

International Buoy Programme for the Indian Ocean
~ an Action Group of the Data Buoy Cooperation Panel ~



Report of the IBPIO

2009/10 Intersessional Period

Presented to DBCP-XXVI

27 – 30 September, Oban, Scotland

Graeme Ball
Chairman IBPIO

with contributions from Jean Rolland



Outline

- Members, Meetings & Committee
- Program Review & Plans
- Network Status
- Performance Monitoring





Members, Meetings & Committee



Members of the IBPIO

AGENCY		JOINED
Australian Bureau of Meteorology	(ABOM)	1997
Global Drifter Center, NOAA/AOML, USA	(GDC)	1997
Météo France	(MF)	1997
National Institute of Oceanography, India	(NIO)	1997
South African Weather Service	(SAWS)	1997
National Institute of Ocean Technology, India	(NIOT)	2001
Navoceano, USA	(NAVO)	2001
Eduardo Mondlane University, Mozambique	(EMU)	2007
Tropical Moored Buoy Implementation Panel	(TIP)	2007
Kenya Meteorological Department	(KMD)	2008
Indian National Centre for Ocean Information Services	(INCOIS)	2008
Malaysian Meteorological Department	(MMD)	EOI
Mauritius Meteorological Service	(MMS)	EOI

IBPIO Programme Meetings

SESSION	DATE	LOCATION
IBPIO-1	Sept 1996	St Denis, La Reunion.
IBPIO-2	July 1997	Perth, Australia.
IBPIO-3	July 1998	Kuala Lumpur, Malaysia.
IBPIO-4	July 1999	Cape Town, South Africa.
IBPIO-5	Oct 2001	Perth, Australia (with DBCP-17).
IBPIO-6	July 2002	Cape Town, South Africa (with ISABP-IX).
IBPIO-7	Oct 2004	Chennai, India (with DBCP-20).
IBPIO-8	Oct 2005	Buenos Aires, Argentina (with DBCP-21).
IBPIO-9	Oct 2006	La Jolla, USA (with DBCP-22).
IBPIO-10	Oct 2007	Jeju, Republic of Korea (with DBCP-23).
IBPIO-11	Oct 2008	Cape Town, Republic of South Africa (with DBCP-24)
IBPIO-12	Sept 2009	Paris, France (with DBCP-25)
IBPIO-13	Sept 2010	Oban, Scotland (with DBCP-26)

IBPIO-XIII (Oban, 2010)



IBPIO Programme Committee

Chairman	Graeme Ball	Australian Bureau of Meteorology
Vice Chairman	Shaun Dolk	Global Drifter Center, NOAA/AOML, USA
Programme Coordinator	Jean Rolland	Météo France
Members	Johan Stander	South African Weather Service
	Mayra Pazos	Global Drifter Center, NOAA/AOML, USA
	R. Venkatesan	National Institute of Ocean Technology, India
	Fialho Nehama	Eduardo Mondlane University, Mozambique
	Paul Freitag	Tropical Moored Buoy Implementation Panel
	Vitalis Ahago	Kenya Meteorological Department
	M. Ravichandran	Indian National Centre for Ocean Information Services



Programme Review & Plans



Programme Review

IBPIO CONSOLIDATED BUOY DEPLOYMENT PLAN - 2009/10

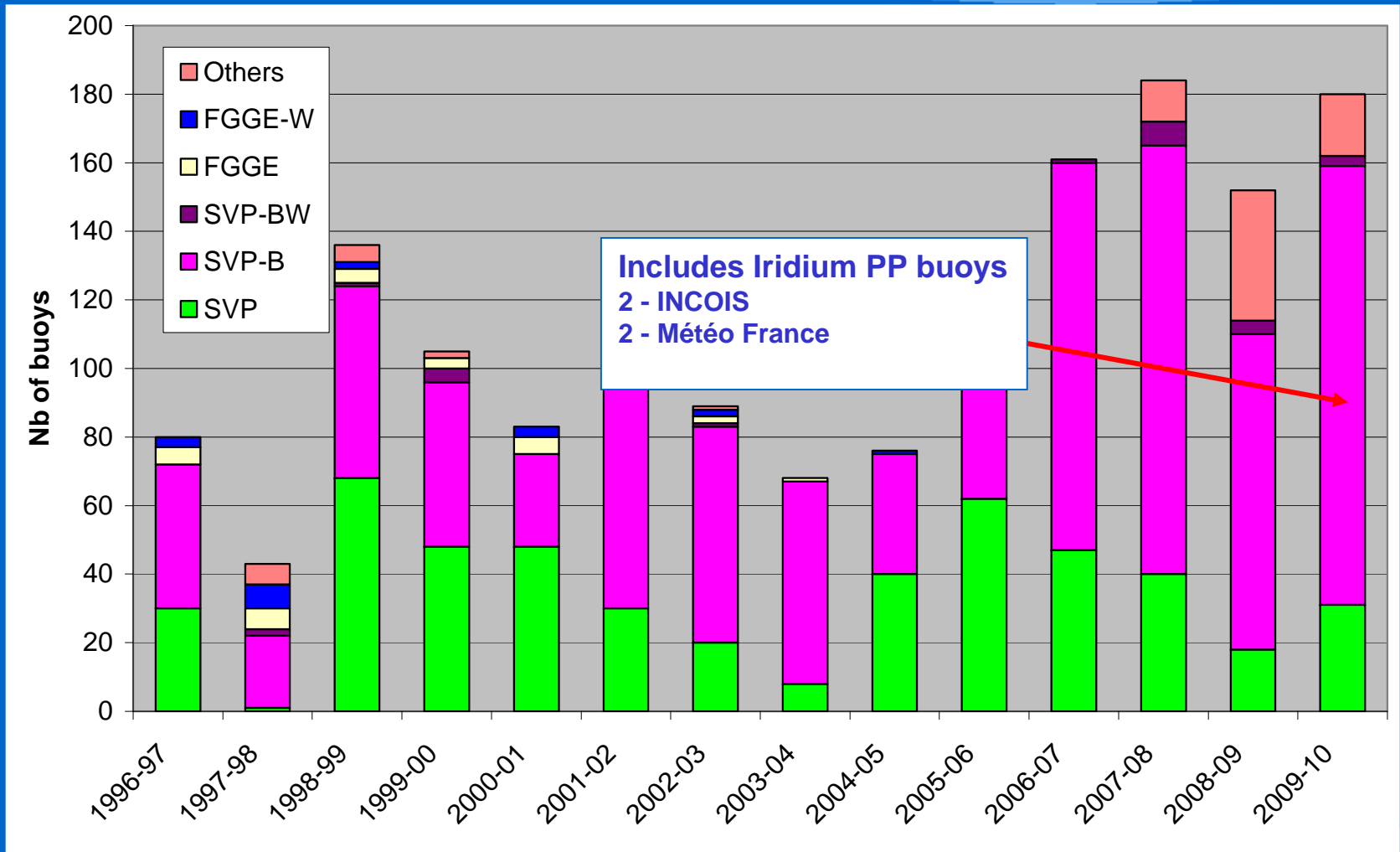
AGENCY	OWN PROGRAM					FOR GDP			TOTAL
	Moored	Other	SVP	SVP-B	SVP-BW	UPG	SVP	SVP-B	
GDC	0	0	55	30	0				85
ABOM	0	0	0	18	2	8	0	20	48
MF	0	0	0	0	0	36	0	3	39
NAVO	0	0	0	0	0	0	0	0	0
NIO	0	0	0	0	15	0	0	0	15
NIOT	8	0	0	0	0	0	0	0	8
SAWS	0	0	0	0	0	0	0	10	10
EMU	0	0	0	0	0	0	0	0	0
KMD	0	0	0	0	0	0	0	0	0
TIP	8	0	0	0	0	0	0	0	8
INCOIS	0	0	0	0	0	0	0	0	0
TOTAL	16	0	55	48	17	44	0	33	213

