PN07 PLUSNet - Pt Sur

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Cruise Objectives

- HFGW Gateway Capability
- Remote NAFCON operation
- Autonomous Environmental Adaptive Sampling
- Alternative communications mechanisms

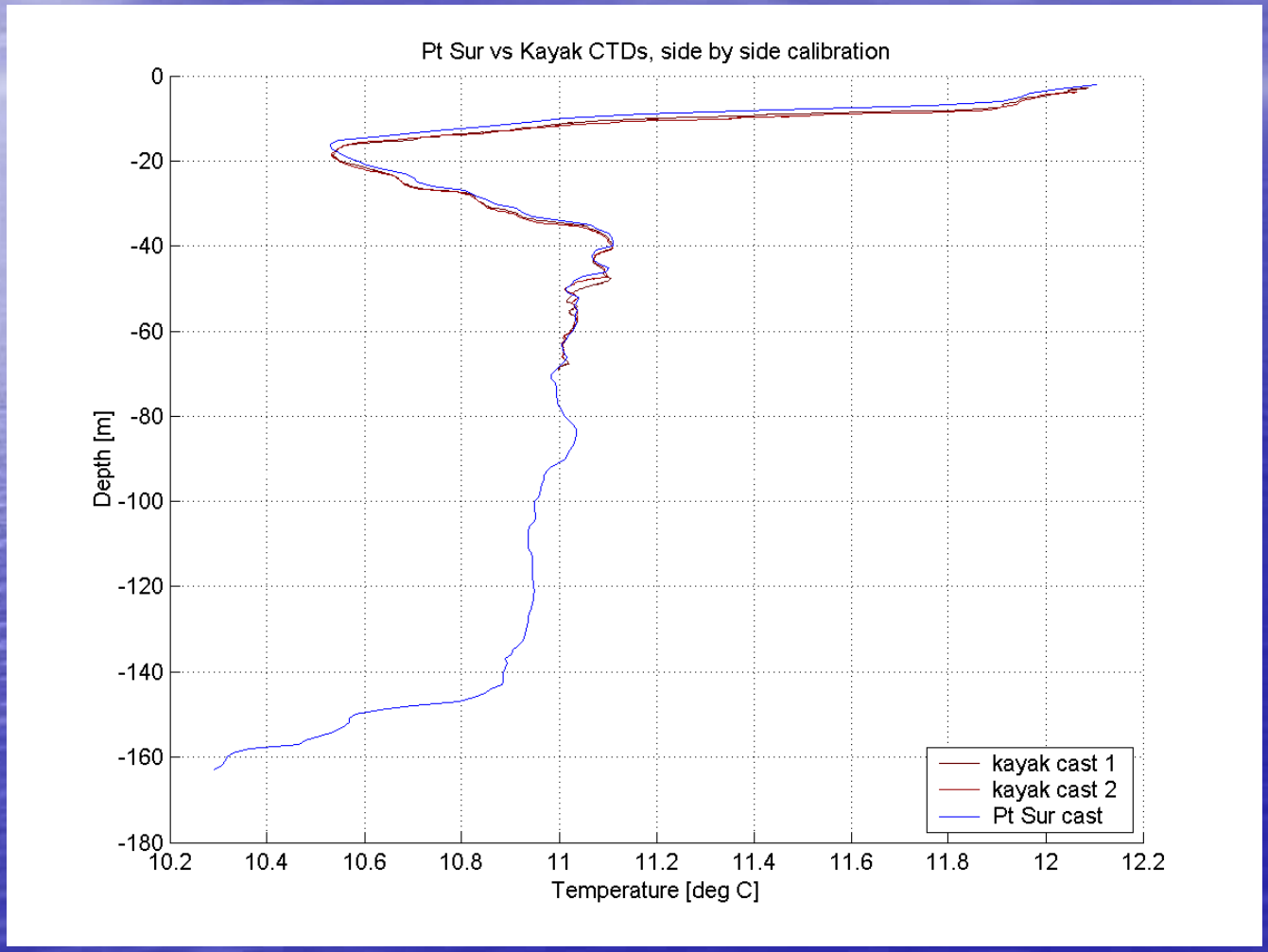
Accomplishments

- HFGW radio gateway capability – Two kayaks set up with ARLUT HFGW radios. Typical deployment in station keeping mode.
- NAFCON "deploy" and "prosecute" messages allowing for remote redistribution of assets
- CTD Adaptive Sampling – CTD used to calibrate other mobile assets and provide data to the model.
- Improved communications with vehicles
- Control and monitoring of multiple vehicles using the MOOS IvP helm and new user interface

