Australian Government

Bureau of Meteorology

National Report by Australia

DBCP-XXVIII

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Manager, Marine Operations Group

Outline

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  - Introduction & Planning
  - Current Status
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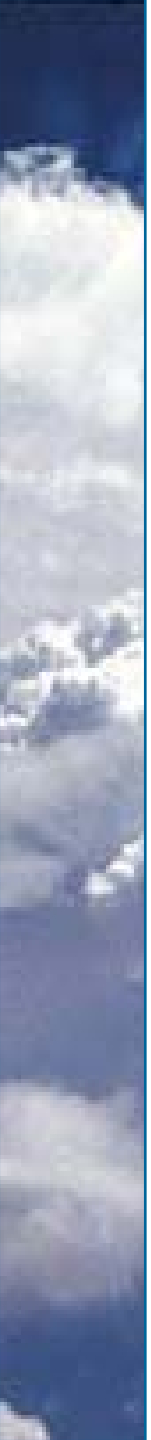
  - Routine Quality Monitoring
  - Buoy Performance & Lifetimes
  - Acknowledgements
  - Other Buoy Networks – Tsunameter & Wave Data
- Australian Antarctic Division (AAD)
  - Refer to written report



Australian Bureau of Meteorology

Introduction & Planning (1)

- The Bureau's Buoy Program started in the mid-1970s with FGGE. The aim is still to support the Bureau's forecasting & warning service.
- The Buoy Program runs from July to June to align with the AUS fiscal year & Government funding.
- Deployments are mainly in the Indian & Southern Oceans supporting the IBPIO, SOBP & IPAB. Most "deployments of opportunity" are made from merchant ships:
  - Small number of deployments each year from Customs & Antarctic re-supply vessels.
- Current funding provides for the purchase of:
  - ~20 SVP-B style buoys each financial year; and
  - ~8 SVP-B upgrade buoys each financial year.

Introduction & Planning (2)

- The Deployment Plan is prepared in consultation with key stakeholders:
  - Regional Forecasting Centres;
  - National Meteorological & Oceanographic Centre; and
  - Weather Services Branch.

- The Deployment Plan is finalised & published in August each year. Planning details are also displayed on the JCOMMOPS website at:
  - http://www.jcommops.org/depl_opport/australia.html.

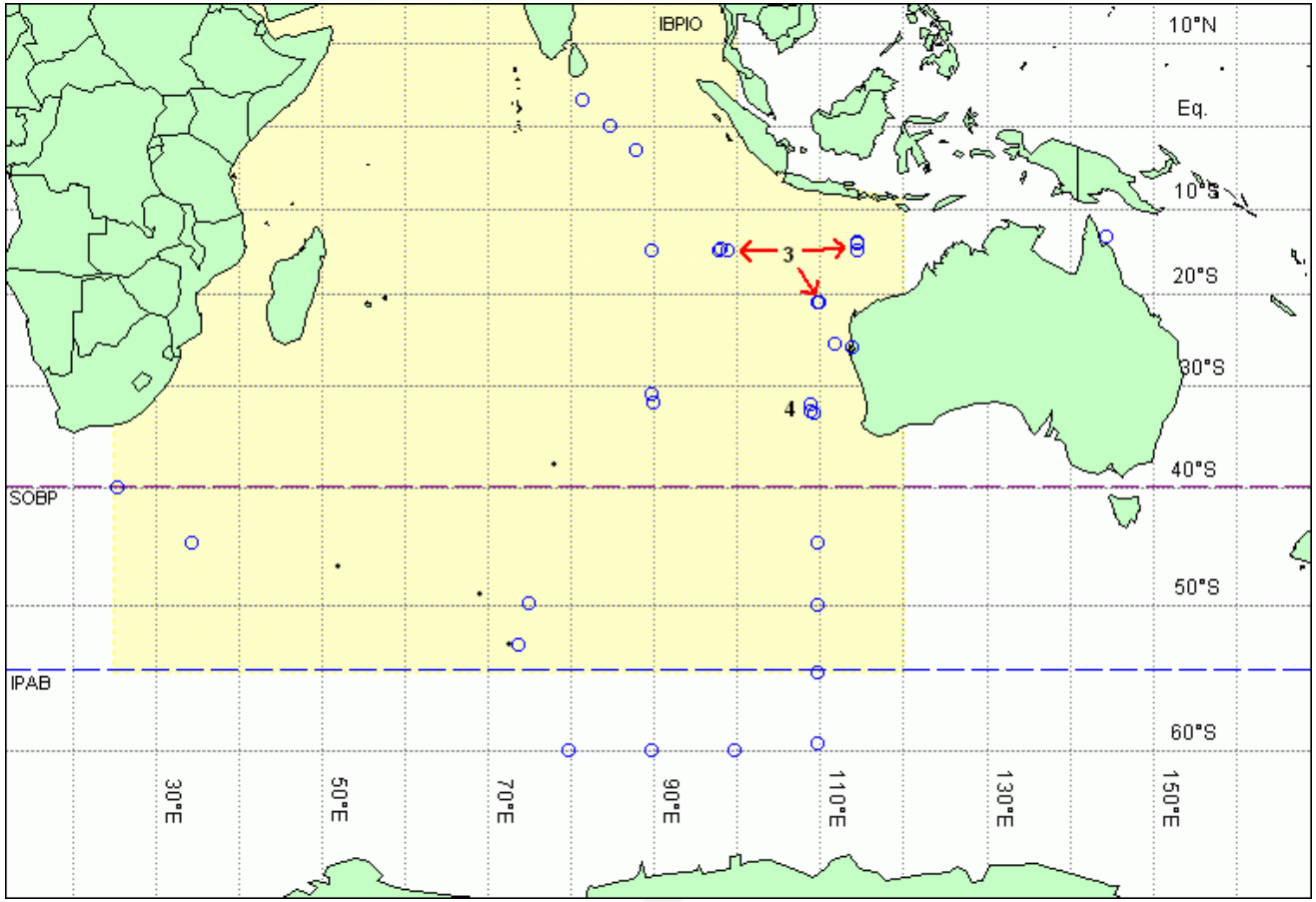
- The Bureau routinely deploys drifting buoys in the Indian & Southern Oceans in support of the GDP at mutually beneficial locations.

