1. The status of implementation (major achievements and problems in 2010)

- **floats deployed and their performance**

During February 2010 three Argo floats were deployed during the standard section ICES cruise on the R.V. Celtic Explorer in the Rockall Trough. The JCOMMMOPs float density map was consulted prior to choosing the deployment locations. Three more floats will be deployed on a transect to Newfoundland in February 2011.

- **technical problems encountered and solved**

None that I am aware of.

- **status of contributions to Argo data management (including status of pressure corrections, technical files, etc)**

N/A

- **status of delayed mode quality control process**

The first of the Argo Ireland floats (ARGOS 79616, WMO 6900649) went through the BODC DMQC in 2010.

The results from the OW software are in:
ftp://ftp.pol.ac.uk/pub/bodc/argo/argo_ireland_dmqc/

and the initial decision is that OW indicates offsets of up to 0.05 in salinity but error bars on the mapped salinity are large and at theta level 7.9C the raw data is within the error bars of the mapped salinity. Conclusion, no correction, PSAL error = 0.01.

There are two runs of the OW software; the run including Argo profile climatology is for guidance only. The plot on page 5 seems to indicate large offsets (0.05 salinity) but the plots on page 8 indicate the raw salinity is within the error bars on the mapped salinity (indicating a high natural variability).

The remainder of the Argo Ireland floats deployed to date were processed in 2010.

2. Present level of and future prospects for national funding for Argo including a summary of the level of human resources devoted to Argo.

The Irish Marine Institute has indicated to the Euro Argo co-ordinator that we intend becoming Observer Members of the Euro-Argo ERIC (legal consortium). This requires an annual contribution of €8k per annum with an intention to deploy some floats also.

At this point in time, there is no national "pot" of funding available for Ireland's participation in any of the large Research Infrastructures on the ESFRI Roadmap[1]. Indications from the science funding agencies are that any commitments to Euro-Argo will have to be met from the annual budgets of the Marine Institute. While we cannot make a long-term commitment to the deployment of floats on an annual basis, we intend to make every effort to deploy three floats per annum over the short-medium term as an indication of our commitment to the project and the Euro-Argo ERIC.

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[1] http://ec.europa.eu/research/infrastructures/index_en.cfm?pg=esfri

One section manager (Glenn Nolan), one team leader (Fiona Grant) and two Science and Technical Officers (Kieran Lyons and Sheena Fennell) are responsible for the delivery of the Euro Argo programme in Ireland. The programme is overseen by the Director of Ocean Science Services, Michael Gillooly.

3. Summary of deployment plans (level of commitment, areas of float deployment) and other commitments to Argo (data management) for the upcoming year and beyond where possible.
As before, we do not have a long term commitment to the deployment of floats as yet. It is our intention to deploy 3 floats per annum over the short-medium term. These are generally deployed on cruises aboard the national research vessel, the Celtic Explorer. The cruises tend to be focussed in the North Atlantic but every effort is made to deploy in areas with less than 100% coverage.

Ireland will pay an annual subscription to the Euro-Argo ERIC and the Marine Institute has an arrangement with BODC for a contribution to the DMQC processing.

4. Summary of national research and operational uses of Argo data as well as contributions to Argo Regional Centers.
We monitor the performance of our Northeast Atlantic Operational Model by performing routine validation against real-world measurements. Validation allows us to quickly identify problems in the model as well as increasing our understanding of the model's abilities and limitations. It also helps us to fine-tune the model for optimal performance. We calculate quantitative model skill metrics such as the correlation coefficient (r) between measured and modelled parameters, and the rms error. We are currently using data from the following sources for validation: Argo floats; Microwave sea surface temperature; Irish National Tide Gauge Network; and Irish Marine Weather Buoy Network.

Some additional research has been conducted jointly between the Oceanographic Services team in the Marine Institute and collaborators at the NUI, Galway. Over 10,000 ARGO profiles are available for the Atlantic Ocean adjacent to Ireland since float deployments began a decade ago. Querying and interpreting this amount of data presents challenges in itself. A suite of tools were developed in Matlab to allow rapid sub-setting of the data, calculation of key parameters including stratification and mixed layer depth and the subsequent plotting of this data. The research findings will be detailed in a peer-reviewed journal paper currently in preparation.

5. Issues that your country wishes to be considered and resolved by the Argo Steering Team regarding the international operation of Argo. These might include tasks performed by the AIC, the coordination of activities at an international level and the performance of the Argo data system. If you have specific comments, please include them in your national report.
N/A – all issues are dealt with through the Euro-Argo coordinator.

6. To continue improving the number of CTD cruise data being added to the reference database by Argo PIs, it is requested that you include the number and location of CTD cruise data uploaded by PIs within your country to the CCHDO website in the past year. These cruises could be used for Argo calibration purposes only or could be cruises that are open to the public as well.

Annually, the Marine Institute uploads all CTD cruise data to the ICES database (http://www.ices.dk/ocean/data.asp).

7. Keeping the Argo bibliography (http://www.argo.ucsd.edu/FrBibliography.html) up to date and accurate is an important part of the Argo website. This document helps demonstrate the value of Argo and can possibly help countries when applying for continued Argo funding. Please include a list of all papers published by scientists within your country in the past year using Argo data, including non-English publications.
N/A for 2010.

8. I am also attaching a spreadsheet of the commitments table which I updated on January 5, 2011 using the AIC website. It is clear that more deployments were possible this year, but not as many as had been estimated. Please correct any errors on float totals in the past year and send me an estimate of the expected number of deployments for 2011.
Attached as requested.

It would be helpful to receive these national reports by *1 March 2011*.