

JIMAR – PFRP ANNUAL REPORT FOR FY 2006

P.I./Sponsor Name: Kim Holland

Project Proposal Title: Instrumented Buoys as autonomous observatories of Pelagic Ecosystems

Funding Agency: NOAA

NOAA Goal (Check those that apply):

- To protect, restore, and manage the use of coastal and ocean resources through ecosystem-base management
- To understand climate variability and change to enhance society’s ability to plan and respond
- To serve society’s needs for weather and water information
- To support the nation’s commerce with information for safe, efficient, and environmentally sound transportation

1. Purpose of the Project (one paragraph)

To design and test a prototype research buoy that is capable of using active echo-sounding techniques to observe the community of pelagic organisms that aggregate around floating objects. The sonar will be capable of 360 degree sweeps around the buoy. Data collected by such an automated observatory will increase our understanding of the pelagic ecosystem and improve management capabilities. New types of transmitters that might be used in conjunction with such an observatory are to be evaluated and, where appropriate, built and tested.

2. Progress during FY 2006 (One-two paragraphs, including a comparison of the actual accomplishments to the objectives established for the period, and the reasons for slippage if established objectives were not met):

The various components for the instrumented buoy continued to be assembled by the principle subcontractor (Dr. Jules Jaffe, Scripps Institution of Oceanography). The electronic components have been assembled and tested in the laboratory and soon will be tested in a test tank. The external mechanical components of the instrument have been purchased. Several potential new tag types were tested (bioacoustic probe, accelerometer tag, stomach motility tag and stomach acidity tag. The latter was sufficiently successful as to warrant further development into an active acoustic transmitter that will telemeter stomach acidity data in real time.

3. Plans for the next fiscal year (one paragraph):

The fully assembled echosounding prototype buoy will be tank tested and then shipped to Hawaii for initial field testing. Experiments will continue with the bioacoustic probe and first experiments will be conducted with the stomach acidity transmitter.

4. List of papers published in refereed journals during FY 2006.
none

5. Other papers, technical reports, meeting presentations, etc.
none

6. Graduates (Names of students graduating with MS or PhD degrees during FY 2006. Provide titles of their thesis or dissertation):
none

7. Awards (List awards given to JIMAR employees or to the project itself during the period): None

8. Publication Count (Total count of publications for the reporting period and previous periods categorized by NOAA lead author and Institute (or subgrantee) lead author and whether it was peer-reviewed or non peer-reviewed (not including presentations):

| | JI Lead Author | | | NOAA Lead Author | | | Other Lead Author | | |
|-------------------|----------------|------|------|------------------|------|------|-------------------|------|------|
| | FY04 | FY05 | FY06 | FY04 | FY05 | FY06 | FY04 | FY05 | FY06 |
| Peer-reviewed | | | | | | | | | |
| Non-peer reviewed | | | | | | | | | |

9. Students and Post-docs (Number of students and post-docs that were associated with NOAA funded research. Please indicate if they received any NOAA funding. For institutes that award subcontracts, please include information from your subgrantees):
Two PhD students at UH (HIMB)
One Post doc fellow at UH (HIMB)
Two Undergraduate students at SIO

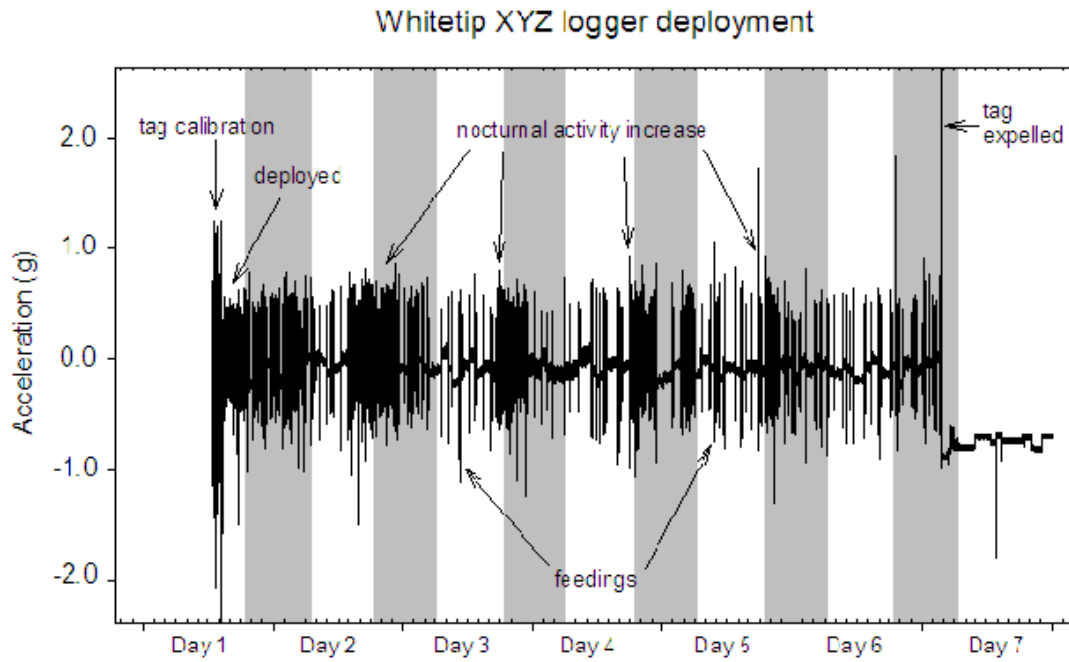
10. Personnel:

(i) Number of employees by job title and terminal degree that received more than 50% support from NOAA, including visiting scientists (this information is not required from subgrantees):

(ii) Number of employees/students that received 100% of their funding from an OAR laboratory and/or are located within that laboratory.

(iii) Number of employees/students that were hired by NOAA during the past year:

11. Images and Captions. (JIMAR will be including images in the annual report. Please send two of your best high-resolution, color images (photo, graphic, schematic) as a JPEG or TIFF with a caption for each image. Hardcopies of images can be dropped off at the JIMAR office if no electronic versions are available.



- Caption 1: Six days of shark activity measured by accelerometer tag