SUMMARY	
Moored	16
Other	0
SVP	55
SVP-B	125
SVP-BW	17

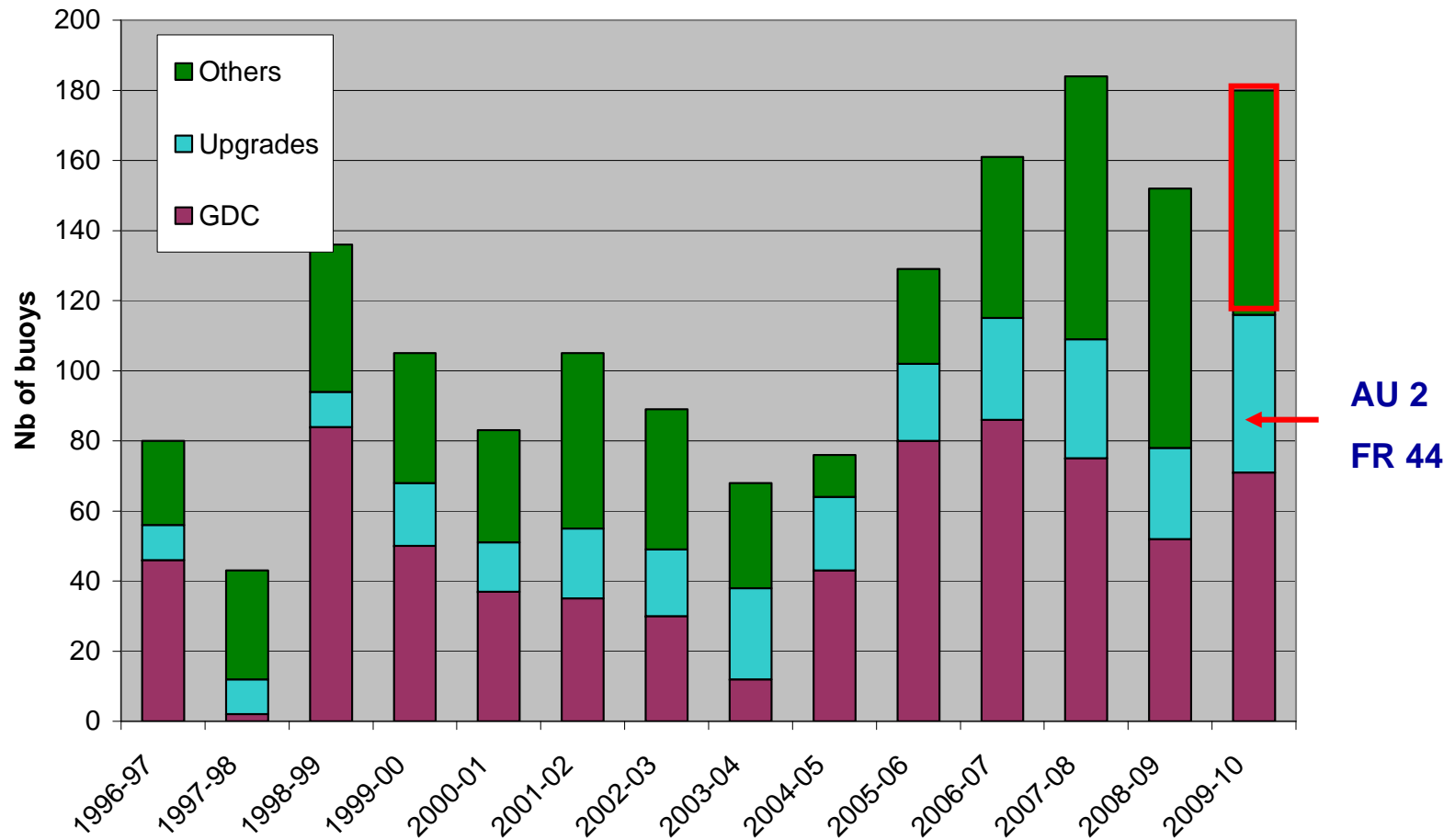
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**New Record
Number of
Deployments**

