

DRAFT 16-Dec-09

Cruise Plan (13-22 January 2010) RV Revelle

CRUISE NUMBER RR 1001

BEGINNING DATE January 13, 2010

ENDING DATE January 22,

2010

PORT OF ORIGIN Tauranga, NZ

PORT OF TERMINATION Wellington, NZ

Objectives: (a) ***Sediment Transport Observations***

- *Deploy three tripods (see map and table for approximate locations)*
- *Recover shallow tripod (day 7), download data and redeploy (day 8)*
- *Run ADCP/HDSS as often as possible*

(b) ***Evaluate the marine sedimentary record – production and modification***

- *Collect multi- and box cores at approximately 25 sites along the shelf (see map and table for locations)*
 - *Cores will be X-radiographed and sectioned for radiochemical, carbon, grain size, macrofauna, surface area analysis (some analyses to be completed once returned to the lab)*
 - *Some sites will require multiple core collection to evaluate small-scale spatial variations*
 - *Erodibility measurements will be made at >10 sites*
- *Chirp/3.5kHz/Multibeam will be tested (evaluate whether it is worth running in shallow water) and run when time allows*

(c) ***Water Column Structure and Variability***

- *Collect CTD profiles and water column samples at each coring location*
 - *Collect water from multiple depths at each core site, particularly need a large volume of water (>20 liters) from near-bed (as close to the bottom as possible)*
- *Establish three cross shore transects and perform CTD casts at each site along transect several times (~3) during the course of the cruise*
- *Flow-through system will be run continuously, combined with shipboard met observations.*

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RV Revelle

- 09 January (Sat) Arrive Tauranga, rent car, ECU, UW, VIMS group meet at Port at ~1400. Verify equipment arrival; coordinate with ship personnel to load gear in afternoon. Group sleeps at Hotel (???still working on this???)
- 10-12 Jan (Sun-Tues) Begin unpacking, testing and constructing tripods in research lab and fantale of ship. Set up laboratory as allowed by SIO Research Techs. Alan Orpin arrives from Wellington with lab equipment to load Monday AM. Work with Research Techs to provide safesest location for X-radiography system.
- Science party begins to sleep on ship starting the night of January 11. Student volunteers arrive at the ship evening 12 January.
- 13 Jan (Wed) Ship leaves port @ 1600, steams for Poverty Bay (~250 miles or ~21 hours steam).
- 14-15 Jan Once we arrive on site (Poverty Bay), we will initially focus on our 3 tripod sites. We will CTD, core, and lower the tripod at these three sites prior to moving on to additional sites. It is expected that deployments will take 2 days of daylight operations. Night operations will emphasize CTD and coring operations.
- 16-19 Jan Focus on CTD and coring operations as defined in the objectives. Also, see site figure and table for site locations. Sites will be added or removed depending on findings.
- 19 Jan Return to shallow tripod site; CTD, core, retrieve tripod. Instruments from tripod will be downloaded, tested, recalibrated, and prepped for redeployment. Continue coring and CTD operations.
- 20 Jan Redeploy shallow tripod. Continue coring and CTD operations.
- 21 Jan At approximately 0800, all scientific operations will need to stop to begin our steam to Wellington (~300 miles or ~25 hours steam). It would be good to focus our efforts this last day at the southernmost part of our study area. ETA into Wellington is 01/22/2010 0800.

