**Field Data Collection**

* Data were collected from 02 January 2017 through 13 December 2017
  + 39 survey days; 1,558 man-hours
* Sidescan = Teledyne Benthos C3D
  + 200 kHz frequency
  + Range of 50 meters
  + 15% Overlap between transect
  + Transect spacing of 85 meters
  + Data collected in WGS 84
  + Projected to UTM 14N
  + Location Data: Ashtec dGPS receiver with Communication System International MBX-3 Differential
* Singlebeam = Biosonics DTX
  + 120 kHz frequency
  + Collected in Visual Acquisition
  + Pulse rate = 8
  + Pulse duration = 0.1
  + Power Reduction = -9.2
  + Transducer depth = 0.61 m
  + Location Data = Garmin GA 29 GPS

**Data Post Processing**

* Sidescan
  + Chesapeake SonarWiz V7
  + Bottom track
  + Empirical Gain Normalization
  + Mosaic and output as 8-bit GeoTiff with 0.2 m-resolution
  + WGS84 UTM 14N
* Singlebeam
  + Processed in EchoView
  + Bottom Line Selection
    - Min SV for pick = -9
    - Backstep @ -15 discrimination level
    - Peak threshold = -13
  + Bottom Classification (to pull features)
    - Distance between intervals = 5 m
    - Background noise = -999
    - Bottom echo threshold @ 1 m = ranges from -60 to -40
  + Depth corrected to MLLW in 1-hour intervals from nearest NOAA tide station = Port O’Connor 8773701

**DEM Creation (can be re-created from point data using different interpolation techniques)**

* Empirical Bayesian kriging
  + Output cell size 50
  + Logempirical transformation
  + Exponential semivariogram
  + 500 points in each local model
  + Local model overlap 3
  + 50 simulated semivariograms
  + Standard circular search pattern
    - Radius of 100 m
    - Maximum neighbors = 500
    - Minimum neighbors = 100
    - Angle 45
    - Sector Type - 4

**Thematic Mapping**

* Manual interpretation based on sidescan imagery and depth, hardness, and roughness bottom features from singlebeam echosounder
* Accuracy assessment using a combination of petite ponar, dredge, and patent tongs
  + 174 samples
  + Accuracy for Oyster habitats > 80%