



**Australian Government**  
**Bureau of Meteorology**

# Australian National Report to DBCP

DBCPC-29 | 23-27 September, 2013 | Paris, France





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# Outline

## ☐ Australian Bureau of Meteorology (ABOM)

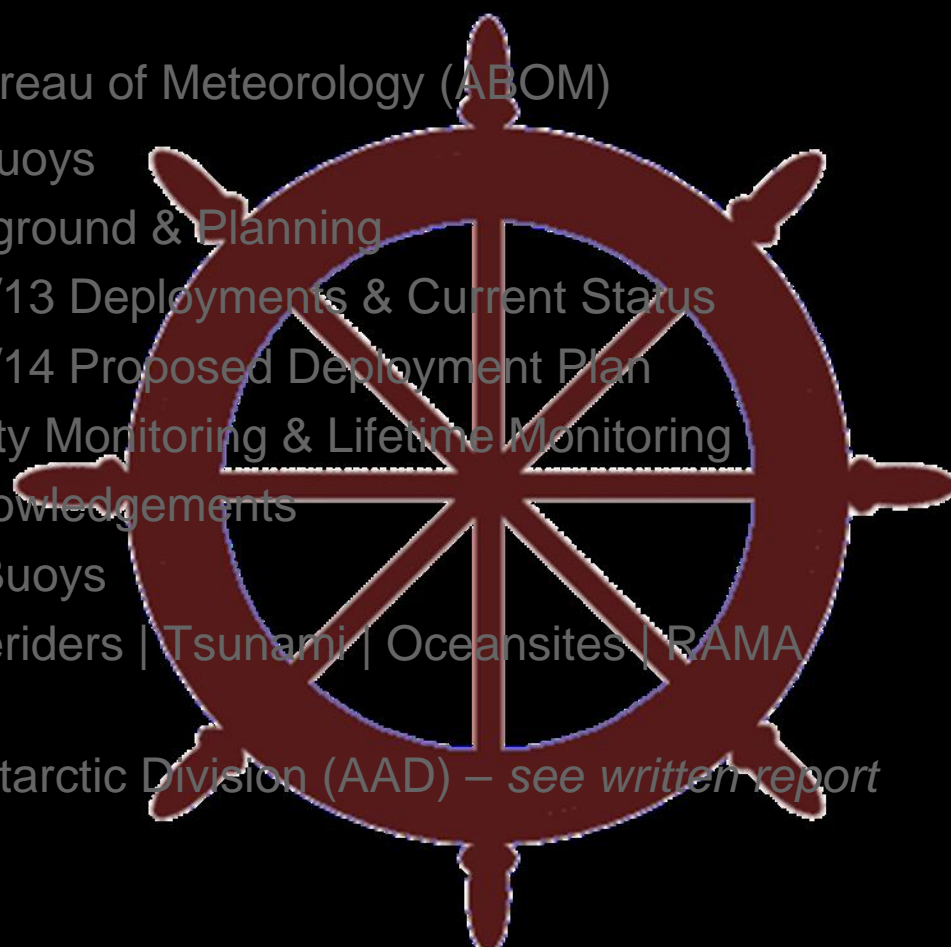
### – Drifting Buoys

- Background & Planning
- 2012/13 Deployments & Current Status
- 2013/14 Proposed Deployment Plan
- Quality Monitoring & Lifetime Monitoring
- Acknowledgements

### – Moored Buoys

- Waveriders | Tsunami | Oceansites | RAMA

## ☐ Australian Antarctic Division (AAD) – *see written report*





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# ABOM – Drifting Buoys



23-27 September, 2013

DBCP-29, Paris, France

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## Background

- ❏ The Bureau's Buoy Program started in the mid-1970s with FGGE. The aim is to support the Bureau's forecasting & warning service.
- ❏ Deployments are mainly in the Indian & Southern Oceans & contribute to the IBPIO, SOBP & IPAB
- ❏ Deployments are also arranged for the GDC at mutually beneficial locations.
- ❏ Deployments are mostly made from merchant ships. A small number of deployments each year are from Customs & Antarctic re-supply vessels.
- ❏ The Buoy Program runs from July to June to align with the AU financial year & Government appropriation.



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# Planning

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- ☐ The annual deployment plan is prepared in consultation with key Bureau stakeholders:
    - Regional Forecasting Centres;
    - National Meteorological & Oceanographic Centre; and
    - Weather Services Branch.
  - ☐ The deployment plan is published each August. Details are available at JCOMMOPS – [http://www.jcommops.org/depl\\_opport/australia.html](http://www.jcommops.org/depl_opport/australia.html).
  - ☐ Current funding provides for the annual purchase of:
    - ~20 SVP-B buoys, and
    - ~8 barometer upgrades.



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## 2012/13 Deployments & Current Status

