

**FRANKLIN CRUISES FR 8/90, 5/92 AND 8/93
DATA DOCUMENTATION
JGOFS WESTERN EQUATORIAL PACIFIC PROCESS STUDY**

[1] General:

Parameter: Chlorophyll and phytoplankton pigments
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List of Parameters: chlorophyll c3 (chl c3), chlorophyll c1+c2 (chl c1+c2), 19'-butanoyloxyfucoxanthin (but-fuco), 19'-hexanoyloxyfucoxanthin (Hex-fuco), diadinoxanthin (Diadino), zeaxanthin (Zeax), chlorophyll b+divinyl chlorophyll b (chl b + DV chl b), chlorophyll a + divinyl chlorophyll a (chl a + DV chla), B,e-carotene (B,e-car)

List of Units: $\mu\text{g L}^{-1}$ (water samples)
 $\mu\text{g} \cdot \text{m}^{-2} \cdot \text{d}^{-1}$ (sediment trap samples)

[2] Sampling:

Gear (e.g. CTD, pump, etc.): CTD; 10 litre niskin bottles
Standard Depths: Hydrochemistry depths: see Hydrochemistry data
Chemicals used: none
Special Procedures: Samples collected and filtered under subdued lighting, stored in liquid nitrogen until analysis.
Comments and Notes: From FR 9308 only. Water column samples taken between 2°N and 3°S from chlorophyll maximum only.

3] Analysis:

Instrument: Waters HPLC, comprising comprising a 600 controller, 717 plus refrigerated autosampler and a 996 photo-diode array detector.
Method: See Wright et al. (1991) Marine Ecology Progress Series, 77, 183-196.
Precision: Coefficient of variation of 2%. Detection limits for all pigments between 0.005 and 0.01 $\mu\text{g l}^{-1}$.
Comments: Pigment fluxes for sediment trap samples are determined using the average weight of material collected in traps at the same depth and for the same deployment.

[4] Results:

Quality of Data: FR08/93 data presented of good quality.
Known Problems: None.

[5] Brief description of analytical method:

Wright, S.W.; S.W. Jeffrey, R.F.C. Mantoura, C.A. Llewellyn, T.Bjornland, D. Repta, and D. Welschmeyer. Improved HPLC method for the analysis of chlorophylls and carotenoids from marine phytoplankton. Marine Ecology Progress Series 77, 183-196, 1991.

[6] Comments:

Chlorophyll samples for profiles from CTD casts on FR 9308 were lost when a liquid nitrogen dewar leaked, and the samples warmed up and degraded. A few chlorophyll and pigment samples were taken from the chlorophyll maximum