IMOS Integrated **Marine Observing** System





The Australian Forum for Operational Oceanography – what does it mean for IMOS?

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IMOS is…

- An observing system, a research infrastructure…
- As a science community we understand the fundamental importance of an underpinning observational infrastructure
- But the reality is, from the perspective of users and stakeholders of marine science, we are at the bottom of the value chain
- We need to understand this, and turn it into a strength
  - Obs interacting with models and forecasts
  - Obs turned into analyses and products
  - Infrastructure used for research that has impact
  - Sustained obs for research and operations

Forum for Operational Oceanography

- This is the context for IMOS involvement in FOO…
- First approached by CSIRO and BOM in early 2014
- Commitment of Industry co-chair essential
  - Jan Flynn, Shell Australia
- Seed funding from the Department of Industry ($70K)
- First event held in Freo, July 2015
  - 125 people, by invitation (to ensure ‘balance’)
  - Went surprisingly well, desire for it to endure
  - Key constructs and priority areas emerged (WGs)
- Second event to be held in Freo, 25-27 July 2017

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Key constructs

Figure 1: The 'four pillars' of FOO

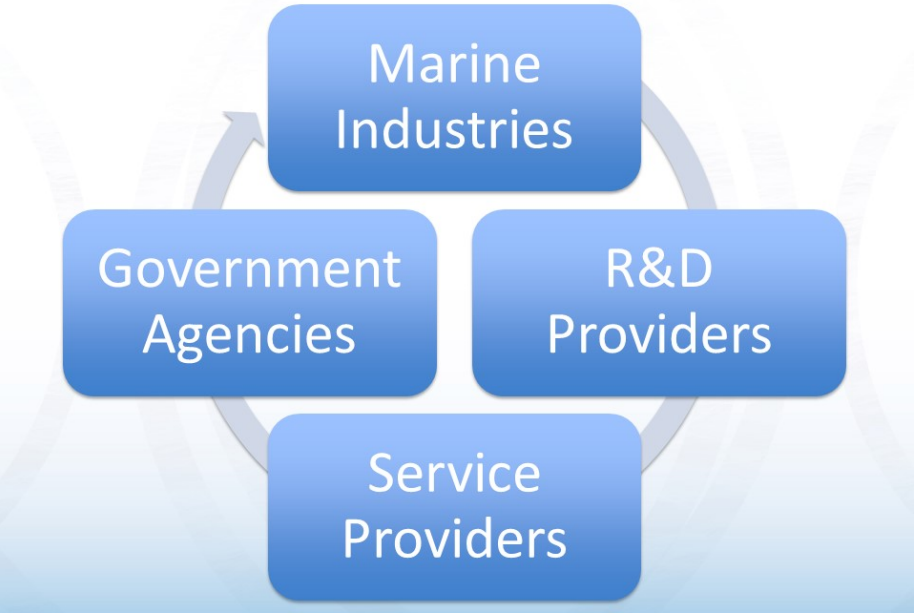
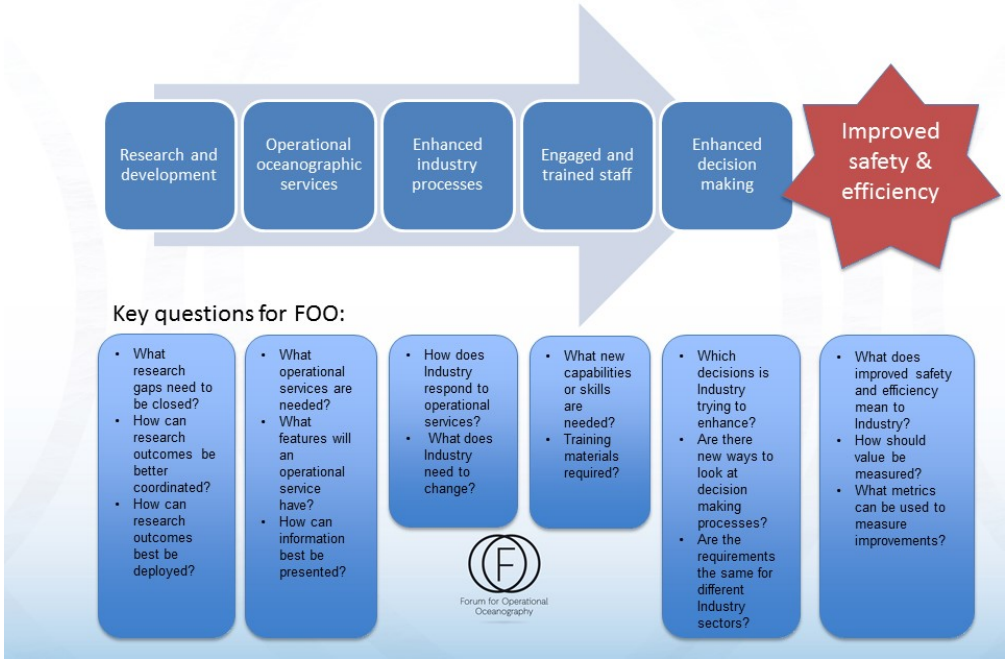


Figure 2: The operational oceanography 'value chain'



Priority areas

Candidate priority areas	Aspects discussed
1. Surface currents	Optimising Bluelink for surface currents, standardising thickness (one metre as in the US?), SLDMB data, use of high frequency radar
2. Surface waves	Source of error in swell set up, combining spectral and phase resolving models, ocean (vs lake) observations to inform source term development, shallow water bathymetry for nearshore waves
3. Thermal structure	Getting the physics right remains a key gap in economically important areas (e.g. North West Shelf), prediction of internal wave extremes, significance for engineering design
4. Consensus forecasting	Keeping pace with model development, verification, metrics, international collaboration
5. Data products	Industry using global analyses and products rather than raw data, opportunity to produce shelf reanalysis products for Australia using additional data now available
6. Data stewardship	Data quality, calibration details, data access, research/government/ industry cooperation driven by value

Working Groups estab'd

No activity to date

Potential to be divisive…

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FOO 2017 – 25-27 July

The draft program includes the following four Themes

1. The Australian Forum for Operational Oceanography
   - focusing on progress since FOO 2015
2. Assessing Present Capabilities and Needs
   - what's new in science and technology, products and services, business drivers?
3. Users of Operational Oceanography
   - offshore resources, ports and shipping, defence maritime, fishing and aquaculture, coastal management
4. Marine Extremes
   - a 'hot topic' potentially touching all parts of the value chain

FOO – what does it mean for IMOS?

- IMOS now the major sponsor ($50K)
- Working Groups
  - Surface Currents, Surface Waves
- Other priorities from FOO 2015
  - NWS thermal structure, consensus forecasting, data…
- New issues
  - Marine Extremes, other?
- Relationship with IMOS strategy
  - Obs interacting with models and forecasts (ACOMO, MARVL)
  - Obs turned into analyses and products (*OceanCurrent*, ANSR)
  - Infrastructure used for research that has impact (Industry)
  - Sustained obs for research and operations (AOOP)

NCRIS
National Research Infrastructure for Australia
An Australian Government Initiative

UNIVERSITY of TASMANIA

IMOS is a national collaborative research infrastructure, supported by Australian Government. It is led by University of Tasmania in partnership with the Australian marine & climate science community.

www.imos.org.au

The Operators of the IMOS infrastructure are:

sims sydney institute of marine science

CSIRO

Australian Government Bureau of Meteorology

Government of South Australia

SARDI Research and Development

Australian Government

Australian Institute of Marine Science

The University of Western Australia

Curtin University

THANKS

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