Arvor-Provor Float Technical Workshop

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Ifremer Laboratory, Brest, France

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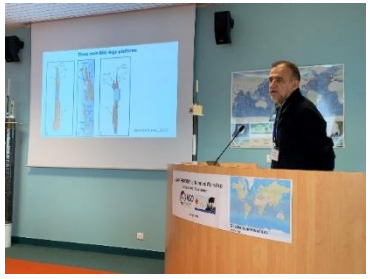
Workshop Objectives

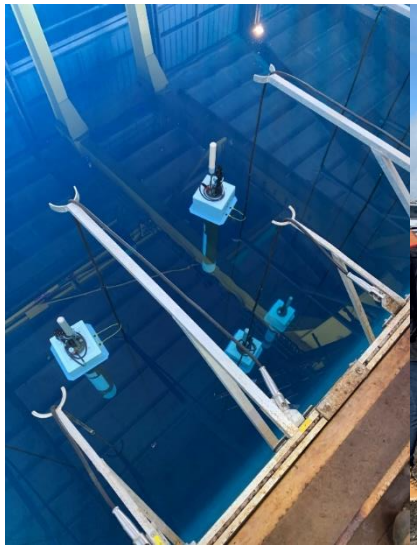
- The aim of this workshop was to provide Arvor-Provor Argo float users with extensive technical information and to share best practices.
- Specific areas of focus:
  - Arvor-Provor float technology and the different existing float types
  - Ongoing R&D projects using Arvor & Provor profiling floats
  - 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 (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.

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/

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