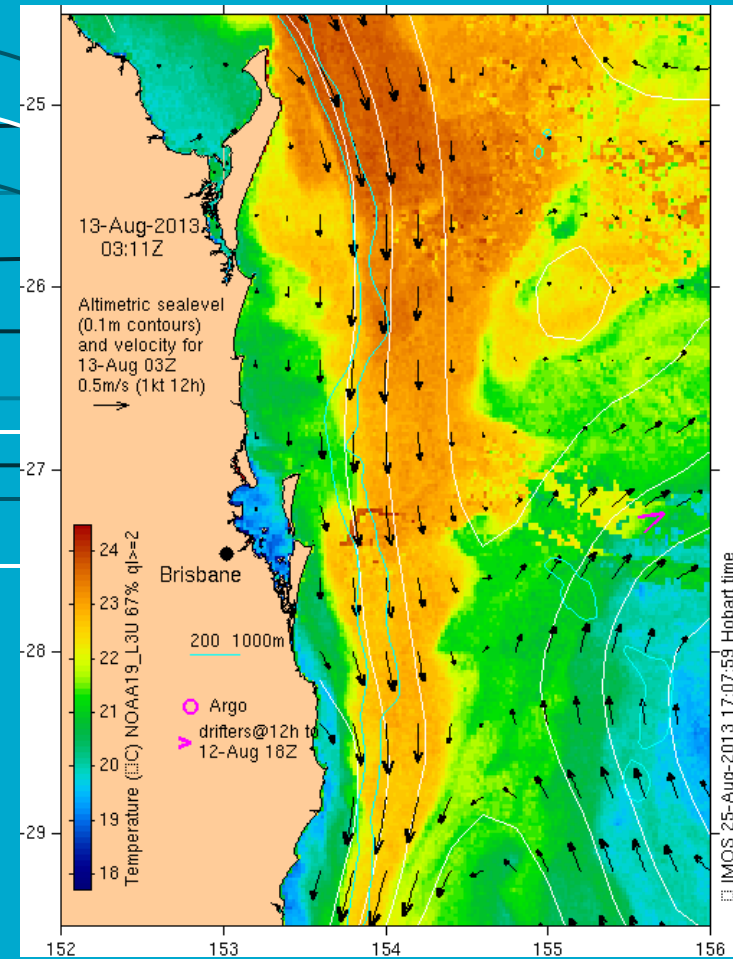


Use of AltiKa NRT sea level anomaly in the Australian multi-mission analysis

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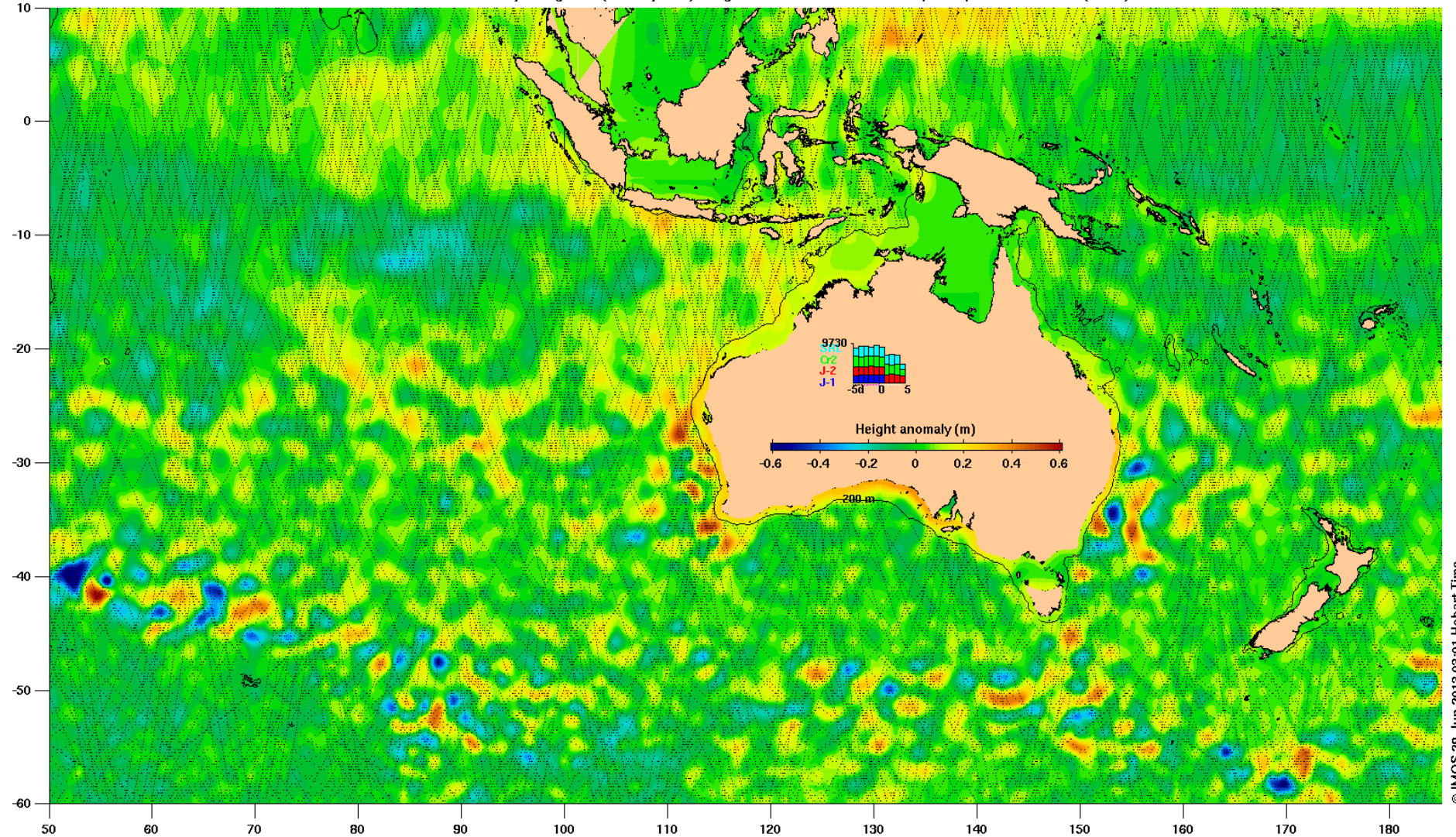
21-25 June 2013:

The (unplanned) Jason-1 / AltiKa 'handover'

- Real-time oceanography needs 3-4 good altimeters
- Loss of Jason-1 on 21 June left only Jason-2 and Cryosat-2
- Fortunately, the SARAL project team had just announced (on 18 June) that AltiKa data would be released for unrestricted use on 25 June.
- Australia did not hesitate to include the data in our real-time systems since all indications were that the data were of excellent quality
- To our delight, our routine data-editing procedures did not need modification. Rain-induced errors are rarer than anticipated

End of Jason-1 era, start of AltiKa era:

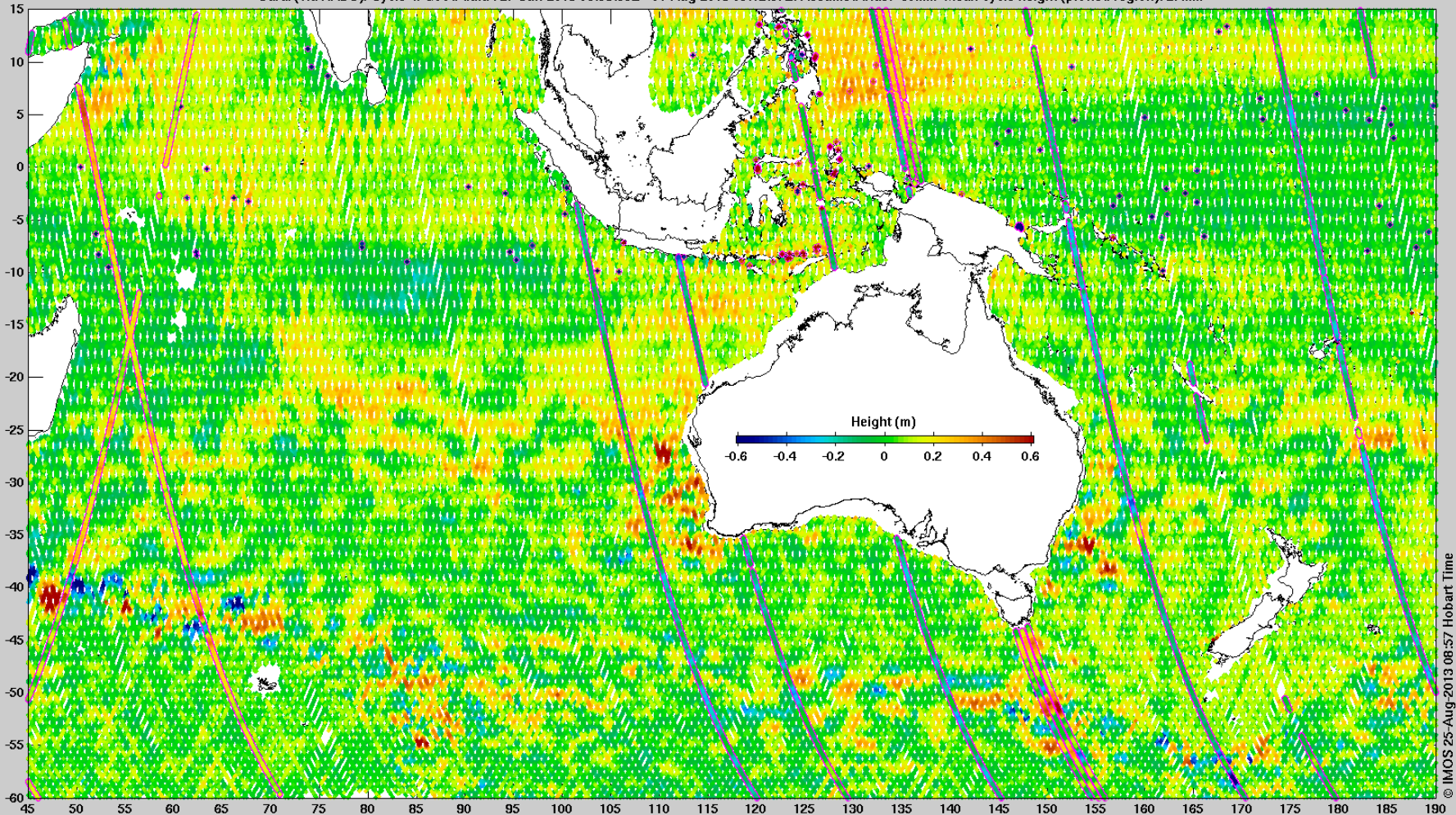
Altimeter sea level anomaly, along-track (< 10 days old) and gridded, for 20-Jun-2013. Atmospheric pressure contours (2 hPa):



