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Supplement of

The influence of environmental variability on the biogeography of coccolithophores and diatoms in the Great Calcite Belt

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Table S1: Spearman's rank correlation coefficients for the environmental variables. Significant correlations are denoted as follows: $p < 0.0001^{***}$, $p < 0.001^{**}$, $p < 0.01^*$, $p < 0.05$

| | SST | Salinity | MLD | E _{MLD} | TOxN | PO ₄ | Si(OH) ₄ | NH ₄ | A _T | C _T | pH |
|----------------------|------------------|------------------|------------------|------------------|------------------|------------------|---------------------|------------------|------------------|------------------|-------|
| Salinity | 0.781*** | | | | | | | | | | |
| MLD | -0.596** | -0.474 | | | | | | | | | |
| E _{MLD} | 0.681*** | 0.621** | -0.903*** | | | | | | | | |
| TOxN | -0.945*** | -0.821*** | 0.641** | -0.729*** | | | | | | | |
| PO ₄ | -0.963*** | -0.807*** | 0.625** | -0.711*** | 0.961*** | | | | | | |
| Si(OH) ₄ | -0.667** | -0.429 | 0.520* | -0.467 | 0.702*** | 0.700*** | | | | | |
| NH ₄ | -0.798*** | -0.648** | 0.507* | -0.459 | 0.704*** | 0.753*** | 0.637** | | | | |
| A _T | -0.953*** | -0.781*** | 0.518* | -0.600** | 0.890*** | 0.918*** | 0.672*** | 0.819*** | | | |
| C _T | -0.981*** | -0.814*** | 0.581* | -0.669*** | 0.959*** | 0.981*** | 0.690*** | 0.774*** | 0.946*** | | |
| pH | 0.137 | 0.309 | -0.189 | 0.285 | -0.378 | -0.326 | -0.424 | 0.005 | -0.105 | -0.261 | |
| Ω _{calcite} | 0.962*** | 0.835*** | -0.567* | 0.684*** | -0.961*** | -0.979*** | -0.684*** | -0.728*** | -0.900*** | -0.983*** | 0.352 |

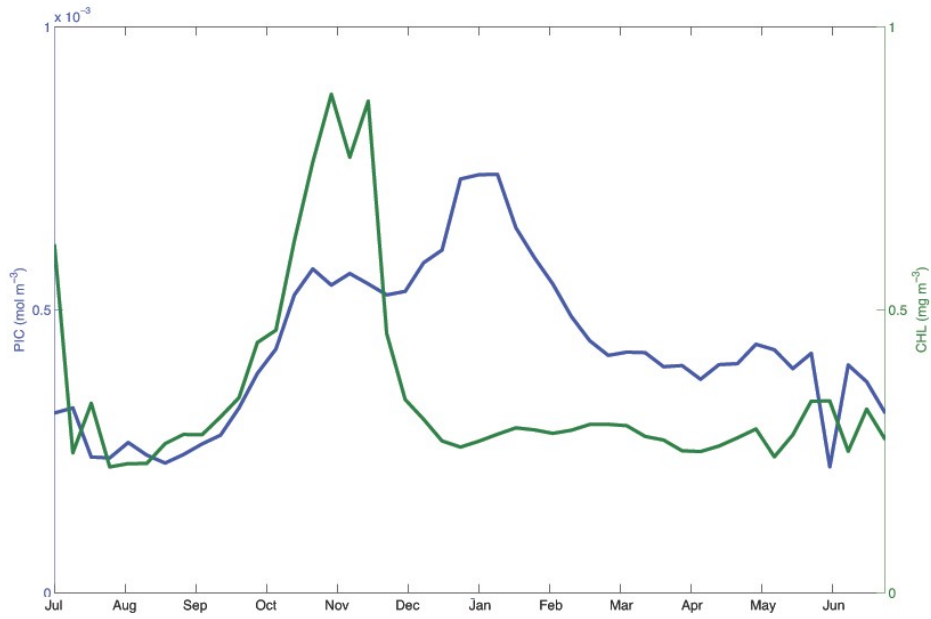


Figure S1: Chl *a* (green) and PIC (blue) climatological (10 year averaged) time series for the area 42-47°S and 48-53°E, surrounding Crozet Island courtesy of Jason Hopkins. The PIC peaks around two months later (January - February) than the Chl *a* peak (November) in this region of the Great Calcite Belt

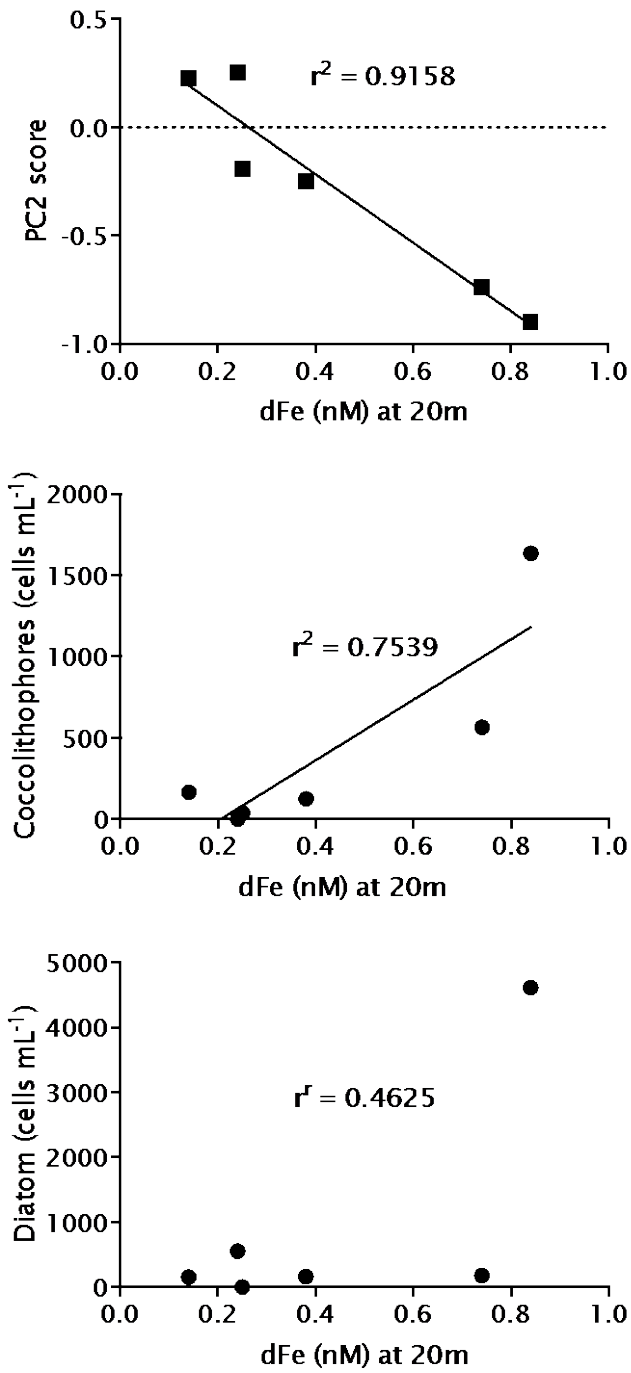


Figure S2: Relationships between dissolved iron in the GCB and (A) PC2 scores; (B) Coccolithophore abundance; (C) Diatom abundance