

The Solomon Sea observed by gliders and altimetry

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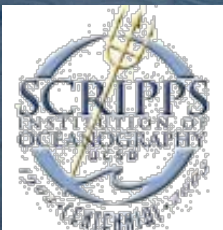
(1) IRD/LEGOS, Toulouse, France.

(2) NOAA/PMEL, Seattle, USA

(3) SIO, La Jolla, USA

(4) IRD, Nouméa, New Caledonia

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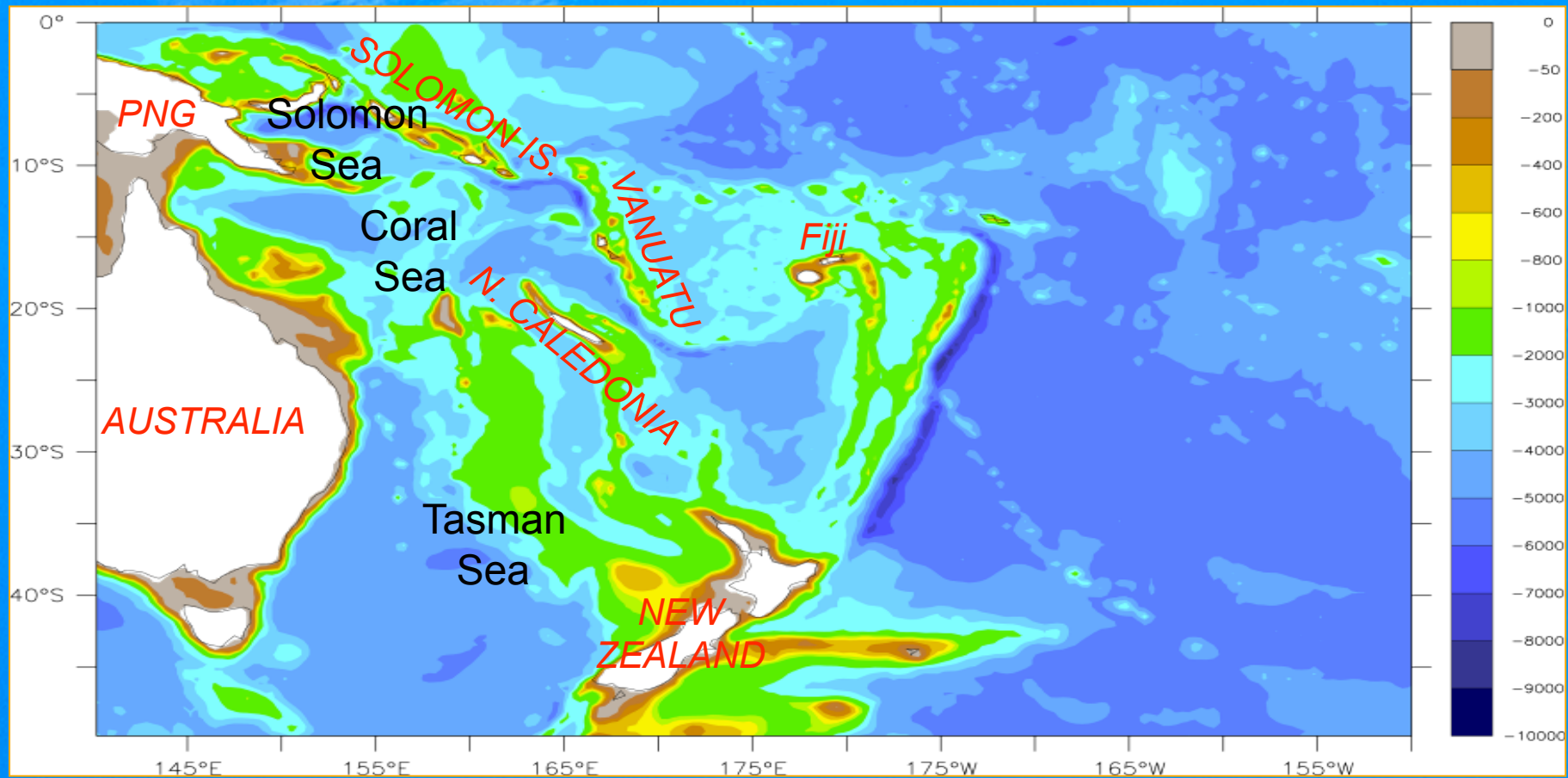




