



Figure 4 | Temporal variability in phytoplankton trends. (a) GAM estimates of Chl as a discrete (points) or smooth function (lines) of yearly variability in each region ($n=10$). For each initial year, Chl is the arithmetic, rather than model-estimated mean. Temporal data availability is tick-marked on the x-axis. (b) Seasonal patterns of Chl as a smooth function of day of year in each northern (blue), equatorial (red), and southern (green) ocean. Shaded areas represent approximate 95% Bayesian credible limits around each estimate.