Program Status

Program Description	Deployed 1-7-2011 to 30-6-2012	Active as at 31-7-2012	On GTS as at 31-7-2012
Bureau-owned buoys	20	7	7
Bureau-funded upgrades	2	2	2
Bureau-deployed GDP buoys	12	6	6
	34		

The goal is 25 Bureau-owned buoys

2011/12 Review



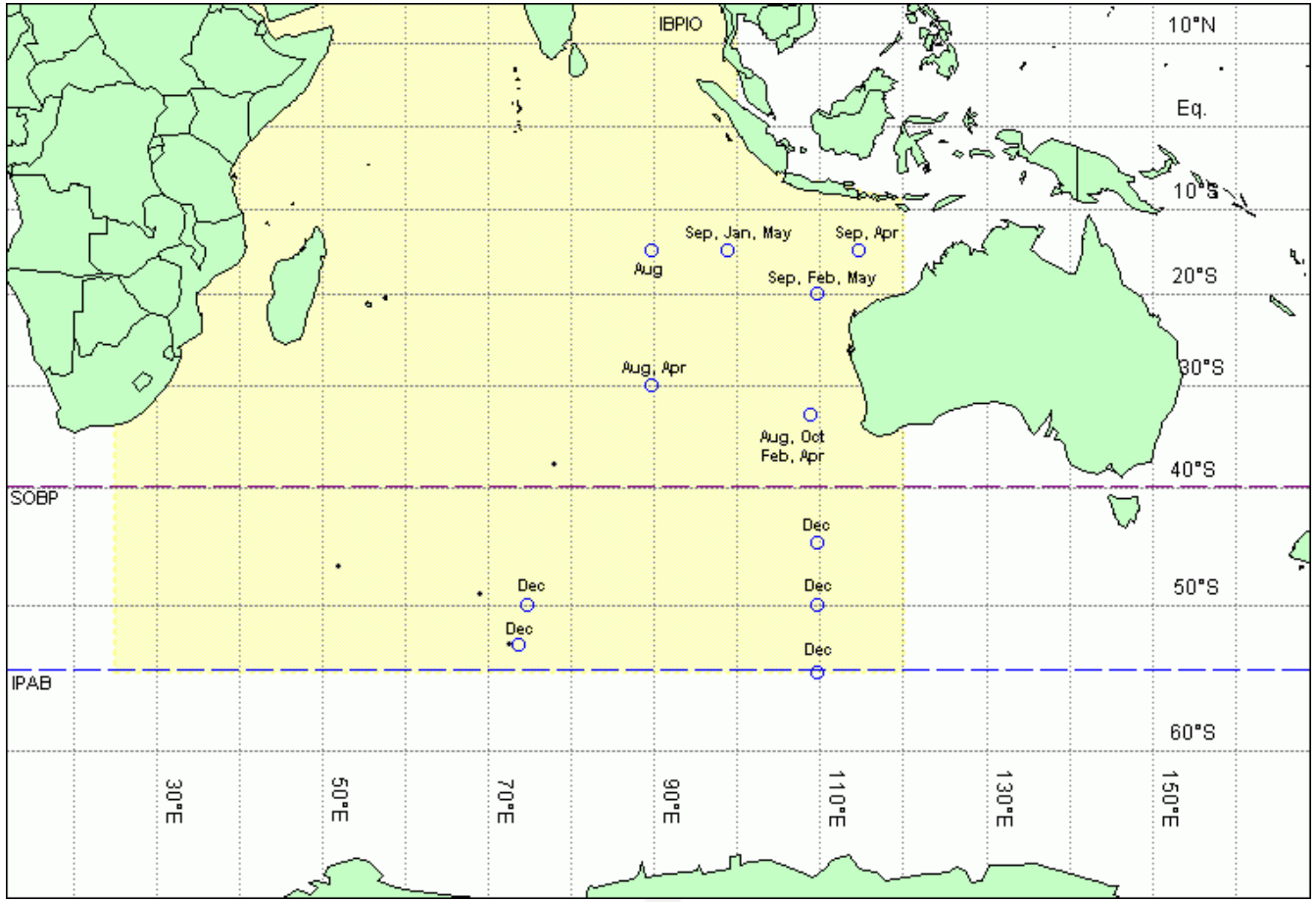
Includes: Bureau-owned buoys, Bureau-funded SVP-B upgrade buoys & Bureau-deployed GDP buoys