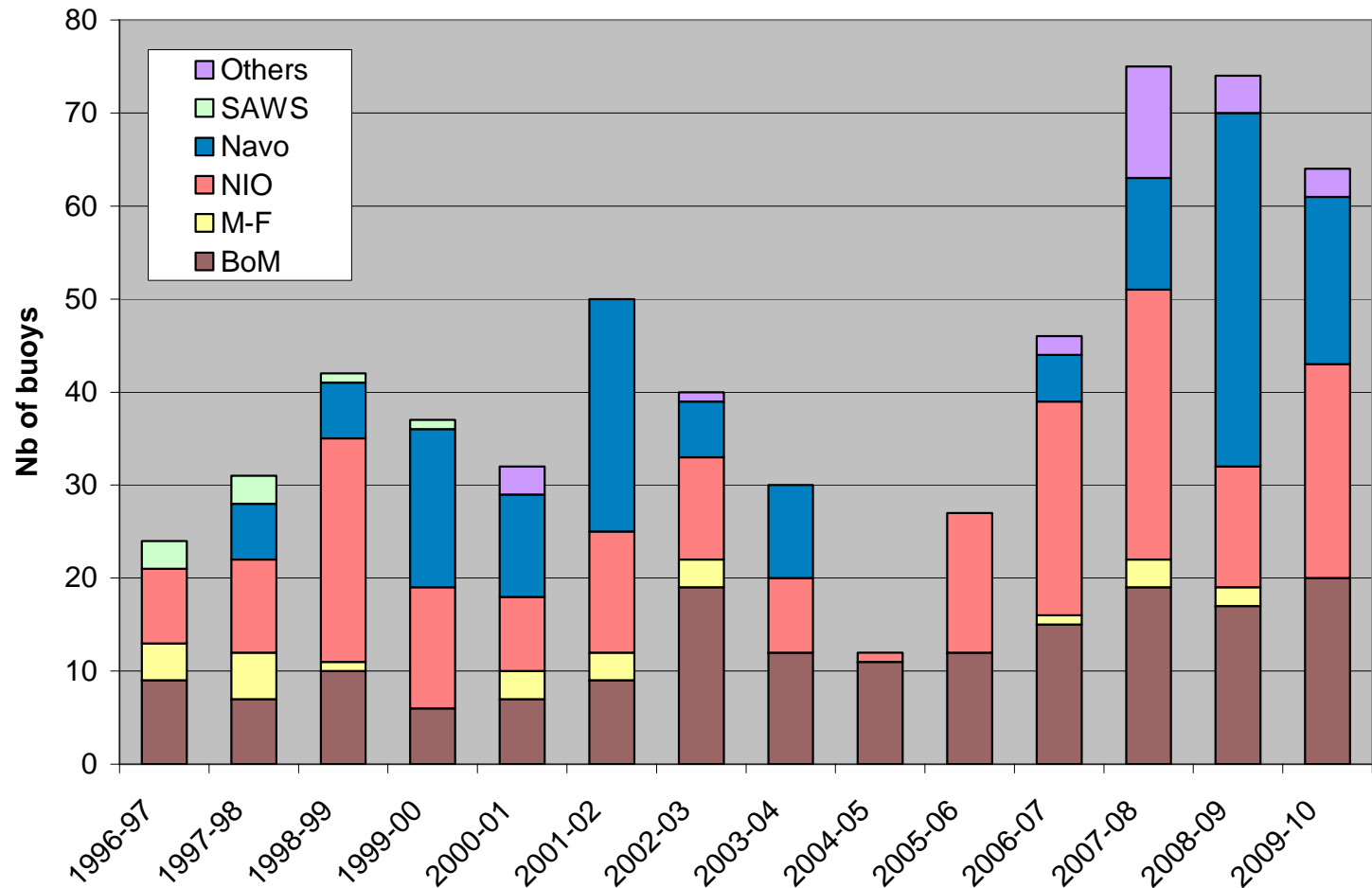
Drifting Buoy Deployments by Type



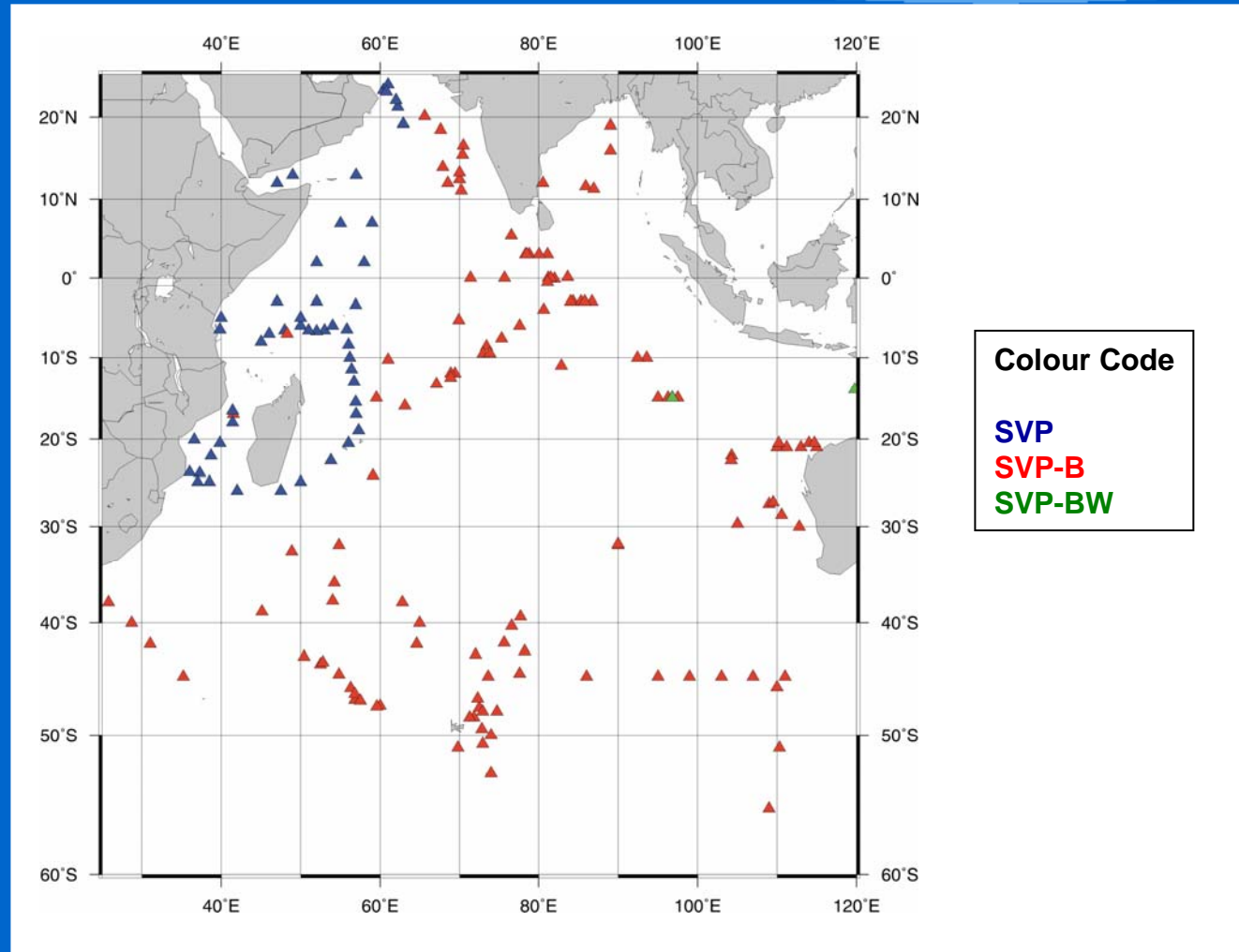
Drifting Buoy Contributions to IBPIO



Drifting Buoy Contributions by Others



2009/2010 Drifting Buoy Deployment Locations



Programme Plans

IBPIO CONSOLIDATED BUOY DEPLOYMENT PLAN - 2010/11

AGENCY	OWN PROGRAM					FOR GDP			TOTAL
	Moored	Other	SVP	SVP-B	SVP-BW	UPG	SVP	SVP-B	
GDC	0	0	40	75	0				115
ABOM	0	0	0	20	0	8	0	20	48
MF	0	0	0	0	0	43	0	0	43
NAVO	0	0	0	0	0	0	0	0	0
NIO	0	0	0	0	20	0	0	0	20
NIOT	11	0	0	0	0	0	0	25	36
SAWS	0	0	0	0	0	20	0	0	20
EMU	0	0	0	0	0	0	0	0	0
KMD	0	0	0	0	0	0	0	0	0
TIP	40	0	0	0	0	0	0	0	40
INCOIS	0	0	0	0	0	0	0	0	0
TOTAL	51	0	40	95	20	71	0	45	322