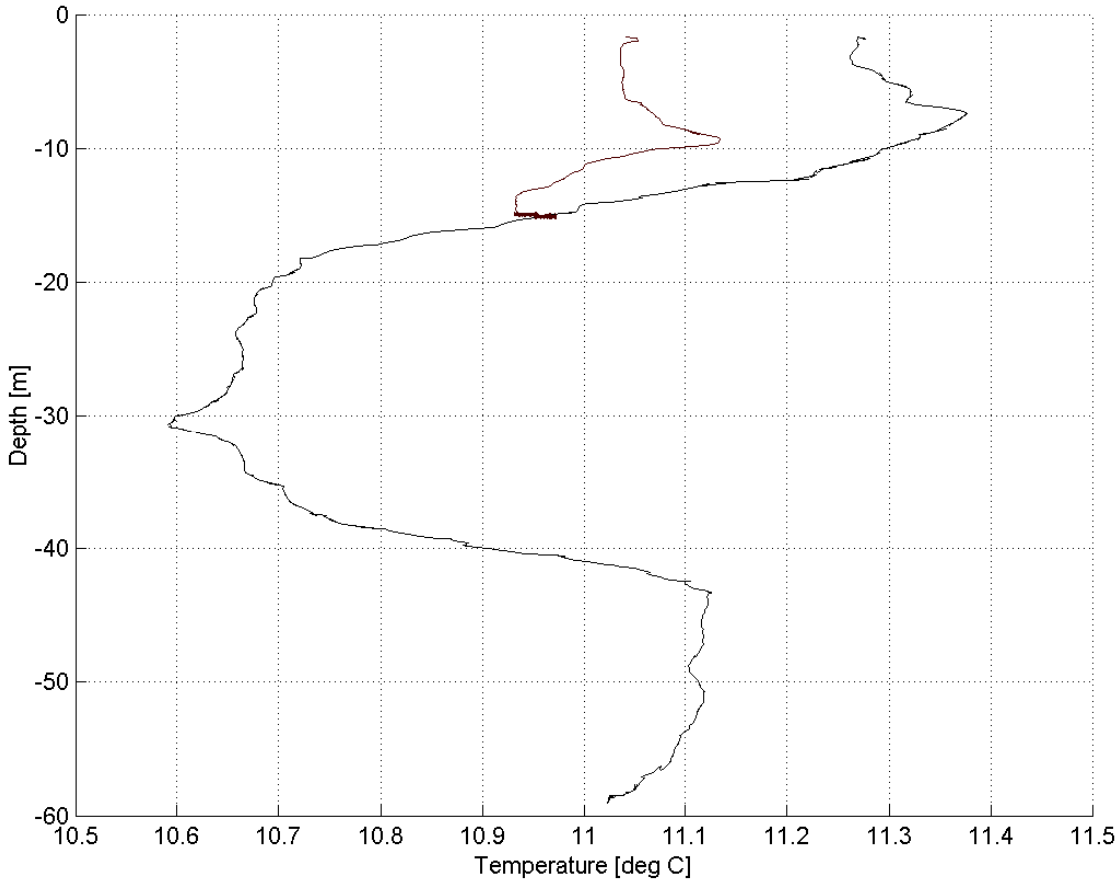
The HFGW kayak

Autonomous CTD kayak

Kayak CTD Calibration



