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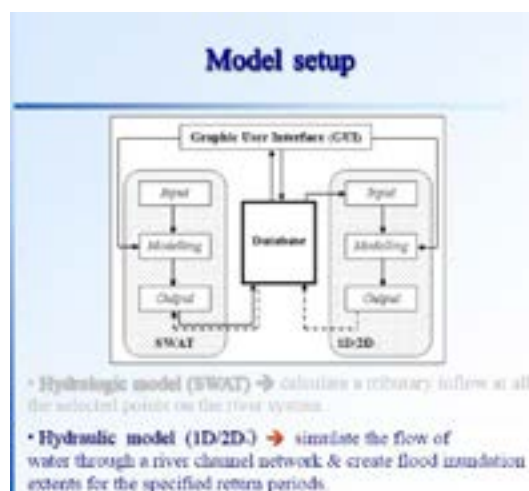
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Monitoring simulation for flood risk prediction using 3D analysis and SWAT in Ary creek watershed

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For many years, the Ary creek watershed in Inverloch has been flooding and causing great problems to the inhabitants as well as the environment. This study uses the real-time simulation in ArcGIS 10.3 and 3D in ArcScene 10.3, and the variables obtained from the soil and water assessment tool SWAT such as the land use, soil and slope are the parameters measured to induce the flood. When certain portions of the hydrologic response unit (HRU) land use, soil or slope is changed due to temporal adjustment and climate change, then the model can predict zones of low, moderate and high flood risk. The 3D simulations appear to produce a visual model for decision-making, planning, management and mitigation. The simulation helps in determining the extent of the flood by using animation.



Recent Publications

1. Lin G F, Chou Y C and Wu M C (2013) Typhoon flood forecasting using integrated two-stage support vector machine approach. J Hydro 486:334-342.
2. Javier JRN, Smith JA, Meierdiercks KL, Baeck ML and Miller AJ (2007) Flash flood forecasting for small urban watersheds in the Baltimore metropolitan region. Wea Forecast 22:1331-1344.
3. Mah Y S, Lai S H, Chan R A and Putuhena F J (2012) Investigative modelling of the flood bypass channel in Kuching, Sarawak, by assessing its impact on the inundations of Kuching-Batu Kawa-Bau expressway. Struct infrastructure E 8:705-714.

Biography

Sultana Nasrin Baby has been a Senior GIS Officer at the City of Whittlesea in Melbourne Australia for the past 3 years. Prior to this role she worked at Bass coast Shire Council. She is also pursuing PhD in the School of Mathematical and Geospatial Sciences at RMIT University. She has completed her double Master's degree in GIS and Remote Sensing at Dhaka and Monash University. Her interests are geospatial science applications in water resources, exploring new spatial technologies and climate change modeling.

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