RVTEC 2011 – UHDAS/ADCP

UHDAS Goals

- Acquisition: reliable, robust, duplicate feeds
- Monitoring and remote troubleshooting
- Processing
  - Balance real-time output and post-cruise recovery
  - Minimal effort to “touch up”
  - Portable code and documentation
- Happy Scientists
- Happy Techs
UHDAS Installations

- **13 UNOLS ships**: Kilo Moana, M.G. Langseth, Thomas G. Thompson, Atlantis, Knorr, Oceanus, Wecoma, Endeavor, Atlantic Explorer, R.G. Sproul, Roger Revelle, New Horizon, Melville
- **3 polar ships**: Healy, L.M. Gould, N.B. Palmer
- **3 NOAA ships**: Hi`ialakai, Ka`imimoana, Ron Brown
- **1 “other” ship**: Ka`imikai O Kanaloa
Improvements since last RVTEC

• General
  • Started using elog
  • Consolidated all ship metadata

• Processing
  • All python (no more matlab license fees)
  • Interactive tools (editing, viewing)

• Reporting
  • Improvements in email message
Improvements (continued)

• UHDAS Installation
  • PXE network installer
  • More automated (more work to do)

• Documentation
  • Improved organization
  • Updated to include
    – installation for Python processing
    – Processing with new Python code
Improvements (continued)

• Processing VmDAS Data (RDI's Acquisition system)
  • Windows installation of Python processing
  • VmWare virtual machine (Ubuntu processing)
  • Python processing of LTA and ENR data
  • Evaluation tools improving (work in progress)
Installations since RVTEC

• Update to Python Processing:
  • nbp, lmg, en, km, kn, mv, nh, rr, ka, hly, kk

• New UHDAS Installations
  • Sproul (NB300) replaced DAS2.48
  • Langseth (new ADCP)

• New Instruments
  • Temporary only: Oceanus and Melville (WH300)
Dramatic Improvement Award: Healy

- Range increased (doubled)
- Electrical interference greatly reduced
Best cruise name

```
2011/09/04 20:40:02
rigel 2.6.24-26-generic

Current cruise: **hijules** *** not logging ***

---- heading correction ----
not logging: no heading correction calculated at this time
---------- uptime ----------
20:40:02 up 180 days, 22:35, 2 users, load average: 0.08, 0.02, 0.01
--------- ntpq -p ---------
remote refid st t when poll reach delay offset jitter
*cuckoo.wecoma .GPS. 1 u 387 1024 371 0.421 6.405 0.800
```
Problems

• Minor
  • Ashtech (as usual)
  • Data feed failures (gyro, gps)

• Unexpected time sinks
  • Temporary instrument installations (require calib)
  • Windows users trying to install CODAS
  • Evaluation of pathological VmDAS datasets
Expectations for 2012

• Update rest of the ships to Python processing (try)
• 1 new installation (hope)
  • Pt Sur
• Challenge: new OS version in April
  • Serial ports
  • Software libraries/compatibility
• Work with R2R+NOAA regarding ADCP data
Continuing Request:
Keep us in the loop regarding

- New ADCP (requires configuration, calibration)
  - Includes special needs by Science
- Changes in serial feeds
- New attitude devices (we like to evaluate them)
- Changes in networking
  - route to ship
  - infrastructure on ship
Protocol

- Always run “End Cruise” before archiving
- If rsync (regular backup)
  - **ALWAYS** use complete cruise name
Final request

... as always:

Send your needy scientists to Jules
KICDAS

• Knowledgable
• Interactive
• Collaborative
• Data
• Acquisition
• System
How Scientists View Each Other

undergraduate

PhD student

postdoc

PI / Professor

technician

seen by undergraduate

seen by PhD student

seen by postdoc

seen by PI / Professor

seen by technician