

In-situ datasets of important physical and bio-chemical parameters in the continental shelf of the northern Bay of Bengal

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Abstract

Data equipped with this article were collected from Northern Bay of Bengal (NBoB) wrapping both the eastern and west- ern coast for CTD and sediment samples and only the eastern coast for water sampling. In-situ data of physical parameters, heavy metals, elements, Total Organic Carbon (TOC), nutrients, chlorophyll-a and phaeopigment were sampled across the shallow continental shelf. These data were assembled from 15 CTD points, 76 water samples, and 10 surface sediment samples adjacent to Bangladesh coast. Vertical CTD profiles were collected for Temperature (°C), Salinity (PSU), Density ($kg\ m^{-3}$), Turbidity (NTU), Fluorescence ($mg\ m^{-3}$), and Dissolved Oxygen (DO, mg/l). Heavy metals (mg/l) of water column enlisted as Calcium (Ca), Cadmium (Cd), Cop- per (Cu), Cobalt (Co), Iron (Fe), Manganese (Mn), Magnesium (Mg), Nickel (Ni), Lead (Pb), and Zinc (Zn). Total Organic Car- bon (TOC) was measured as Non-Purgeable Organic Carbon (NPOC) in ppm. Measurements of Chlorophyll - a, Nitrate, Nitrite, Phosphate, Ammonia, Silica and Phaeopigment were taken from 76 water sampling points. The survey was con- ducted with the assistance of a fishing vessel 'Agro food-4 'of 'Sea Resource Ltd.' lengthening a fishing period from January to February (in winter), 2016. SBE 19 plus V2 CTD ma- chine was deployed for sampling of vertical physical features, Niskin sampler of HYDRO-BIOS consisting of a non-metallic interior was used to collect water sample. Sediment was collected by Van Veen Grab sampler with built-in messenger. Water samples were analyzed following the standard procedure in the laboratory to access in-situ data. The shallow coastal and offshore regions of Bangladesh support for vast biological resources to its adjacent inhabitants. Therefore, understanding the influence of physico-chemical properties on other biological resources in coastal ecosystem is a crucial one to investigate. However, the shelf region of the BoB has a lack of in-situ baseline or reference data to compare with in terms of ocean biogeochemistry. Thus, these datasets can be utilized for further reference and also in validating other remotely-sensed physico-chemical parameters in this region.

Recent Publications (minimum 5)

Mili MIJ, Ahmed MK, Alam MU, Ashif IK, Hasnain A, Loodh R, Hossain KB, Hasan AA, Nahian SA, In-situ datasets of important physical and bio-chemical parameters in the continental shelf of the northern Bay of Bengal, Data in Brief (Elsevier) **(2021) (Published)**

Mili MIJ, Ahmed MK, Chowdhury KMA, Alam MJ, Loodh R, Hossain KB, Nahian SA, Hasan AA, Variability of nutrients in relation to physical qualities along the Bay of Bengal's north-eastern shore, Journal of sea research (Elsevier) **(2022) (Under review)**

Mili MIJ, Chowdhury KMA, Nusrat J, Farhana A, Distribution of Biochemical Oceanography in the Bay of Bengal: A Review, Bangladesh Maritime Journal, Vol. 5, Issue.1, **(2021) (published)**

Rahman MS, Ahmed MK, Alam MJ, **Mili MIJ**, Seema R, Chowdhury KMA, Intra-annual Variability of Chlorophyll-a and Sea Surface Temperature (SST) in the Northern Bay of Bengal" DewDropVol.6, No.1, ISSN 2414-6056, A Scientific Journal of Meteorology and Geo-Physics, Bangladesh Meteorological Department **(2019) (Published)**

Mili MIJ, Ahmed MK, Rahman MS, Estimation of primary productivity using vertically generalized production model in the northern part of Bay of Bengal, DewDropVol.2, No.1, ISSN 2414-6056, A Scientific Journal of Meteorology and Geo-Physics, Bangladesh Meteorological Department **(2018) (Published)**

Biography

I am working as Assistant professor at the Department of Oceanography and Hydrography, BSMR Maritime University, Dhaka, Bangladesh. I have also joined my PhD program, at the University of Massachusetts Dartmouth, USA this fall 2022 and continuing this semester online due to my visa delay, however, will move there in upcoming spring 2023. I will be studying Marine Biogeochemistry and Climate Change in my PhD research.

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