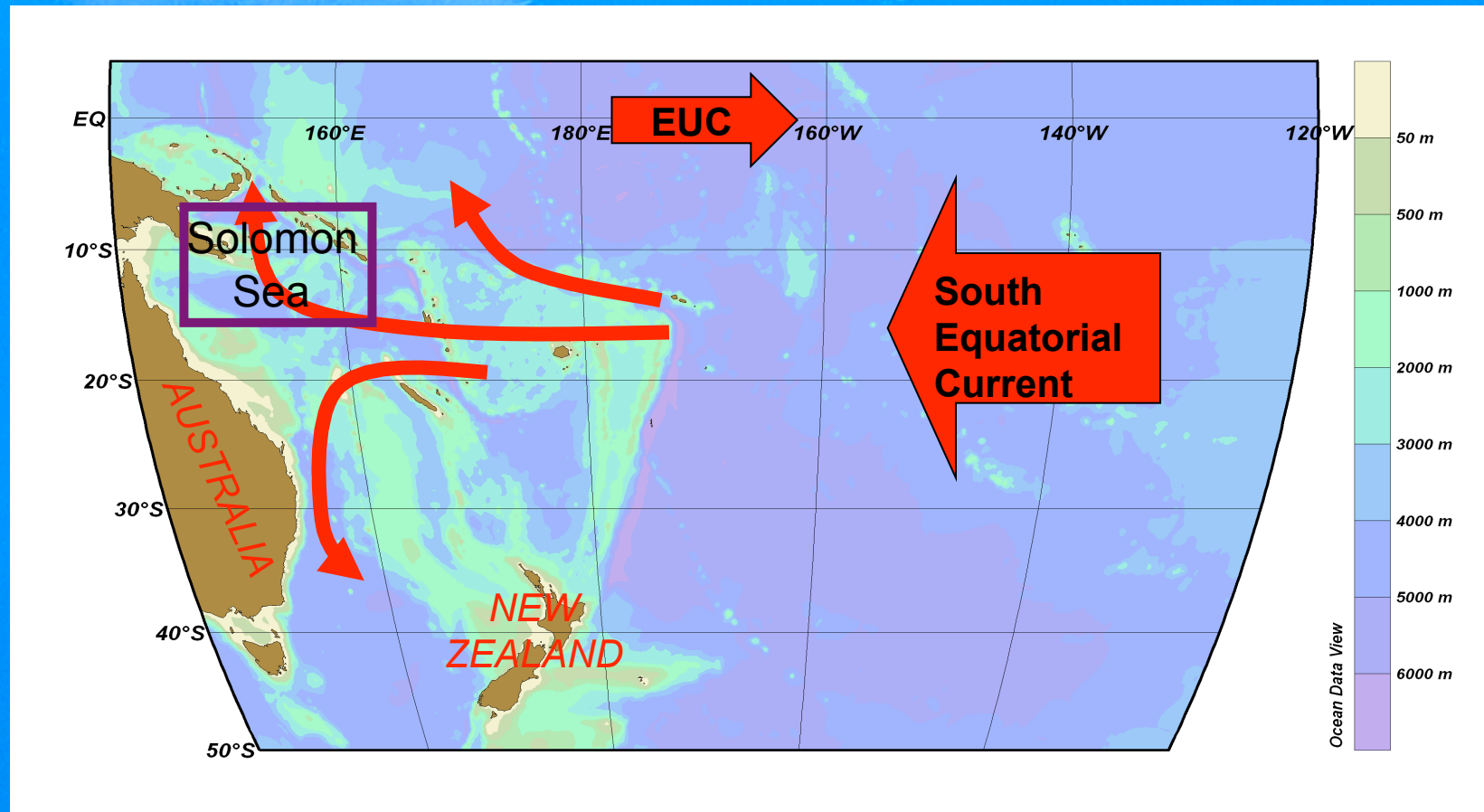
SPICE

Southwest Pacific Ocean Circulation and Climate Experiment

http://www.clivar.org/organization/pacific/pacific_SPICE.php



Connection between the subtropics and equator: via the low-latitude western boundary current



