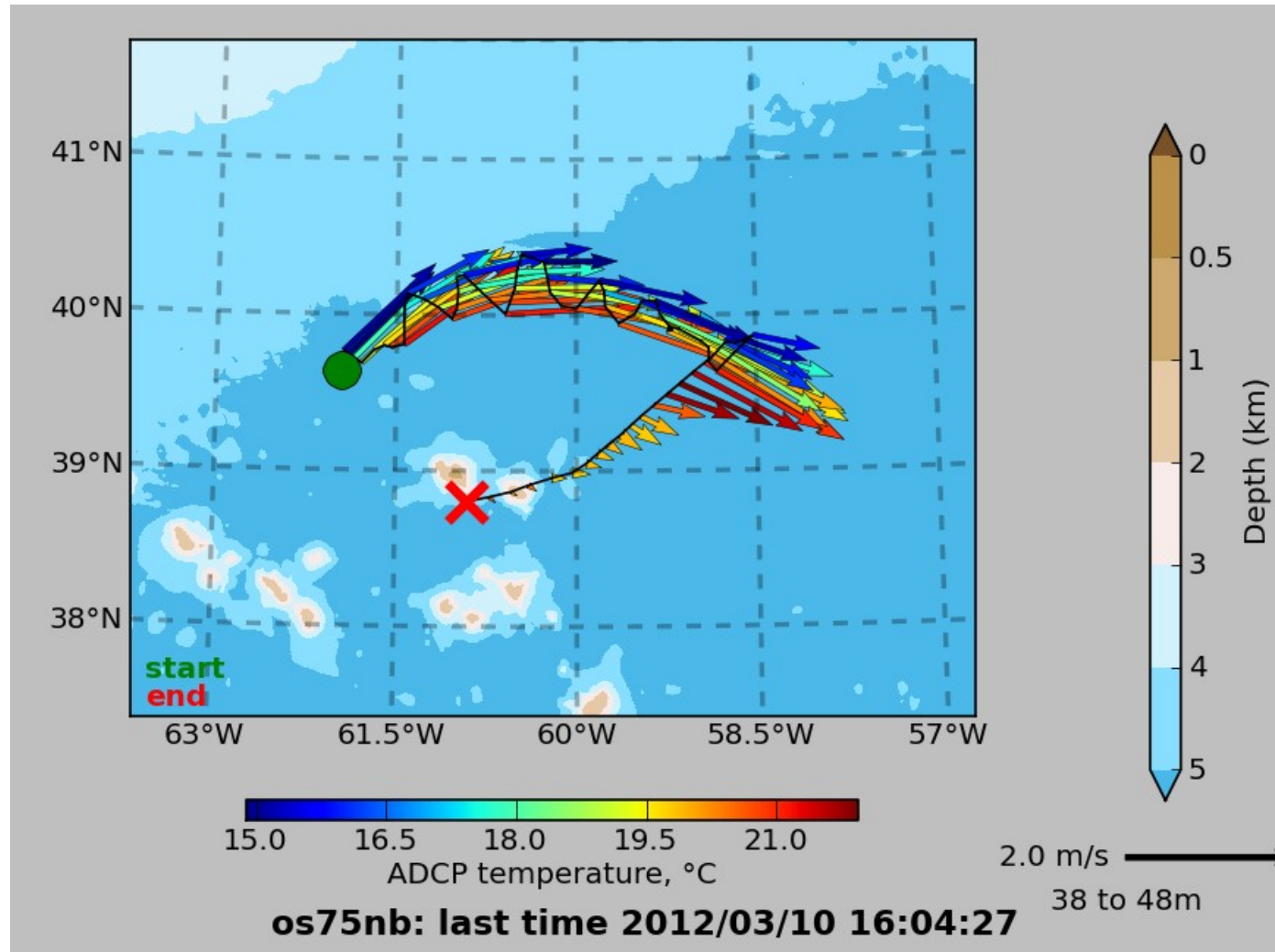
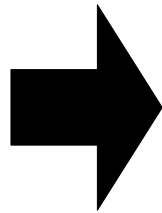


# RVTEC Nov 2015 – UHDAS/ADCP

Time,  
ADCP  
Position  
Attitude



primitive data

ocean velocities

# UHDAS/ADCP

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## 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)

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- **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

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- 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

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<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

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- **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

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- **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)

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- 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)

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- 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)

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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**

