Abstract

In this research a method to geospatially evaluate fluvial flooding in Central Vietnam was developed, aiming to provide planners in Central Vietnam with a sectoral input to spatially identify and prioritize strategies and measures to be implemented in spatial planning. The method was developed in the Vu Gia / Thu Bon basin in Central Vietnam as a direct input for spatial planning on regional and provincial level. The developed method to geospatially evaluate fluvial flooding provides the planners with the spatial aggregation and combination of the need for action, based on risk hot spots, suitability of locations, based on the location attractiveness, and the fulfilment of a protection goal, defined by land use and design flood event. The assessment of spatial planning and flood management in Vietnam and a comprehensive system assessment of the lowland based on the cause – pathway – receptor – consequences model were carried out as fundament of the method, providing fundamental results for the transfer within Central Vietnam. The method is based on the application of geographic information system software. The method developed in this research specifically takes into account regional and local aspects of climate and hydrology as well as socio-economic aspects in Central Vietnam such as rapid development, intensive space requirements and high spatial dynamics but also the currently limited spatial and temporal information.

Keywords: spatial planning, fluvial flood, geospatial evaluation, geographic information system, Vu Gia, Thu Bon, Central Vietnam