

2D Issues and FMA



Resolving Issues Associated with 2-D Modeling and Mapping

By

Thomas Plummer



then to now...



1- Day of 2-D Highlights

2-D MODELING SYMPOSIUM INTER. Sacramento, California * S

Kathy Schaefer, Symposium

SYMPOSIUM OBJECTIVE: To discuss issues and identify needs communities regarding the use of 2-Dimensional hydraulic modeling for riverine flood analysis.



(Speakers at the Symposium and participants in the Challenge N

2D MODELING 5-STEP REVIEW PROCESS



ACTIVITIES

- 8:30 WELCOME AND INTRODUCTIONS
- 8:50 HOW DO 1-D AND 2-D MODELS MAKE THEIR WAY ONTO FEMA MAPS AND HOW DO COMMUNITIES USE THIS INFORMATION TO ADMINISTER THE NATIONAL FLOOD INSURANCE

1. FMA ACTIVITIES

- Late 2011 – Call from Kathy Schaefer To Board of Directors
- Early 2012 – Technical Committee changed to “Modeling and Mapping Committee (M&MC)”
- Early 2012 – M&MC discussions focus on 2D modeling... there is a suggestion for Benchmarking Tests
- 2012 Conference Planning: M&MC introduces plan to host full day symposium on 2-D modeling at the 2012 FMA Conference.
- February 2012, M&MC announces intent to release 2-D Challenge Model data sets for modelers and software companies to perform. Results will be delivered at the Symposium

1. FMA ACTIVITIES

- May 2012 – M&MC posts Challenge Model Data Sets
- August 2012 – M&MC reviews challenge model results
- September 4, 2012 – M&MC hosts symposium
 - The sometimes contentious discussions of the symposium, produced a list of 47 issues regarding 2D-modeling that needed further evaluation and discussions

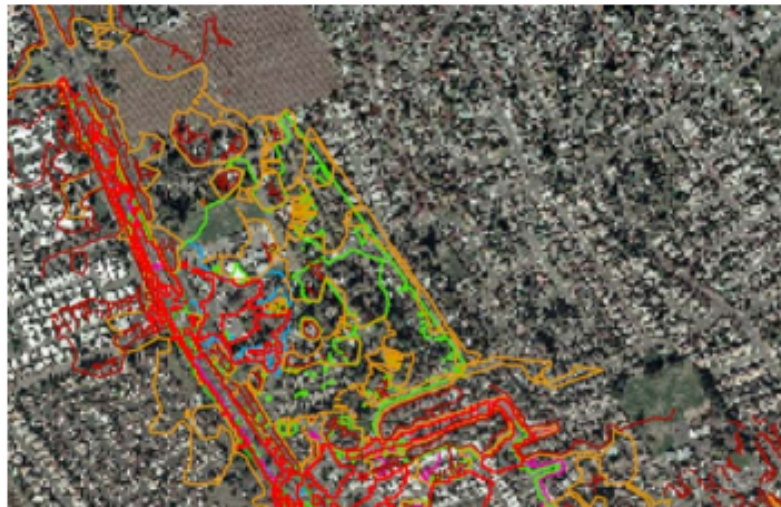
1. FMA ACTIVITIES

- Sept 4, 2012 – Challenge Model Results



FMA – 2D Challenge Models 2012

Three Challenge Model Data Sets were issued in July of 2012. Each Challenge Model was setup to test different aspects of 2-D modeling, and the issues associated with deriving flood maps from the results of 2-D models. For each data set, the data provided was aliased to non-real world coordinates in order to keep the data set anonymous.



Challenge Model 1 – Urban Riverine System: Challenge Model 1 represents an urban Riverine condition with an urbanized overbank floodplain. The model includes several hydraulic structures/bridges within the main stream system which will impact flood elevations. Flooding within the urbanized overbank floodplain is expected. The data provided for Challenge 1, included source data from a mixture of both Statute and Metric

Units. The data was obtained directly from the documentation for the effective models submitted to FEMA.

1. FMA ACTIVITIES

- 2013 – CA DWR & FEMA
CONVENE BLUE RIBBON PANEL

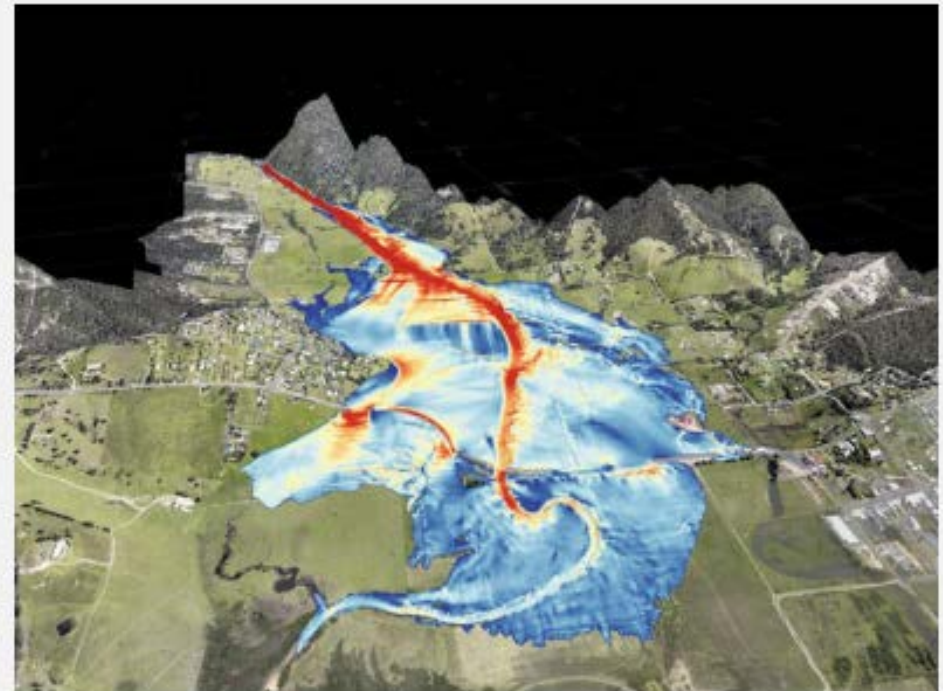
- To Review the 47 issues.

- Sept. 2013 – Follow-up half day conference held. Blue Ribbon Panel discussions were ongoing, but some elements were shared.

- 2014 – “On the issues associated with 2-D modeling for flood mapping purposes” was issued.

On the issues associated with 2-D modeling for flood mapping purposes

Devinder S. Dhillon, Fabián A. Bombardelli, Wm. E. Fleenor and Kaveh Zamani



1. FMA ACTIVITIES

- 2014 – Conference Discussion need for additional:

- Guidance documents
- Best Practices Manuals
- Research

- 2015 – FMA initiates research on available worldwide guidance and best practices documentation.

- 2015 – Conference Discussion on additional Research needs

MESH:



GRID:



1. FMA ACTIVITIES

- 2016 – Conference Panel on Available US based Guidance Documents:
- 2017 – Draft of Preliminary Guidance for the review of 2-D models issued at conference workshop.
- 2017 – Information Sharing Posters

MESH:



Questions?

FMA PARTICIPATION



Resolving Issues Associated with 2-D Modeling and Mapping

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