

Lightning Talk

Using SLOSH MEOWs to create potential surge and estimate inundation depth at critical facilities

September 13, 2016

Richard Butgereit, GISP – Florida Division of Emergency Management

Jason Ray – Florida Division of Emergency Management

Lesson Learned or Model Practice Synopsis

- Using an ArcMap tool extension developed within the State of Florida, SLOSH MEOWs may be used to create a potential storm surge product that can then be used to analyze inundation depth estimates for affected critical facilities.
- SLOSH MEOWs can be used to estimate an approaching storm – selecting direction, category, forward speed and tide -- and analyzed using available high-resolution digital elevation models.

Screenshot

SRES Surge Tool v3.2

File Utilities **Florida Multi-Surge Model**

Output Folder: W:\SRES\SRES_Surge_Depth_Model\Mo

Scratch Folder: C:\Temp

GDB Name: W:\SRES\SRES_Surge_Depth_Model\Model_R

Elevation

SLOSH

Sea Layer

Basin Selection

Cursor File

Basin Type

MOM MEOW

Raster Cell Size

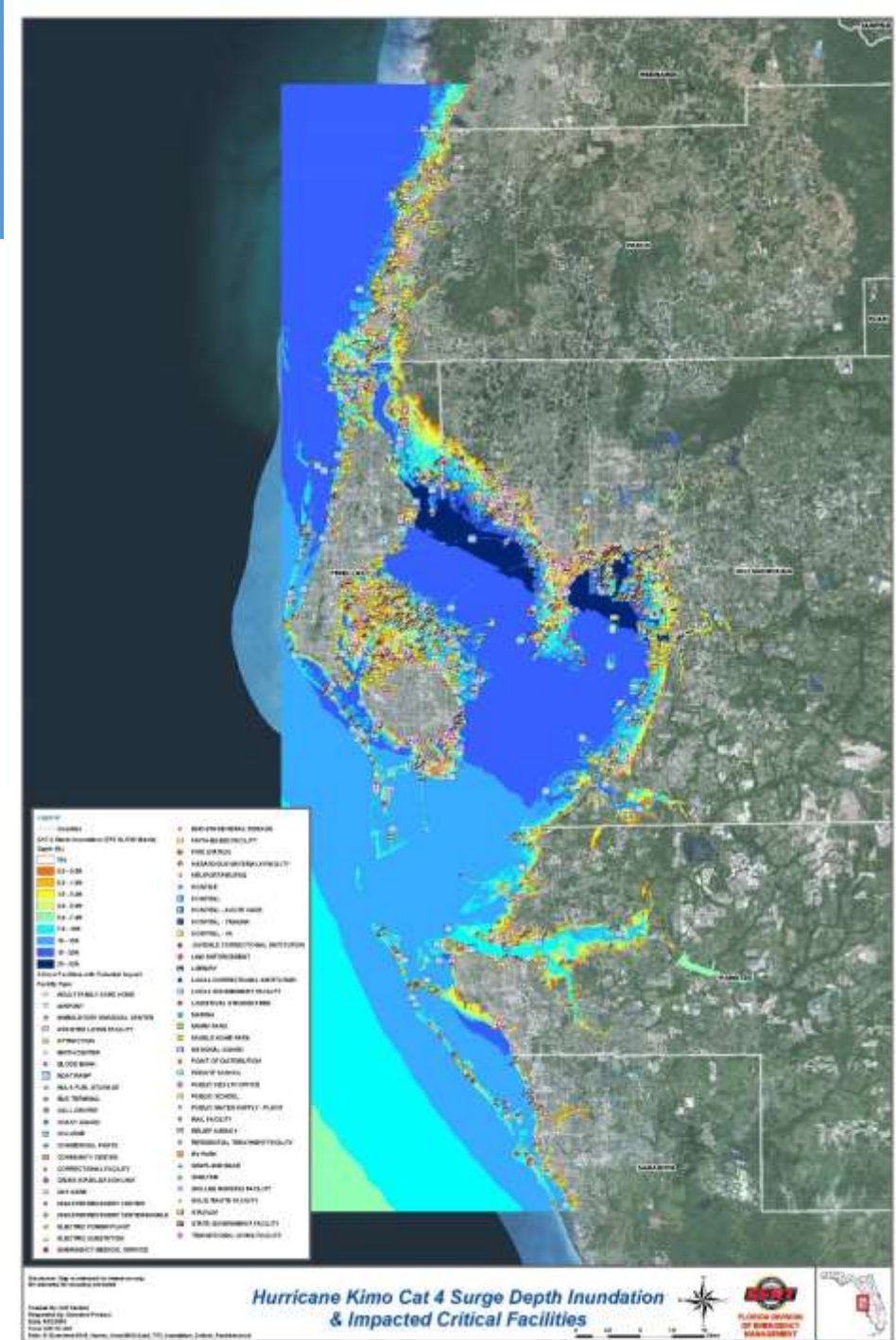

10

Process up to Category 5

Output

Limits Depth

All Layers should be in: FDEP_Albens_HARN



Outcomes Achieved in Implementation

- Outcome achieved is an inundation depth grid for a specific hurricane scenario which may be used with ArcMap Spatial Analyst Extract Multi-Value to Point tool to append estimated above-ground-level flooding at selected locations (i.e. critical facilities and roads) to determine impacts from hurricane storm surge.

Take-Away Message

- National Hurricane Center has now implemented potential storm surge data in support of hurricane forecasting. However, availability of this product has so far been limited to 1 actual storm (Hurricane Hermine). Therefore, the data is not available to support exercises nor agency specific analyses.
- State and County agencies susceptible to storm surge may understand how they may use existing SLOSH data to create inundation depth grids to meet their needs and perform agency specific analyses and be better prepared to use National Hurricane Center specific-track forecasts to support emergency operations.
- This information allows emergency managers to better understand storm surge inundation hazards.