

**INTERGOVERNMENTAL OCEANOGRAPHIC
COMMISSION (OF UNESCO)**

DATA BUOY COOPERATION PANEL

TWENTY-FOURTH SESSION

CAPE TOWN, SOUTH AFRICA
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WORLD METEOROLOGICAL ORGANIZATION

DBCP-XXIV/Doc. 7.1
(8.IX.2008)

ITEM: 7.1

ENGLISH ONLY

IRIDIUM PILOT PROJECT UPDATE

(Submitted by Ms Hester Viola, DBCP Technical Co-ordinator)

Summary and Purpose of the Document

This document provides information on:

- the DBCP Iridium Pilot Project status and deployments;
- comments on lifetimes;
- coverage across the global ocean for the project to-date; and
- Update on Iridium Processing by CLS.

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.

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- Appendices:**
- A. Iridium Pilot Project status and maps as of July 2008;
 - B. DBCP Iridium Pilot Project website; and
 - C. Iridium Pilot Project daily status files and metadata.

- A - DRAFT TEXT FOR INCLUSION IN THE FINAL REPORT

7.1.1 The Technical Co-ordinator (TC) presented the current status of the buoy network within the Iridium Pilot Project: 51 active buoys (out of 75 deployed during the project) as of August 2008. The updates made to the project website were demonstrated, as well as the new automated daily status file (csv file on the JCOMMOPS website) (see Appendix B).

7.1.2 The TC thanked the project participants for e-mailing one another to notify deployment information and committed to creating a new notification form for use by the participants for deployment notification and planning. The Iridium Upgrade scheme offered for this pilot project has been very successful and has allowed many buoy operators to test the technology thus far.

7.1.3 The Technical Co-ordinator then presented some statistics about lifetimes of project buoys by manufacturer. Some manufacturers were working very actively on improving lifetimes. The TC noted that the data format recommended for the project has been working well for the needs of the project and had not been revised. The Technical Co-ordinator expressed her appreciation to Météo-France for undertaking GTS distribution for the project and ongoing analysis of delays and performance of pilot project buoys.

7.1.4 The coverage of the buoys so far was presented in a series of maps showing current positions of the buoys and historical tracks of all buoys in the project (see Appendix A). The coverage is restricted to the Northern Atlantic, Southern Atlantic, Indian Ocean and small regions of the Northern Pacific. Buoys are needed in the Central and Southern Pacific and in the Central Atlantic.

7.1.5 CLS processing

7.1.5.1 CLS has implemented an Iridium processing center and set-up an operational link between the Iridium and the Argos processing systems. As a result, drifters transmitting through Iridium can now benefit from the entire Argos processing capabilities including the GTS processing. This system was tested with the support of Météo-France, and delays were slightly higher than the existing Pilot Project processing system, but were still acceptable. The sources of the additional delay are currently being investigated by CLS.

7.1.5.2 As offered by CLS at the previous DBCP Session, the data processing is free of charge during the duration of the IPP project (i.e., until end July 2009). The IPP participants will pay for airtime via their Iridium VAR (CLS or other).

7.1.5.3 Buoy operators opting to use Iridium via CLS, and who wish to request GTS distribution of the data, should follow the process below:

- A) Send CLS (Mr Yann Bernard) an e-mail: iridium-buoy@cls.fr with: IMEI(s), data format(s) and WMO ID(s); and
- B) After Mr Bernard provides a confirmation e-mail (that all is okay and ready) one can ask to the respective Iridium provider to add the CLS e-mail address to the list of e-mail addresses (plus dbcpiridium@gmail.com) for the IMEI(s) concerned.

7.1.5.4 CLS will be able to accept data formats outside of the one recommended by the pilot project in future, as required by buoy operators or manufacturers.

7.1.6 The Meeting made the following recommendations:

7.1.6.1 Manufacturers are to supply information about new Iridium IMEI numbers to JCOMMOPS either via e-mail (iridium-pp@jcommops.org) or through the Metadata Entry tool (<http://wo.jcommops.org/cgi-bin/WebObjects/meta>) when they are testing new buoys.

7.1.6.2 To be considered as part of the project, and for buoys to appear on maps and in status reports, the notification of deployment must be completed by the buoy operator as soon as possible after the deployment.

7.1.6.3 Buoy operators are encouraged to communicate via e-mail (iridium-pp@jcommops.org) or through the Metadata Entry tool (<http://wo.jcommops.org/cgi-bin/WebObjects/meta>) with approximate deployment areas for all new IMEI numbers once they are manufactured (plus ships they are going on) ahead of time. In future, this operation can be completed via the JCOMMOPS dedicated notification page. The WMO number can then be entered upon deployment, along with details of the deployment. This information would then be automatically e-mailed to the project participants.

7.1.4 All manufacturers are encourage to work together to develop best practice concerning buoy development, especially regarding buoy lifetimes and share that with project participants.

