

Mark	Latitude	Longitude	Depth	Distance to		Ship Spd	tSteam to	tStart	tOps	tDelay	tEnd	Local Start Time		Z Start Time		Lat		Lon	
				nm	km		knts	hrs	hrs	hrs	hrs	hrs	hrs	Day	Hr.Min	Day	Hr.Min	Deg	Min
Cape Town	-33.9170	18.3670		0	0	10	0	0	0	0	0	13	09.00	13	07.00	-33	-55.0200	18	22.0200 <- keep this line decimal
WP1	-35.1000	18.6000		71.922	133.2	10	7.2	7.2	0	0	7.2	13	16.12	13	14.12	-35	-6.0000	18	36.0000
WP2	-35.1667	21.0000		119.59	221.48	9	12	19.2	0	0	19.2	14	04.09	14	02.09	-35	-10.0020	21	0.0000 test CTD on transit to CTD01, ~noon in >1000 m
CTD01 (P5)	-35.7338	28.9000	4563	394.89	731.33	8	43.9	63	2.9	3	68.9	16	00.02	15	22.02	-35	-44.0280	28	54.0000
CTD02 (P4-P5)	-35.5333	28.7770	4475	13.5	25.001	8	1.7	70.6	2.8	1	74.4	16	07.35	16	05.35	-35	-31.9980	28	46.6200 (sunrise 0600, sunset 1900)
CTD03 (P4)	-35.3460	28.6622	4438	12.609	23.351	8	1.6	76	2.8	1	79.8	16	12.59	16	10.59	-35	-20.7600	28	39.7320
CTD04 (P3-P4)	-35.1517	28.5444	4414	13.051	24.17	8	1.6	81.4	2.8	1	85.2	16	18.24	16	16.24	-35	-9.1020	28	32.6640
CTD05 (P3)	-34.9580	28.3417	4374	15.394	28.509	8	1.9	87.1	2.8	0.5	90.4	17	00.07	16	22.07	-34	-57.4800	28	20.5020
CTD06 (G)	-34.8219	28.3453	4380	8.168	15.127	8	1	91.4	2.8	0.2	94.4	17	04.24	17	02.24	-34	-49.3140	28	20.7180
CTD07 (P2)	-34.6730	28.2566	4248	9.9664	18.458	8	1.2	95.6	2.7	0.2	98.5	17	08.37	17	06.37	-34	-40.3800	28	15.3960
CTD08 (F)	-34.5387	28.1622	4010	9.3291	17.277	8	1.2	99.7	2.6	0.2	102.4	17	12.40	17	10.40	-34	-32.3220	28	9.7320
CTD09 (P6)	-34.4000	28.0944	3988	8.9809	16.633	8	1.1	103.6	2.5	0.2	106.3	17	16.33	17	14.33	-34	-24.0000	28	5.6640
CTD10 (E)	-34.2865	28.0259	3720	7.6166	14.106	8	1	107.3	2.4	0.2	109.9	17	20.15	17	18.15	-34	-17.1900	28	1.5540
CTD11 (D-E)	-34.1367	27.9393	3646	9.9691	18.463	8	1.2	111.1	2.4	0.5	114	18	00.06	17	22.06	-34	-8.2020	27	56.3580
CTD12 (D)	-34.0207	27.8633	3600	7.9225	14.673	8	1	115	2.3	0.5	117.8	18	03.57	18	01.57	-34	-1.2420	27	51.7980
CTD13 (C-D)	-33.8950	27.7981	3210	8.2112	15.207	8	1	118.8	2.1	0.5	121.4	18	07.49	18	05.49	-33	-53.7000	27	47.8860
CTD14 (C)	-33.7823	27.7198	2400	7.8057	14.456	8	1	122.4	1.7	0.5	124.6	18	11.24	18	09.24	-33	-46.9380	27	43.1880
CTD15 (B-C)	-33.7033	27.6869	1960	5.0152	9.2881	8	0.6	125.2	1.4	0.5	127.1	18	14.12	18	12.12	-33	-42.1980	27	41.2140
CTD16 (B)	-33.6536	27.6579	1275	3.3133	6.1363	8	0.4	127.5	1	0.5	129.1	18	16.32	18	14.32	-33	-39.2160	27	39.4740
CTD17 (A-B)	-33.5957	27.6250	1000	3.841	7.1135	8	0.5	129.6	0.9	0.5	130.9	18	18.33	18	16.33	-33	-35.7420	27	37.5000
CTD18 (A)	-33.5565	27.5989	340	2.6873	4.9768	8	0.3	131.3	0.5	0.5	132.3	18	20.17	18	18.17	-33	-33.3900	27	35.9340
CTD19 (P1-A)	-33.4633	27.5487	83	6.1254	11.344	8	0.8	133.1	0.4	0.5	133.9	18	22.04	18	20.04	-33	-27.7980	27	32.9220
