

Cruise Plan for 13-22 Sep 06 New Horizon (version 2, 24 Jul 06)

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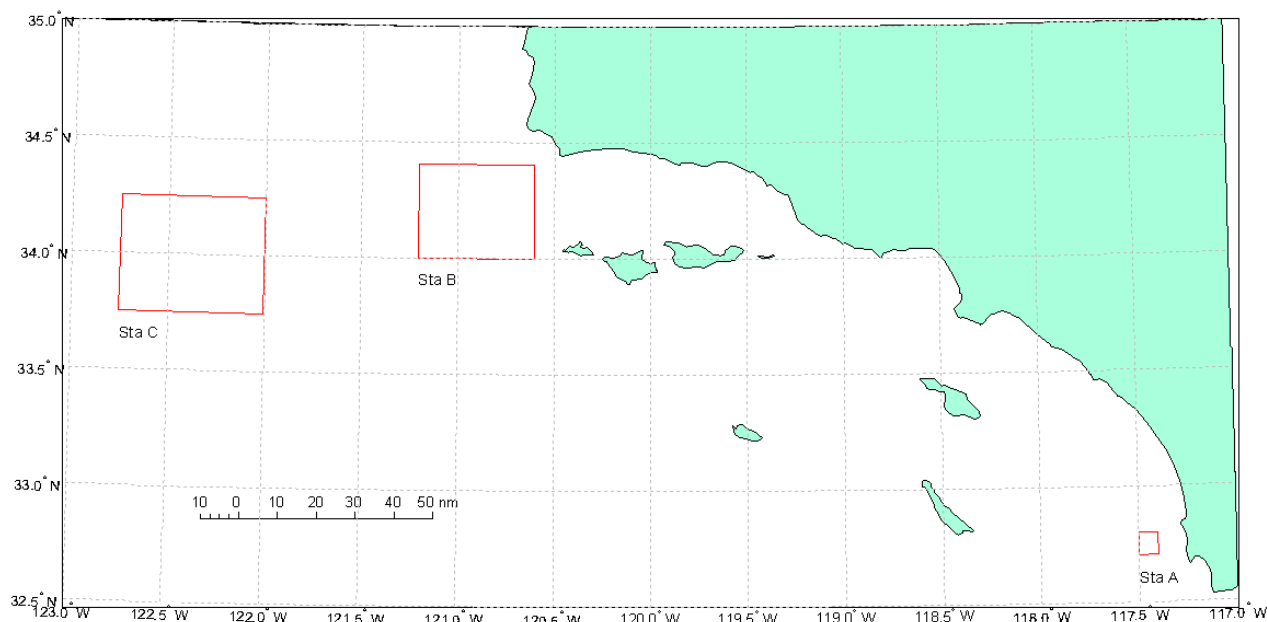
Participants:

- 1 - Dave Checkley (SIO) CS
- 2 - Alex Herman (Bedford Inst Oceanogr. and SIO; Canadian citizen)
- 3 - George Jackson (Texas A&M)
- 4 - Jesse Powell (SIO)
- 5 - Lloyd Regier (SIO)
- 6 - Brian Beanlands (BIO)
- 7 - SIO Resident Marine Technician
- 8 - Lionel Guidi (Texas A&M grad student with G Jackson; French citizen)
- 9 - TBN Lab Assistant (Checkley lab) - tentative
- 10 - Outreach person (e.g. teacher) – tentative

Objectives:

To initially test (Sta A), then use two SOLOPCs, and make ancillary measurements from the ship, one in relatively eutrophic (Sta B) and one in relatively oligotrophic (Sta C) water. In addition to this being a second 'proof of concept' deployment, we would also investigate the observed diel variation seen during the first SOLOPC deployment in Sep-Oct 05. To that end, we would like at least 4-d SOLOPC operation at Stas B and C.

