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# event log
# version August 11, 1997
# US JGOFS Antarctic Environments Southern Ocean Process Study (AESOPS)
# NBP-9604 Site Survey cruise,  Nathaniel B. Palmer
# Dates:  from August 30, 1996 to September 24, 1996
# Chief Scientist: Bob Anderson
# <a href="/images/aesops/nbp9604.track.gif">Cruise track</a>
#
# Some activities such as aerosol sampling, sampling from the ships
# seawater system, continues underway sampling (weather, solar
# radiation, Sea Beam) observations are not reported in the log.
#
#
# year = Year cruise took place
# event = A unique number assigned to each over the side sampling activity.
#          This number is a composite of date and time UTC (GMT) in the form
#          MMDDHHmm that indicates the starting time of the sampling activity.
#          Generally, one event began as the preceding event ended.
# sta  = Station.  A unique number designating a general geographic location at
#          which a suite of sampling activities may occur; occupied sequentially
#          during the cruise.
# cast_type = a sampling activity code identifier, where:
#               CTD = CTD rosette bottle cast
#               TM  = Trace Metal free rosette bottle cast
# lat  = starting latitude for each event (negative = south) in decimal degrees
# lon  = starting longitude for each event (negative = west) in decimal degrees
# activity_and_comments = Identifies the sampling method, generally followed by
#          a sampling sequence number for that method.  CTD or Trace Metal (TM)
#          casts were also designated by a 8 digit unique number consisting of:
#          (3 digits for cruise, 3 digits for station, and 2 digits for sequence)
# seq  = is a sequential (within each station) entry in the bridge log of all
#          over the side activities for which gear was deployed.
# person = Name of the scientist(s) involved in the particular sampling event or
#          responsible for the resulting data.
# nd   = A code identifying "no data" used for missing data entries, incomplete
#          entries, or bad data.
#
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Handwritten annotations: MARK HUNTLEY SIO 3206=PALMER PROJ=0361 64 RECORDS 4 STA.

year	event	sta	cast_type	lat	lon	activity_and_comments	seq	pe
1996	08310444	0	CTD	-46.4002	-178.3570	CTD-1__96400001__1000m	1	Ma
1996	09060104	1	CTD	-64.1155	-169.7557	CTD-2__96400101__2500m	1	Ma
1996	09062019	2	CTD	-63.9078	-169.3640	CTD-3__96400201___500m	1	Ma
1996	09070100	2	nd	-63.8833	-169.2333	Multicore-1	2	Ar
1996	09070330	2	nd	-63.8833	-169.2333	Live_Net_Tow-1	3	Zł
1996	09080347	3	CTD	-62.0023	-170.0025	CTD-4__96400301__3000m	1	Ma
1996	09080637	3	nd	-61.9500	-170.0500	Multicore-2	2	Ar
1996	09081002	3	nd	-61.9572	-170.0718	Mocness-1	3	Zł
1996	09081220	3	CTD	-62.0008	-170.0035	CTD-5__96400302___500m	4	Ma
1996	09111542	4	CTD	-60.9992	-169.9997	CTD-6__96400401__3500m	1	Ma
1996	09111933	4	TM	-61.0182	-169.9882	TM-1___96400402___250m	2	Hu
1996	09112100	4	nd	-60.9337	-169.9365	Multicore-3_____failed	3	Ar
1996	09120000	4	nd	-60.9500	-169.9667	Mocness-2	4	Zł
1996	09120204	4	CTD	-60.9170	-169.8625	CTD-7__96400403___500m	5	Ma
1996	09130140	5	nd	-60.8012	-170.0005	Multicore-4_____failed	1	Ar
1996	09151841	6	CTD	-60.0850	-169.9655	CTD-8__96400601__4300m	1	Ma
1996	09152140	6	nd	-60.0765	-169.9560	Multicore-5_____failed	2	Ar
1996	09160215	6	nd	-60.0545	-169.9203	Gravity_Core-1__failed	3	Ma
1996	09160520	6	TM	-60.0068	-169.9202	TM-2___96400602___400m	4	Hu
1996	09160630	6	nd	-60.0052	-169.9082	Mocness-3	5	Zł
1996	09160745	6	nd	-59.9877	-169.8867	Live_Net_Tow-2	6	Zł
1996	09171830	7	nd	-56.9097	-170.1755	Gravity_Core-2	1	Ar
1996	09172216	7	nd	-56.9167	-170.1833	Mocness-4	2	Zł
1996	09182348	7	nd	-56.8852	-170.2562	Live_Net_Tow-3	3	Zł
1996	09180034	7	TM	-56.8690	-170.2553	TM-3___96400701___400m	4	Hu
1996	09181312	7	TM	-56.8427	-170.2902	TM-4___96400702___150m	5	Hu

