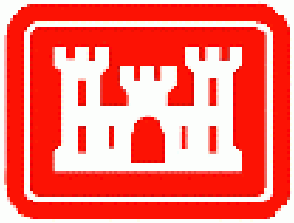

Grid Generation & STWAVE Model Parameters

Map Module
Cartesian Grid Module

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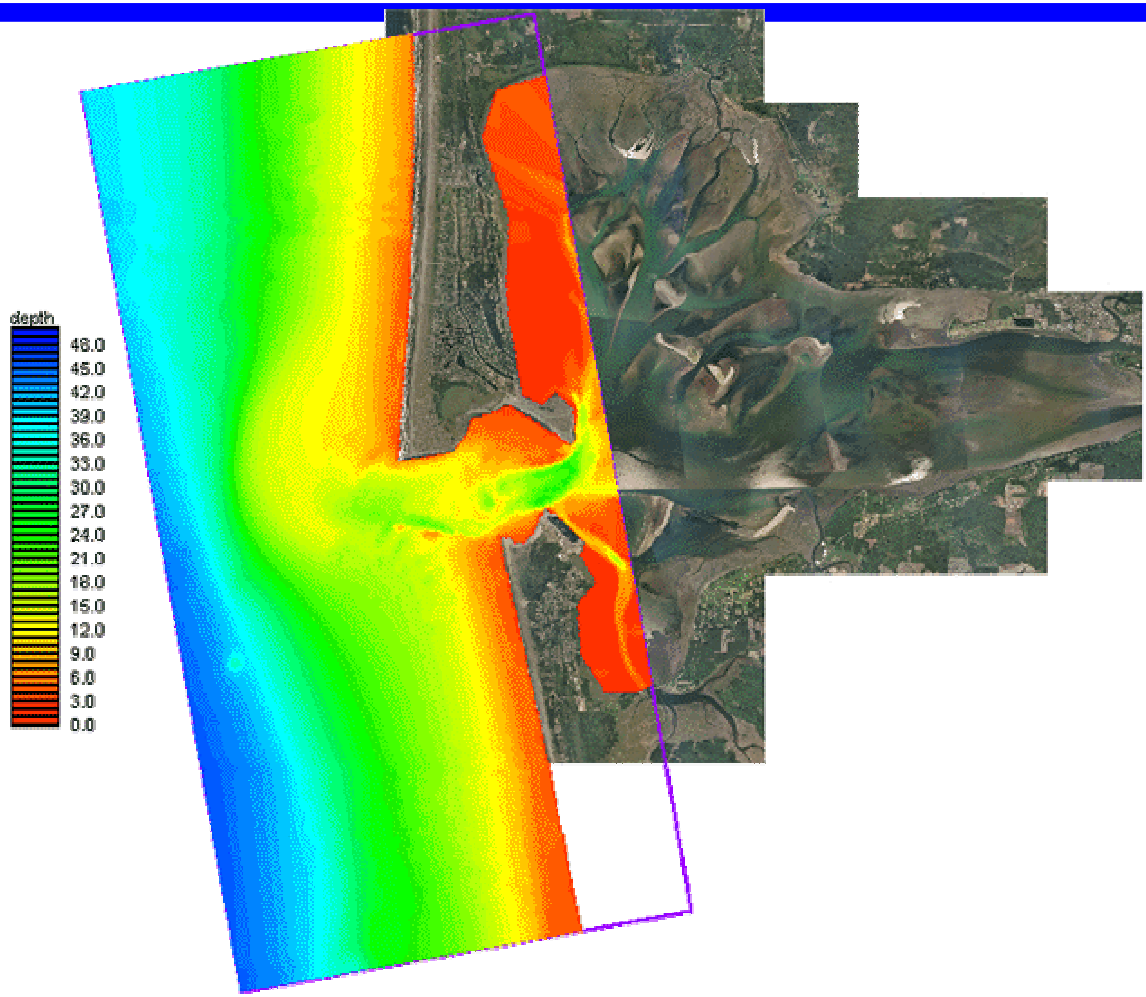
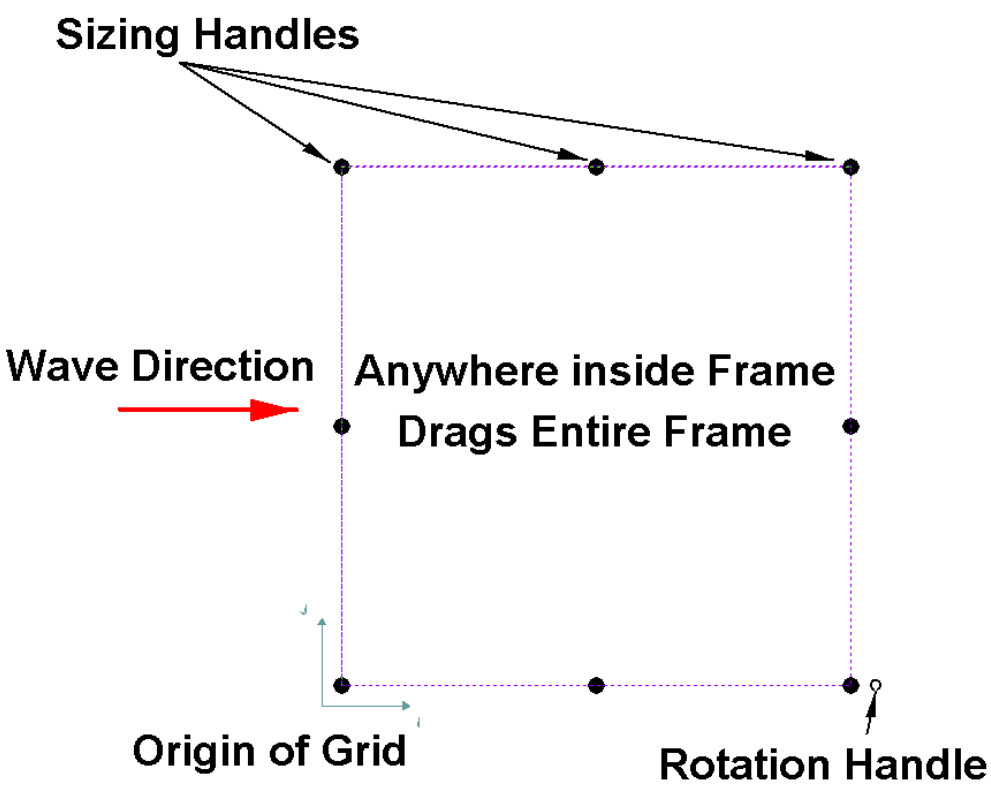
Example Application – Grays Harbor

