

WORLD METEOROLOGICAL ORGANIZATION

**INTERGOVERNMENTAL OCEANOGRAPHIC
COMMISSION (OF UNESCO)**

DATA BUOY COOPERATION PANEL

DBCP-28/ Doc. 8.1
(1-Oct-12)

TWENTY-EIGHTH SESSION

ITEM: 8.1

FREMANTLE, AUSTRALIA
2-6 OCTOBER 2012

ENGLISH ONLY

PROGRESS REPORT ON THE IRIDIUM PILOT PROJECT (IPP)

(Submitted by David Meldrum, United Kingdom)

Summary and purpose of the document

This document provides information on the development and current status of the Iridium Pilot Project.

ACTION PROPOSED

The Panel will review the information contained in this report and comment and make decisions or recommendations as appropriate. See part A for the details of recommended actions.

-A- DRAFT TEXT FOR INCLUSION IN THE FINAL REPORT

8.1.1 Although the deployment phase of the IPP, initiated in 2007, had effectively terminated in 2010, there had nonetheless been continuing activity in two main areas:

- a) The Panel had decided at its session in 2010 to use remaining funds to upgrade GDP drifters with Iridium for deployment in the S Pacific in the area that continued to suffer from poor timeliness via Argos. As a result, 10 drifters were deployed in early 2012, and were reporting timely data onto the GTS via the Joubeh/Scotia portal.
- b) A number of operational agencies, notably ESURFMAR, Environment Canada, Météo France, MetService NZ, the UKMO, the GDP, SAWS and the Australian BoM, were increasingly deploying Iridium-equipped drifters and making their data available to the IPP to assist with its longer-term evaluation activities.

8.1.2 The Panel thanked these agencies for their involvement, which had done much to help evaluate the performance of Iridium drifters and to ensure the success of the IPP.

8.1.3 As a result, the original IPP target of 50 drifters had been vastly exceeded, and nearly 600 had been deployed, with a total of 188 drifters active and participating in the IPP during August 2012. Of particular note this year is the first significant activity by the US in deploying Iridium-equipped drifters with data being circulated on the GTS.

8.1.4 The Panel noted that data timeliness issues were to be further discussed under item 9.3, but agreed that Iridium drifters did apparently offer a number of advantages, not only in timeliness, but also with regard to eventual life-cycle costs. Lifetimes continued to improve, and manufacturers were urged to further investigate ways of increasing energy efficiency by implementing improved power management schemes and new low-power GPS receivers.

8.1.5 The Panel, in recognizing that the IPP had long outlived its initial two-year lifespan, agreed that it should formally be disbanded, but that a small number of legacy actions should be followed up by its chair, D Meldrum, aided by the TC and others as required.

8.1.6 Some members of the Panel noted with concern that multiple agencies were now inserting Iridium data onto the GTS, in contrast to the situation that existed for Argos data, and that the potential for poor quality to be distributed outwith the Panel's control now existed. This issue is further discussed under item 10.5.

8.1.7 The Panel was concerned that it still had ongoing financial obligations to fund the airtime of a number of active IPP drifters. This is further discussed under item 11.

8.1.8 The Panel closed this item by thanking the IPP, participating agencies and manufacturers for leading the way in establishing Pilot Projects as a key component of the Panel's activities, and for greatly assisting the rollout of Iridium technology in the data buoy community.

8.1.9 The meeting decided on the following action items:

- (i.) The Panel agreed that the IPP steering team should disband forthwith, but that its chair, D Meldrum, in consultation with the TC and other experts, be tasked with completing the analysis, the publication of a final report, and the compilation of a best-practices guide for the use of Iridium in drifters. (**Action; D Meldrum and TC; asap**)
- (ii.) Buoy manufacturers were urged to continue seeking improvements in Iridium buoy energy efficiency through the implementation of improved power management schemes and the latest low-power GPS receivers. (**Action; Buoy Manufacturers;**

asap)

-B- BACKGROUND INFORMATION

Although the deployment phase of the IPP had effectively terminated in 2010, there had nonetheless been continuing activity in two main areas:

- a) The Panel had decided at its session in 2010 to use remaining funds to upgrade GDP drifters with Iridium for deployment in the S Pacific in the area that continued to suffer from poor timeliness via Argos. As a result, 10 drifters were deployed in early 2012, and were reporting timely data onto the GTS via the Joubeh/Scotia portal (see Fig 1).
- b) A number of operational agencies, notably ESURFMAR, Environment Canada, Météo France, MetService NZ, the UKMO, the GDP, SAWS and the Australian BoM, were increasingly deploying Iridium-equipped drifters and making their data available to the IPP to assist with its longer-term evaluation activities.