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# event log
# version August  24, 1998
# US JGOFS Antarctic Environments Southern Ocean Process Study (AESOPS)
# NBP-9604a  Process cruise 1,  Nathaniel B. Palmer
# Dates:  from  October 2, 1996 to November 24, 1996
# Chief Scientist:  Walker Smith
# <a href="/images/aesops/nbp9604a.track.gif">Cruise track</a>
#
# Some activities such as aerosol sampling, sampling from the ships
# seawater system, continues underway sampling (weather, solar
# radiation, Sea Beam) observations are not reported in the log.
#
#
# year  =  Year cruise took place
# event =  A unique number assigned to each over the side sampling activity.
#          This number is a composite of date and time UTC (GMT) in the form
#          MMDDHHmm that indicates the starting time of the sampling activity.
#          Generally, one event began as the preceding event ended.
# sta   =  Station.  A unique number designating a general geographic location at
#          which a suite of sampling activities may occur; occupied sequentially
#          during the cruise.
# cast_type = a sampling activity code identifier, where:
#          CTD = CTD rosette bottle cast
#          TM  = Trace Metal free rosette bottle cast
#          TM_GoFlo = Trace metal free GoFlo bottle cast
# lat   =  starting latitude for each event (negative = south) in decimal degrees
# lon   =  starting longitude for each event (negative = west) in decimal degrees
# activity_and_comments = Identifies the sampling method, generally followed by
#          a sampling sequence number for that method.  CTD or Trace Metal (TM)
#          casts were also designated by a 8 digit unique number consisting of:
#          (3 digits for cruise, 3 digits for station, and 2 digits for sequence)
# seq   =  is a sequential (within each station) entry in the bridge log of all
#          over the side activities for which gear was deployed.
# person = Name of the scientist(s) involved in the particular sampling event or
#          responsible for the resulting data.
# nd     = A code identifying "no data" used for missing data entries, incomplete
#          entries, or bad data.
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year	event	sta	cast_type	lat	lon	activity_and_comments	seq
1996	10080345	1	CTD	-63.4598	-170.5797	CTD-1_96410101_2450m	1
1996	10080550	1	TM	-63.4540	-170.5822	TM-1_96410102_200m	2
1996	10080643	1	CTD	-63.4455	-170.5810	CTD-2_96410103_2850m	3
1996	10082200	1	nd	-63.4455	-170.5810	Th_Pump_Cast_(Test)_1500m	4
1996	10112220	2	CTD	-68.3335	-178.1788	CTD-3_96410201_150m	1
1996	10171254	3	CTD	-76.4963	-177.9743	CTD-4_96410301_580m	1
1996	10171717	3	CTD	-76.4988	-177.9658	CTD-5_96410302_580m	2
1996	10171918	3	TM	-76.4893	-177.8288	TM-2_96410303_(failed)	3
1996	10172150	3	nd	-76.4822	-177.6700	Ring_Net_1	4
1996	10172328	3	CTD	-76.5028	-177.9830	CTD-6_96410304_500m	5
1996	10180100	3	nd	-76.5028	-177.9830	Th_Pump_Cast_1_300m	6
1996	10180331	3	CTD	-76.4935	-177.8225	CTD-7_96410305_10m	7
1996	10180345	3	TM_GoFlo	-76.4950	-177.7968	MLML_Kevlar_Cast	8
1996	10180533	3	nd	-76.4952	-177.8087	MOCNESS_1	9
1996	10180832	3	nd	-76.5050	-177.9768	Ring_Net_2	10
1996	10180900	3	nd	-76.5130	-177.9552	Th_Pump_Cast_2_200m	11
1996	10181230	3	TM_GoFlo	-76.5318	-177.8967	MLML_Kevlar_Cast	12
1996	10181355	3	nd	-76.5355	-177.8890	MOCNESS_2	13
1996	10181543	3	CTD	-76.5015	-177.9928	CTD-8_96410306_580m	14
1996	10181720	3	TM	-76.5102	-177.9728	TM-3_96410307_(failed)	15
1996	10181800	3	TM	-76.5102	-177.9728	TM-4_96410308_200m	16
1996	10181920	3	nd	-76.5102	-177.9728	Ring_Net_3	17
1996	10182132	3	nd	-76.5225	-177.9722	In_Situ_Prod	18
1996	10182252	3	TM_GoFlo	-76.5242	-177.9818	MLML_Kevlar_Cast	19
1996	10182300	3	TM	-76.5253	-177.9870	TM-5_96410309_11m	20

[handwritten annotations: "22 STATIONS" near row 13; "287 RECORDS" at bottom right]

1996	10190159	3	TM_GoFlo	-76.5310	-178.0320	MLML_Kevlar_Cast		21
1996	10190216	3	TM	-76.5315	-178.0368	TM-6_96410310_100m		22
1996	10190433	3	nd	-76.4950	-178.0133	MLML_Ice_Station		23
1996	10190636	3	TM_GoFlo	-76.5310	-178.0728	MLML_Kevlar_Cast		24
1996	10190715	3	nd	-76.5343	-178.0837	Ring_Net_4_300m		25
1996	10190900	3	nd	-76.0343	-178.0837	In_Situ_Array_Recovery		26
1996	10191000	3	nd	-76.5645	-178.1248	MOCNESS_3		27
1996	10191145	3	nd	-76.5468	-178.0503	Ring_Net_5		28
1996	10191710	4	CTD	-76.4993	179.9197	CTD-9_96410401_314m		1
1996	10191842	4	TM	-76.5047	179.9845	TM-7_96410402_80m		2
1996	10191952	4	nd	-76.5045	179.9590	Th_Slurper-1_Cast-3_0-100m		3
1996	10192118	4	CTD	-76.5045	179.9590	CTD-10_96410403_100m		4
1996	10192200	4	nd	-76.5020	179.9185	MOCNESS_4		5
1996	10200547	5	CTD	-76.5007	177.9952	CTD-11_96410501_326m		1
1996	10200710	5	CTD	-76.5010	177.9672	CTD-12_96410502_300m		2
1996	10200923	5	CTD	-76.5040	177.9243	CTD-13_96410503_100m		3
1996	10201008	5	nd	-76.5043	177.8888	MOCNESS_5		4
1996	10201541	6	CTD	-76.4987	176.0122	CTD-14_96410601_409m		1
1996	10201709	6	TM	-76.4963	175.9892	TM-8_96410602_200m		2
1996	10201900	6	TM_GoFlo	-76.4645	175.9248	MLML_Kevlar_Cast		3
1996	10202200	6	nd	-76.4645	175.9248	Th_Slurper-2_Cast-4_0-100m		4
1996	10210107	6	TM_GoFlo	-76.4227	175.8727	MLML_Kevlar_Cast		5
1996	10210130	6	nd	-76.4090	175.8675	Th_Slurper-3_Cast-5_100m		6
1996	10210511	6	CTD	-76.3627	175.7790	CTD-15_96410603_10m		7
1996	10210542	6	nd	-76.3635	175.7802	MOCNESS_6		8
1996	10210800	6	nd	-76.3582	175.2423	Ring_Net_6		9
1996	10210905	6	nd	-76.3582	175.2423	Ring_Net_7		10
1996	10211300	7	CTD	-76.4993	174.0038	CTD-16_96410701_568m		1
1996	10211425	7	nd	-76.4877	174.0037	MOCNESS_7		2
1996	10212121	8	CTD	-76.4983	172.0015	CTD-17_96410801_655m		1
1996	10212242	8	TM	-76.4870	171.9933	TM-9_96410802_200m		2
1996	10220036	8	TM_GoFlo	-76.4747	171.9847	MLML_Kevlar_Cast		3
1996	10220105	8	nd	-76.4692	171.9740	Th_Slurper-3_Pump_Cast-6		4
1996	10220413	8	TM_GoFlo	-76.4505	171.9527	MLML_Kevlar_Cast		5
1996	10220440	8	nd	-76.4513	171.9613	MOCNESS_8		6
1996	10220745	8	nd	-76.4510	171.6238	Ring_Net_8		7
1996	10221232	9	CTD	-76.5025	169.9940	CTD-18_96410901_715m		1
1996	10221339	9	nd	-76.5025	169.9955	MOCNESS_9		2
1996	10221610	9	nd	-76.5613	170.0717	Ring_Net_9		3
1996	10222227	10	CTD	-76.5667	169.0942	CTD-19_96411001_150m		1
1996	10230148	10	TM_GoFlo	-76.5668	169.0855	MLML_Kevlar_Cast		2
1996	10230238	10	CTD	-76.5620	169.0742	CTD-20_96411002_775m		3
1996	10230340	10	TM	-76.5793	169.0737	TM-10_96411003_150m		4
1996	10230525	10	TM_GoFlo	-76.5637	169.0610	MLML_Kevlar_Cast		5
1996	10231045	10	nd	-76.5587	169.0678	Th_Pump_Cast-7_75-725m		6
1996	10231520	10	nd	-76.5650	169.0758	Ring_Net_10_(Entangled)		7
1996	10231540	10	nd	-76.5650	169.0758	Ring_Net_11		8
1996	10231608	10	nd	-76.5650	169.0758	Ring_Net_12		9
1996	10231610	10	nd	-76.5588	169.0725	Th_Pump_Cast-8_Surface		10
1996	10231729	10	CTD	-76.5648	169.0877	CTD-21_96411004_200m		11
1996	10231833	10	TM	-76.5642	169.0945	TM-11_96411005_200m		12
1996	10232040	10	TM_GoFlo	-76.5623	169.1090	MLML_Kevlar_Cast		13
1996	10232052	10	CTD	-76.5622	169.1103	CTD-22_96411006_680m		14
