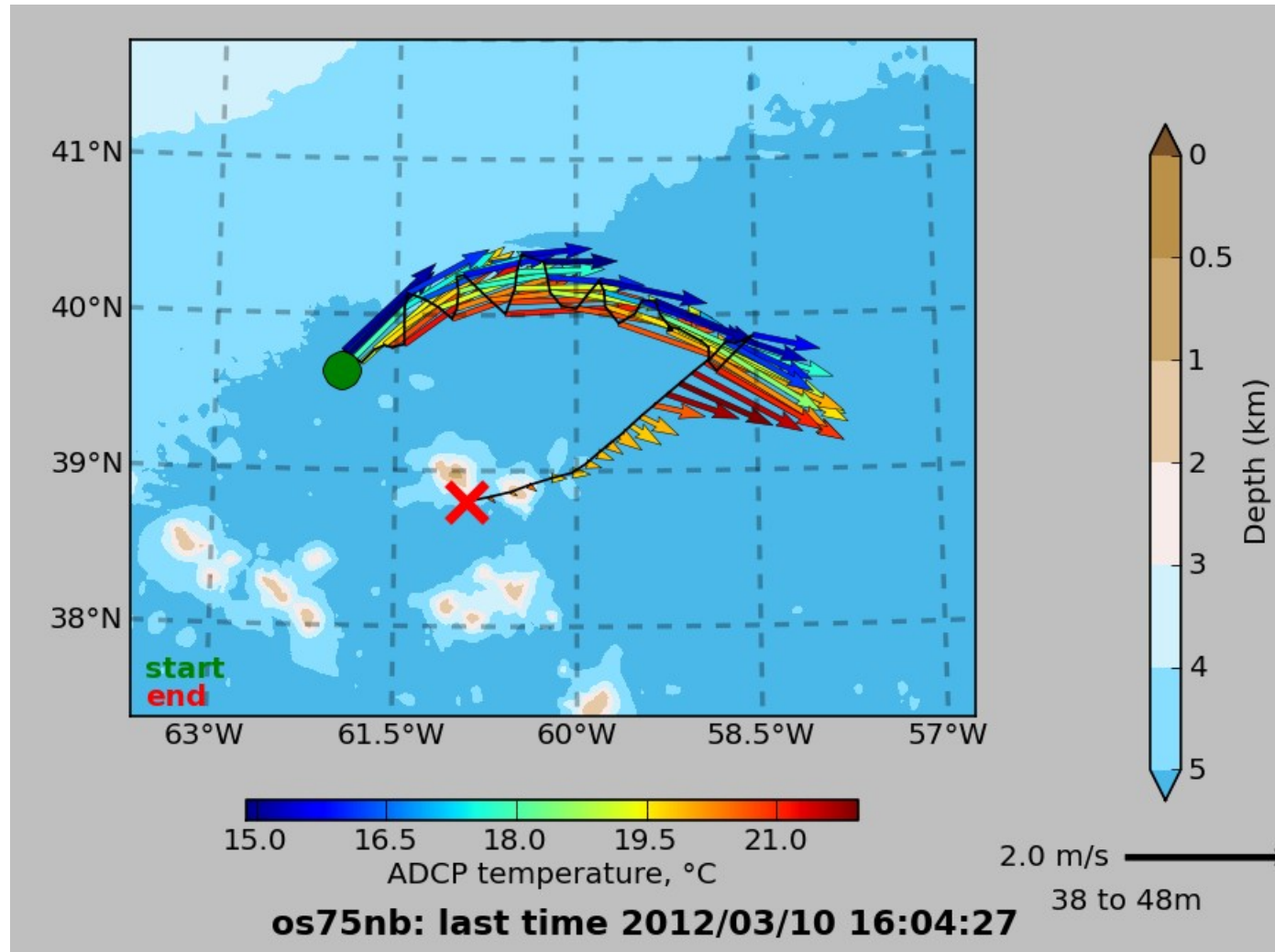
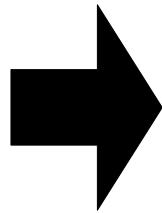