Appendices: 3

IRIDIUM PILOT PROJECT STATUS AND MAPS AS OF JULY 2008

Network Status

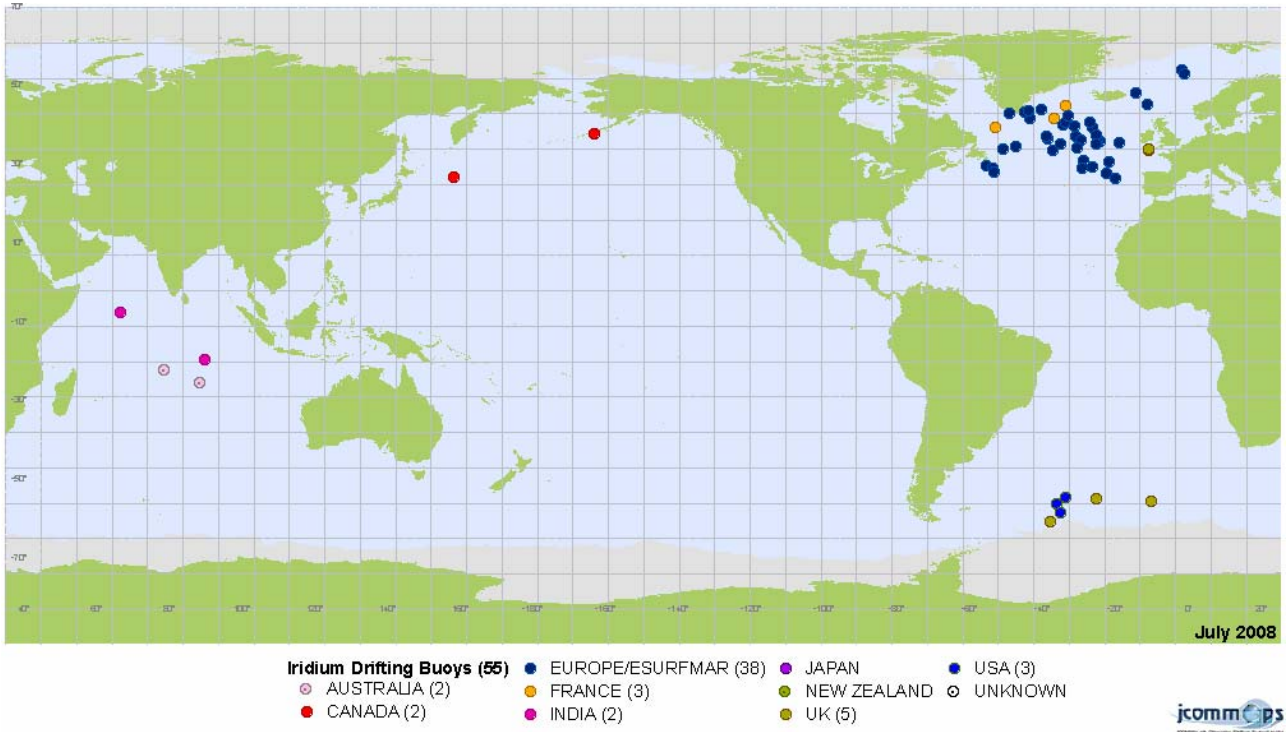
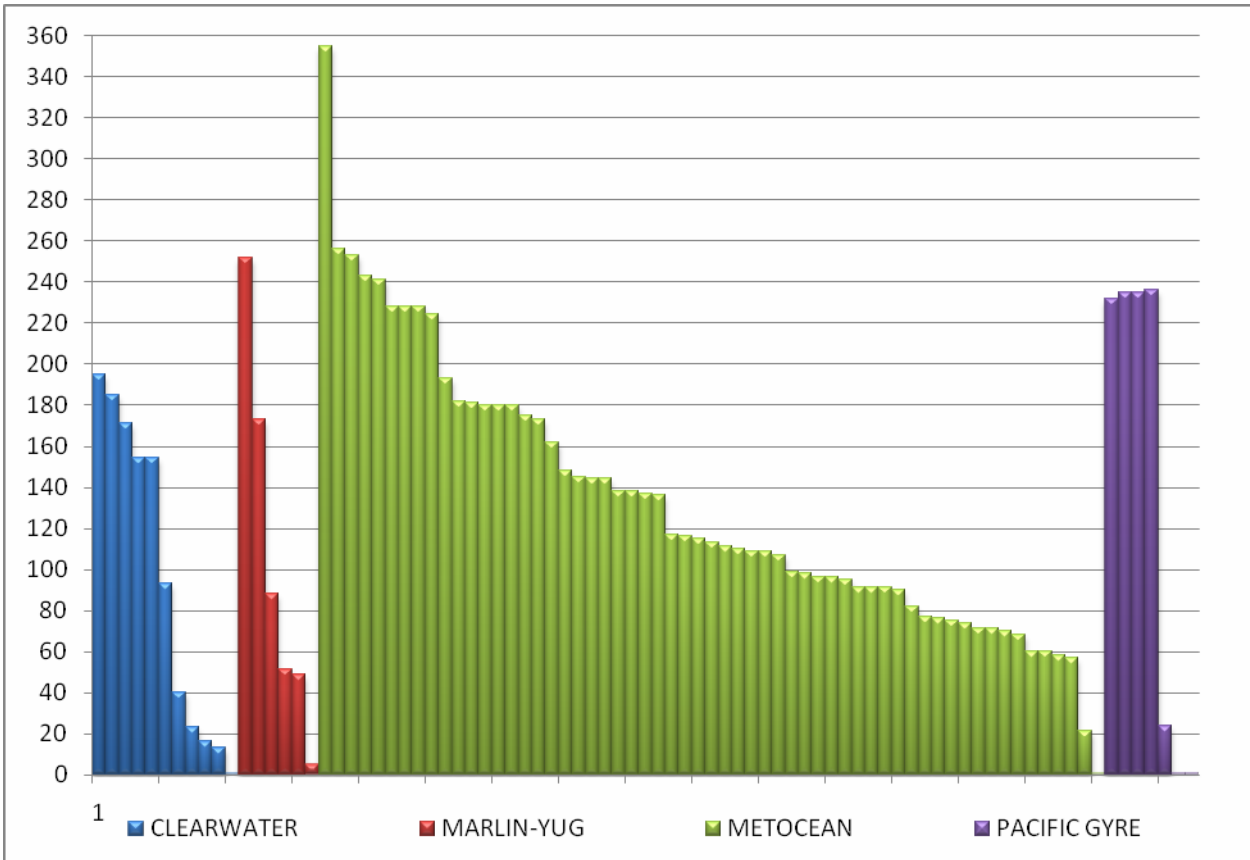


