareness regarding the use of space-based technology for monitoring progress in disaster risk management as recommended in the UNISDR Technical Guidance. These workflows will be given global visibility and will be promoted through the recommended practices included in the UNOOSA /UN-SPIDER Knowledge Portal.

The workflow developed by the Centre for Remote Sensing of Land Surfaces (ZFL) of the University of Bonn and by the United Nations University Institute for Environment and Human Security (UNU-EHS) as part of the EVIDENZ project aims to contribute to the estimation of the number of people engaged in agricultural activities that are affected by droughts. Such an estimation will contribute to assess the effectiveness of efforts conducted by countries such as South Africa to achieve Target B of the Sendai Framework (Substantially reduce the number of

affected people globally by 2030, aiming to lower the average global figure per 100,000 between 2020-2030 compared with 2005-2015).

The first segment of the workflow has been developed by the Center for Remote Sensing of the Land Surfaces (ZFL) using a weighted drought hazard classification based on a set of remote sensing indicators. This segment is based on the vegetation condition index taking into consideration the drought timing and the vulnerable growing stages of crops. The assessment is based on an analysis of phenological metrics and employs a weighted linear combination (WLC).

The second segment of the workflow has been developed by UNU-EHS and builds on the drought hazard classification with the assessment of exposed elements for a quantitative measure of the Sendai indicator B-5 (Number of people whose livelihoods were disrupted or destroyed, attributed to agricultural drought). This part of the workflow makes use of in-situ data generated by the agricultural community, in particular the ministry of agriculture and national authorities that provide socio-economic data. The data on the population involved in agricultural tasks and their socio-economic characteristics has been used to estimate the vulnerability of agricultural dependent population using an indicator-based approach.

Software and data availability plays a vital role in the ability of countries to monitor the impacts of hazards such as droughts. Therefore freely available data and open source software have been used, in combination with complementary in-situ data such as agricultural yield information, population and occupation, to develop the workflows.

The EVIDENZ workflow is presented as a Recommended Practice in the UN-SPIDER Knowledge Portal. The practice includes explicit, step-by-step instructions to its use.

2. Objectives and Expected Outcomes of the stakeholder workshop

The objective of the *EVIDENZ stakeholder workshop* is to make decision makers and technical staff of several institutions of South Africa aware of the workflow developed by ZFL and UNU-EHS to contribute to the estimation of the impacts of droughts on crops and livestock, to understand drought risks and to discuss a methodological approach to implement the use of the workflow. In addition, the workshop will be used to train technical staff on the use of the workflows as presented in the UN-SPIDER Knowledge Portal.

3. Structure of the workshop

The stakeholder workshop in South Africa will include segments in Pretoria and in Eastern Cape. The segment in Pretoria will allow participants from government agencies at the national level to take note of the types of information which can be obtained from the workflow and will include a dedicated training segment for technical participants. The segment in Eastern Cape will target local government officials and stakeholders and as in the case of Pretoria, it will allow participants to take note of the workflow.

Through technical presentations and subsequent discussions, the stakeholder workshop will explore ways to incorporate the use of the workflow by the local government in Eastern Cape and the national government in Pretoria to generate relevant information to be included in the report on progress achieved in the implementation of the Sendai Framework, and to gather feedback from decision makers and from technical staff with regard to refinements of

the methodological approach and to be integrated in the final version of the recommended practices.

The training segment of the stakeholder workshop, to be conducted in Pretoria, will be used to train technical staff on the use of the workflows.

4. Participants

The stakeholder workshop is expected to bring together key decision makers and operational technical audience from the rural development sector, the agricultural sector, water, sanitation, economic and the disaster management communities, space agencies, research and technology entities. The list of suggested agencies to take part in the stakeholder workshop include:

National Disaster Management Centre (NDMC)
Department of Agriculture Forestry & Fisheries (DAFF)
Department of Water & Sanitation (DWS)
Department of Rural Development
Department of Environmental affairs (DEA)
South Africa Satellite Agency (SASA)
Agricultural Research Council (ARC)
Council for Scientific and Industrial Research (CSIR)
DiMTEC, University of the Free State (UFS)
Other Interested Universities
ZFL University of Bonn, Germany
UNU-EHS
UN-SPIDER

5. Working Language

The working language will be English.

6. Contact



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