

CONCEPT NOTE

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

Organized by
Space Research Institute (NASU-SSAU)
ZFL, University of Bonn
UNU-EHS
UNOOSA / UN-SPIDER

14 to 16 May 2018; Kiev, Ukraine

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. Using Ukraine as pilot project country, the project *Earth Observation Based Information Products for Drought Risk Reduction at the National Level (EVIDENZ)* develops Earth Observation information products to monitor direct agricultural loss attributed to drought hazard effects on the economy.

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 (SFDRR) 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 on the UNOOSA/UN-SPIDER knowledge portal.

The workflows developed by the Centre for Remote Sensing of Land Surfaces (ZFL) University of Bonn and by the United Nations University Institute for Environment and Human Security (UNU-EHS as part of the EVIDENZ project contribute to the assessment of the economic effects due to **direct crop loss** of a drought in the year 2015 for the Kyiv region in Ukraine.

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 the United Nations University – Institute for Environment and Human Security (UNU-EHS) and builds on the drought hazard classification developed in the first segment with the assessment of exposed elements for a quantitative measure of the Sendai indicator C2c (direct crop loss). This part of the workflow makes use of in-situ data generated by the agricultural community, including ministries of agriculture and national authorities that provide socio-economic data. Based on the information on crop types, respective yields, and the market value to agricultural products, the direct economic loss of individual crops can be estimated. The data on the population involved in agricultural tasks and their socio-economic characteristics has been used to measure the vulnerability of agricultural dependent population using an indicator-based approach. The workshop will be used to present the two segments of the workflow.

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 promote accessibility and usage.

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 Ukraine aware of the workflows developed by ZFL and UNU-EHS to assess the impacts of droughts, and to discuss with decision makers ways to incorporate the use of the workflows to generate data to be incorporated in the reports related to the indicators of the SFDRR. 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 workshop will be divided into two segments. The first segment, to be conducted in the premises of the National Academy of Sciences of Ukraine, will be used to make decision makers and technical staff of several institutions of Ukraine aware of the workflows developed by ZFL and UNU-EHS to assess the impacts of droughts, and to discuss with decision makers ways to incorporate the use of the workflows to generate data to be incorporated in the reports related to the indicators of the SFDRR

Through technical presentations and subsequent discussions, this segment of the workshop will explore ways to incorporate the use of the workflows by the government of Ukraine to report on progress achieved in the implementation of the SFDRR, and to gather feedback from decision makers and from technical staff about refinements of the methodological approach to be integrated in the final version of the recommended practices.

The second part of the workshop will be a training activity targeting more technical staff, to be conducted at the National Technical University in Kiev. It 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 agricultural sector, the economic and the disaster risk reduction communities, space agencies, research and technology entities. The list of suggested agencies to take part in the stakeholder workshop include:

Ministry of Agrarian Policy and Food of Ukraine
Institute of Agroecology and Environmental Management
Ministry of Ecology and Natural Resources of Ukraine
Ukrainian Hydrometeorological Centre
State Water Resources Agency of Ukraine
State Emergency Service of Ukraine
National Scientific Center "Institute for Soil Science and Agrochemistry Research named after A.N. Sokolovsky"
The Space Research Institute of National Academy of Science of Ukraine and State Space Agency of Ukraine
The Institute of Water Problems and Land Reclamation NAAN
National Centre of Management and Testing of Space Facilities
ART-Grain LLC
World Data Center for Geoinformatics and Sustainable Development
United Nations Convention to Combat Desertification (UNCCD)
ZFL University of Bonn, Germany
UNU-EHS
UN-SPIDER

5. Working Language



The working language will be English.

6. Contact

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