As a result, the original IPP target of 50 drifters had been vastly exceeded, and nearly 600 had been deployed, with a total of 188 drifters active and participating in the IPP during August 2012. Of particular note this year is the first significant activity by the US in deploying Iridium-equipped drifters with data being circulated on the GTS (see Fig 2).

In general, the trend towards better lifetimes was increasing, largely through better power management schemes and the implementation of the latest generation GPS receivers, whose energy consumption was an order of magnitude better than the receivers available at the start of the IPP.

As regards the financial situation of the IPP, whose expenses were being managed through Letters of Agreement between the WMO and SAMS, the attention of the Chair and the Secretariat had been drawn to the need for continuing provision of funding for the airtime of remaining IPP drifters, including those that had been recently deployed in the S Pacific. So far, the Panel had spent nearly USD51k on Iridium-related activities, yet still had airtime obligations to SAMS of about USD6k at 31 August 2012, increasing at the rate of about USD500 per month. The Panel is invited to discuss how it wishes to manage this situation.

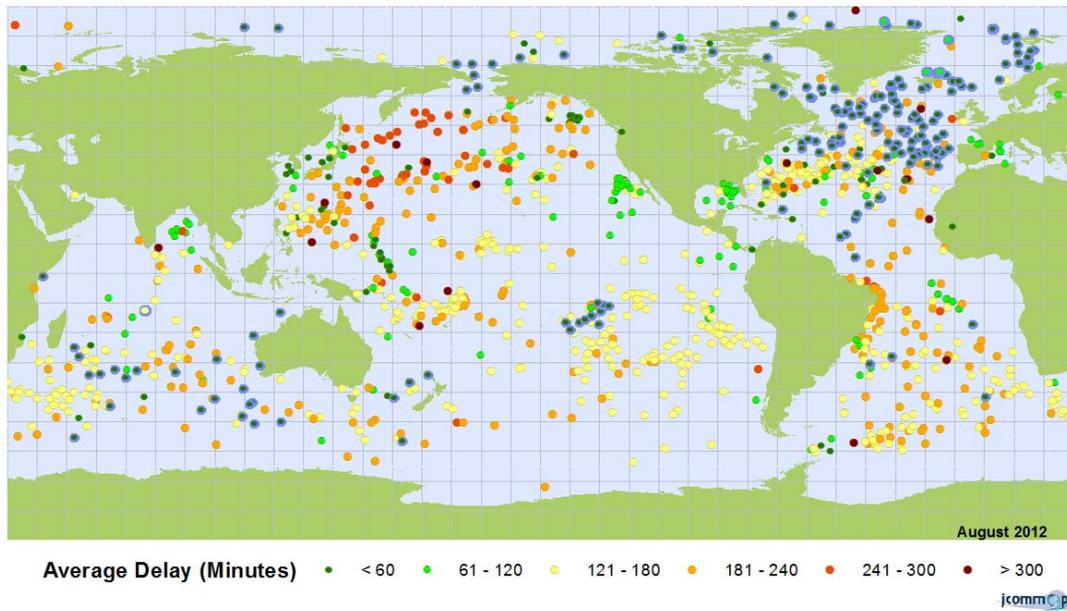
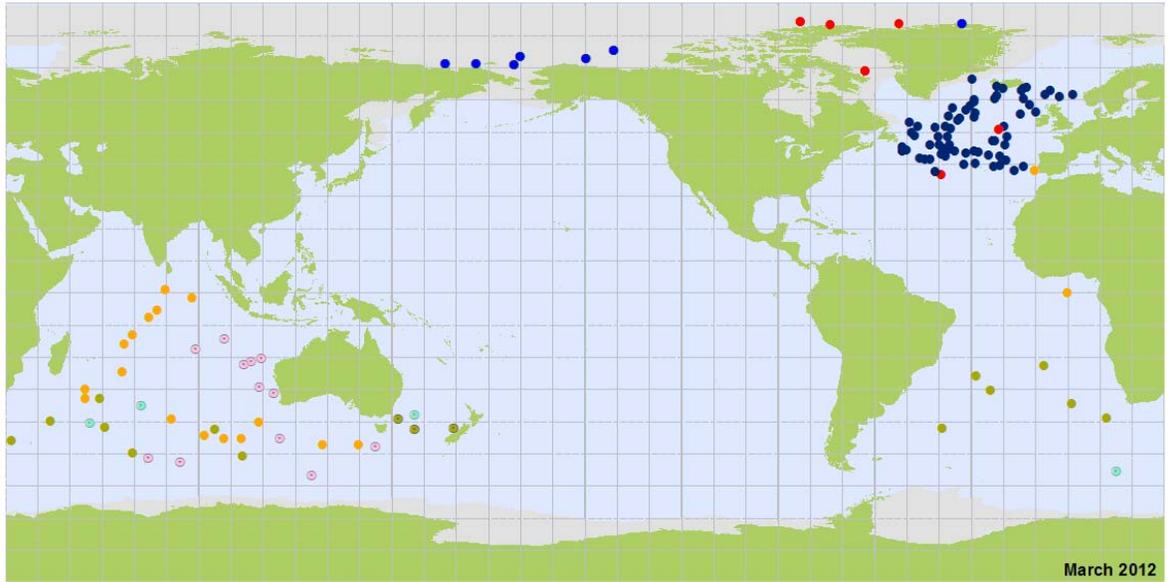
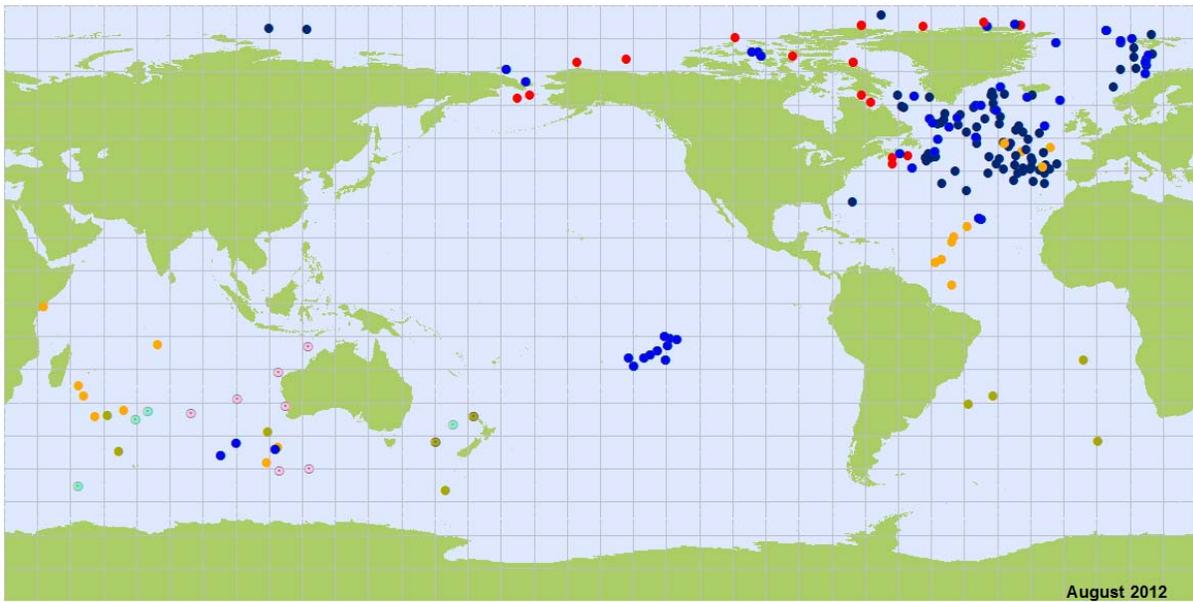


Fig 1. The low data latency (< 60 mins) of Iridium-equipped drifters (blue/grey circles is evident).



DBCP Pilot Projects (Iridium and Argos-3 Drifters by Country)

- Iridium Drifting Buoys (133)**
- CANADA (8)
 - FRANCE (18)
 - SOUTH AFRICA (4)
 - USA (7)
 - AUSTRALIA (12)
 - EUROPE/ESURFMAR (68)
 - NEW ZEALAND (3)
 - UK (13)



DBCP Pilot Projects (Iridium Drifters by Country)

- Iridium Drifting Buoys (188)**
- CANADA (19)
 - FRANCE (18)
 - SOUTH AFRICA (4)
 - USA (53)
 - AUSTRALIA (7)
 - EUROPE/ESURFMAR (77)
 - NEW ZEALAND (2)
 - UK (8)



Figure 2. Active platforms have increased by 55 since March, largely due to increased US activity.