2012/13 Plans (1)

Program Description	Total	SVP-B	SVP	SVP-BW
Bureau-owned buoys	20	20		
Bureau-funded upgrades	8	8		
Bureau-deployed GDP buoys	20	20		
	48			

Details on the JCOMMOPS website

2012/13 Plans (2)



Bureau-owned buoys only

Quality Monitoring Regime

- Weekly
  - Météo France Buoy QC Tools.
- Monthly
  - UK Met Office monitoring statistics.
- Occasional
  - Buoy QC mailing list.
  - JCOMMOPS QCRelay.
- Rarely
  - Forecasters.

2011/12 Performance Issues

MAKE	IDENT	WMO	DEPLOYED	BARO FAILED	BUOY FAILED	BARO LIFE	BUOY LIFE
METOCEAN	IMEI 614640	56514	17/08/2011	19/02/2012	19/02/2012	0.51	0.51
METOCEAN	IMEI 616630	56515	22/08/2011	27/09/2011	27/09/2011	0.10	0.10
METOCEAN	IMEI 610630	56516	30/08/2011	18/09/2011	18/09/2011	0.05	0.05
METOCEAN	IMEI 056130	56520	22/10/2011	16/03/2012	16/03/2012	0.40	0.40
METOCEAN	IMEI 054120	56521	2/11/2011	27/06/2012	27/06/2012	0.65	0.65
METOCEAN	IMEI 058130	56522	3/12/2011	3/04/2012	3/04/2012	0.33	0.33
METOCEAN	IMEI 054140	56523	4/12/2011	28/04/2012	24/06/2012	0.40	0.56
METOCEAN	IMEI 051120	56524	5/12/2011	31/05/2012	31/05/2012	1.34	1.34
METOCEAN	IMEI 054160	56526	14/12/2011	18/05/2012	18/05/2012	0.29	0.29
METOCEAN	IMEI 057120	56527	17/12/2011	2/04/2012	2/04/2012	0.33	0.33
METOCEAN	IMEI 059120	56528	2/02/2012	13/06/2012	13/06/2012	0.36	0.36
METOCEAN	IMEI 050130	56935	15/02/2012	14/07/2012	14/07/2012	0.41	0.41
METOCEAN	IMEI 059090	56937	19/03/2012	3/07/2012	3/07/2012	0.29	0.29
METOCEAN	IMEI 057160	53550	16/04/2012	14/08/2012	14/08/2012	0.33	0.33
METOCEAN	IMEI 055160	56948	19/04/2012	24/08/2012	24/08/2012	0.35	0.35

- The average lifetime of the 15 failed MetOcean Iridium SVP-B buoys deployed between 1/7/2011 to 30/6/2012 = 0.41 years.
- Only one buoy survived longer than the barometer.