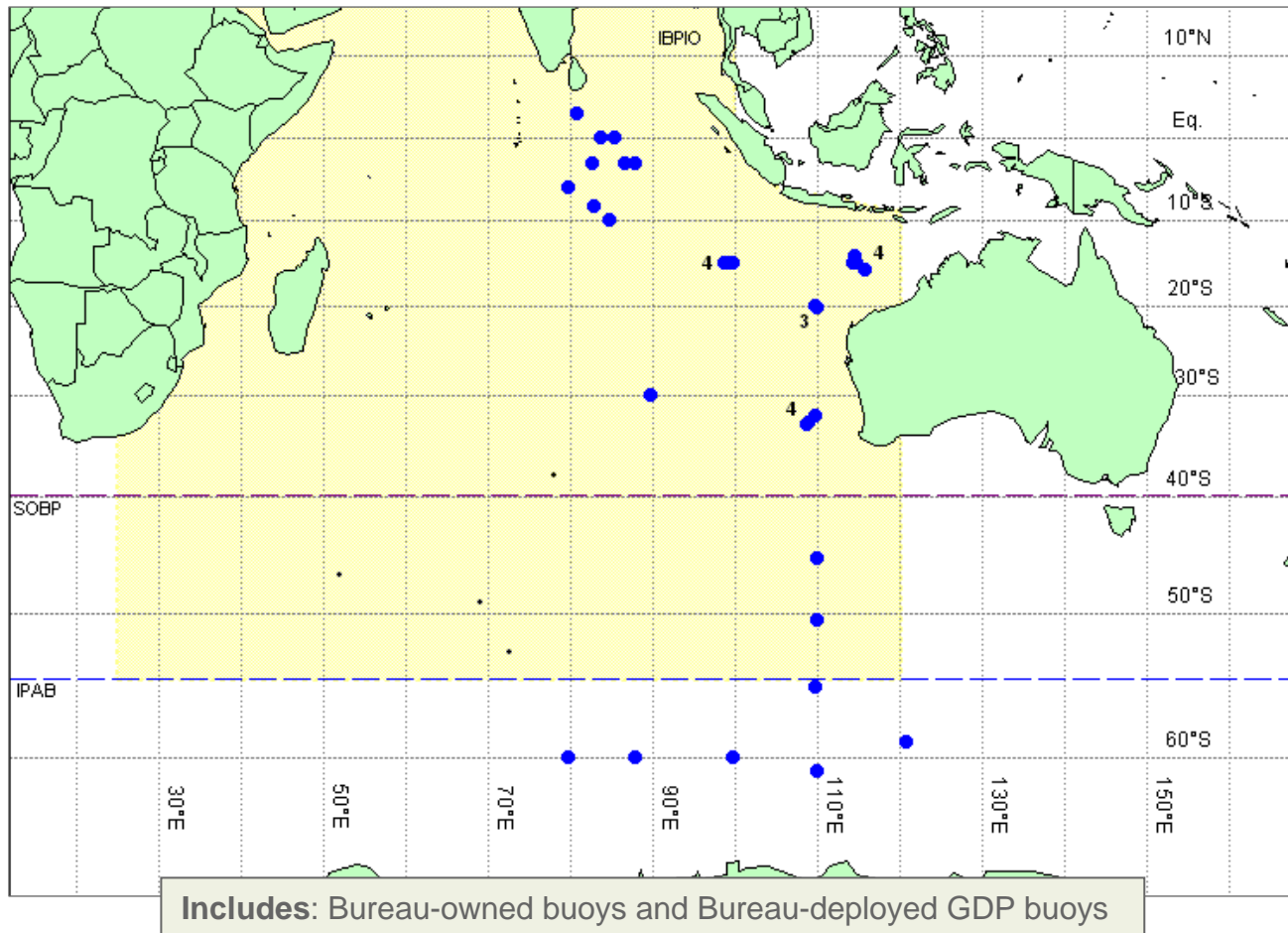
Program Description	Deployed 1-7-2012 to 30-6-2013	Active as at 31-7-2013	On GTS as at 31-7-2013
Bureau-owned buoys	18	10	10
Bureau-funded upgrades	0	0	0
Bureau-deployed GDP buoys	15	13	13
	33		



