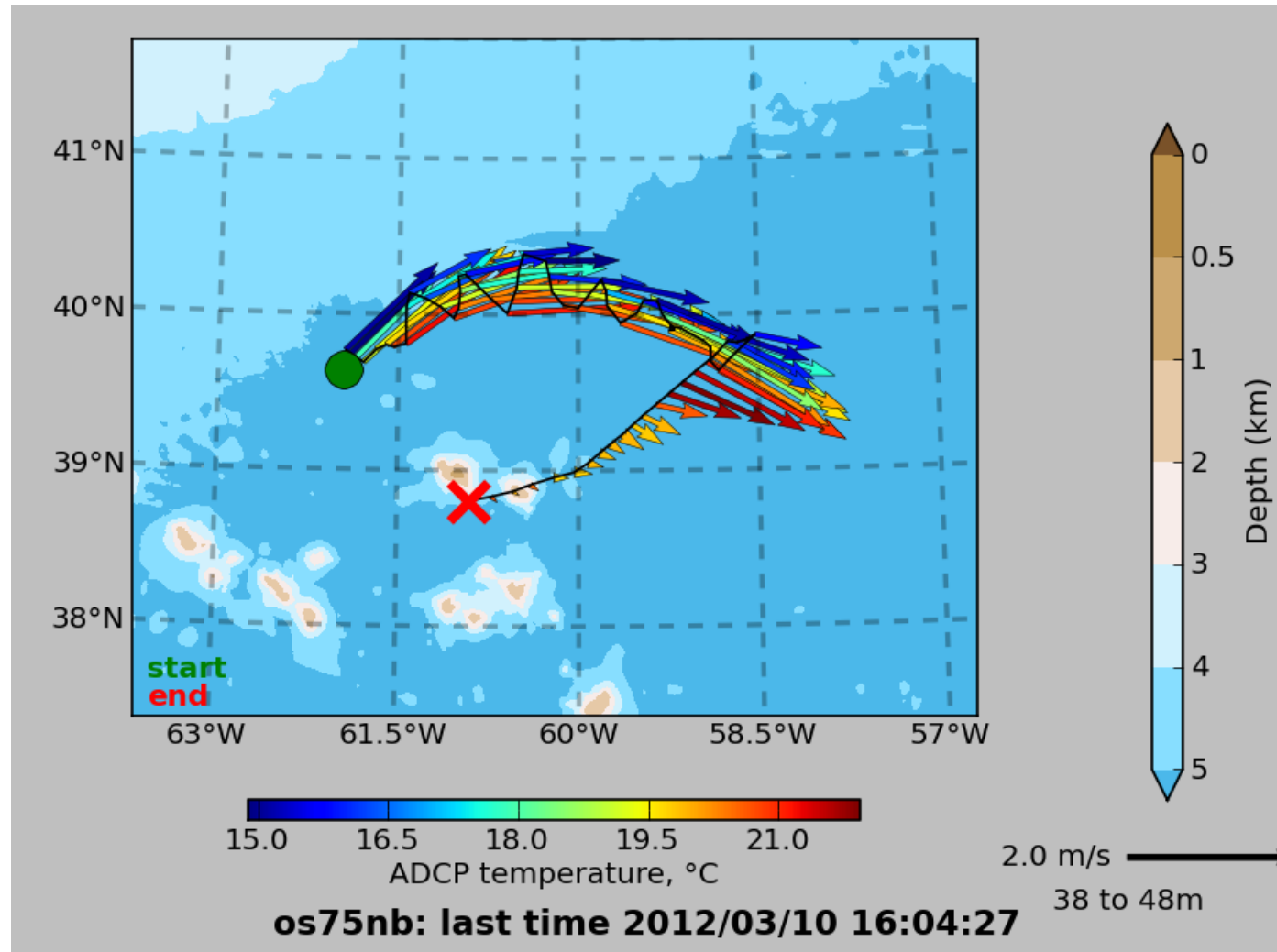
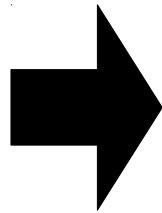


# RVTEC Feb 2013 – UHDAS/ADCP

Time,  
ADCP  
Position  
Attitude



primitive data

ocean velocities

# 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

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- **13 UNOLS ships:** Atlantic Explorer, Atlantis, Endeavor, Kilo Moana, Knorr, Langseth, Melville, New Horizon, Oceanus, Point Sur, R.Revelle, R.G.Sproul, T.G.Thompson, F.G.Walton Smith
- **3 polar ships:** Healy, L.M.Gould, N.B.Palmer
- **2 NOAA ships:** Hi`ialakai, Ron Brown
- **1 “other” ship:** Ka`imikai O Kanaloa

# Improvements since last RVTEC

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- Operating System upgraded to 12.04 Xubuntu
- UHDAS Installation
  - Require: streamline multiple install methods
  - Goal: 'UHDAS' install CD (more work to do)
- Monitoring:
  - At-sea figures include beam velocities, signal return
  - Email sends calibration values, ping rate, location, depth

# Improvements (continued)

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- Processing
  - More diagnostic plotting tools (ADCP and inputs)
  - Improved single-ping algorithms (wh300)
  - Include offsets
    - Transducer-gps
    - Between heading devices
  - Allow 3 beams only (one missing beam)
  - In progress: partial profiles (bad weather)

# Installations since RVTEC

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- All ships now running with Python (no Matlab)
- Ships updated to Xubuntu 12.04:
  - Atlantic Explorer, Kilo Moana, Hi`ialakai, Healy, Knorr, KOK, Ron Brown, Walton Smith, Oceanus
- New UHDAS Installations
  - Point Sur
  - Walton Smith (BB600)

# Problems

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- Bad attitude
  - Ashtech (often) needs to be reset
  - Phins (occasionally) uncalibrated; or fails
  - Seapath (rarely) needs to be reset
  - Coda-f185 (firmware bug) reset when leaving port)
  - POSMV (some are) unhealthy
- GPS
  - Wandering baseline

# ADCP Problems

- KM wh300 (switch opened when warm?)
- Healy: electrical noise
- Melville: OS150 (died after re-installation)
- KOK wh300 (ground loops)
  - LESSON: bad power supply can affect data



# Expectations for 2013

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- Update more ships to Xubuntu 12.04
- 1+ new installation
  - Sikuliaq
- Work with R2R+NOAA regarding ADCP data
- Revisit Documentation
- Continue to streamline installation process

# Continuing Request: Keep us in the loop regarding

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- 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**