CGWAVE Interface and Parameters

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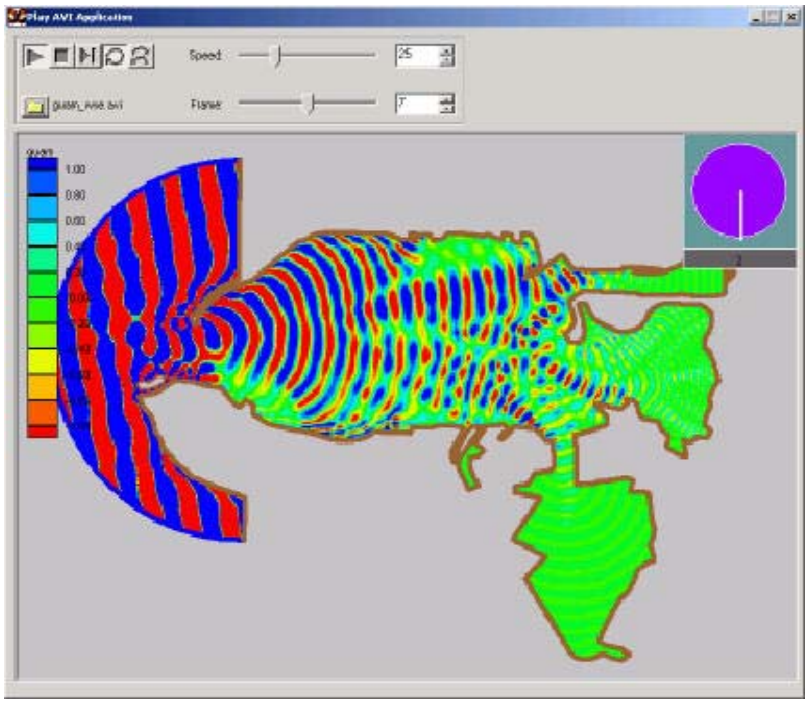
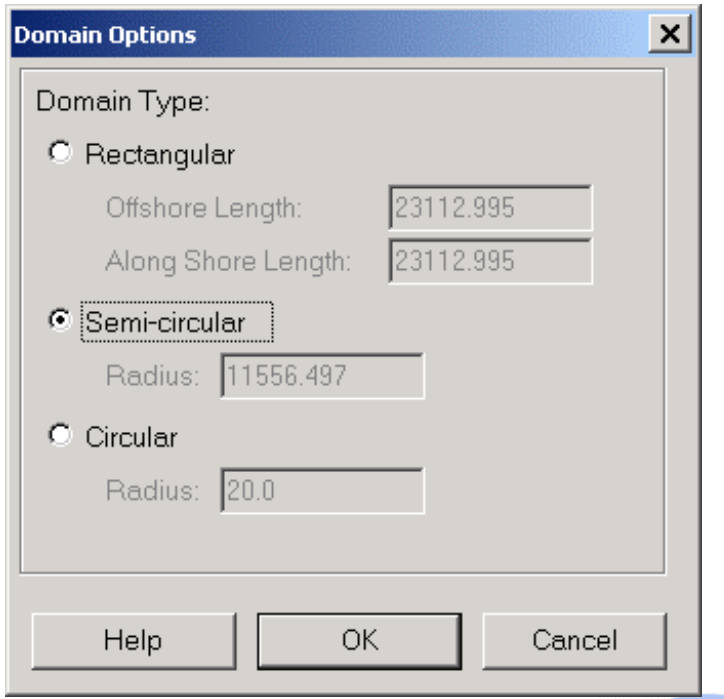
CGWAVE Procedure

- Gather Bathymetric and Coastline Data
- Define Domain
- Define Size Function
- Generate Mesh
- Assign Model Parameters
- Save/Run Model



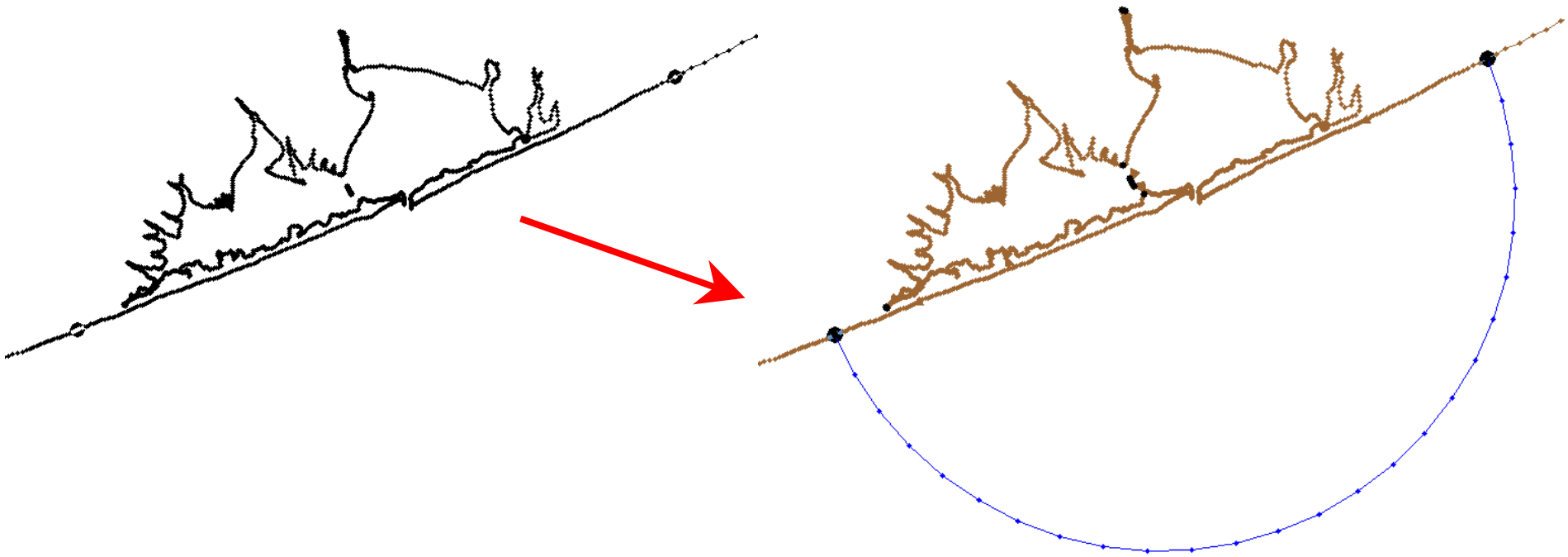
Define Domain

- Select
  - Coastline Arc(s)
  - One or Two Nodes
  - One or Two Vertices
- Feature Model | Define Domain
  - Choose Domain Type
    - Semi-circular for coast
    - Circular for island
    - Rectangular-experimental



