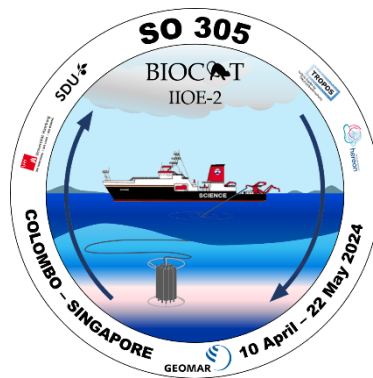


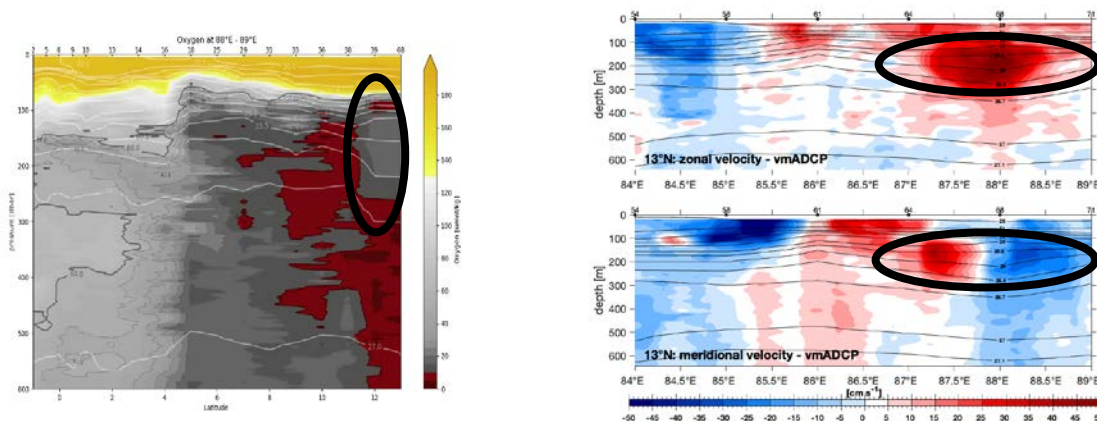
R/V SONNE, 5 May 2024



4th Weekly Report (29 April – 5 May 2024), R/V SONNE cruise SO305 BIOCAT-IIOE2, Colombo (Sri Lanka) - Singapore

This week the focus of our work was along 13°N to sample the oxygen minimum zone along a W/E transect. After completing this W/E transect, we are now heading NW to station #32 (at 15°N 85.75°E), which is the beginning of a second W/E transect along 15°N. At station #30 (14°N 88°E) we have inserted a 24h station. Sampling is going well and according to plan. So far there have been virtually no major instrument failures.

The figure below left shows the distribution of dissolved oxygen along our S/N section from 1°S to 13°N at 88°/89° E. The extremely low oxygen concentrations ($O_2 < 10 \mu M$, areas colored red) measured north of 8°N in water depths of >100 m are clearly visible. Noticeable is an insertion of water with oxygen concentrations $>10 \mu M$ in water depths of 100 to 250 m at 12°/13°N. The right-hand figure below shows current measurements (ADCP measurements) along the W/E section at 13°N. Clearly visible is a so-called 'mode water' eddy, which had its center at 13°N 88°E and is responsible for the insertion of water with higher oxygen concentrations. This is a good example of how mesoscale processes (i.e. eddies) influence oxygen concentrations in the central Bay of Bengal.



Herman W. Bauer

and the Scientific Party of SO305
at 14°30'N, 87°00'E