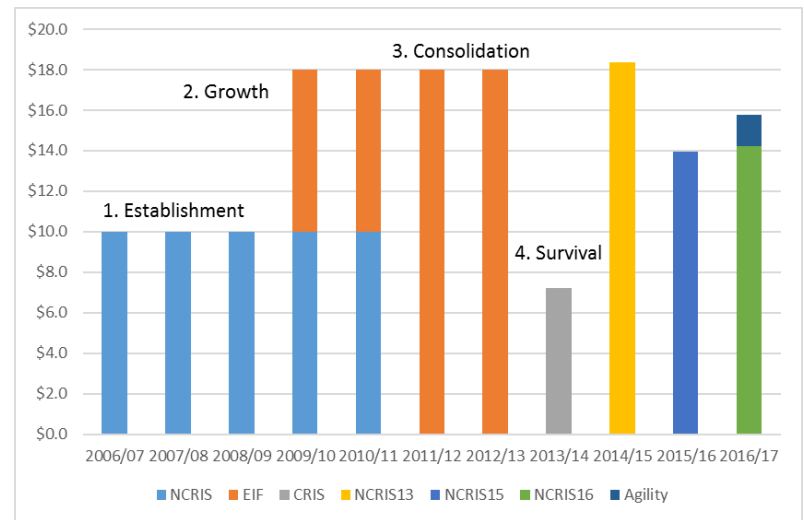
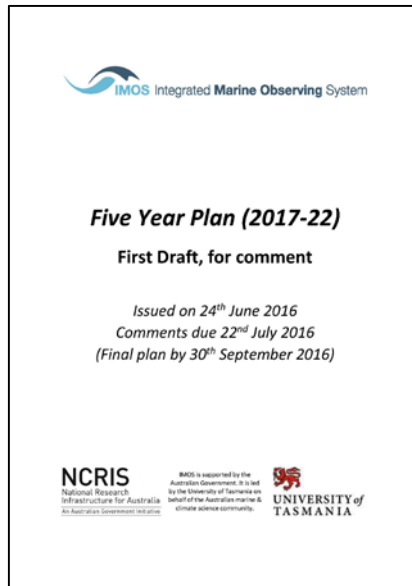
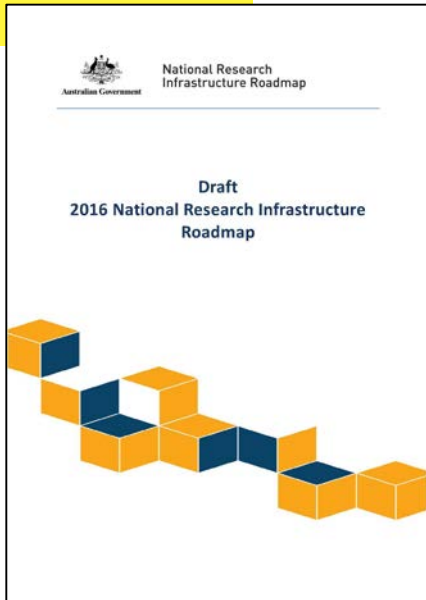


IMOS APM #11 – Wrap up

An unusual 'planning' meeting...



Wrap up – Scene Setting

- Advisory Board
 - Ongoing support of partner organisations
 - Understanding needs of users
- Questions about the move to a UJV...
- Synthesis products through
 - Direct investment (e.g. *OceanCurrent*)
 - Partnership (e.g. *Plankton 2015*)
 - Need to move up the value chain, probably through a mix of new partnerships and direct investment (noting that this will require a trade-off under flat funding)

Wrap up – Signal to noise

- NRS time series
 - Robust discussion Day 1
 - Context: IMOS invests \$2.5M pa in the NRS network...

