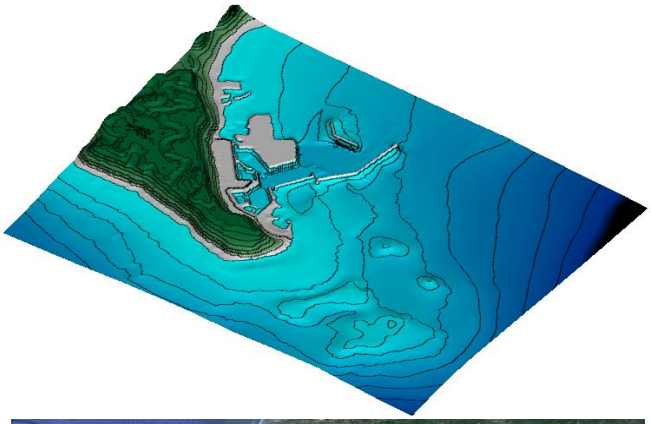
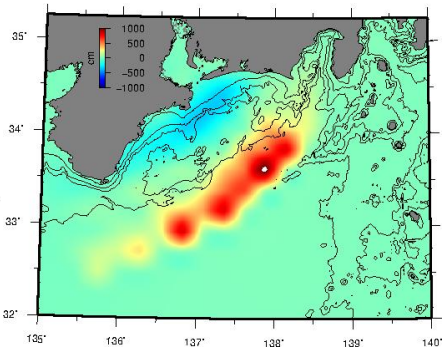
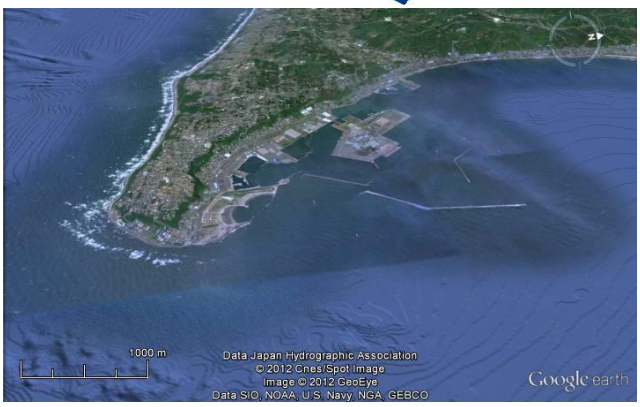
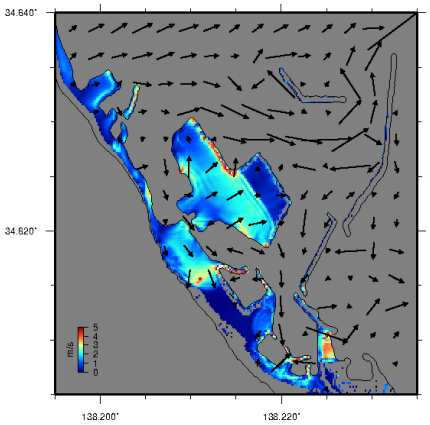
TSUNAMI INUNDATION MODELLING: OMAEZAKI PORT, JAPAN

OMAEZAKI, JAPAN









INFO:

Location: Omaezaki, Japan

Client: Chevron USA

Project Date: 2012

SCOPE OF WORK:

- Assesment of tsunami sources
- Numerical modelling of tsunami inundation and currents
- Assessment of overland flow velocities
- Multi-scenario sensitivity testing

PROJECT DESCRIPTION:

This study investigated the tsunami inundation at the Port of Omeazaki, Japan. A detailed topographic model was constructed and used in conjunction with state of the art hydrodynamic numerical modelling to assess flood depths, current speeds and propensity for structural damage.

Because this study is targeted at design considerations for a proposed evacuation structure, we use extreme earthquake source models featuring relatively large values of co-seismic slip, typical of large subduction zone type earthquakes such the 2011 Tohoku earthquake.

Model results suggest that the worst case scenario is for a very large earthquake rupture featuring at least 20 m of slip and resulting in approximately 10 m of associated sea floor deformation. This results in the greatest amount of inundation at the site and the highest flow speeds.