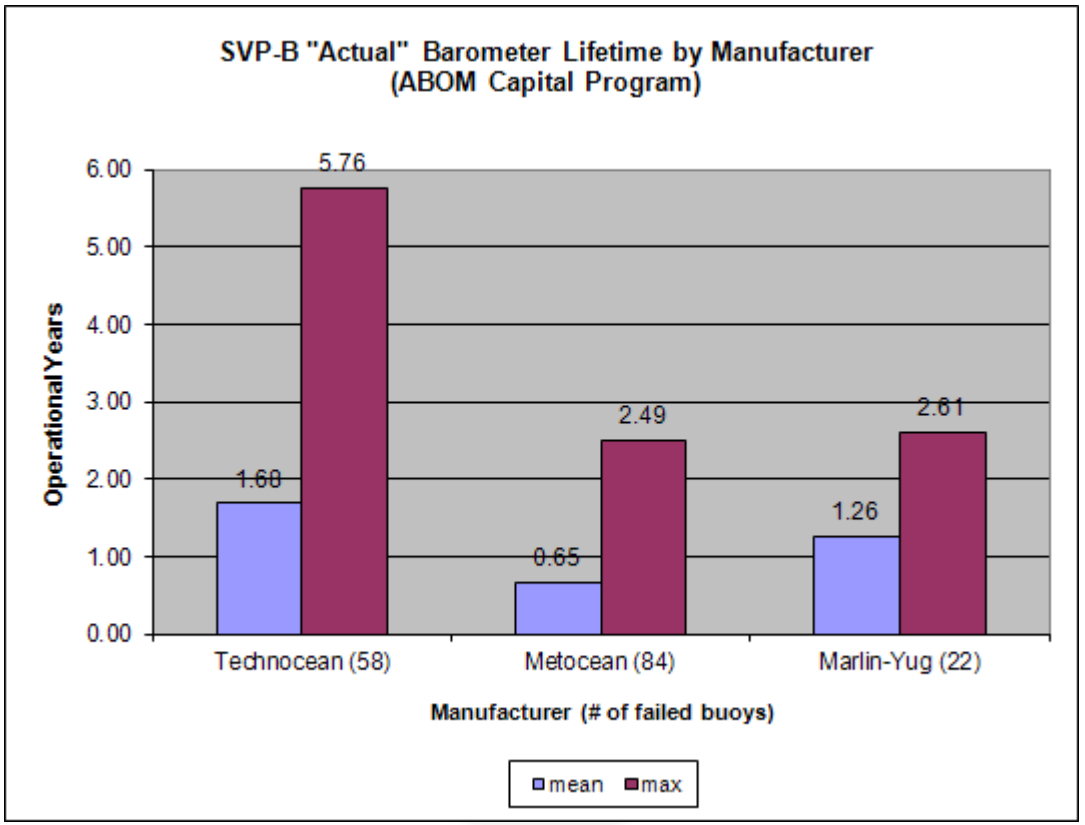
SVP-B Barometer Lifetime Analysis

- The barometer on an ABOM-deployed buoy is **declared failed** when:
  - The complete buoy fails; or
  - The buoy is operational but the barometer:
    - Fails prematurely; or
    - Is declared suspect (after several weeks of monitoring).

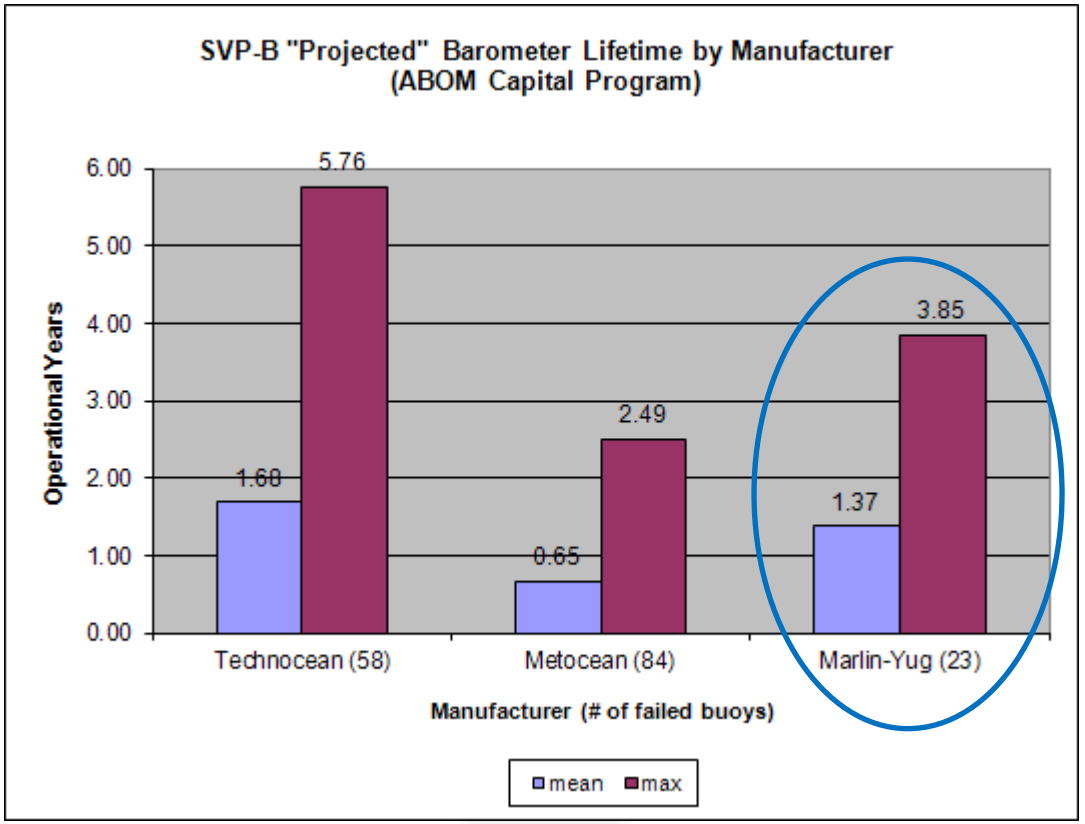
- **Actual Mean Lifetime** is the mean lifetime of all failed barometers on record (for reporting at DBCP-28 this reference date is *21 Sept 2012*).

- **Projected Mean Lifetime** is the mean barometer lifetime based on:
  - All failed barometers on record (as per DBCP reference date); and
  - All currently active buoys deployed in previous years with assumed barometer fail date set as the DBCP reference date.