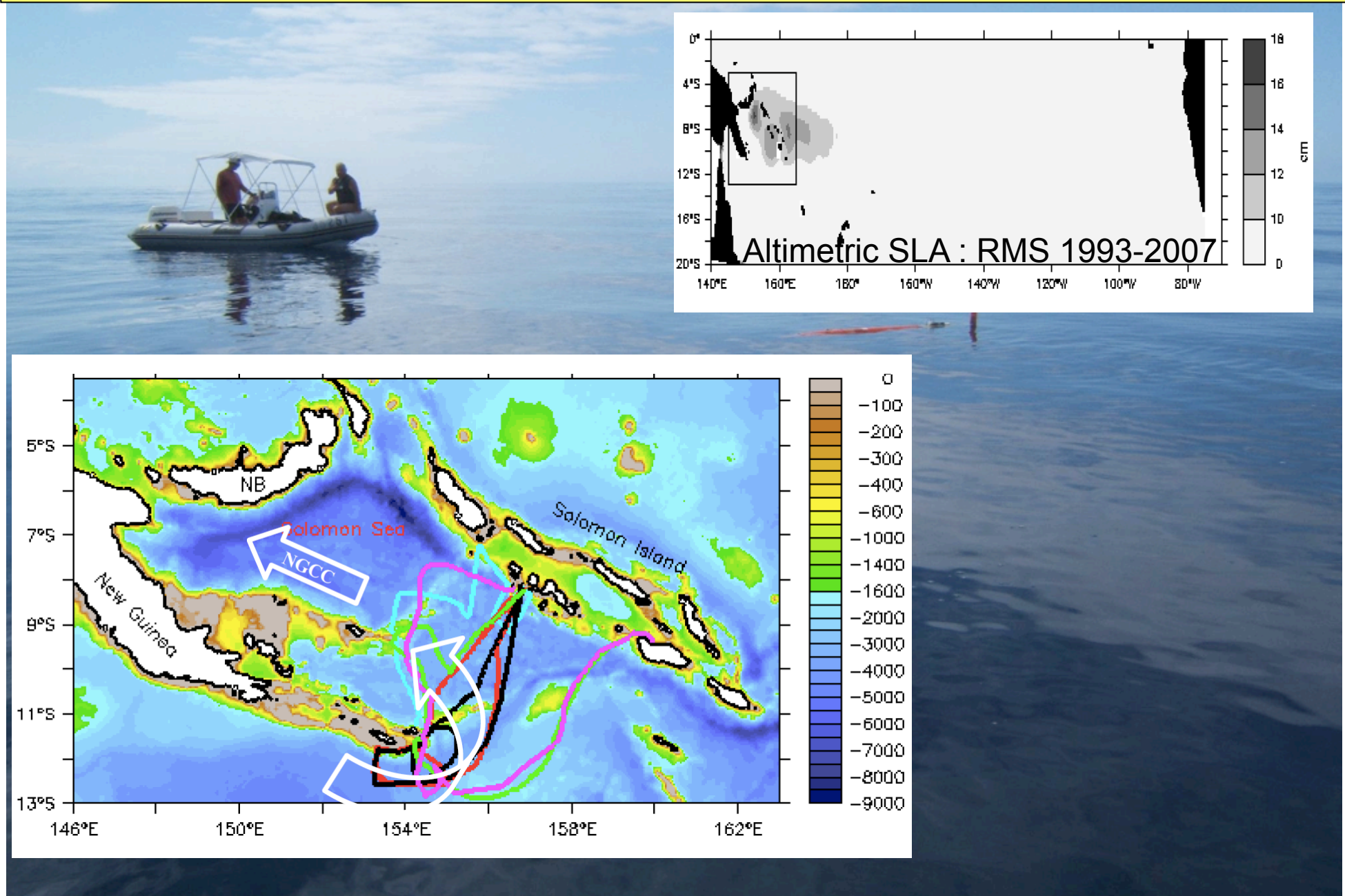
SPRAY Glider operations in the Solomon Sea: Remote places...



... but successful deployments !..