© IMOS 29-Jun-2013 03:01 Hobart Time

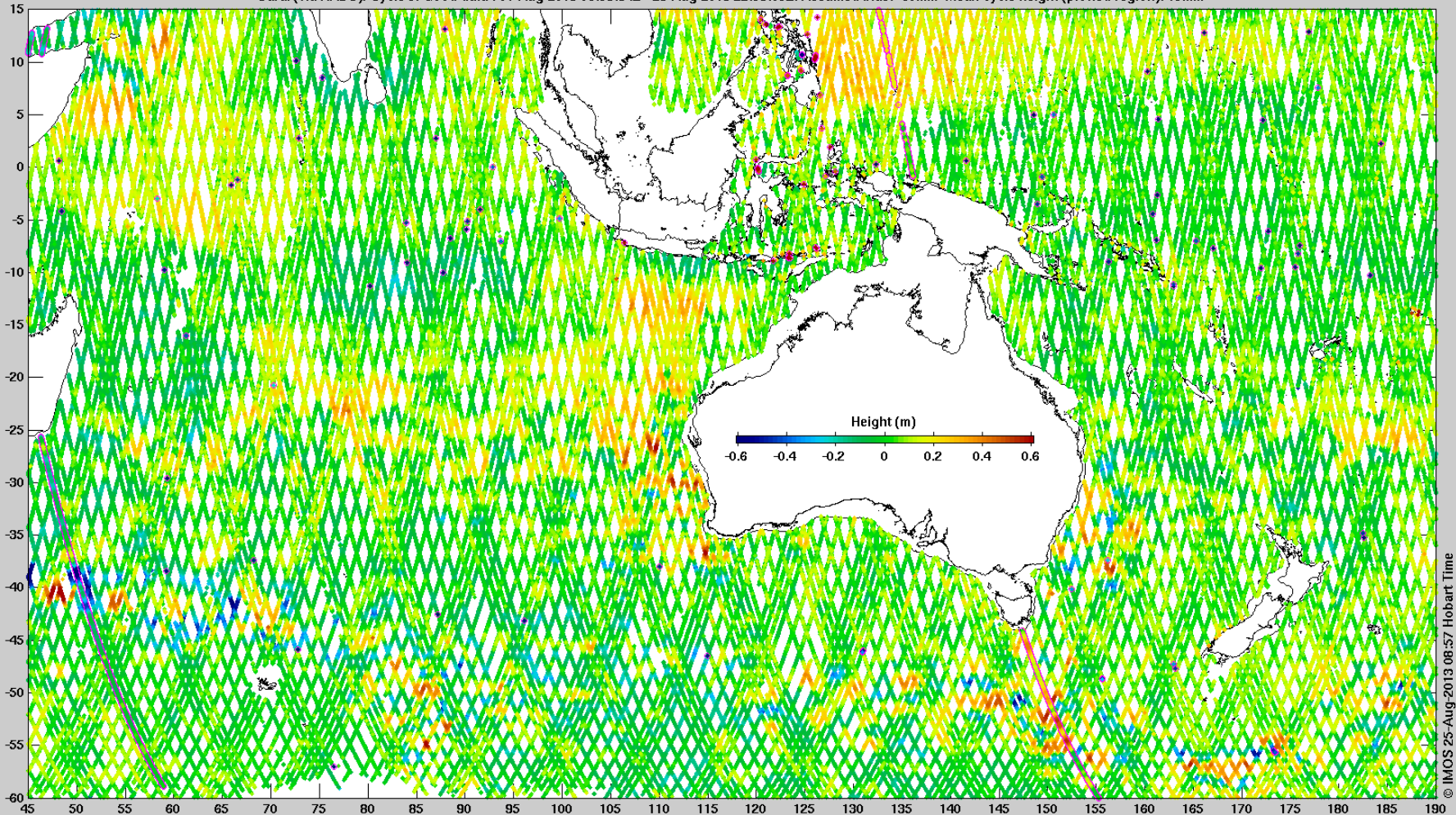
SARAL cycle 4: nearly complete data return

Saral (via RADS). Cycle 4. Good data : 27-Jun-2013 06:53:55Z - 01-Aug-2013 05:12:57Z. Assumed bias : -60mm Mean cycle height (plotted region): 27mm



