Arvor-Provor Float Technical Workshop

28-30 January 2020
Ifremer Laboratory, Brest, France

Noé Poffa (Ifremer, France), Blair Greenan (DFO, Canada), Antoine Poteau (LOV, France), Guillaume Maze (Ifremer, France)
Workshop Objectives

• The aim of this workshop was to provide Arvor-Provor Argo float users with extensive technical information and to share best practices.

• Specific areas of focus:
  • Arvor-Provor float technology and the different existing float types
  • Ongoing R&D projects using Arvor & Provor profiling floats
  • Pre-deployment procedures and how a float can be deployed - hands-on at the test pool
  • Mandatory information needed for a float to be registered at JCOMMOPS and processed by a DAC
  • Tools provided at JCOMMOPS, Coriolis GDAC and DAC
Workshop Overview

• 58 participants from 13 countries
• 26 Presentations in the following categories:
  • Lessons learned from previous workshops
  • Science applications
  • Argo float platforms (Arvor, Deep Arvor, Provor)
  • Ongoing R&D on platforms and sensors
  • Presentations by manufacturers (NKE, RBR, JFE, SBE)
  • Best practices with floats, sensors and data handling
  • Case studies (e.g., under ice behaviour)
• Poster Session
Ifremer Test Tank
Recommendations (Part 1)

• To improve and facilitate **communication** within the Argo community on all technical issues (eg: floats failure modes, ongoing sensor and float problems to be solved, recommended standard configurations, etc...). The Arvor/Provor float users could potentially build upon the [Euro-Argo Collaborative Framework](#) and keep organizing recurrent workshops;

• To share **pre-deployment procedures** among Arvor-Provor users for:
  
  • In house facilities or on dock before departure:
    
    • For float configuration (eg: macros defining standard missions, NKE mission design GUI)
    • Post-delivery checklist (eg: Iridium tests, battery tests, sensor tests, etc...)
  
  • At sea:
    
    • Deployment checklist (1 page sheet)

• The Arvor/Provor user community recommends that sensor manufacturers develop **sensor self-testing capabilities** that would be incorporated into the already existing auto-testing feature of the Arvor/Provor floats.
Recommendations (Part 2)

• The Arvor/Provor user community recommends **float and sensor manufacturers** to provide central entry points (and machine-to-machine readable) for:
  
  • **best practices** checklists for their floats or sensors,
  
  • **meta-data** access on floats or sensors with as many technical details as possible (eg: about pre-calibration, sub-component information),
  
  • technical **vocabulary** definitions in line with those of the Argo data management team

• To continuously develop and improve online fleet **monitoring tools** like [https://fleetmonitoring.euro-argo.eu](https://fleetmonitoring.euro-argo.eu) (eg: to include more information on sensor performance).

• The user community requests that NKE extend the **mission planning tool** APMT Profiler GUI (dedicated to the Provor CTS5) to the Arvor. This tool allows the user to design a configuration and receive information about the expected lifetime of the float, data telemetry estimates, etc., as a function of sensor payload and cycle configurations.

• To **improve recovery methods** of floats. This workshop resulted in the creation of a working group on this topic at [github.com/euroargodev/recovery](https://github.com/euroargodev/recovery).
Summary

• Very positive feedback from workshop participants
• New relationships established between Argo technical support staff
• Important for users to share float configuration and pre-deployment procedures
• Encourage AST to continue to support this type of workshop (perhaps every 2 years)
• 2 workshops in USA, 1 in Europe - perhaps a future workshop in Asia?
• Should future technical workshops be organized closer to users or remain nearby manufacturers?

• [https://euroargodev.github.io/techworkshop/](https://euroargodev.github.io/techworkshop/)
ARVOR-PROVOR Floats Technical Workshop
Jan. 28-30, 2020, Brest, Ifremer