Canadian National Report on Argo-2009

1. Status of implementation (Major achievements and problems encountered in 2009)

1.1 Floats deployed and their performance

During 2009, Canada deployed 25 floats: all were APEX floats and of these 14 were deployed in the Atlantic and 11 in the Pacific. Significant financial support from the Canadian Ice Service, Environment Canada permitted enhanced coverage of the northern Labrador Sea and the Bering Sea. We are also grateful to the Russian Argo Program and the Rusalca Program for the opportunity to deploy floats in the Bering Sea from a vessel known variously as the Professor Khromov and the Spirit of Enderby and assistance from the Canadian Department of National Defence for deployments from HMCS Protecteur. As of writing in February 2009 three floats seem to have failed with the rest continuing to supply good data. The three failures appear to be associated with catastrophic failures in the pressure sensors. These were all floats that were NOT returned to the manufacturers following the recall in 2009. The risks involved were known and a calculated risk was taken. Similarly the three floats deployed from HMCS Protecteur were also deployed without using the recall of floats. These now have completed 23 or 24 profiles, about the same number as completed by the three Atlantic floats prior to their catastrophic failures.

The Atlantic effort focussed on the Slope Water and Labrador Sea. The Pacific effort included deployments in the Gulf of Alaska and the Bering Sea. The assistance from Russia, and especially help from Dr. Slava Lobanov at the Pacific Oceanological Institute is greatly appreciated.

1.2 Status of contributions to Argo data management

ISDM (formerly MEDS) continues to acquire data from 120 active Argo floats. Data are issued to the GTS and GDACs every 6 hours. We increase the frequency of acquiring data from the Argos server to hourly if we fail to access the system at a specific 6 hour interval. On average 83% of 2009 data were issued to the GTS within 24 hours of the float reporting. ISDM has been transmitting Argo data in BUFR format under header IOPX02 since January 19, 2009. We regularly receive Argo BUFR from others data centers. During 2009, we set up the decode software for Argo floats with APF9 controller and floats with Aanderra Optode Oxygen sensor. The software to generate technical NetCDF was changed to the current format approved by ADMT. We also modified our system to be able to handle 6 digits Argos number.

Our website, http://www.meds-sdmm.dfo-mpo.gc.ca/isdm-gdsi/index-eng.html, is updated daily automatically. The website is currently in the process of moving to CLF2.0 to be compliance with Treasury Board requirements.

Routines for delayed mode quality control of pressure were written at the end of 2009. The whole delayed mode quality control system was redesigned to allow re-flagging of raw data in delayed-mode and implement the pressure adjustments prior to control of salinity.

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

During 2009 the Canadian Argo program was primarily funded as a research effort. It has been our early intention to move funding to a more routine or operational basis but that has not yet occurred. We are continuing to pursue this. The funding in 2009 including the much appreciated contribution from the Canadian Ice Service was adequate to maintain and slightly enhance the Canadian contribution to the international effort.

Funds to purchase floats typically appear very late in our fiscal year and at the moment we know we will have 28 floats available for launch starting March 31st, 2010.

3. Summary of deployment plans (levels of commitment, areas of float deployment) and other commitments to Argo (data management) for the coming year (and beyond where possible).

Detailed deployment plans are not yet known as it was only very recently that it became known how many floats we would have on hand. We expect to deploy 14 floats in each of the Atlantic and Pacific sectors with deployments biased towards the far northern regions of both oceans, with most going into the Bering and Labrador Seas.

4. Issues that Canada wishes to be considered and resolved by AST regarding the international operation of Argo.

The delivery of delayed mode, quality controlled Argo data to GDACs has improved significantly in the past 12 months. Despite this, we believe that there is still some room for improvement in the timely delivery of delayed mode data.

Appendix – summary of Canadian float launches during calendar 2009.

	Launch Date	WMO-ID	Comms	Ocean Basin	Launching Vessel	Still Operating?
1	13/04/2009	4901109	Argos	A	Hudson	Yes
2	28/04/2009	4901110	Argos	A	Hudson	No Catastrophic P error on 30th profile.
3	16/05/2009	4901128	Argos	A	Hudson	Yes
4	20/05/2009	4901130	Argos	A	Hudson	Yes
5	19/05/2009	4901131	Argos	A	Hudson	Yes
6	21/05/2009	4901111	Argos	A	Hudson	Yes
7	22/05/2009	4901133	Argos	A	Hudson	Yes
8	24/05/2009	4901127	Argos	A	Hudson	Yes
9	24/05/2009	4901126	Argos	A	Hudson	Yes
10	25/05/2009	4901125	Argos	A	Hudson	Yes
11	25/05/2009	4901124	Argos	A	Hudson	No Catastrophic P error on 27th profile.
12	25/05/2009	4901123	Argos	A	Hudson	Yes
13	31/05/2009	4901129	Argos	A	Hudson	Yes
14	27/06/2009	4901106	Argos	P	Protecteur	Yes
15	29/06/2009	4901107	Argos	P	Protecteur	Yes
16	29/06/2009	4901108	Argos	P	Protecteur	Yes
17	14/07/2009	4901132	Argos	A	Teleost	No Catastrophic P error on 22nd profile.
18	21/09/2009	4901121	Argos	P	Tully	Yes
19	22/09/2009	4901122	Argos	P	Tully	Yes
20	03/10/2009	4901113	Argos	P	Spirit of Enderby	Yes
21	04/10/2009	4901115	Argos	P	Prof. Khromov	Yes
22	04/10/2009	4901114	Argos	P	Prof. Khromov	Yes
23	05/10/2009	4901116	Argos	P	Spirit of Enderby	Yes
24	05/10/2009	4901119	Argos	P	Spirit of Enderby	Yes
25	05/10/2009	4901120	Argos	P	Spirit of Enderby	Yes