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BIMONTHLY REPORT FOR NAS5-21816, PROPOSAL 299
for the period August 1, 1973 - September 31, 1973

Task 2 (UN 268) Investigation to Relate the Chlorophyll and
Suspended Sediment Content in the Waters of the Lower
Chesapeake Bay to ERTS-1 Imagery
Drs. Fleischer, (Ludwick), Hanna, Gosink, and Bowker

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National Aeronautics and Space Administration

By the

Old Dominion University Research Foundation
P.O. Box 6173
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E74-10067) INVESTIGATION TO RELATE THE
CHLOROPHYLL AND SUSPENDED SEDIMENT CONTENT
IN THE WATERS OF THE LOWER CHESAPEAKE
BAY TO (Old Dominion Univ. Research
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PROGRESS REPORT

ERTS-1 Proposal 299-2

Report Period: August-September, 1973

Principal Investigator: Peter Fleischer
Institute of Oceanography
Old Dominion University

During the period August-September, 1973, ERTS overpasses occurred on 12 and 30 August and 17 September over the lower Chesapeake Bay. 12 August and 17 September had little or no cloud cover and usable images should be available.

Transmittance and suspended sediment data were collected during the 17 September pass along the standard lower Chesapeake Bay baselines. The 12 and 30 August passes were not monitored due to shipboard generator failure and dense fog on the Bay, respectively. Water samples for chlorophyll and particulate count analysis were collected by helicopter at the standard lower Chesapeake Bay and James River locations on 30 August and 17 September. Samples were not collected on 12 August due to helicopter breakdown.

Digitization of transmissometric and bathymetric data, and suspended sediment, chlorophyll, and particulate count analyses of these samples were undertaken. Determination of organic-inorganic ratios of suspended matter by low-temperature oxygen ashing on these and all previous samples was begun.

Correlation of ground data to imagery by multispectral radiance of previous overflights, by microdensitometer, is continuing. Computer-generated radiance profiles have been made from the bulk tapes, also. Correlational analysis of MSS and ground data is presently underway.

A paper, "Transmissometry and suspended matter in lower Chesapeake Bay: Correlation with ERTS multispectral imagery" was presented at the American Society of Photogrammetry Meeting, Symposium on Remote Sensing in Oceanography, on 4 October.

A manuscript, "A continuous turbidity monitoring system for coastal surface waters" has been submitted for publication in the Journal of Geophysical Research.