

**Application for Consent to Conduct Marine Scientific Research  
in Areas Under National Jurisdiction of**

**Philippines**

(name of coastal state)

**Date: 15 January 2010**

**Revised 17 April 2010**

**1. General Information**

1.1 Cruise name and/or #:	Impact of Typhoons on the Pacific Internal Waves in Straits
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1.2 Sponsoring institution:	
Name:	Office of Naval Research
Address:	U.S. Office of Naval Research 875 North Randolph Street, Suit 1425 Arlington, VA 22203-1995
Name of Director:	ONR Program manager(s)?

1.3 Scientist in charge of the project (include CV and passport photo):	
Name:	Dr. Craig M. Lee (POC for shipboard operations). See attached list for individual project contacts.
Address:	Applied Physics Laboratory University of Washington 1013 NE 40th St Seattle, WA 98105-6698 USA
Telephone:	+1-206-685-7656
Fax:	+1-206-543-6785
Email:	craig@apl.washington.edu

1.4 Scientist(s) from coastal state involved in the planning of the project:	
Name(s):	Prof. Cesar Villanoy (Philippines)
Address:	University of the Philippines, Dilman c.villanoy@gmail.com
Name(s):	Prof. Laura David (Philippines)
Address:	University of the Philippines, Dilman ldavid@upmsi.ph

Any Japanese collaborators?

1.5 Submitting officer:	
Name and address:	Elizabeth Brenner/Rose Dufour University of California Scripps Institution of Oceanography 9602 La Jolla Shores Drive La Jolla, CA 9203
Nationality:	USA
Telephone:	858-534-2841
Fax:	
Email:	shipsked@ucsd.edu

2. Description of Project (Attach additional pages as necessary)

2.1 Nature and objectives of the project:
Please see attached document.

2.2 Relevant previous or future research cruises:
Please see attached document.

2.3 Previously published research data relating to the project:
None.

3. Methods and Means to be Used

3.1 Particulars of vessel:	
Name:	R/V Revelle
Nationality (Flag state):	U.S.A.
Owner:	U.S. Navy
Operator:	Scripps Institution of Oceanography
Overall length (meters):	84 m. [275']
Maximum draught (meters):	17'
Displacement/Gross tonnage:	3,180 long tons
Propulsion:	Tow 3000 hp Propulsion General Electric Bow Thruster: 1180 hp Azimuthing jet Tyupe Elliot Gill Model 50T 35 Propulsors: Two 3000 hp Z-Drives Lips Type FS 2500-450/1510BO
Cruising & Maximum speed:	12 knots
Call sign:	<b>KAOU</b>
Method and capability of communication (including emergency frequencies):	Email, master@rv-revelle.ucsd.edu Inmarsat-B, Telephone, Indian, 011-873-336780030 Alternate, 011-873-336780020 Fax, Primary, 011-873-336780031 Alternate, 011-873-336780021 Telex, Primary, 336780033 (AnsBk=KAOU) Alternate, 336780022 (AnsBk=KAOU) Inmarsat-C, 436780010 Radio, Vessels guard standard GMDSS frequencies for calling, distress and dissemination of marine safety information. MMSI #, 367800100 SELCAL #, 71410 Telex, Primary, 336780033 (AnsBk=KAOU) Alternate, 336780022 (AnsBk=KAOU) Inmarsat-C, 436780010 Radio, Vessels guard standard GMDSS frequencies for calling, distress and dissemination of marine safety information. MMSI #, 367800100 SELCAL #, 71410
Name of master:	Captain Thomas DesJardins
Number of crew:	22
Number of scientists on board:	No more than 37

3.2 Aircraft or other craft to be used in the project:
Yes, but filed under separate MSR.

3.3 Particulars of methods and scientific instruments
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Please also see attached document for instrument details.		
Types of samples and data	Methods to be used	Instruments to be used
T, S, chlorophyll fluorometer, light attenuation (660nm), CDOM fluorescence, dissolved oxygen profiles	Shipboard CTD profiling	Seabird CTD and rosette
Water velocity profiles	Ship-based surveys	Shipboard Hydrographic Doppler Sonar (ADCP), GPS, GPS attitude and Lowered ADCP (LADCP) mounted on CTD package.
T, S profiles	Synoptic, ship-based surveys with profiling instrument	OceanSciences Underway CTD (UWCTD)
Meteorological variables (e.g. wind speed, heat flux, air temperature, etc)	Ship-based surveys	Shipboard meteorological sensors
T, S, dissolved oxygen, chlorophyll fluorescence, blue/red light backscatter, water velocity shear, microstructure	Glider-based surveys	Autonomous gliders Seagliders and Slocum gliders
Microstructure, T, S	Surveys using tethered microstructure profiler.	Rockland Scientific VMP-500
ASIS/EASI moorings will be deployed, serviced and recovered in international waters		
T, S, velocity	Subsurface mooring with profiling instrument	ADCP (velocity), MacLane Moored Profiler
Temperature structure and waves	Bottom-mounted instruments	PIES (Pressure Recording Inverted Echo Sounder)
T, S profiles (upper ocean)	Profiling floats	Wirewalker profiling floats
Underway (UW) multibeam	Swath mapping	Kongsberg EE122 150 degree swath width, 121 bathymetry beams, plus backscatter imagery
UW Mags	Magnetometer deployment	Marine Magnetics total field gradiometer
UW Gravity	Gravimeter	Bell Gravimeter