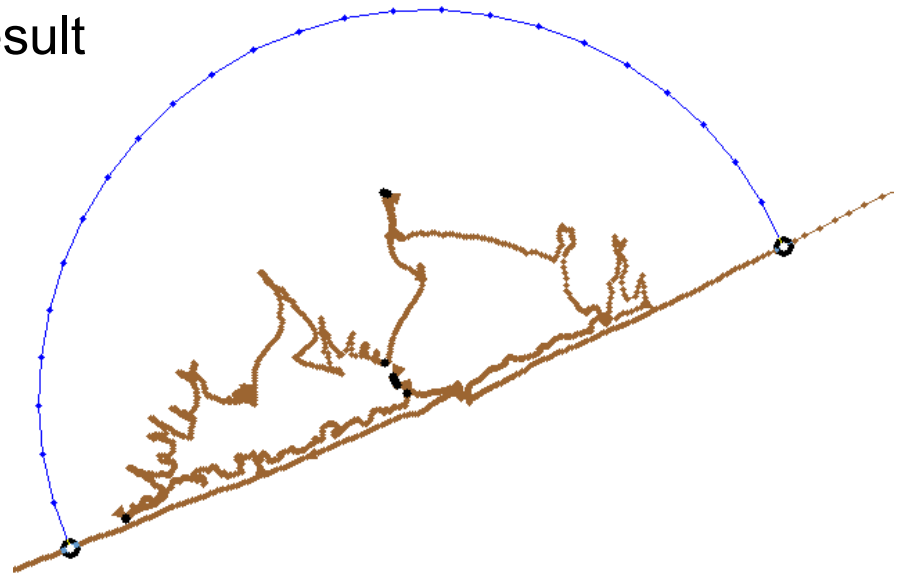
Define Domain

- Selected Arc(s),Two nodes/vertices
  - Ocean boundary extends defined by selection
  - Arcs must be continuous
- One node/vertex selected
  - Selection is center of domain
  - User enters radius



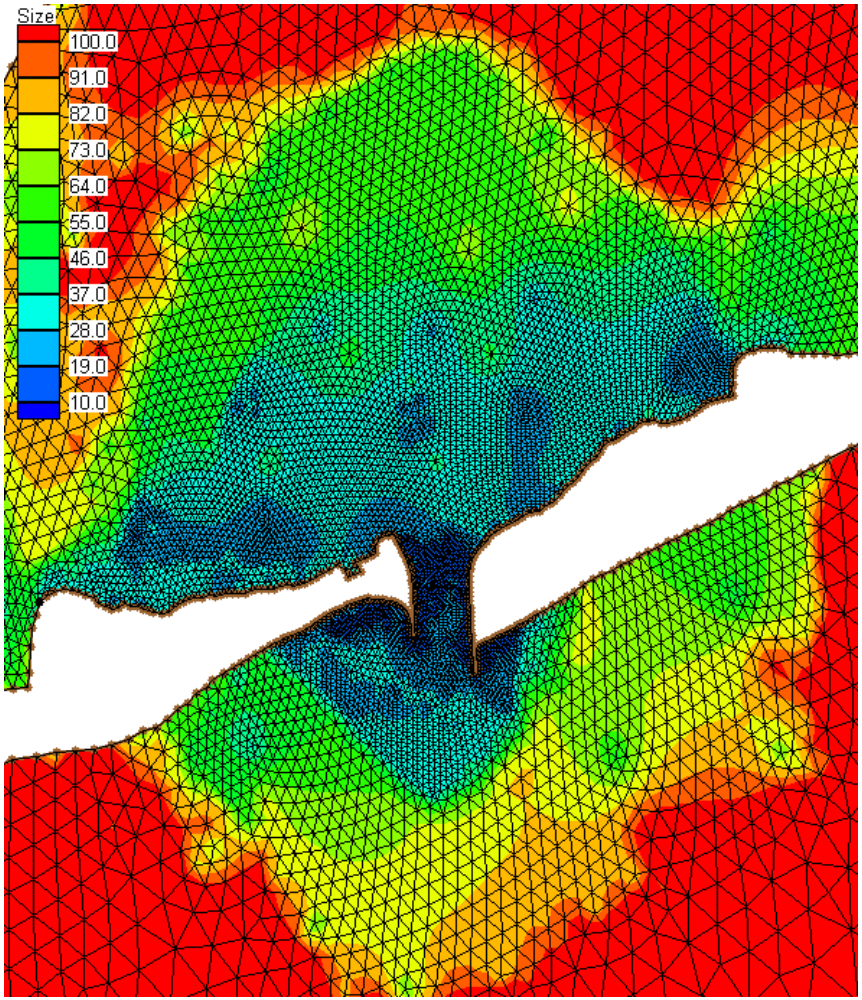
Reverse Arc Direction

- Feature arcs in wrong direction result in ocean boundary crossing dry ground
- To Fix
  - Delete ocean boundary arc
  - Reverse direction if needed
  - Regenerate ocean boundary