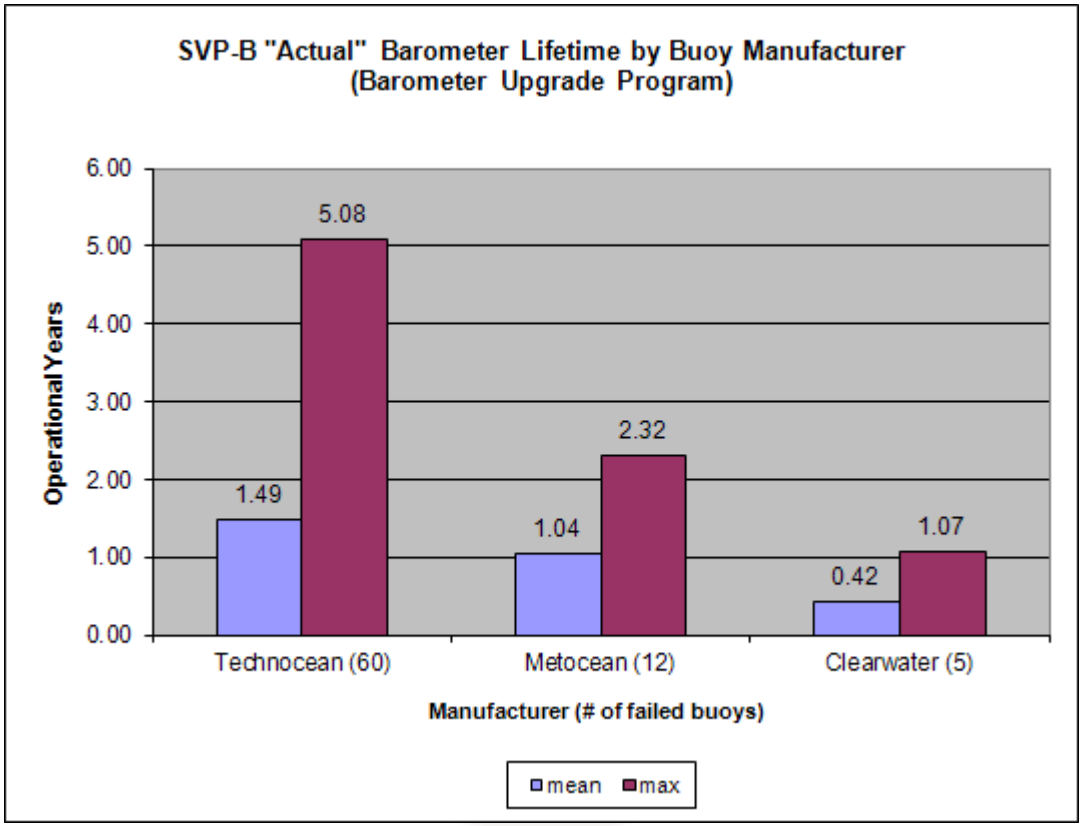
SVP-B Analysis – Capital Program (1)



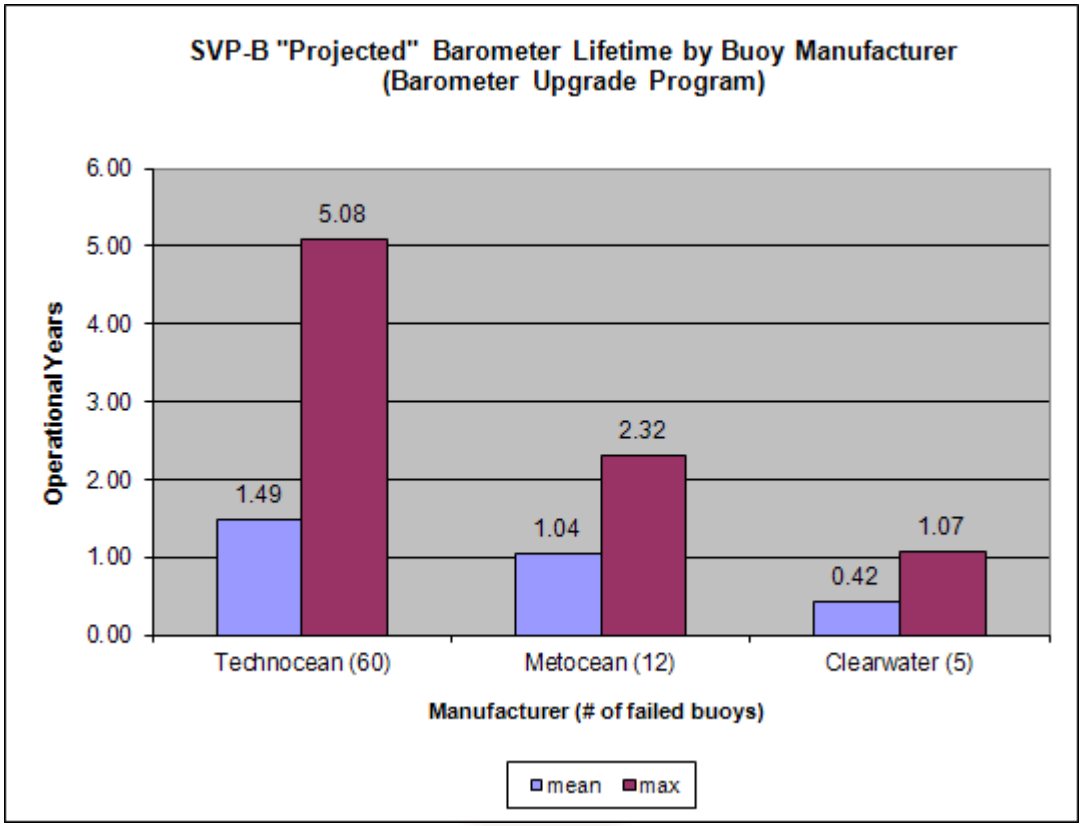
SVP-B Analysis – Capital Program (2)