1996	10240009	10	TM_GoFlo	-76.5593	169.1262	MLML_Kevlar_Cast		15
1996	10240410	10	TM_GoFlo	-76.5580	169.1588	MLML_Kevlar_Cast		16
1996	10251440	11	CTD	-76.5020	-177.9757	CTD-23_96411101_150m		1
1996	10251623	11	nd	-76.5078	-177.9240	Deployment_of_in_situ_array		2
1996	10251705	11	CTD	-76.5112	-177.8953	CTD-24_96411102_578m		3
1996	10251939	11	TM_GoFlo	-76.5048	-177.8808	MLML_Kevlar_Cast		4
1996	10252008	11	TM	-76.5028	-177.8808	TM-12_96411103_100m		5
1996	10252101	11	CTD	-76.4987	-177.8870	CTD-25_96411104_500m		6
1996	10252313	11	TM_GoFlo	-76.4873	-177.9067	MLML_Kevlar_Cast		7
1996	10252330	11	TM	-76.4858	-177.9093	TM-13_96411105_100m		8
1996	10260013	11	CTD	-76.4993	-177.9165	CTD-26_96411106_600m		9
1996	10260301	11	nd	-76.4667	-177.9167	Ice_Ops		10
1996	10260350	11	TM_GoFlo	-76.4667	-177.9167	MLML_Kevlar_Cast		11

1996	10260423	11	CTD	-76.4683	-177.9398	CTD-27_96411107_450m	12
1996	10260510	11	nd	-76.4780	-177.9360	Ring_Net_13_500m	13
1996	10260605	11	nd	-76.4768	-177.9355	Ring_Net_14_500m	14
1996	10261105	11	nd	-76.4510	-177.8845	MOCNESS_10	15
1996	10261233	11	nd	-76.4655	-177.7457	Ring_Net_15_500m	16
1996	10261305	11	nd	-76.4655	-177.7457	Ring_Net_16_200m	17
1996	10270447	12	CTD	-78.0348	-175.9873	CTD-28_96411201_350m	1
1996	10270754	12	TM_GoFlo	-78.0177	-175.9077	MLML_Kevlar_Cast	2
1996	10270759	12	CTD	-78.0175	-175.9053	CTD-29_96411202_600m	3
1996	10271044	12	TM_GoFlo	-77.9937	-175.8953	MLML_Kevlar_Cast	4
1996	10271051	12	nd	-77.9937	-175.8953	Th_Pump_Cast-9_25-300m	5
1996	10271415	12	nd	-77.9705	-175.9137	Th_Slurper-4_Pump_Cast-10_0m	6
1996	10271553	12	TM	-77.9638	-175.9047	TM-14_96411203_100m	7
1996	10271700	12	nd	-77.9553	-175.9050	MOCNESS_11	8
1996	10272041	12	CTD	-77.9093	-175.9022	CTD-30_96411204_100m	9
1996	10272257	12	TM_GoFlo	-77.8810	-175.8900	MLML_Kevlar_Cast	10
1996	10272308	12	CTD	-77.8788	-175.8900	CTD-31_96411205_10m	11
1996	10272359	12	nd	-77.8658	-175.8850	Ring_Net_17_500m	12
1996	10280256	12	TM_GoFlo	-77.8332	-175.8910	MLML_Kevlar_Cast	13
1996	10280330	12	nd	-77.8242	-175.8525	Th_Pump_Cast-11_0m	14
1996	10280658	12	TM_GoFlo	-77.8318	-175.7900	MLML_Kevlar_Cast	15
1996	10280700	12	nd	-77.7947	-175.7857	MOCNESS_12	16
1996	10280835	12	nd	-77.7947	-175.7857	Ring_Net_18_500m	17
1996	10282356	13	CTD	-76.4915	-177.9567	CTD-32_96411301_600m	1
1996	10290115	13	TM_GoFlo	-76.4783	-177.8903	MLML_Kevlar_Cast	2
1996	10290237	13	CTD	-76.4678	-177.8272	CTD-33_96411302_150m	3
1996	10290332	13	TM	-76.4615	-177.7932	TM-15_96411303_100m	4
1996	10290408	13	CTD	-76.4565	-177.7975	CTD-34_96411304_200m	5
1996	10290637	13	CTD	-76.4430	-177.6887	CTD-35_96411305_500m	6
1996	10290730	13	nd	-76.4440	-177.6517	Ring_Net_19_500m	7
1996	10290816	13	CTD	-76.4378	-177.6443	CTD-36_96411306_10m	8
1996	10290830	13	nd	-76.4440	-177.6517	MOCNESS_13_450m	9
1996	10290115	13	nd	-76.4785	-177.7208	MOCNESS_14_300m	10
1996	10291404	13	CTD	-76.5017	-177.9768	CTD-37_96411307_150m	11
1996	10300956	14	TM_GoFlo	-76.5028	175.9500	MLML_Kevlar_Cast	12
1996	10301002	14	CTD	-76.5038	175.9483	CTD-38_96411401_150m	13
1996	10301117	14	CTD	-76.5122	175.9230	CTD-39_96411402_400m	14
1996	10301318	14	TM_GoFlo	-76.5253	175.8592	MLML_Kevlar_Cast	15
1996	10310851	15	CTD	-76.5437	169.0347	CTD-40_96411501_150m	1
1996	10310900	15	nd	-76.5437	169.0347	Ice_Ops	2
1996	10311200	15	nd	-76.5253	169.0087	Th_Pump_Cast_12_25-300m	3
1996	10311628	15	CTD	-76.5115	169.0185	CTD-41_96411502_735m	4
1996	10311756	15	TM	-76.5068	168.9967	TM-16_96411503_100m	5
1996	10312001	15	TM_GoFlo	-76.5035	168.9803	MLML_Kevlar_Cast	6
1996	10312052	15	CTD	-76.5030	168.9803	CTD-42_96411504_680m	7
1996	10312200	15	nd	-76.5017	168.9742	Th_Pump_Cast-13_0m	8
1996	10312337	15	CTD	-76.5030	168.9800	CTD-43_96411505_10m	9
1996	11010030	15	nd	-76.5040	168.9935	Ice_Ops	10
1996	11010240	15	nd	-76.5040	168.9935	Ring_Net_20_500m	11
1996	11010300	15	nd	-76.5040	168.9935	PUV	12
1996	11020800	16	TM_GoFlo	-76.5000	179.9583	MLML_Kevlar_Cast	1
1996	11021332	17	CTD	-76.5012	-177.9897	CTD-44_96411701_150m	1
1996	11021456	17	nd	-76.5005	-177.9135	in_situ_array	2
1996	11021520	17	CTD	-76.5003	-177.9108	CTD-45_96411702_578m	3
1996	11021658	17	TM	-76.4943	-177.8620	TM-17_96411703_100m	4
1996	11021826	17	TM_GoFlo	-76.4962	-177.8218	MLML_Kevlar_cast	5
1996	11021905	17	nd	-76.4917	-177.8000	Th_pump_cast_14_25-300m	6
1996	11022208	17	CTD	-76.4785	-177.7067	CTD-46_96411704_50m	7
1996	11022300	17	nd	-76.4733	-177.6793	Th_pump_cast_15_surface	8
1996	11022305	17	nd	-76.4735	-177.6797	Ring_Net_21_400m	9
1996	11022350	17	nd	-76.4735	-177.6797	Ring_Net_22_100m	10
1996	11030030	17	nd	-76.4675	-177.7997	puv_cast	11
1996	11030052	17	CTD	-76.4672	-177.6350	CTD-47_96411705_10m	12
1996	11030128	17	nd	-76.4668	-177.7915	MOCNESS_15_(aborted)	13
1996	11030330	17	nd	-76.4745	-177.5735	MOCNESS_16	14
1996	11031317	18	CTD	-76.5008	179.9935	CTD-48_96411801_150m	1

1996	11031450	18	TM_GoFlo	-76.4992	179.9528	MLML_Kevlar_Cast	2
1996	11031510	18	nd	-76.4968	179.9378	Th_Slurper_cast_16_0-100m	3
1996	11031638	18	CTD	-76.4953	-179.8937	CTD-49_96411802_452m	4
1996	11031750	18	nd	-76.4937	-179.8737	Ring_Net_23_200m	5
1996	11031900	18	TM_GoFlo	-76.4923	-179.8267	MLML_Kevlar_Cast	6
1996	11031915	18	nd	-76.4985	-178.5853	MOCNESS_17	7
1996	11040248	19	CTD	-76.5018	177.9753	CTD-50_96411901_330m	1
1996	11040345	19	nd	-76.5003	177.9610	MOCNESS_18	2
1996	11041020	20	nd	-76.4952	175.9925	Th_Slurper_0-100m_cast_17	1
1996	11041143	20	CTD	-76.4870	175.9867	CTD-51_96412001_10m	2
1996	11041200	20	nd	-76.4815	175.9873	Th_Slurper_110m_cast_18	3
1996	11041344	20	CTD	-76.4733	175.9988	CTD-52_96412002_409m	4
1996	11041504	20	TM	-76.4623	176.0150	TM-18_96412003_100m	5
1996	11041548	20	nd	-76.4637	176.0273	MOCNESS_19_350m	6
1996	11041725	20	nd	-76.4833	175.9917	Ring_Net_24_250m	6
1996	11042251	21	CTD	-76.4993	173.9885	CTD-53_96412101_600m	1
1996	11042359	21	nd	-76.4913	173.9750	MOCNESS_20_400m	2
1996	11050120	21	nd	-76.5175	173.9333	Ring_Net_25_300m	3
1996	11050650	22	TM_GoFlo	-76.4947	172.0048	MLML_Kevlar_Cast	1
1996	11050710	22	nd	-76.4942	172.0060	Th_Slurper_0-100m_cast_19	2
1996	11050845	22	CTD	-76.4917	172.0083	CTD-54_96412201_650m	3
1996	11051039	22	TM_GoFlo	-76.4835	172.0252	MLML_Kevlar_Cast	4
1996	11051052	22	CTD	-76.4908	172.0283	CTD-55_96412202_150m	5
1996	11051130	22	nd	-76.4908	172.5260	Ring_Net_26_150m	6
1996	11051230	22	TM_GoFlo	-76.4960	172.6830	MLML_Kevlar_Cast	7
1996	11051357	22	nd	-76.4960	172.6830	MOCNESS_21_500m	8
1996	11051545	22	nd	-76.4833	172.6667	Ring_Net_27_200m	9
1996	11052159	23	TM	-76.5043	169.8842	TM-19_96412301_30m	1
1996	11052240	23	CTD	-76.4985	169.8702	CTD-56_96412302_723m	2
1996	11052353	23	nd	-76.4987	169.8627	MOCNESS_22_500m	3
1996	11050205	23	nd	-76.5018	169.8258	Ring_Net_28_400m	4
1996	11060601	24	CTD	-76.5008	169.2657	CTD-57_96412401_100m	1
1996	11060721	24	nd	-76.5008	169.2658	in_situ_deployment	2
1996	11060809	24	CTD	-76.5010	169.2658	CTD-58_96412402_746m	3
1996	11061033	24	CTD	-76.5022	169.2640	CTD-59_96412403_675m	4
1996	11062017	24	TM	-76.5138	169.3220	TM-20_96412404_50m	5