Figure 1: Status of iridium Pilot Project drifting buoys - July 2008

Lifetimes

Average lifetime of buoys by Manufacturer (days)



Graph 1: Lifetimes in days by manufacturer (not including initial deployments)

The average lifetime so far for all buoys in the project (including failed buoys) is 125 days. (up until 04/09/2008)

<i>Manufacturer</i>	<i>All buoys</i>		<i>Active buoys</i>		<i>Inactive/Failed buoys</i>	
	<i>Number</i>	<i>Average lifetime days</i>	<i>Number</i>	<i>Average lifetime days</i>	<i>Number</i>	<i>Average lifetime days</i>
CLEARWATER	11	94.9	2	14.5	9	112.8
MARLIN-YUG	6	103.0	4	99.0	2	111.0
METOCEAN	59	131.6	45	130.6	14	134.9
PACIFIC GYRE	7	137.4	4	182.5	3	77.3
All project buoys:	83	125.2				

Table 1: Lifetime averages by manufacturer

Network Coverage

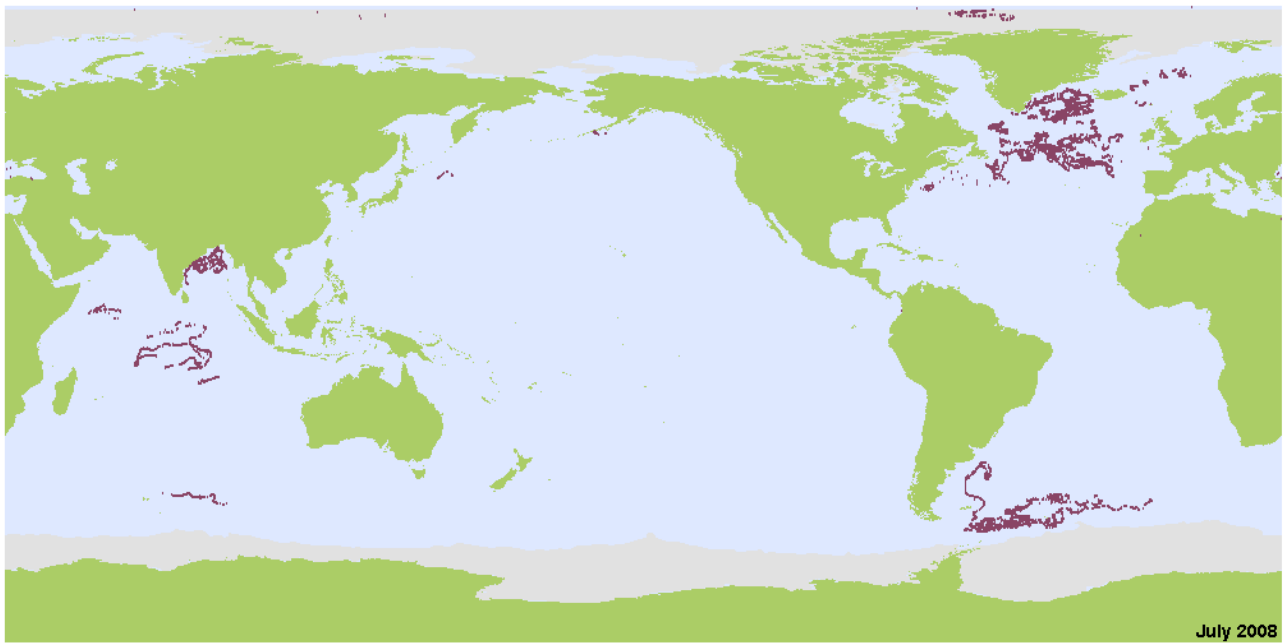
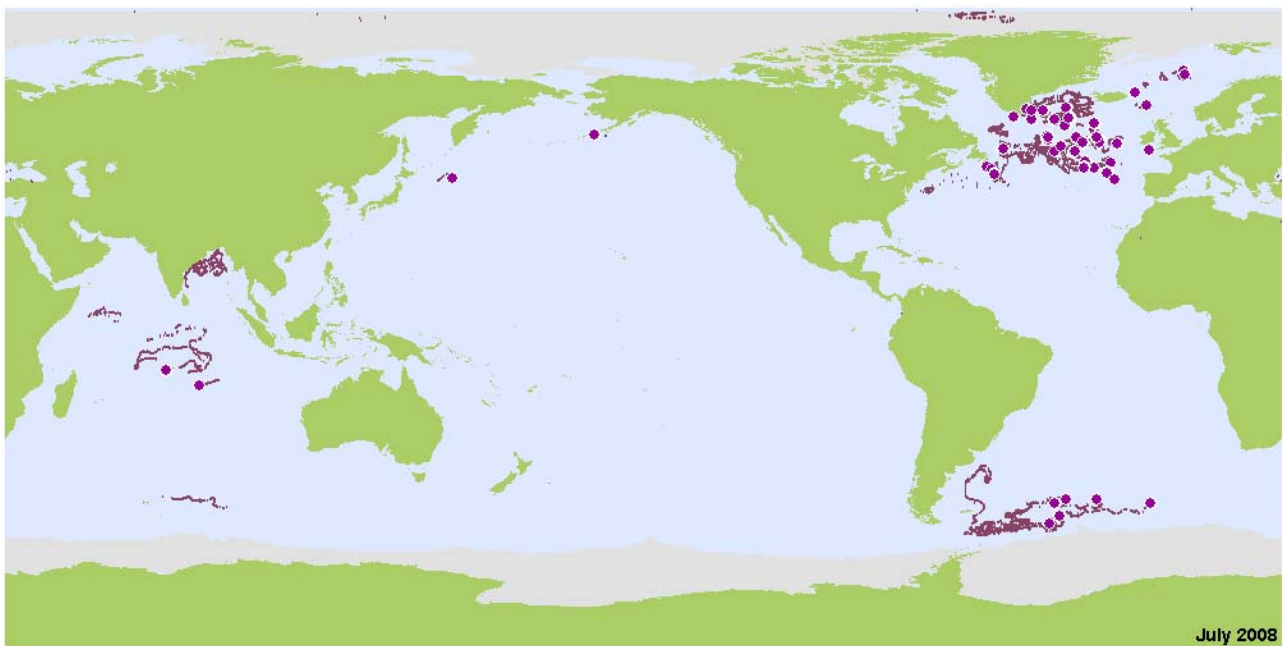