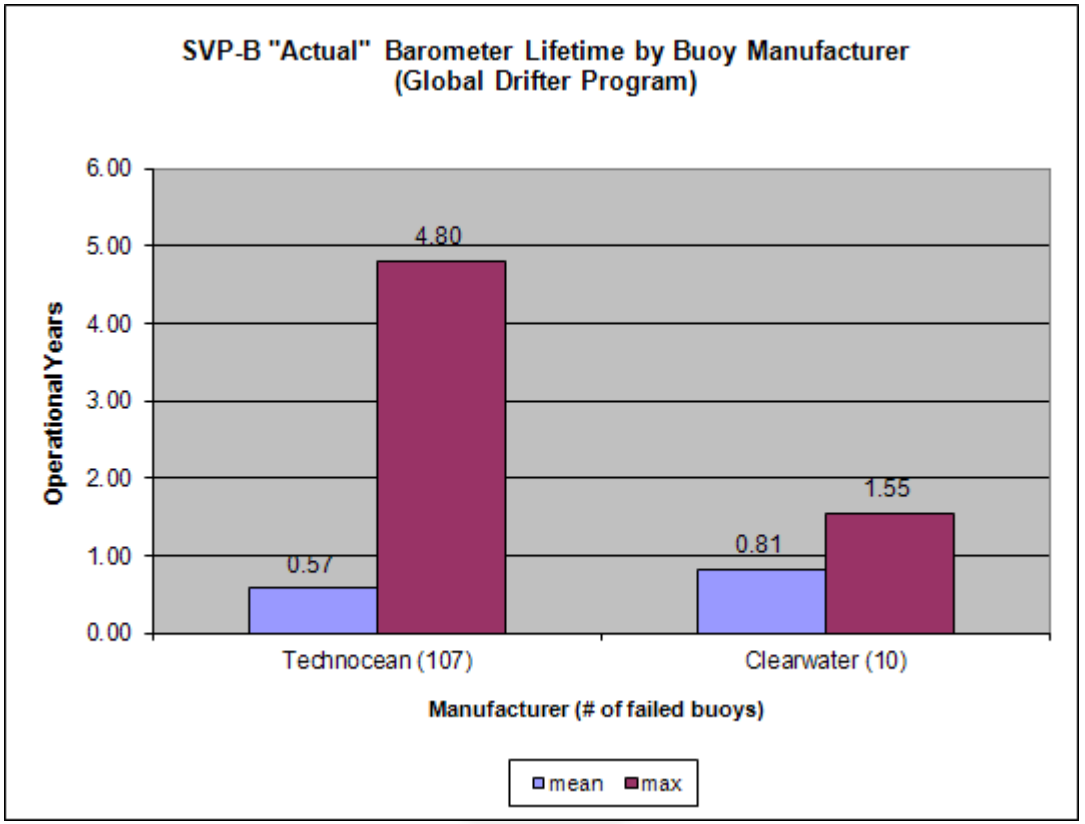
SVP-B Analysis – Upgrade Program (1)



