

Coastal Nitrogen Drives Respiration Quotient in the Southern California Bight

Allison R. Moreno^{1,2}, Adam J. Fagan³, and Adam C. Martiny^{2,3}

Affiliations:

¹ Department of Ocean Sciences, University of California, Santa Cruz, CA, USA

² Department of Ecology and Evolutionary Biology, University of California, Irvine, CA, USA

³ Department of Earth System Science, University of California, Irvine, CA, USA

1. Supplementary Information

1.1. Supplementary Figures

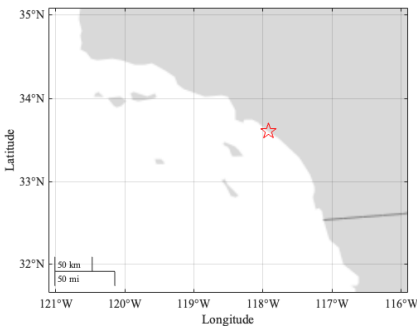


Figure S1. Microbes in the Coastal Region of Orange County (MICRO) time-series sampling location at Newport Pier (33.608°N and 117.928°W) in Newport Beach, CA.

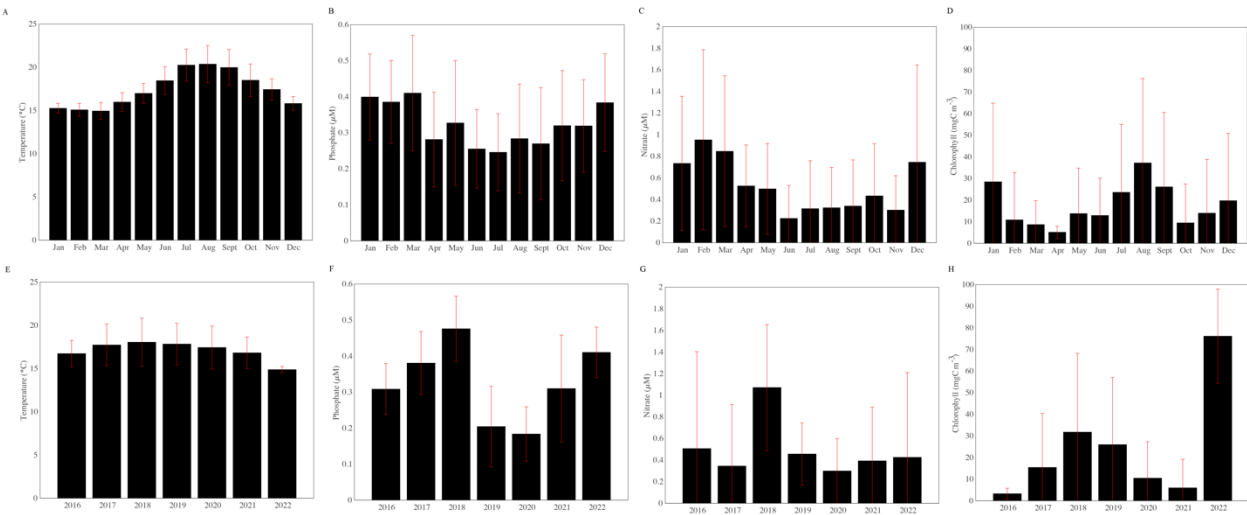


Figure S2. Average monthly and annual environmental parameter trends. A/E. Temperature. B/F. Phosphate. C/G. Nitrate. D/H. Chlorophyll. Red lines represent the standard deviation from the average.

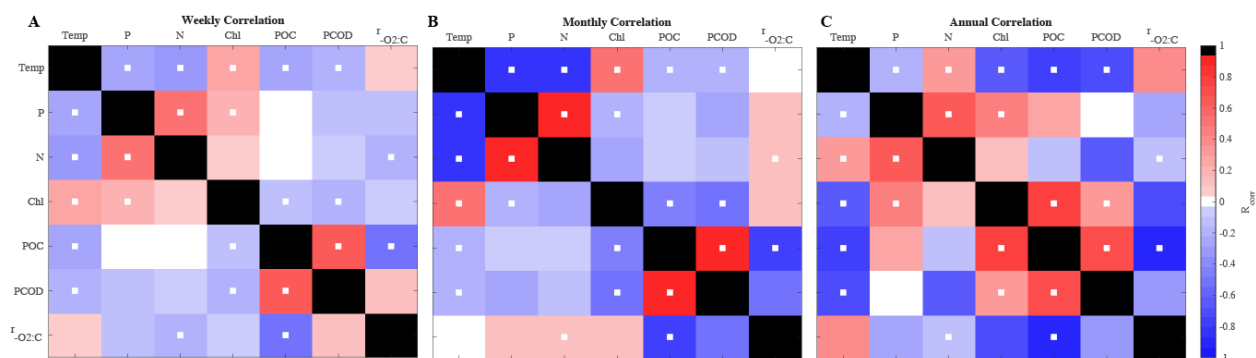


Figure S3. Covariations between all physical, chemical, and biological parameters. A. Weekly correlations. B. Monthly correlations. C. Annual correlations. White squares represent statistical significance at p-value < 0.05.

