DBCP IRIDIUM PILOT PROJECT UPDATE

(October 2010)

The Iridium Pilot Project (IPP) was instigated by the Panel in 2007 to evaluate the effectiveness of the Iridium satellite communications system for the transmission of drifter data, and was intended to deploy 50 or more Iridium equipped SVPBs through a programme of Iridium upgrades for drifters already being procured by buoy operators. In fact, nearly 200 platforms have been deployed during the three-year deployment phase of the project, half funded by the IPP, and half through voluntary contributions by ESURFMAR, who have now moved entirely to the use of Iridium in their drifter procurements.

On any given day during the last two years of the project, roughly 80 Iridium SVPBs were active and transmitting hourly data via the GTS (see Figure 1). The deployment phase of the IPP is now complete, apart from a final deployment of 30 IPP-upgraded Météo France platforms. These will be targeted at those areas (Indian Ocean, S Atlantic and S Pacific) which have traditionally suffered from poor timeliness through the Argos system, despite continuing efforts by CLS to improve the LUT network and address the blind orbit issues that affect these areas.

Data timeliness continues to be highly satisfactory, with insertion of Iridium data onto the GTS normally occurring within 10 minutes of the buoy transmission, compared with median delays of approximately one hour with Argos (Figure 2). In fact, less than one minute of the delay can be attributed to latency in the Iridium satellite system.

Buoy lifetime has been satisfactory (median life 374 days for non-GPS drifters), and is expected to continue to improve as better energy management schemes are implemented (Figure 3). As regards geographical distribution of IPP drifters, a true global coverage has unfortunately not been achieved. Nonetheless, many drifters have been deployed in the stormy waters of the Southern Ocean and have performed well, and all five SVPB manufacturers are now offering Iridium-equipped drifters.

The IPP has now entered its analysis and a full report will be presented to the next session. A preliminary analysis of cost-effectiveness has indicated that lifetime costs of an Iridium drifter are likely to be approximately half the cost of an Argos drifter for those users not benefiting from Argos bulk purchase schemes (Figure 4).

In order to record the collective experience gained from the IPP, a best-practice guide for the use of Iridium in drifters will be drawn up by the IPP steering team. Multiple agencies now insert Iridium data on to the GTS. So far this has not apparently caused any problems to the end users, but it is an area of concern to the IPP that will hopefully continue to be monitored by the DBCP.

http://www.jcommops.org/dbcp/iridium-pp