Nearshore Larval Transport: Fall 2014, Spring 2015, and Fall 2015 Sampling Plans

Oceanographic sensors were deployed in early Spring and early Fall, and retrieved 3-4 months later in the Bird Rock, La Jolla, San Diego, California (USA) region, delimited by the following points:
32° 48.677'N, 117° 16.195'W
32° 48.568'N, 117° 16.145'W
32° 48.421'N, 117° 16.738'W
32° 48.619'N, 117° 16.842'W

Instruments were deployed along a transect roughly perpendicular to shore, from the intertidal to 8m depth, where we simultaneously quantified barnacle settlement and larval supply (using larval traps).

Physical Data:

Subsurface temperature mooring deployed at 8m:
-6 SBE 56 to measure temperature every 5 seconds
-1 SBE 39 to measure temperature and pressure every 60 seconds

Bottom tripod, deployed at 8m:
-1 RDI 1200 kHz ADCP to measure currents every 2 seconds
-1 Seabird Seaguage to measure pressure every 10 minutes
-1 SBE 56 to measure temperature every 5 seconds

Telemetry mooring, deployed at 8m:
-3 or 4 Hobolink temperature loggers transmitting data by cell phone link every 10 minutes
1 SBE 56 to measure temperature every 5 seconds

Bottom tripod, deployed at 5m (Deployed starting in Spring 2015):
-1 RDI 1200 kHz ADCP to measure currents every 2 seconds

Bottom frame, deployed at 4m:
-1 Nortek 1.0 MHz Aquadopp profiler to measure currents every 90 seconds
-1 Seabird Seaguage to measure pressure every 10 minutes
-2 SBE 56 to measure temperature every 5 seconds

Rocky intertidal:
-3 SBE 56 to measure temperature every 5 seconds
-1 SBE 39 to measure temperature and pressure every 60 seconds

Biological Data:

Rocky intertidal sampling:
-12 settlement plates (11 cm long, halved PVC pipes [2.5 cm inner diameter] cut through the pipe's longitudinal axis with three sharp grooves machined on the interior surface) deployed in the adult habitat and collected daily to quantify barnacle settlement, and ~weekly in between deployments.

-6 larval traps (passive traps made of PVC tubes 29 cm tall and 2.8 cm wide, with inner spiral baffles, and a conical aperture) will be deployed near the settlement plates and collected daily to quantify larval supply.

Offshore sampling:

-plankton samples were collected using a 7 m boat (Parker with davit) using an Ebara semivortex pump (~300 liters/minute) fitted with a 5 cm diameter hose, and filtering ~10 m^3 through a 112 µm mesh net to collect the smallest Chthamalid cyprids (~140 µm width, ~400 µm long)

-Sample depth was station-dependent, to include 4 or 5 layers when possible: surface (0-2 m), near-bottom (0-2 m above bottom), and 2 to 3 intermediate depths

-a profiling CTD was deployed at each station during plankton sampling to record temperature and conductivity

-internal wave event sampling was adaptive, depending on water column temperatures transmitted by the 8 telemetry mooring

-swell sampling was also adaptive, depending on the presence of long swell in the study area.