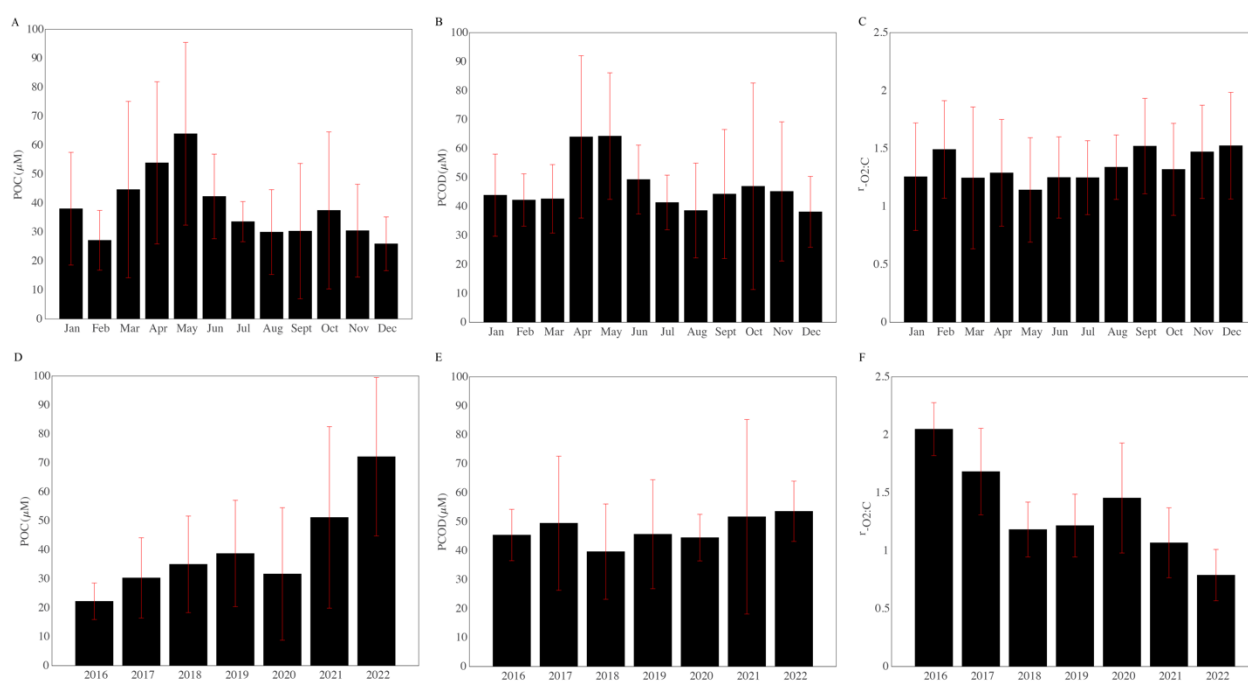


Figure S4. Average monthly and annual particulate organic matter and ratio trends. A/D POC concentrations. B/E. PCOC concentration. C/F. $r_{O_2:C}$. Red lines represent the standard deviation.

