

Use of Advance Technology for Better Modeling and Risk Mapping

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There are many hydrologic and hydraulic models that are available for modeling and these models range from a simple to complex, steady state, unsteady state, and two-dimensional (2-D) models. The modelers have to make choices in selecting the appropriate software based on condition of study site, the level of analysis, professional experience and cost so that they can understand the extent of flooding and accordingly map the floodplain or risk. This paper deals with two complex flooding problems modeled and mapped using 1D/2D model and compared with the effective maps. These advance models give a lot of extra information about depth, vector flow, conveyance zone to make a better decision.

Harris County is the third largest county and it is subject to frequent heavy rainfall and flooding. This paper shows our effort to understand the complex flooding phenomena verifying with some flooding events and coming up with a map that better represent the flooding conditions and finally the visualization of the flooding.

This presentation will try to explain the advantage and disadvantage of using such advance models to better understand such complex problems related to flat terrain flooding. The author will share his experience and thinks this type of analysis will help to protect future flood damage by informing the risk.

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