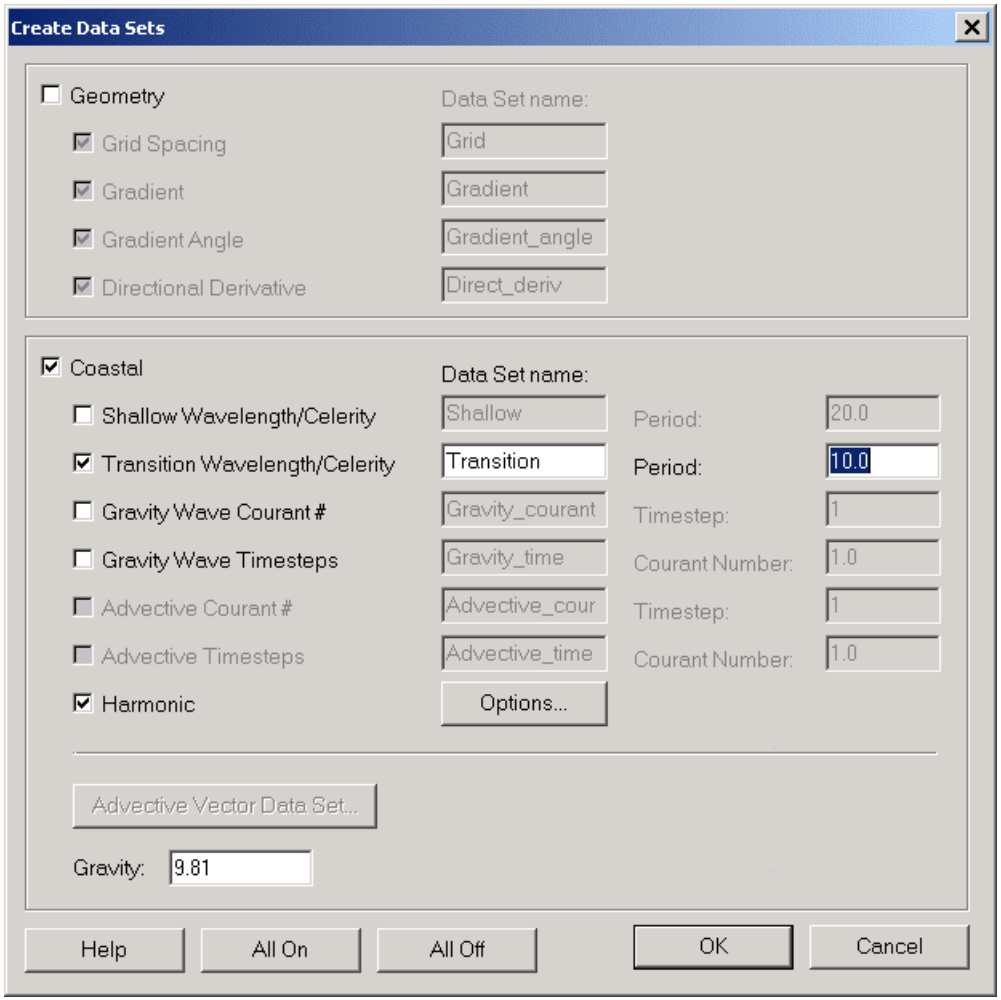


Create Size Function

- Create Wavelength Function
- Scale Wavelength to Create Size
- Apply to Polygon