SUMMARY	
Moored	51
Other	0
SVP	40
SVP-B	211
SVP-BW	20

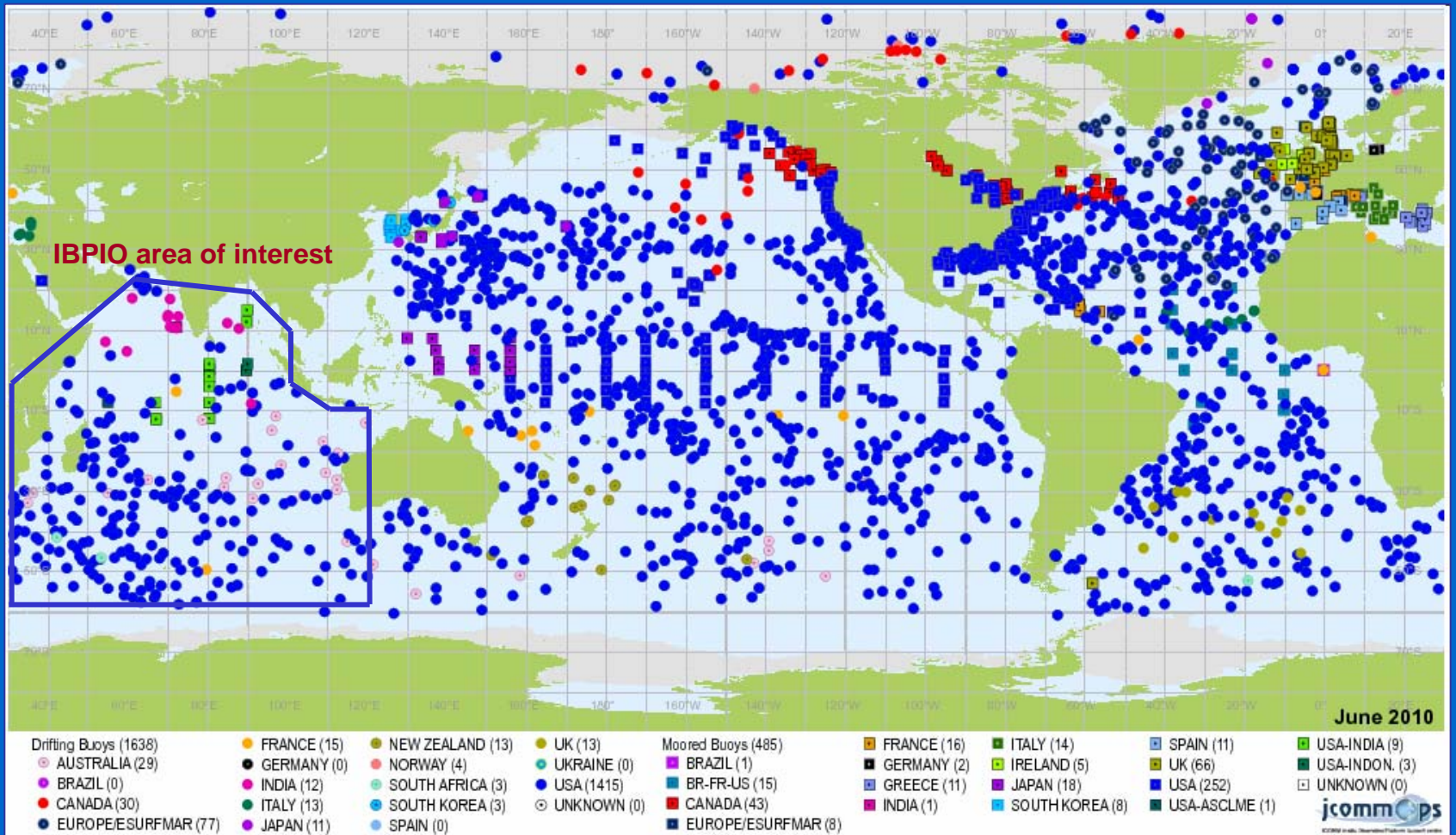
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Network Status



Global Buoy Network



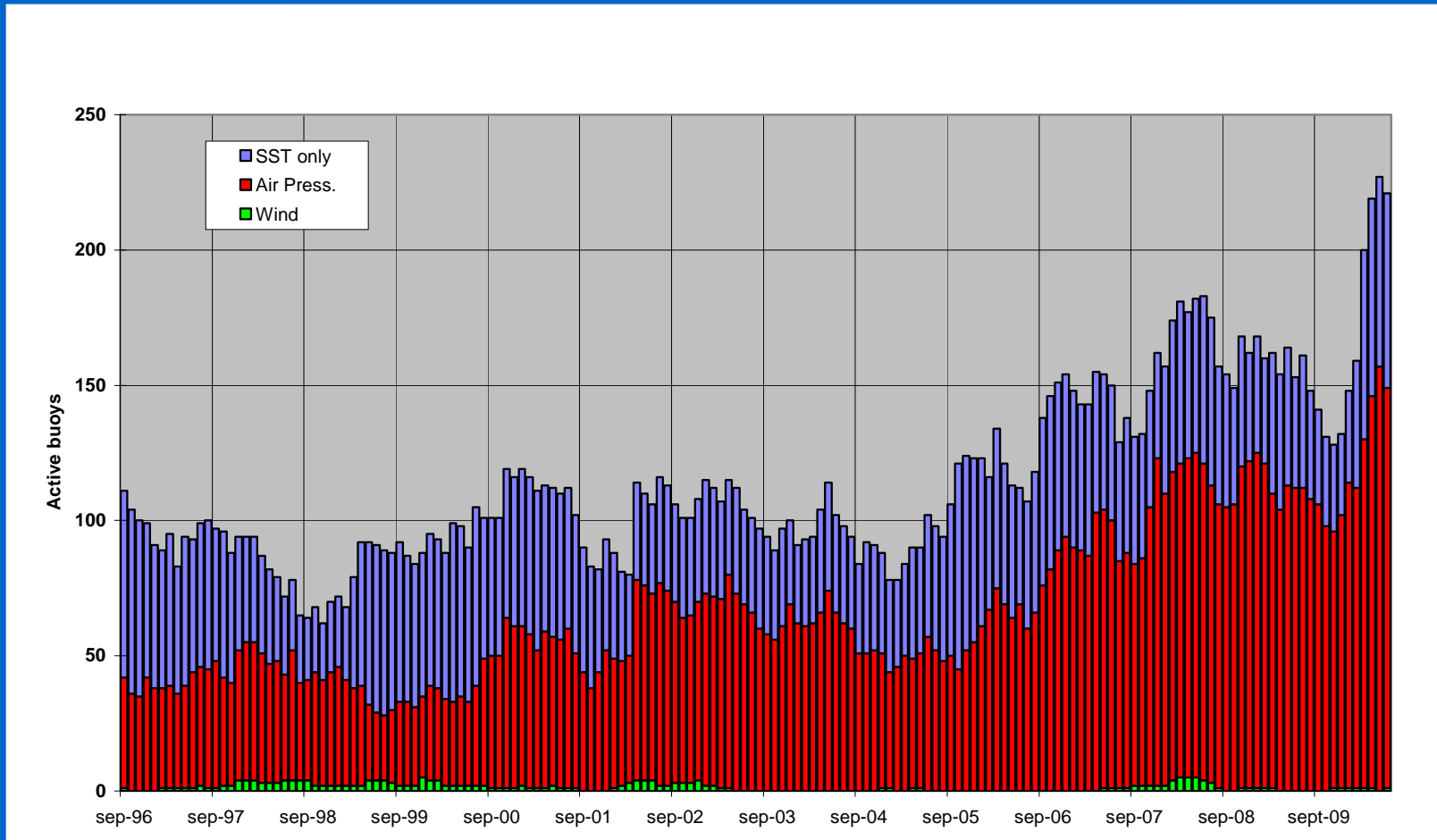
Operational Drifting Buoys

Agency	SST	AP	Wind
ABOM	1	17	1
GDC	65	119*	-
NAVO	6	-	-
MF	-	-	-
NIO	-	11	-
INCOIS	-	1	-
Total	72	148	1

