



University of Hawaii at Manoa

School of Ocean and Earth Science and Technology

Department of Oceanography

1000 Pope road • Honolulu, Hawaii 96822

Telephone: (808) 956 7633 • Telefax: (808) 956 9225

3 June 1997

From: Pierre Flament

To: John Sibert, Program Manager, Pelagic Fisheries Project

Subject: fourth annual report

"Physical oceanography environment of pelagic fishes"

Cc: Thomas Schroeder, Director, JIMAR

Please find below my report for the fourth year of this project (1 August 1996 to 30 June 1997). The main activities are summarized below.

We are now in the final phase of analysis and publication of the data set collected by this project.

Rick Lumpkin, who will base his PhD dissertation on a combined analysis of drifter, satellite and model data for the Hawaii EEZ, is now well advanced in his work. He is expected to graduate from the University in July 1998. In collaboration with Jean Tournadre, JIMAR visiting scientist, we are presently completing a manuscript to be submitted to Nature this summer, on eddy generation in the lee of the Hawaiian islands and our discovery of the Hawaii Lee Counter-Current. We are also preparing two additional papers based on this data set, once on case studies of eddy formation in the lee of Hawaiian islands, to be submitted Journal of Geophysical Research, and the other on eddy statistics inferred from the drifter array, to be submitted to Journal of Physical Oceanography. Both papers are in advanced states of preparation. We therefore anticipate a total of three refereed papers from this project by the time Rick graduates.

In addition to these refereed publications, we have completed the "Ocean Atlas of Hawaii", a general public presentation of the physical oceanography of Hawaii waters. This text has been on the world-wide-web at <http://satftp.soest.hawaii.edu/atlas/> since January 1996, encountering about 150 hits/day. It will be published in the UH Press' new edition of the Atlas of Hawaii to appear this Fall. We are also printing a 24"x36" poster that will be widely distributed to fishermen, marine stores, etc.. thorough the State, as well as to our PFRP co-investigators. It is expected to be ready by 30 June 1997.

We request one last year of funding, to support graduate student Rick Lumpkin to finish the analysis of the data and publish the results as part of his doctoral dissertation. The budget for this last year is attached to this letter; it is very similar to the fifth year budget submitted on 29 July 1995, but has been updated to reflect the current costs.

Not included in this budget are the cost of tracking the ARGOS buoys since the onset of the project. The problem stems from a lack of clear procedure within NOAA for paying ARGOS tracking bills. I was told initially by the NOAA-ARGOS liaison officer:

From: T.BRYAN
To: P.FLAMENT
Date: Fri Nov 26 10:43:55 1993
Subj: ARGOS

Pierre, To answer your question, X = \$3,900 for Government sponsored users in CY 1994. Since you are funded by NOAA, the NOAA funding office should transfer the money for Argos processing services directly to me. NOAA grant funds can not be transferred back to NOAA as a payment, Therefore the costs should be part of the total budget, but not part of the funds requested in the grant.

Confusion stemmed from the fact that ARGOS tracking bills cannot explicitly appear in a proposal budget, since they should be paid internally by transfer within NOAA. To that effect, the tracking costs were added as a line item at the bottom of my second year budget, however it was never clear how to actually implement the transfer. The recommendation of the steering committee was to wait. I tried to explore the matter further at the last Surface Velocity Project meeting chaired by Peter Niiler, but could not get a clear advice on how to proceed. I also contacted the NOAA Office of Global Program, but it was too late in their own budget request to allow the inclusion of our charges.

At our request, T. Bryan asked Service ARGOS to bill us directly, although at the agreed Joint Tarif, not at the industrial tarif. Three separate invoices have now been received by JIMAR, \$20,930 for 1994, \$49,330 for 1995, and \$21,200 for 1996, and should be paid at the onset of the new fiscal year. The bill for 1997 will only be received in January 1998, and is expected to be about \$12,000. Very few drifters remain alive, 50% of them being dead by their 450th day in the water. Since the last batch of 10 drifters were deployed in July 1996, we anticipate that less than five will remain after January 1, 1998. The cost for tracking those until their death will be about \$4,000. This charge will not be incurred until 1 January 1999.

Thank you for supporting our project.