

The directory “example_2011Tohoku” contains all the input of output files for the example of 2011 Tohoku Tsunami to test PCOCMOT

How to run PCOMCOT

- Compile the source files in another folder “PCOMCOT1.0”, and then copy the object file “pcomcot” to “example_2011Tohoku”.
- On macOS system, error of type mismatch may occur when compiling, which is caused by that the compiling command is executed by the gfortran compiler included in Open MPI. This error can be suppressed by adding option -fallow-argument-mismatch to the compiling command in makefile.
- Bathymetry grid files in both “nf” and “xyz” formats are contained in the subfolder “bathymetry”. Bathymetry files in “nf” or “xyz” format need to be copied to the outside, where the other input files ending with “.ctl” have already been prepared.
- Change current directory to “example_2011Tohoku” , and run PCOMCOT with command “mpirun -np n pcomcot” in the terminal, where n is the number of parallel processors.
- On macOS, running of PCOMCOT may be blocked by the system, which can be solved by changing the setting in Apple -> System Preferences -> Security & Privacy -> General.

Plot simulation results

- After simulation is done, the output files are generated in directory “example_2011Tohoku”, which are the same as those in the subfolder “results”.
- Copy all the Matlab files ending with “.m” from subfolder “results” to the working directory.
- View the bathymetry of each layer by executing “plotBathymetry (XX)” in Matlab, where XX is the two-digital number of a layer.
- View the snapshots of each layer by executing “plotSnapshot (fn)” in Matlab, where fn is the name of snapshot file in string.
- The observed tsunami data at six stations in 2011 Tohoku event are stored in the subfolder “TsunamiData”, which can be compared with simulation results by running the script “compareSimulationWithData.m”.