The goal is 25 Bureau-owned buoys



# 2012/13 Deployment Locations

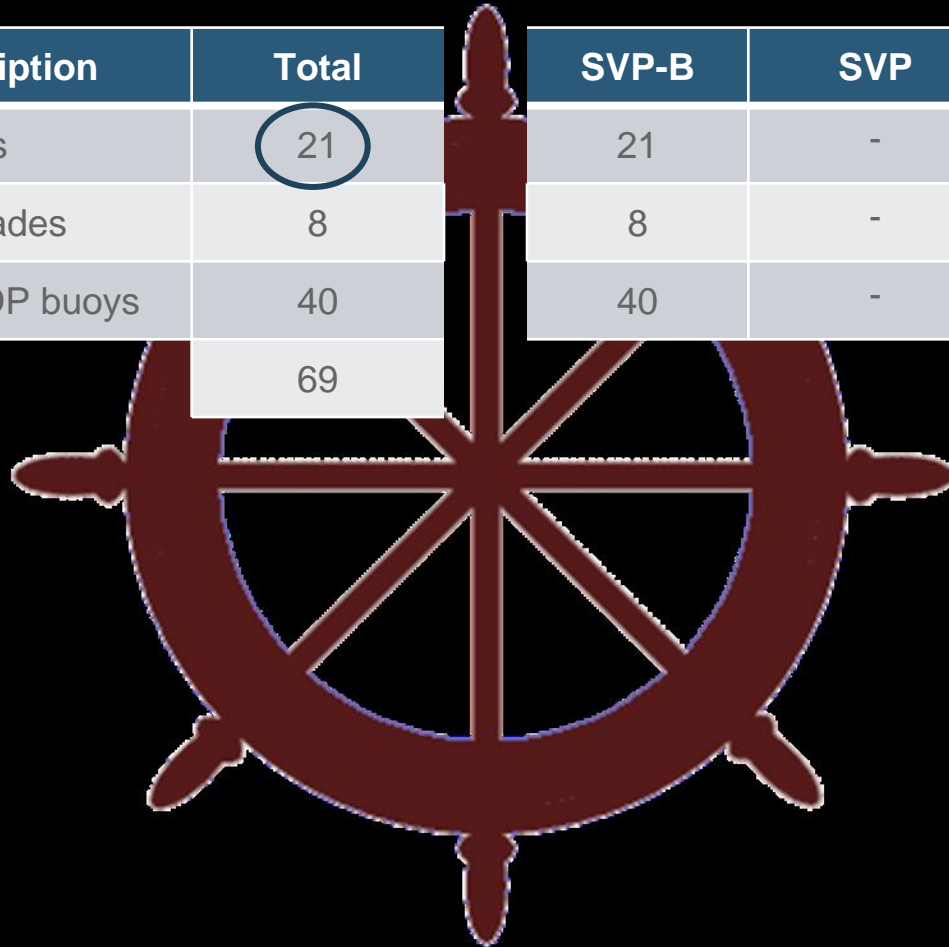




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## 2013/14 Proposed Deployment Plan (1)

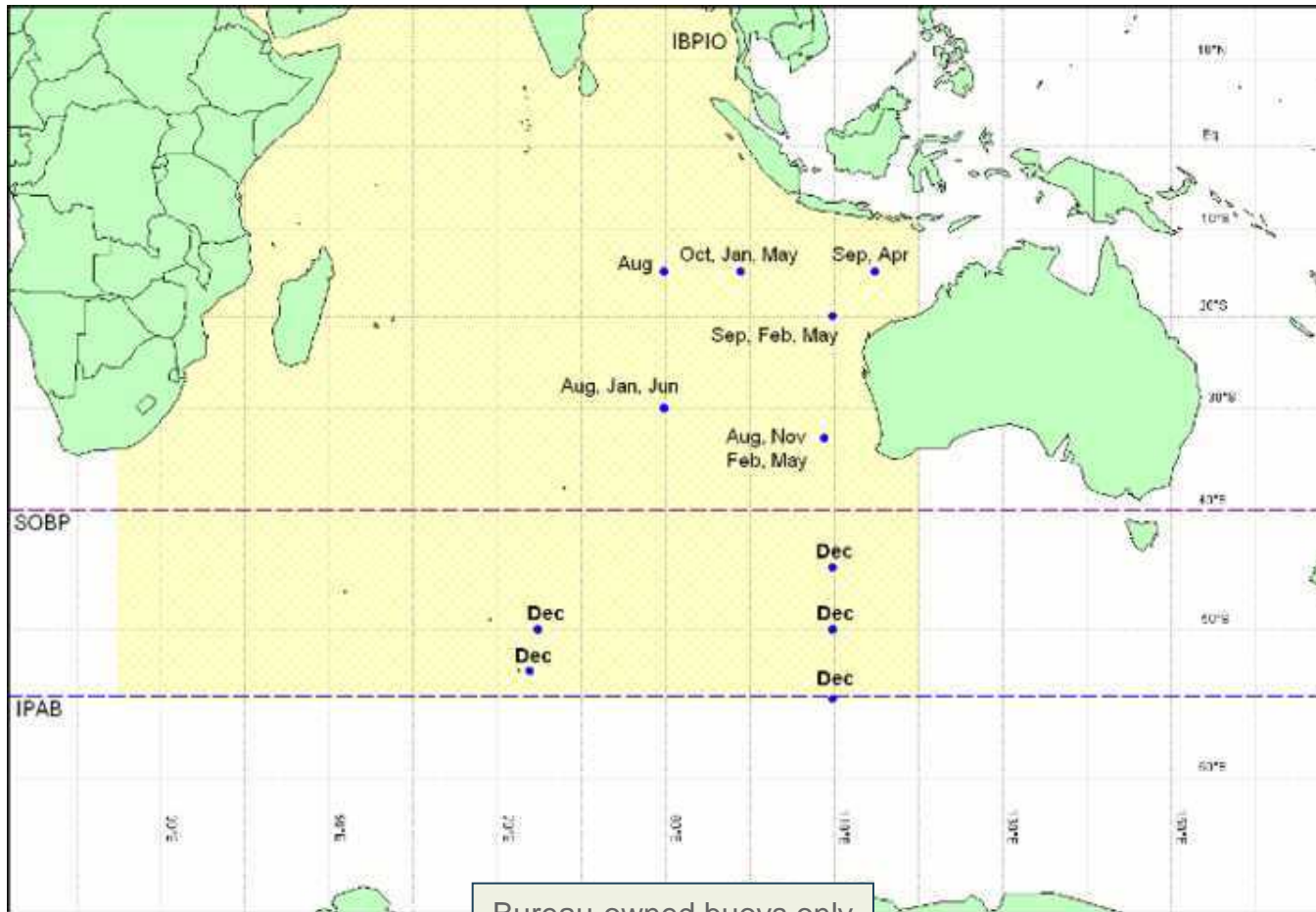
Program Description	Total	SVP-B	SVP	SVP-BW
Bureau-owned buoys	21	21	-	-
Bureau-funded upgrades	8	8	-	-
Bureau-deployed GDP buoys	40	40	-	-
	69			







