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# A Hydrodynamic-Sediment Transport Numerical Model for the Waipaoa Shelf, New Zealand: Model Archive

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## README

### **Item Title: A Hydrodynamic-Sediment Transport Numerical Model for the Waipaoa Shelf, New Zealand: Model Archive**

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**Keywords:** Waipaoa River continental shelf, New Zealand; sediment transport; numerical modeling; oceanography; marine geology; Regional Ocean Modeling System (ROMS).

**Description:** These files are compressed versions of input files, model code, and output used for two publications:

Moriarty, J. M., Harris, C. K., and Hadfield, M. G. (2014). A hydrodynamic and sediment transport model for the Waipaoa Shelf, New Zealand: Sensitivity of fluxes to spatially-varying erodibility and model nesting. *Journal of Marine Science and Engineering*, 2 (2): 336-369. Doi:10.3390/jmse2020336

Moriarty, J. M., Harris, C. K., and Hadfield, M. G. (2015). Event-to-seasonal sediment dispersal on the Waipaoa River Shelf, New Zealand: A numerical modeling study. *Continental Shelf Research*, 110: 108-123. Doi: 10.1016/j.csr2015.10.005

Compressed files with the .gz file extension can be opened with Gzip GNU software (open source). Compressed files with the .tar file extension can be opened with Gzip Tar software (open source). Many of the input / output files use the NetCDF (Network Common Data Form) file format. These have "nc" as a file extension and can be read using a variety of open source tools: see <http://www.unidata.ucar.edu/software/netcdf/docs/> . For information about the Regional Ocean Modeling System (ROMS), its model code and input / output, see [www.myroms.org](http://www.myroms.org) .

**Files include:**

<b>File</b>	<b>Description</b>
<b>Input Files</b>	
gridgen_romsformat_redo5.nc.gz	Input File - Model Grid
waipaoa_init_redo7_20100101_new2.nc.gz	Input File – Model Initialization
b_2009_2010.nc.gz.tar	Input File – Data for Open boundary conditions
c_2009_2010.nc.gz.tar	Input File - Data for Model Nudging (i.e. “climatology files”)
waipaoa_swradhr_new.nc.gz waipaoa_windhr_nzlam_new.nc.gz waipaoa_apresshr_new.nc.gz waipaoa_cloud_new.nc.gz waipaoa_rainhr_new.nc.gz waipaoa_relhumhr_new.nc.gz waipaoa_temphr_new.nc.gz	Input File - Atmospheric Forcing
waipaoa_waves3_new.nc	Input File - Wave Forcing
waipaoa_river_newpartitions.nc.gz	Input File - River forcing
pb_tide_PO_new.nc.gz	Input File - Tidal Forcing
sediment_waipaoa.in.gz	Input File - Sediment Information
ocean_waipaoa.in.gz	Input File – Model Run Information
waipaoa.h.gz	Input File – Options for Model Compilation
<b>Model Code</b>	
build.bash.gz	Model Code - Script to Compile Model
trunk4.tar	Model Code - Model Code
<b>Model Output</b>	
*Note that for sensitivity tests, altered input files are also included with the model output	
model_results_standard_part1.gz.tar model_results_standard_part2.gz.tar	Model Output - Standard Model
model_inputs_results_ECM_lowM.gz.tar	Model Output - Low erodibility (i.e. “Low M”) sensitivity test
model_inputs_results_ECM_highM.gz.tar	Model Output - High erodibility (i.e. “High M”) sensitivity test
model_inputs_results_ECM_nesting2.gz.tar	Model Output - “Weakly Nudged” Sensitivity Test
model_inputs_results_ECM_nesting1.gz.tar	Model Output - “Moderately Nudged” Sensitivity Test

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