

CCE-P0810 DAILY ACTIVITY SCHEDULE

30 September

0800	DEPART San Diego, various system tests in transit
1500	CTD test station
1600	Go-Flo bottle cast test/rinse
1730	MVP test
2000	Oozeki trawl test
2200	MOCNESS test

1 October

1900	MVP Bowtie survey to station, 33.64°N, 124.0°W
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2 October

0200 CTD, setup *in situ* experiments (500 m)
0500 Deploy sediment trap array
0530 CTD, organics, bacteria, thorium (500 m)
0730 Recover sediment trap, station abandoned
0800 Begin transit to Santa Barbara for drifter repairs

3 October

0030 CTD, water for zooplankton experiments
0130 Bong tow (live), animals for experiments
0230 MVP deployed (2.5 h), transect sampling
0800 **Drifter repairs, Santa Barbara**
1700 MVP deployed (3 h), transect sampling to station
2200 CTD, water for evening experiments
2300 Net tows, animals for experiments

4 October

***** **Begin CYCLE #1 (34.13°N 120.97°W)**
0000 Deploy sediment trap array
0130 CTD, setup *in situ* experiments (500 m)
0400 Deploy *in situ* (drift) array
0430 CTD, organics, bacteria, thorium (500 m)
0600 MVP – small bow-tie survey
1030 Bongo, zooplankton biomass & gut pig sampling
1130 CTD (¹⁴C-PP, PvsE), 500 m; Radiometer off stern
1230 IOP cast (hydrowire)
1330 MOCNESS, zooplankton sampling (800 m)
1600 CTD, water for evening experiments
1800 Thorium pump, simultaneous surface pump
2000 Net tows, animals for experiments
2100 Bongo, zooplankton biomass & gut pig sampling
2200 MOCNESS, zooplankton sampling (800 m)

5 October

0130 CTD, setup *in situ* experiments (500 m)
0300 Go-Flo trace-metal sampling (deep)
0430 Recover/redeploy *in situ* array
0500 Go-Flo trace-metal sampling (shallow)
0600 MVP – small bow-tie survey
1030 Bongo, zooplankton biomass & gut pig sampling
1100 Radiometer off stern

1130 CTD (^{14}C -PP, PvsE), 500 m
1230 IOP cast (hydrowire)
1330 Bongo, zooplankton biomass & gut pig sampling
1430 MOCNESS, zooplankton sampling
1730 Bongo, zooplankton biomass & gut pig sampling
1900 CTD, full dilution experiments & thorium
2030 Bongo, zooplankton biomass & gut pig sampling
2230 MOCNESS, zooplankton sampling

6 October

0030 Bongo/LOPC, zooplankton biomass & gut pig sampling
0130 CTD, setup *in situ* experiments (500 m)
0300 Bongo, zooplankton biomass & gut pig sampling
0430 Recover/redeploy *in situ* array
0600 Bongo, zooplankton biomass & gut pig sampling
0730 Oozeki trawl, deep (2 h)
1000 Bongo/LOPC, zooplankton biomass & gut pig sampling
1100 Radiometer off stern
1130 CTD (^{14}C -PP, PvsE), 500 m
1230 IOP cast (hydrowire)
1300 MOCNESS, zooplankton sampling
1500 Oozeki trawl, shallow (1 h)
1900 CTD, water for evening experiments & new prod
2100 Oozeki trawl, shallow (1 h)
2300 Net tows, animals for experiments
2400 Bongo, zooplankton biomass & gut pig sampling

7 October

0030 Oozeki trawl, shallow (1 h)
0130 CTD, setup *in situ* experiments (500 m)
0300 Go-Flo trace-metal sampling (deep)
0430 Recover/redeploy *in situ* array
0500 Go-Flo trace-metal sampling (shallow)
0600 MVP bow-tie survey
1030 Bongo, zooplankton biomass & gut pig sampling
1130 Radiometer off stern
1200 CTD (^{14}C -PP, PvsE), 500 m
1230 IOP cast (hydrowire)
1330 Oozeki trawl, shallow (1 h)
1500 Oozeki trawl, deep (2 h)
1900 CTD, water for evening experiments & Morel incubations

2000 Thorium pump (deep cast), simultaneous surface pump
2100 Net tows, animals for experiments
2200 Bongo, zooplankton biomass & gut pig sampling
2300 MOCNESS, zooplankton sampling

8 October

0200 CTD, in situ exp, Th & organics (500 m, final samples only)
0300 Recover *in situ* (drift) array
0400 Oozeki trawl, deep (2 h)
0800 Recover sediment trap array; **End CYCLE #1**
0900 Transit – MVP Transect (10 h) to next station