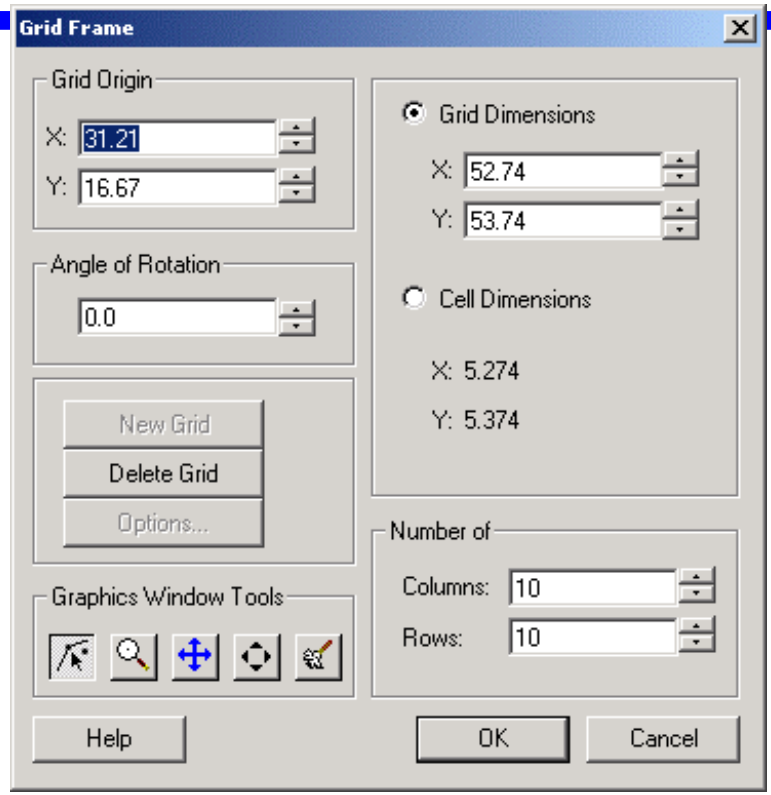


Procedure

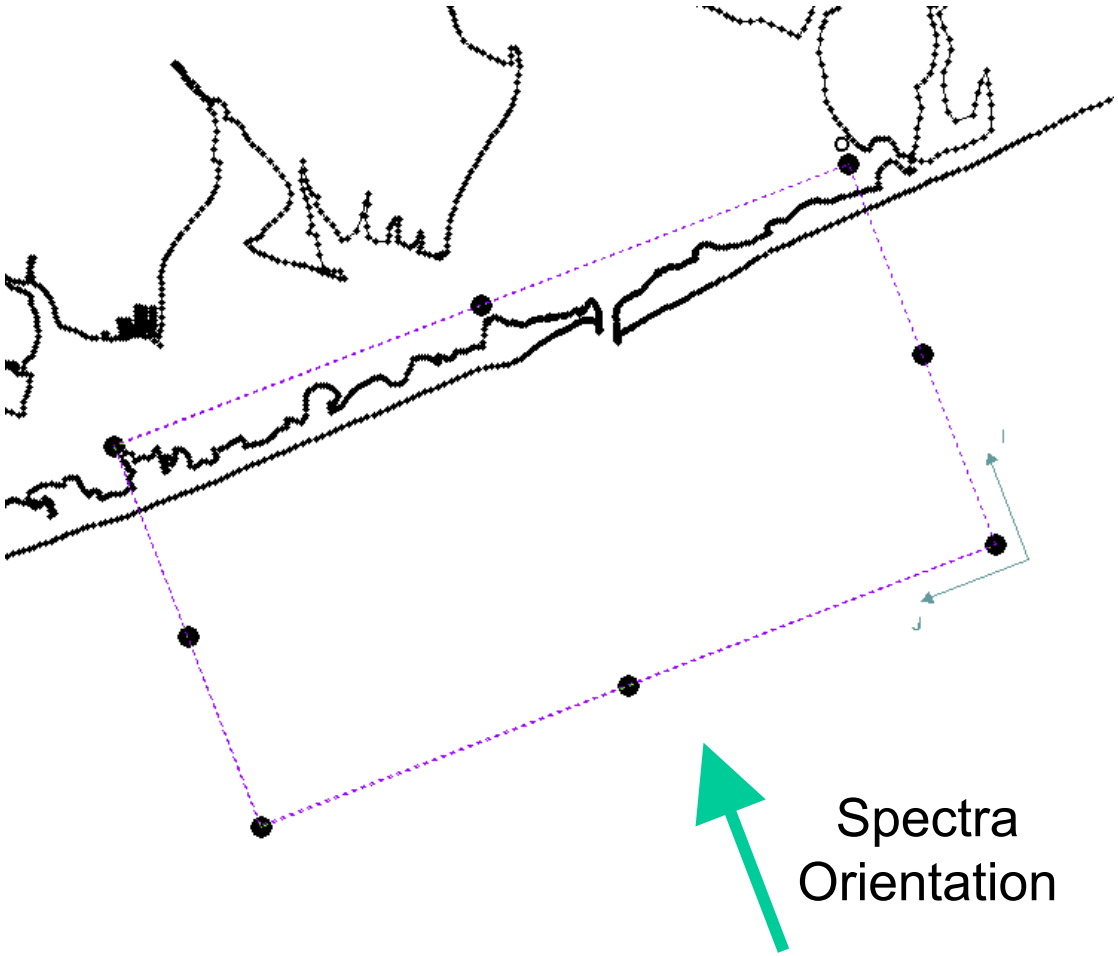
- Define Grid
  - Grid Frame (position, orientation, size)
  - Bathymetry Source
  - Observation Stations (feature points)
  - Coastline (optional – can be extracted from bathymetry)