```
#   event log
#   version  May 14, 1999
#   US JGOFS Antarctic Environments Southern Ocean Process Study (AESOPS)
#   NBP-97-1, Process cruise 2,   Nathaniel B. Palmer
#   Dates:  from January 13, 1997 to  February 11, 1997
#   Chief Scientist:  John Marra
#   <a href="/images/aesops/nbp9701.track.gif">Cruise track</a>
#
#   Some activities such as aerosol sampling, sampling from the ships
#   seawater system, continues underway sampling (weather, solar
#   radiation, Sea Beam) observations are not reported in the log.
#
#
#   year  =  Year cruise took place
#   event =  A unique number assigned to each over the side sampling activity.
#            This number is a composite of date and time UTC (GMT) in the form
#            MMDDHHmm that indicates the starting time of the sampling activity.
#            Generally, one event began as the preceding event ended.
#   sta   =  Station.  A unique number designating a general geographic location at
#            which a suite of sampling activities may occur; occupied sequentially
#            during the cruise.
#   cast_type = a sampling activity code identifier, where:
#                CTD = CTD rosette bottle cast
#                TM  = Trace Metal free rosette bottle cast
#                TM_GoFlo = Trace metal free GoFlo bottle cast
#   lat   =  starting latitude for each event (negative = south) in decimal degrees
#   lon   =  starting longitude for each event (negative = west) in decimal degrees
#   activity_and_comments = Identifies the sampling method, generally followed by
#            a sampling sequence number for that method.  CTD or Trace Metal (TM)
#            casts were also designated by a 8 digit unique number consisting of:
#            (3 digits for cruise, 3 digits for station, and 2 digits for sequence)
#   seq   =  is a sequential (within each station) entry in the bridge log of all
#            over the side activities for which gear was deployed.
#   person = Name of the scientist(s) involved in the particular sampling event or
#            responsible for the resulting data.
#   nd    = A code identifying "no data" used for missing data entries, incomplete
#            entries, or bad data.
#
========================
year   event      sta  cast_type   lat       lon        activity_and_comments              s
------------------------
1997   01122303   1    CTD        -76.4980   168.9934   CTD-TEST__TEST_CAST__730m          1
1997   01130403   1    TM_GoFlo   -76.5005   168.9168   MLML_Kevlar__500/600m              2
1997   01130512   1    CTD        -76.4995   169.0035   CTD-1__97120101__730m              3
1997   01130847   1    TM_GoFlo   -76.5003   168.9893   MLML_Kevlar__300/400m              4
1997   01130900   1    nd         -76.5013   168.9820   RingNet-1__200m                    5
1997   01131010   1    CTD        -76.5032   169.0019   CTD-2___97120102_10m               6
1997   01131244   1    nd         -76.4979   169.0039   Th_Pump_Cast                       7
1997   01131700   1    TM         -76.4833   169.0000   TM-1_97120103_                     8
1997   01131854   1    CTD        -76.5019   169.0022   CTD-3_97120104_250m                9
1997   01132347   1    CTD        -76.5153   168.9581   CTD-4_97120105_200m                1
1997   01140150   1    nd         -76.4997   169.0124   In-situ_array_deploy               1
1997   01140307   1    TM_GoFlo   -76.4925   169.0403   MLML_Kevlar                        1
1997   01140500   1    TM         -76.5004   169.0744   TM-2_97120106_                     1
1997   01140526   1    CTD        -76.4990   169.0761   CTD-5_97120107_250m                1
1997   01140730   1    TM_GoFlo   -76.5000   169.0667   MLML_Kevlar                        1
1997   01140802   1    nd         -76.5007   169.084    MOCNESS-1_0-500m                   1
1997   01141415   1    nd         -76.5008   169.0114   Slurper_Th_0-100m                  1
1997   01141701   1    CTD        -76.5004   169.0377   CTD-6_97120108_750m                1
1997   01141928   1    TM_GoFlo   -76.4915   168.9917   MLML_Kevlar_                       1
1997   01142126   1    TM         -76.5028   168.9876   TM-3_97120109                      2
1997   01142306   1    CTD        -76.4999   168.9955   CTD-7_97120110_250m                2
1997   01150204   1    nd         -76.5233   169.0267   In-situ_array_recovery_            2
1997   01150336   2    CTD        -76.4981   169.9916   CTD-8_97120201_700m                1
1997   01150506   2    TM         -76.5007   169.9908   TM-4_97120202_75m                  2
1997   01150555   2    nd         -76.4989   169.9749   RingNet-2__0-200m                  3
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(handwritten annotations in right margin: "29", "30 RECORDS", "STA", "LRECL=53")

1997	01150658	2	nd	-76.4918	169.9566	Slurper_Th__0-100m	4
1997	01151140	3	TM_GoFlo	-76.5013	172.0002	MLML_Kevlar_	1
1997	01151205	3	CTD	-76.5018	172.0110	CTD-9_97120301_665m	2
1997	01151512	3	TM_GoFlo	-76.4920	172.0062	MLML_Kevlar	3
1997	01151540	3	nd	-76.4988	172.0064	RingNet-3__0-500m	4
1997	01151640	3	nd	-76.4974	172.0085	RingNet-4_0-200m	5
1997	01151838	3	TM_GoFlo	-76.4854	171.9763	MLML_Kevlar	6
1997	01151906	3	TM	-76.4853	171.9678	TM-5_97120302	7
1997	01152320	3	TM_GoFlo	-76.5018	171.9171	MLML_Kevlar_	8
1997	01152312	3	CTD	-76.5025	171.9195	CTD-10_97120303_600m	9
1997	01160200	3	nd	-76.4943	172.0475	MOCNESS-2_0-500m	1
1997	01160549	4	TM	-76.4989	173.9963	TM-6_97120401_	1
1997	01160712	4	CTD	-76.4983	173.9969	CTD-11_97120402_600m	2
1997	01160846	4	nd	-76.4943	172.0000	MOCNESS-3_0-500m	3
1997	00000116	4	nd	-76.5709	174.0375	RingNet-5_0-200m	1
1997	01161447	5	CTD	-76.5004	176.0026	CTD-12_97120501_400m	1
1997	01161615	5	nd	-76.4943	176.0475	Slupper_Th_0-100m	2
1997	01161940	5	nd	-76.4943	176.0475	Slupper_Th_0-100m	3
1997	01162131	5	TM	-76.4913	175.9748	TM-7_97120502_10m	4
1997	01162232	5	TM	-76.4975	175.9998	TM-8_97120503_75m	5
1997	01162325	5	nd	-76.4915	176.0075	MOCNESS-4	6
1997	01170409	5	CTD	-76.4906	176.0059	CTD-13_97120504_250m	7
1997	01170609	5	TM_GoFlo	-76.5002	176.0171	MLML-Kevlar	8
1997	01170759	5	TM	-76.4927	176.9902	TM-9_97120505	9
1997	01170923	5	TM	-76.4989	175.9909	TM-10_97120506_20m	1
1997	01171100	5	nd	nd	nd	Array_Launched	1
1997	01171206	5	nd	-76.4951	176.0036	MOCNESS-5	1
1997	01171536	5	CTD	-76.4993	176.0018	CTD-14_97120507_250m	1
1997	01171819	5	TM_GoFlo	-76.4907	175.9921	MLML_Kevlar	1
1997	01171933	5	TM	-76.4981	176.0018	TM-11_97120508_75m	1
1997	01172104	5	TM_GoFlo	-76.4907	175.9893	MLML_Kevlar	1
1997	01172334	5	nd	-76.4600	176.0296	MOCNESS-6_0-400m	1