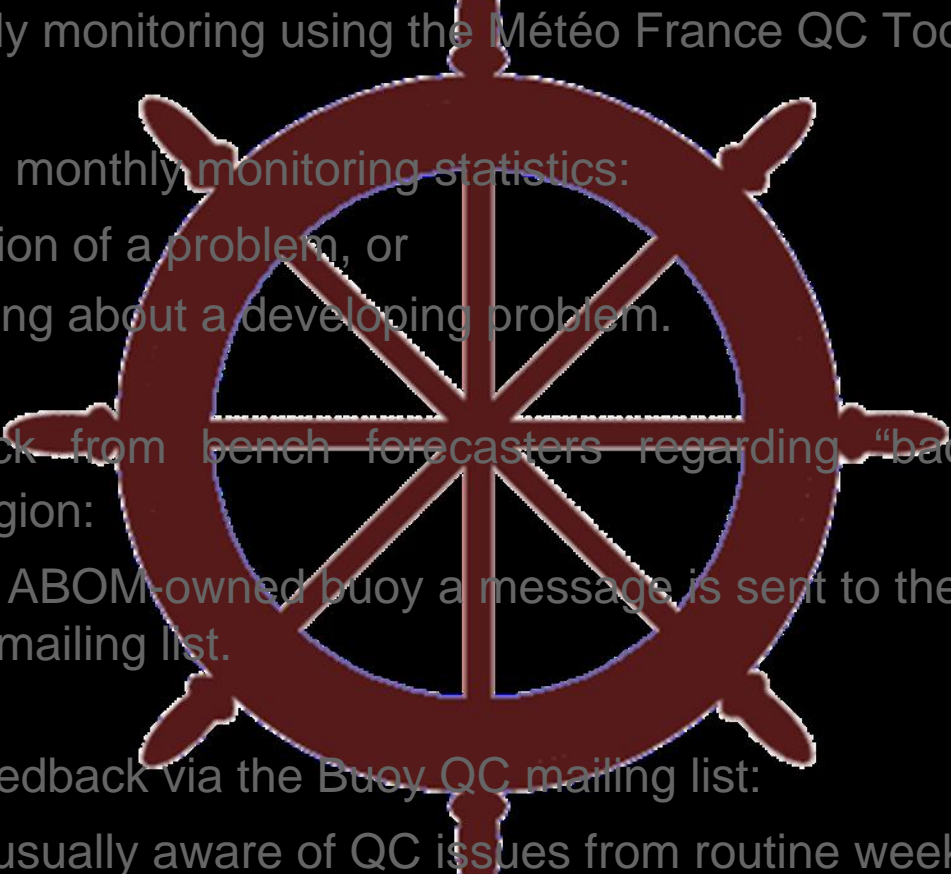
# 2013/14 Proposed Deployment Plan (2)





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# Quality Monitoring

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- ☸ Routine weekly monitoring using the Météo France QC Tools.
  - ☸ UK Met Office monthly monitoring statistics:
    - Confirmation of a problem, or
    - Forewarning about a developing problem.
  - ☸ Rare feedback from bench forecasters regarding “bad buoys” in the Australian Region:
    - For a non ABOM-owned buoy a message is sent to the Operator via the Buoy QC mailing list.
  - ☸ Occasional feedback via the Buoy QC mailing list:
    - ABOM is usually aware of QC issues from routine weekly monitoring.



# Lifetime Monitoring

ABOM analysis of Metocean buoy lifetimes (in years, based on barometer lifetimes)

BUILT	JOB No.	RECEIVED	DEPLOYED	FAILED	MEAN	MAXIMUM	SURVIVING	MEAN
Dec-09	1761A	5	5	5	0.30	0.43	0	
May-10	1803A	17	17	17	0.35	0.70	0	
Apr-11	2207A	22	22	21	0.44	0.65	1	0.72
Aug-12	2926A	20	14	4	0.27	0.77	10	0.36
Dec-12	3112A	10	2	2	0.17	0.25	0	

lifetime analysis as at: 12/09/2013

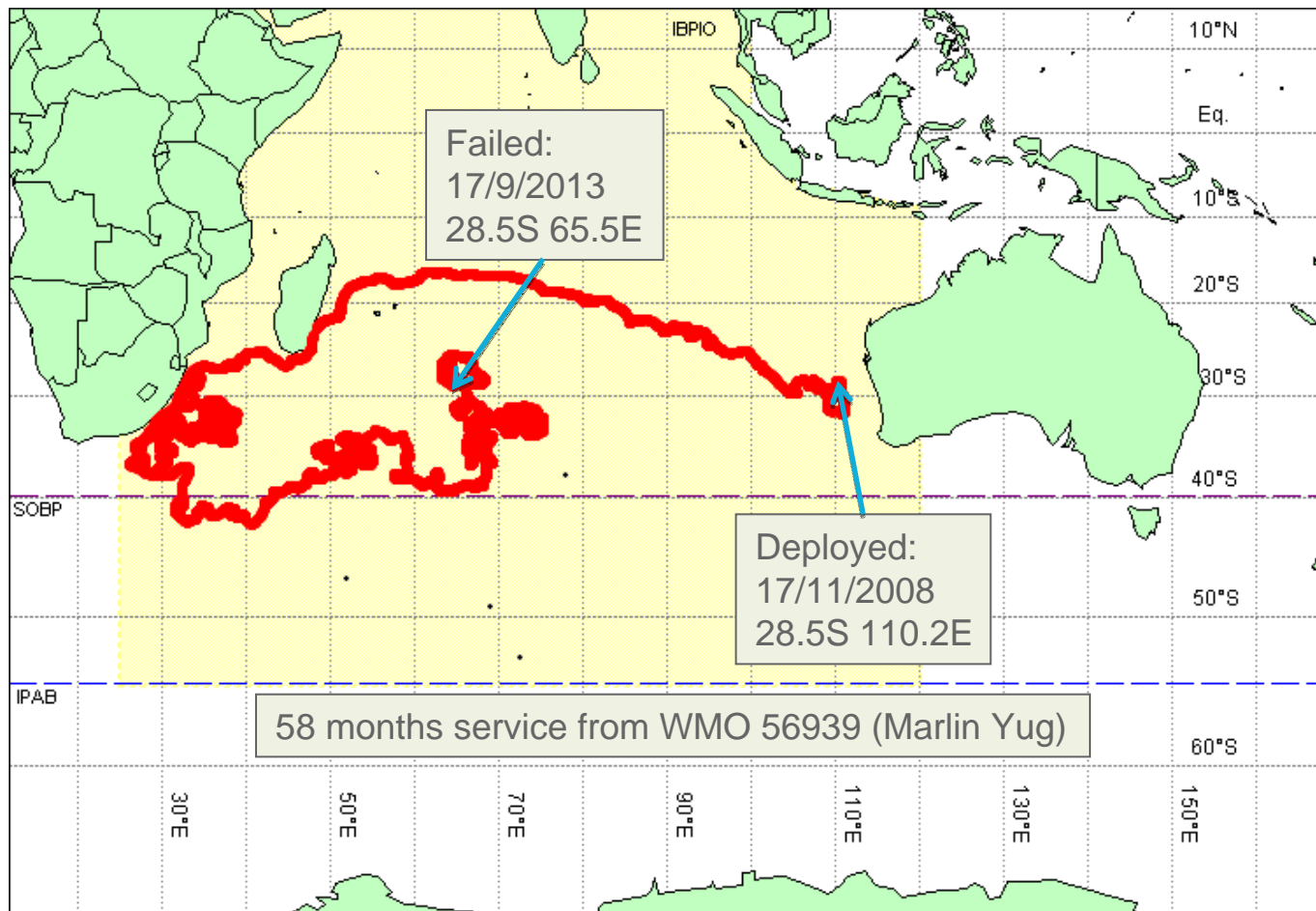
Annotations: ~100 days (pointing to Dec-12), ~280 days (pointing to Apr-11), ~130 days (pointing to Aug-12)

