

**Article title:** Seasonal variations in viral distribution, dynamics and viral mediated host mortality in the Arabian Sea.

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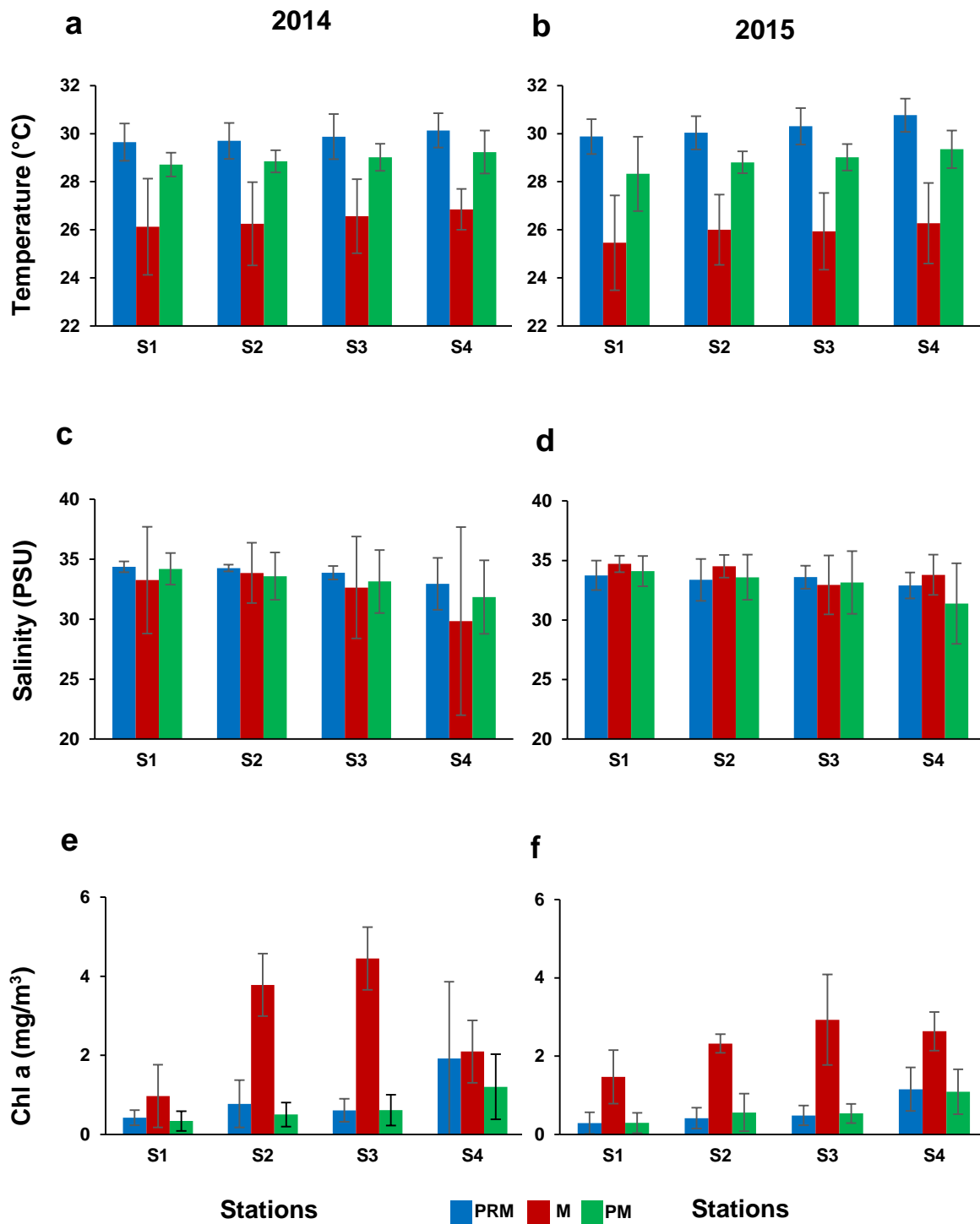
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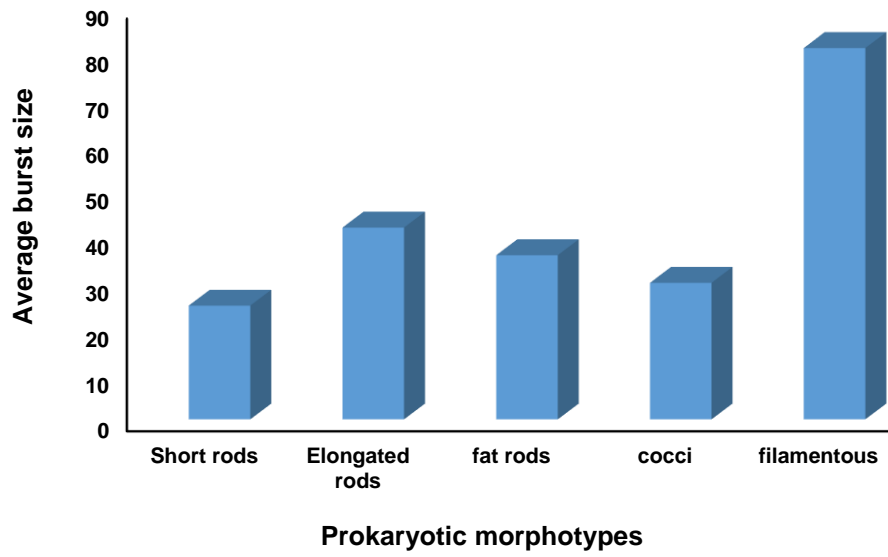
