



Teaching land-use planning in a flood prone area with an educational software

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Teaching of flood risk mapping and mitigation is a necessary task in geosciences studies. However, there is often a gap between the theoretical hydraulic notions broached during the courses and the possibility to make use of them in practice by the students during supervised computer lab exercises. This is mainly due because professional models/software have a steep learning curve and the lecturer spend most of his time to explain how to make such or such operation with the software.

To overcome this shortcoming, an educational software was developed, which is made of three main modules:

- 1) A user-friendly graphical interface (GUI), allowing for handling geographical data and creating thematic maps (Geographical Information System (GIS) module);
- 2) A flood model (hydrological and inundation models) part allowing for freeing student as much as possible from the repetitive and tedious tasks related to modeling issues, while keeping reasonable computational time;
- 3) A land use planning module, which allow for specifying mitigation measures (dikes and levees building, flood retention, renaturation, ...) and for evaluating their effects by re-running the flood model.

The main goal of this educational software is to provide a smooth approach to the modeling issue, without losing the focus on the main task which is flood risk reduction.