



High resolution numerical terrain model for the Romanian Danube plain as a basic tool for major flood risk assessment

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As a possible direct consequence of the climate perturbations the extreme events start to affect significantly the humanity at the national scale e.g. Danube floods in Romania. In this context a unique work was performed in 2007 over the whole Romanian Danube plain in order to elaborate a very high resolute numerical model of the terrain. Thus about 600.000 ha distributed along 1000 km and variable widths from 1 km to 80 km large were scan from 600m altitude using the LIDAR technique allowing 5-10 cm vertical and 3-4 points/m² horizontal resolution data. The ground references were assured by a new geodesic network of points. The complementary VIS and IR observations of the area were also taken from 5000 m and a horizontal resolution of 20 cm. After the presentation of the results from the field campaign, the scientific challenges to use this huge and precise digital model as basic input for the hydrological models will be also particularly pointed out.