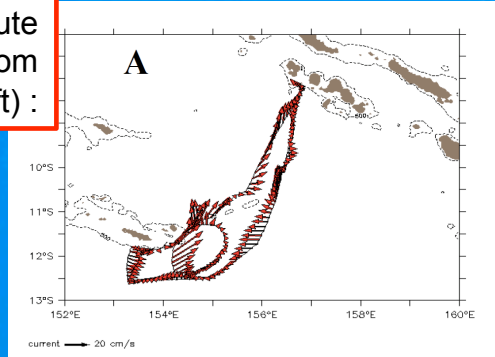


Solomon Sea: 5 sections completed (8/2007 – 1/2009)

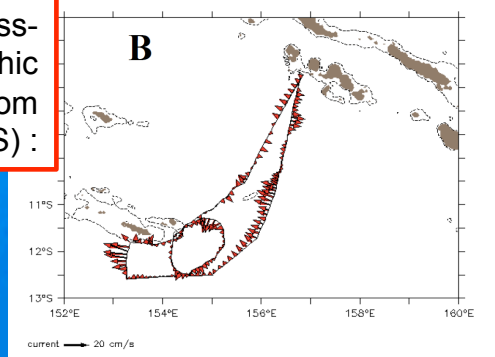


Glider-derived surface current

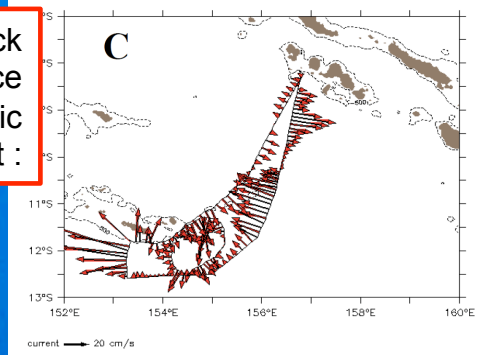
0-700m absolute
current (from
glider drift) :



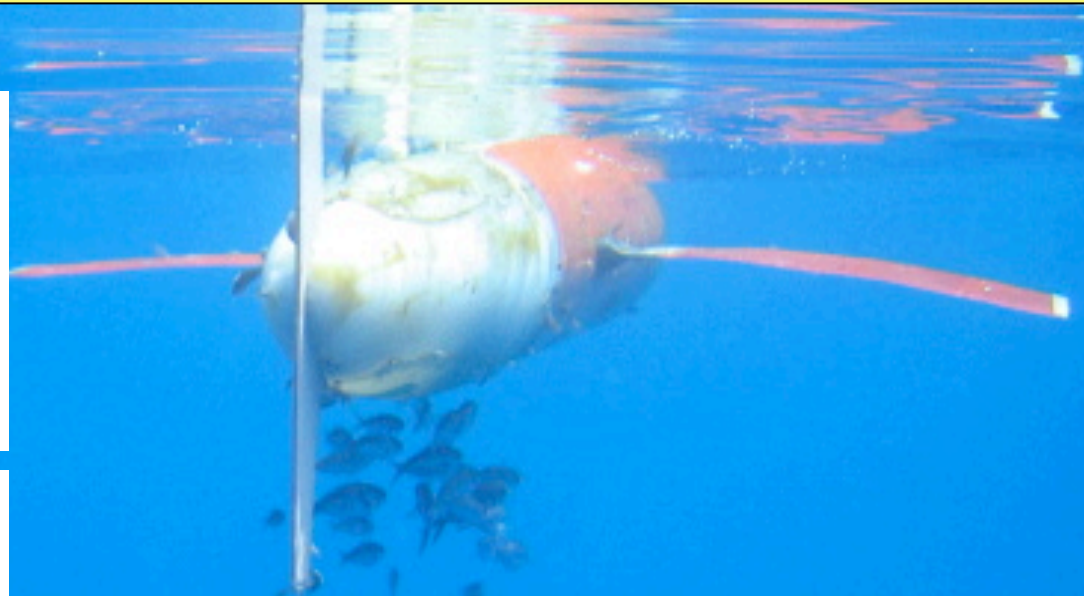
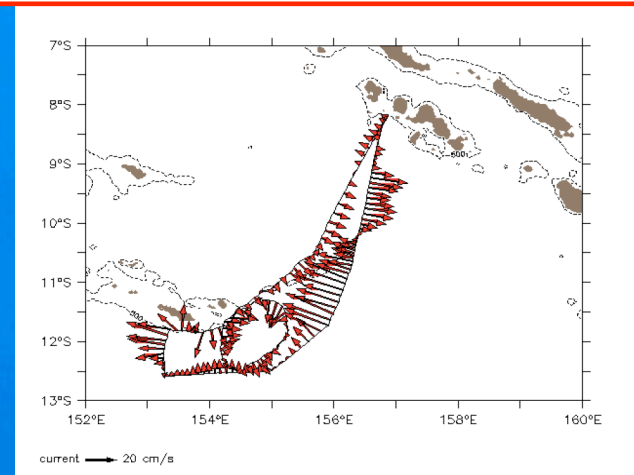
0-700m cross-
track geostrophic
current (from
glider T and S) :



