

2006

# A multibeam survey of mid-Seneca Lake: bathymetry, backscatter, and invasive species

Thomas C. Weber

*University of New Hampshire, Durham*, [thomas.weber@unh.edu](mailto:thomas.weber@unh.edu)

Anthony P. Lyons

*Pennsylvania State University - Main Campus*

Follow this and additional works at: <https://scholars.unh.edu/ccom>




Part of the [Oceanography and Atmospheric Sciences and Meteorology Commons](#)

---

## Recommended Citation

Weber, Thomas C. and Lyons, Anthony P., "A multibeam survey of mid-Seneca Lake: bathymetry, backscatter, and invasive species" (2006). *Finger Lakes Research Conference (FLRC)*. 380.  
<https://scholars.unh.edu/ccom/380>

This Conference Proceeding is brought to you for free and open access by the Center for Coastal and Ocean Mapping at University of New Hampshire Scholars' Repository. It has been accepted for inclusion in Center for Coastal and Ocean Mapping by an authorized administrator of University of New Hampshire Scholars' Repository. For more information, please contact [nicole.hentz@unh.edu](mailto:nicole.hentz@unh.edu).

An aerial photograph of Seneca Lake, New York, with a grid overlay. The lake is the central feature, surrounded by green forested land and some urban areas. Several road markers are visible: a '20A' shield in the top left, a '20' shield at the top center, a '390' shield in the bottom left, a '15' circle in the bottom left, a '14' circle in the bottom right, and a '414' circle in the bottom right. The title text is overlaid in large, bold, blue letters.