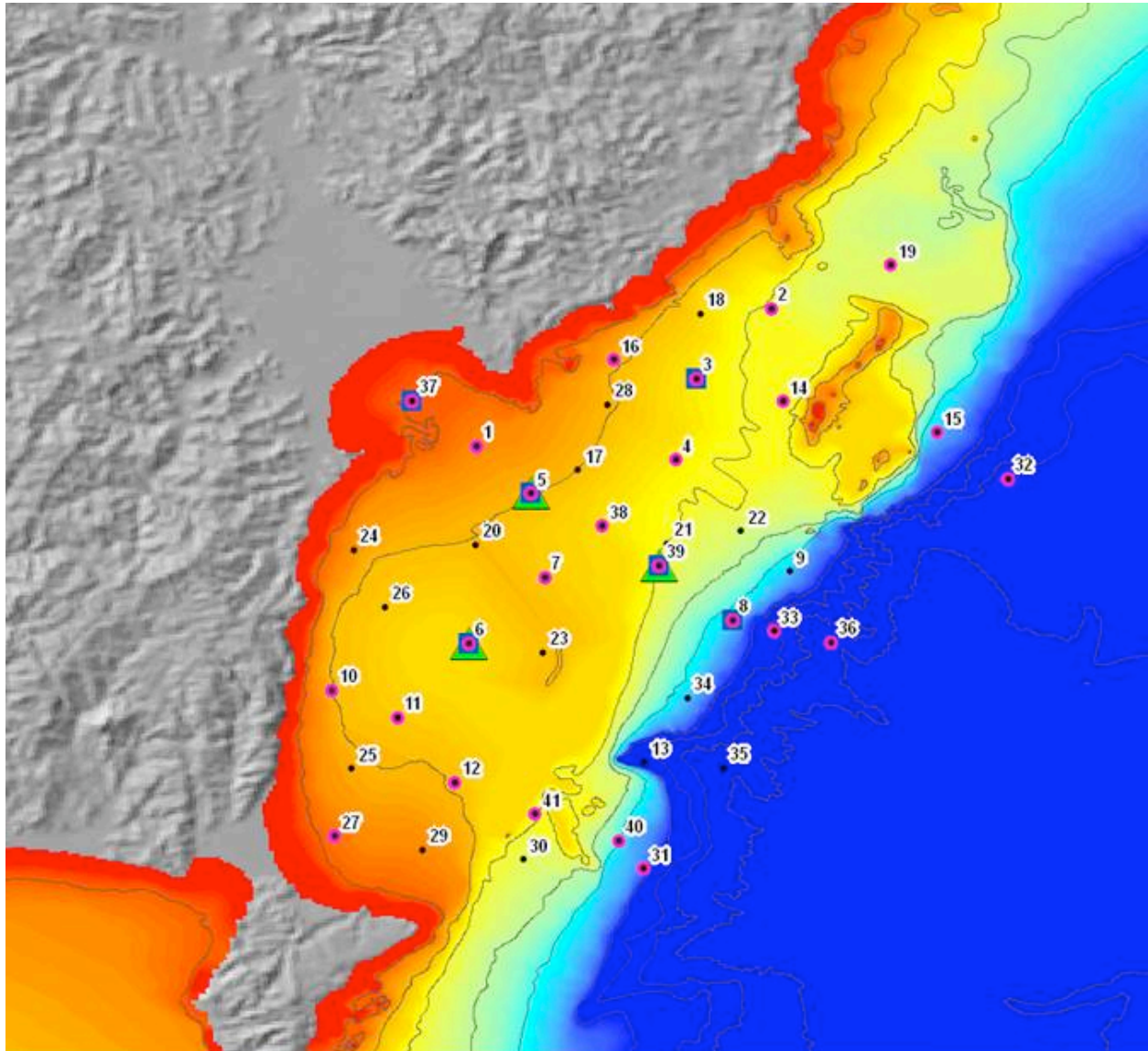
***Note: all activities, sampling locations, and the above schedule depend on underway findings. Sites, schedules, and operations will likely change throughout the cruise.**

ACTIVITIES

- (A) Sample OPS Log (Corbett) – Record OPS # anytime something goes over the side (CTD, Water Samples, Grab sample, etc.), Walsh will bring a computer.
- (B) Continuous flow-through system and met data collection; periodic sample collections for calibration
- (C) Deploy tripods (Ogston)
- (D) Water column structure (CTD) and samples (TSS) at all stations, plus three cross-shelf transects (Hale/Lee)
- (E) >25 Coring stations (around the clock, Walsh/Corbett), Multi-core and Box core
- (F) Erodibility measurements (around the clock; Kiker/ Moriarty)
- (G) Chirp/3.5 kHz and Multibeam as needed and deemed appropriate (Walsh/Orpin)
- (H) Shipboard ADCP and HDSS as need (Ogston)
- (I) Hope to have a Blog for my Intro to Oceanography class (Corbett – need to talk to ship prior)
- (J) X-radiography – or is that included under coring (Orpin)

PROPOSED SAMPLING LOCATIONS

Long	Lat	SiteID		GustChamber	KeyCore
178.0426	-38.7520	1			Y
178.2615	-38.6500	2			Y
178.2059	-38.7020	3		Y	Y
178.1905	-38.7620	4			Y
178.0831	-38.7870	5	Tripod	Y	Y
178.0365	-38.8980	6	Tripod	Y	Y
178.0936	-38.8490	7			Y
178.2327	-38.8810	8		Y	Y
178.2752	-38.8450	9			
177.9350	-38.9330	10			Y
177.9833	-38.9530	11			Y
178.0262	-39.0010	12			Y
178.1665	-38.9860	13			
178.2699	-38.7190	14			Y
178.3845	-38.7420	15			Y
178.1447	-38.6880	16			Y
178.1176	-38.7700	17			
178.2083	-38.6540	18			
178.3501	-38.6180	19			Y
178.0416	-38.8250	20			
178.1842	-38.8240	21			
178.2385	-38.8150	22			
178.0914	-38.9050	23			
177.9508	-38.8290	24			
177.9495	-38.9910	25			
177.9746	-38.8710	26			
177.9369	-39.0410	27			Y
178.1396	-38.7210	28			
178.0023	-39.0510	29			
178.0768	-39.0580	30			
178.1665	-39.0650	31			Y
178.4372	-38.7760	32			Y
178.2633	-38.8891	33			Y
178.1989	-38.9383	34			
178.2256	-38.9907	35			
178.3060	-38.8972	36			Y
177.9948	-38.7185	37		Y	Y
178.1361	-38.8113	38			Y
178.1780	-38.8402	39	Tripod	Y	Y
178.1477	-39.0442	40			Y
178.0861	-39.0247	41			Y



Contours are 20,40,60,80,100,150, 250,500,1000,2000,3000

Black dots – possible core/CTD sites

Pink circles – higher priority core/CTD sites

Blue squares – Erosion chamber and highest priority core/CTD sites (all hopefully reoccupied on all cruises)

Green triangles – Tripod sites

Note: Site 37 is located inside Poverty Bay...we hope to move as far into Poverty Bay as possible, further than the 20 m contour if the captain is comfortable with it.