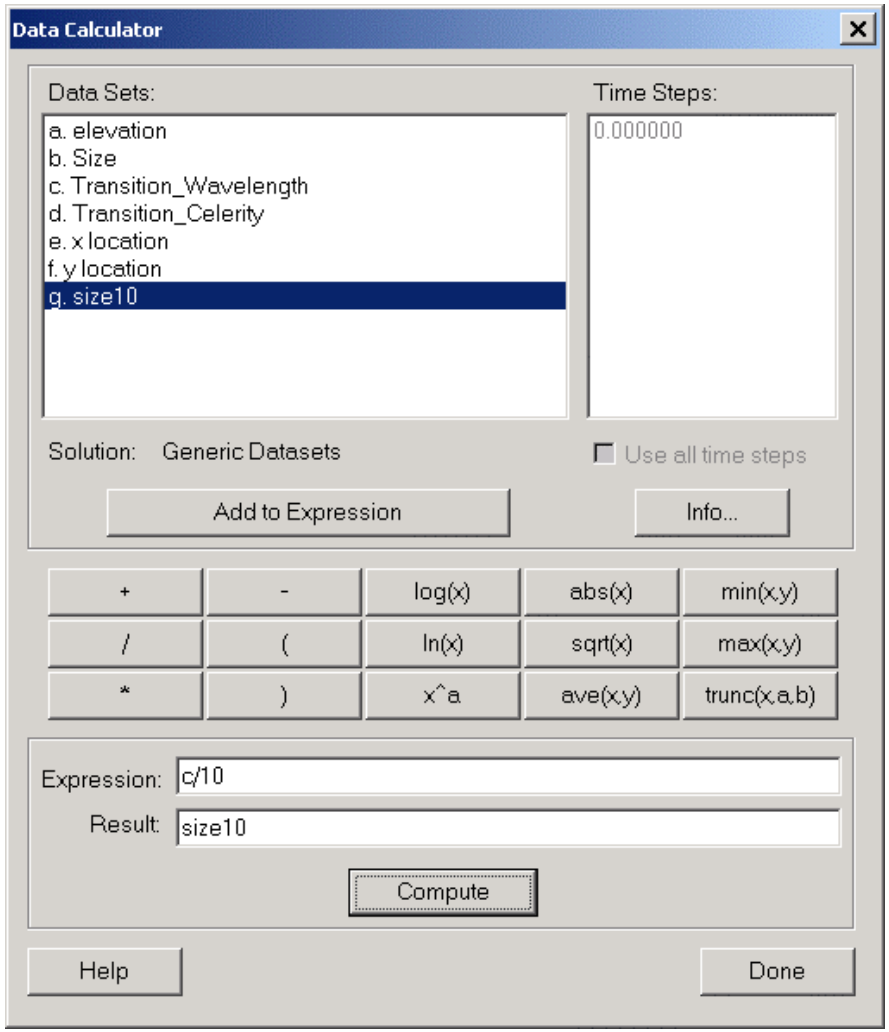


Create Wavelength



- Data Menu
- Transitional Wavelength
- Select Desired Period

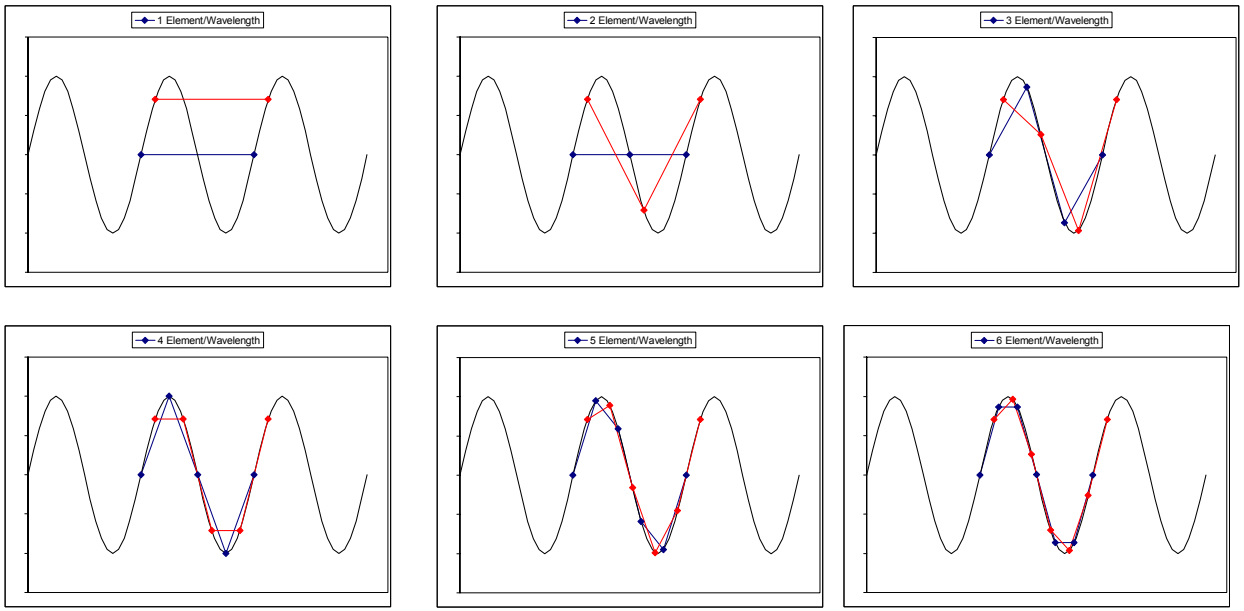
Scale Wavelength



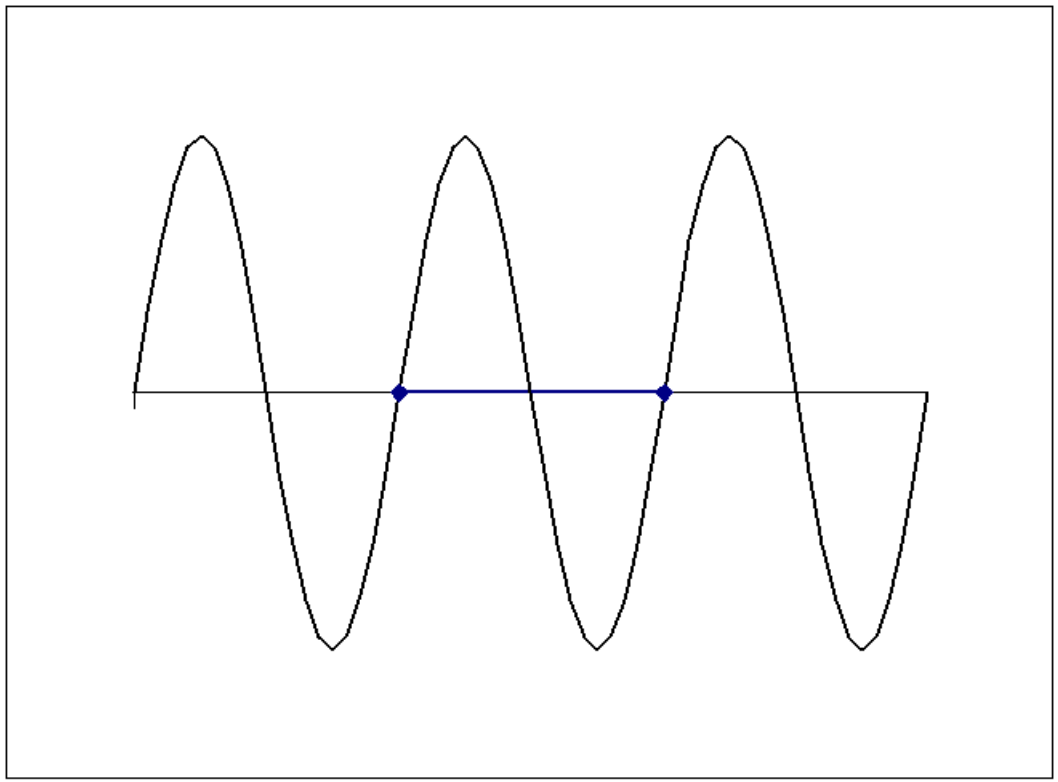
- Data Calculator
- Wavelength/#elems per λ

