Building Good Inundation Models: Data Preparation and Validation in ANUGA

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Building an inundation model for 'real world' applications such as tsunami and flood requires elevation data that represents the earth's surface. An in-depth understanding of the elevation data and how it is interpreted within ANUGA is essential to the model outputs.

Spatial data is available in a range of formats as well as vertical and horizontal datums. To prepare the data for input into the model, all data must be formatted and corrected consistently. In particular, all datasets must be projected to a common horizontal datum (in metres) and corrected to a common vertical datum . The complicated near-shore environment poses additional problems in that the definition of the coastline is not always clear and there must be consistency between the onshore and offshore data.

An inundation model is built once the data is prepared. A knowledge of the earth's surface and the elevation data acquired is necessary in deciding the resolution and internal designing of the model.

In this presentation, I will outline a range of procedures to ensure that the elevation data has been prepared appropriately and how the data has been modelled within ANUGA. These procedures call for QA and QC processes to be followed pre- and post model build. In addition, I will demonstrate a range of errors that may occur and outline methods to remove or reduce these anomolies.