OceanObs’09 and Argo

Howard Freeland
We were asked to produce a white paper outlining the status of Argo with community input, hence the need for ASW-3 in China – here is the formal group picture
– and here is the less-formal group picture
The White Paper

ASW-3 worked, we did get the comments and criticism we were looking for.

Six people had designated writing projects, contributions were received and then Dean and I met to assemble our input into a single document, which was submitted, perhaps a little late.

Following OceanObs’09 the paper was revised to account for messages received in Venice and was re-submitted.

Reports were received from referees, let us say, these were not exactly burdensome.
ARNO – A DECADE OF PROGRESS

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1. ARGO’S PROGRESS TOWARDS ACCOMPLISHING ITS PRIMARY GOALS
2. SYNERGIES AND INTERDEPENDENCE OF ARGO AND OTHER OBSERVING SYSTEM ELEMENTS
3. DETECTION AND ANALYSIS OF CLIMATE CHANGE SIGNALS
4. OTHER RESEARCH ACHIEVEMENTS OF THE ARGO PROGRAM
5. IMPACT OF ARGO IN OCEAN ANALYSIS AND FORECASTING SYSTEMS
6. THE FUTURE EVOLUTION OF ARGO
Thanks to all who contributed time and effort, and thanks especially to the China Argo Team for the ASW-3 meeting which was an essential precursor to a successful report.

We were able to claim full community and user input into the construction of this report.
The meeting itself……

Argo was referred to by almost every other presentation. There was no shortage of suggestions about how Argo might be improved, extended or strengthened.

The meeting had loose themes for each day:-
21 Sep: Celebrating a decade of progress and preparing for the future
22 Sep: Scientific results and potential based on global observations
23 Sep: Delivering services to society
24 Sep: Developing technology and infrastructure
25 Sep: The way forward.
Several talks were presented on the state of the data systems.

Sylvie Pouliquen (France) pointed out a need for data systems to speak the same language.

Bob Keeley (Canada) claimed that a large part of the success of Argo rested on the strength of the data system and the open data policy.

There were many recommendations to expand Argo. I (HJF) hope everyone heeds the warning of Lynne Talley that “it would be dangerous to dump everything we want on Argo”.
Recommendations……

1) Almost all presentations stated clearly that the paramount issue is to sustain and maintain Argo as it is, and expand it slowly. This is the #1 recommendation in the paper based on Magdalena Balmaseda’s plenary report.

2) Repeatedly there were calls to establish bio-geochemical sensors on Argo floats. This prompted much discussion with questions about the maturity of sensors, implications vis-à-vis the Law of the Sea and questions about the readiness of the biological community to share data.

3) Repeatedly there were calls for extension of Argo into high latitudes and marginal seas. This is something we are largely doing already, but does require an increase in the size of the array beyond the original plan.

4) Calls were made for sea surface temperature and sea surface salinity and had a mixed reception. SST looks practical, but SSS may be expensive.

5) Calls were made to sample abyssal waters with Argo-like floats.
6) There was a clear call for continuing ship-based CTD surveys both to assist the quality control of Argo and to supply missing parameters in the pictures we are drawing of the changing ocean.

7) I personally enjoyed reading Jen McKinnon’s appeal for Argo data suitable for computation of Thorpe scales. We need do nothing to assist her, as we transition from Argos to Iridium this will happen naturally.

A strong take-home message that I detected was that now nothing short of free and open data sharing in near real-time was acceptable. Or to re-phrase, future global observing systems must adopt the Argo model for data distribution.