Cross-track
surface
geostrophic
current :

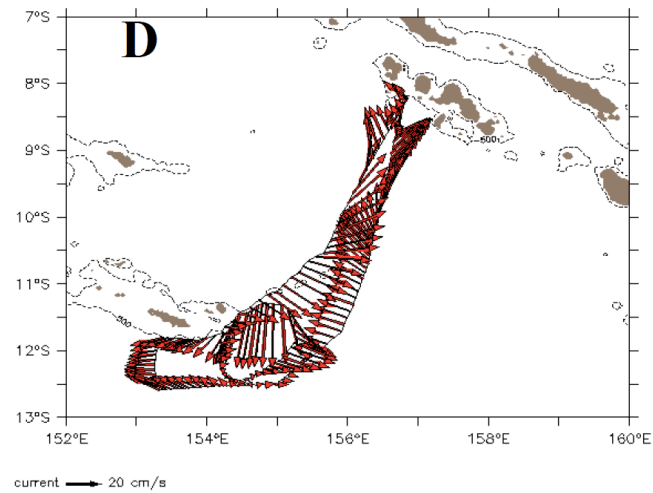


Absolute cross-track surface geostrophic current
(A-B+C) :

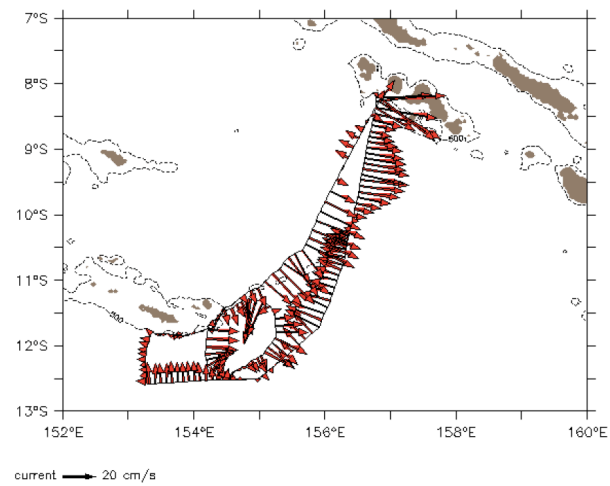


Altimetry-derived surface current

Surface
geostrophic
current anomaly
(from AVISO) :

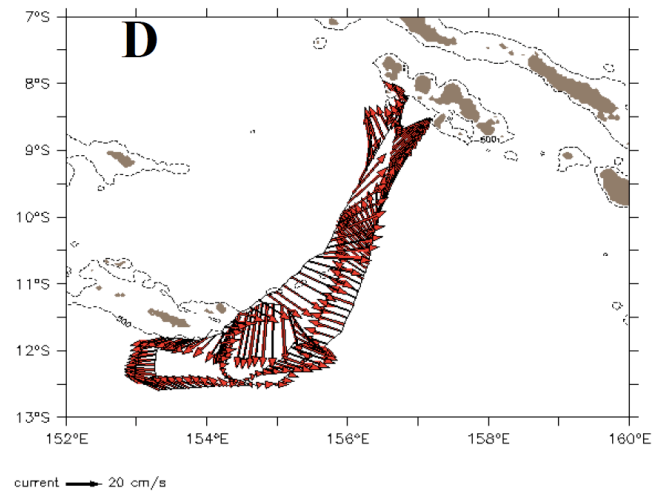


Surface absolute
geostrophic
current
(D+MSSH) :