Figure 2: Iridium Tracks for all buoys participating the project (2006 - 2008)



● Iridium Buoy Locations 29-JUL-08
● Iridium Drifter Tracks (2007-2008)



Figure 3: Iridium Tracks for all buoys participating the project and positions at the end of July 2008

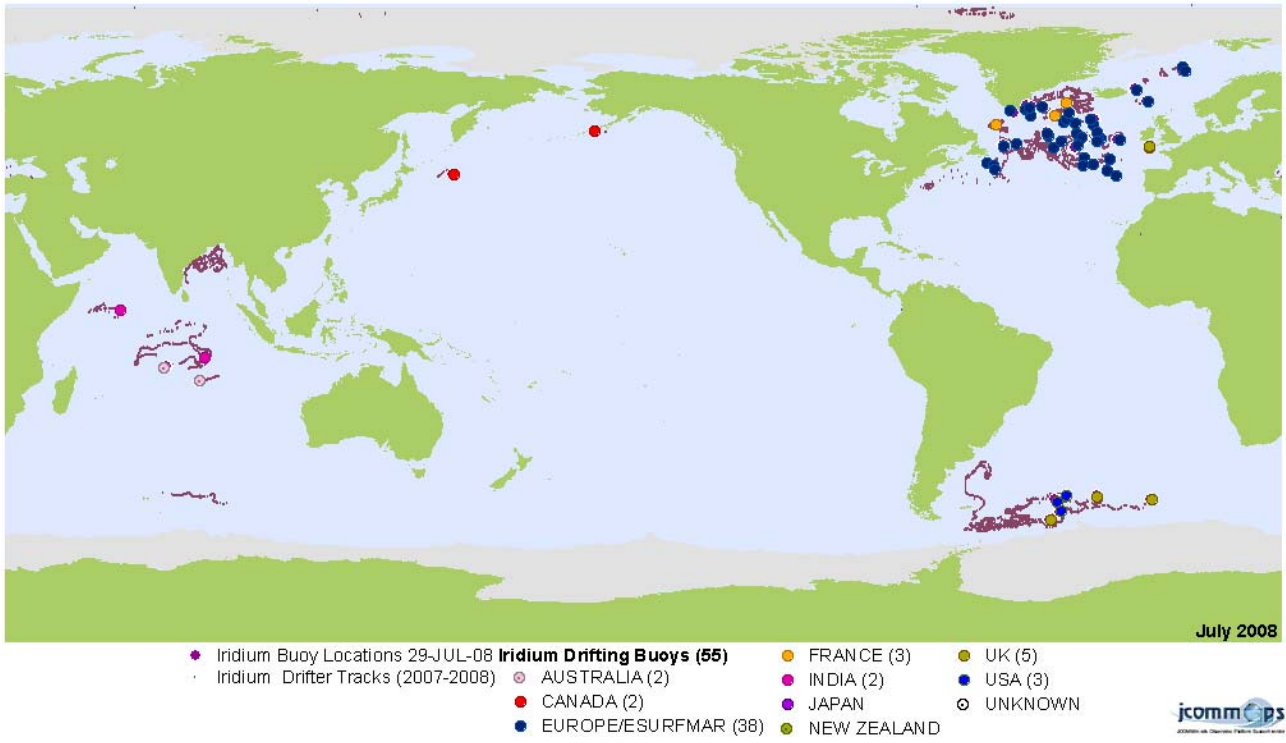