# **A MULTIBEAM SONAR SURVEY OF MID- SENECA LAKE: BATHYMETRY, BACKSCATTER, AND INVASIVE SPECIES**

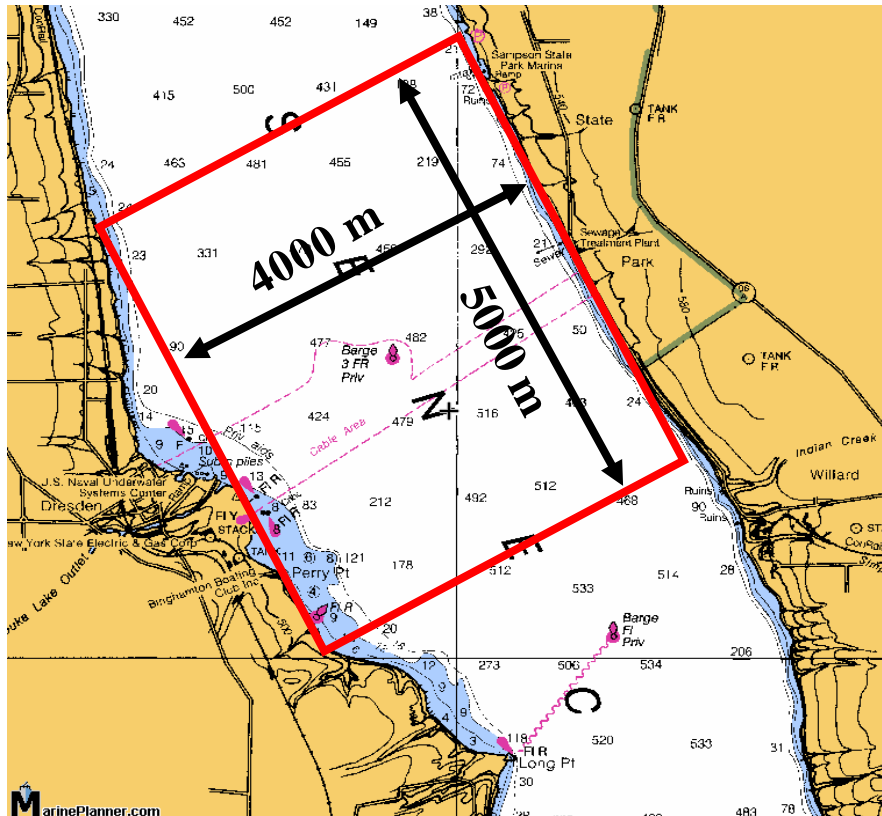
**Tom Weber**

**Center for Coastal and Ocean Mapping  
University of New Hampshire**

**Tony Lyons**

**Applied Research Laboratory  
Penn State University**

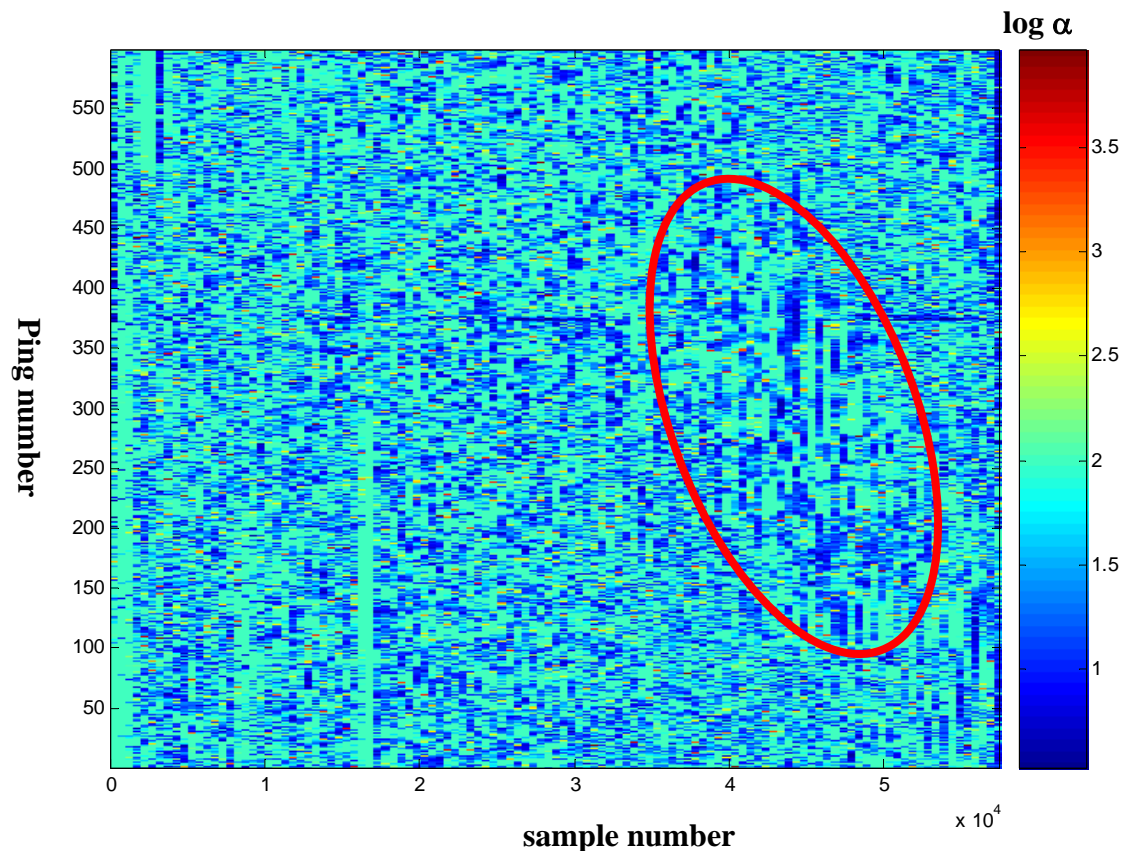
# Multibeam Survey Area



- The survey region encompassed area of the of the FNC-3A Aug. 2005 experiment
- Track-lines with 50 and 100 m spacing were run at an average speed of 8 knots.
- Resolution of approximately 3 m x 3 m was achieved.
- Underwater video and grab samples obtained during the survey.
- Approximate experiment timeline:
  - 12 hours required to mount, setup and test equipment
  - 20 hours for survey.
  - 4 hours for ROV operations.
  - 4 hours for cleanup.

**Goal: collect bathymetry and scattering strength data to complement data collected as part of the 2005 FNC-3A experiment.**

Log of the estimated shape parameter versus sample number for FNC-3A (MM-2) environmental acoustic data.



# Equipment and Personnel

- **Facilities:**
  - NUWC Seneca Lake Sonar Test Facility (used workboat with generator)
- **Equipment:**
  - RESON 8101 240 kHz calibrated multibeam
  - RBR CTD data logger
  - Coda Octopus F180 Attitude and Positioning System
- **Personnel:**
  - Anthony P. Lyons
  - Thomas C. Weber

