

## General Disclaimer

### One or more of the Following Statements may affect this Document

- This document has been reproduced from the best copy furnished by the organizational source. It is being released in the interest of making available as much information as possible.
- This document may contain data, which exceeds the sheet parameters. It was furnished in this condition by the organizational source and is the best copy available.
- This document may contain tone-on-tone or color graphs, charts and/or pictures, which have been reproduced in black and white.
- This document is paginated as submitted by the original source.
- Portions of this document are not fully legible due to the historical nature of some of the material. However, it is the best reproduction available from the original submission.

04

STIP

II

QUARTERLY REPORT #5

December 7, 1978

7.9 - 100.6.4  
CR - 157917

APPLICATIONS OF HCMM DATA

TO

SOIL MOISTURE SNOW

AND

ESTUARINE CURRENT STUDIES

"Made available under NASA sponsorship  
in the interest of early and wide dis-  
semination of Earth Resources Survey  
Program information and without liability  
for any use made thereof."

(NASA-CR-157917) APPLICATIONS OF HCMM DATA  
TO SOIL MOISTURE SNOW AND ESTUARINE CURRENT  
STUDIES Quarterly Report (National Oceanic  
and Atmospheric Administration) 4 p HC  
A02/MF A01

N79-13471

Unclas  
00064

CSCL 08H G3/43

Donald R. Wiesnet, Principal Investigator  
David F. McGinnis, Associate  
Michael Matson, Associate

HCM-045

NOAA/NESS/ESG  
World Weather Building  
Room 810  
Washington, D.C. 20233  
(301) 763-8036

Identification Number - HCM-045

P.O. #8-40229B

RECEIVED

DEC 12 1978

SIS/902.6

A. Problems

The lack of HCMM data has been somewhat alleviated. Imagery has been received covering all four test sites. However, to properly assess the objectives of the Cooper and Potomac River test sites aircraft coverage is required. Since these necessary overflights are few, it is hoped that JSC can schedule aircraft overflights.

B. Accomplishments

Mr. John A. Pritchard has written programs to display HCMM data in image or character formats. These formats are available in the following scales:

<u>Images</u>	<u>Character (Computer Printout)</u>
1:5,000,000	1:5,000,000
1:4,000,000	1:4,000,000
1:2,500,000	1:2,500,000
1:1,000,000	1:1,000,000
1:500,000	1:500,000
	1:250,000

Regarding visible data, the look-up table can be arranged on a basis of albedo or gradient values. IR look-up tables are based on predetermined temperature ranges, e.g., 0.0° to 1.0°C, and will be fixed at a particularly shade of gray for the image. Samples of some of the computer-processed data are enclosed (images and printout).

We have not had an opportunity to thoroughly examine the data coverage of our four test sites. However, we have noted the excellent detail the HCRM provides of "heat islands." Even population centers under 50,000 are sharply detailed. The final remnant of Lake Erie ice, located near Buffalo, was apparent in both the visible and thermal

bands of the May 11 scene (ID A001518440).

C. Significant Results

None.

D. Publications

None.

E. Recommendations

It is recommended that aircraft flights be scheduled over the Potomac and Cooper River test areas to meet our objective of tidal current assessment in estuaries. Previous flights produced unuseable data.

F. Funds expended to date

Balance of funds	\$3.1K
Spent this period	0.0K
	<hr/>
Funds remaining	\$3.1K*

\*We expect to spend 2.5K at our Luverne, Minn., test site to cover expenses involved in the installation of an Idaho Industrial Instruments, Inc., RSG<sub>2</sub> soil moisture/snow moisture gage and a<sup>n</sup> winter soil survey. The scheduled field exercise is for December 18-22, 1978.

G. Data Utility

Tapes have been received for three scenes, viz., 11 May 78, east coast, ID A001518440; 31 May 78, west coast, ID A003541320; and north central U.S., 6 June 78. East coast tape covered Cranberry test site only. Still missing are taped data of our Potomac and Cooper River test sites. Prints and positive transparencies have been received for the following dates: 11 May, 15 May, 5 June, 6 June, 10 June, and 11 June. Prints and transparencies have been of good quality.

#### H. Future Plans

The immediate future involves the field survey at our Luverne test site during 18-22 December. Dr. McGinnis and Mr. Berg will conduct the soil survey (assisted by USDA personnel) and participate in the installation of the RSG $\frac{1}{2}$  soil moisture/snow moisture gage.