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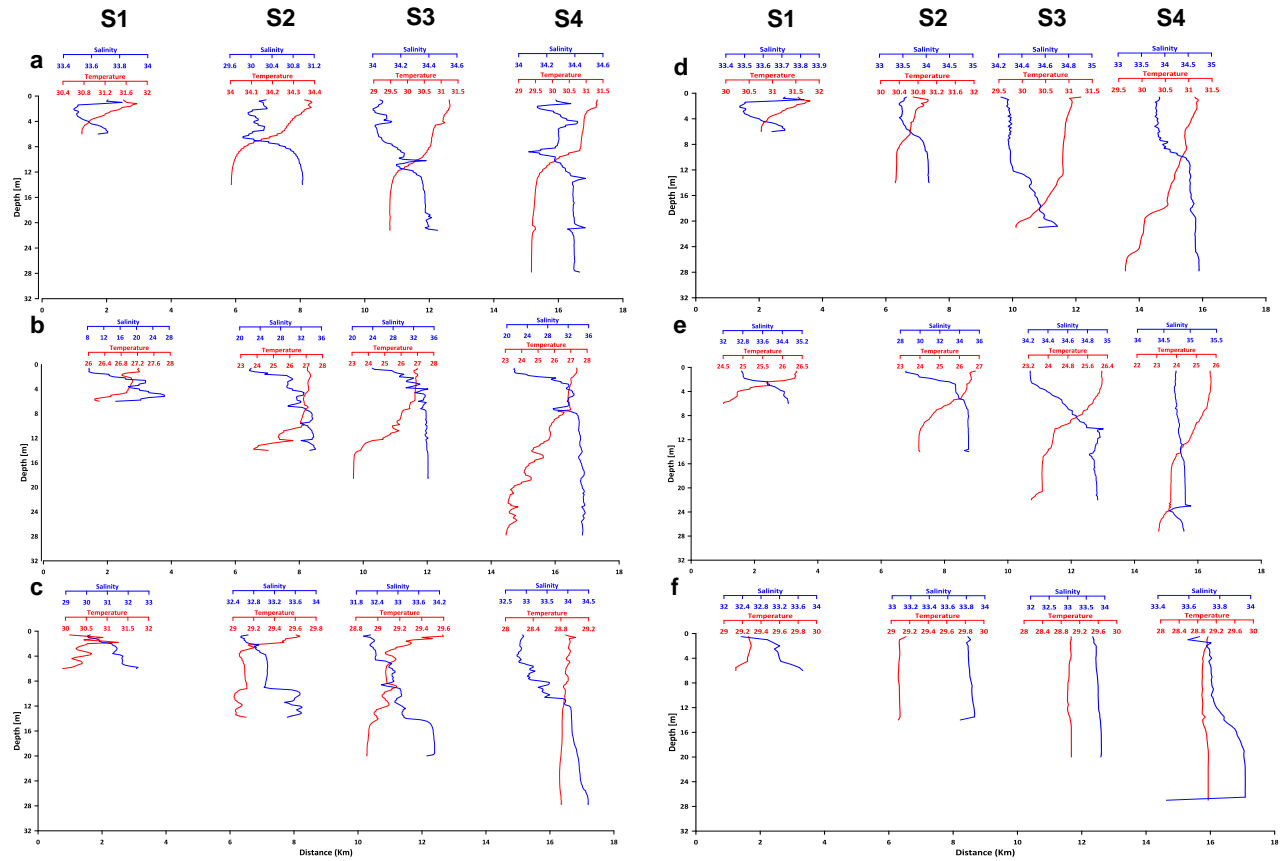
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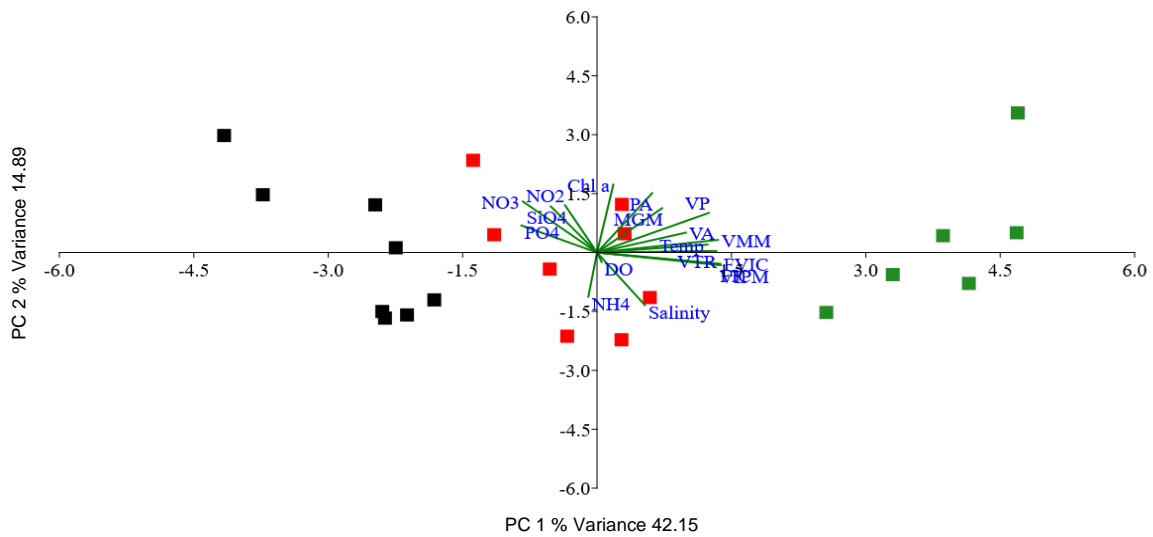
**Online Resource 1** Variations in (a & b) temperature, (c & d) salinity and (e & f) Chl a at the four stations, S1-S4 during pre monsoon (PRM, blue), monsoon (M, red) and post monsoon (PM, green)



