

The following supplement accompanies the article

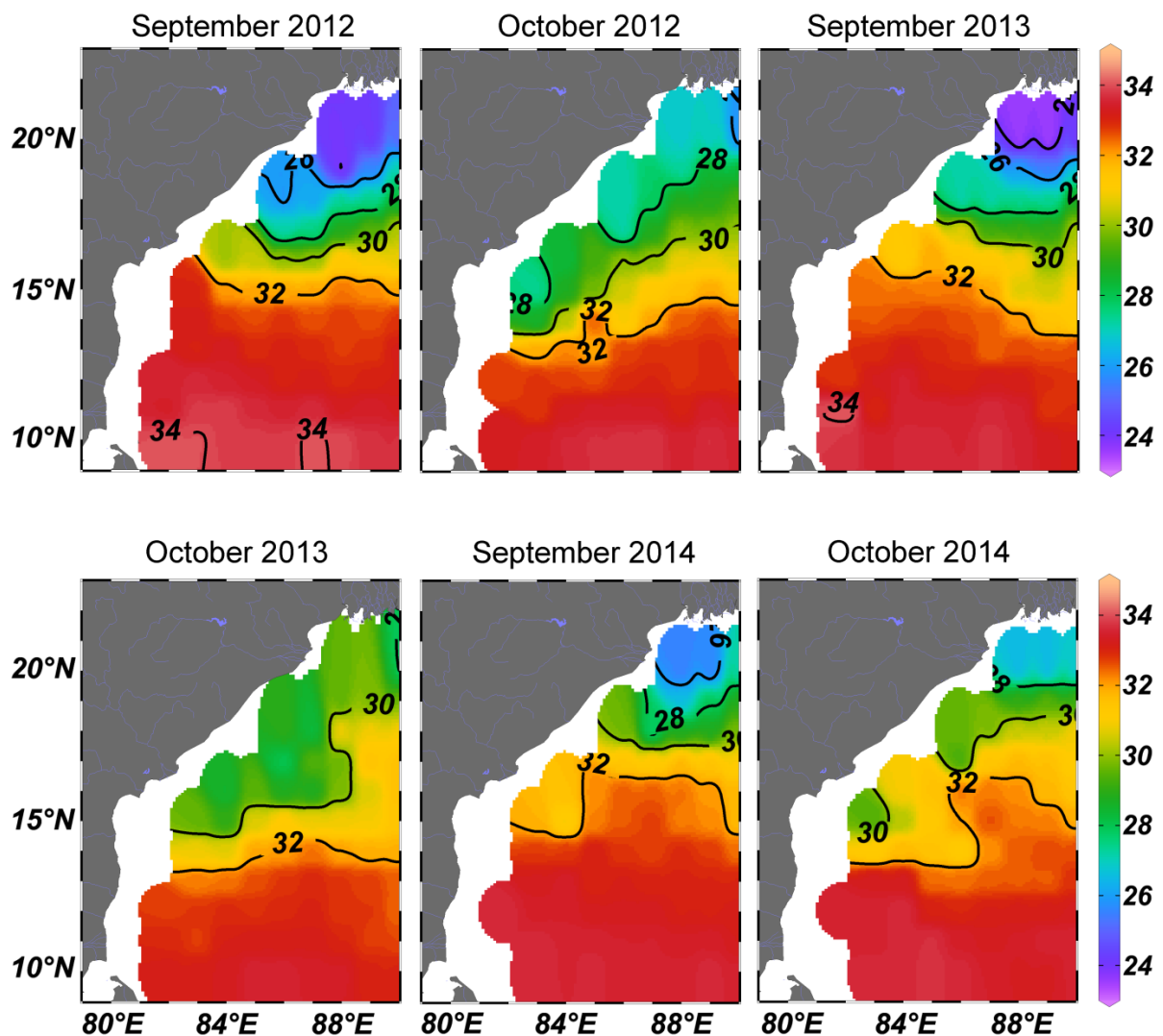
## River plume fronts and their implications for the biological production of the Bay of Bengal, Indian Ocean