RVTEC Nov 2015 – UHDAS/ADCP

Time,
ADCP
Position
Attitude



primitive data

ocean velocities

UHDAS/ADCP

Review UHDAS Concept:

- Acquisition: reliable, robust, duplicate feeds
- Monitoring and **remote troubleshooting**
- Processing
 - Balance real-time output and post-cruise recovery
 - Minimal effort to “touch up” (if all goes well)
 - Investigate subtle problems and reprocess if necessary
 - Portable code and **documentation**
- Happy Scientists, Happy Techs

UHDAS Systems (2015)

- **16 UNOLS ships:** Atlantic Explorer, Atlantis, Endeavor, Kilo Moana, Langseth, Oceanus, Pelican, Point Sur, R.Revelle, Sikuliaq, R.G.Sproul, T.G.Thompson, F.G.Walton Smith
- **3 polar ships:** Healy, L.M.Gould, N.B.Palmer
- **5.5 NOAA ships:** Bell Shimada, Hi`ialakai, Nancy Foster, Oscar M Sette, Ron Brown, (Okeanos Explorer)
- **2 “other” ships:** Ka`imikai O Kanaloa, Falkor
- **1 Volunteer Observing Ship:** Oleander
- **1 “cooperative” installation:** Tioga

link: [installation status table](#)

UHDAS: recap of 2015

- putting UHDAS on NOAA ships; new hire
- ADCP processing workshop at Scripps (>15 scientists)
- rediscovered Pt Sur in Mississippi
- New ADCPS:
 - Atlantis: added WH300
 - N.B Palmer added OS75
- added “reports” directory to UHDAS: browser access to
 - summary plots of ocean current
 - QC regarding calibration, behavior of accurate heading device
- new software layer for VOS application:
 - “Autopilot” (beta)
 - acquire and split serial data internally “ZeroMQ”

Problems: ADCP instruments

<u>ship</u>	<u>instrument</u>	<u>repair</u>
• Endeavor	: OS75	Jan 2016
• Falkor	: WH300, OS75	> 1 year
• Langseth	: OS75	> 1 year
• Pt Sur	: WH300	unknown
• Revelle	: OS75	Jan 2016
• Sikuliaq	: OS150	?Dec 2015
• Ron Brown	: OS75	Jan 2015

UHDAS installations in 2015

- **Newly installed (new UHDAS ship):**
 - Bell Shimada, Nancy Foster, Oscar M. Sette, (Okeanos Explorer), Oleander
- **Updated in 2015:**
 - Atlantis Explorer, Falkor, Hi`ialakai, Healy, Kilo Moana, Ron Brown
- **In process**
 - **remote:**
 - Atlantis
 - **Nov/Dec:**
 - Thompson, Endeavor, Pelican, Pt Sur

Accurate Heading

- **POSMV:** (quality plots)
 - **excellent:** Falkor, Hi`ialakai, Kilo Moana, Nancy Foster, Okeanos Explorer, Thompson, Walton Smith
 - **poor:** Bell Shimada, Healy, Ron Brown
- **Seapath:**
 - **excellent:** Falkor, L.M.Gould, N.B.Palmer, Sikuliaq
 - **poor:** Healy
- **Phins:** Atlantis, Revelle
- **Ashtech:**
 - **ADU2/ADU5:** Endeavor, Healy, Oceanus, Pt Sur, Sproul, Oleander
 - **ADU800:** Atlantic Explorer, Pelican
 - DualReference vs/ ADU800 [report](#)
- **Mahrs: poor** Ron Brown, KOK

New Ships (2016)

- Sally Ride
- Neil Armstrong
- Hugh Sharp

- Preparing to Install UHDAS on NOAA ships
 - 5 ships in 2016: Okeanos Explorer, Gordon Gunter, Pisces, Henry Bigelow, Ferdinand Hassler
 - 5 more in 2017

Expected Challenges (2016)

- Acoustic Interference:
 - NOAA ships with EK60 mandate
 - Sally Ride, Neil Armstrong
 - Kongsburg = Sonar Integrator
 - Large number of modern sonars
- next version of operating system (16.04)
- growth: larger group, more ships, more needs

Continuing Request:

Keep us in the loop regarding (give us lots of warning)

- 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