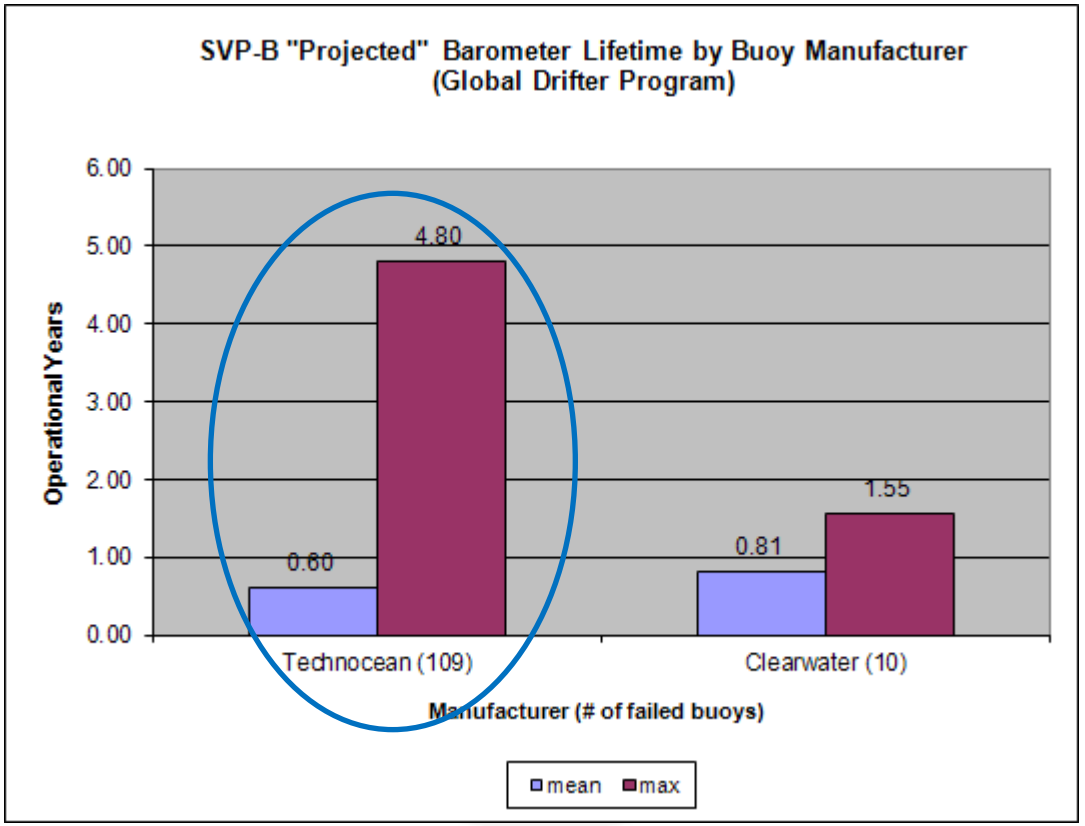
SVP-B Analysis – Upgrade Program (2)



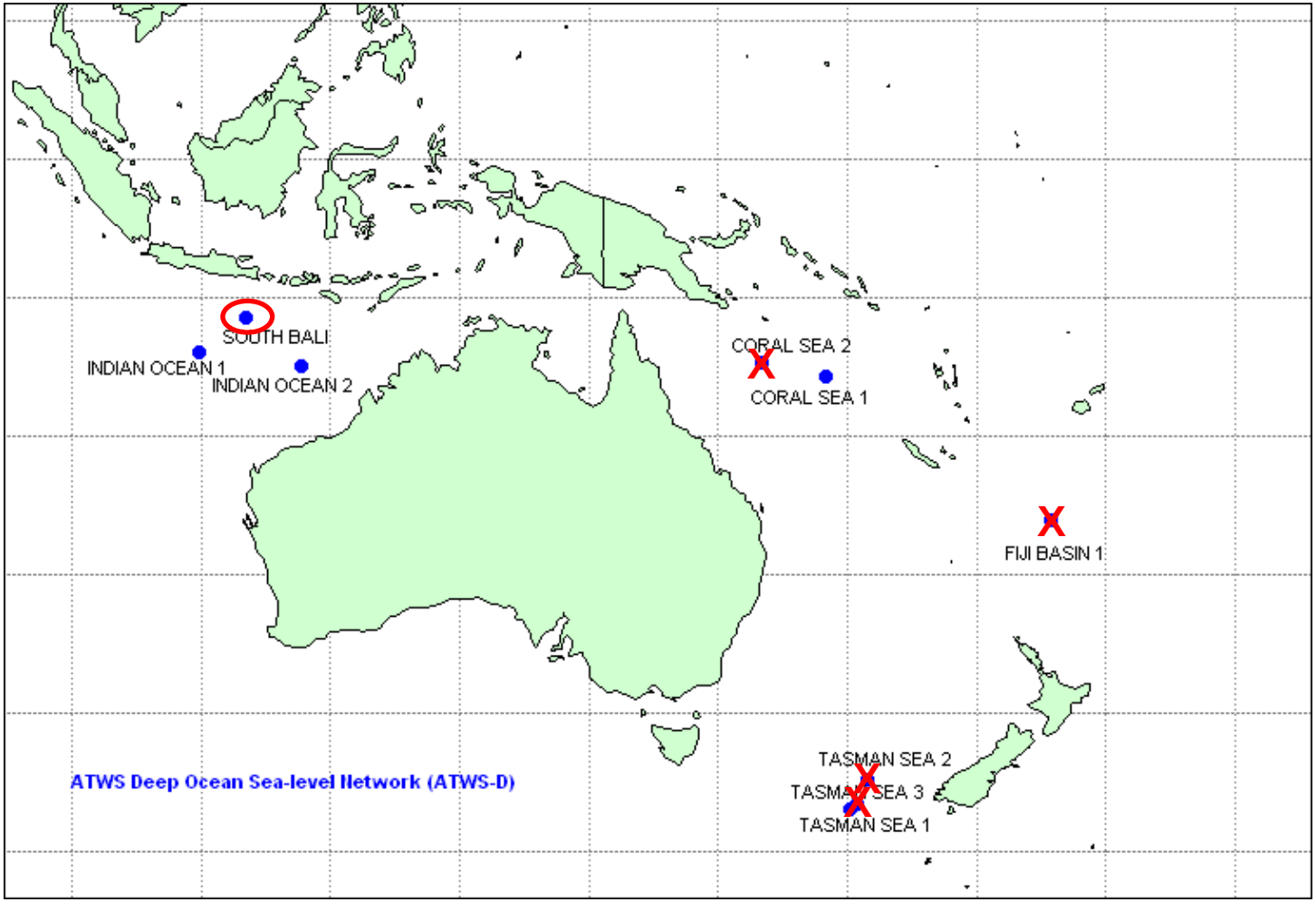
SVP-B Analysis – GDP (1)