1997	01180150	5	nd	-76.4885	176.9853	RingNet6_0-200	1
1997	01180306	5	CTD	-76.4885	175.9853	CTD-15_97120509_400m	1
1997	01180428	5	TM_GoFlo	-76.4862	176.0011	MLML_Kevlar_	2
1997	01180600	5	nd	nd	nd	In-situ_array_recovery	2
1997	01181233	6	CTD	-76.4986	177.9929	CTD-16_97120601_350m	1
1997	01181345	6	nd	-76.4892	178.0023	MOCNESS-7_0-300m	2
1997	01181600	6	nd	-76.4894	178.0070	RingNet_7__0-200m	3
1997	01181729	6	TM	-76.4894	178.0070	TM-12_97120602_75m	4
1997	01180847	7	nd	-76.4983	179.9848	Slurper_Th__0-100m	1
1997	01182207	7	CTD	-76.4923	179.9984	CTD-17_97120701_300m	2
1997	01182350	7	nd	-76.4989	179.9754	MOCNESS-8_420m	3
1997	01190200	7	nd	-76.5005	179.9905	RingNet8__200m	4
1997	01190310	7	TM	-76.5005	179.9905	TM-13_97120702_75m	5
1997	01190651	8	TM_GoFlo	-76.5003	-178.0011	MLML_Kevlar	1
1997	01190658	8	CTD	-76.5005	-178.0017	CTD-18_97120801_580m	2
1997	01190800	8	nd	-76.5033	-178.0014	Th_Pump_Cast_500m	3
1997	01191231	8	CTD	-76.4997	-178.0060	CTD-19_97120802_580m	4
1997	01191400	8	nd	-76.4989	-177.9897	MOCNESS-9__450m	5
1997	01191626	8	CTD	-76.4985	-177.9932	CTD-20_97120803_580m	6
1997	01191737	8	CTD	-76.4984	-178.0191	CTD-21_97120804_250m	7
1997	01191836	8	TM	-76.4942	-178.0325	TM-14_97120805_75m	8
1997	01191953	8	TM	-76.4995	-177.9990	TM-15_97120806_30m	9
1997	01192203	8	CTD	-76.4963	-178.0238	CTD-22_97120807_580m	1
1997	01192315	8	TM	-76.4973	-178.0577	TM-16_97120808_10m	1
1997	01192351	8	TM_GoFlo	-76.5022	-178.0078	MLML_Kevlar_Enrich_4_casts	1
1997	01200008	8	CTD	-76.5040	-178.0161	CTD-23_97120809_580m	1
1997	01200214	8	CTD	-76.5012	-178.0111	CTD-24_97120810_80m	1
1997	01200444	8	CTD	-76.5036	-178.0074	CTD-25_97120811_580m	1
1997	01200540	8	nd	-76.5088	-178.0162	MOCNESS-10_220m	1
1997	01200658	8	nd	-76.5205	-177.8750	RingNet-9__200m	1
1997	01200819	8	CTD	-76.5012	-178.0058	CTD-26_97120812_580m	1
1997	01200940	8	nd	-76.5032	-178.0487	Th_Pump_Cast_at_100m_200m_500m	1
1997	01201253	8	CTD	-76.5007	-178.0087	CTD-27_97120813_580m	2
1997	01201535	8	TM_GoFlo	-76.4925	-177.9918	MLML_Kevlar_	2

1997	01201550	8	nd		-76.4993	-177.9870	MOCNESS-11__450m	2
1997	01201815	8	TM_GoFlo		-76.4904	-177.9915	MLML_Kevlar	2
1997	01201837	8	CTD		-76.4950	-177.9969	CTD-28_97120814_250m	2
1997	01201930	8	TM		-76.4808	-178.0651	TM-17_97120815_50m	2
1997	01211045	9	TM		-78.0430	-176.0241	TM-18_97120901_75m	1
1997	01211135	9	CTD		-78.0414	-176.0256	CTD-29_97120902_250m	2
1997	01211434	9	TM_GoFlo		-78.0413	-176.0898	MLML_Kevlar	3
1997	01211617	9	CTD		-78.0498	-176.0644	CTD-30_97120903_600m	4
1997	01211830	9	TM_GoFlo		-78.0422	-176.0717	MLML_Kevlar_	5
1997	01211912	9	TM		-78.0350	-176.1645	TM-19_97120904_75m	6
1997	01212010	9	nd		-78.0207	-176.1908	MOCNESS-12__400m	7
1997	01212230	9	nd		-78.0372	-176.0729	RingNet-10__200m	8
1997	01212326	9	TM_GoFlo		-78.0372	-176.0729	MLML_Kevlar_	9
1997	01220238	9	TM_GoFlo		-78.0250	-176.0086	MLML_Kevlar_	1
1997	01220300	9	TM		-78.0318	-176.0278	TM-20_97120905_10m	1
1997	01220451	9	TM_GoFlo		-78.0250	-176.0511	MLML_Kevlar_	1
1997	01220512	9	CTD		-78.0300	-176.0490	CTD-31_97120906_250m	1
1997	01221950	10	CTD		-76.4985	175.9970	CTD-32__97121001__400m	1
1997	01222133	10	TM		-76.4994	175.9967	TM-21___97121002___75m	2
1997	01222314	10	CTD		-76.4985	175.9942	CTD-33__97121003__400m	3
1997	01230000	10	TM		-76.4940	175.9940	TM-22___97121004___50m	4
1997	01230100	10	nd	nd	nd	Zodiac_Ops_S-251/Caron_Samples	5
1997	01230601	10	TM		-76.4984	176.0270	TM-23___97121005___40m	7
1997	01230630	10	nd		-76.4987	176.0317	Ring_Net-11___200m	8
1997	01230715	10	nd		-76.4987	176.0315	MOCNESS-13____350m	9
1997	01230900	10	nd		-76.4352	176.0857	MOCNESS-13a___350m	1
1997	01232313	11	CTD		-74.0029	176.9972	CTD-34__97121101__400m	1
1997	01240037	11	TM_GoFlo		-74.0018	176.9557	MLML-Kevlar_	2
1997	01240050	11	TM		-73.9972	176.9647	TM-24___97121102___70m	3
1997	01240100	11	TM_GoFlo		-73.9972	176.9647	MLML-Kevlar_	4
1997	01240330	11	nd		-74.0085	176.9473	Slurper_Th	5
1997	01240505	11	CTD		-74.0082	176.9466	CTD-35__97121103__250m	6
1997	01240603	11	TM		-74.0027	176.9818	TM-25___97121104___33m	7
1997	01240831	11	nd		-74.0055	176.9969	In_situ_array_deployment	8
1997	01241108	11	CTD		-74.0167	176.9736	CTD-36__97121105__250m	9
1997	01241330	11	nd		-74.0350	177.0010	Th_Pump_Cast__300m	1
1997	01241725	11	TM_GoFlo		-74.0244	176.9902	MLML_Kevlar_	1
1997	01241737	11	CTD		-74.0284	176.9965	CTD-37_97121106__250m	1
1997	01241831	11	TM		-74.0177	176.9850	TM-26__97121107___95m	1
1997	01242015	11	TM		-74.0157	176.8764	TM-27__97121108___50m	1
1997	01242134	11	TM_GoFlo		-74.0031	176.8191	MLML-Kevlar_	1
1997	01242211	11	CTD		-74.0132	176.7961	CTD-38__97121109__450m	1
1997	01242330	11	nd		-74.0132	176.7961	MOCNESS_Test__50m	1
1997	01242350	11	nd		-74.0325	176.6682	MOCNESS-14__400m	1
1997	01250240	11	nd		-74.0528	176.4570	RingNet-12__200m	2
1997	01250407	11	CTD		-74.0255	176.6015	CTD-39__97121110__250m	2
1997	01250650	11	nd		-74.0278	176.6141	RingNet-13__450m	2
1997	01251130	11	nd		-74.0265	176.6918	MOCNESS-15__400m	2
1997	01252328	12	CTD		-74.3330	-176.0087	CTD-40__97121201__250m	1
1997	01260044	12	TM_GoFlo		-74.3247	-175.9877	MLML-Kevlar__40m	2
1997	01260119	12	CTD		-74.3316	-175.9927	CTD-41__97121202_1500m	3
1997	01260327	12	TM		-74.3337	-175.9906	TM-28___97121203__100m	4
1997	01260610	12	nd		-74.3338	-175.9889	RingNet-14__200m	5
1997	01260740	12	nd		-74.3342	-175.9915	Th_Pump_Cast__1100m	6
1997	01261120	12	nd		-74.3435	-176.0478	MOCNESS-16___500m	7
1997	01271109	13	CTD		-76.5010	168.9973	CTD-42__97121301__720m	1
1997	01271240	13	nd		-76.5065	168.9831	MOCNESS-17___500m	2
1997	01271600	13	nd		-76.4992	168.9900	RingNet-15__200m	3
1997	01271629	13	TM		-76.4992	168.9862	TM-29___97121302___75m	4
1997	01271747	13	TM		-76.4988	168.9814	TM-30___97121303___55m	5
1997	01271900	13	TM		-76.4979	168.9717	TM-31___97121304___10m	6
1997	01271932	13	nd		-76.5020	168.9598	in-situ_array_deploy	7
1997	01272325	13	TM_GoFlo		-76.5250	168.8875	MLML-Kevlar	8
1997	01272323	13	CTD		-76.5293	168.8929	CTD-43__97121305__250m	9
1997	01280119	13	CTD		-76.5422	168.8956	CTD-44__97121306__750m	1
1997	01280230	13	nd		-76.5535	168.8706	Ringnet-16___200m	1

1997	01280510	13	CTD	-76.5647	168.8472	CTD-45__97121307____10m	1
1997	01280720	13	nd	-76.5930	168.9067	Slurper_Th_Total__100m	1
1997	01281532	13	CTD	-76.6171	168.9860	CTD-46__97121308____10m	1
1997	01281609	13	CTD	-76.6199	168.9764	CTD-47__97121309___700m	1
1997	01281721	13	CTD	-76.6180	168.9400	CTD-48__97121310___10m	1
1997	01281824	13	CTD	-76.6239	168.9374	CTD-49__97121311____50m	1
1997	01281915	13	nd	-76.6279	168.9423	in-situ_array_recovery	1
1997	01281926	13	CTD	-76.6300	168.9475	CTD-50__97121312____50m	1