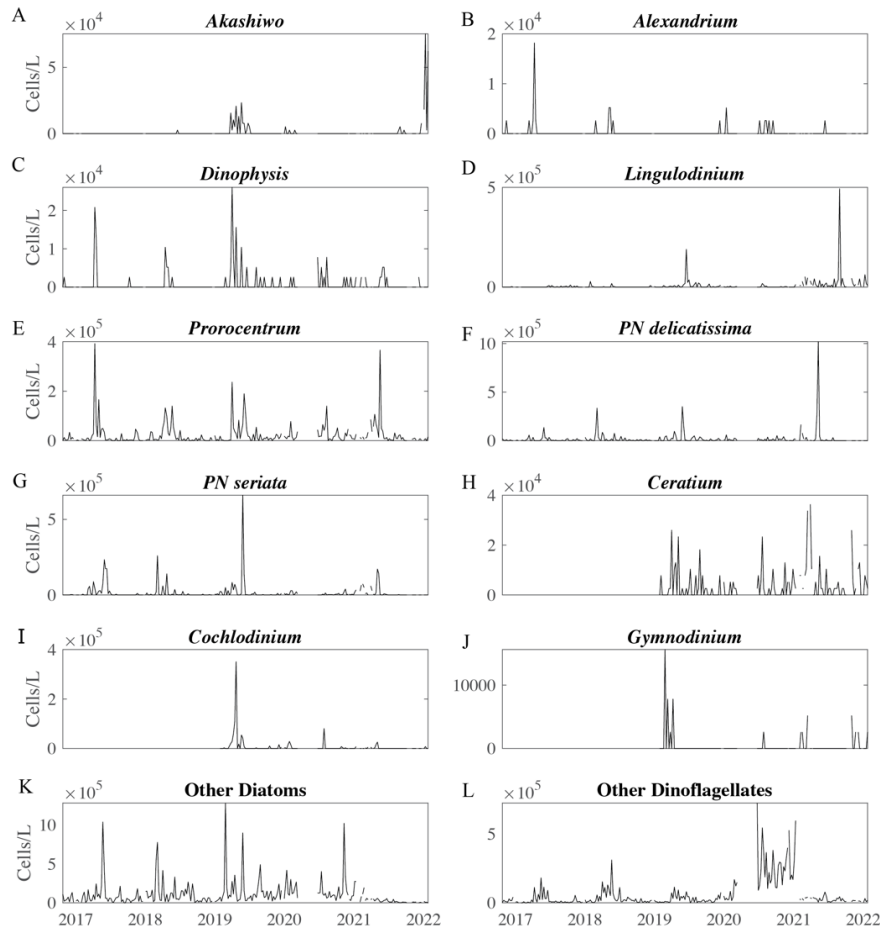


Figure S5. Primarily large phytoplankton (diatoms and dinoflagellates) abundance over time.

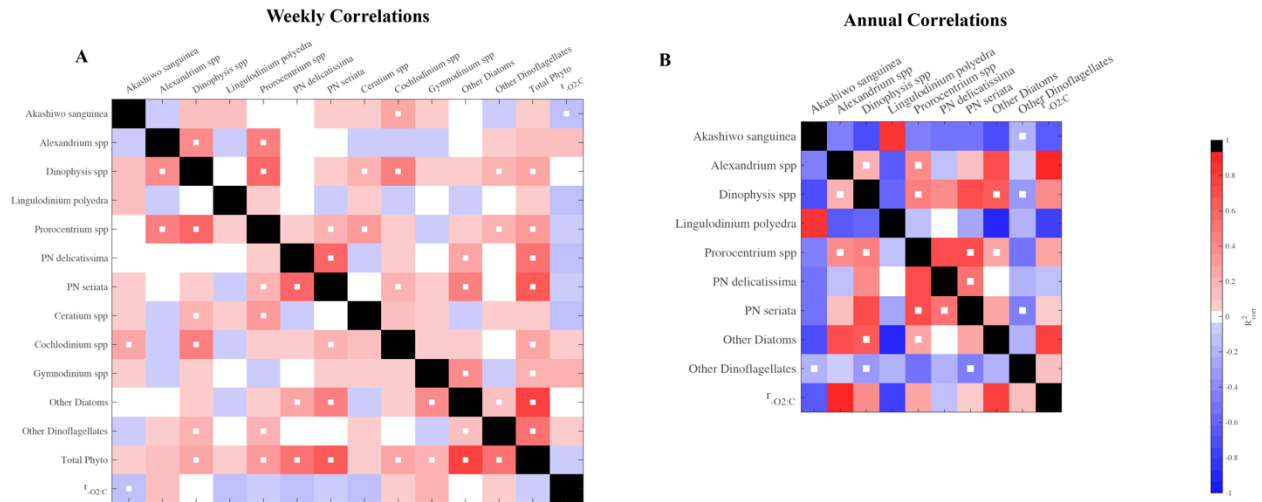


Figure S6. Correlations between all large phytoplankton species and $r_{02:C}$. A. Weekly and B. Annual correlations. White squares represent statistically significant correlations ($p\text{-value} \leq 0.05$).

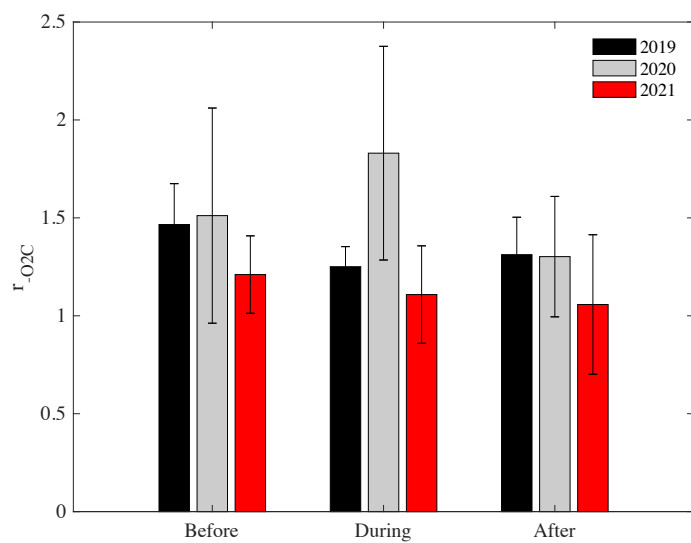


Figure S7. Annual differences in $r_{-O2:C}$ during the oil spill timeframes. Average $r_{-O2:C}$ in 2019 (black), 2020 (grey), and 2021 (red). Error bars represent the standard deviation.