

HYDROMAP generates current and water level predictions for any coastal waters around the world.

APPLICATIONS FOR HYDROMAP INCLUDE:

- Currents for complex coastline geometry river-estuarine system and open geometry of the coastal shelf simultaneously.
- Current data files for other ASA models.
- Hindcast/forecast current simulations.
- Educational purposes.

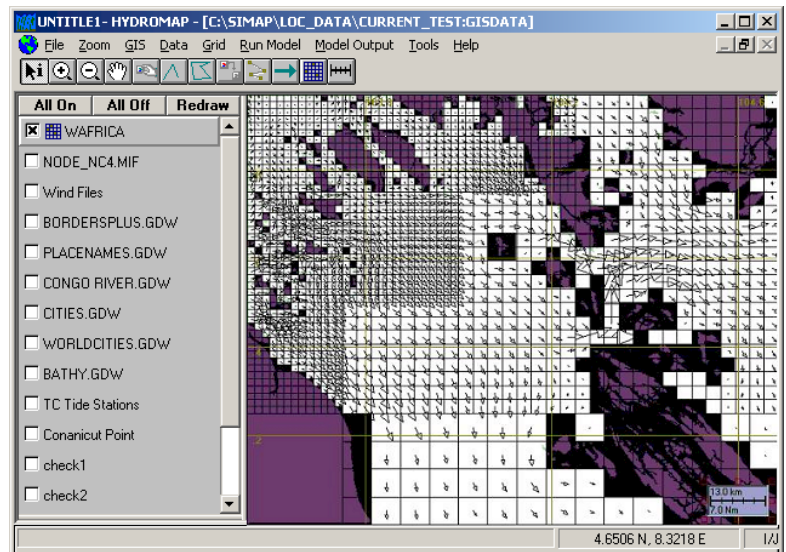
HYDROMAP HIGHLIGHTS

- ▶ Windows application
- ▶ GIS-based interface
- ▶ Handles complex coastline geometry via novel modeling techniques

MORE ADVANCED THAN STANDARD FINITE DIFFERENCE NESTING STRUCTURE BY ENABLING SEVERAL LEVELS OF GRID SIZE TO BE CONSTRUCTED AND EXECUTED SIMULTANEOUSLY.

FEATURES

- Contains ASA's own GIS.
- Easy access and input of required data for current data simulations.
- Gridding tools allow the user to create a rectangular grid system and easily select locales within that grid structure for finer grid resolutions.
- Output of current data automatically linked to other ASA models.
- Variety of hydrodynamic file formats.
- Easily interpreted visual displays of animated currents.



HYDROMAP's Advanced gridding approach allows large areas of widely differing spatial scales to be addressed within one consistent model application.

STEPWISE-CONTINUOUS-VARIABLE-RECTANGULAR GRID (SCVR)

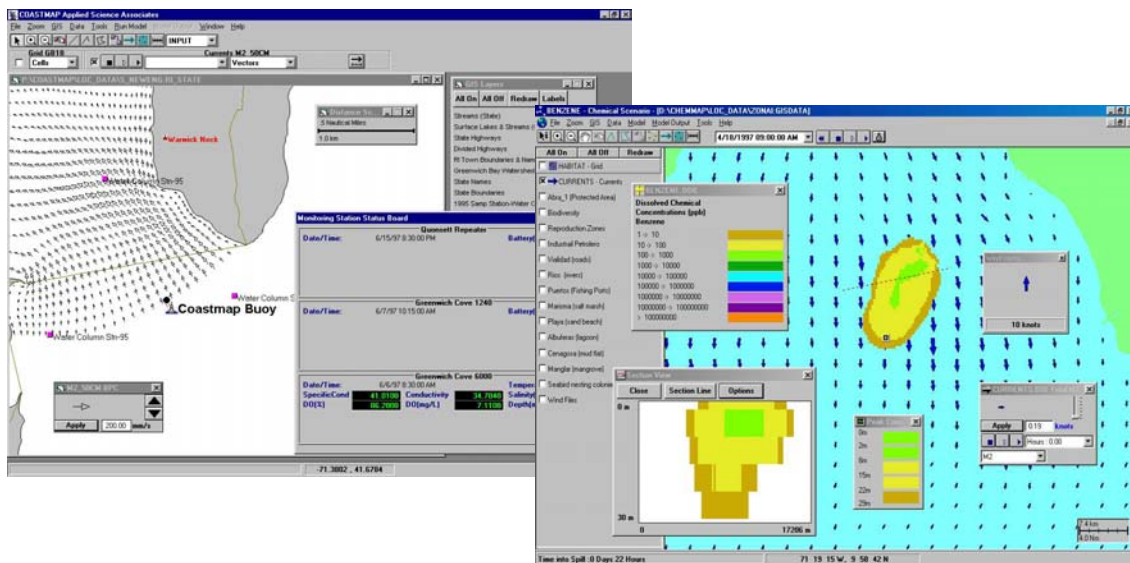
- Advanced finite difference nesting structure.
- Enables several levels of grid size to be constructed and executed simultaneously.
- *Stepwise-Continuous* - boundaries between successively larger and smaller grid sizes are managed in a consistent integer stepped manner.
- *Variable* - grid-cell sizes are variable over the grid domain.

HYDRODYNAMIC MODEL

- Continuous vertical profiles to represent velocity, temperature, and salinity.
- Solves the equations of motion for the water movement in a single simulation.

DATA REQUIRED TO GRID AND FORCE SIMULATIONS

- Coastline definition to define the land-water boundary.
- Bathymetry contours or soundings to define the depth of water cells in the grid.
- Tidal elevation constituent harmonic definitions (elevation and phase).
- Optional long term wind stress forcing.
- Publicly available sources for required data are either packaged with HYDROMAP or can be easily accessed through HYDROMAP tools.



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