

Report on the status of the Polish Argo Program

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1. The status of implementation

The Argo float (WMO 6901902) deployed by IOPAS from the board of Oceania on 2 July 2012 took 56 profiles from 6 July to 17 December 2012. Since then no more information has been received. Probably, the float was stuck under the sea-ice. The last three profiles were done only to 300 dbar. The parking and profiling depths were adapted (via Iridium by OPTIMARE) to the shallower bathymetry in case of easternward floating (with the North Spitsbergen Current). However, the float could follow the slope and flow northward under the compact sea-ice and is lost at the time.

There is no national Polish DAC. Floats operated by Optimare received the binary data output in files of hexadecimal format. Datasets were decoded into physical units by data operator, written into ASCII files and shared via ftp server or disseminated via email to: float owner (IOPAS) and to the GDAC (Coriolis) which acts as a RDAC.

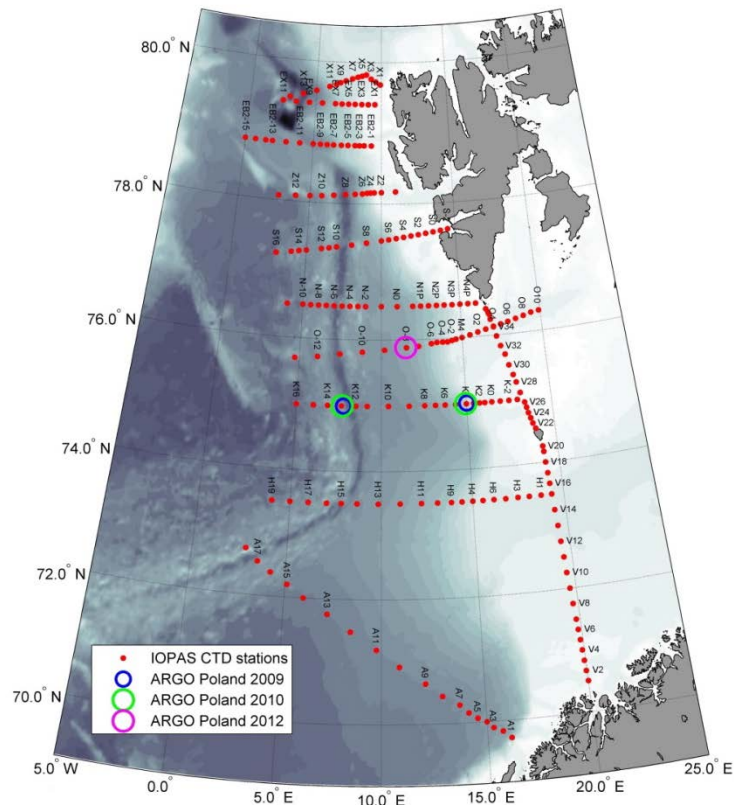


Figure 1. Locations of all Argo deployments from Argo Poland and CTD stations performed during IOPAS summer cruises in the area of interest.

Real-time quality control (RTQC) was performed by Coriolis. The netcdf files were created from the incoming data and real-time QC procedures were applied. For now DMQC was performed by IOPAS. It is planned in the nearest future.

2. Present level of and future prospects for national funding for Argo

The decision applying to the Poland's participation in the European Research Infrastructure Consortium (ERIC) is being considered at the Department of Strategy, Polish Ministry of Science and Higher Education at present. It should cover Polish commitments: observer status and deployment of 2 Argo floats per year.

Polish Roadmap for Research Infrastructures was developed by the Ministry of Science and Higher Education in 2011. The Polish input into the Euro-Argo was included among other 33 Projects on Roadmap list (in the subgroup 8: Assurance the sustainable development of the natural and human environment). Moreover, there is an additional possibility for developing proposals for strategic research infrastructure investment projects this year (deadline until 15 March 2013). IOPAS is going to submit an application which would allow to develop Polish resources devoted to Argo to a certain

degree (floats testing and deployments, developing specifications and algorithms for sea ice detection and positioning under the ice, telecommunication usage, QC implementation, advancement of Argo data assimilation techniques in OGCMs, and so on).

The project proposal concerning SIDERI has been prepared and sent to the Polish Ministry of Science and Higher Education. The project agreement (W95/7.PR/2012) was signed. Additional national funds in the amount of 17 518 PLN for the project implementation was allocated for years 2012-2013.

3. Summary of deployment plans

For 2013 IOPAS is planning to continue floats deployment in subpolar regions. At least one float (guaranteed by E-AIMS) will be deployed in the West Spitsbergen Current area (high latitudes) to trace the Atlantic water flowing into the Arctic Ocean. DMQC will be implemented in the upcoming year.

The proposal submitted to the BONUS (Science for a better future of the Baltic Sea region) call 2012 “Viable ecosystem” takes into account one additional Argo float which will be deployed in the Southern Baltic Sea.

4. Summary of national research and operational uses of Argo data

No funding for scientific analysis is allocated, but some persons are partly working with the Argo floats as regards data collection and management (according to the SIDERI, E-AIMS and Euro-Argo Projects). The scientific analysis is done in other externally financed projects (pre-doctoral grant from The National Science Centre (NCN) and perhaps Polish-Norwegian Research Programme grant).

The main aims of IOPAS Argo deployments are: investigation of the West Spitsbergen Current structure and velocity in its various branches; field tests of various data transmission technologies (ARGOS vs. Iridium); feasibility tests of RAFOS technology for float tracking in the Fram Strait.

Data received from the IOPAS floats and other Argo devices floating in the Norwegian and Greenland Seas are used to develop mean hydrographic fields in the West Spitsbergen Current (WSC) for a comparison with the WSC structure obtained from the ship-borne hydrographic measurements (Fig. 1). Floats data are also used for validation and evaluation of output from the high resolution (2 km) numerical model of the circulation in the Nordic Seas and the Arctic Ocean (RACM and RASM models).

Polish Argo Program website has been developed and is regularly updated:

<http://www.iopan.gda.pl/hydrodynamics/po/Argo/argo.html>

5. Issues wished to be considered

The complete tutorial concerning DMQC will be useful for the Argo data beginners. Information collected on the Argo website as well as in the AIC FAQs are not easy for searching. Also the order and responsibility for the data submission to DAC is not quite clear.

There were some troubles with loading information concerning deployment plans into the AIC website – after short time of inactivity, the plan vanished. This forced longer time devoted for that.

6. Location of CTD cruise data uploaded to the CCHDO website in the past year.

Datasets from the IOPAS cruises may be soon submitted to the CCHDO website. We were not aware that this is required.

7. Keeping the Argo bibliography

The poster entitled “Properties and pathways of the Atlantic Water in the Greenland Sea observed with Argo floats” by Goszczko I., Walczowski W. and Cisek M. was presented at the 4th Argo Science Workshop, 27-29 September 2012, Venice, Italy. IOPAS prepared the input to the position paper “Roadmap for the evolution of Argo in Europe”, part 5: Monitoring High Latitudes.

8. The commitments table of deployed and planned floats

Information about the Polish Argo deployments and plans was updated in the commitments table via an e-mail.