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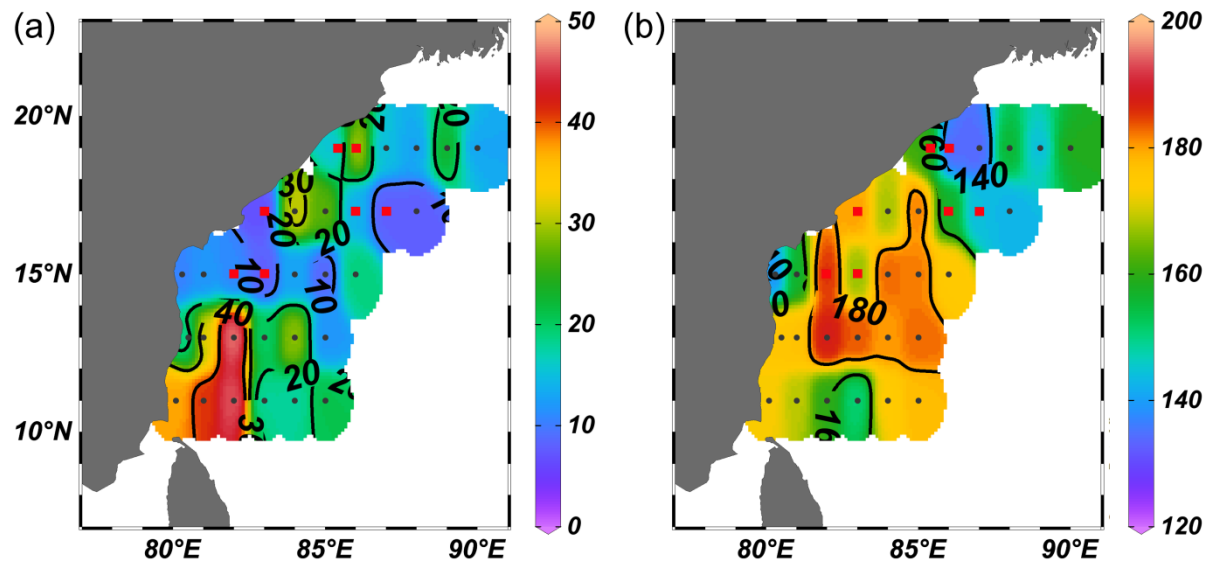
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Marine Ecology Progress Series 597: 79–98 (2018)

**Fig. S1.** Sea surface salinity (psu) based on the satellite (Aquarius) for September and October in 2012-14.



**Fig. S2.** Distribution of [a] Mixed Layer Depth -MLD (m) and [b] bottom of thermocline (m) in the study region. The frontal regions are indicated by red dots.



**Fig. S3.** The chlorophyll *a* ( $\text{mg m}^{-3}$ ) distribution based on the MODIS-Aqua satellite ocean color data in the study area.

