

Application of *SUNTANS* in various scenarios

Introduction:

SUNTANS is an advanced hydrodynamic numerical model developed by a research team lead by Oliver Fringer at Stanford University. The acronym stands for: **S**tanford **U**nstructured **N**onhydrostatic **T**errain-following **A**daptive **N**avier-Stokes **S**imulator. This model solves the Navier-Stokes equations under incompressibility and Boussinesq approximations, with a large-eddy simulation of the resolved motions.

SUNTANS is a powerful 3 dimensional hydrodynamic model. This symposium intends to introduce the application of *SUNTANS* in various scenarios. Those who involved in the development of *SUNTANS* including the original developer, Oliver Fringer, make three presentations.

Date: Feb. 3, 2014 10:30 - 1730

Place: Tokyo University of Marine Science and Technology
Shinagawa campus, 9th building Room 109

10:30 - 10:40 Opening remark by Hidekatsu Yamazaki (TUMSAT)

10:40 – 11:20 “Observations and 2D *SUNTANS* for investigating run-up and breaking of internal waves in Otsuchi Bay” by Eiji Masunaga (TUMSAT)

11:20 – 13:00 Lunch break

13:00 – 13:40 "Development of a three-dimensional *SUNTANS* model of Ōtsuchi Bay, Japan" by Adrean Webb (TUMSAT)

13:40 – 14:20 "Simulation of barotropic and baroclinic tides in Oshima Seas, Japan" by Adi Nugraha (TUMSAT)

14:20 – 15:10 "A numerical approach to low-frequency internal waves in Shiozu Bay, Lake Biwa by Guillaume Auger (Ritsumeikan)

15:10 – 15:30 Break

15:30 – 16:10 "Three-dimensional particle tracking applications." by Ed Gross (Stanford)

16:10 – 16:50 “Development of a high resolution three-dimensional model for Galveston Bay, Texas” by Matt Rayson (Stanford)

16:50 – 17:30 “Simulating large-amplitude, nonhydrostatic internal gravity waves on the Australian North West Shelf” by Oliver Fringer (Stanford)