1997	01282028	13	CTD	-76.6291	168.8953	CTD-51__97121313____50m	2
1997	01282157	13	CTD	-76.6350	168.9150	CTD-52__97121314____50m	2
1997	01290006	14	CTD	-76.4917	170.0319	CTD-53__97121401___700m	1
1997	01290116	14	TM	-76.4914	170.0324	TM-32___97121402	2
1997	01290220	14	nd	-76.4996	170.0710	MOCNESS-18___500m	3
1997	01290510	14	nd	-76.5628	170.2642	Slurper_Total_Th__100m	4
1997	01290610	14	nd	-76.5540	170.2551	RingNet-17___200m	5
1997	01291035	15	TM_GoFlo	-76.4760	172.0559	MLML-Kevlar__600m	1
1997	01291104	15	CTD	-76.4997	172.0171	CTD-54__97121501___650m	2
1997	01291221	15	TM	-76.5036	172.0034	TM-33___97121502____75m	3
1997	01291300	15	nd	-76.5076	172.0163	MOCNESS-19___500m	4
1997	01291547	15	TM_GoFlo	-76.5016	172.0204	MLML-Kevlar	5
1997	01291550	15	nd	-76.5029	172.0229	RingNet-18___200m	6
1997	01291855	16	CTD	-76.5009	174.0027	CTD-55__97121601___600m	1
1997	01292008	16	TM	-76.5017	174.0136	TM-34___97121602____50m_	2
1997	01292125	16	nd	-76.5013	174.0129	MOCNESS-20___400m	3
1997	01300150	17	CTD	-76.4983	175.9994	CTD-56__97121701___400m	1
1997	01300255	17	nd	-76.4986	175.9589	MOCNESS-21___300m	2
1997	01300615	17	CTD	-76.5045	176.0063	CTD-57__97121702___100m	3
1997	01300820	17	nd	-76.5088	176.0817	in-situ_array_deploy	4
1997	01300942	17	CTD	-76.5138	176.0831	CTD-58__97121703___250m	5
1997	01301705	17	CTD	-76.4342	176.1712	CTD-59__97121704___250m	6
1997	01301759	17	TM	-76.4455	176.2131	TM-35___97121705____75m	7
1997	01301930	17	TM	-76.4337	176.2470	TM-36___97121706____10m	8
1997	01302312	17	CTD	-76.4043	176.1935	CTD-60__97121707___400m	9
1997	01310015	17	nd	-76.4019	176.2490	Th_pump_100m	1
1997	01310245	17	nd	-76.4015	176.3068	Slurper_Th_100m	1
1997	01310450	17	TM_GoFlo	-76.3910	176.3592	MLML_Kevlar__	1
1997	01310500	17	nd	-76.3917	176.3598	RingNet-20___200m	1
1997	01310715	17	nd	-76.3935	176.3776	POC_Pump_Cast___	1
1997	01310820	17	nd	-76.3786	176.3592	Array_Recovery__	1
1997	01311040	18	nd	-76.5015	178.0092	MOCNESS-22___300m	1
1997	01311150	18	nd	-76.5339	178.0369	RingNet-20___300m	2
1997	01311303	18	CTD	-76.5035	178.0100	CTD-61__97121801__325m	3
1997	01311410	18	nd	-76.5034	178.0100	Ring_Net-21___75m	4
1997	01311517	18	TM	-76.5021	178.0179	TM-37___97121802____80m	5
1997	01311833	19	CTD	-76.4984	179.9976	CTD-62__97121901___335m	1
1997	01311925	19	TM	-76.4832	179.9876	TM-38___97121902____75m	2
1997	01312103	19	nd	-76.5095	179.9947	Slurper_Th_100m	3
1997	01312230	19	nd	-76.5066	179.9815	MOCNESS-23_	4
1997	02010228	20	CTD	-76.5000	-178.0034	CTD-63__97122001___600m	1
1997	02010325	20	nd	-76.4923	-178.0205	Slurper_Th_100m	2
1997	02010538	20	TM	-76.4997	-178.0212	TM-39___97122002____75m	3
1997	02010856	20	nd	-76.5015	-177.9892	Pump_cast_____510m	4
1997	02011229	20	CTD	-76.4949	-177.9714	CTD-64__97122003___600m	5
1997	02011708	20	CTD	-76.4736	-178.0420	CTD-65__97122004___250m	6
1997	02011801	20	TM	-76.4677	-178.0653	TM-40___97122005____75m	7
1997	02011900	20	TM	-76.4745	-178.0730	TM-41___97122006____10m	8
1997	02012031	20	TM_GoFlo	-76.4667	-178.1340	MLML-Kevlar	9
1997	02012254	20	TM_GoFlo	-76.4695	-178.1375	MLML-Kevlar	1
1997	02012313	20	CTD	-76.4722	-178.1394	CTD-66__97122007___600m	1
1997	02020100	20	nd	-76.4667	-178.1833	Zodiak_Sample_Collection	1
1997	02020230	20	nd	-76.4707	-178.1855	Baby_Zow_Tow____	1
1997	02020313	20	TM	-76.4705	-178.1856	TM-42___97122008____75m	1
1997	02020400	20	CTD	-76.4730	-178.2118	CTD-67__97122009___200m	1
1997	02020425	20	nd	-76.4742	-178.2290	MOCNESS-24___400m	1
1997	02020650	20	nd	-76.4782	-178.2307	In_Situ_Array_Recovery	1
1997	02021212	21	CTD	-76.5026	-177.9972	CTD-68__97122101___500m	1

1997	02021515	21	nd	-75.4883	-177.9595	MOCNESS-25____300m	2
1997	02030024	22	CTD	-76.5012	-173.9992	CTD-69____97122201_500m	1
1997	02030131	22	TM_GoFlo	-76.5012	-173.9992	MLML-Kevlar	2
1997	02031706	23	CTD	-77.9977	-176.0035	CTD-70__97122301__600m	1
1997	02031817	23	TM	-77.9921	-176.0498	TM-43____97122302____75m	2
1997	02040611	24	CTD	-77.4046	176.0045	CTD-71__97122401__650m	1
1997	02040725	24	nd	-77.3920	175.9502	Slurper_100m	2
1997	02041006	24	nd	-77.3678	175.6925	MOCNESS-26____500m	3
1997	02041648	25	CTD	-76.5013	175.9913	CTD-72__97122501__400m	1
1997	02041803	25	TM	-76.5019	175.9985	TM-44____97122502____75m	2
1997	02042000	25	nd	-76.5015	176.0261	in-situ_array_deployment	3
1997	02042100	25	TM	-76.5005	176.0075	TM-45____97122503____10m	4
1997	02042155	25	nd	-76.4995	176.0387	Slurper_100m	5
1997	02050016	25	CTD	-76.5002	176.0602	CTD-73__97122504__400m	6
1997	02050140	25	nd	-76.5013	176.1417	Slurper_100m	7
1997	02050327	25	CTD	-76.5027	176.1407	CTD-74__97122505__250m	8
1997	02050542	25	CTD	-76.5007	176.1992	CTD-75__97122506__250m	9
1997	02050643	25	nd	-76.5044	176.1386	MOCNESS-27____300m	1
1997	02050939	25	CTD	-76.5157	176.3735	CTD-76__97122507__250m	1
1997	02051336	25	CTD	-76.5203	176.4284	CTD-77__97122508__375m	1
1997	02051704	25	CTD	-76.5240	176.4969	CTD-78__97122509__375m	1
1997	02051847	25	TM	-76.5098	176.5009	TM-46____97122510____75m	1
1997	02052040	25	nd	-76.4925	176.5481	in-situ_array_recovery	1
1997	02060709	26	CTD	-76.5027	169.0047	CTD-79__97122601__250m	1
1997	02060817	26	TM_GoFlo	-76.5189	168.9583	MLML-Kevlar	2
1997	02061807	27	CTD	-76.1879	163.3383	CTD-80__97122701__600m	1
1997	02061927	27	TM	-76.1690	163.3482	TM-47____97122702__100m	2
1997	02062038	27	TM	-76.1552	163.3735	TM-48____97122703____20m	3
1997	02062245	27	TM_GoFlo	-76.1238	163.3867	MLML-Kevlar	4
1997	02062325	27	CTD	-76.1235	163.3950	CTD-81__97122704__250m	5
1997	02070547	27	CTD	-76.1042	163.3865	CTD-82__97122705__475m	6
1997	02070720	27	nd	-76.1062	163.4004	Ring_Net-22__200m	7
1997	02071317	27	CTD	-76.0582	163.4060	CTD-83__97122706__250m	8
1997	02071530	27	nd	-76.0351	163.3404	Core_Sample__865m	9
1997	02071907	27	TM_GoFlo	-76.0046	163.3395	MLML-Kevlar	1
1997	02071943	27	TM	-76.0019	163.3486	TM-49____97122707____50m	1
1997	02072103	27	nd	-75.9767	163.3478	in-situ_array_recovery	1
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1997	02072314	27	CTD	-75.9590	163.3716	CTD-84__97122708__250m	1
1997	02072345	27	nd	-75.9530	163.4075	MOCNESS-28____400m	1
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1997	02081750	28	nd	-76.4970	168.9908	pump_cast-Th_600m	2
1997	02082122	28	TM	-76.5012	169.0067	TM-50____97122802____75m	3
1997	02082248	28	CTD	-76.5013	169.0034	CTD-86__97122803__100m	4
1997	02082345	28	CTD	-76.5010	168.9949	CTD-87__97122804__100m	5
1997	02090044	28	CTD	-76.4923	168.9741	CTD-88__97122805__100m	6
1997	02090134	28	CTD	-76.4900	168.9938	CTD-89__97122806__100m	7
1997	02090200	28	nd	-76.4933	168.9745	Slurper_100m	8
1997	02090337	28	CTD	-76.4933	168.9733	CTD-90__97122807__250m	9
1997	02091305	29	nd	-75.5024	172.9697	MOCNESS-29____400m	1