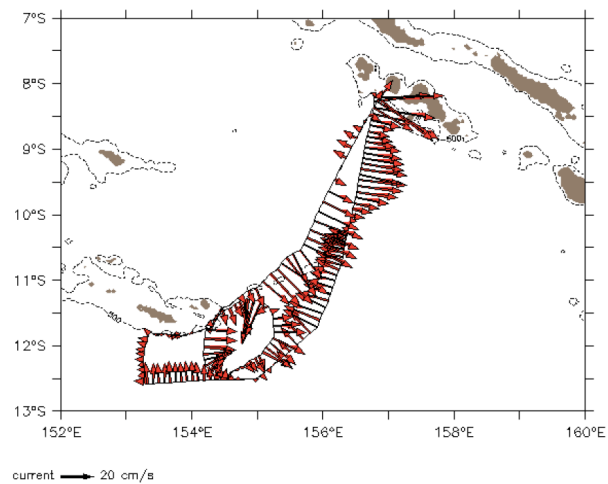


Altimetry-derived surface current

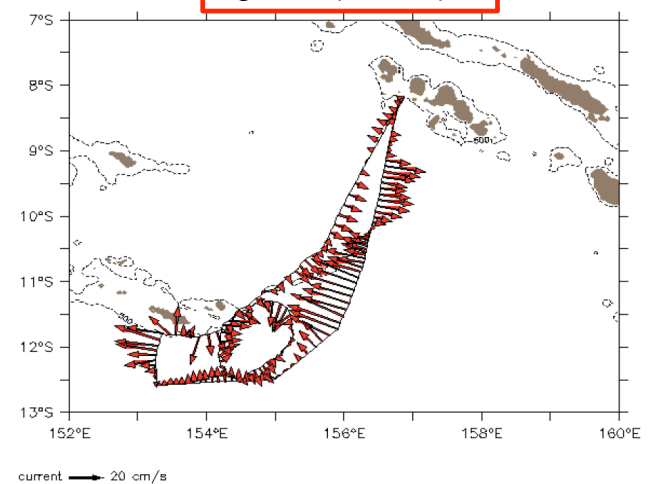
Surface
geostrophic
current anomaly
(from AVISO) :



Surface absolute
geostrophic
current
(D+MSSH) :

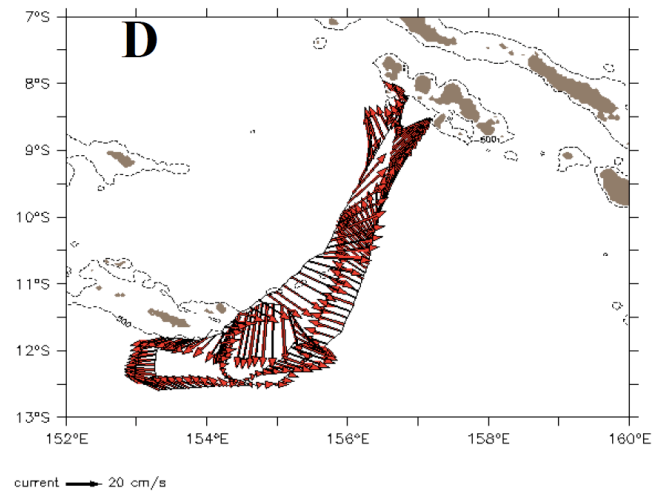


glider (A-B+C) :