# Mounting



# Navigation

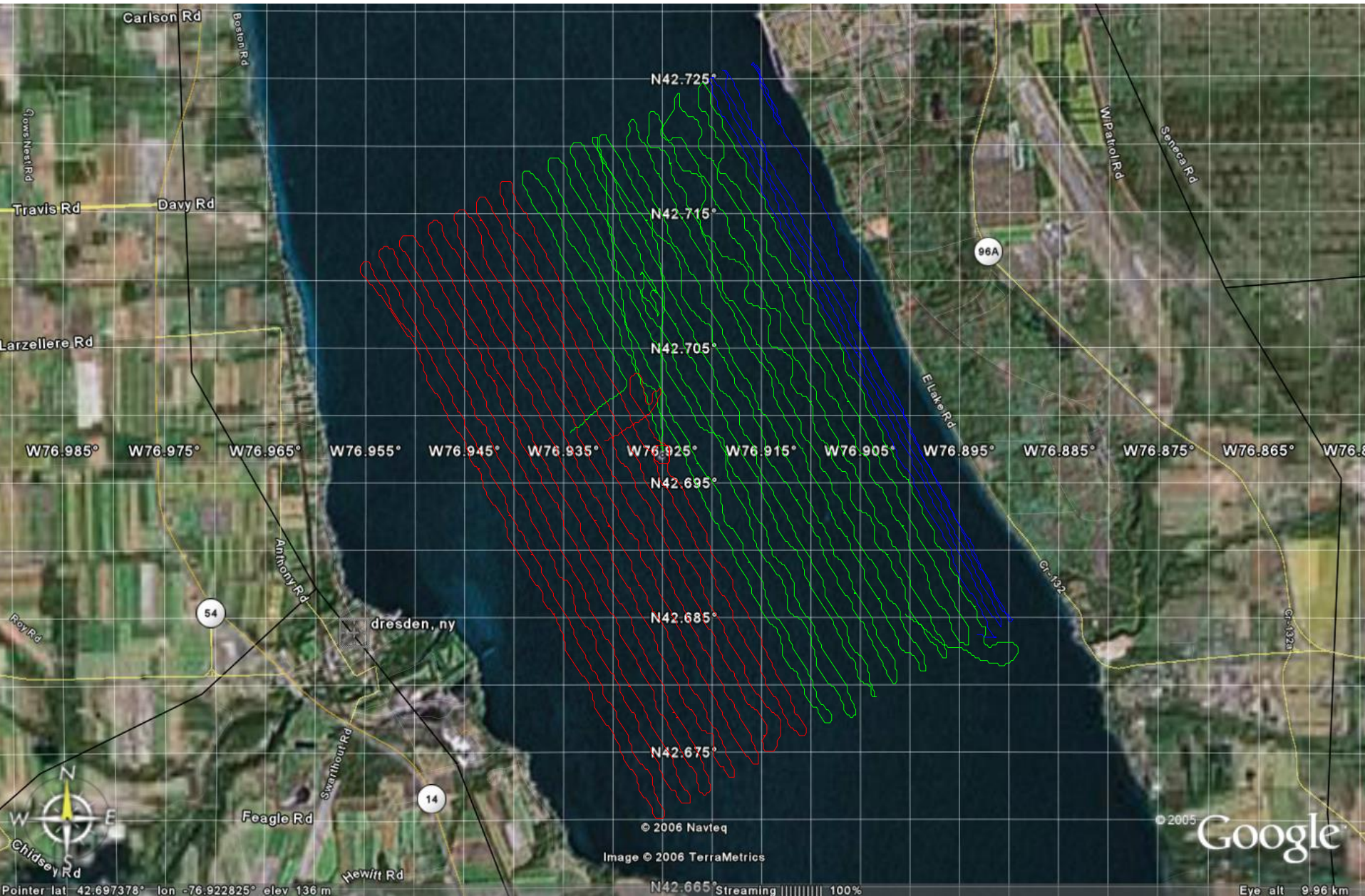


# Data Acquisition

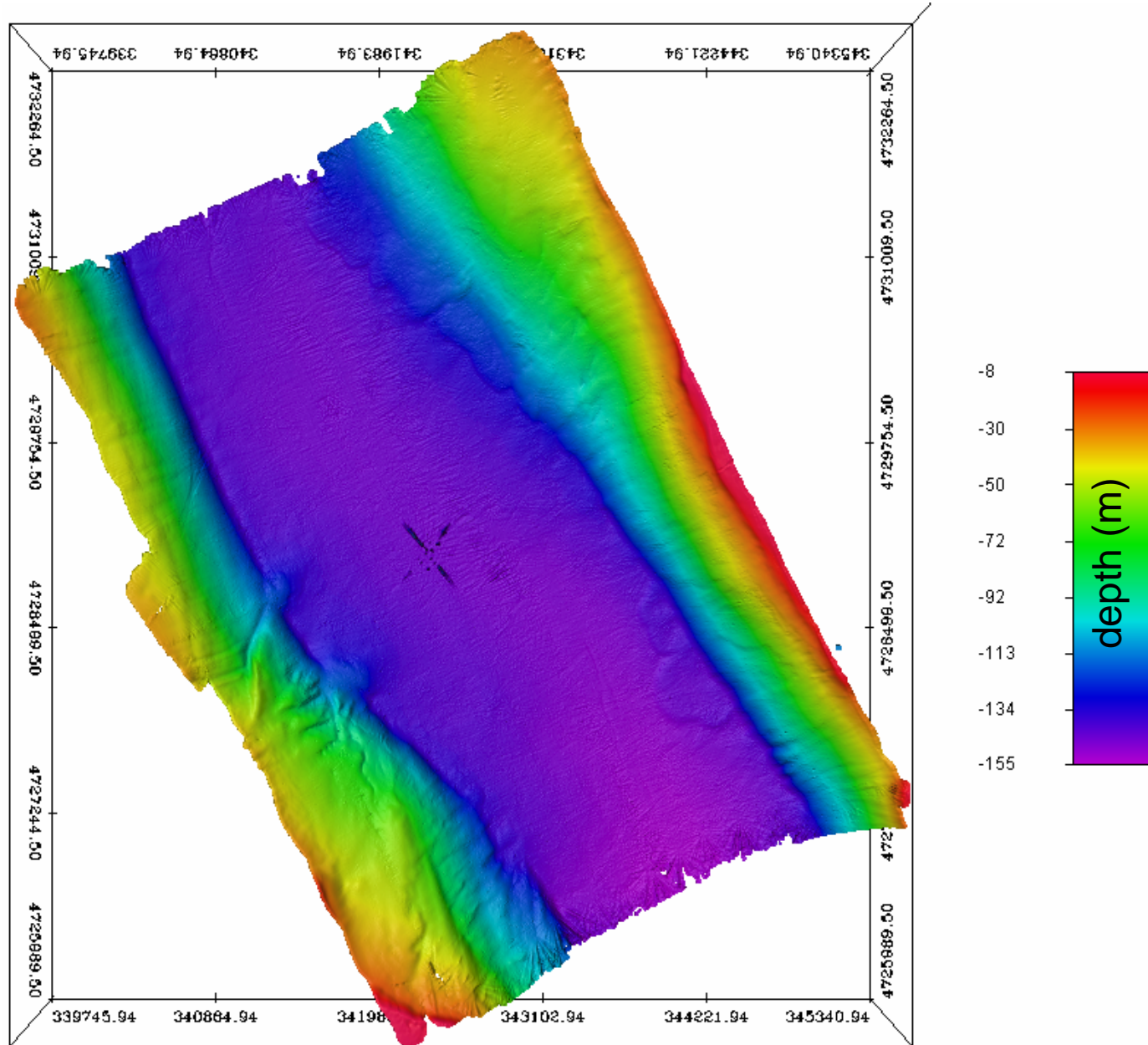