Size Function

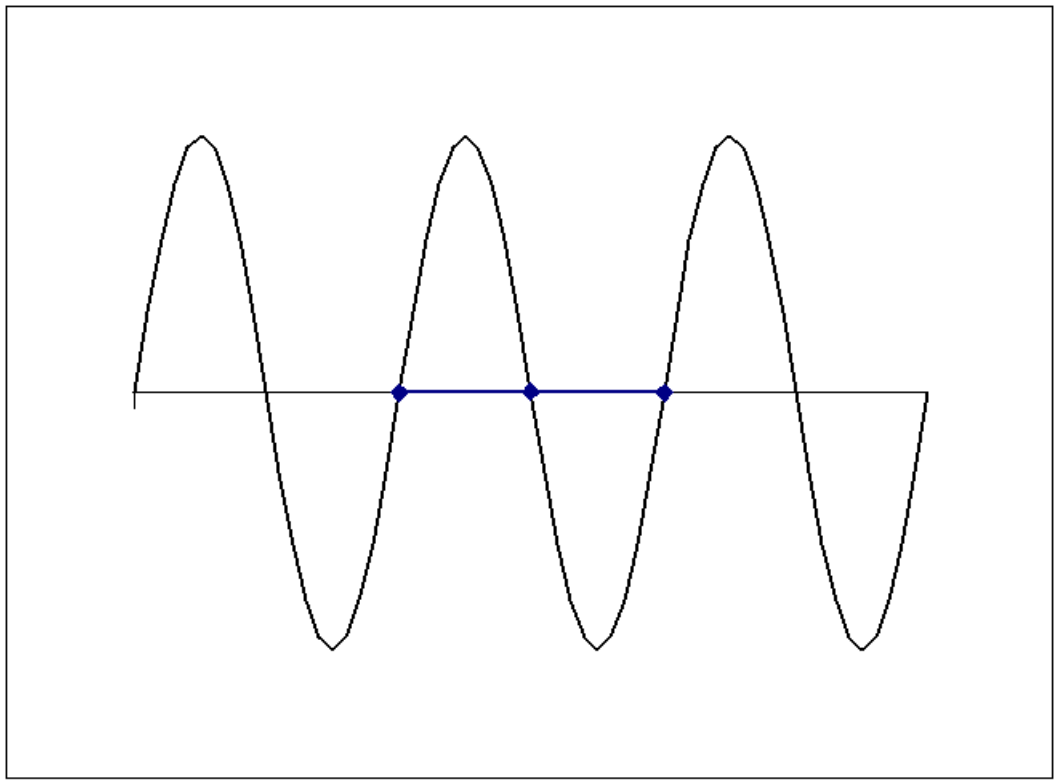
- Based on Wavelength
  - Depth Dependent
- Specify #elems/λ



