CHLOROPHYLL-A SEASONAL VARIABILITY IN AUSTRALIAN WATERS

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Surface Chl-a concentration used as an indicator of marine primary productivity is one of the key factors in understanding biogeochemical processes and exchanges in the ocean system. Satellite ocean colour observations provide high spatial and temporal resolution maps of Chl-a concentration, but need to be linked with model information to understand the physical and biological processes that drive variability.

We use a 10-year time series of MODIS chl\_OC3 to characterise the meso-scale patterns of seasonal and inter-annual variability in surface Chl-a and compare these with outputs from the Ocean Forecasting Australia Model. Two model runs with different forcing fluxes are compared to test the contributions of physical drivers versus the bio-geochemical components. Fourier series analysis revealed some agreement in characteristics of the annual and semi-annual cycles of Chl-a as well as some areas of significant difference between data and models. Examples are given that illustrate differences in processes captured by the two versions of the model.

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