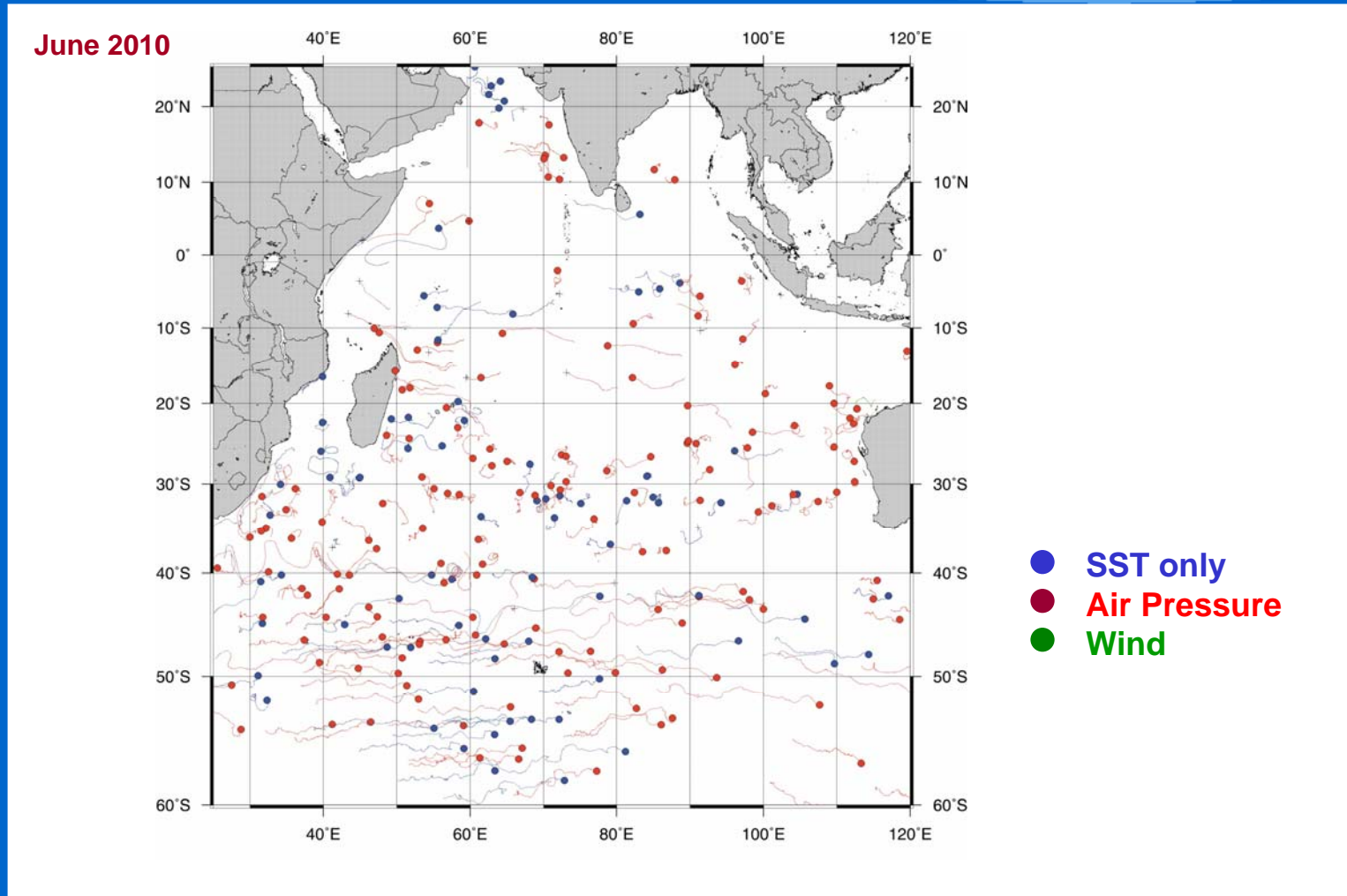
* Includes upgrades from MF and ABOM

(as at 30 June 2010)

