RVTEC 2010 – UHDAS/ADCP

UHDAS Goals

- Flexible (inputs), simple (to run), reliable, robust
- Enable remote troubleshooting
- Data, raw and processed: optimize
  - Good real-time output
  - Minimal effort to “touch up”
  - Portable code and documentation
  - Recover from problems

UHDAS Installations

- 11 UNOLS ships
- 3 polar ships
- 3 NOAA ships
- 1 “other” ship

Installation status since last RVTEC

- 22 ship/system visits (operating system installation)
  - 3 cruises: sailing (diagnostics, evaluation, development)
  - 5 running new OS version (Lucid Lynx, kernel=2.6.32, starting 9/2010)
  - 5 ships came to Hawaii
  - 2 remote (internet) installations (known hardware, new disk)
- New Instruments:
  - Revelle (OS75), Healy (OS150), Knorr (WH300)
- New UHDAS Installations:
  - Healy (previously running VmDAS)
  - Brand-new ADCP+UHDAS installation: Langesth (spring 2011)

New Installation: Healy

- OS75, OS150
- POSMV is primary heading (logging gyro and ADU)
- high latitude
  - upgraded our topography for plots
  - improved automated projection handling for figures
- high standards
  - Improved documentation, metadata, UHDAS
- electrical noise causes severe data degradation:
  - 30%-50% loss of range
  - broadband mode severely biased (cannot use)

Dramatic Improvement Award

- Atlantic Explorer electrical noise
  - moved deck unit:
    - improved range
    - significantly reduced contamination
- Ka`imimoana POSMV
  - updated computer, deck unit, firmware
  - fixed antenna cables (?)

Minor problems

- Attitude
  - Ashtech
  - Phins (Atlantis; now switched)
- Networking
  - Fleet Broadband
  - routing, firewalls, security

Major Problem: Electric Noise

- Knorr: strange (electric?) interference
  - fixed: move to a different clean power circuit
- Atlantic Explorer (moved deck unit)
- Healy (continuing effort to reroute cables)
- Kilo Moana (air handling system; **acoustic noise**)

Improvements since last RVTEC

- more work on Python infrastructure
  - better map projections and topography (plots)
  - diagnostic plots for electrical noise
- advanced to next generation of linux (lucid lynx)
  - improved install scripts
- added “elog” for UHDAS data issues (Jules)

Continuing Request

- Keep us in the loop regarding
  - New ADCP (requires configuration, calibration)
  - Changes in serial feeds
  - New attitude devices (we like to evaluate them)
  - changes in networking
    - route to ship
    - infrastructure on ship
  - Help diagnosing and acting on problems
    - land-based email

Final request

(1) at sea: check daily email/look at plots

- Ashtech is OK? (heading statistics)
- processing is updating?

(2) Keep me in the loop:

- email me if you fix something first
- “end cruise” or inport cruise (in port)

<u>… as always:</u>

(3) **Send your needy scientists to Jules**