

STEPS Students Report

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From Nov. 20 to Dec. 20, I stayed at the institute of earth science, Saint Petersburg State University. I joined the Professor Belonenko's laboratory, whose major is Oceanology. Oceanology is quite different from coastal engineering. However, I was interested in the research about sea or water from a different view from our laboratory. That is why I decided to join the professor Belonenko's laboratory. I was especially interested in satellite monitoring of ocean, which is related to my graduation thesis. After some discussion, I decided to learn about satellite monitoring of mesoscale eddies.

1. Research

One of the PhD student in the laboratory helped me to advance my research. He explained me about satellite dataset and eddies. I processed the dataset in the target area, sea of the south of Australia, using Matlab.

- 1) I processed sea water level dataset and made color map for the target area (figure 1.). We can find some eddies in this figure.

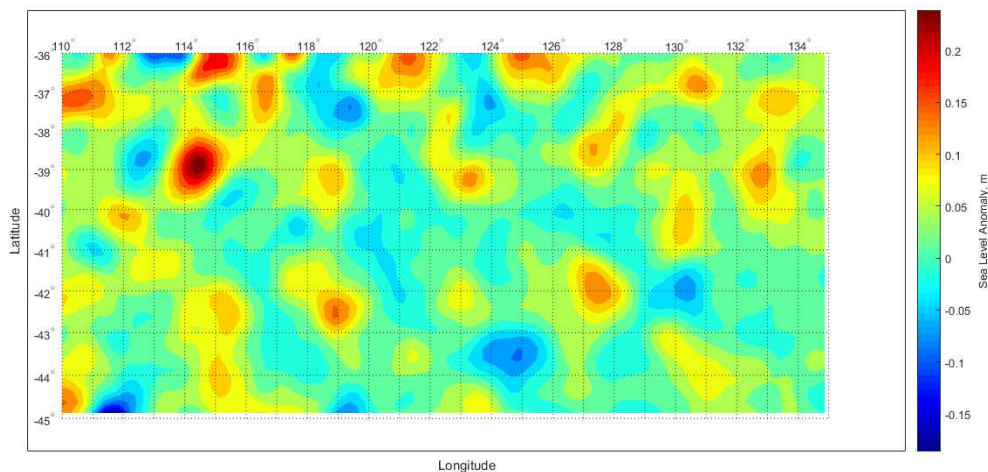


Figure 1. Sea water level color map

- 2) I processed eddies tracking dataset. It involves the eddy tracking number, existing period, observation date, rotation direction, longitude, latitude, amplitude, semidiameter and average rotation velocity. I plotted all the location data (longitude and latitude) and made the eddies tracking map (figure 2.). The asterisks (*) are the generated locations of each eddies. The colors of red and

magenta mean anticyclonic eddies, and the colors of blue and cyan mean cyclonic eddies.

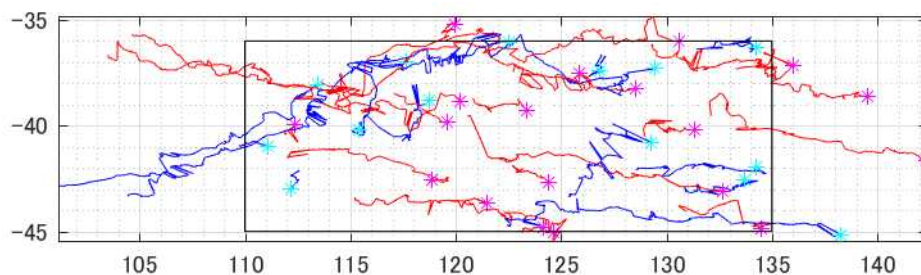


Figure 2. eddies tracking map

- 3) I processed eddies tracking dataset. I calculated nonlinear parameter for the eddy velocity.
- 4) I repeated these procedures for another target area.

2. Lectures

Professor Belonenko recommended me to attend some classes, which were held in English. However, I did not do that for a following reason. First, we need a student ID card with IC chip to enter the school building; however, I could get my student card after 2 weeks from my arrival. The classes were going on for 2 weeks and I could not follow the contents. That is why I gave up attending the classes.

3. Interaction

I could meet again my Russian friends who visited my laboratory in the University of Tokyo as the participant of STEPS program. I hanged out with Russian students once or twice a week. It was so wonderful time for me and I was so glad to meet my friend whom I got thanks to STEPS



program again in Russia. In addition to that, I could make some friends in my dormitory. I got some troubles in Russia; however, they were willing to help me. I had a good time thanks to them.