Auxiliary material for
Global sea-surface nitrate fields estimated from remotely sensed sea-surface temperature, chlorophyll and modeled mixed layer depth

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Introduction

This auxiliary material contains one supplementary Figure and one supplementary data set. Figure fs01 shows the results of the error analysis described in section *3.3 Error analysis*. The data set is a netCDF file, "ds01.nc", that contains local coefficients obtained from the linear regression, $\beta_{sst,}$ β_{MLD}, $\beta_{Chl,}$ C, for each oceanic pixel on a 1° x 1° resolution grid. These coefficients can be combined with data from SST, surface Chl, and MLD to estimate surface nitrate concentrations in the global ocean following Equation 2.

Data

1. ds01.nc: netCDF file of 6 variables (var) and 2 dimensions (dim) with local coefficients for global nitrate estimation.

1.1 var1 (dim1): Longitude (size[360 1])
1.2 var2: (dim2) Latitude (size[180 1])
1.3 var3: Constant coefficient *C* (size[360 180])
1.4 var4: SST coefficient (size[360 180])
1.5 var5: MLD coefficient (size[360 180])
1.6 var6: Chl coefficient (size[360 180])

Figures

fs01.pdf - Monthly predicted original (green continuous line) and predictions obtained with high (a = 1, red continuous line "noisy"), medium (a = 0.25, cyan continuous line noisy025), and low (a = 0.01, black continuous line "noisy01") noise levels added to the predictor datasets of nitrate concentrations for HOT (a), BATS (b), and Munida (c) from January 2005 to December 2010. In-situ data: blue dashed line. (d) Global distribution of relative differences between original predicted nitrate (Figure 1a) and nitrate predicted with the maximum estimated random error induced in the predictive data set (a=0.01).