- Based on the ABCM's experience, there is insufficient data from the 2012 batches to make conclusions about any improvement in buoy lifetimes.
- The ongoing lifetime monitoring might provide an opportunity at DBCP-30 to draw clear conclusions about the improvement in buoy lifetimes.

**Note:** The barometer is declared **failed** when (1) the complete buoy fails; or (2) the buoy is reporting but the barometer has failed prematurely or been declared suspect.



# WMO 56939

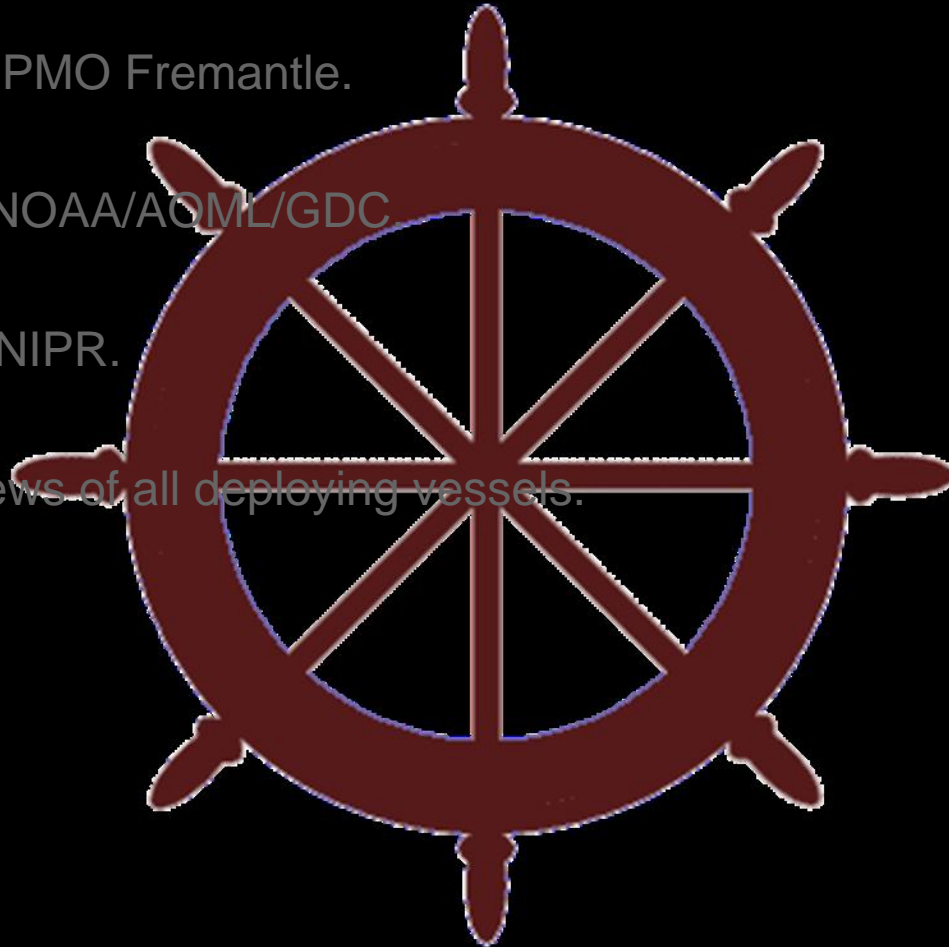




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# Acknowledgements

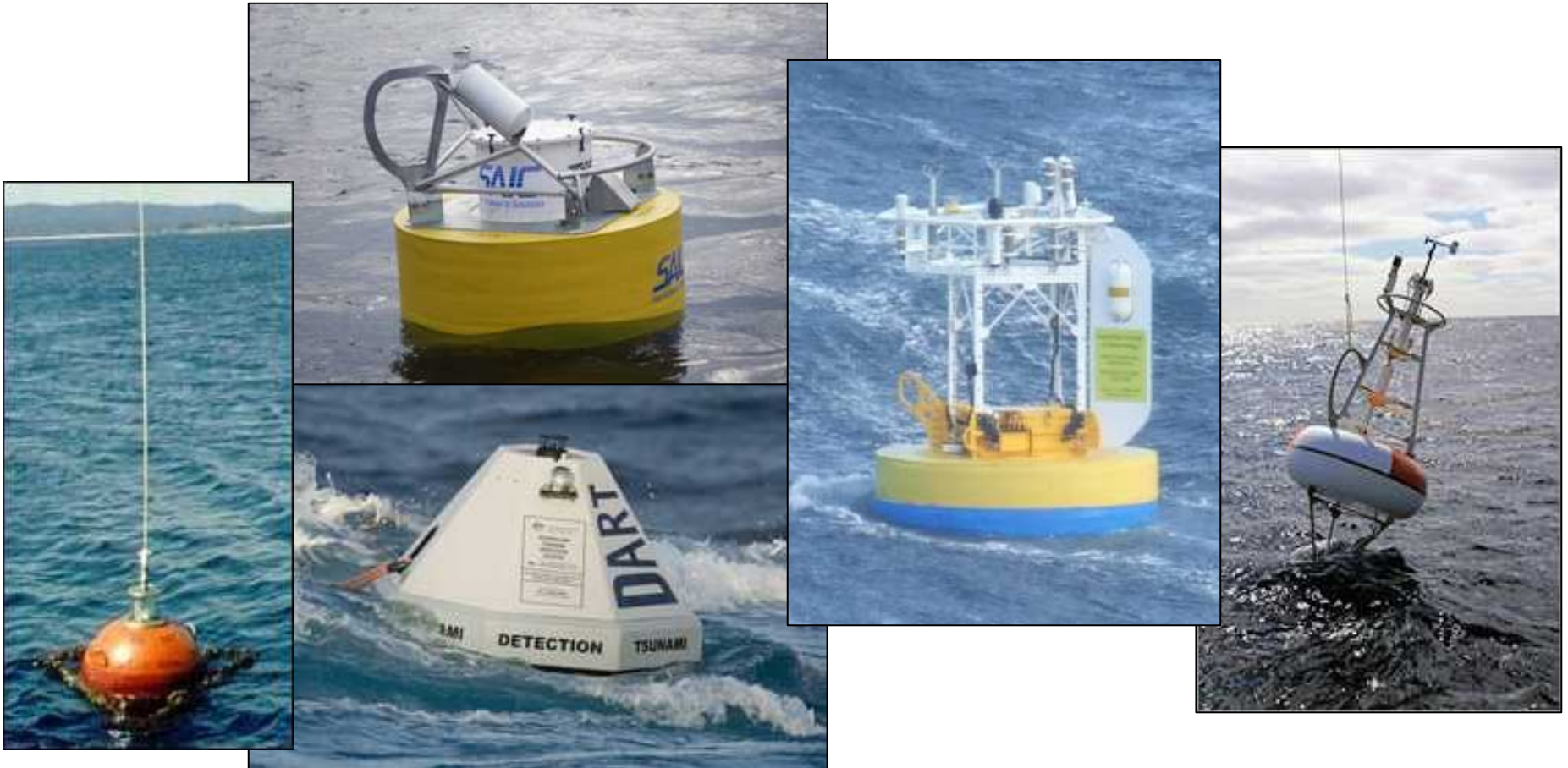
- ☸ Craig Foster, PMO Fremantle.
- ☸ Shaun Dolk, NOAA/AQML/GDC
- ☸ Shuki Ushio, NIPR.
- ☸ Masters & crews of all deploying vessels.





