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Multi Criteria Evaluation Module for RiskChanges Spatial Decision Support System

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Multi-Criteria Evaluation (MCE) module is one of the five modules of RiskChanges spatial decision support system. RiskChanges web-based platform aims to analyze changes in hydro-meteorological risk and provides tools for selecting the best risk reduction alternative. It is developed under CHANGES framework (changes-itn.eu) and INCREO project (increo-fp7.eu). MCE tool helps decision makers and spatial planners to evaluate, sort and rank the decision alternatives. The users can choose among different indicators that are defined within the system using Risk and Cost Benefit analysis results besides they can add their own indicators. Subsequently the system standardizes and prioritizes them. Finally, the best decision alternative is selected by using the weighted sum model (WSM). The Application of this work is to facilitate the effect of MCE for analyzing changing risk over the time under different scenarios and future years by adopting a group decision making into practice and comparing the results by numeric and graphical view within the system. We believe that this study helps decision-makers to achieve the best solution by expressing their preferences for strategies under future scenarios.

Keywords: Multi-Criteria Evaluation, Spatial Decision Support System, Weighted Sum Model, Natural Hazard Risk Management