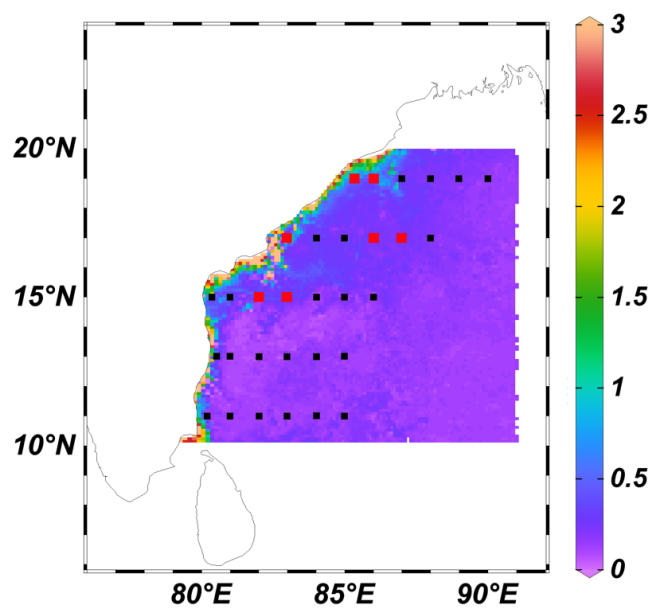
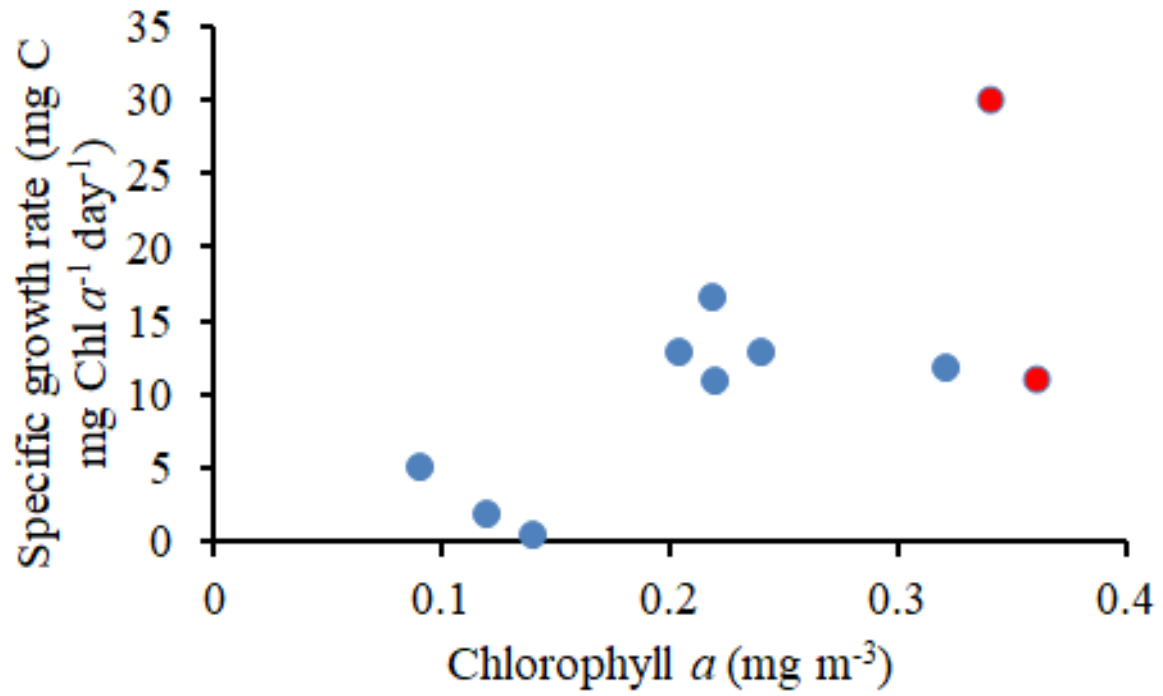


Fig. S4. The phytoplankton specific growth rate-chlorophyll *a* plot (red – frontal, blue – non-frontal)



**Table S1.** The biotic components in the frontal and non-frontal zones of Bay of Bengal (average  $\pm$  std. deviation). The values in the parenthesis indicates the number of samples (n). The ‘\*’ indicates significant variation between frontal and non-frontal region. The statistical test for significant variation was avoided for primary production and phytoplankton specific growth rate because of the low sample numbers.

| <b>Variables</b>   | <b>Frontal</b>      | <b>Non-frontal</b>  |
|--|---------------------|---------------------|
| Surface chlorophyll <i>a</i> (mg m <sup>-3</sup> )*  | 0.3 $\pm$ 0.1 (7)   | 0.2 $\pm$ 0.1 (24)  |
| Integrated column chlorophyll <i>a</i> (mg m <sup>-2</sup> )                               | 17.9 $\pm$ 6.7 (7)  | 13.9 $\pm$ 6.8 (24) |
| Surface primary production (mg C m <sup>-3</sup> day <sup>-1</sup> )                       | 7.14 $\pm$ 4.4 (2)  | 2 $\pm$ 1.5 (8)     |
| Integrated column primary production (mg C m <sup>-2</sup> day <sup>-1</sup> )             | 195 $\pm$ 23 (2)    | 114 $\pm$ 83 (8)    |
| Phytoplankton specific growth rate (mg C mg Chl <i>a</i> <sup>-1</sup> day <sup>-1</sup> ) | 20.7 $\pm$ 13.4 (2) | 9.1 $\pm$ 5.8 (8)   |
| Zooplankton biomass (ml m <sup>-3</sup> )*   | 0.3 $\pm$ 0.12 (7)  | 0.1 $\pm$ 0.1 (24)  |
| Zooplankton abundance (ind m <sup>-3</sup> )*  | 506 $\pm$ 305 (7)   | 244 $\pm$ 171 (24)  |