

Table 1 A comparison of *Prochlorococcus* cell concentration, growth and mortality rates, carbon production and contribution to the total primary production. All depth-integrated data are for the upper 150 m of the water column

Region	Equatorial Pacific		Subtropical North Pacific	
	Western	Eastern	ALOHA	
Station			22° 45' N, 158° W	
Location	0°, 167° E	0°, 150° W		
Cruise	FLUPAC	FLUPAC	HOT49	HOT55
Date	Oct 1994	Oct 1994	Sept 1993	Jul 1994
Environment	Oligotrophic	Mesotrophic	Oligotrophic	Oligotrophic
Surface NO <sub>3</sub> concentration (μM) <sup>a</sup>	0	2.8	0	0
Nitracline depth (m) <sup>a</sup>	90		126	125
Integrated NO <sub>3</sub> conc. (μmol cm <sup>-2</sup> )	57	92	5.3	2.8
Integrated chl <i>a</i> conc. (mg m <sup>-2</sup> ) <sup>a</sup>	25.2	28.6	19.1	22.8
Integrated <i>Prochlorococcus</i> abundance (cm <sup>-2</sup> )				
Minimum	8.35 × 10 <sup>8</sup>	3.97 × 10 <sup>8</sup>	1.63 × 10 <sup>9</sup>	1.95 × 10 <sup>9</sup>
Maximum	1.15 × 10 <sup>9</sup>	6.74 × 10 <sup>9</sup>	2.16 × 10 <sup>9</sup>	2.61 × 10 <sup>9</sup>
Integrated growth rates (d <sup>-1</sup> )	0.61	0.60	0.53	0.57
Depth of maximum μ (m)	70	40	45	45
Integrated mortality rates (d <sup>-1</sup> )	0.59	0.47	0.45	0.54
Integrated <i>Prochlorococcus</i> production (mg C m <sup>-2</sup> d <sup>-1</sup> )	409	183	620	743
Integrated total primary production (mg C m <sup>-2</sup> d <sup>-1</sup> )				
<sup>14</sup> C <sup>a</sup>	670	1330	541	584
Gross	1039	2062	839	905
<i>Prochlorococcus</i> contribution to gross carbon production (%)	39	9	74	82

<sup>a</sup>Nutrient, chlorophyll and primary production data for Station ALOHA were obtained from the HOT data base via ftp (mana.soest.hawaii.edu). Data for FLUPAC cruise were obtained from the data center in Orstom, Centre de Nouméa with the assistance of P. Polidori except for the primary production data that were provided by A. Le Bouteiller