# Tracklines

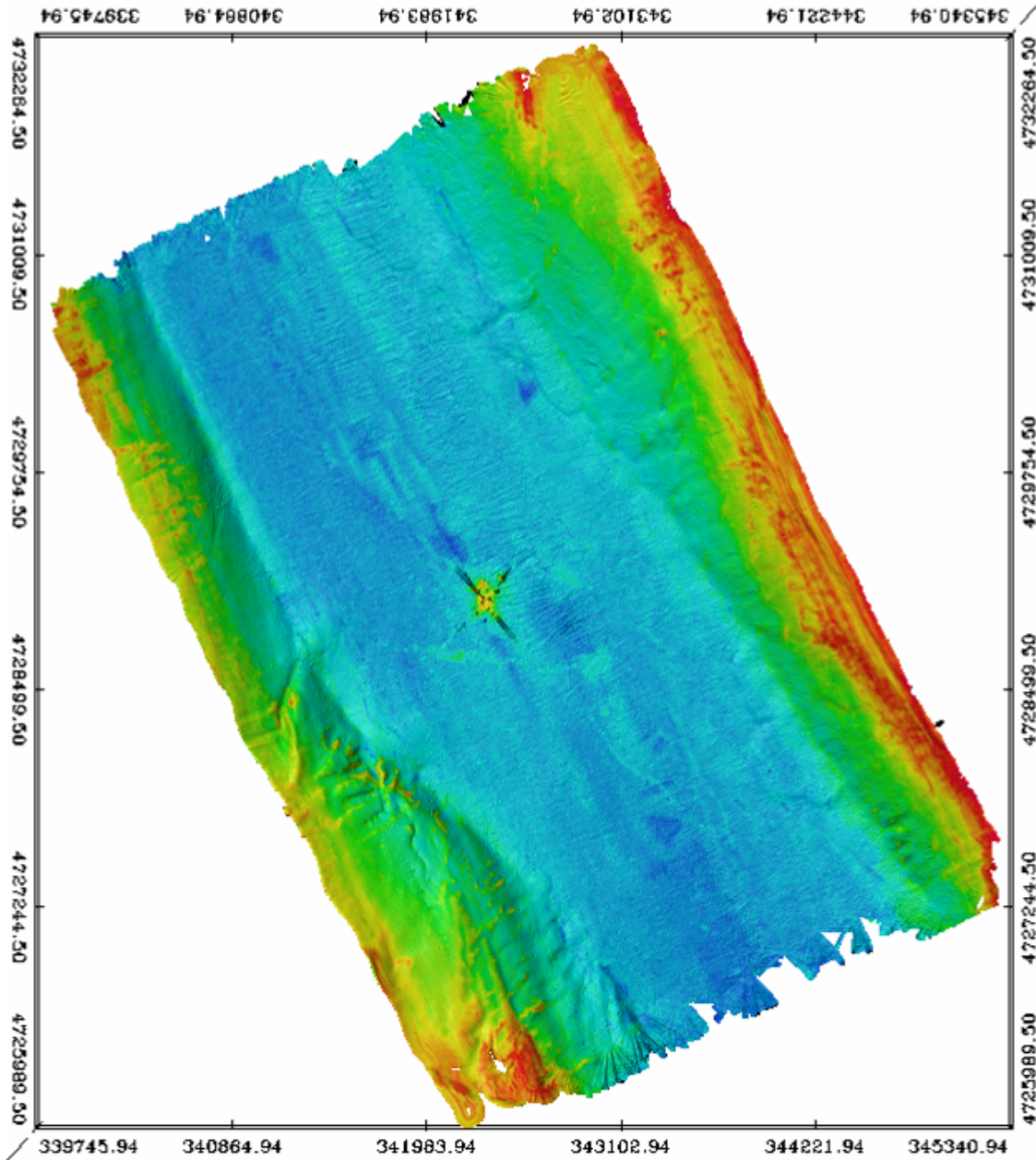


# Bathymetry Results

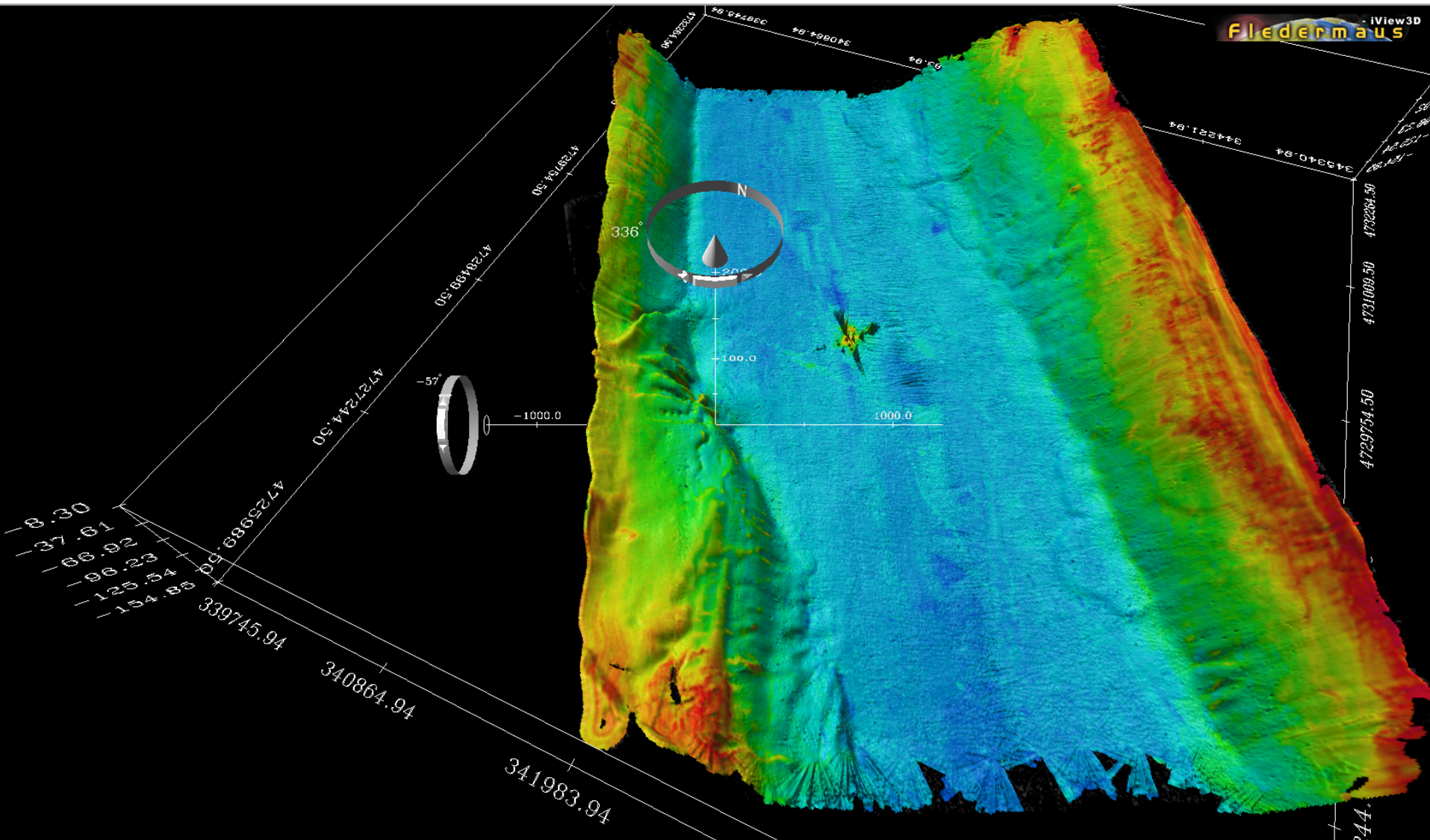




