

Weekly report 26.08.2019-01.09.2019 SO269 SOCLIS

Our expedition is coming to the end. During the last full week on RV SONNE we have been working more and more along the L3 line. At all stations, hydrographic data was recorded by CTD, followed by short and long cores at selected positions. At some of the stations we pulled two gravity cores, because our Chinese colleagues wanted to take them home with them, into the local laboratories. Our Pump-CTD was also used, e.g. for a high-resolution profile. It finally gave us the chance to sample the strong gradients adequately, in this case it was lowered with 1cm/s so that we could achieve a vertical sample resolution of 2m. Some of the samples were taken twice and allow us to compare the accuracy of different analytical instruments at home. It is still not easy to measure nutrient concentrations in the Nano-molar range, which are common in the oligotrophic areas of the oceans. Also this week we made two 25 hour stations to estimate the influence of the tides on the extension of the Pearl River water. Such information from the shelf area and the flat continental slope is rare, but urgently needed to understand the distributions and variations of the pollutants we measure. We still have two stations ahead of us, next Monday in the early evening hours we will have completed our station work and set course for Hong Kong.

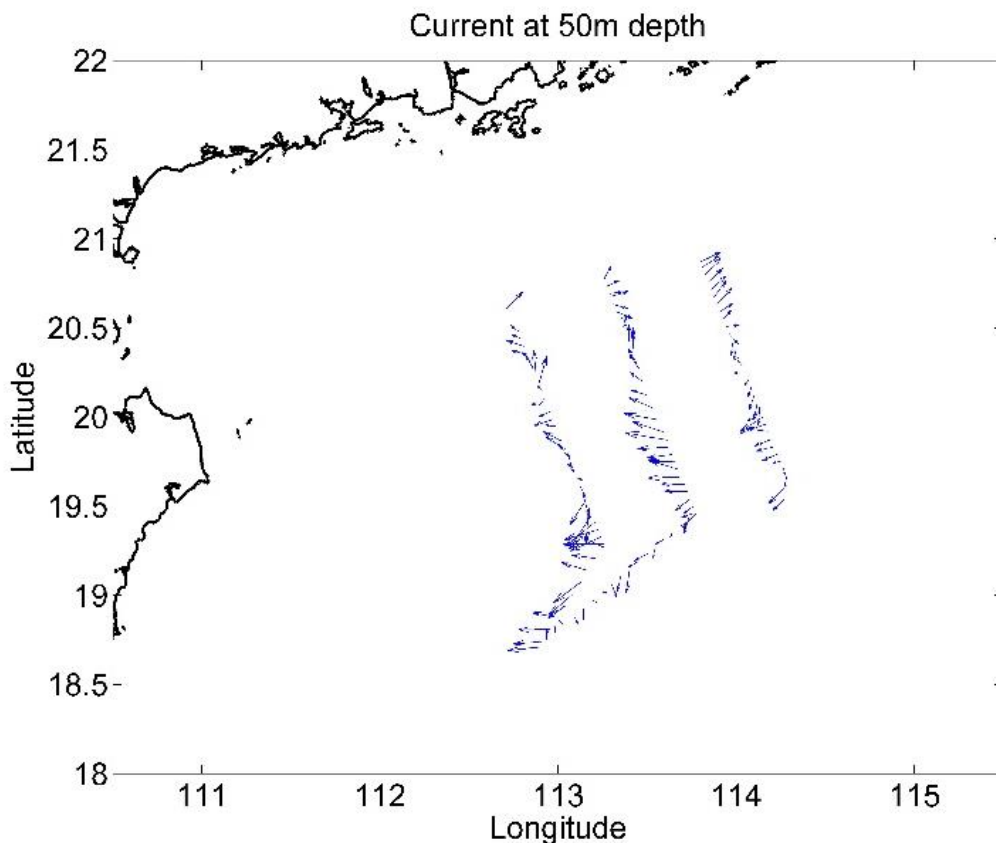


Fig. 1 Currents at 50 m depth based on registrations of the first 3 transects (Y, Zhong, SJTU*).

In the meantime the first results are available. Figure 1 shows the currents at 50 m depth measured with the 38 kHz ADCP. This was borrowed especially for us, because the ship's own systems showed problems. The eastbound current is the South China Sea Warm Current and the westbound current along the continental slope is the South China Sea Slope Current. Along the sections, we were able to record strong variations in currents with depth, recording speeds up to 0.5 m/s. The data quality is good, this is really great because from this shallow shelf region just few data set exist.

The atmosphere on board is still good, the cooperation between the German and Chinese colleagues runs smoothly, and the good cooperation with the ship's management and the crew ensures a good relaxed working atmosphere on board. This week we finally saw a few sea dwellers, attracted by the lights of the ship at night many squids and flying fishes, whereas during the day several schools of dolphins followed us.

We send our warmest greetings to everyone from board the SONNE.

On behalf of the expedition participants,

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