



User-driven platform to facilitate community data access, collaboration, and knowledge sharing on Nature-Based Solutions as mitigation measures for hydro-meteorological hazards

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In the context of disaster risk management and climate change adaptation, Nature-based Solutions (NBS) are being increasingly recognized and promoted as viable measures against hydro-meteorological hazards, while also being able to provide a range of environmental, social, and economic benefits. Yet, the employment of NBS to mitigate the impact of hydro-meteorological phenomena remains still sporadic and uncoordinated at the global and European level.

In order to assist competent authorities, practitioners and other stakeholders in developing successful NBS interventions for hydro-meteorological risk mitigation and climate change adaptation, while also raising general public awareness and community stewardship of NBS, the EU-H2020 project OPERANDUM has recently launched a multi-dimensional, open and user-friendly web-platform called GeoIKP (Geospatial Information Knowledge Platform).

GeoIKP follows a multi-stakeholder approach demonstrated through the integration of multiple modules related to science, policy and practice. This contribution offers an overview of GeoIKP and discusses in detail some of the innovative aspects and tools of the platform. It represents the first example of NBS web-platform with advanced interface customization. Functionalities and graphical interfaces are tailored to match specific user needs and interests for six different user profiles: 1) policy bodies (from international to local level), 2) knowledge-based organizations (research institutions, labs and data providers), 3) companies or private businesses, 4) associations, interest groups and grass-roots movements, 5) citizens and 6) other affected or interested parties (e.g. media outlets).

The platform combines the latest scientific and technological knowledge on the topic gathered within OPERANDUM with advanced webGIS functionalities, analytical algorithms, and a comprehensive repository for NBS data (and metadata) management and cataloging. The highly structured and comprehensive data model adopted here enables to query the database and/or filter the results based on a multitude of individual parameters which encompass all different dimensions of NBS (e.g. geophysical, societal, environmental, etc.). This not only allows for a

straightforward and automatic association to one or more thematic aspects of NBS, but also enhances standardization, discoverability and interoperability of NBS data in the context of disaster risk management and climate change adaptation.

Among its functionalities, GeoIKP offers an interactive map which enables users to visualize and combine in real time geo-referenced datasets on a variety of thematic areas (hydro-meteorological hazards and associated socio-ecological risks, land cover/use characteristics, climate, Earth and ground observations, etc.), thus providing evidence-base support for the planning and management of NBS in a given geographic area. Through the map, the user can also access a geo-catalogue of existing NBS, and thus discover how NBS have been employed worldwide for hydro-meteorological risk reduction and climate change adaptation. At the same time, the platform serves as a hub for the growing NBS community to share information, tools, data, and experiences to reduce hydro-meteorological hazards. For example, scientists and practitioners can freely contribute to GeoIKP data repository as well as to the NBS catalogue, while the “Citizen Stories” functionality gives a voice to vulnerable, affected or concerned citizens to share personal experiences of how and why they started applying NBS to their areas, and to inspire others to take action.