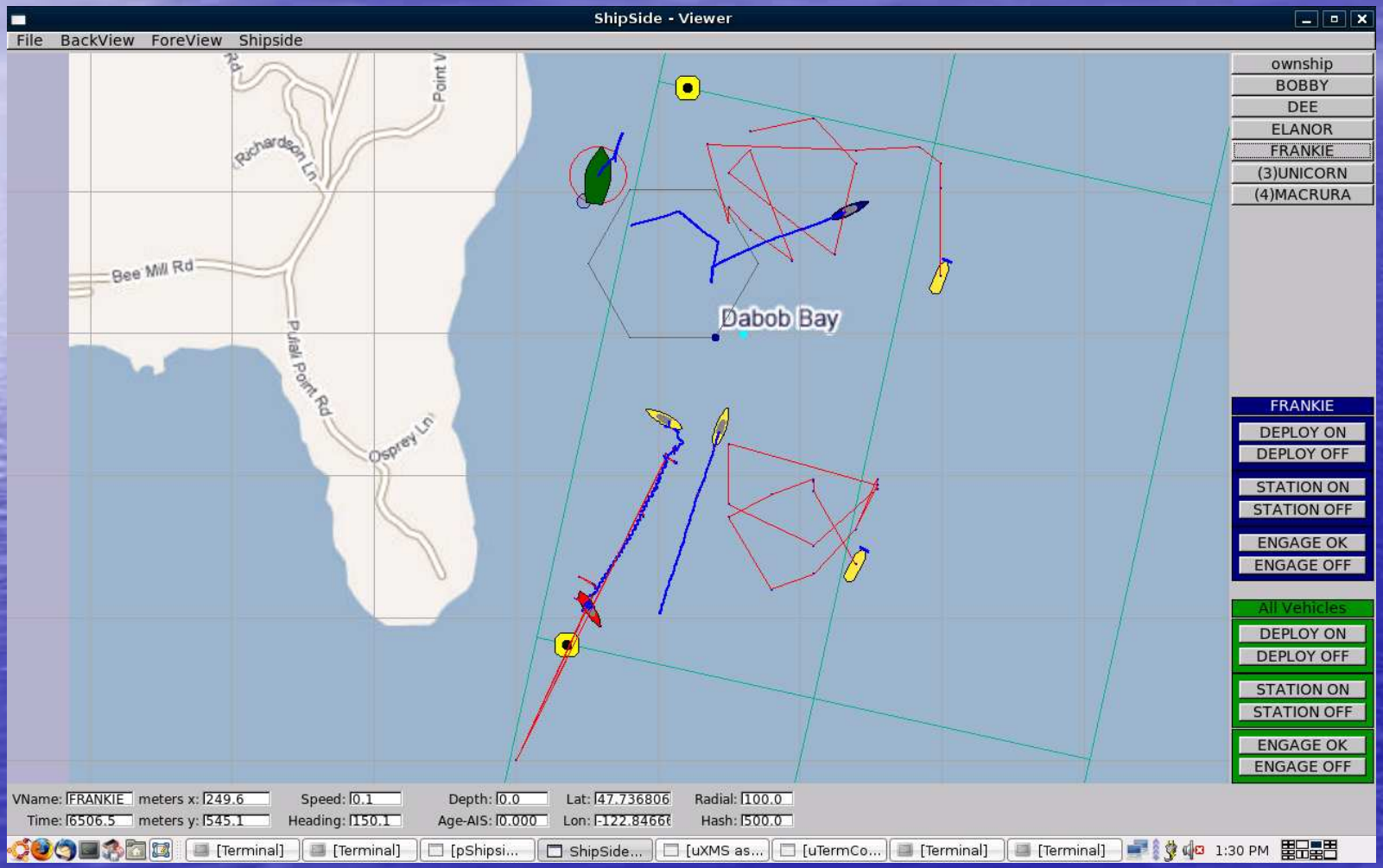
Internal Wave – Pierre Lemersaux, Oleg Logutov, Heather Hornick