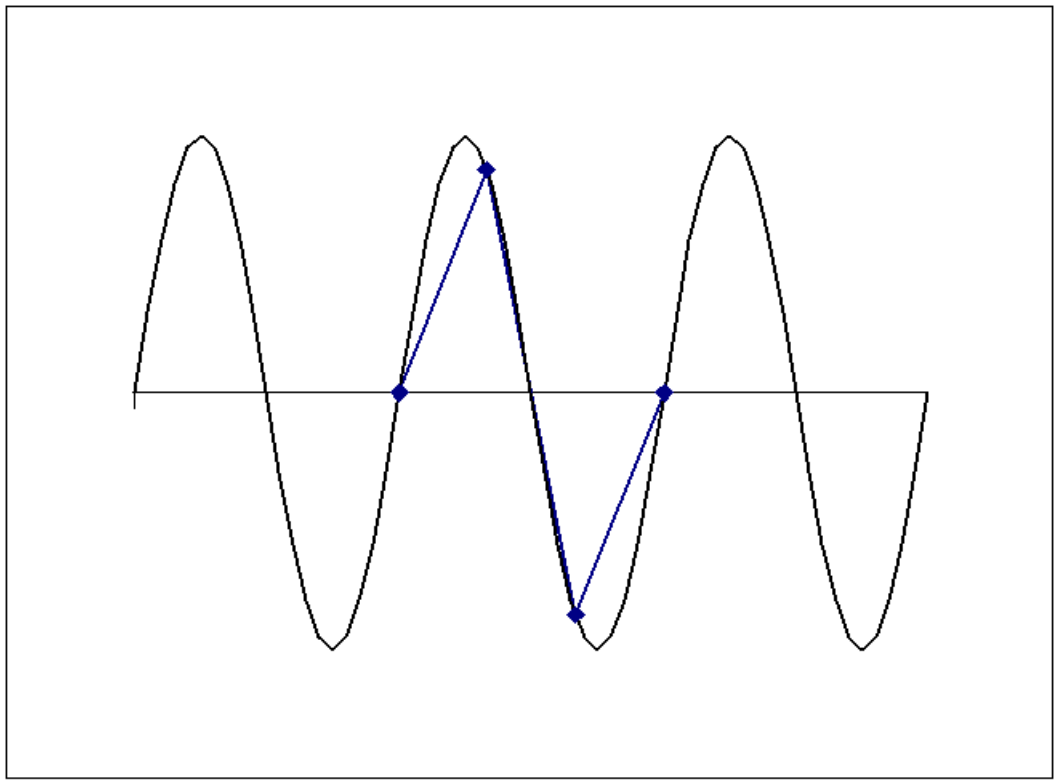
1 Element per λ



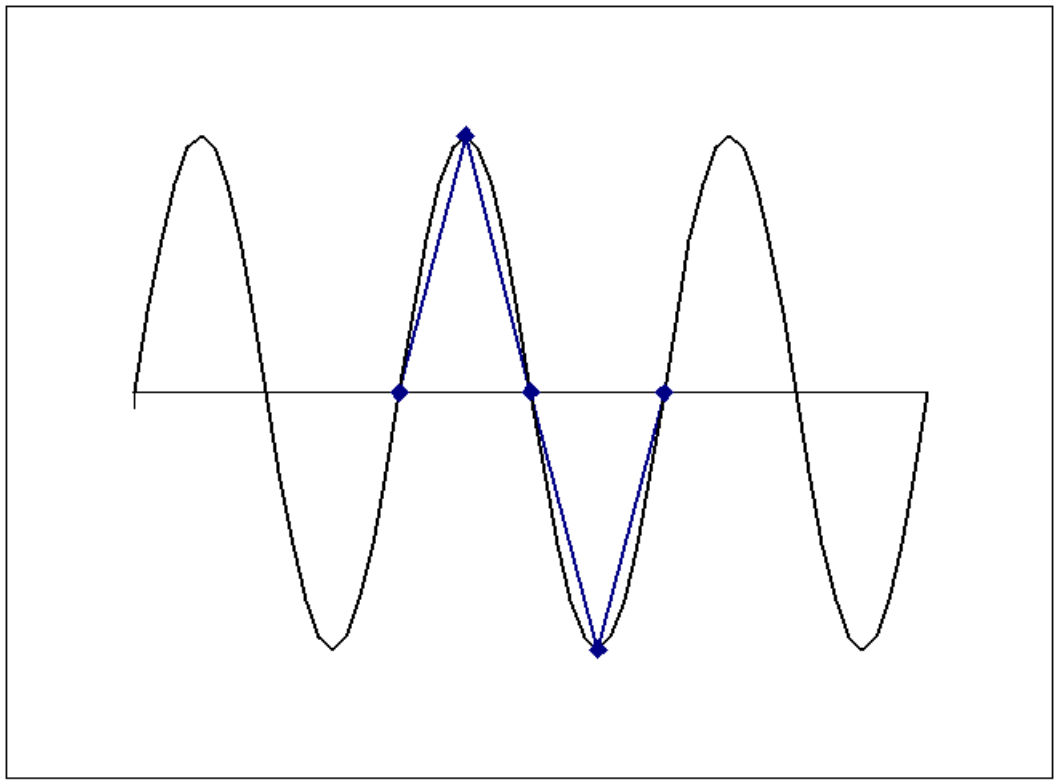
2 Elements per λ



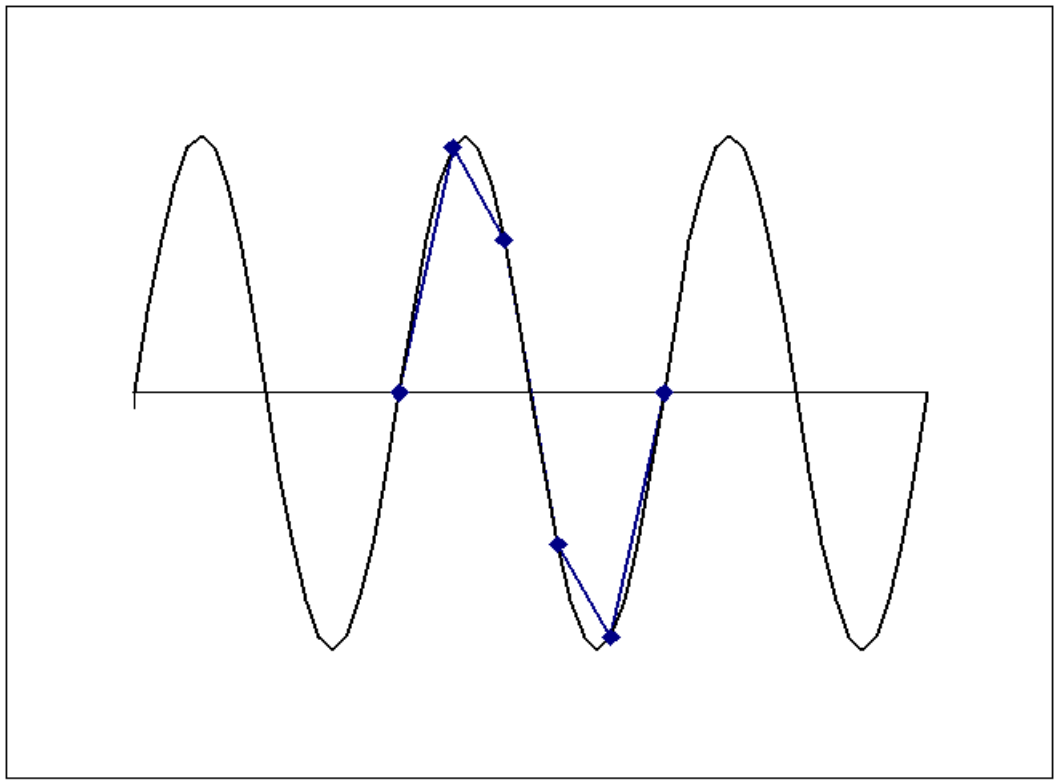
3 Elements per λ



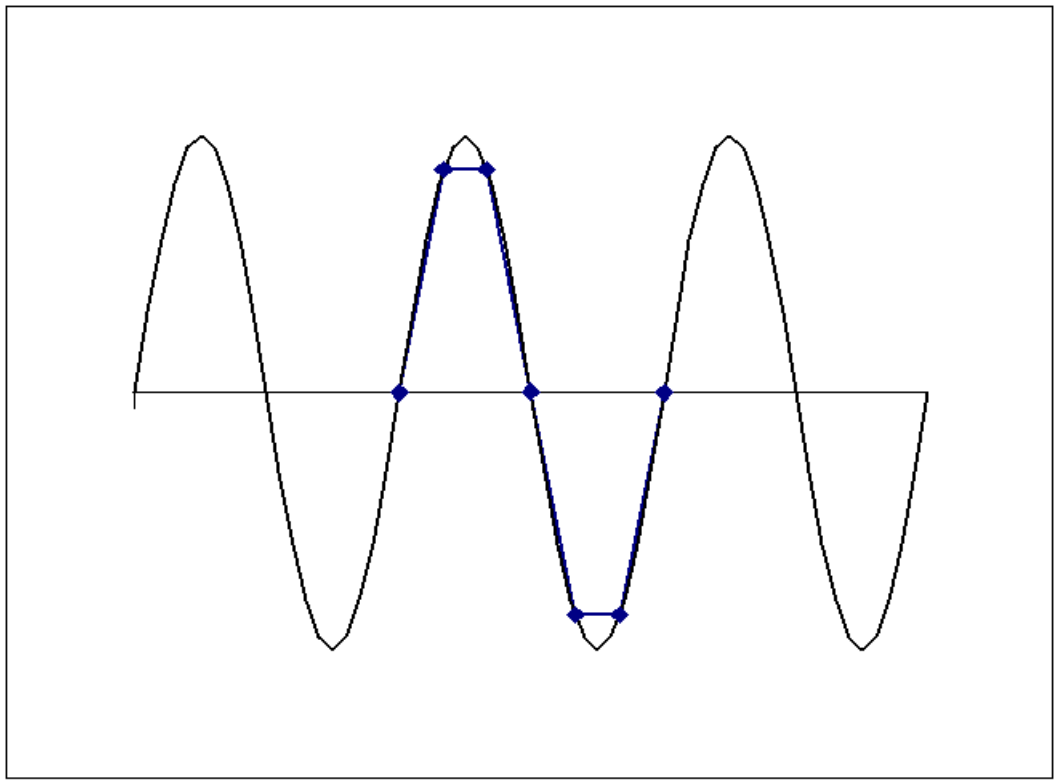
