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August 9, 1973

National Aeronautics and Space
Administration
Goddard Space Flight Center
Greenbelt, Maryland 20771

Subject: Bi-monthly Progress Report Number 4 (Type I)

Gentlemen:

Oceanographic Services, Inc. (OSI) is pleased to submit Progress
Report Number 3 covering the period June 2 to August 2, 1973
under contract NAS-5-21877.

- A. Title: Acquisition and Analysis of Coastal Ground-Truth
Data for Correlation with ERTS-1 Imagery
- B. Principal Investigator: Dr. William A. Anikouchine, GSFC
ID-FR533.
- C. Difficulties and Problems This Period:

Morning fog and low stratus clouds are typical for the
southern California coast at this time of year. These
conditions prevented making ground-truth cruises in Santa
Monica Bay and the Santa Barbara Channel during this period.

Efforts to perform digital enhancement of ocean scene data
has been frustrated by striping in the scan lines. Attempts
to discover the causes of striping are hampered by an
inadequate description of data manipulations (6 to 7 bit
conversion during decompression, for example), tape format,
and calibration algorithms in the Data Users Handbook.

D. Accomplishments:

- 1. Communications with manufacturers of MSS hardware have
established that striping of scene data is an artifact
of data processing at NDPF. Work is underway to hand
process a sample of CCT data to convert to the compressed
mode so that our own contingency striping removal algorithm
can be developed.

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E73-10864) ACQUISITION AND ANALYSIS OF
COASTAL GROUND TRUTH DATA FOR CORRELATION
WITH ERTS-1 IMAGERY Bimonthly Progress
Report, 2 Jun. - 2 Aug. (Oceanographic
Services, Inc.) 4 p HC \$3.00 CSCL 08J
N73-29215
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2. A color posterization of scene 123S-1807S (15 March 1973, Santa Barbara Channel) was rendered using photo lithographic film and diazo foils. The result is a density slice enhancement that is quite helpful in pattern recognition inasmuch as the details conform to those noted on aerial color photographs taken at 27,000 feet on the same day. However, the technique suffers the deficiencies of the original photo-image in that the radiance levels are grouped rather than discrete and that controlling the density slice to represent a particular radiance interval is extremely difficult. It was decided that, despite striping processing, digital CCT data is the best means of enhancing ocean scenes.

3. Ground-truth cruises were made on:

15 June 1973	Monterey Bay
3 July 1973	Monterey Bay

E. Significant Results:

Data obtained on these cruises appear to be consistent with conditions observed at each sample site. Further attempts to correlate ground truth data with MSS data will be deferred until CCT enhancement techniques are perfected.

F. Projected Accomplishments:

1. Complete analysis of MSS data processing algorithms and preparation of digital enhancement software.
2. Initiate examination of spectral reflectance of materials filtered from sea water samples taken on ground-truth cruises. The much-delayed delivery of necessary instrumentation has just arrived and is being tested and calibrated.
3. Examine MSS data along cruise tracks for correlation with ground-truth data.

G. Published Material: None

H. Additional Investigative Efforts: None recommended at this time.

I. Changes in Standing Orders: None

J. Image Description Forms: List under preparation

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K. Data Request Forms: The following material was ordered during the reporting period:

DATE	OBSERVATION IDENTIFIER	CENTER POINT COORDINATES	SENSOR BAND	PRODUCT FORMAT	NUMBER OF COPIES
31 July 1973	1074-18123	34.36N 121.11W	M	S	1
31 July 1973	1129-18183	35.58N 122.17W	M	S	1
31 July 1973	1234-18021	34.33N 118.37W	M	S	1
31 July 1973	1235-18075	34.36N 120.01W	M	S	1
31 July 1973	1252-18021	34.38N 118.36W	M	S	1
31 July 1973	1253-18075	34.39N 120.03W	M	S	1
31 July 1973	1270-18021	34.40N 118.38W	M	S	1
31 July 1973	1288-18023	34.40N 118.38W	M	S	1
31 July 1973	1291-18184	36.05N 122.29W	M	S	1
31 July 1973	1074-18123	34.36N 121.11W	M	M	1
31 July 1973	1129-18183	35.58N 122.17W	M	M	1
31 July 1973	1234-18021	34.33N 118.37W	M	M	1
31 July 1973	1235-18075	34.36N 120.01W	M	M	1
31 July 1973	1273-18185	36.11N 122.28W	M	M	1
31 July 1973	1288-18023	34.40N 118.38W	M	M	1
31 July 1973	1291-18182	37.31N 122.01W	M	M	1

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31 July 1973	1288-18023	34.40N 118.38W	M	T	1
31 July 1973	1291-18184	36.05N 122.29W	M	T	1

L. Additional Funds Required: None

Sincerely,



William A. Anikouchine, PhD.
Senior Oceanographer

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