  - Map -> 2D Grid (resolution)
- Assign Boundary Conditions
  - Spectra

Grid Frame

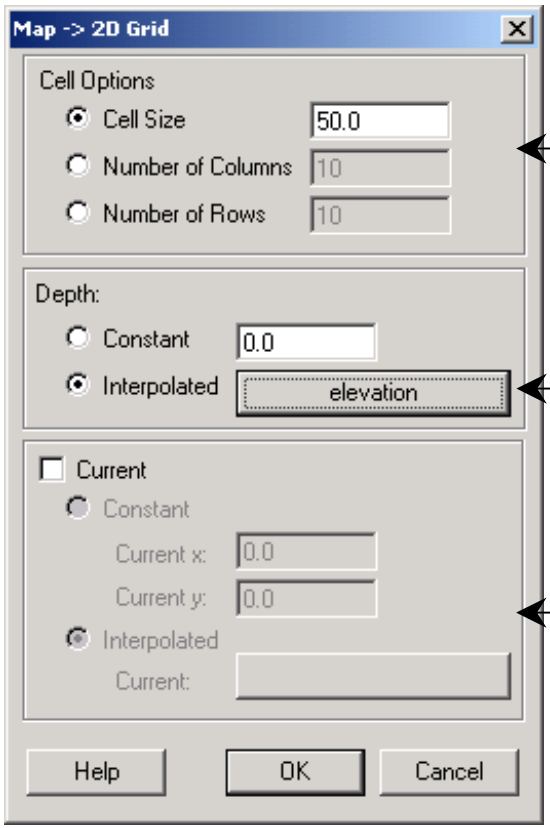

Sizing Handles
Wave Direction
Anywhere inside Frame
Drags Entire Frame
Origin of Grid
Rotation Handle


