HAWAI'I UNDERSEA RESEARCH LABORATORY

QUICK LOOK REPORT
DIVE: P5-764

MISSION STATUS

Location: west side Oahu

Latitude: **21**° 20.209 **Longitude:** 158° 09.207

Mission Date: Mar_22_2011 **Duration:** **4** hours 30 mins

Maximum Depth: 391 when landed. Moved south east and stayed at ~250m.

Project Title: Measuring Animal Metabolism in Hawaiian Bathyal Environments

Principal Investigator: Jeff Drazen

Address: University of Hawaii
Department of Oceanography
1000 Pope Rd.
Honolulu, HI 96822

Phone: 808-956-6567

Observer 1: Cordelia Moore
Address: same as above

Observer 2: Nicole Condon
Address: same as above

Pilot 1: Terry

Pilot 2:

Scientific Data Acquired: Prepare an abstract outlining your objectives, techniques, findings, etc.

Objectives:

1) Capture a diversity of benthic animals and measure their metabolism in the laboratory to estimate energetic demands

   To accomplish this goal and bring the animals back alive we used three techniques
   a) A modified slurp gun with plastic insulated barrel and ball valve to keep cold *in situ* water inside – for crabs, shrimps etc
   b) A modified biobox – thick walled PVC for insulation – to place animals, mostly echinoderms, in after capture with scoops and the manipulator arm
   c) An insulated baited trap – for capture of mobile shrimps, crabs, and fishes

2) Perform submersible transects to measure animal densities so that the metabolism data can be extrapolated to the ecosystem level

Transects were 15minutes with the HD camera faced forward viewing 3m wide swath of seafloor and observers performing counts from their fields of view

Observations, findings, etc:
Area with organism collections marked by steep carbonate incline (45˚ or more) and both carbonate reef and sand substrate (sand areas at the bottom of the inclines). Substrate scarcely populated by small Gorgonian corals. Area marked with many small holes, which led to the observance of many galatheid crabs, Moray eels, and small rocky/reef associated fishes.

Transects were not conducted due to time restraints. All other goals (set and retrieving trap, collection of target species, general observation of organisms in area) were met.

Species list:

Abundant (observed more than 5 times)
Stylocidaris rufa
Plectranthias kelloggi
Gymnothorax nuttingi
Stylocidaris calacantha
Symphsanodon maunaloae
Odontanthias elizabethae
Seriola dumerili
Grammatonotus laysanus
Flatfish
Hermit crabs
Babamunida
Pontinus macrocephalus

Observed a few times
Scorpaenidae
Phenacoscorpius megalops?
Chromis struhsakeri
Symphysanodon typus
Etelis carbunculus
Micropyga (red)
Scyllarus aurora

Observed once
Ophichthidae
Moridae (dark purple/black)
Paramola japonica
Crinoides (black)
Synodontidae sp.
Nudibranch (clear, swimming)
Bodianus bilunulatus

MISSION EVALUATION:

Limitations, failures, or operational problems noted:
No transects performed due to time limitation. *Babmunida* was able to avoid slurp gun and swim out of containment once slurped. Difficulty in closing bungee cords for fish trap and placing fish trap on front porch of sub.

Recommendations for corrective action or improvement:
Modification of fish trap to aid sub arms in holding and manipulating the trap.

In your opinion, did the mission essentially achieve its purpose? Compare actual work accomplished with the work that was expected to be accomplished.
Yes, despite a lack of transects. A large variety of samples were collected in a relatively short amount of time.

List specimens or samples collected on the mission.

Specimens
Echinoids
(4) *Stylocidaris calacantha*
(3) *Stylocidaris rufa*
(2) *Micropyga*
(2) Unid. Diodematidae

Asteroids
(2) *Tamaria* sp.

Crustaceans
(2) *Babamunida*
(1) Hermit crab
(1) *Paramola japonica*
(1) *Scyllarus aurora*

DATA RELEASE

Data may be retained by the project leader for up to 2 years after the mission date with the following exception. NOAA may request to use photos for publication or publicity purposes at any time.

Fill in the appropriate statement below and sign this form.

I hereby release the data archived by HURL for public consumption following mission

Measuring Animal Metabolism in Hawaiian Bathyal Environments

held on Mar 22, 2011 (date) in the following way:

a. CTD data by immediately (date)

b. video and images by Mar 22, 2011 (date)

c. other Mar 22, 2011 (date)

d. I will give my written consent to individuals wishing to use these data prior to the above dates depending on the nature of the request(s).

_____ Principal Investigator