Nearshore Larval Transport: Spring-Summer 2014 Sampling Plan

Oceanographic instruments will be deployed in mid-April and retrieved in mid-July in the Bird Rock, La Jolla, San Diego, California (USA) within region delimited by the following points:
NE 32° 48.677'N, 117° 16.195'W
SE 32° 48.568'N, 117° 16.145'W
SW 32° 48.421'N, 117° 16.738'W
NW 32° 48.619'N, 117° 16.842'W

Instruments will be deployed along a transect perpendicular to shore, from the intertidal to 8m depth, where we will simultaneously quantify barnacle settlement, larval supply, and concentrations within the water column.

Physical Data:
Subsurface temperature mooring to be 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 to be 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 to be deployed at 8m:
-3 Hobolink temperature loggers transmitting data by cell phone link every 10 minutes
-1 SBE 56 to measure temperature every 5 seconds

Bottom frame to be 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) will be deployed in the adult habitat and collected daily to quantify barnacle settlement
-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 will be 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

-Sample depth will be 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 will be deployed at each station during plankton sampling to record temperature and conductivity

-internal wave event sampling will be adaptive, depending on water column temperatures transmitted by telemetry mooring