NOTE ON UCSB GLOBAL CDOM PROJECT BOTTLE FILES

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We have appended selected CDOM spectroscopy data to the hydrographic bottle data files released by the Repeat Hydrography Project office (ushydro.ucsd.edu). The variables are:

acdom325, acdom340, acdom380, acdom412: Absorption coefficient (m⁻¹) of 0.2 µm filtered seawater at 325 nm, 340 nm, etc.

Slog, Snlf: Exponential spectral slope parameters (nm⁻¹) for the spectral region from 320 nm to the limit of detection (when the absorption coefficient drops below 0.03 m⁻¹), computed by: linear regression on natural log-transformed absorption spectrum (Slog) and non-linear exponential curve fit to the same spectral region (Snlf).

Each appended variable has a WHP-analog quality flag associated with it, where 2=good data, 3=questionable, 4=bad, and 9=not collected. Other quality flags are not used in these files. The value -999 was used as a placeholder for missing data.

Absorption spectra for all reported samples were acquired using the WPI UltraPath liquid waveguide spectrophotometer with an effective optical pathlength of approximately 1.943 m, with sequential scans of milli-Q water as blanks. Effective spectral bandwidth of the radiometer is 2 nm. Spectra were corrected for time-dependent baseline drift and salinity-dependent refractive index changes using experimentally derived functions. A full description of the methods used is in progress.

Our data have been synchronized with previously reported hydrographic data by matching station, cast, and Niskin bottle numbers.

Because of uncertainties in the salinity-dependent refractive index correction, these data are to be considered preliminary at this time. Our waveguide has apparently changed its refractive index response over time. Data collected in 2003 and 2004 are presented using the original correction factors (experiment 4), and newer data are presented using correction factors prepared in 2007 (experiment 7a).

The Repeat Hydrography office may also update the physical and chemical data in these files at some point in the future. We will endeavor to keep these data up to date.