Figure 4: Iridium Tracks for all buoys participating the project and buoys symbolised by country (end of July 2008)

DBCP IRIDIUM PILOT PROJECT WEBSITE

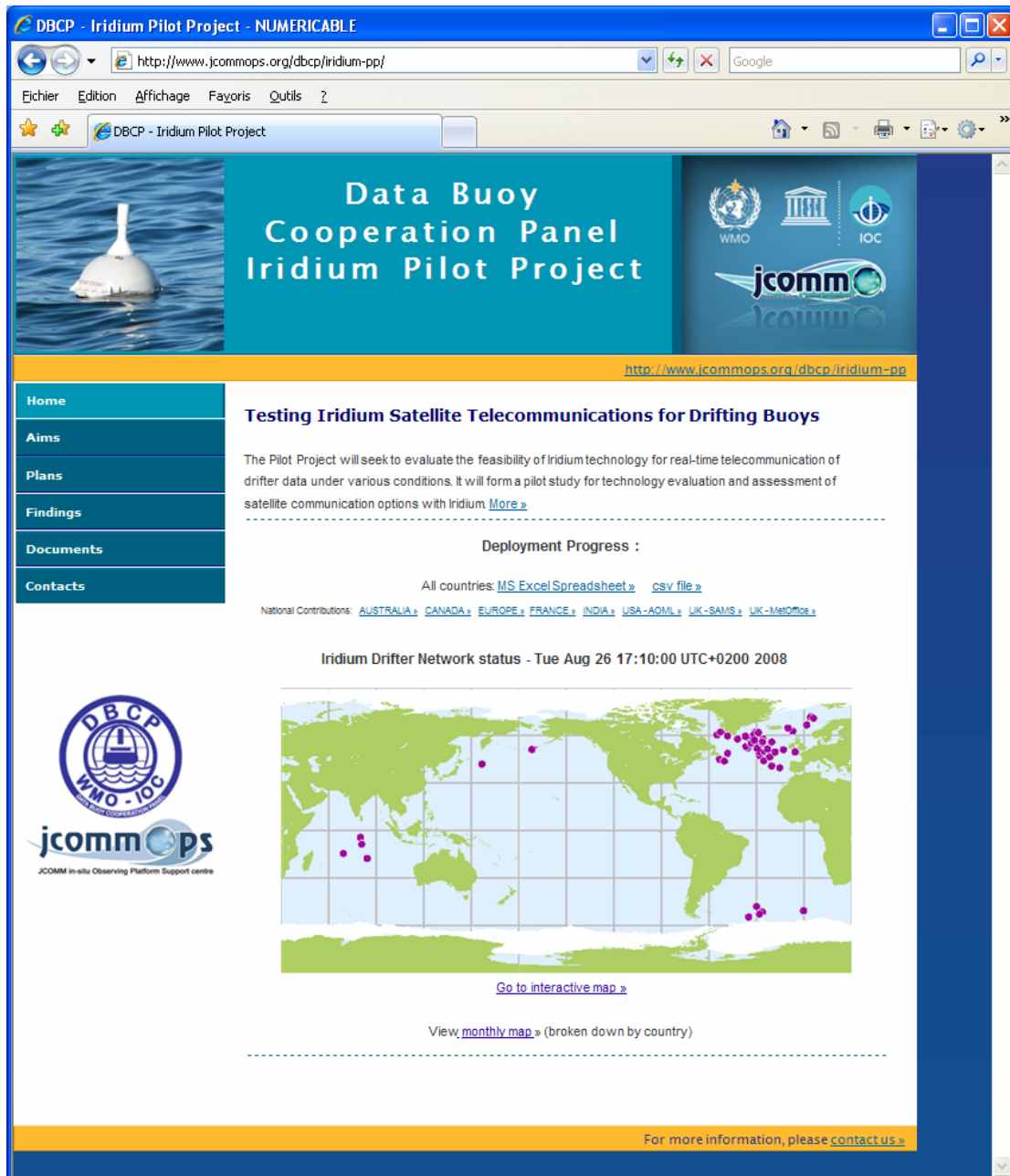


Figure A1: Updated Iridium Pilot Project website

Changes made include:

- Menu structure updated and presentation improved; and
- Links to programs participating in the project on the JCOMMOPS website;
National Contributions:
[AUSTRALIA](#) » [CANADA](#) » [EUROPE](#) » [FRANCE](#) » [INDIA](#) » [USA - AOML](#) » [UK - SAMS](#) » [UK - MetOffice](#) »;
- Automatically updated map (Web Map Service linking to web mapping tool at: http://w4.jcommops.org/website/DBCP_RT/viewer.htm?Layers=000011111&ActiveLayer=4;

- Link added to the monthly map; and
 - Content added to the Findings page and plans updated with recent information.
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DBCP-XXIV/Doc. 7.1, APPENDIX C, p. 2

Updated	20/08/2008	NORTH ATLANTIC																			
Buoy Information	Buoy Info	Deployment Information	Operational Information	JCOMMOPS Reference	Comments																
Buoy ID	Name	Status	Manufacturer	Date	Type	Depth	GT	Latitude	Longitude	Upgrad(%)	YOM	Origin	Agency	Agency	Agency	Agency	Agency	Agency	Agency	Agency	
19	527620 16538	Inactive	PACIFIC DYDE	10/02/2007	SVPR	13/10/2007	N	0	18/10/2007	47.5	71.9	N	INDIAN	SYBRANDY	PACIFIC DYDE/METEO FRANCE	iridium011.nf					Comms Coors paid by Meteo France. Mission Defreres from La Reunion. Failed at Deployment
20	626420 11581	Inactive	NETCEAN	10/02/2007	SVPR	21/01/2008	N	0	18/10/2007	7	7	N	SOUTH ATLANTIC	TURTUN	UK MO	iridium024.nm					Failed at Deployment
21	624420 11515	Inactive	NETCEAN	10/02/2007	SVPR	21/01/2008	N	0	21/01/2008	5.1	47.48	N	SOUTHERN	TURTUN	UK MO	iridium025.nm					HMS Endurance
22	723710 35690	Inactive	PACIFIC DYDE	17/01/2007	SVPR	13/01/2008	N	0	13/01/2008	-61	-57	Y	SOUTHERN ATLANTIC	DOLA	ADMN	iridium026.nm					Possible problem with GPS
23	623420 71511	Inactive	NETCEAN	11/02/2007	SVPR	16/02/2008	N	0	21/01/2007	-30	-38.7	Y	SOUTHERN	TURTUN	UK MET/OFFICE	iridium028.nm					HMS Endurance
24	723590 44563	Inactive	NETCEAN	11/02/2007	SVPR	10/04/2008	N	0	13/01/2008	0.4	-29	Y	NORTH ATLANTIC	BLOUCH	METEO FRANCE	iridium031.nf					Deployed from Indian Research Vessel ORV Saagar Kanya
25	528600 23533	Inactive	CLEARWATER	27/01/2007	SVPR	13/05/2008	N	195	18/11/2007	183.3	68	Y	BAY OF BENGAL	RAYCHANDRAN	INDICES	iridium031.nm					Deployed from Indian Research Vessel ORV Saagar Kanya
26	632400 62526	Inactive	MARLIN-YUG	10/02/2007	SVPR-Nm	20/07/2008	Y	5	10/07/2008	43.31	17.85	Y	NORTH ATLANTIC	MELDELM	SAME	iridium031.nm					RIS James Cook
27	524620 44516	Inactive	PACIFIC DYDE	10/02/2007	SVPR	10/07/2008	N	232	18/10/2007	54	-45.5	N	NORTH ATLANTIC	SYBRANDY	PACIFIC DYDE/METEO FRANCE	iridium032.nf					Comms Coors paid by Meteo France. Deployed off Nova Scotia. I deck problem general. Unsuccessful MF measurements about 100 km
28	621440 14531	Inactive	NETCEAN	10/02/2007	SVPR	28/08/2008	N	193	18/10/2007	-3	75	N	INDIAN	BLOUCH	METEO FRANCE	iridium032.nf					Missed from La Reunion
29	631240 44120	Inactive	NETCEAN	11/02/2007	SVPR	24/01/2008	Y	244	24/01/2008	515	-44	N	NORTH ATLANTIC	BLOUCH	ESURFMAR	iridium032.nf					Deployment planned off Nova Scotia. Problem from Rostk
30	724010 23105	Inactive	CLEARWATER	20/01/2007	SVPR	16/02/2008	N	40	10/02/2008	-4	62	Y	BAY OF BENGAL	RAYCHANDRAN	INDICES	iridium034.nm					Indian Research vessel ORV Saagar Kanya
31	721010 23106	Inactive	CLEARWATER	22/01/2007	SVPR	10/01/2008	N	54	13/01/2008	-5	-46.1	Y	BAY OF BENGAL	RAYCHANDRAN	INDICES	iridium034.nm					Indian Research vessel ORV Saagar Kanya
