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APPLICATION OF REMOTE SENSING
FOR FISHERY RESOURCE
ASSESSMENT AND MONITORING

SKYLAB EXPERIMENT NO. 240

CONTRACT NO. T-8217B

MONTHLY PROGRESS REPORT NO. 10

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APPLICATION OF REMOTE SENSING
FOR FISHERY RESOURCE
ASSESSMENT AND MONITORING

INTRODUCTION

This is the tenth of a monthly series of progress reports required by the statement of work for Project 240 entitled "Application of Remote Sensing for Oceanic Gamefish Assessment and Monitoring" under Contract No. T-8217B.

OVERALL STATUS

The post mission analytical phase is in progress with completion required contractually by June 30, 1974. Submission of a draft copy of the final report is required 30 days prior to that date in accordance with the statement of work.

DATA STATUS

During the month, Skylab EREP S190B prints were received. Also, the S191 tape was received together with the tabulations and graphs, but may possibly contain erroneous data. The S192 tape (the principle S192 product) is still outstanding, although the calibration tape and screen-film has been received.

RESULTS

The NC130B multispectral scanner data was displayed on the data analysis station (DAS) for quick look analysis. Several unsatisfactory channels are indicated. However the thermal array was functioning and data in the thermal region appears usable.

The turbidity and chlorophyll models (developed earlier in the analytical phase and mentioned in previous reports) have been improved by optimizing wave length selection.

The white marlin distribution model for August 4 and 5 (the period of field operations and data acquisition) has been improved. The addition of computed water density values to the model has tended to stabilize the model coefficients from day to day.

EXPECTED ACCOMPLISHMENTS

Preparation of software to handle S191 data has been delayed but completion is expected this coming month. Completion of time history plots of S191 data has also been delayed to the coming month.

Turbidity and chlorophyll contour maps will be prepared from remote measurements obtained by light aircraft (NASA E-18) spectroradiometer (E20-1). These will be compared with contour maps prepared from sea truth values for turbidity and chlorophyll.

Preparation of oceanographic and fishery parameter overlays has been completed. The overlays will be superimposed on available Skylab imagery (currently S190A transparencies) for observation of possible correlations with grey scale density levels.

A technical paper on project results is planned for delivery in April 1974 at a remote sensing symposium at Willow Run, Michigan. An abstract has been submitted and preparation of the paper is proceeding in accordance with a tentative outline. Submissions to NASA prior to presentation will be made as required by contract.

SUMMARY OUTLOOK

There has been modest progress in relating the fishery to sea truth and inferring oceanographic values from satellite/aircraft imagery.

Correlation of the fishery and S190A imagery is in progress. Problems in Skylab data including tape errors (S191) and delays (S192) are significantly hampering analysis in the areas of remote sensing/resource relationships as well as remote sensing/oceanic parameter relationships.