Drifting Buoy Network



Drifting Buoy Trajectories

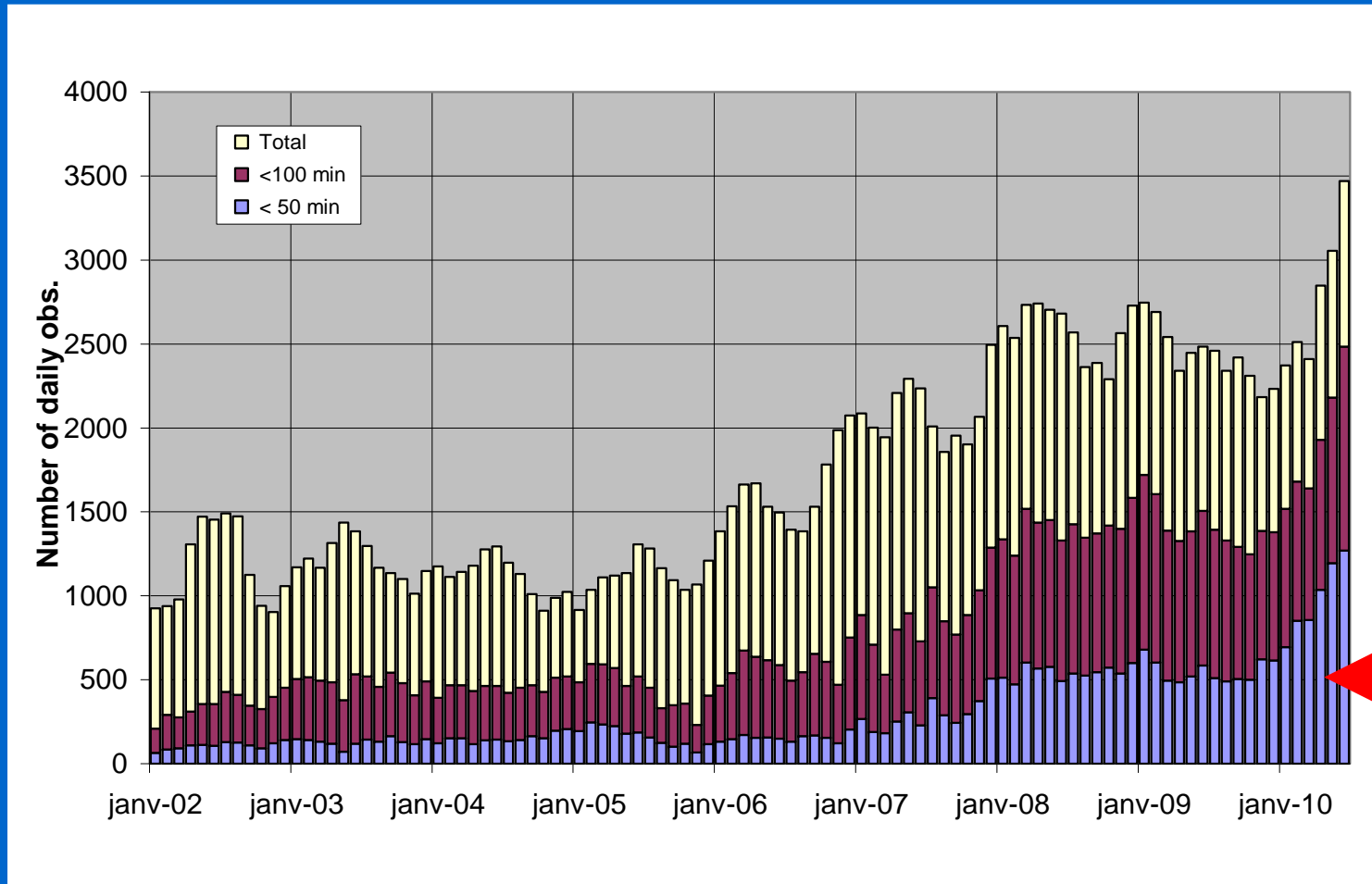




Performance Monitoring

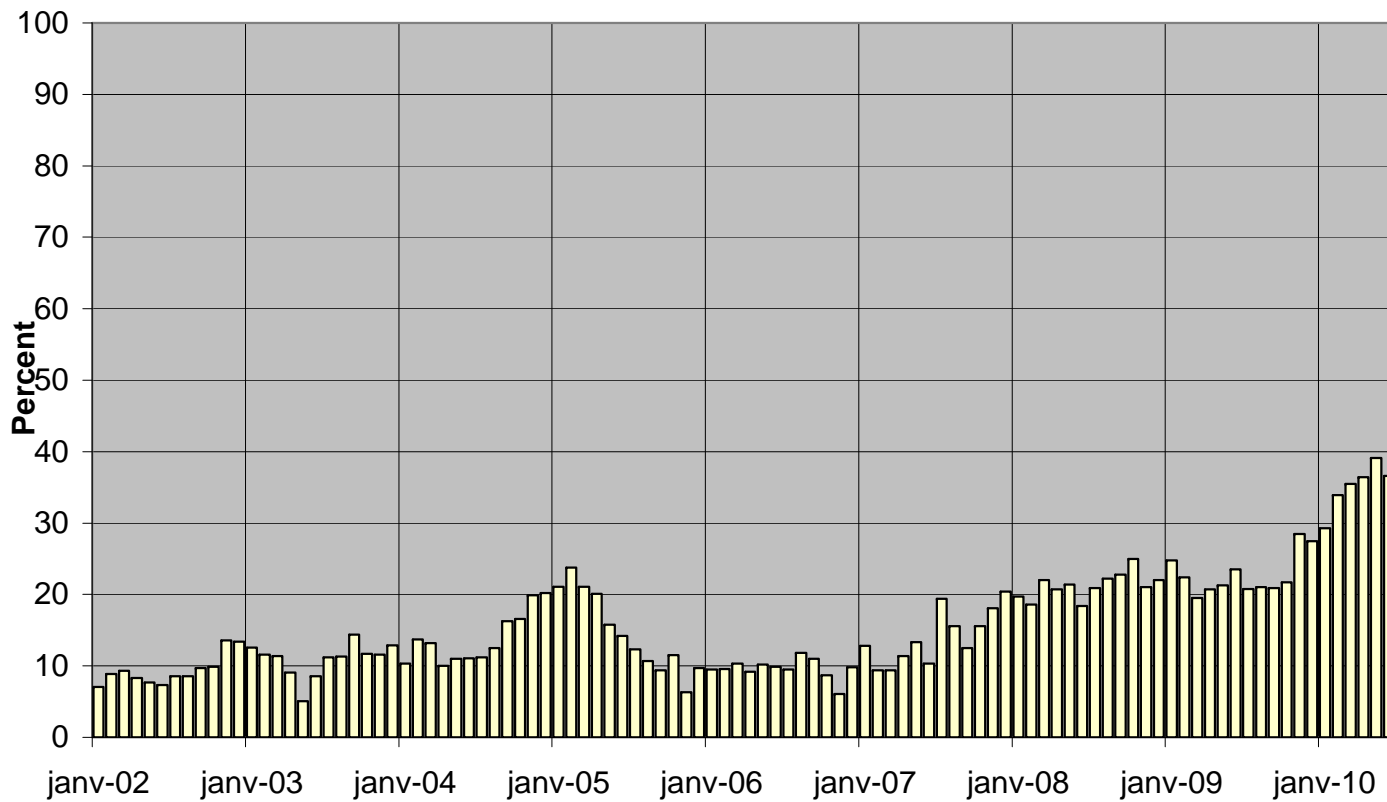


Data Availability – Drifting Buoys

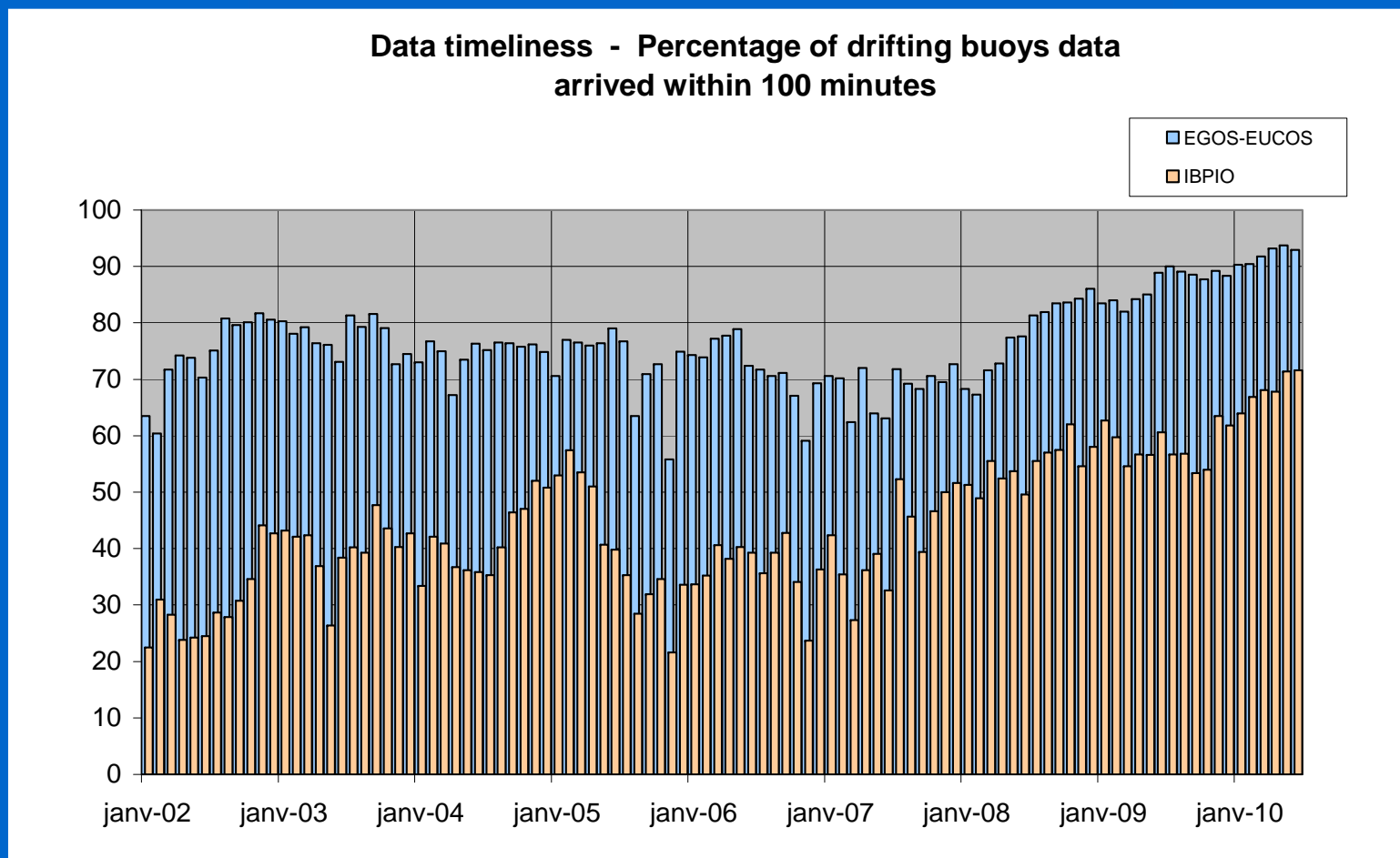


Data Timeliness – Drifting Buoys

IBPIO drifting buoys - Data timeliness
Percentage of data arrived within 50 minutes



