Geophysical Research Abstracts
Vol. 17, EGU2015-12949, 2015
EGU General Assembly 2015

Exploring SARAL/Altika data in the Solomon Sea

Bughsin Djath (1), Alexandre Ganachaud (2), Lionel Gourdeau (3), and Jacques Verron (4)

(1) LEGOS, Toulouse, France (Bughsin.Djath@legos.obs-mip.fr), (2) LEGOS, IRD, Toulouse, France (lionel.gourdeau@legos.obs-mip.fr), (3) LEGOS, IRD, Toulouse, France (alexandre.ganachaud@legos.obs-mip.fr), (4) LGGE CNRS, Grenoble, France (jacques.verron@legi.grenoble-inp.fr)

In the South West Pacific, the Solomon Sea is a key region in the oceanic climate circuit that connects the equator to the subtropics through the LLWBCs (Low Latitude Western Boundary Currents). In their pathway toward the equator, their changes in strength or water masses properties could influence ENSO low-frequence modulation. Besides, it exhibits the highest variability of the southwest Pacific. Recent studies (Gourdeau et al., 2014; Hristina et al., 2014) have highlighted the specific eddy activity in this region: eddy generation/propagation and mechanism at the mesoscales. However, this region is poorly documented because of the lack of observation data. Only space observation and numerical model could give a synoptic monitoring of this region.

Indeed, SARAL/Altika is providing improved high resolution data for studying mesoscale processes in the ocean. The goal of this study is to monitor mesoscale variability, the western boundary currents and pathways toward the equator. A dual approach, based both on SARAL/Altika along track data and high resolution modeling has then been chosen for these purpose.

In this study, to analyze altimetric data, we use a specific median filter as the bathymetry of the Solomon Sea is complex (due to numerous islands and straits). The reprocessing data permits to eliminate erroneous data and provide a good quality dataset. It shows a high variability in the Solomon Sea. In order to explore SARAL/Altika temporal observability of mesoscale signal, a high resolution numerical model (1/36°) is used. The model is two-way embedded in a 1/12° regional model which is itself one-way embedded in the DRAKKAR 1/12° global model. The NEMO code is used as well as the AGRIF software for model nestings