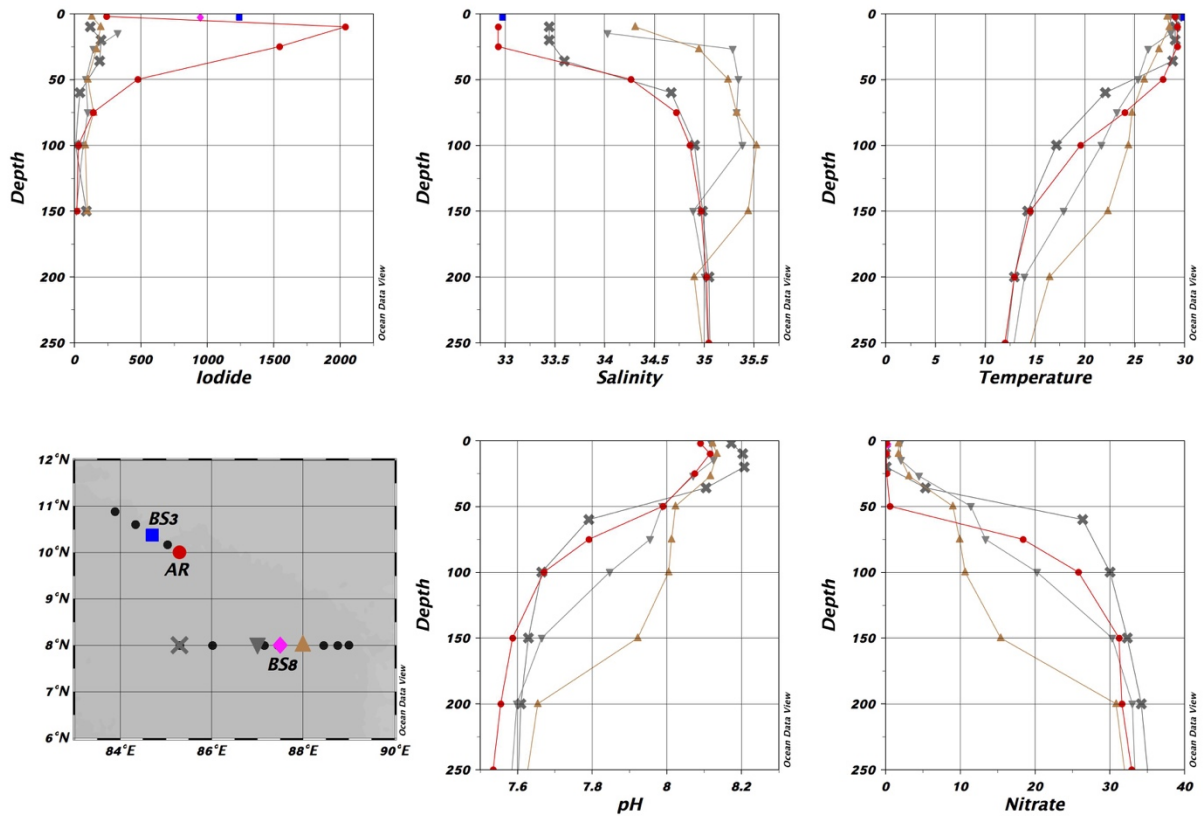


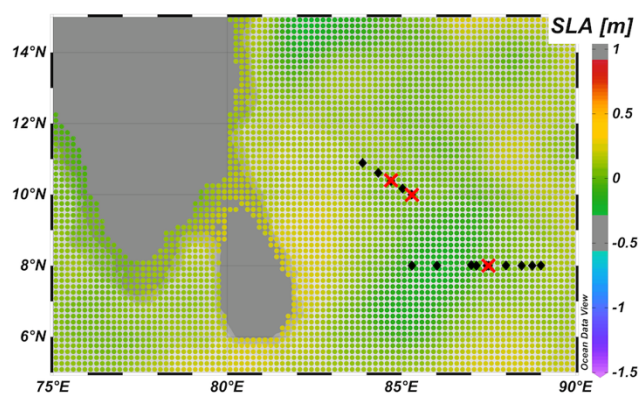
1 **Supplementary Information**



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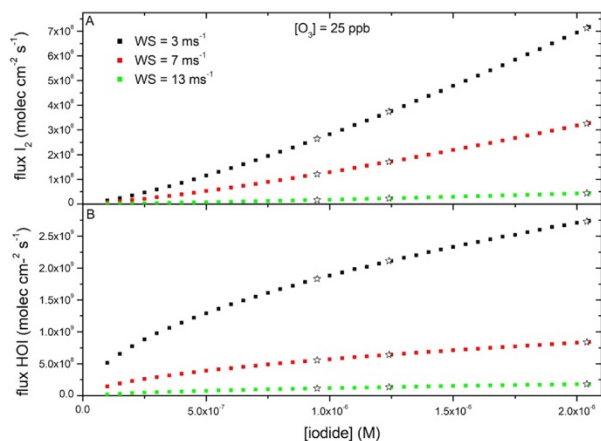
Figure S1. Selected depth profile data from the BoBBLe cruise in the Bay of Bengal, showing exceptionally high surface and subsurface iodide concentrations. Station AR shown by red circle, underway samples BS3 and BS8 shown by blue square and magenta diamond respectively. Note the high salinity core of Summer Monsoon Current (SMC) evident in stations with grey & brown triangle symbols. Figure prepared using Ocean Data View (Schlitzer 2014).

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16 Figure S2. Sea surface height anomaly (SLA, m) for 26-30 June 2016 and BoBBLe station  
17 positions, with high iodide stations indicated by red crosses. Green areas show negative sea  
18 level anomalies, where upwelling is taking place, indicative of Sri Lanka Dome area. Dataset  
19 (Zlotnicki, Qu, and Willis 2016) accessed [2017-01-21] at [https://doi.org/10.5067/SLREF-](https://doi.org/10.5067/SLREF-CDRV1)  
20 [CDRV1](https://doi.org/10.5067/SLREF-CDRV1). Figure prepared using Ocean Data View (Schlitzer 2014).



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 22 Figure S3: Predicted fluxes for HOI and I<sub>2</sub> emissions (molecules cm<sup>-2</sup> s<sup>-1</sup>) as a function of the  
 23 aqueous iodide concentration (M) for a fixed ozone concentration of 25 ppb and three different  
 24 wind speeds (black: 3 ms<sup>-1</sup>, red: 7 ms<sup>-1</sup>, green: 13 ms<sup>-1</sup>), calculated using the parametrisation in  
 25 (Carpenter et al. 2013). The stars symbols show the predicted fluxes for the high (>600nM)  
 26 iodide concentrations measured in the tropical Indian Ocean during the BoBBLe cruise.  
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