Assessment of Cryosat sea level anomaly using HF radar and SST imagery

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The data drought of early 2012

- Envisat retired on 11 April 2012.
- Jason-1 produced no IGDR 17 Feb – 20 May 2012
- That left us with Jason-2 and the ‘experimental’ Cryosat-2 LRM SLA product made by NOAA from the FDM.
- Demonstrated at San Diego. Distributed via RADS since Dec 2011.
- Here, we evaluate the value of Cryosat-2 data in our real-time SLA mapping system, focusing on a small region off SW Aust where there is an HF radar system, good SST, many eddies and a few drifters.
14-May-2012
05:50Z
Altimetric sealevel
(0.1m contours)
and velocity for
14-May 05Z
0.5m/s (1kt 6h)
HF radar velocity
(4-12h avg)
0.5m/s (1kt 6h)

© IMOS 10-Sep-2012 16:03:37 Hobart time

Argo
drifters@6h to
14-May 00Z

Perth
Conclusion

• Cryosat-2 SLA data is an excellent data set for meso-scale applications - half the time.
• The ‘moving spotlight’ coverage is very different to Jason’s. There is a very strong 29-day data density cycle at 30°S.
• A preliminary set of selective withdrawal experiments failed to show a strong difference between the time-averaged value of C2 and J2 or J1.
• The effort to produce an oceanography product from CryoSat-2 has been very successful. Thanks to all involved!
• But J1-J2-C2 are not coordinated. Besides, 3 altimeters do not ‘oversample’ the mesoscale variability. Eg the strong feature off Perth in May 2012 was only sampled by one (J2).
• So we really need HY2-A and/or AltiKA.
Thank you

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