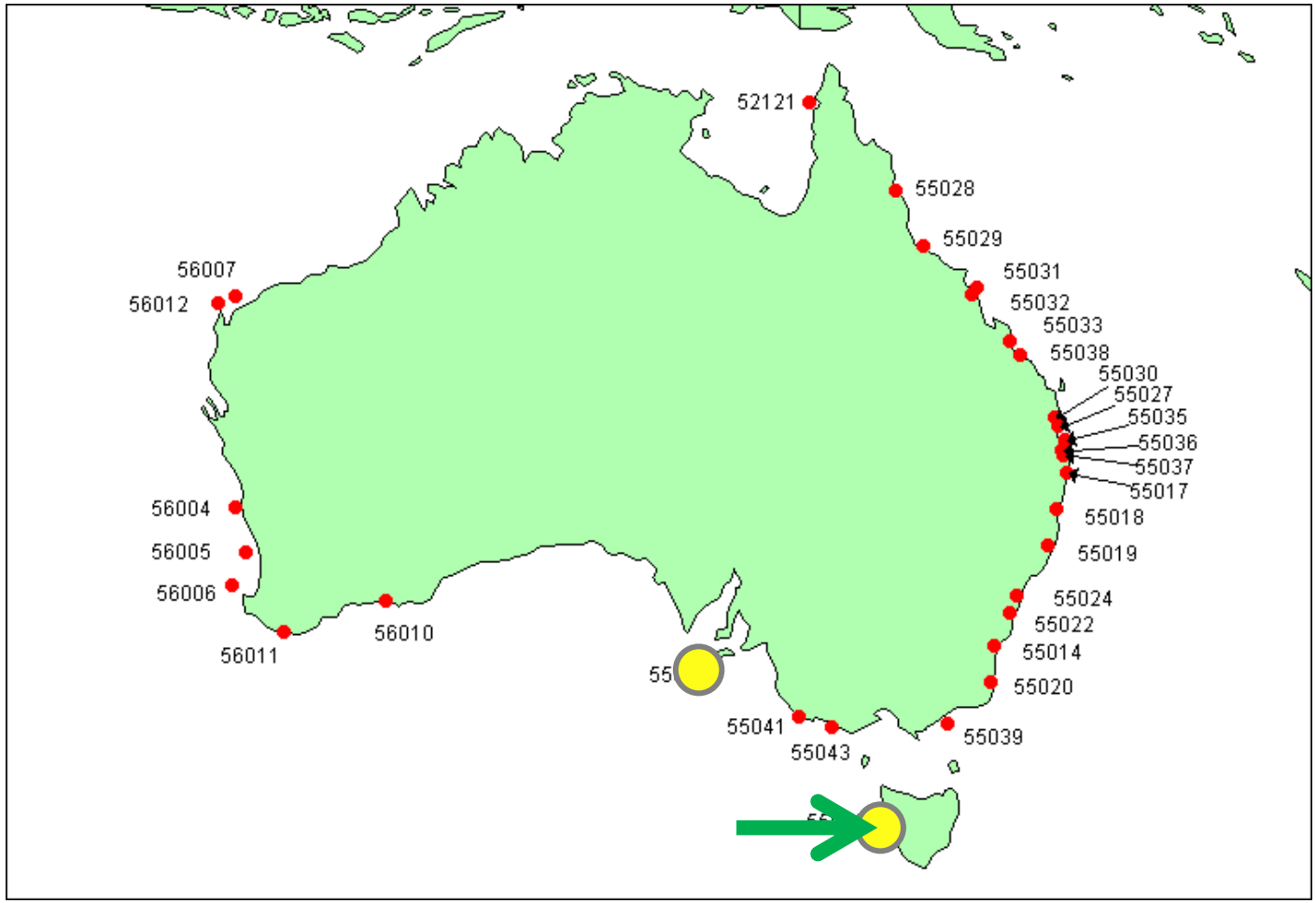
SVP-B Analysis – GDP (2)



Tsunameter Network



Wave Data Network



55026 - Cape Sorell WRB

"All-time" record max wave height of 20.0 m on 6/8/2012.

Previous record was 19.83 m on 29/7/1985 recorded by CSIRO.

Acknowledgements

- IBPIO & IPAB partners:
  - NIPR – Shuki Ushio; and
  - GDC – Shaun Dolk.
- Port Meteorological Officers:
  - Mal Young, Fremantle; and
  - Sidney Marais, Cape Town.
- Masters & crews of all the deploying vessels.


AUSTRALIA


"That's All, Folks!"