

## **Environmental and geomatics assessment of the Ha Thanh basin to hydrological hazards in central Vietnam**

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**Abstract** The Ha Thanh River (Binh Dinh Province-Central Vietnam) is poorly known. With a basin of 620 km<sup>2</sup> this fluvial system is very short (58 km) between the upper basins and delta floodplain (supplying the Thi Nai lagoon). This basin is affected by a typhoon season (October–November). The Ministry of Natural Resources and Environment of Vietnam (2009) reported that this delta will be affected by environmental changes by 2100: hydro-level rise the sea in central Vietnam; increased frequency and intensity of rainfall. In parallel, the urban projects in the Ha Thanh Basin could make human societies more vulnerable to hydrological risks. This paper presents the main concepts of the environmental assessment of the catchment using hydrological modelling and GIS. The entire process is carried out in a Geographic Information System, which could become a tool for the management and monitoring of the hydrology in Ha Thanh Basin.

**Key words** Vietnam; Ha Thanh River; hydrology; modelling; geomatics; environmental changes