SARAL cycle 5: in progress

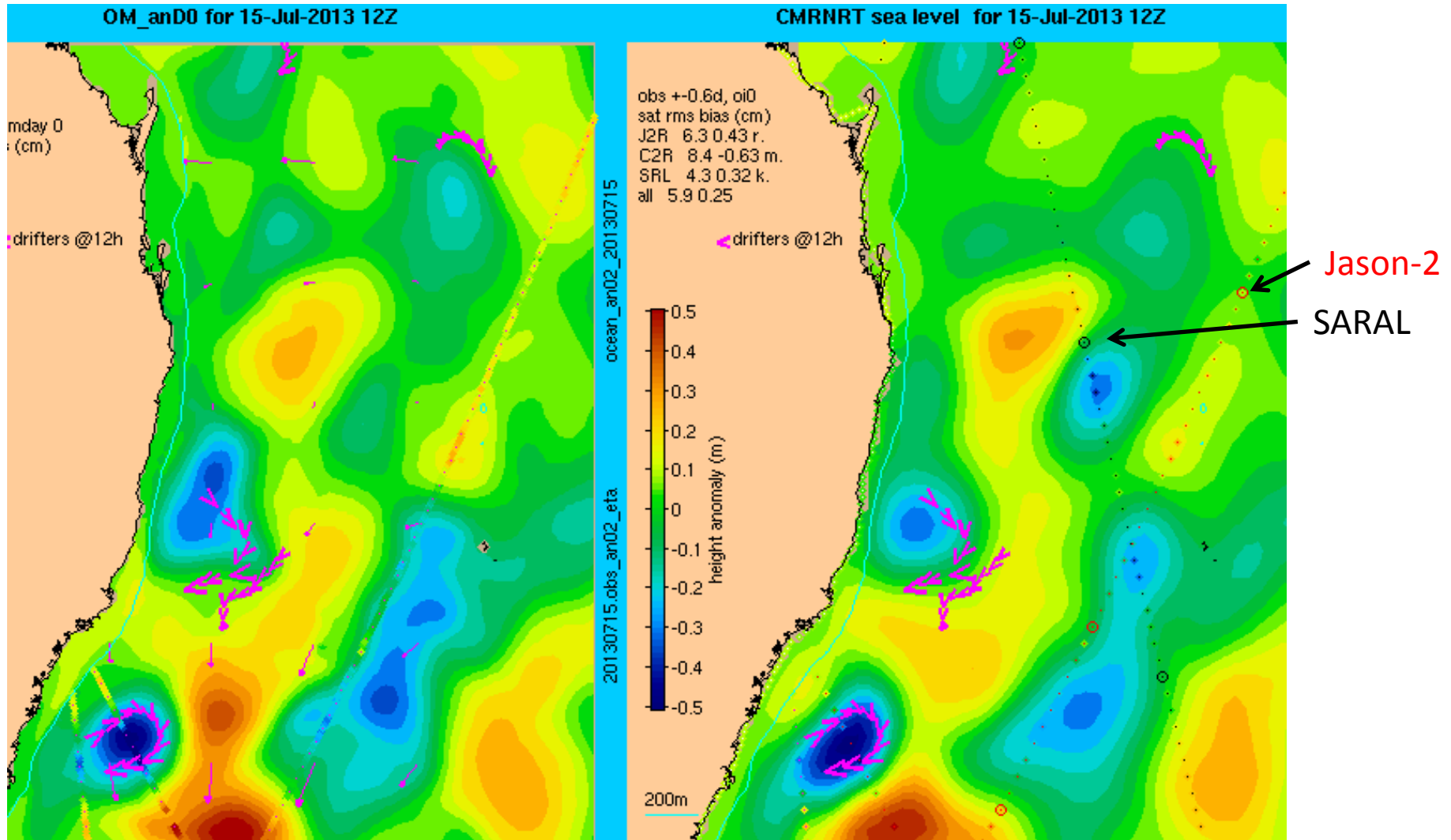
Saral (via RADS). Cycle 5. Good data : 01-Aug-2013 06:53:34Z - 23-Aug-2013 22:58:05Z. Assumed bias: -60mm Mean cycle height (plotted region): 15mm



