Introduction

Nature-based solutions (NBS) are gaining a central role in disaster risk reduction for socio-ecological systems (SES) in Europe but also globally. This trend can be reasoned by the numerous advantages that solutions inspired by nature have over grey solutions: sustainability, lower natural exploitation as well as a compound focus on SES and co-benefit estimation [1]. The selection of the most suitable NBS for a given location is a crucial part in NBS design considering possible negative impacts. Therefore, the suitability and effectiveness need careful examination. A few approaches are available: identifying the right location based on hydro-morphological characteristics [2]; a flood retention and catchment approach [3]; or a location assessment guidance for national level [4]. However, these approaches are lacking values such as integration of multiple hazards and multi-hazard; taking into consideration future changes in climate and society; Europe-wide applicability on small scale.

Methods

The recommendation is given based on a geospatial analysis across multiple datasets. For each dataset, results are compared with a set of associated indicators which were selected based on literature review and were classified into several classes. For every indicator, a percentage is given which determines how suitable indicator is for a certain NBS.

Future Challenges

- Integration of Climate Change Projections; Risk Assessment; NBS in a Multi-hazard Context
- Effective Implementation in Decision-making
- Development of clear user workflows in co-design with NBS practitioners
- Strengthening end-users’ engagement

Objective

The objective is to provide an easy-to-use interactive analytical engine to support decision-making on NBS design. The engine will provide a science-based analysis of the socio-ecological factors in a selected area within Europe. Based on this and additional factors, it will recommend most suitable NBS for tackling hydro-meteorological hazards.

Resources