4 Elements per λ



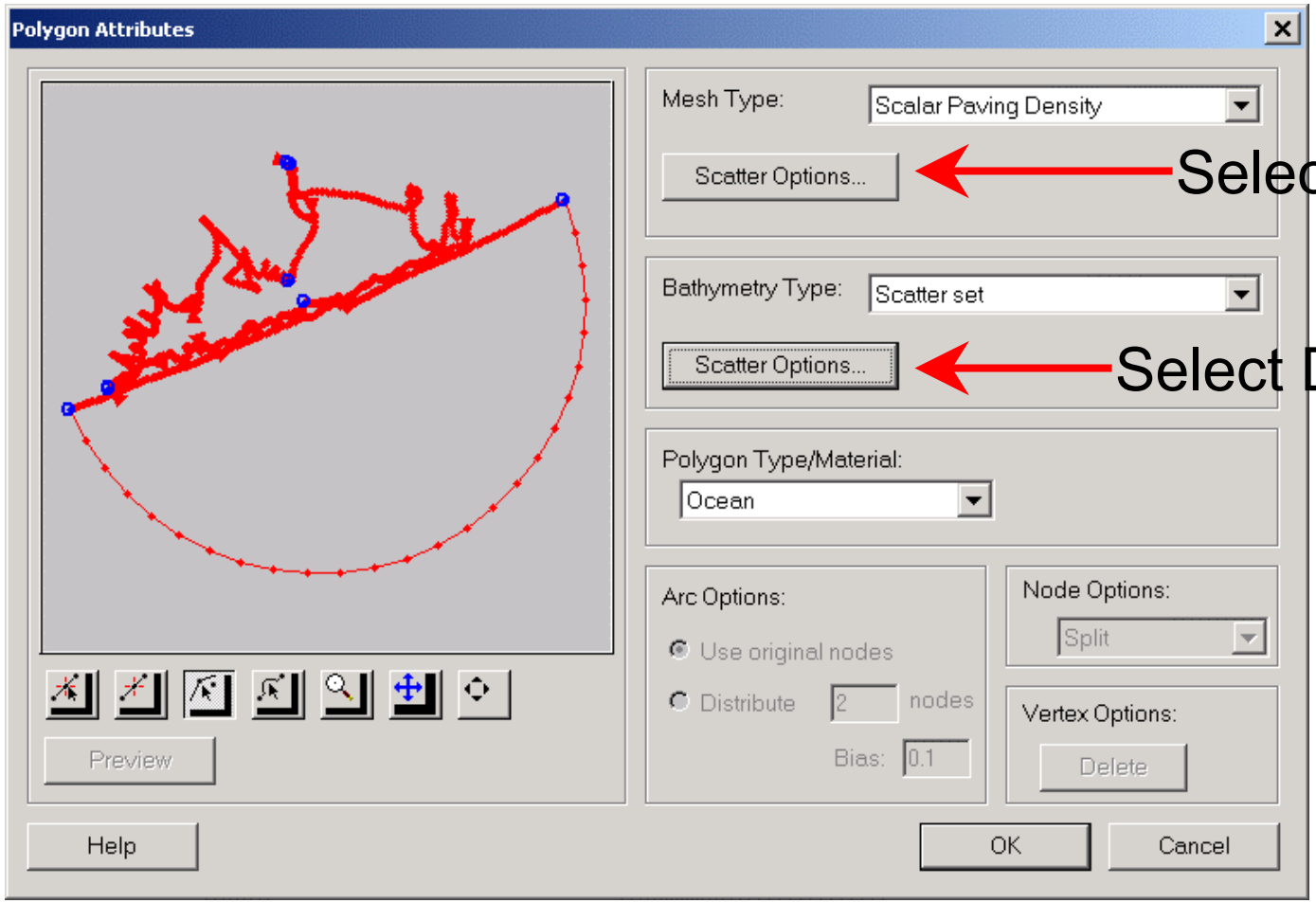
5 Elements per λ



6 Elements per λ



Polygon Attributes

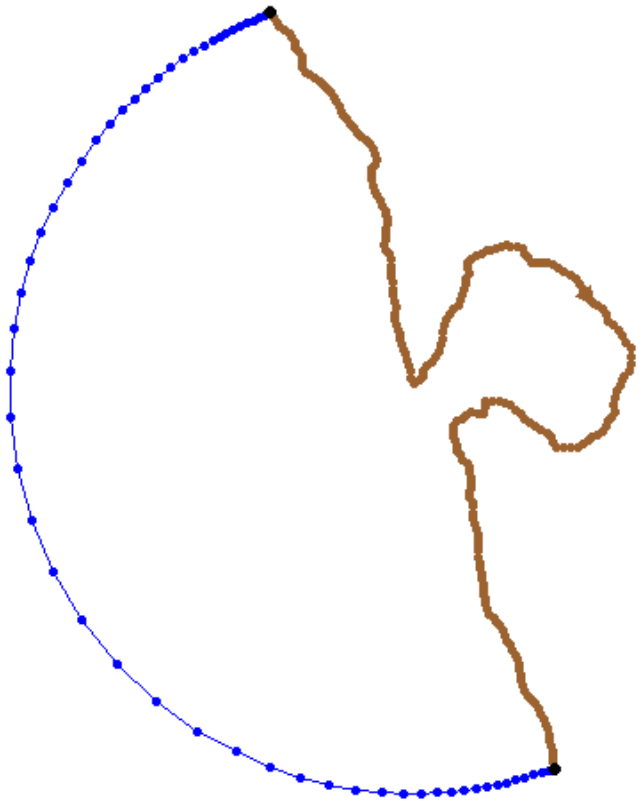


Select Size Function

Select Depth Function

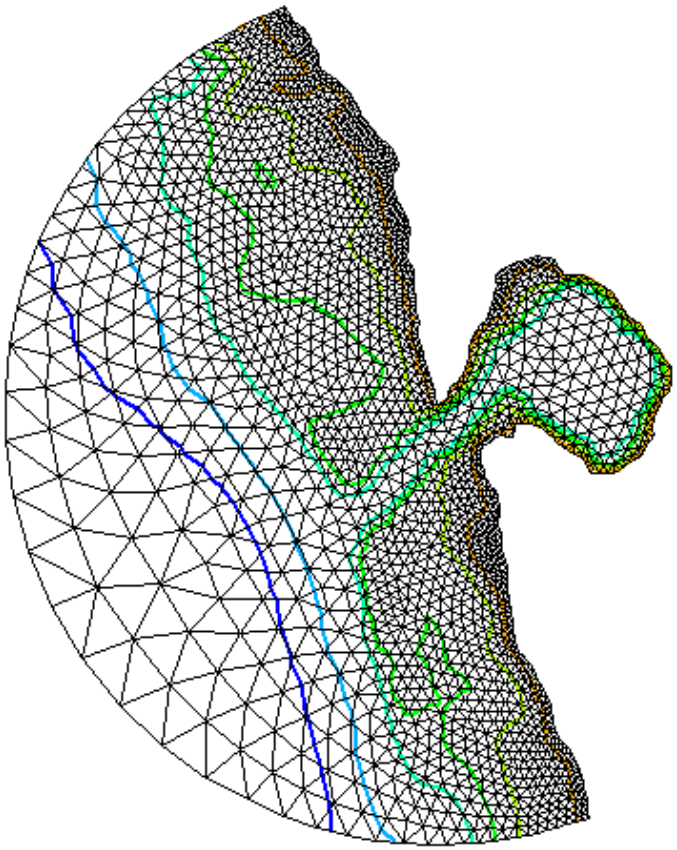