# Scattering Strength Results



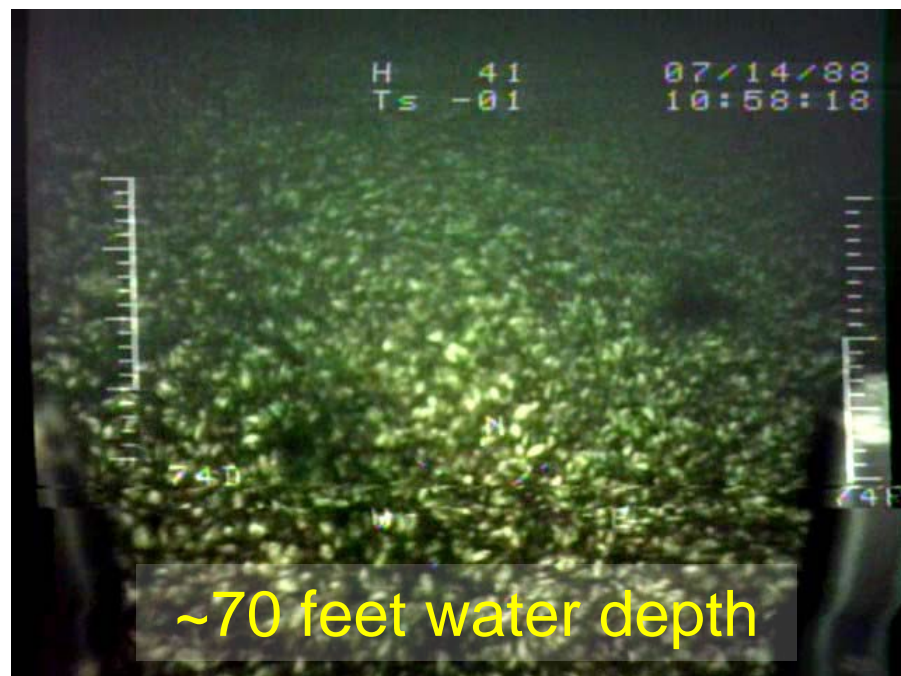
# Scattering Strength Results



# ROV Operations



# ROV Video Frame Grabs



# Grab Sampler





# Grab Samples with Quagga(?) Mussel Shells



# View of SMP from Anthony Road Vineyard