Grid Frame
Grid Origin
X: 31.21
Y: 16.67
Angle of Rotation
0.0
New Grid
Delete Grid
Options...
Graphics Window Tools
Grid Dimensions
X: 52.74
Y: 53.74
Cell Dimensions
X: 5.274
Y: 5.374
Number of
Columns: 10
Rows: 10
Help
OK
Cancel

Gridframe Oriented to Shore



Mapping to a 2D Grid



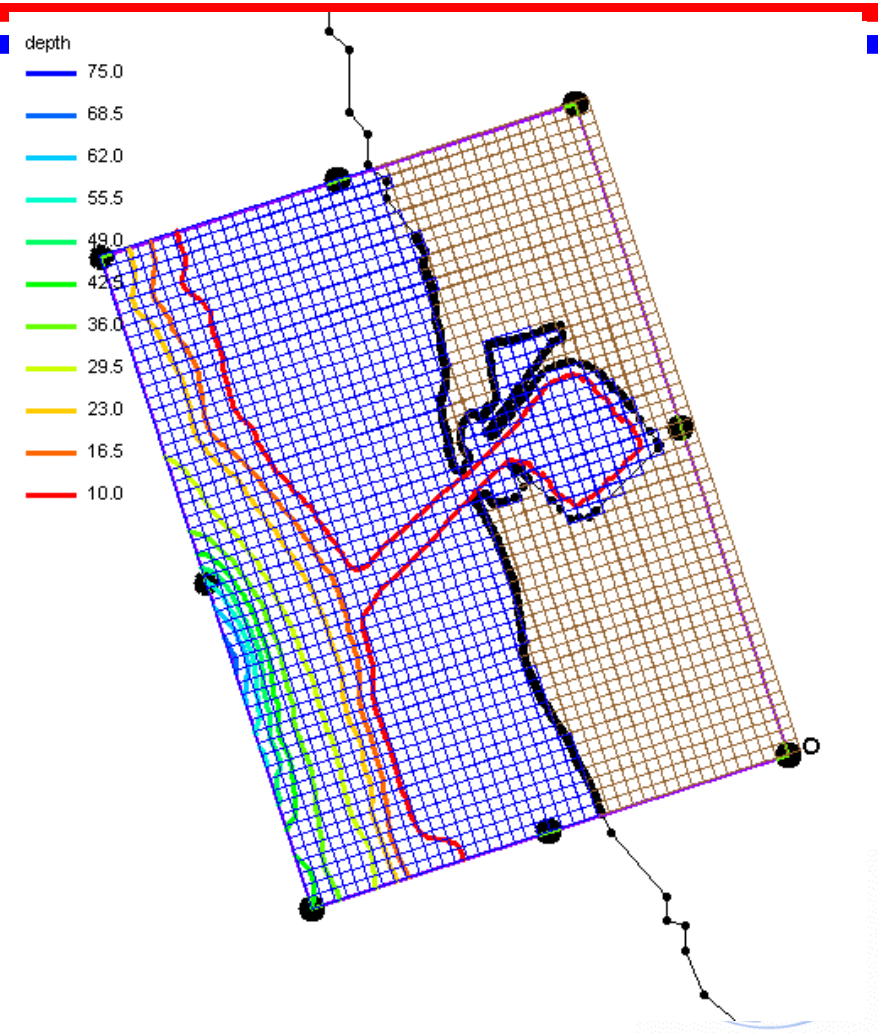
Cell size

Bathymetry from Scatter set

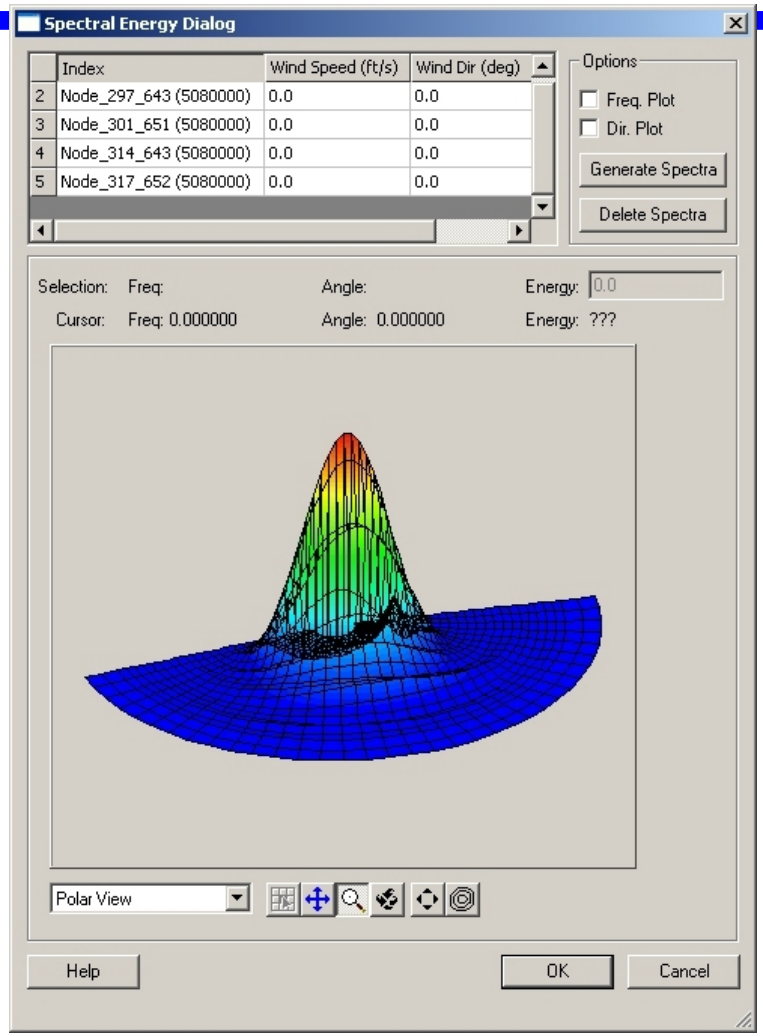
Current Source (optional)

