AT 26-17: Flux Measurements w/ Sentry

- PIs
  - James Kinsey (WHOI)
  - Tim Crone (LDEO)
  - Eric Mittelstaedt (University of Idaho)
- Goal
  - Estimate the total heat and mass flux emanating from the ASHES and MEF hydrothermal vent fields?
- Sentry equipped with
  - Acoustic Doppler Velocimeter with an IMU
  - 1200kHz and 300kHz ADCPs/DVLs
  - Two SBE3 temperature sensors
  - Typical mapping suite

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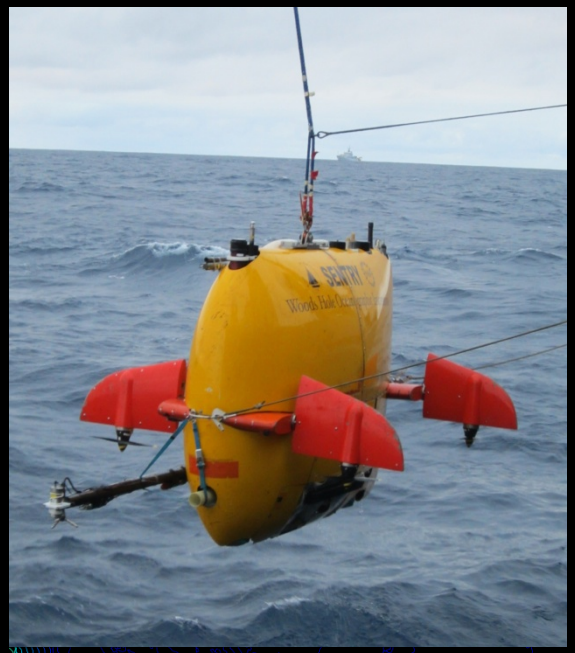
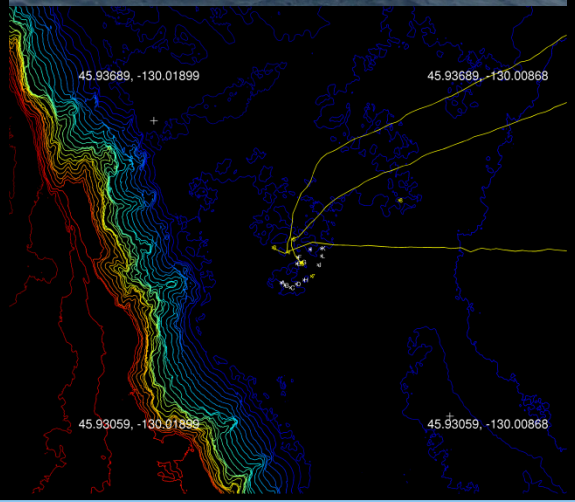
- Sentry team did a great job integrating cruise payload and transitioning between OComms and our gear
  - Pre-cruise installation and testing was key
- Dives
  - 12 planned
    - 3 lost to weather; 2 to vehicle issues
  - 6 Successful Dives
    - 1 at MEF; 5 at ASHES
      - 5 overnight dives
      - One 40 hour dive at ASHES (2 dives in 1)
- Dives were in the immediate proximity of RSN or Neptune Canada infrastructure
  - Coordinated with OOI on weight dropping zones
  - Good USBL and Acomms is essential
  - Required extra vigilance during AUV ops but no problems





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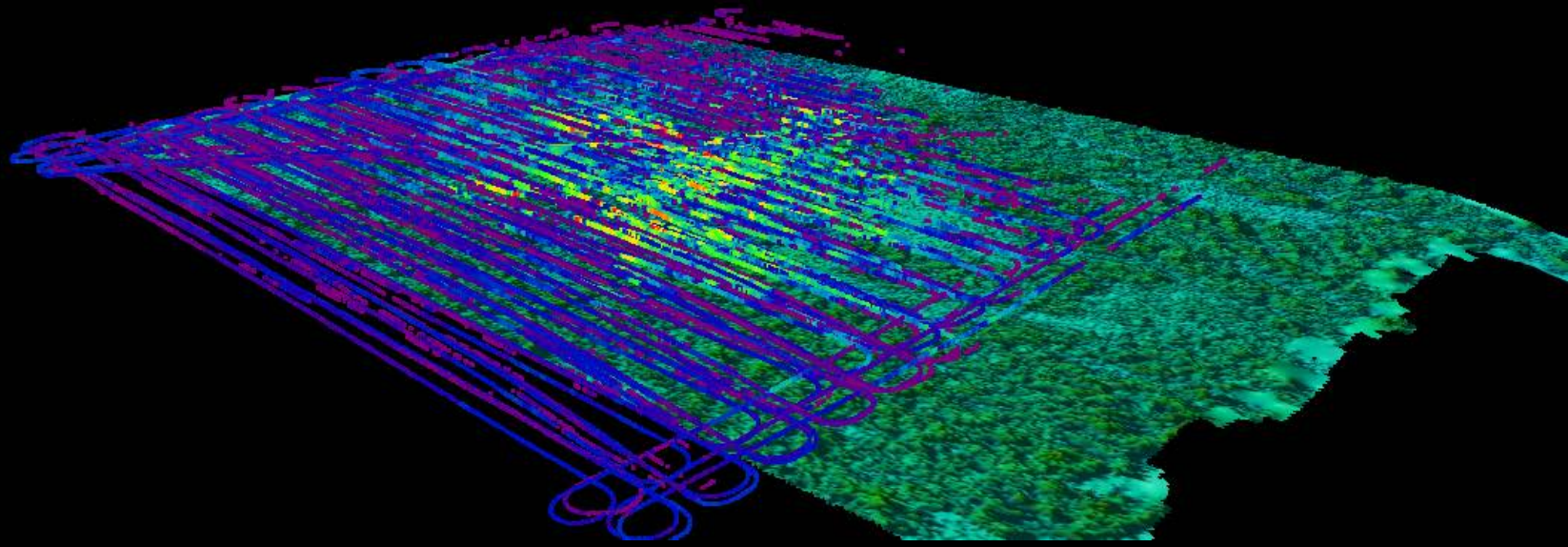

- Obtained high-resolution water column data (temperature, water velocity profile and point measurements) co-registered with 50cm gridded bathymetry
  - Concurrent LADCP data
  - High-resolution magnetics data
- Engineering add-on studying ADCP-aided navigation
- Visit poster V21A-4725 on Tuesday morning for more details