Area of Operation:



Schedule:

12 Sep 06		Load; test gear at dock
13 Sep 06	0800	Depart San Diego
	1000	Arrive on Sta A Test (deploy and retrieve) both floats
	1600	Depart Sta A for Sta B
14 Sep 06	1200	Arrive Sta B Deploy SOLOPC_1 Initial water column measurements Sta B (net-LOPC, DFC-LOPC, and CTD cast)
	2200	Depart Sta B for Sta C
15 Sep 06	1000	Arrive Sta C Deploy SOLOPC_2 36-h measurement sequence Sta A
17 Sep 06	0600	Depart Sta C for Sta B
	1800	Arrive Sta B 36-h measurement sequence Sta B
20 Sep 06	0600	Retrieve SOLOPC_1 (elapsed time ~ 5.5d) Depart Sta B for Sta C
	2000	Arrive Sta C Final water column measurements Sta C
21 Sep 06	0600	Recover SOLOPC_2 (elapsed time ~ 5.5d) Depart Sta C for San Diego
22 Sep 06		Arrive San Diego Unload
23 Sep 06		If late arrival on 22 Sep 06, unload this day

Science Equipment:

1 – SOLOPC

Two, identical SOLOPCs will be deployed. Each will be as in Sep-Oct 05 and, in addition, have an ECO-puck fluorometer. Profile depth remains to be decided (e.g. surface – 100, up to 300, m). Deployment from fantail using crane. Inflatable boat needed for recovery.



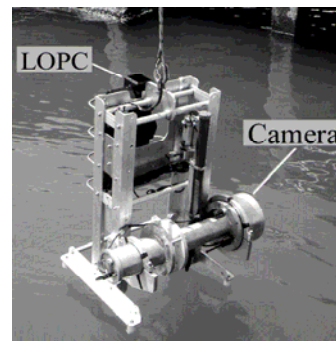
2 – Net-LOPC

Ring net with LOPC in the mouth and ~78- μ m-mesh net, deployed vertically from a user-specified depth to the surface. An AMS micro-CTD and WETLabs fluorometer are also deployed with the LOPC. Standard EM cable (e.g. 3-conductor, 0.322” diameter) required on appropriate winch with slip rings. Deployment is off fantail through A-frame or from starboard amidships, of same frame as the CTD (may not be feasible, as may not clear gunwale and we may not be able to direct two EM cables, i.e. for CTD and this net-LOPC, over the side).



3 – DFC-LOPC

Digital Floc Camera (DFC) on a frame with an LOPC. The DFC is preset prior to deployment to take and store images (Nikon D50) at set intervals. The LOPC requires an EM cable. Hence, we prefer to have a second winch with 0.322” EM cable for this instrument package. Deployment is off fantail through A-frame or starboard amidships.



4 – CTD with rosette

Rosette with CTD to collect water samples at desired depths. This will provide useful context in which to interpret the particle and plankton data from both the SOLOPC and the ship-deployed instruments. Requested instruments include Seabird SBE 19 CTD,

SBE 43 dissolved oxygen sensor (we would need to calibrate the sensor), WETLabs transmissometer (25-cm path length), fluorometer, and 12, 10-liter water bottles. We, with the help of the RMT, would operate this. A third winch with 0.322" EM cable would be needed. Deployment is starboard amidships. If a -80°C freezer is available, I would like this aboard for sample storage.

Ship's Equipment:

A – Wires and winches

We prefer to have three winches, each with an EM cable (most likely 0.322", three conductor standard cable). Optimal would be two of these used starboard amidships (CTD and DFC-LOPC) and one over the stern (net-LOPC). Alternatively and likely more practical, there would be one over the side (CTD) and two over the stern (net-LOPC, DFC-LOPC). If only two winches with conducting cable are available, we will need to change between instrument packages. I assume ODF will terminate the CTD wire and that the scientists will terminate the other wire(s). Two or three sheaves will be needed.

B – Inflatable boat

Needed for recovery of SOLOPCs at all stations.

C – Freezer

If available, a -80°C freezer for sample storage.

D – Underway water supply and measurements

If available, I'd like a flow of uncontaminated seawater for underway measurement of temp and conductivity and chl a fluorescence to log and display, with GPS time/date and lat/lon. If such a system already is in place on the New Horizon, please tell me so I don't duplicate it.

E – ADCP

I would like ADCP data to be acquired during the cruise.

F – Communications

I am hoping that we will have access to the WWW over the HighSeas net. We will use this to access data transmitted ashore via Iridium to SIO.