Random Simulation

The installation instructions are the same as in SOW.

There are some empty folders that should be too with the same directory with the code.

Run simulation

The parameters for simulation:

1. Number of random maps
2. Number of drift simulation per map
3. Number of nodes in the simulation (const.)
4. Schedule matrix (const.)
5. Step time for one drift simulation
6. Total time for one drift simulation
7. Frequency of sample

Example:

```
./sim_N 3 2 4 INPUT/schedule_matrix_file.txt 100 800 25000
```

Const. - Fixed for all simulations

Output

There are some outputs:

1. In the “maps” directory there are the bathymetries as depths on grid
2. In the “plot_maps” directory there are the bathymetries as .png file (picture). Can open in windows.
3. In the “plots” directory there are plots of SHYFEM output. You can see this by type: `gv plot_#.ps`. Note: these plots are of **average** velocity in each Z column.
4. In the OUTPUT directory there are the bellhop output and locations as .csv files.
5. In the “a.mat” file there is $N \times M$ matrix with struct that include:
    a. The bathymetry
    b. SHYFEM output as matrix
    c. The ssp data that used in this simulation
    d. Bellhop output
    e. Locations output

The columns in the Bellhop output and Locations output in the a.mat file, are the same as the csv files.