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#   event log
#   version   September 11, 1998
#   US JGOFS Antarctic Environments Southern Ocean Process Study (AESOPS)
#   NBP-97-3, Process cruise 3,   Nathaniel B. Palmer
#   Dates:  from April 4, 1997 to May 12, 1997
#   Chief Scientist:  Hugh Ducklow
#   <a href="/images/aesops/nbp9703.track.gif">Cruise track</a>
#
#   Some activities such as aerosol sampling, sampling from the ships
#   seawater system, continues underway sampling (weather, solar
#   radiation, Sea Beam) observations are not reported in the log.
#
#
#   year  =  Year cruise took place
#   event =  A unique number assigned to each over the side sampling activity.
#            This number is a composite of date and time UTC (GMT) in the form
#            MMDDHHmm that indicates the starting time of the sampling activity.
#            Generally, one event began as the preceding event ended.
#   sta   =  Station.  A unique number designating a general geographic location at
#            which a suite of sampling activities may occur; occupied sequentially
#            during the cruise.
#   cast_type = a sampling activity code identifier, where:
#               CTD = CTD rosette bottle cast
#               TM  = Trace Metal free rosette bottle cast
#   lat   =  starting latitude for each event (negative = south) in decimal degrees
#   lon   =  starting longitude for each event (negative = west) in decimal degrees
#   activity_and_comments = Identifies the sampling method, generally followed by
#            a sampling sequence number for that method.  CTD or Trace Metal (TM)
#            casts were also designated by a 8 digit unique number consisting of:
#            (3 digits for cruise, 3 digits for station, and 2 digits for sequence)
#   seq   =  is a sequential (within each station) entry in the bridge log of all
#            over the side activities for which gear was deployed.
#   person = Name of the scientist(s) involved in the particular sampling event or
#            responsible for the resulting data.
#   nd    =  A code identifying "no data" used for missing data entries, incomplete
#            entries, or bad data.
#
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year   event      sta  cast_type   lat        lon        activity_and_comments           se
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1997   04082123   0    CTD         -63.5023   174.7965   CTD-1___97330001__2000m         1
1997   04092115   1    TM          -67.6378   175.1828   TM-1____97330101__200m          1
1997   04092226   1    CTD         -67.6386   175.1889   CTD-2___97330102__10m           2
1997   04092316   1    CTD         -67.6172   175.1867   CTD-3___97320103__2500m         3
1997   04100124   1    nd          -67.6337   175.1562   In-Situ_Th-Pumps__2000m         4
1997   04100618   1    CTD         -67.6544   175.1508   CTD-4___97330104__1500m         5
1997   04120054   2    TM          -72.7660   175.8280   TM-2____97330201__400m          1
1997   04121315   3    nd          -74.3450   175.9667   Th_Pumps_                       1
1997   04121818   3    TM          -73.9724   175.8950   TM-_3___97330301__100m          2
1997   04121938   3    CTD         -73.9692   175.7952   CTD-5___97330302__250m          3
1997   04122050   3    TM          -73.9629   175.7887   TM-_4___97330303__30m           4
1997   04122124   3    CTD         -73.9602   175.7868   CTD-6___97330304__575m          5
1997   04130020   3    CTD         -73.9533   175.7993   CTD-7___97330305__100m          6
1997   04140702   4    nd          -76.3453  -178.3384   Mocness_-1__400m                1
1997   04141015   4    nd          -76.4401  -177.9936   Th-Pumps                        2
1997   04141534   4    CTD         -76.4251  -177.9688   CTD-8__97330401__200m           3
1997   04141658   4    TM          -76.4134  -177.9587   TM-5__97330402__200m            4
1997   04141750   4    CTD         -76.4068  -177.9542   CTD-9__97330403__600m           5
1997   04142010   4    nd          -76.3917  -177.9656   Prim_Prod._Array-Deployed       6
1997   04142315   4    nd          -76.3846  -177.9335   Ring_Net_1_____100m             7
1997   04150130   4    nd          -76.3660  -177.9005   Th-pumps_                       8
1997   04150804   4    TM          -76.3498  -177.9183   TM-6___97330404__200m           9
1997   04151004   4    CTD         -76.3347  -177.8856   CTD-10_97330405__600m           1(
1997   04151140   4    nd          -76.3347  -177.8836   Ringnet_2_____300m              11
1997   04151215   4    nd          -76.3250  -177.8837   Ringnet_3_____300m              12
1997   04151307   4    CTD         -76.3104  -177.8957   CTD-11_97330406__100m           13
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1997	04151502	4	CTD	-76.2972	-177.9081	CTD-12_97330407__100m	14
1997	04151606	4	CTD	-76.2914	-177.9110	CTD-13_97330408__600m	15
1997	04151811	4	nd	-76.2840	-177.8919	Bottom_Core__630m	16
1997	04151900	4	nd	-76.2841	-177.8612	Ringnet-4___200m	17
1997	04152001	4	CTD	-76.2816	-177.8705	CTD-14_97330409__600m	18
1997	04152150	4	TM	-76.2793	-177.8295	TM-7___97330410__200m	19
1997	04160100	4	nd	-76.2709	-177.8295	Ringnet-5____600m	20
1997	04160200	4	nd	-76.2633	-177.6583	Ice_Chunks	21
1997	04160200	4	nd	-76.2633	-177.6583	Water_sample_from_Ice	22
1997	04160334	4	CTD	-76.2583	-177.6664	CTD-15_97330411__600m	23
1997	04170655	5	nd	-76.5156	170.0199	Mocness-3___400m	1
1997	04171116	5	CTD	-76.4650	169.0565	CTD-16__97330501__700m	2
1997	04171230	5	nd	-76.4650	169.0565	Th_Pumps__	3
1997	04171524	5	CTD	-76.4651	169.0582	CTD-17__97330502__200m	4
1997	04171637	5	TM	-76.4649	169.0574	TM-8____97330503__200m	5
1997	04171730	5	CTD	-76.4657	169.0633	CTD-18__97330504__700m	6
1997	04171946	5	nd	-76.4594	169.0690	Array_Deployment	7
1997	04172158	5	TM	-76.4579	169.0817	TM-9___97330505__200m	8
1997	04172300	5	nd	-76.4585	169.0772	In-Situ_Pumps	9
1997	04181400	5	nd	-76.4585	169.0772	Ring_Net-6___650m	10
1997	04180520	5	nd	-76.4649	169.0334	Recovery_of_Prim._Prod._Array	11
1997	04180601	5	CTD	-76.4649	169.0321	CTD-19__97330506__700m	12