9 October

***** **Begin CYCLE #2 (32.88°N 123.68°W)**
0130 Deploy sediment trap array
0200 CTD, setup *in situ* experiments (500 m)
0400 Deploy *in situ* (drift) array
0430 CTD, organics, bacteria, thorium (500 m)
1030 Bongo, zooplankton biomass & gut pig sampling (non-quant)
2000 Net tows, animals for experiments
2200 Thorium pump, simultaneous surface pump

WEATHER DAY – 30-45 kt winds, heavy seas

10 October

0130 CTD, setup *in situ* experiments (300 m)
0430 Recover/redeploy *in situ* array
1900 CTD, full dilution experiments & thorium
2100 Net tows, animals for experiments

WEATHER DAY – 30-35 kt winds, heavy seas

11 October

0130 CTD, setup *in situ* experiments (300 m)
0430 Recover/redeploy *in situ* array
0730 MVP test transect
1000 Bongo/LOPC, zooplankton biomass & gut pig sampling
1130 Radiometer off stern
1230 CTD (¹⁴C-PP, PvsE), 500 m
1400 IOP cast (hydrowire)
1500 MOCNESS, zooplankton sampling
1800 CTD, water for evening experiments & new prod
1900 Go Flo cast, set-up incubation experiment

2000 Net tows, animals for experiments
2100 Bongo, zooplankton biomass & gut pig sampling
2200 MOCNESS, zooplankton sampling

12 October

0030 Oozeki trawl, shallow (1 h)
0130 CTD, setup *in situ* experiments (500 m)
0300 Go-Flo trace metal cast
0430 Recover/redeploy *in situ* array
0600 Go-Flo trace metal cast
1030 Bongo, zooplankton biomass & gut pig sampling
1130 Radiometer off stern
1200 CTD (¹⁴C-PP, PvsE), 500 m
1330 IOP cast (hydrowire)
1400 Oozeki trawl, shallow (1 h)
1530 Oozeki trawl, deep (2 h)
1800 CTD, water for evening experiments
2000 Net tows, animals for experiments
2100 Bongo, zooplankton biomass & gut pig sampling
2200 Oozeki trawl, shallow (1 h)
2300 Oozeki trawl, deep (2 h)

13 October

0130 CTD, setup *in situ* experiments (500m)
0300 Go-Flo trace-metal sampling (deep)
0430 Recover/redeploy *in situ* array
0500 Go-Flo trace-metal sampling (shallow)
0600 MVP bow-tie survey
1030 Bongo, zooplankton biomass & gut pig sampling
1130 Radiometer off stern
1200 CTD (¹⁴C-PP, PvsE), 500 m
1330 IOP cast (hydrowire)
1400 MOCNESS, zooplankton sampling
1800 CTD, water for evening experiments
1900 Thorium pump (deep cast), simultaneous surface pump
2100 Net tows, animals for experiments
2200 Bongo, zooplankton biomass & gut pig sampling
2300 MOCNESS, zooplankton sampling

14 October

0130 CTD, in situ exp, Th & organics (500 m, final samples only)

0300 Recover *in situ* (drift) array
 0400 Oozeki trawl, deep (2 h)
 0630 Recover sediment trap array; **End CYCLE #2**
 0800 Transit – MVP Transect (8 h) to next station
 2300 Bongo net tow (live), animals for experiments

15 October

***** **Begin CYCLE #3 (33.95°N 121.81°W)**
 0000 Deploy sediment trap array
 0130 CTD, setup *in situ* experiments (500 m)
 0400 Deploy *in situ* (drift) array
 0430 CTD, organics, bacteria, thorium (500 m)
 0600 Oozeki trawls, deep/shallow
 1030 Bongo, zooplankton biomass & gut pig sampling
 1130 Radiometer off stern
 1200 CTD (¹⁴C-PP, PvsE), 500 m
 1300 MVP vertical profile (test)
 1330 IOP cast (hydrowire)
 1430 MOCNESS, zooplankton sampling
 1700 CTD, water for evening experiments
 1800 Thorium pump, simultaneous surface pump
 2000 Net tows, animals for experiments
 2130 Bongo, zooplankton biomass & gut pig sampling
 2230 MOCNESS, zooplankton sampling

16 October

0130 CTD, setup *in situ* experiments (500 m)
 0300 Go-Flo trace-metal sampling (deep)
 0430 Recover/redeploy *in situ* array
 0500 Go-Flo trace-metal sampling (shallow)
 0600 Oozeki trawls, deep/shallow
 1000 Bongo, zooplankton biomass & gut pig sampling
 1100 Radiometer off stern
 1130 CTD (¹⁴C-PP, PvsE), 500 m
 1300 IOP cast (hydrowire)
 1400 Bongo, zooplankton biomass & gut pig sampling
 1500 Oozeki trawl, deep (2 h)
 1730 Bongo, zooplankton biomass & gut pig sampling
 1830 CTD, full dilution experiments & thorium
 2000 Bongo, zooplankton biomass & gut pig sampling
 2100 Oozeki trawl, deep (2 h)