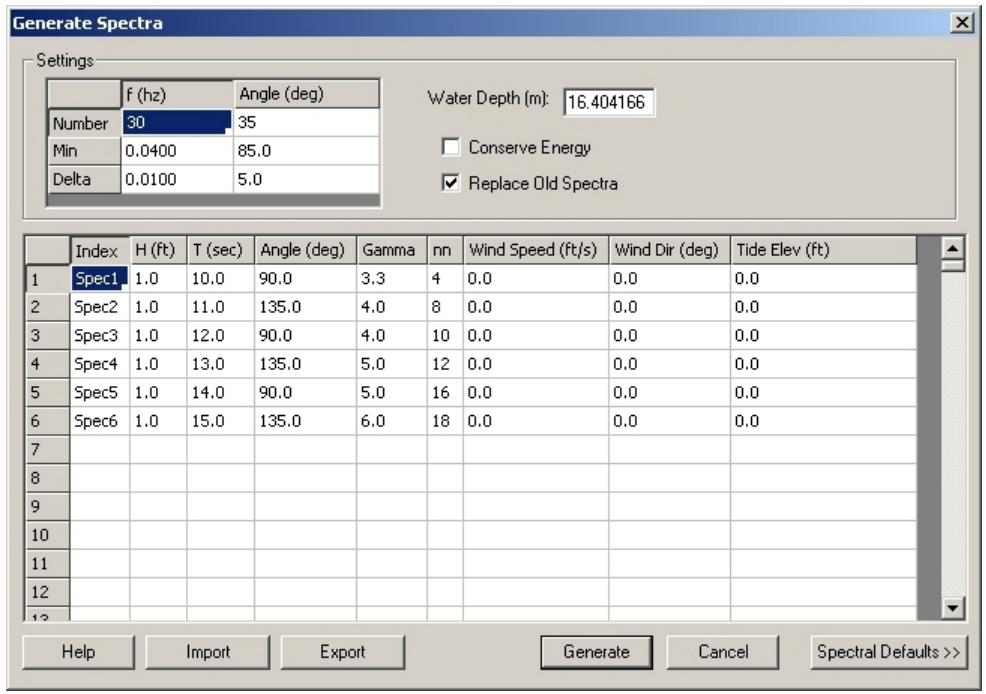
Grid Generation

- Bathymetry
- Coastline/Land
- Define Grid Frame
- Create Cells

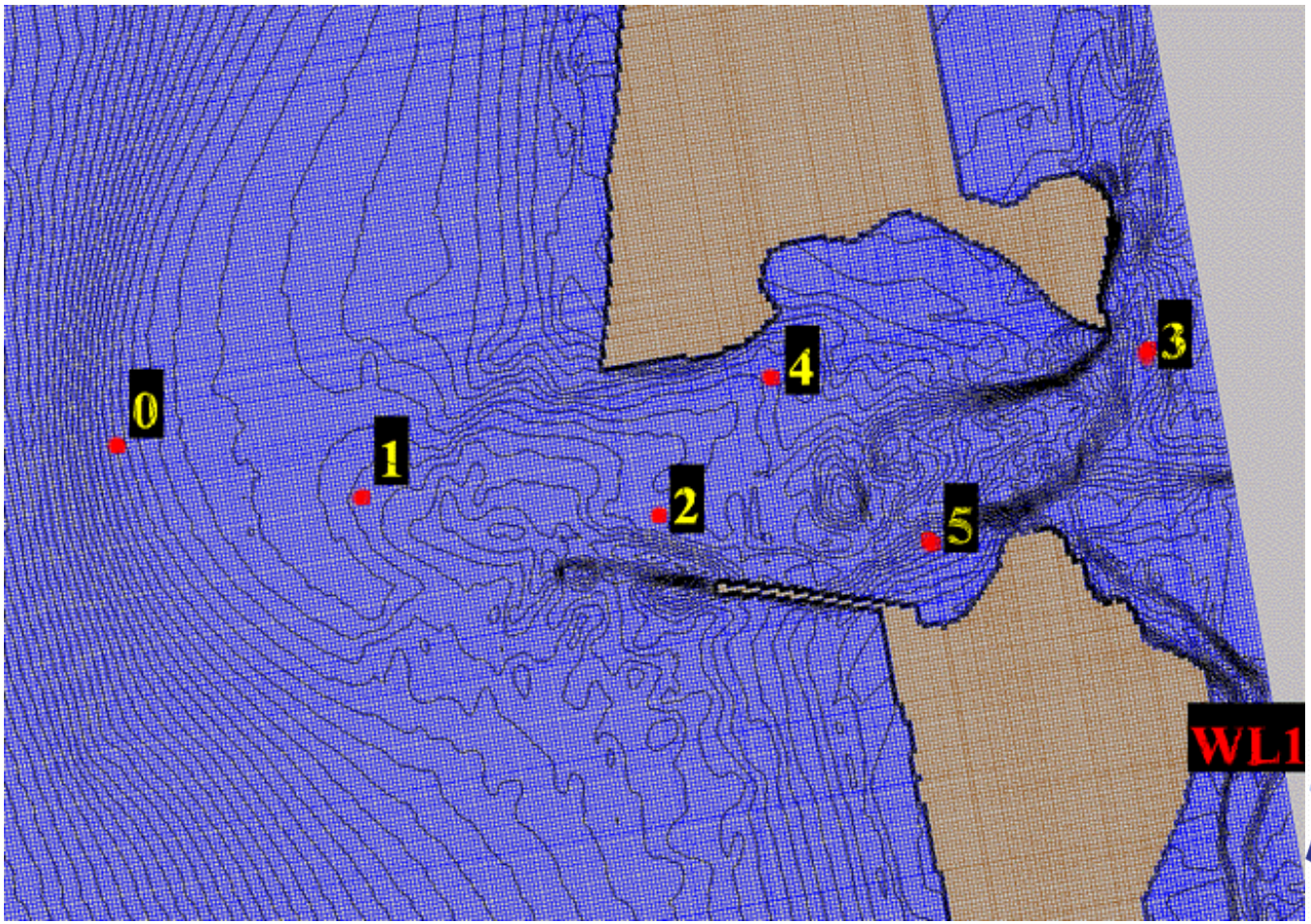