32	527600 23107	Inactive	CLEARWATER	26/01/2007	SVPR	13/01/2008	N	54	10/02/2008	7	68	Y	ARABIAN SEA	RAYCHANDRAN	INDICES	iridium034.nm					Indian Research vessel ORV Saagar Kanya
33	517400 71512	Inactive	MARLIN-YUG	10/02/2007	SVPR-Nm	10/08/2008	N	252	21/02/2007	17.8	-36.65	Y	SOUTHERN	MELDELM	SAME	iridium031.nm					SAMS - deployed in Drake Passage from RRS James Cook Ross
34	632420 62527	Active	NETCEAN	11/02/2007	SVPR	28/08/2008	Y	247	23/02/2007	55	-35	N	NORTH ATLANTIC	BLOUCH	ESURFMAR	iridium032.nf					Problem from Rostk
35	723230 44523	Active	NETCEAN	11/02/2007	SVPR	28/08/2008	Y	244	24/01/2008	515	-44	N	NORTH ATLANTIC	BLOUCH	ESURFMAR	iridium032.nf					Problem from Rostk
36	623410 11583	Active	NETCEAN	10/02/2007	SVPR	28/08/2008	Y	234	10/10/2008	511	56.1	Y	SOUTHERN	TURTUN	UK MO	iridium026.nm					HMS Endurance
37	723710 35691	Active	PACIFIC DYDE	17/01/2007	SVPR	28/08/2008	Y	247	10/01/2008	52	-53.8	Y	SOUTHERN ATLANTIC	DOLA	ADMN	iridium026.nm					Possible problem with GPS
38	723710 35692	Active	PACIFIC DYDE	17/01/2007	SVPR	28/08/2008	Y	247	10/01/2008	-53	-51	Y	SOUTHERN ATLANTIC	DOLA	ADMN	iridium026.nm					Possible problem with GPS
39	725710 35643	Active	PACIFIC DYDE	17/01/2007	SVPR	28/08/2008	Y	226	13/01/2008	-60	-53	Y	SOUTHERN ATLANTIC	DOLA	ADMN	iridium026.nm					Possible problem with GPS
40	632420 62528	Active	NETCEAN	11/02/2007	SVPR	28/08/2008	Y	219	20/01/2008	6.6	-30.8	N	NORTH ATLANTIC	BLOUCH	METEO FRANCE	iridium032.nf					EURO-05. Problem from Rostk
41	724300 64522	Active	NETCEAN	11/02/2007	SVPR	28/08/2008	Y	219	20/01/2008	6.6	-30.8	N	NORTH ATLANTIC	BLOUCH	METEO FRANCE	iridium034.nm					EURO-05. Problem from Rostk
42	627440 71582	Active	NETCEAN	11/02/2007	SVPR	28/08/2008	Y	235	20/01/2008	-21.1	-26.1	N	SOUTHERN	TURTUN	UK MO	iridium026.nm					Active Buoy
43	723330 44125	Active	NETCEAN	11/02/2007	SVPR	28/08/2008	Y	115	24/01/2008	43	-43.6	N	NORTH ATLANTIC	BLOUCH	ESURFMAR	iridium032.nf					EURO-05. Problem from Rostk
44	723380 62112	Active	NETCEAN	11/02/2007	SVPR	28/08/2008	Y	115	24/01/2008	43	-43.6	N	NORTH ATLANTIC	BLOUCH	ESURFMAR	iridium032.nf					Deployed by Meteorological Express from Southampton
45	723380 62113	Active	NETCEAN	11/02/2007	SVPR	28/08/2008	Y	116	10/01/2008	41.9	-26.3	N	NORTH ATLANTIC	BLOUCH	ESURFMAR	iridium032.nf					Deployed by Meteorological Express from Southampton
46	632420 62529	Active	NETCEAN	11/02/2007	SVPR	28/08/2008	Y	171	20/02/2008	45.5	-40.1	N	NORTH ATLANTIC	BLOUCH	ESURFMAR	iridium032.nf					Deployed by Meteorological Express from Southampton
47	723230 44126	Active	NETCEAN	11/02/2007	SVPR	28/08/2008	Y	171	20/02/2008	46.3	-40	N	NORTH ATLANTIC	BLOUCH	ESURFMAR	iridium034.nm					Deployed by Meteorological Express from Southampton
48	723230 44127	Active	NETCEAN	11/02/2007	SVPR	28/08/2008	Y	171	20/02/2008	46.3	-40	N	NORTH ATLANTIC	BLOUCH	ESURFMAR	iridium034.nm					Deployed by Meteorological Express from Southampton
49	632420 62530	Active	NETCEAN	11/02/2007	SVPR	28/08/2008	Y	171	20/02/2008	46.3	-40	N	NORTH ATLANTIC	BLOUCH	ESURFMAR	iridium034.nm					Deployment planned off Nova Scotia. Problem from Rostk
50	628410 44520	Active	NETCEAN	10/02/2007	SVPR	28/08/2008	Y	164	10/02/2008	52	-33.8	N	NORTH ATLANTIC	BLOUCH	METEO FRANCE	iridium032.nf					Deployment off Nova Scotia. Problem from Rostk