2330 Bongo/LOPC, zooplankton biomass & gut pig sampling

17 October

0030 Oozeki trawl, shallow (1 h)
0130 CTD, setup *in situ* experiments (500 m)
0300 Bongo, zooplankton biomass & gut pig sampling
0430 Recover/redeploy *in situ* array
0500 Bongo, zooplankton biomass & gut pig sampling
0600 MVP – small bow-tie survey
1000 Bongo/LOPC, zooplankton biomass & gut pig sampling
1100 Radiometer off stern
1130 CTD (¹⁴C-PP, PvsE), 500 m
1300 IOP cast (hydrowire)
1400 MOCNESS, zooplankton sampling
1700 CTD, water for evening experiments & new prod
1800 Thorium pump (deep cast), simultaneous surface pump
2000 Net tows, animals for experiments
2130 Bongo, zooplankton biomass & gut pig sampling
2200 MOCNESS, zooplankton sampling

18 October

0100 CTD, in situ exp, Th & organics (1000 m, final samples only)
0300 Recover *in situ* (drift) array
0500 Recover sediment trap array; **End CYCLE #3**
0600 Transit – PERSONNEL TRANSFER, Santa Barbara
2230 MVP transect (3.5 h) to next station

19 October

***** **Begin CYCLE #4 (33.61°N 121.15°W)**
0300 Deploy sediment trap array
0400 CTD, setup *in situ* experiments (500 m)
0530 Deploy *in situ* (drift) array
0600 CTD, organics, bacteria, thorium (300 m)
0700 MVP – small bow-tie survey
1030 Bongo, zooplankton biomass & gut pig sampling
1130 Radiometer off stern
1200 CTD (¹⁴C-PP, PvsE), 500 m
1330 IOP cast (hydrowire)
1430 MOCNESS, zooplankton sampling
1600 Repair multi-freq sonar system
1900 CTD, water for evening experiments

2000 Thorium pump, simultaneous surface pump
2130 Net tow, animals for experiments
2230 Bongo, zooplankton biomass & gut pig sampling
2330 MOCNESS, zooplankton sampling

20 October

0230 CTD, setup *in situ* experiments (500 m)
0400 Go-Flo trace-metal sampling (deep)
0530 Recover/redeploy *in situ* array
0600 Go-Flo trace-metal sampling (shallow)
0630 MVP – small bow-tie survey
1030 Bongo, zooplankton biomass & gut pig sampling
1130 Radiometer off stern
1200 CTD (¹⁴C-PP, PvsE), 500 m
1330 IOP cast (hydrowire)
1430 Oozeki trawl, deep (2 h)
1730 Thorium pump (deep cast), simultaneous surface pump
1900 CTD, water for full dilution & evening experiments
2000 Oozeki trawl, shallow (1 h)
2100 Oozeki trawl, deep (2 h)
2300 Net tow, animals for experiments
2330 Bongo, zooplankton biomass & gut pig sampling

21 October

0030 Oozeki trawl, shallow (1 h)
0200 CTD, in situ & Th & organics (1000 m, final samples only)
0400 Recover *in situ* (drift) array
0430 Oozeki trawl, shallow (1 h)
0700 Recover sediment trap array; **End CYCLE #4**
0600 Transit to next station, MVP testing/repair enroute
2300 Bongo net, live animals for experiments

22 October

***** **Begin CYCLE #5 (32.90°N 120.93°W)**
0000 Deploy sediment trap array
0130 CTD, setup *in situ* experiments (500 m)
0300 Bongo net, live animals for experiments
0430 Deploy *in situ* (drift) array
0500 CTD, organics, bacteria, thorium (1000 m)
0600 Oozeki trawl, deep (2 h)
0900 Oozeki trawl, shallow (1 h)

1030 Bongo, zooplankton biomass & gut pig sampling
 1130 Radiometer off stern
 1200 CTD (¹⁴C-PP, PvsE), 500 m
 1330 IOP cast (hydrowire)
 1430 MOCNESS, zooplankton sampling
 1600 Go-Flo trace-metal sampling
 1730 Thorium pump, simultaneous surface pump
 1900 CTD, water for evening experiments
 2000 Net tow, animals for experiments
 2130 Bongo, zooplankton biomass & gut pig sampling
 2230 MOCNESS, zooplankton sampling

23 October

0200 CTD, setup *in situ* experiments (500m)
 0430 Recover/redeploy *in situ* array
 0500 MVP – small bow-tie survey
 1030 Bongo, zooplankton biomass & gut pig sampling
 1130 Radiometer off stern
 1200 CTD (¹⁴C-PP, PvsE), 500 m
 1330 IOP cast (hydrowire)
 1430 Oozeki trawl, deep (2 h)
 1730 Thorium pump (deep cast), simultaneous surface pump
 1900 CTD, water for full dilution & evening experiments
 2000 Oozeki trawl, shallow (1 h)
 2100 Oozeki trawl, deep (2 h)
 2300 Net tow, animals for experiments
 2330 Bongo, zooplankton biomass & gut pig sampling