Boundary Conditions-Input Spectra





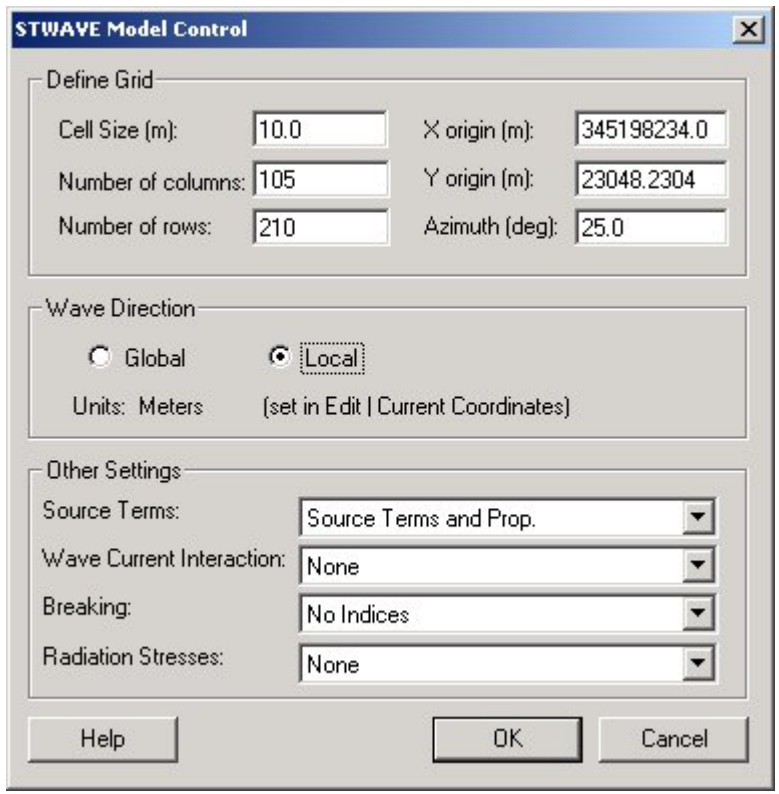
Observation Stations



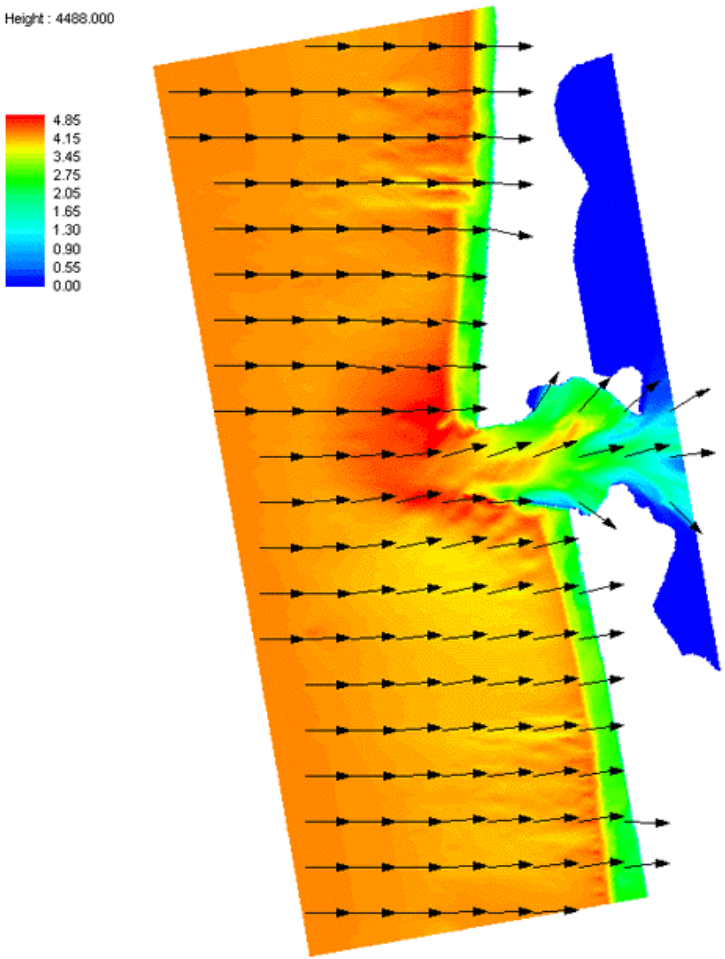
STWAVE Model Control

