Natural Hazards and Earth System Science
An Open Access Journal of the European Geosciences Union

Nat. Hazards Earth Syst. Sci., 10, 1523-1530, 2010
www.nat-hazards-earth-syst-sci.net/10/1523/2010/
doi:10.5194/nhess-10-1523-2010

Tight coupling UFMArcGIS for simulating inundat depth in densely area

S. H. Kang
Dept. of Civil Engineering, Kangwon National University, Samcheok, Repu Korea

Abstract. The integration of hydrological models and Geographical Information Systems (GIS) usually takes two approaches: loose co and tight coupling. This paper presents a tight coupling approach v GIS environment that is achieved by integrating the urban flood m the macro language of GIS. Such an approach affords an uncompli way to capitalize on the GIS visualization and spatial analysis func thereby significantly supporting the dynamic simulation process of hydrological modeling. The tight coupling approach is illustrated by UFMArcGIS (Urban Flood Model with ArcGIS), which is a realization urban flood model integrated with the VBA (visual basic of applicat language of ArcGIS. Within this model, major stages of model struc are created from the initial parameter input and transformation of datasets, intermediate maps are then visualized, and the results a presented in various graphical formats in their geographic context. approach provides a convenient and single environment in which u visually interact with the model, e.g. by adjusting parameters whil simultaneously observing the corresponding results. This significan facilitates users in the exploratory data analysis and decision-mak stages in terms of the model applications.

Full Article (PDF, 1964 KB)

Citation: Kang, S. H.: Tight coupling UFMArcGIS for simulating inun depth in densely area, Nat. Hazards Earth Syst. Sci., 10, 1523-153 doi:10.5194/nhess-10-1523-2010,
2010. Bibtex EndNote Reference Manager XML