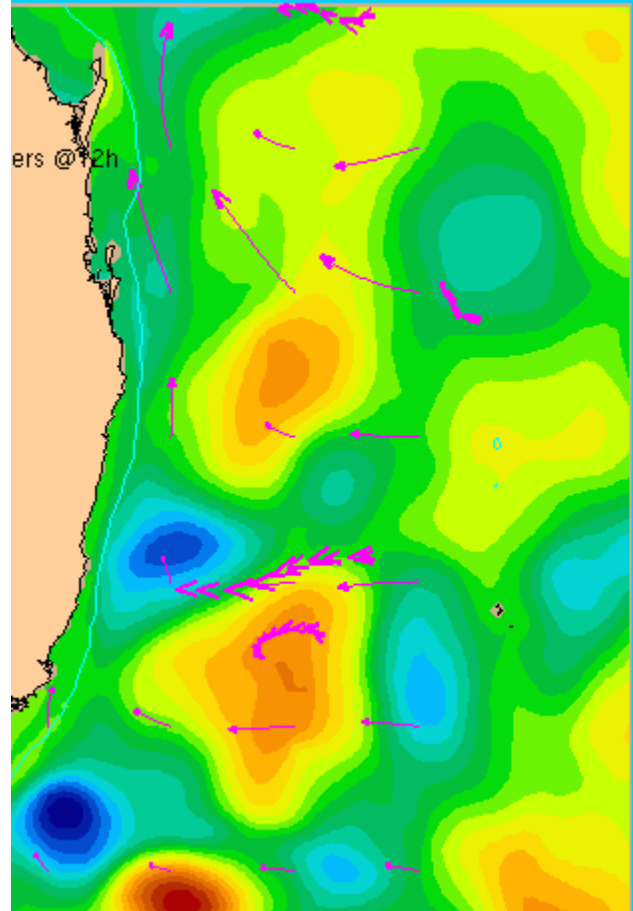
AltiKa data is about the same as Envisat data.

- We have not yet found any special advantage or disadvantage of AltiKa data in our large-scale analyses.
- Analysis residuals are the same as the other altimeters.
- Trial by anecdote: let's focus on one particular eddy, and how it was sampled by the three altimeters, and represented in 1) our data-assimilating model, and 2) our simple model-independent analysis.
- Distinguish 3 altimeters by coloured circles
- Daily analyses have ~10d data-windows
- Show track data for 1 day at a time, 30 June – 13 Aug 2013

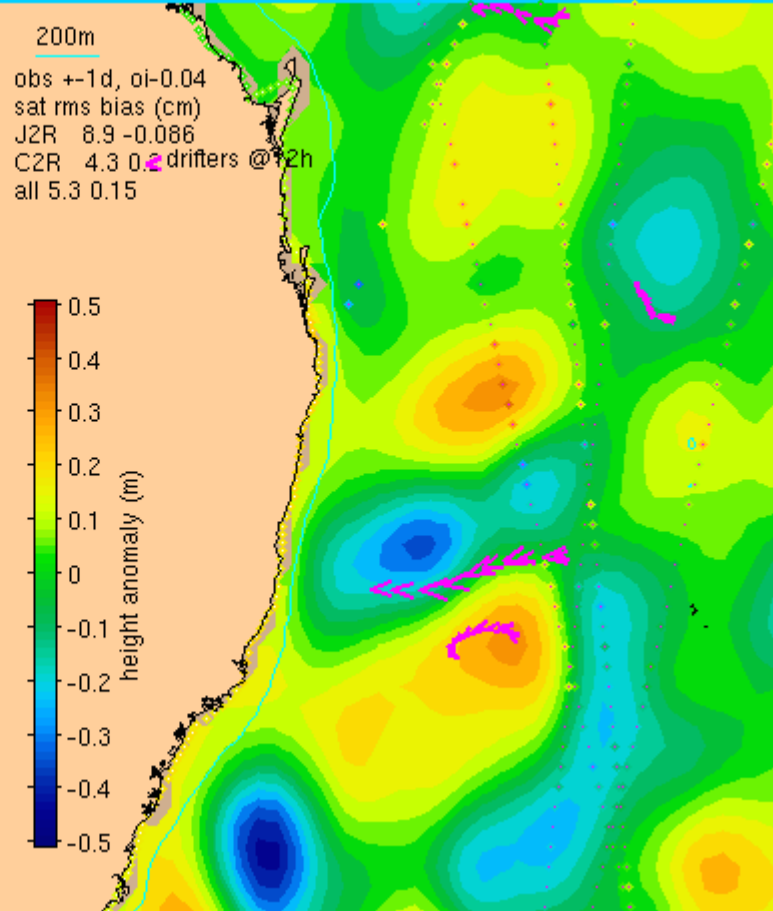
1) Data-assim model 2) simple OI of sea level



