

Recommended Edits to the 6-8-15 Draft Computer Flood Standards

Flood Standards Development Committee Meeting

June 30 – July 1, 2015

CF-2, Flood Model Requirements

Purpose

Professional Team: **Technical/Editorial**

Amendatory Language:

3. **Functionality:** For example, make the software design at the topmost level a dataflow diagram containing the following components: FLOODS, TERRAIN, FLOOD ~~EXTENT~~ELEVATION AND DEPTH, ~~AND~~ WAVE CONDITIONS, FLOOD EXTENT, DAMAGE, and LOSS COSTS. Write the low-level code in Java.

CF-3, Flood Model Architecture and Component Design

Purpose

Professional Team: **Technical/Editorial**

Amendatory Language:

Component-based design is essential in creating software that reduces errors and promotes comprehension of the role for each component. Moreover, the component network needs to be shown to operate “as a whole.” Example components include FLOODS, TERRAIN, FLOOD ~~EXTENT~~ELEVATION AND DEPTH, ~~AND~~ WAVE CONDITIONS, FLOOD EXTENT, DAMAGE, and LOSS COSTS, and the major components of each. The purpose of each example component is, as follows:

1. FLOODS accepts historical flood event data sources and generates historical and stochastic flood events;
2. TERRAIN accepts topographic and bathymetric data and land use/land cover data, and produces ground surface characteristics used by FLOOD ELEVATION AND DEPTH, WAVE CONDITIONS, AND FLOOD EXTENT;
3. FLOOD ~~EXTENT~~ELEVATION AND DEPTH ~~AND WAVE~~ accepts the output from FLOODS and TERRAIN and produces a stillwater flood surface and site-specific flood depths throughout the area inundated by a flood event~~water height and force;~~

4. WAVE CONDITIONS accepts the output from FLOODS, FLOOD ELEVATION AND DEPTH, and TERRAIN and produces wave characteristics and wave elevations throughout the area inundated by a coastal flood event;
5. FLOOD EXTENT accepts the output from FLOOD ELEVATION AND DEPTH, TERRAIN, AND WAVE CONDITIONS and generates the horizontal limits of flooding for a flood event;
36. DAMAGE accepts the output from FLOOD ~~EXTENT~~ELEVATION AND DEPTH, AND WAVE CONDITIONS and generates flood damage to ~~building~~personal residential property;
47. LOSS COSTS accepts the output from DAMAGE and generates loss costs.