

Appendix H: Output Data

PROFILE MODE				
File Type	Parameters	Wavelengths	Depth Intervals	
ASCII FILES				
Ed_L2s.dat	Ed(z) (Wt, cond, tilt, pvel)	all	0.1 m	
Lu_L2s.dat	Lu(z) (Wt, cond, tilt, pvel)	all	0.1 m	
Es_L2s.dat	Es(t)	all		
Ed_L3a.dat	Ed(z) (Wt, cond, tilt, pvel)	2 nm intervals	1 m	
Lu_L3a.dat	Lu(z) (Wt, cond, tilt, pvel)	2 nm intervals	1 m	
Es_L3a.dat	Es(t)	2 nm intervals		
L4.dat	K_LU(z)	2 nm intervals	1 m	
	K_Ed(z)	2 nm intervals	1 m	
	Ed(0+)	2 nm intervals		
	Ed(0-)	2 nm intervals		
	Es(0-)	2 nm intervals		
	Es(0+)	2 nm intervals		
	Lu(0-)	2 nm intervals		
	Tw, Cond, Cond_Ratio, Salinity, Density, Sigma-T			1 m
	FLUOR(z) ()			1 m
	PAR(z), PAR(%)(z) (LightLevel)			1 m
	PAR(0+)(t)			
	B(470), Bw(470), Bp(470), bbp(470), bb(470)			1 m
	B(700), Bw(700), Bp(700), bbp(700), bb(700)			1 m
	L4_KPAR.dat	KPAR(z)		1 m
SRF_L4.dat	AVG_ES (same as Es(0+))	2 nm intervals		
	K_LU (average)	2 nm intervals		
	K_SE_LU (average)	2 nm intervals		
	K_ED (average)	2 nm intervals		
	K_SE_ED (average)	2 nm intervals		
	LU(0-) (same as L4.dat)	2 nm intervals		
	ED(0-) (same as L4.dat)	2 nm intervals		
	ED(0+) (same as L4.dat)	2 nm intervals		
SUBSET FILES				
profile_subset.txt	Tw(z), Cond(z), Salinity(z), Density(z)		1 m	
	FLUOR(z)		1 m	
	PAR(z)		1 m	
	PAR(0+)(t)			
	LightLevel(z)		1 m	
	KPAR		1 m	
	Ed(z)	subset	1 m	
	Lu(z)	subset	1 m	
prosurf_subset.txt	Es(t)	subset		
	Es(0+) (average)	subset		

SURFACE MODE			
File Type	Parameters	Wavelengths	Depth Intervals
ASCII FILES			
Ed_L2s.dat	Ed(z) (Wt, cond, tilt, pvel)	all	0.1 m
Lu_L2s.dat	Lu(z) (Wt, cond, tilt, pvel)	all	0.1 m
Es_L2s.dat	Es(t)	all	
MC_L4.dat	AVG_ES (i.e. Es(0+))	2 nm intervals	
	K_LU (average)	2 nm intervals	
	K_SE_LU (average)	2 nm intervals	
	K_ED (average)	2 nm intervals	
	K_SE_ED (average)	2 nm intervals	
	LU(0-)	2 nm intervals	
	ED(0-)	2 nm intervals	
	Lw	2 nm intervals	
	LwSE(+)	2 nm intervals	
	LwSE(-)	2 nm intervals	
	ED(0+)	2 nm intervals	
	F0	2 nm intervals	
	Lwn	2 nm intervals	
	FLUOR(z)		all
	BETA_BLUE(z)		all
	BETA_RED(z)		all
SUBSET FILES			
surface_subset.txt	AVG_ES (i.e. Es(0+))	subset	surface
	Lwn	subset	surface

UNDERWAY MODE			
File Type	Parameters	Wavelengths	Time Intervals
ASCII FILES			
Es_L2s.dat	Es(t)	all	2 s
Es_L3a.dat	Es(t)	2 nm intervals	2 s
L4.dat	Es(0-) average	2 nm intervals	average
	Es(0+) average	2 nm intervals	average
	PAR(0+)(t)	N/A	2 s
SUBSET FILES			
underway_subset.txt	PAR(0+)(t)	N/A	2 s

DARK MODE (ECO PUC)		
File Type	Parameters	Time Intervals
L1a.hdf	BETA_BLUE (dark counts)	2 s
	BETA_RED (dark counts)	2 s
	FLUOR (dark counts)	2 s

Appendix I: Parameters

Wt, Tw	water temperature	
cond	conductivity	
cond_ratio		
salinity	salinity	
density	density	
Sigma-T	Sigma-T	
tilt	degrees of profiler from vertical	
pvel	velocity	
Ed	downwelling irradiance (in water)	
Lu	upwelling radiance (in water)	
Es	reference sensor downwelling irradiance (above water)	
K_LU(z)	diffuse attenuation coefficient for Lu	derived from Lu
K_Ed(z)	diffuse attenuation coefficient for Ed	derived from Ed
Ed(0+)	Ed just above the surface	derived from Ed
Ed(0-)	Ed just below the surface	derived from Ed
Es(0-)	Es just below the surface	derived from Es
Lu(0-)	Lu just below the surface	derived from Lu
Lw, Lu(0+)	Lu just above the surface	derived from Lu
Lwn	normalized water leaving radiance	derived from Lw and F0/Es
FLUOR	fluorescence at 695 nm	
BETA_BLUE	470 nm	
BETA_RED	700 nm	
PAR(z)	PAR	derived from Ed
PAR(%) (z), LightLevel	percentage of PAR relative to the surface	derived from Ed and PAR(0+)
PAR(0+)	PAR just above the surface	derived from Es
KPAR(z)	Instantaneous diffuse attenuation coefficient for PAR	derived from PAR(z) and PAR(0+)
B(λ)	total volume scattering	measured
Bw(λ)	water volume scattering	derived from salinity
Bp(λ)	particle volume scattering	derived from B and Bw
bbp(λ)	particle backscattering coefficient	derived from Bp
bb(λ)	total backscattering coefficient	derived from bbp