3.4 Indicate whether harmful substances will be used:  
None.

3.5 Indicate whether drilling will be carried out:  
No

3.6 Indicate whether explosives will be used:  
No

3.7 Indicate whether the project involves catching, taking, or exploration of marine animal and plants:  
No marine animal or plant interactions.

#### 4. Installations and Equipment

Details of installations and equipment (dates of laying, servicing, recovery; exact locations and depth):

Please see attached document.

## 5. Geographical Areas

5.1 Indicate geographical areas in which the project is to be conducted (with reference in latitude and longitude):

Please see attached document.

5.2 Attach chart(s) at an appropriate scale (1 page, high-resolution) showing the geographical areas of the intended work and, as far as practicable, the positions of intended stations, the tracks of survey lines, and the locations of installations and equipment.

## 6. Dates

6.1 Expected dates of first entry into and final departure from the research area of the research vessel:

For this project multiple entries are possible in Philippine waters between 17 June – 23 October 2010. Due to the uncertainties involved in sampling typhoons, it is not possible to specify exact dates of entries and departures in advance.

R/V Revelle First entry 17 June 2010

Gliders are anticipated to be in the area until 13 November 2010. (Submitted under separate request DOS #2009-131)

6.2 Indicated if multiple entry is expected:

Yes.

## 7. Port Calls

7.1 Dates and names of intended ports of call:

Port calls may be desired at various times during the operating period, though due to the uncertainties involved in sampling typhoons, it is not possible to specify ports and dates in advance. Possible ports include Kao-hsiung, Keelung, Manila, Ilo Ilo, Naha and Guam. Depending on typhoon tracks, other ports might be sought for safety and logistical concerns. For now we do know that the first cruise beginning 17 June will be carried out of Kao-hsiung, Taiwan.

7.2 Any special logistical requirements at ports of call:

N/A in this document.

7.3 Name/Address/Telephone of shipping agent (if available): No agent in the Philippines

Kaohsiung, Taiwan  
Jardine, Matheson & Co, Ltd  
Physical Address  
5th Floor, No. 21,  
Fubon Building Chung Hwa 3rd Road  
Kaohsiung, Taiwan  
Tel: 886 7 2317141 Fax: 886 7 2015492 / 2111945

Gen Email: [operation.kao@jm.com.tw](mailto:operation.kao@jm.com.tw)  
POC H M Chao, Port Manager  
Tel: 2317141 Ext 107 Mobile: 886 9 29639939  
Email: [hm.chao@jm.com.tw](mailto:hm.chao@jm.com.tw) D C Wang  
Tel: 2317141 Ext 129 Mobile: 886 9 29633811  
Email: [dc.wang@jm.com.tw](mailto:dc.wang@jm.com.tw)

#### 8. Participation:

8.1 Extent to which coastal state will be enabled to participate or to be represented in the research project:

We welcome participation by Philippine and scientists.

8.2 Proposed dates and ports for embarkation/disembarkation:

17 June 2010 - Kao-hsiung, Taiwan

03 July 2010 - Kao-hsiung, Taiwan

Multiple ports and embark/debark dates, all to be decided based on typhoon occurrence between 14 August and 23 October 2010.

Other cruise with separate PI's and projects will be carried out between these periods.

#### 9. Access to data, samples and research results

9.1 Expected dates of submission to coastal state of preliminary reports, which should include the expected dates of submission of the final results:

No more than 30 days from the end date of the cruise.

9.2 Proposed means for access by coastal state to data and samples:

CD or DVD provided, with further access to the data via internet download or CD/DVD on request.

9.3 Proposed means to provide coastal state with assessment of data, samples and research results or provide assistance in their assessment or interpretation:

Participation in international data analysis workshops and science symposia during the analysis phase of the project.

9.4 Proposed means of making results internationally available:

Publication in scientific journals and reports.

(Revised June 5, 2002)