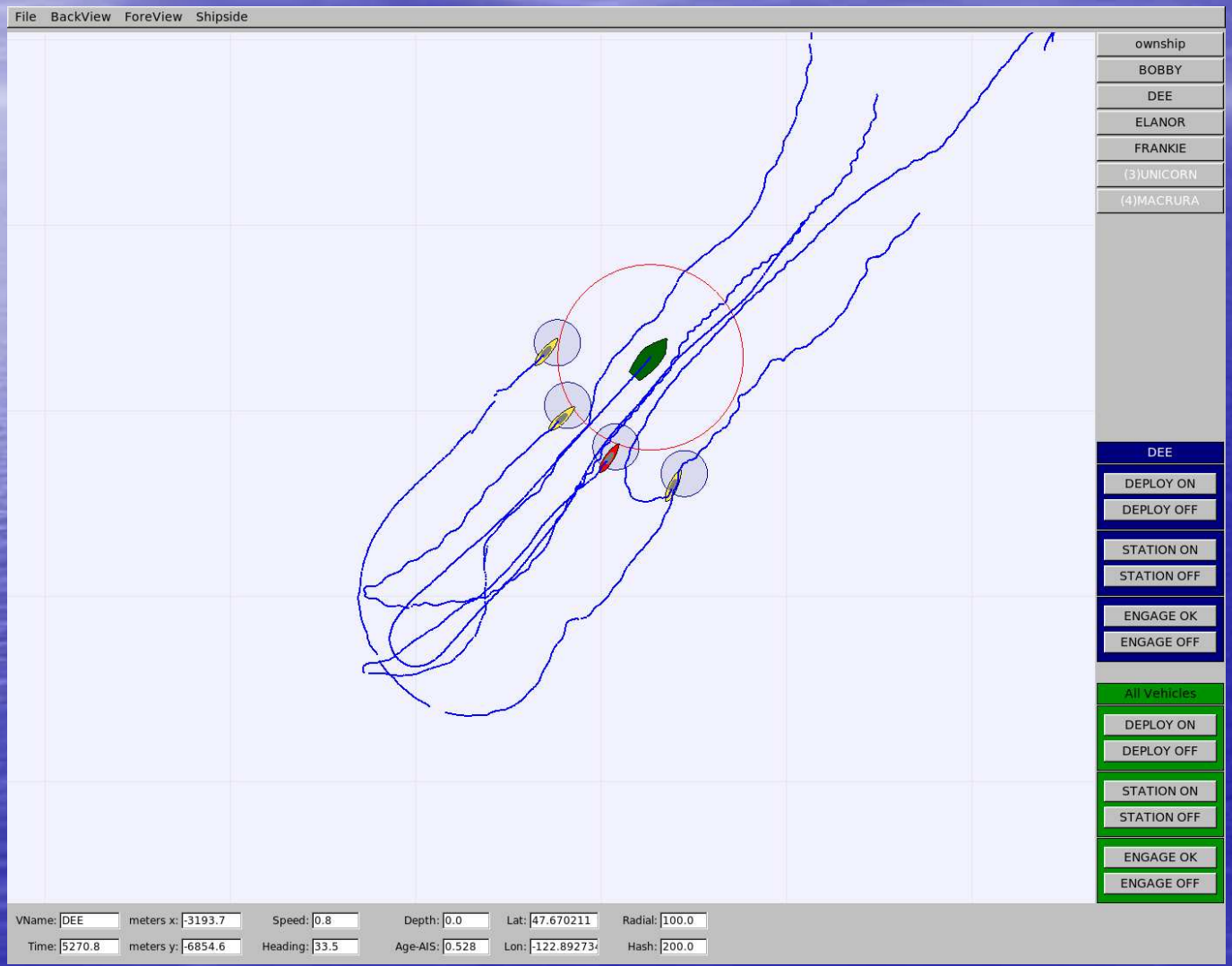
Communications considerations

- 802.11 Wifi and WiLAN frequency conflicts
  - WiLAN compromised some vehicle comms
  - Shifted Wifi channels in order to improve comms
- Tested alternative to "pMOOSBridge" using UDP/IP vs. TCP/IP protocol – Andrew Patrikalakis
- Verizon EVDO Aircard
- HFGW serial interface