Lunchtime discussion on Day 2...agreed three thing:

1. Long time series
 - Maria Island there for 70 years
 - What about
 - Port Hacking, Rottnest?
 - Yongala, Darwin, KI, NSI?
2. Does expert QC by UNSW + AIMS + SARDI + CSIRO = expert QC for all IMOS data?
3. Access to files

Wrap up – Signal to noise

- AMMBI
 - Why is this being discussed at an IMOS meeting?
Well...
- Assessment of Pelagic Productivity
 - ‘Strawman’ Productivity and Biodiversity Assessment
 - Assessment underpinned by research
 - A cautious response...
 - Let’s go from ‘Strawman’ to ‘Clayman’

Wrap up – Signal to noise

- Acoustic telemetry
 - Networks analysis
 - Functional movement classes
 - Classification of species (related to FMCs)
 - Standardised metric dashboard
 - Database and QC
- Marine acoustics
 - Model-ready bioacoustics
 - CHORUS software, simple measures
 - Needs work – national workshop in 2017?

Wrap up – Signal to noise

- Marine imagery
 - Annotation tool (Squidle+)
 - Imagery + video
 - Assembly of analyses (Global Archive)
 - investment from other parts of NCRIS (NeCTAR)
 - Need greater clarity as to how these tools will interact and how it will look from a user perspective

Wrap up – Signal to noise

- General issue about ‘users’
- We talk about them all the time, but perhaps we need to ‘segment the market’
 - Super users of data
 - Expert users data
 - Informed users of data
 - Users who only want data products

Wrap up – Operational Oceanography

- Oceanography off WA - retrospective
 - Holloway Current ~50% of Leeuwin Current
 - Dense Shelf Water Cascades
 - Resonance
- North West Shelf
 - Data in industry archives
 - Knowledge gaps, there are many...
 - Through water temperature structure ('hobby horse')
 - Fouling
 - Bottom boundary layer

Wrap up – Operational Oceanography

- Future requirements
 - The why (vs the what)
 - Australia is a high cost environment so in low price market we are at a relative disadvantage
 - Make it safe, make it work, make it grow
 - Safety – TCs, swell, currents
 - Efficiency – TCs (\$450M per event to WA economy), Side-by-side offloading, subsea infrastructure (tie backs most likely), Port operability
 - Growth – Renewables (metocean engineers the new reservoir ‘engineers’), Subsea tie-backs, Stranded gas

Wrap up – Operational Oceanography

- FOO
- Bathymetry
 - ~25% mapped
 - Hydroscheme, MNF, new Ice Breaker, States etc.
- *OceanCurrent*
 - Climatology (GHRSSST, Wijffels – ClimFit3)
 - Percentiles
 - This is the hottest we've ever seen – height, colour?
 - Could we 'push' this information?
 - Southern Ocean?
- OCR Task Team
 - Inter lab comparison, field inter-comparison,

Wrap up – Operational Oceanography

- ZOOM
 - Gaps: data gap, modelling gap
 - ZOOM 2017, two day workshop on model assessment
 - Spatial coverage of these models?
 - Value adding, size spectra (Zooscan, LOPC)
- HABs
 - First workshop November 2016, gaps and opportunities
 - ACT workshop at Moss Landing
 - Second meeting March 2017
- Surface Waves
- MARVL

Wrap up – Marine Extremes

- Coral Bleaching
- Marine Heatwaves
 - Hot spots (do we know where they are?)
 - Slide on IMOS and other obs used
 - Gaps (NW/N, GoC, Trop Flux, vert res (consistency))
 - Event-based sampling? RT sub-surface (moorings? att?)
 - Prediction
- Tropical and Extra-Tropical Storms
 - Gliders in front of TCs

Wrap up – Marine Extremes

- Extreme Storm Surge
 - Two Gulfs Model (TGM)
- Cold Extremes
 - Av. Wind speed doubled (Perth 3rd windiest city)
- Skill of ACCESS/POAMA and Bluelink in marine extremes?

Wrap up – IMOS Performance

- QA/QC by variable
 - Raw data
 - Central QC (where appropriate)
 - Tom's third point?
 - International QC flags
- Activity Planning and Management
- Uptake and Use
- AODN

APM #11 – Key messages

- Users –we need to ‘analyse the market’
 - Super users of data
 - Expert users of data
 - Users who just want data products
- Synthesis products
- New initiatives
 - e.g. HABs, what about Fish Kills, Marine Extremes...
 - Productivity and Biodiversity Assessment
 - Australian National Shelf Reanalysis

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