



Hydrodynamic Modeling System

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

Applications for HYDROMAP

- 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
- Drills and education



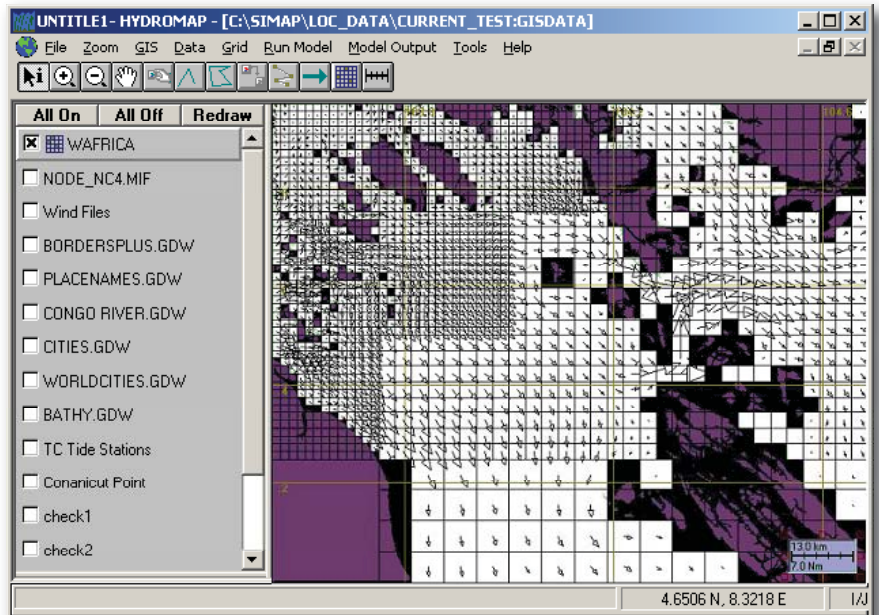
Features

- Contains ASA's own GIS
- Easy access and input of required data for current 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

* More advanced than standard finite difference nesting structure by enabling several levels of grid size to be constructed and executed simultaneously.

HYDROMAP Highlights

- Integrated GIS
- Rapid implementation and interoperability
- Windows based
- Handles complex coastline geometry via novel modeling techniques



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):

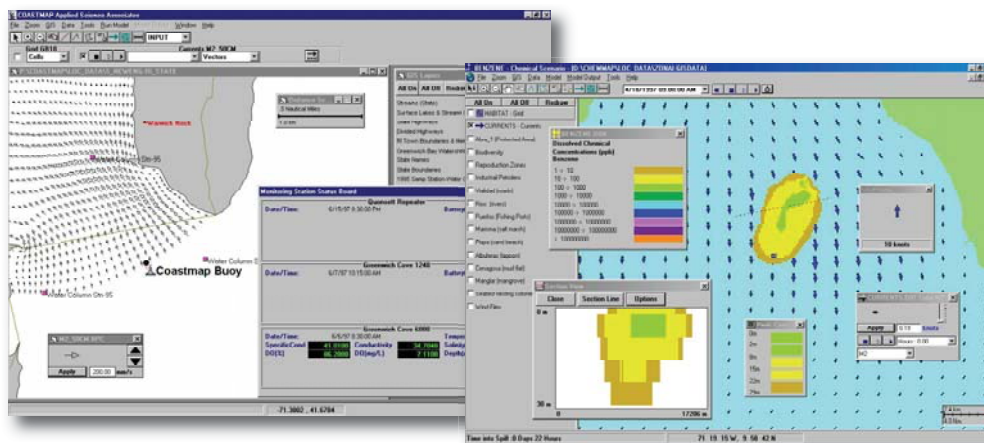
- Advanced finite difference nesting structure
- Enables several levels of grid size to be constructed and executed simultaneously
- **Stepwise-Continuous** - boundaries between successively larger and smaller grid sizes are managed in a consistent integer stepped manner
- **Variable** -grid-cell sizes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



ASA has built a wide range of computer modeling applications to solve various environmental problems. ASAMAP™, ASA's suite of environmental modeling tools, are available for licensed use and customization and include: AIRMAP, CHEMMAP, CMSMAP, COASTMAP, HYDROMAP, OILMAP, SARMAP, SIMAP, MUDMAP and WQMAP. For more information visit our website at www.asascience.com.



70 Dean Knauus Drive • Narragansett, RI USA 02882 • +1 401 789-6224
Seattle | São Paulo | Gold Coast | Perth | Dubai
www.asascience.com