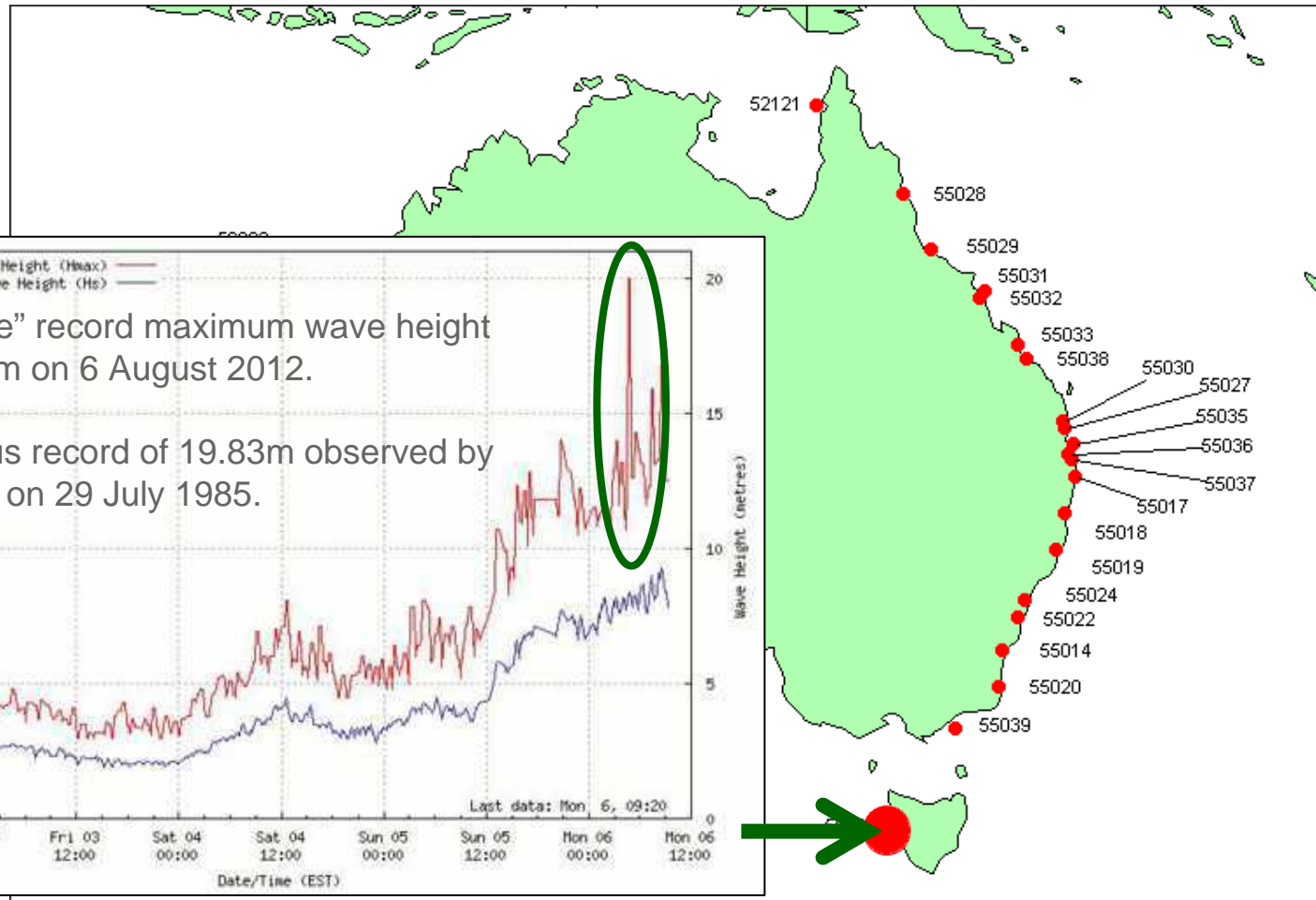
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# ABOM – Moored Buoys