24 October

0030 Oozeki trawl, shallow (1 h)
 0200 CTD, in situ & Th & organics (1000 m, final samples only)
 0400 Recover *in situ* (drift) array
 0430 Oozeki trawl, shallow (1 h)
 0630 CTD profile & Chl a at sediment trap
 0800 Recover sediment trap array; **End CYCLE #5**
 ***** **Begin MVP transects through FRONT STUDY area**
 1000 MVP South transect through front 12 nm
 1130 MVP North transect through front 24 nm
 1400 MVP South transect through front 18 nm
 1600 MVP slow (6 kts) North transect through front 12 nm
 1830 MVP slow (6 kts) South transect through front 12 nm

***** **Begin A Front transect sampling, Bongo & CTD**
 2100 Vertical bongo tow (100 m) – Stn AF1; 32.67°N, 120.71°W
 2120 CTD (300 m)
 2200 Vertical bongo tow (100 m) – Stn AF2; 32.70°N, 120.71°W
 2220 CTD (300 m)
 2300 Vertical bongo tow (100 m) – Stn AF3; 32.72°N, 120.71°W
 2320 CTD (300 m)

25 October

0000 Vertical bongo tow (100 m) – Stn AF4; 32.75°N, 120.71°W
 0020 CTD (300 m)
 0100 Vertical bongo tow (100 m) – Stn AF5; 32.78°N, 120.71°W
 0120 CTD (300 m)
 0200 Vertical bongo tow (100 m) – Stn AF6; 32.80°N, 120.71°W
 0220 CTD (300 m)
 0300 Vertical bongo tow (100 m) – Stn AF7; 32.83°N, 120.71°W
 0320 CTD (300 m)
 0400 Vertical bongo tow (100 m) – Stn AF8; 32.85°N, 120.71°W
 0420 CTD (300 m)
 0500 Vertical bongo tow (100 m) – Stn AF9; 32.89°N, 120.71°W
 0520 CTD (300 m)
 0700 **End A Front sampling**; Transit south to CYCLE #6 area
 1600 Go-Flo trace-metal sampling
 1800 CTD, water for thorium, evening experiments
 1900 Deploy sediment trap array
 2030 Net tow, animals for experiments
 2200 Bongo, zooplankton biomass & gut pig sampling
 2300 MOCNESS, zooplankton sampling

26 October

***** **Begin CYCLE #6 (33.60°N 120.56°W)**
 0100 IOP, Bio-optics cast
 0200 CTD, setup *in situ* experiments (500 m)
 0430 Deploy *in situ* (drift) array
 0500 Oozeki trawl, shallow (1 h)
 0630 Oozeki trawl, deep (2 h)
 0900 Oozeki trawl, shallow (1 h)
 1030 Bongo, zooplankton biomass & gut pig sampling
 1130 Radiometer off stern
 1200 CTD (¹⁴C-PP, PvsE), 500 m
 1300 MVP stationary vertical cast

1330 IOP cast (hydrowire)
1430 MOCNESS, zooplankton sampling
1730 Thorium pump, simultaneous surface pump
1900 CTD, water for full dilution & evening experiments
2000 Oozeki trawl, shallow (1 h)
2100 Oozeki trawl, deep (2 h)
2330 Bongo, zooplankton biomass & gut pig sampling

27 October

0030 Oozeki trawl, shallow (1 h)
0200 CTD, setup *in situ* experiments (500 m)
0430 Recover/redeploy *in situ* array
0530 MVP – small bow-tie survey
1030 Bongo, zooplankton biomass & gut pig sampling
1130 Radiometer off stern
1200 CTD (¹⁴C-PP, PvsE), 500 m
1330 IOP cast (hydrowire)
1430 Oozeki trawl, deep (2 h)
1900 Thorium pump (deep cast), simultaneous surface pump
2030 Net tow, animals for experiments
2130 Oozeki trawl, shallow (1 h)
2300 MOCNESS, zooplankton sampling (1000 m?)

28 October

0200 CTD, in situ & Th & organics (1000 m, final samples only)
0400 Recover *in situ* (drift) array
0430 Oozeki trawl, shallow (1 h)
0630 CTD adjacent to sediment trap
0730 Recover sediment trap array; **End CYCLE #6**
0900 Transit – Head for the barn, sonar test speed, Oozeki trawls enroute
1300 Oozeki trawl, deep (2 h)
1500 CTD, water collection
2100 Live Bongo tow