Data Timeliness Comparison – Drifting Buoys

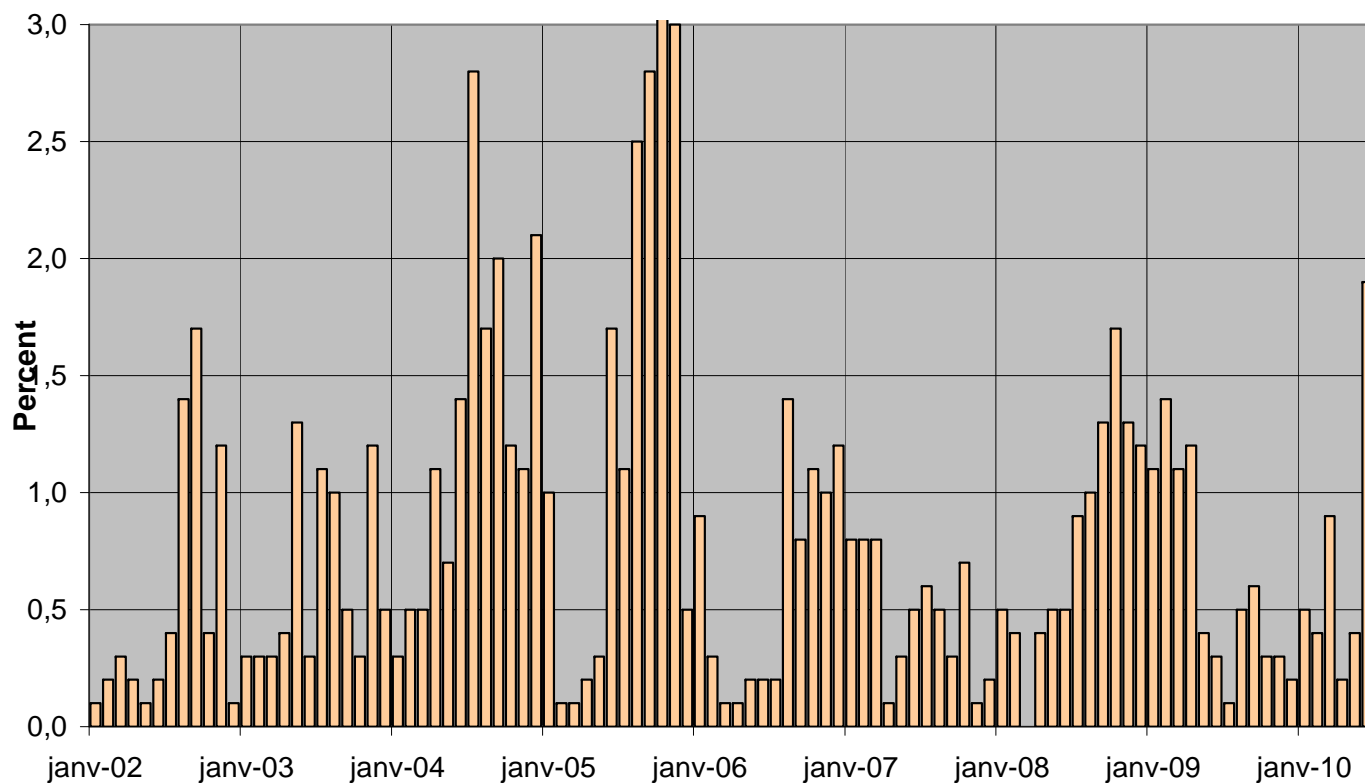


Recommendation to DBCP

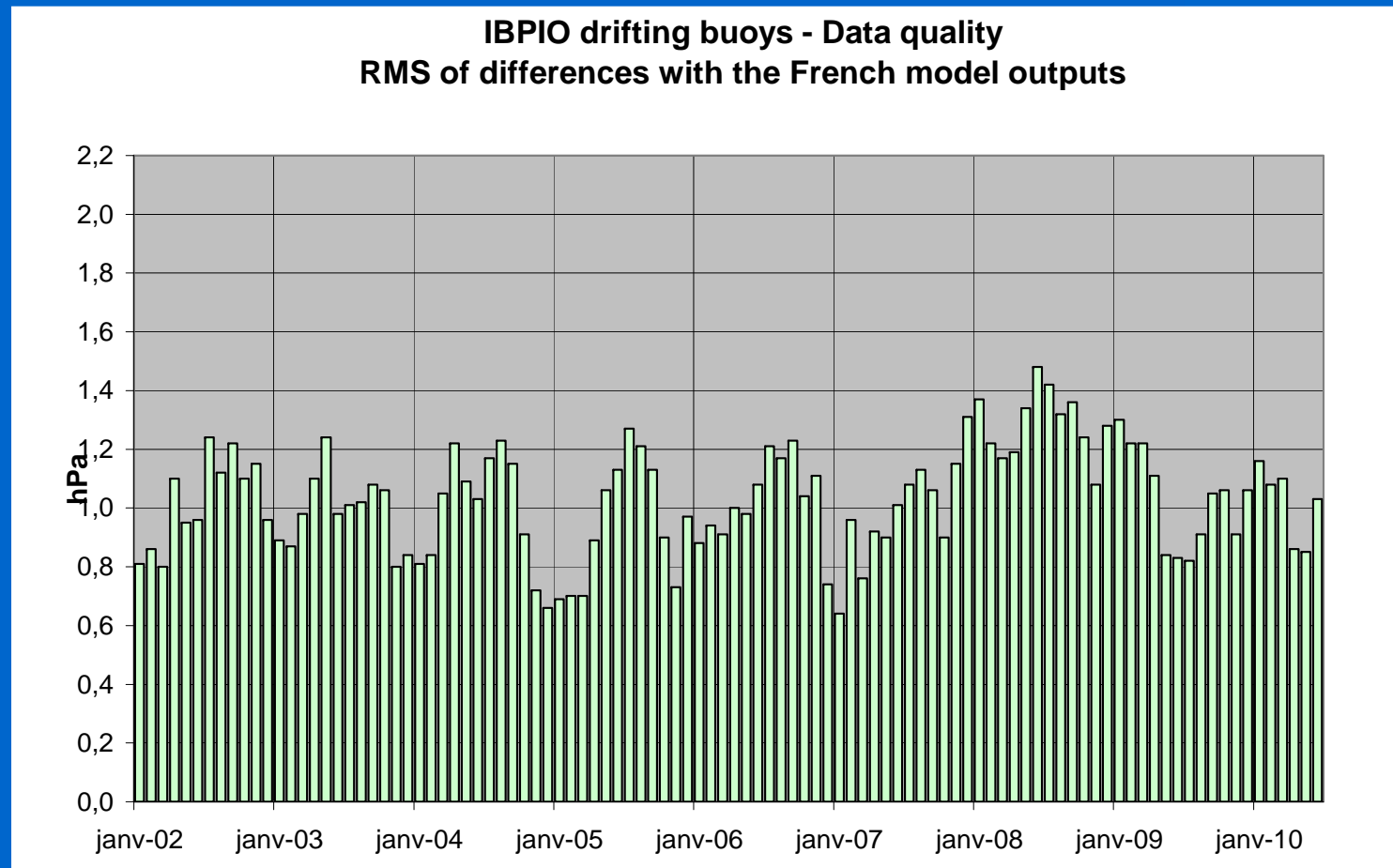
- The IBPIO acknowledges the work that CLS is planning for 2010 and 2011 to improve the timeliness of data originating from drifting buoys in the Indian Ocean. This issue has been raised at several past DBCP meetings.
- *To further improve data timeliness across the entire basin, the IBPIO recommends