CTD20 (P1)	-33.3438	27.4808	60	7.9274	14.681	8	1.0	134.9	0.4	5.5	140.8	18	23.56	18	21.56	-33	-20.6280	27	28.8480
P1	-33.3438	27.4808	60	0	0	8	0.0	140.8	3	3	146.8	19	05.48	19	03.48	-33	-20.6280	27	28.8480 recover tide gauge - check survey position
CTD21 (P1)	-33.3438	27.4808	60	0	0	8	0.0	146.8	0.4	0.5	147.7	19	11.48	19	09.48	-33	-20.6280	27	28.8480
CTD22 (P1-A)	-33.4633	27.5487	83	7.9274	14.681	8	1.0	148.7	0.4	0.5	149.5	19	13.40	19	11.40	-33	-27.7980	27	32.9220
CTD23 (A)	-33.5561	27.5951	320	6.0273	11.163	8	0.8	150.3	0.5	0.5	151.3	19	15.18	19	13.18	-33	-33.3648	27	35.7060
CTD24 (A-B)	-33.5957	27.6250	1000	2.805	5.1949	8	0.4	151.7	0.9	0.5	153	19	16.39	19	14.39	-33	-35.7420	27	37.5000
CTD25 (B)	-33.6571	27.6509	1264	3.9033	7.2289	8	0.5	153.5	1	9	163.6	19	18.32	19	16.32	-33	-39.4260	27	39.0540
A	-33.5561	27.5951	320	6.6678	12.349	8	0.8	164.4	5	0	169.4	20	05.24	20	03.24	-33	-33.3648	27	35.7060 recover CM mooring A (survey position)
B	-33.6571	27.6509	1264	6.6678	12.349	8	0.8	170.2	5	0	175.2	20	11.14	20	09.14	-33	-39.4260	27	39.0540 recover CM mooring B (survey position)
CTD26 (B-C)	-33.7033	27.6869	1960	3.3012	6.1139	8	0.4	175.6	1.4	0.5	177.6	20	16.39	20	14.39	-33	-42.1980	27	41.2140
CTD27 (C)	-33.7830	27.7155	2210	4.9896	9.2407	8	0.6	178.2	1.6	0.5	180.3	20	19.11	20	17.11	-33	-46.9800	27	42.9300
CTD28 (C-D)	-33.8950	27.7981	3210	7.879	14.592	8	1.0	181.2	2.1	0	183.4	20	22.14	20	20.14	-33	-53.7000	27	47.8860 if >midnight after CTD28 proceed to C?
CTD29 (D)	-34.0241	27.8648	3607	8.4282	15.609	8	1.1	184.4	2.3	0	186.7	21	01.24	20	23.24	-34	-1.4460	27	51.8880
C	-33.7830	27.7155	2210	16.265	30.123	8	2.0	188.8	5	0	193.8	21	05.47	21	03.47	-33	-46.9800	27	42.9300 recover CM mooring C
D	-34.0241	27.8648	3607	16.265	30.123	8	2.0	195.8	6	0	201.8	21	12.49	21	10.49	-34	-1.4460	27	51.8880 recover CM mooring D
CTD30 (D-E)	-34.1367	27.9393	3646	7.7077	14.275	8	1.0	202.8	2.4	0	205.1	21	19.46	21	17.46	-34	-8.2020	27	56.3580
CTD31 (E)	-34.2917	28.0358	3701	10.468	19.387	8	1.3	206.4	2.4	4	212.8	21	23.26	21	21.26	-34	-17.5020	28	2.1480
E	-34.2917	28.0358	3701	0	0	8	0.0	212.8	6	0	218.8	22	05.50	22	03.50	-34	-17.5020	28	2.1480 recover CM mooring E
CTD32 (P6)	-34.4000	28.0944	3988	7.1232	13.192	8	0.9	219.7	2.5	0	222.3	22	12.43	22	10.43	-34	-24.0000	28	5.6640

Mark	Latitude	Longitude	Depth	Distance to		Ship Spd	tSteam to	tStart	tOps	tDelay	tEnd	Local Start Time		Z Start Time		Lat		Lon		
				nm	km							Day	Hr.Min	Day	Hr.Min	Deg	Min	Deg	Min	
P6	-34.4000	28.0944	3988	0	0	8	0.0	222.3	4	0	226.3	22	15.16	22	13.16	-34	-24.0000	28	5.6640	survey & recover CPIES P6
CTD33 (F)	-34.5386	28.1725	3994	9.1806	17.002	8	1.1	227.4	2.6	7	237	22	20.25	22	18.25	-34	-32.3160	28	10.3500	