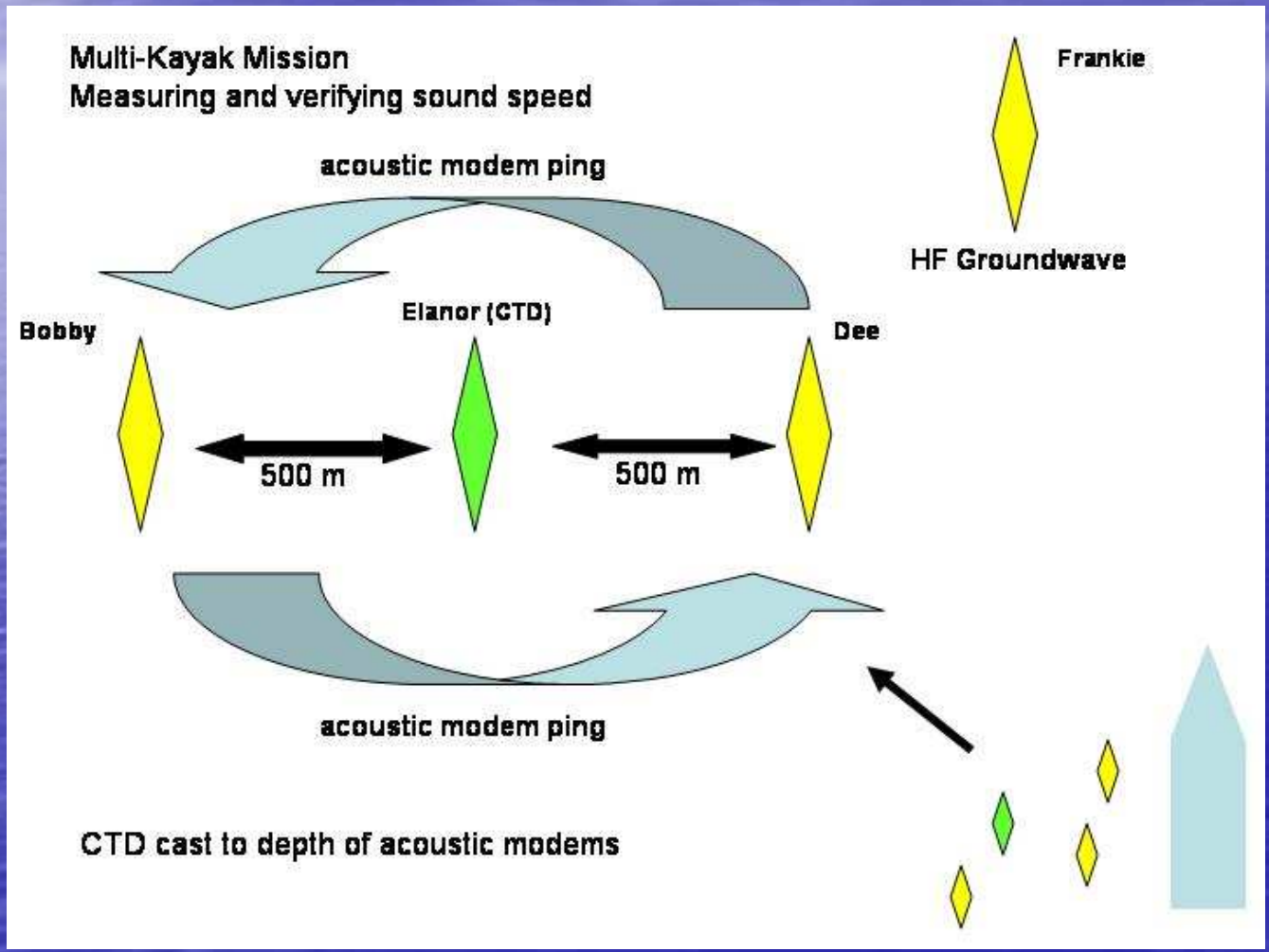
NAFCON deploy and Prosecute



Multiple Vehicle command and control with MOOS IvP Helm and GUI – Mike Benjamin



Sound Speed Profile Experiment



Summary

- Communications issues were overcome
  - WiLAN significantly improved from MB06
  - VHF radios in labs substantially improved ops process
- CTD kayak with some MVC improvements worked very well
- Multiple vehicle operations went well
  - Ops tempo improved at end of cruise
- Vehicle loss suggests areas for improvement
  - 100% watertight enclosures
  - Improved Operating Procedures
- Data will be available on server at MIT, directory TBD