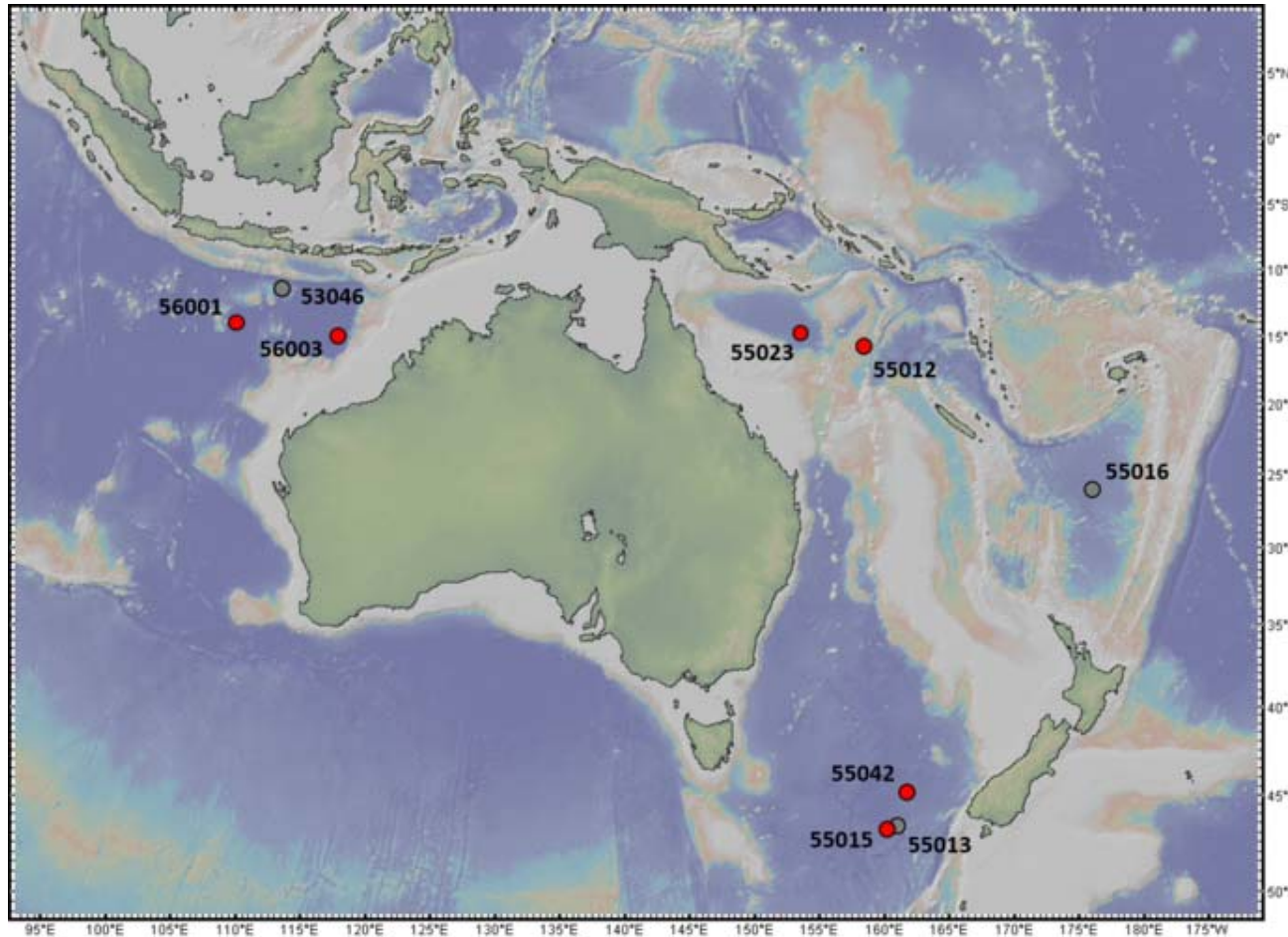
# Waverider Buoys





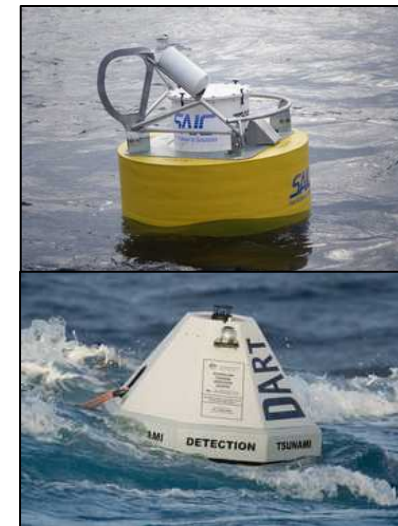
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# Tsunami Buoys



Core network consists of 2 tsunami buoys per region (Indian Ocean, Coral Sea and Tasman Sea).

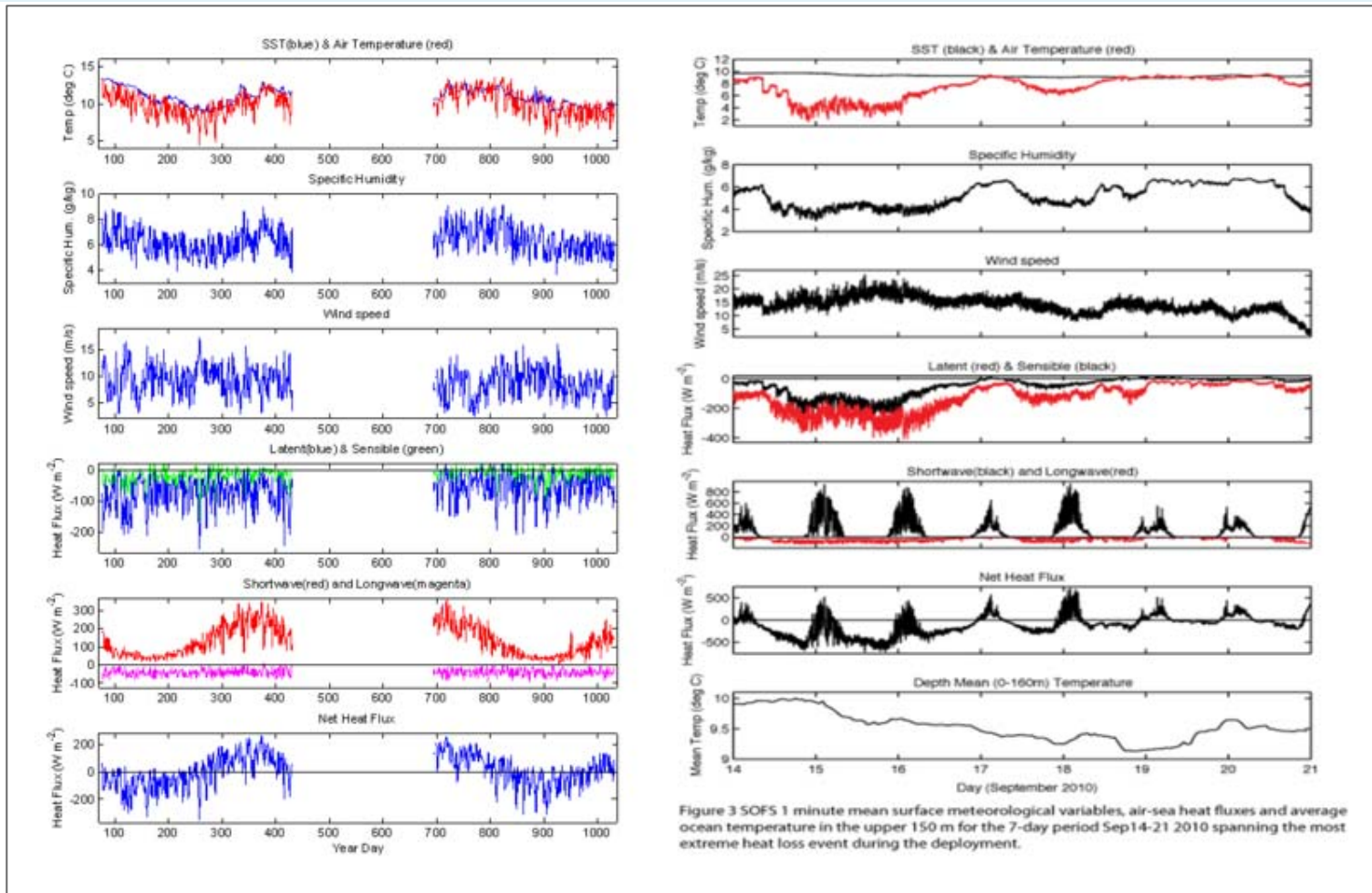
Mix of STB & ETD buoys, (all use DART technology).







# Oceansites Buoy



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# RAMA Buoy

