

## Quarterly Progress Report Form - Oil Spill Recovery Institute

This report may be submitted by mail, fax or e-mail

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**Deadline for this report:** All grants over \$25,000 shall submit this report within 30 days of the end of the quarter.

**Today's date:** 12/29/05

**Name of awardee/grantee:** University of Miami, Rosenstiel School of Marine and Atmospheric Science, PI: Professor Christopher N.K. Mooers

**OSRI Contract Number:** 06-10-01

**Project title:** How Does a Semi-Enclosed Sea Respond to External and Internal Forcings?

<b>This report covers</b>	<u>  X  </u> Oct.-Dec.	1 <sup>st</sup> quarter
	<u>    </u> Jan.-March	2 <sup>nd</sup> quarter
	<u>    </u> April-June	3 <sup>rd</sup> quarter
	<u>    </u> July-Sept.	4 <sup>th</sup> quarter

### **PART I - Progress Report on Activities**

In a short paragraph (3-10 sentences), please describe project activities since your last report.

#### Progress

Analysis of 2-D velocity transects at HE and MS in EPWS/NFS (23FEB05-09DEC05) reveals complex flow structures in both the horizontal and vertical directions. Flow structure at HE and MS indicates the coexistence of inflow and outflow with both strong horizontal and vertical velocity shear. The corresponding volume transports, after the tidal harmonics are removed, are nearly balanced instantaneously with each other at the two straits, which indicates reasonable performance of EPWS/NFS.

Further investigation of the time-varying volume transports, as well as the analysis of mean sea levels inside PWS, indicates a significant gain from atmospheric pressure forcing at a period of about 6 hours, which is a typical (Helmholtz) resonance response for PWS as a semi-enclosed sea. The relation between time-varying local wind and pressure forcing, observed by the NDBC buoys 46060 and 46061, and predicted volume transports at HE and MS are being carefully explored.

Real-time operation of PWS/NFS has continued. Assistance (to Dr. Inkweon Bang, who continues upgrading the system) in real-time operation of EPWS/NFS, using Global-NCOM real-time open boundary conditions, has been provided. Additional model-data comparisons are in progress.

Describe any existing or potential problems with the project. If a change in budget or scope of work is required, please explain.

None

## **Part II - Budget Report 06-10-01**

<b><u>Budget Category</u></b>	<b><u>Budget</u></b>	<b><u>Quarter Expenses</u></b>	<b><u>Cumulative Expenses</u></b>	<b><u>Balance Remaining</u></b>
<b>Direct Costs</b>				
Personnel	20,000	5,595.00	5,595.00	14,405.00
Travel	0	0	0	0
Contractual	0	0	0	0
Commodities	0	0	0	0
Equipment	0	0	0	0
<b>Subtotal Direct Costs</b>	<b>20,000</b>	<b>5,595.00</b>	<b>5,595.00</b>	<b>14,405.00</b>
Indirect	5,000	1,398.75	1,398.75	3,601.25
<b>Project Total</b>	<b>25,000</b>	<b>6,993.75</b>	<b>6,993.75</b>	<b>18,006.25</b>