**Online Resource 2** Variations in the average number of progenies produced per infected cells (burst size) of different prokaryotic morphotypes



**Online Resource 3** Vertical profiles of temperature and salinity illustrating the seasonal changes in hydrography. (a-c) PRM (pre monsoon), M (monsoon) & PM (post monsoon) seasons in 2014, (d-f) PRM, M & PM seasons in 2015. X-axis represents the distance (in kilometers) of the stations from shore



**Online Resource 4** Principal component analysis (PCA) representing different biological and physico-chemical factors influencing viral processes in the study region during 2014. Premonsoon (PRM, green), monsoon (M, black), and post monsoon (PM, red). Abbreviations: viral abundance (VA), prokaryotic abundance (PA), viral production (VP), viral turnover rate (VTR), frequency of visibly infected cells (FVIC), frequency of infected cells (FIC), viral induced prokaryotic mortality (VIPM), viral mediated mortality of phytoplankton (VMM), microzooplankton grazing mortality (MGM), chlorophyll *a* (Chl *a*), temperature (Temp), dissolved oxygen (DO), nitrate (NO<sub>3</sub>), nitrite (NO<sub>2</sub>), ammonium (NH<sub>4</sub>), phosphate (PO<sub>4</sub>) and silicate (SiO<sub>4</sub>)