that CLS investigate the possibility of installing a third new station over the southern parts of the Indian Ocean.*
- The IBPIO is willing to assist CLS in identifying a suitable position.

Gross Errors – Drifting Buoys

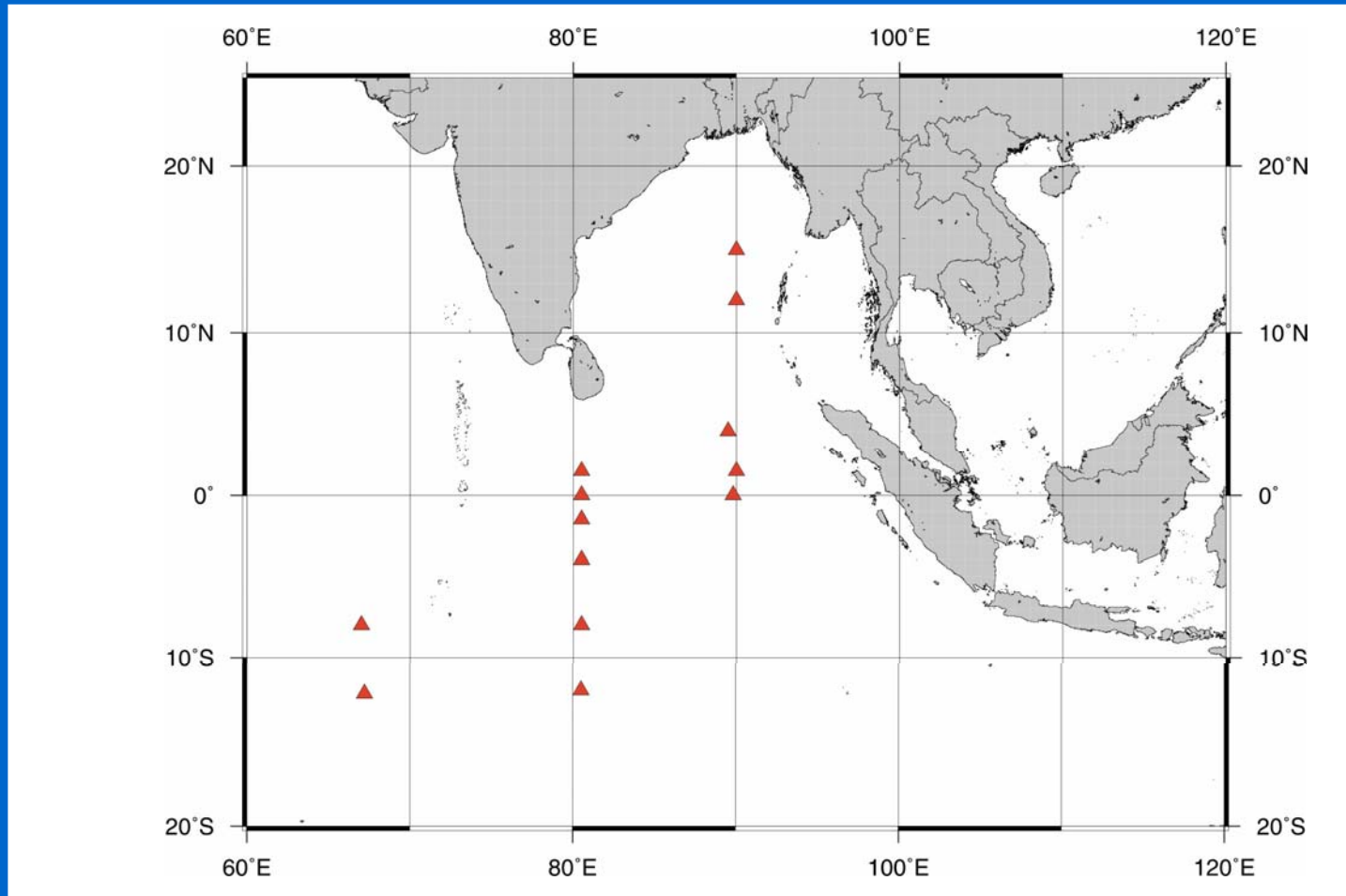
IBPIO drifting buoys - Data quality
Gross Errors of differences with the French model outputs



MSLP RMS Errors – Drifting Buoys



Moored Buoys (on GTS – June 2010)



RAMA Array