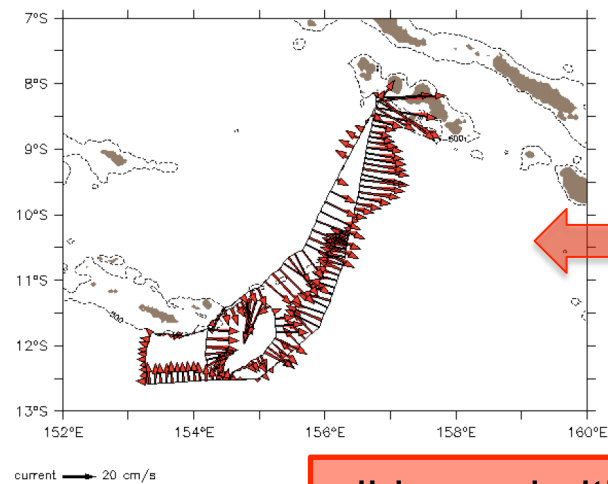


Altimetry-derived surface current

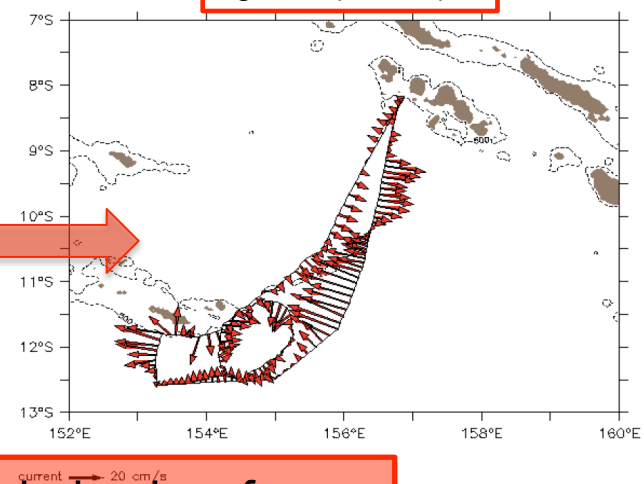
Surface
geostrophic
current anomaly
(from AVISO) :



Surface absolute
geostrophic
current
(D+MSSH) :

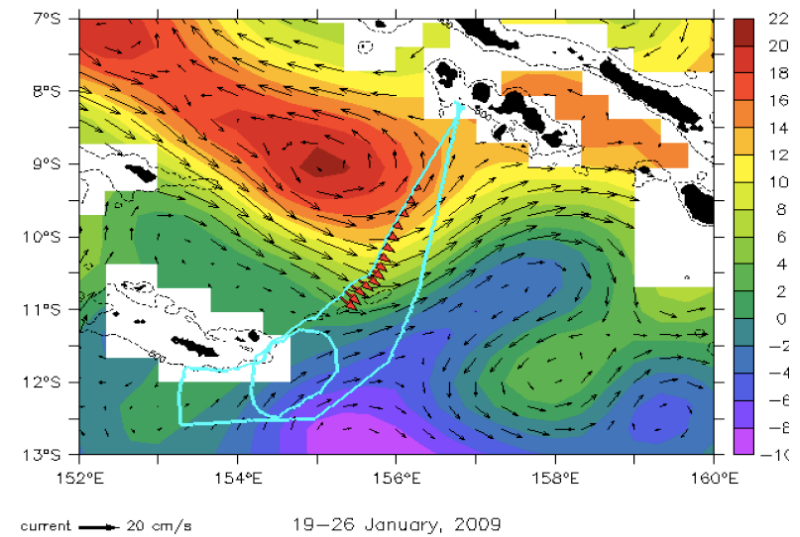
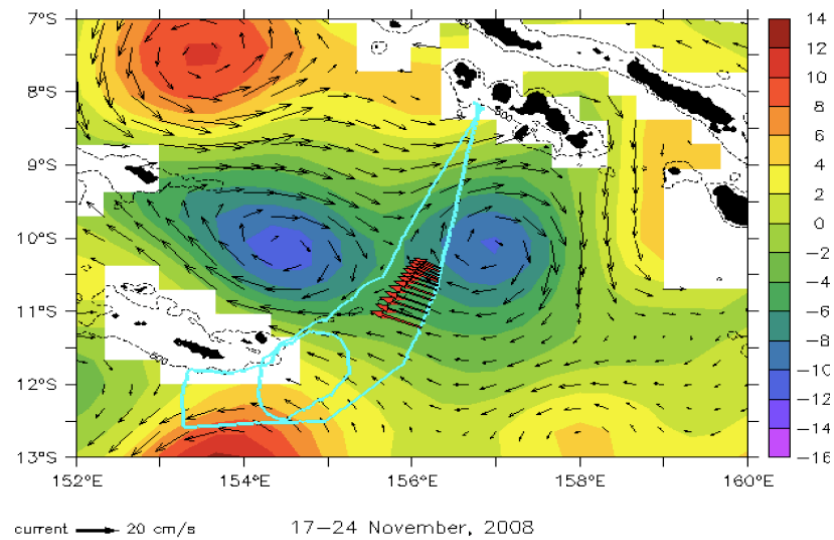


glider (A-B+C) :



glider and altimetry-derived surface
current : quite consistent !

Glider vs Altimetry : two examples



Conclusion

- **Altimetry-derived current: validated against glider current**
- **Two independent, complementary datasets**
- **Altimetry : synoptic, useful to situate the glider records in a large-scale context, and to understand the signals missed by the glider.**

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reprints available....*