F	-34.5386	28.1725	3994	0	0	8	0.0	237	6	0	243	23	05.58	23	03.58	-34	-32.3160	28	10.3500	recover CM mooring F
CTD34 (P2)	-34.6728	28.2571	4248	9.0876	16.83	8	1.1	244.1	2.7	0	246.8	23	13.06	23	11.06	-34	-40.3680	28	15.4260	
P2	-34.6728	28.2571	4248	0	0	8	0.0	246.8	4	0	250.8	23	15.48	23	13.48	-34	-40.3680	28	15.4260	survey & recover CPIES P2
CTD35 (G)	-34.8233	28.3447	4276	10.029	18.573	8	1.3	252	2.7	6	260.8	23	21.03	23	19.03	-34	-49.3980	28	20.6820	
G	-34.8233	28.3447	4276	0	0	8	0.0	260.8	6	0	266.8	24	05.45	24	03.45	-34	-49.3980	28	20.6820	recover CM mooring G
CTD36 (P3)	-34.9581	28.4277	4374	9.083	16.822	8	1.1	267.9	2.8	0	270.7	24	12.54	24	10.54	-34	-57.4860	28	25.6620	
P3	-34.9581	28.4277	4374	0	0	8	0.0	270.7	4	0	274.7	24	15.39	24	13.39	-34	-57.4860	28	25.6620	survey & recover CPIES P3
CTD37 (P3-P4)	-35.1517	28.5444	4414	12.989	24.055	8	1.6	276.3	2.8	0	279.1	24	21.17	24	19.17	-35	-9.1020	28	32.6640	
CTD38 (P4)	-35.3459	28.6622	4438	13.045	24.16	8	1.6	280.7	2.8	0	283.5	25	01.42	24	23.42	-35	-20.7540	28	39.7320	
P4	-35.3459	28.6622	4438	0	0	8	0.0	283.5	4	0	287.5	25	04.30	25	02.30	-35	-20.7540	28	39.7320	survey & recover CPIES P4
CTD39 (P4-P5)	-35.5333	28.7770	4475	12.614	23.361	8	1.6	289.1	2.8	0	291.9	25	10.04	25	08.04	-35	-31.9980	28	46.6200	
CTD40 (P5)	-35.7332	28.8978	4563	13.418	24.85	8	1.7	293.6	2.9	0	296.4	25	14.34	25	12.34	-35	-43.9920	28	53.8680	
P5	-35.7332	28.8978	4563	0	0	8	0.0	296.4	4	0	300.4	25	17.26	25	15.26	-35	-43.9920	28	53.8680	survey & recover CPIES P5
P1	-33.3438	27.4808	60	159.79	295.93	8	20.0	320.4	0	0	320.4	26	17.25	26	15.25	-33	-20.6280	27	28.8480	continuous underway ADCP section
WP2	-35.1667	21.0000		340.77	631.11	10	42.6	363	0	0	363	28	12.00	28	10.00	-35	-10.0020	21	0.0000	
WP1	-35.1000	18.6000		119.59	221.48	10	12.0	375	0	0	375	28	23.58	28	21.58	-35	-6.0000	18	36.0000	
Cape Town	-33.9170	18.3670		71.922	133.2	10	7.2	382.2	0	0	382.2	1	07.09	1	05.09	-33	-55.0200	18	22.0200	
																				two weather days in hand

Mark	Latitude	Longitude	Depth	Distance	Ship Spd	tSteam	tStart	tOps	tDelay	tEnd	Local Start Time	Z Start Time
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	0000-0400	0400-0800	0800-1200	1200-1600	1600-2000	2000-0000
Chief Scientist		Lisa Beal				
CTD Computer Tech.		Courtney Schatzmann				
CTD Watch Leaders		John Calderwood		Ryan Engle		
LADCP	JL	Dian Putrasahan		Isabelle Giddy	Joni Lum	
CTD	KH	Madoda Khumalo		Greta Leber	Kath. Hutchinson	
CTD & satellite products		Marcello Passaro				
Mooring Team			Mark Graham			
- deck			Benita Maritz			
Mooring Team			Robert Jones			
- instruments			Adam Houk			
MAERI		Goshka Szczodrak		Miguel Izaguirre		
WHOI SSSGs		Amy Simoneau		Catie Graver		
			Arianna Johns			
Media & Outreach			Dallas Murphy			
			Valery Lyman			