



GLOBAL POC SYNTHESIS USING OCEAN COLOR MEASUREMENT CALIBRATED WITH JGOFS AND WOCE DATA ON BEAM ATTENUATION AND POC

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Discrete samples of particulate organic carbon (POC) concentration obtained in the Atlantic, Pacific, Indian and Southern oceans during the entire JGOFS program were used to calibrate synchronously measured beam attenuation profiles for continuous POC determination. The resulting regressions were applied to a global set of WOCE, SAVE, and other beam attenuation data collected in our lab in order to assess horizontal and vertical distribution of the POC. POC concentration averaged over one attenuation depth of the upper ocean was related to the SeaWiFS-derived ocean color products. A correlation coefficient of 0.82 was obtained for a log regression of POC and normalized water-leaving radiance at 555 nm ($L_{wn}(555)$) in the South Atlantic. There is an excellent correlation of the average POC concentration with $L_{wn}(555)$ however, the POC below one attenuation depth is not sensed by the satellite. Based on these ocean-wide regressions, global seasonal maps of the surface POC concentration were created.