

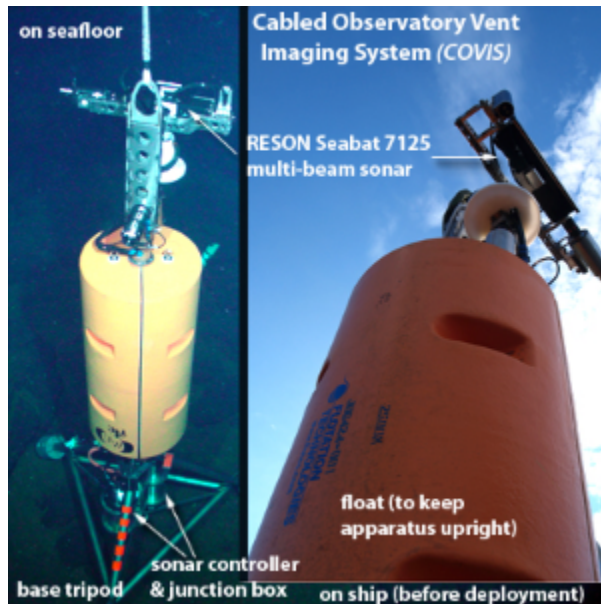
# Sonars

## Sonars

Instrument Point People

### The COVIS Project

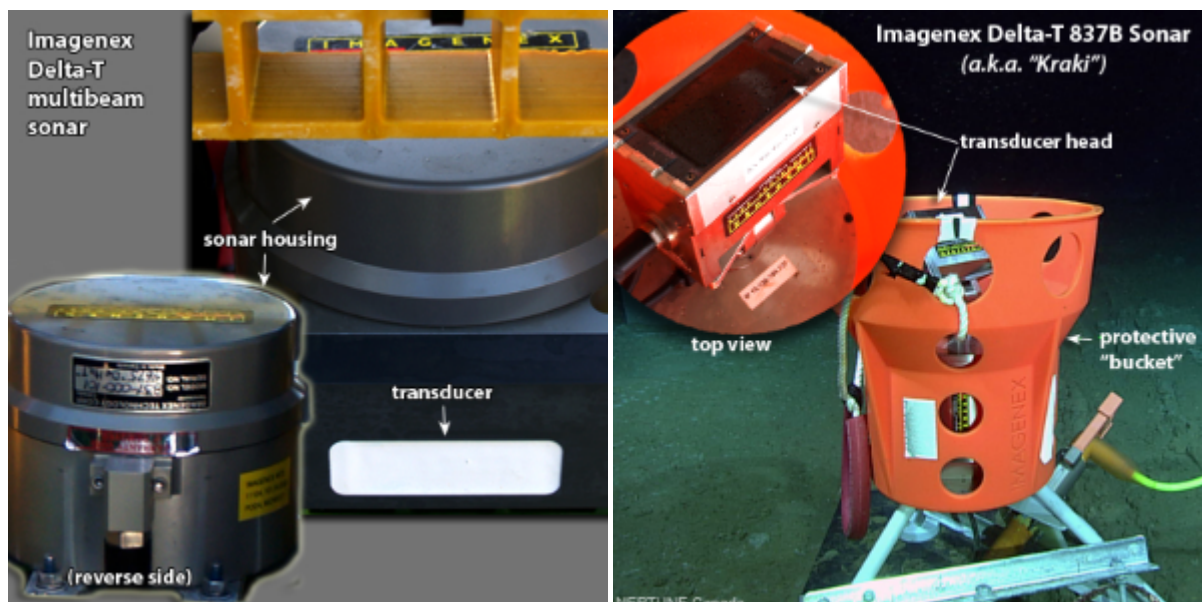
The COVIS sonar is a customized sonar system that provides a time-series of acoustically imaged and measured hydrothermal change at Main Endeavour Field. COVIS images show plumes that rise from black smoker vents and lower-temperature diffuse flow discharging from the surrounding seafloor. Measurements include flow rate, volume flux of the plumes, and the area of diffuse flow to determine how flows change. The COVIS project is a collaborative project with Rutgers University and the Applied Physics Laboratory of University of Washington (NEPTUNE Canada: An Invitation to Science, 2012).



(Click photo to enlarge.)

### Imagenex Sonar at ODP 889

The Imagenex Multi-beam sonar is a sonar system intended to measure methane gas plumes that escape from the seafloor at the "Bubbly Gulch" portion of the Bullseye Vent. Bubbles that escape from gas pockets in the seafloor are detected by the Imagenex sonar that performs rotary (360 degree) scans with a 100m range each hour (NEPTUNE Canada: An Invitation to Science, 2012).



(Click the photos to enlarge.)

## Kongsberg Rotary Sonars at Barkley Canyon

The Kongsberg Rotary Sonars at Barkley Canyon are intended to study seafloor micro-relief. Images from the Kongsberg sonar show daily and seasonal sediment bedform changes due to bioturbation and currents. The pits that are imaged by the Kongsberg sonar are approximately 50m in diameter and can persist for months at a time (NEPTUNE Canada: An Invitation to Science, 2012).



*(Click the photo to enlarge.)*