1997	04180709	5	TM	-76.4648	169.0272	TM-10___97330507_	13
1997	04181020	5	CTD	-76.4642	169.0207	CTD-20_97330508_700m	14
1997	04181157	5	nd	-76.4611	169.0158	Mocness_4___500m	15
1997	04181400	5	nd	-76.4629	169.0156	Ringnet-7___200m	16
1997	04181800	5	CTD	-76.4629	169.0144	CTD-21__97330509__700m	17
1997	04182155	5	TM	-76.4629	169.0144	TM-11___97330510__200m	18
1997	04182300	5	nd	-76.4629	169.0161	Ringnet-8___600m	19
1997	04190030	5	nd	-76.4667	169.0100	Water__sample_from_Ice	20
1997	04190100	5	nd	-76.4667	169.0100	Ice_Cores__	21
1997	04200820	6	nd	-77.9385	-176.1732	MOCNESS-5__450m	1
1997	04201019	6	TM	-77.9962	-176.0121	TM-12__97330601____200m	2
1997	04201115	6	nd	-77.9897	-176.1115	IN-Situ_Th-Pumps	3
1997	04201503	6	CTD	-77.9640	-176.0699	CTD-22__97330602__600m	4
1997	04201714	6	CTD	-77.9486	-176.1155	CTD-23__97330603__200m	5
1997	04201924	6	TM	-77.9369	-176.1544	TM-13___97330604__92m	6
1997	04202047	6	nd	-77.9324	-176.1685	Deploy_Prim._Prod._Array	7
1997	04202102	6	CTD	-77.9319	-176.1451	CTD-24__97330605__600m	8
1997	04202335	6	nd	-77.9301	-176.1448	Ring_Net-9____500m	9
1997	04210104	6	CTD	-77.9106	-176.1422	CTD-25__97330606__250m	10
1997	04210323	6	nd	-77.8980	-176.1102	Recover_Prim._Prod._Array	11
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1997	04211851	7	TM	-76.4643	-178.0029	TM-14___97330702_200m	2
1997	04212041	7	nd	-76.4671	-178.0032	Deply_Array_	3
1997	04212214	7	TM	-76.4698	-177.9975	TM-15___97330703_200m	4
1997	04220000	7	nd	-76.4792	-177.9550	In-situ_Th_Pumps	5
1997	04220554	7	nd	-76.4837	-177.9172	Recover__Array__	6
1997	04220635	7	CTD	-76.4789	-178.0241	CTD-27__97330704_200m	7
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1997	04221141	7	nd	-76.4908	-178.0035	Mocness_6___450m	9
1997	04221506	7	TM	-76.4722	-177.9749	TM-16___97330706_200m	10
1997	04221658	7	CTD	-76.4741	-177.9619	CTD-29__97330707__575m	11
1997	04221822	7	TM	-76.4744	-177.9616	TM-17___97330708_30m	12
1997	04220422	7	nd	-76.4754	-177.9639	In-Situ_Th-Pumps_	13
1997	04222253	7	TM	-76.4806	-178.0093	TM-18___97330709___200m	14
1997	04230200	8	nd	-76.4833	178.1233	Ice_Cores__	1
1997	04230649	8	CTD	-76.4946	179.9794	CTD-30___97330801_300m	2
1997	04230748	8	TM	-76.4796	179.9312	TM-19_97330802_200m	3
1997	04230900	8	nd	-76.4718	179.9321	Mocness-7__200m	4
1997	04231510	9	CTD	-76.4954	177.9944	CTD-31___97330901_335	1
1997	04231705	9	TM	-76.4786	178.0206	TM-20___97330902_200m	2
1997	04231816	9	nd	-76.7333	177.9484	Mocness-8____250m	3
1997	04240053	10	TM	-76.5044	178.0045	TM-21___97331001_200m	1
1997	04240215	10	nd	-76.5037	176.0186	In_-Situ_Th-pumps	2
1997	04240632	10	CTD	-76.5015	176.0033	CTD-32___97331002_400m	3

1997	04240800	10	nd		-76.5015	176.0033	Ring_Net-10___380m	4
1997	04240845	10	nd		-76.5015	176.0032	Ring_Net-11___380m	5
1997	04241001	10	CTD		-76.4950	175.9608	CTD-33___97331003_200m	6
1997	04241209	10	nd		-76.4895	175.9400	MOCNESS-10	7
1997	04241600	10	CTD		-76.4934	175.9399	CTD-34___97331004_200m	8
1997	04241742	10	TM		-76.4955	175.9167	TM-22____97331005_200m	9
1997	04241816	10	CTD		-76.4910	175.9083	CTD-35___97331006_400m	10
1997	04242150	10	TM		-76.4545	175.8707	TM-23____97331007_200m	11
1997	04242400	10	nd		-76.4318	175.8772	Ring_Net-12___400m	12
1997	04250704	11	CTD		-76.5141	174.0825	CTD-36___97331101__550m	1
1997	04251018	11	CTD		-76.4742	174.1696	CTD-37___97331102_200m	2
1997	04251130	11	nd		-77.4570	174.2403	MOCNESS-10_450m	3
1997	04251847	12	CTD		-76.5057	171.9502	CTD-38___97331201__200m	1
1997	04252033	12	CTD		-76.5175	171.9887	CTD-39___97331202__650m	2
1997	04252100	12	nd	nd	nd		MOCNESS-11	3
1997	04260357	13	CTD		-76.5085	170.0116	CTD-40___97331301__200m	1
1997	04260529	13	CTD		-76.5126	170.0268	CTD-41___97331302__700m	2
1997	04261220	14	nd		-76.5007	168.9694	In-situ_Th_Pumps_	1
1997	04261614	14	CTD		-76.4864	168.9630	CTD-42___97331401__200m	2
1997	04261812	14	CTD		-76.4808	168.9281	CTD-43___97331402__700m	3
1997	04262027	14	nd		-76.4726	168.8676	Deployment_of_Array	4
1997	04262103	14	CTD		-76.4718	168.8644	CTD-44___97331403__200m	5
1997	04270200	14	nd		-76.4750	168.8550	Ice_Cores_	6
1997	04270443	14	nd		-76.4696	168.8385	Recovery_Array	7
1997	04270459	14	CTD		-76.4716	168.8328	CTD-45___97331404__200m	8
1997	04270709	14	CTD		-76.4772	168.8260	CTD-46___97331405__500m	9
1997	04270800	14	nd		-76.4813	168.8368	Bottom_Cores	10
1997	04270919	14	nd		-76.4771	168.9599	MOCNESS-12__500m	11
1997	04280155	15	nd		-75.6092	172.8870	Deploy_Aussie_Drifter	1
1997	04282145	16	CTD		-74.0021	176.0039	CTD-47___97331601_575m	1
1997	04290046	16	CTD		-74.0139	176.0983	CTD-48___97331602_200m	2
1997	04290200	16	nd		-74.0161	176.1136	Water_sampling_from_ice	3
1997	04290230	16	nd		-74.0199	176.1749	Ice_Cores_	4
1997	04290330	16	nd		-74.0183	176.1886	Ring_Net-13___500m	5
1997	04290415	16	nd		-74.0183	176.1886	Ring_Net-13___200m	6
1997	04290501	16	CTD		-74.0191	176.2240	CTD-49___97331603_550m	7
1997	04290801	16	CTD		-74.0095	176.2776	CTD-50___97331604_500m	8
1997	04290959	16	nd		-73.9990	176.2818	MOCNESS-13_450m	9
1997	04291256	16	CTD		-73.9937	176.2150	CTD-51___97331605_200m	10
1997	04291600	16	CTD		-73.9790	176.1671	CTD-52___97331606_200m	11
1997	04291833	16	nd		-73.9702	176.1272	Deploy_Array	12
1997	04292004	16	CTD		-73.9658	176.1196	CTD-53___97331607_200m	13
1997	04292200	16	nd		-73.9667	176.1093	In_situ_Th-pumps	14
1997	04300210	16	nd		-73.9773	176.1415	Deploy_Aussie_Buoy_24666	15
1997	04300230	16	nd		-73.9773	176.1415	Water_sampling_from_Ice	16
1997	04300245	16	nd		-73.9773	176.1415	Ice_Cores_	17
1997	04300429	16	nd		-73.9812	176.1325	Recover_Array_	18
1997	04300703	16	CTD		-73.9799	176.1427	CTD-54___97331608__575m	19
1997	04301000	16	nd		-73.9693	176.0990	In-situ_Th_pumps_	20
1997	04300730	16	nd		-73.9799	176.1425	Ringnet-15__500m	21
1997	04301459	16	CTD		-73.9387	175.9598	CTD-55___97331609__200m	22
1997	04301756	16	CTD		-73.9141	175.8538	CTD-56___97331610__200m	23
1997	05022207	17	CTD		-71.0866	176.5632	CTD-57___97331701__1375m	1
1997	05040531	18	CTD		-68.0000	175.9261	CTD-58___97331801__3000m	1
1997	05040830	18	nd		-67.9806	175.9932	In-Situ_Th-pumps___1500m	2
1997	05050956	19	CTD		-65.0055	175.0299	CTD-59___97331901__3000m	1