51	524410 44512	Active	MARLIN-YUG	10/02/2007	SVPR	28/08/2008	Y	164	13/02/2008	70	-33.8	N	NORTH ATLANTIC	BLOUCH	METEO FRANCE	iridium032.nf					Deployment planned off Nova Scotia. Problem from Rostk
52	723590 44514	Active	NETCEAN	11/02/2007	SVPR	28/08/2008	Y	136	10/04/2008	53	-33.1	N	NORTH ATLANTIC	BLOUCH	ESURFMAR	iridium032.nf					EURO-07. Problem from Rostk
53	632420 62531	Active	NETCEAN	11/02/2007	SVPR	28/08/2008	Y	135	13/04/2008	51	-41.5	N	NORTH ATLANTIC	BLOUCH	ESURFMAR	iridium032.nf					EURO-08. Problem from Rostk
54	723230 44128	Active	NETCEAN	11/02/2007	SVPR	28/08/2008	Y	135	10/04/2008	53	-33.8	N	NORTH ATLANTIC	BLOUCH	ESURFMAR	iridium032.nf					EURO-08. Problem from Rostk
55	632420 62532	Active	NETCEAN	11/02/2007	SVPR	28/08/2008	Y	135	10/04/2008	53	-33.8	N	NORTH ATLANTIC	BLOUCH	ESURFMAR	iridium032.nf					EURO-08. Problem from Rostk
56	632420 62533	Active	NETCEAN	11/02/2007	SVPR	28/08/2008	Y	135	10/04/2008	53	-33.8	N	NORTH ATLANTIC	BLOUCH	ESURFMAR	iridium032.nf					EURO-08. Problem from Rostk
57	632420 62534	Active	NETCEAN	11/02/2007	SVPR	28/08/2008	Y	135	10/04/2008	53	-33.8	N	NORTH ATLANTIC	BLOUCH	ESURFMAR	iridium032.nf					EURO-08. Problem from Rostk
58	620410 35550	Active	NETCEAN	10/02/2007	SVPR	28/08/2008	Y	107	11/05/2008	14.6	30.68	N	INDIAN	BALL	AUTP BDM	iridium035.nf					METEO EXPRES
59	621440 35551	Active	NETCEAN	10/02/2007	SVPR	28/08/2008	Y	107	11/05/2008	13.8	35.6	N	INDIAN	BALL	AUTP BDM	iridium035.nf					METEO EXPRES
60	632520 62522	Active	NETCEAN	11/02/2007	SVPR	28/08/2008	Y	100	11/05/2008	50.8	-20.1	N	NORTH ATLANTIC	BLOUCH	ESURFMAR	iridium036.nf					EURO-24 Torvik from Brast
61	331200 62525	Active	NETCEAN	11/02/2007	SVPR	28/08/2008	Y	100	11/05/2008	52	-21	N	NORTH ATLANTIC	BLOUCH	ESURFMAR	iridium036.nf					EURO-24 Torvik from Brast
62	331490 62531	Active	NETCEAN	11/02/2007	SVPR	28/08/2008	Y	100	18/05/2008	515	-24	N	NORTH ATLANTIC	BLOUCH	ESURFMAR	iridium036.nf					EURO-24 Torvik from Brast
63	331190 62525	Active	NETCEAN	11/02/2007	SVPR	28/08/2008	Y	100	18/05/2008	515	-24	N	NORTH ATLANTIC	BLOUCH	ESURFMAR	iridium036.nf					EURO-24 Torvik from Brast
64	331190 62526	Active	NETCEAN	11/02/2007	SVPR	28/08/2008	Y	100	18/05/2008	515	-24	N	NORTH ATLANTIC	BLOUCH	ESURFMAR	iridium036.nf					EURO-24 Torvik from Brast
65	65565	Active	?	?	?	?	?	26	20/02/2008	55.8	-53	Y	NORTH ATLANTIC	BLOUCH	ESURFMAR	iridium036.nf					EURO-24 Torvik from Brast
66	65565	Active	?	?	?	?	?	32	20/02/2008	?	?	Y	ARCTIC	MELDELM	SAME	iridium034.nm					
67	330900 44166	Active	NETCEAN	11/02/2007	SVPR	28/08/2008	Y	30	21/07/2008	?	?	Y	ARCTIC	MELDELM	SAME	iridium036.nf					
68	331910 64516	Active	NETCEAN	11/02/2007	SVPR	28/08/2008	Y	30	28/05/2008	48.8	-30	N	NORTH ATLANTIC	BLOUCH	ESURFMAR	iridium036.nf					EURO-4. Problem from Rostk
69	723230 44161	Active	NETCEAN	11/02/2007	SVPR	28/08/2008	Y	87	30/05/2008	51	48.6	N	NORTH ATLANTIC	BLOUCH	ESURFMAR	iridium036.nf					EURO-4. Problem from Rostk
70	720400 44162	Active	NETCEAN	11/02/2007	SVPR	28/08/2008	Y	86	10/06/2008	43	-43.1	N	NORTH ATLANTIC	BLOUCH	ESURFMAR	iridium036.nf					EURO-5
71	632520 64518	Active	NETCEAN	11/02/2007	SVPR	28/08/2008	Y	82	20/06/2008	18.5	-8	N	NORTH ATLANTIC	BLOUCH	ESURFMAR	iridium037.nf					EURO-30
72	632520 64519	Active	NETCEAN	11/02/2007	SVPR	28/08/2008															