CGWAVE Domain

Open Ocean Boundary



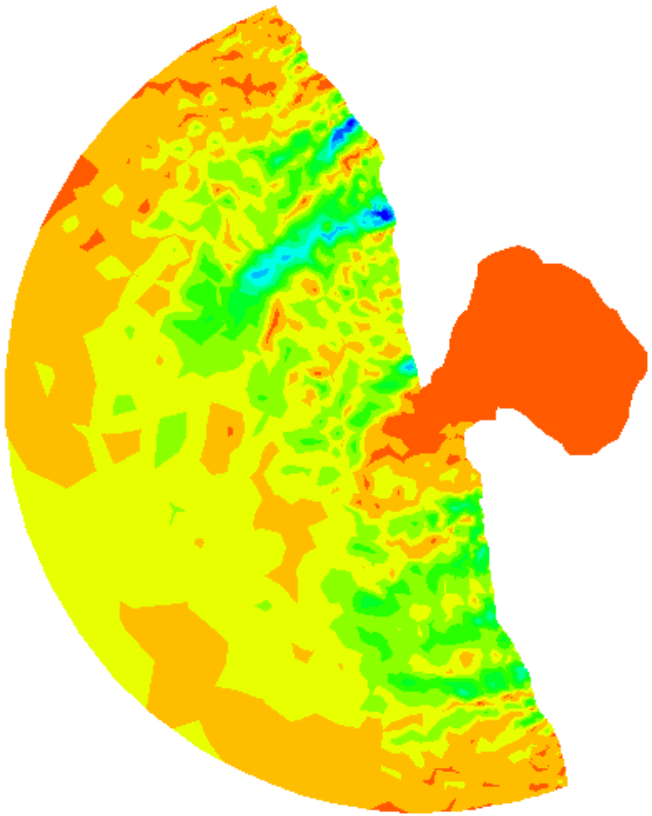
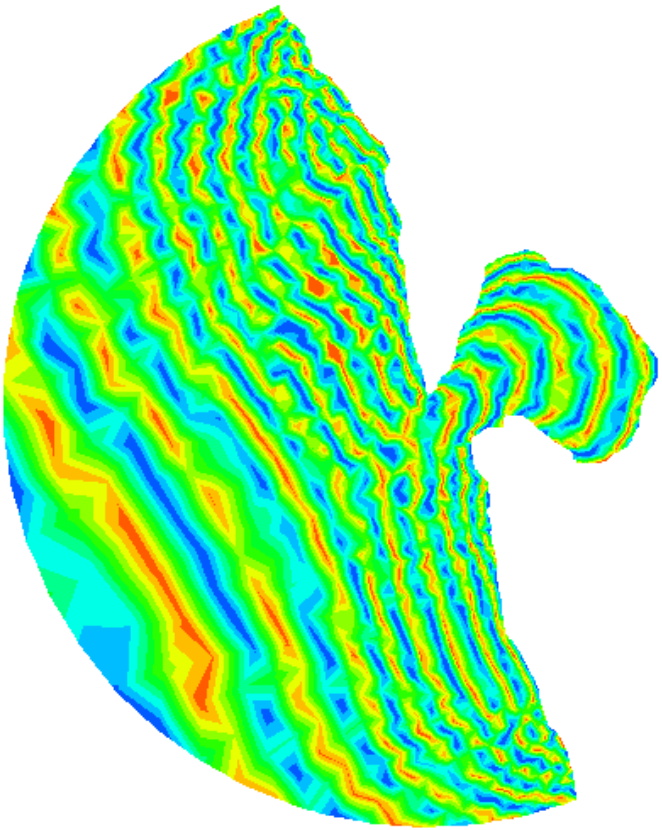
Coastline Boundary (Reflection Coefficient)

CGWAVE Mesh



CGWAVE Solution

Amplitude



Phase