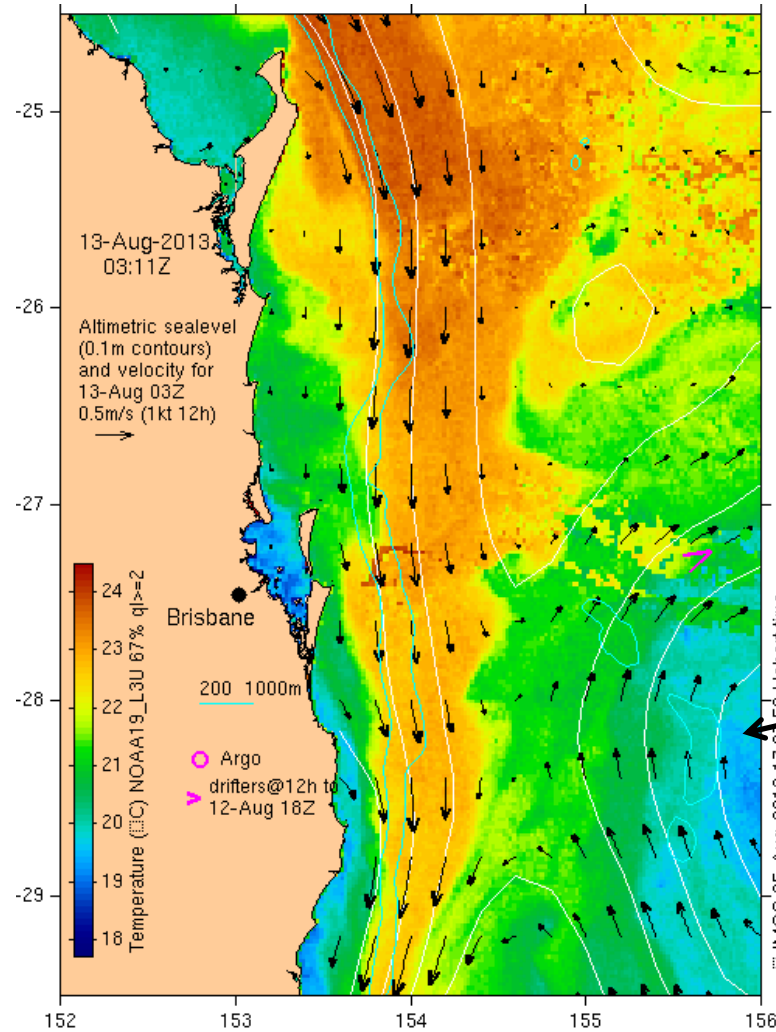
OM_anD0 for 30-Jun-2013 11Z



CMRNRT sea level for 30-Jun-2013 12Z



So what?



SARAL's eddy, moving west, May divert East Aust Current.

Conclusion

- The quality of SARAL data, and speed of delivery post-launch, exceeds expectations.
- SARAL was the first altimeter to discover a major cyclonic eddy off eastern Australia, and tracked its progress towards the Australian coast, where it will probably soon disrupt the flow of the East Australian Current.
- Cryosat-2's sampling pattern provided dense sampling of the eddy – but for a few days only
- We thank the SARAL project team for the rapid release of excellent data, just 4 months after launch. CONGRATULATIONS!
- We also thank the NOAA team for including the data in RADS
- FFI: oceancurrent.imos.org.au



Thank you

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