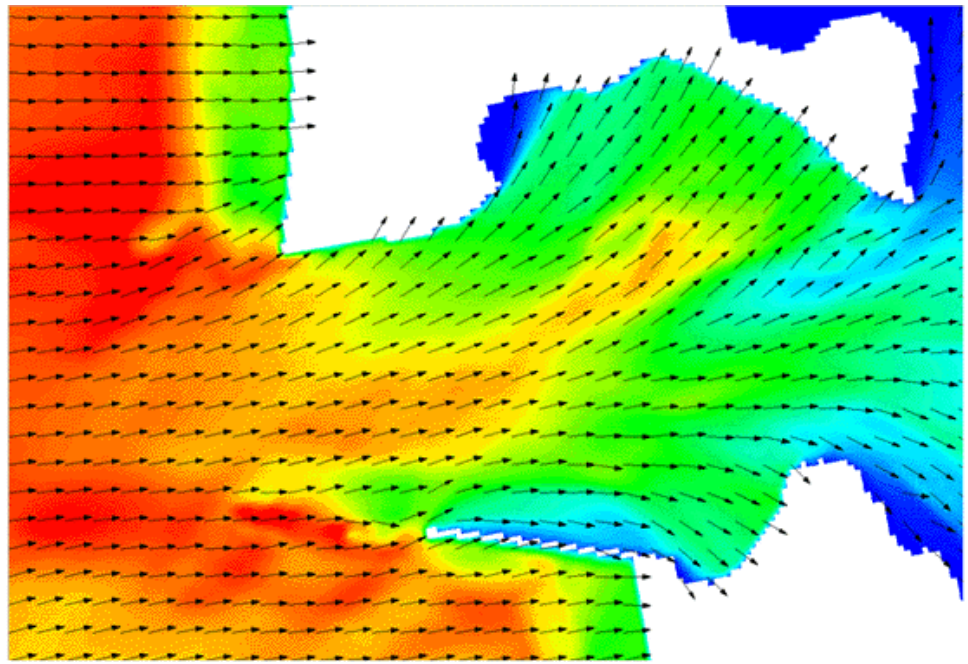
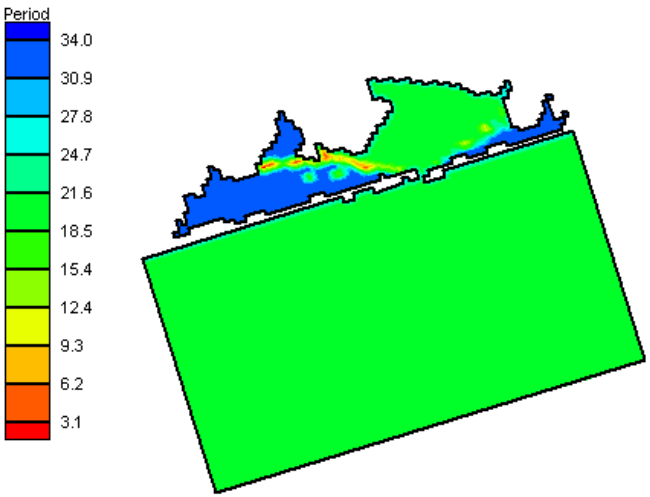
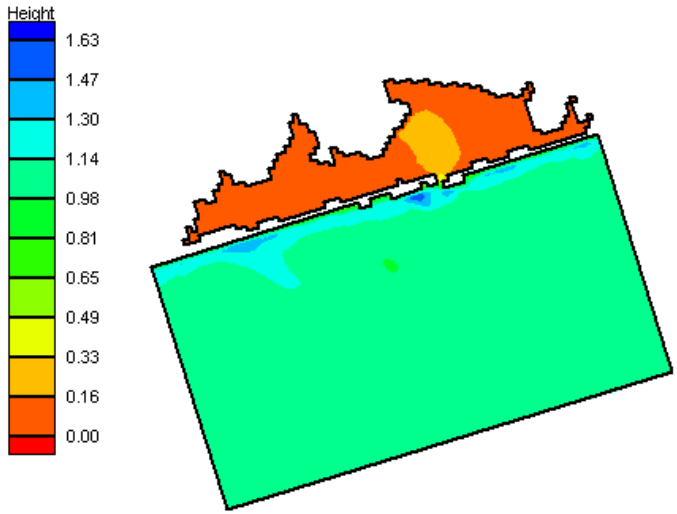
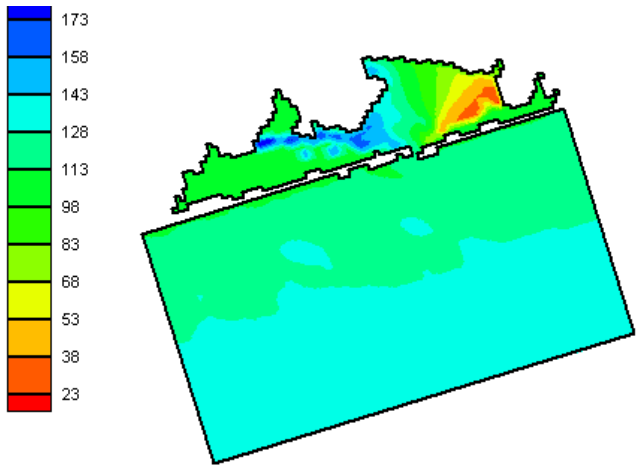
Model Control

- Grid Definition
- Coordinates
- Options
  - Wave Direction Specification
  - Source Terms
  - Current
  - Breaking
  - Radiation Stress



Wave Direction Output





Period, Height & Direction