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SEVENTH BIMONTHLY PROGRESS REPORT  
UNIVERSITY OF ALASKA  
ERTS PROJECT 110-8

A. TITLE OF INVESTIGATION: Sea, Ice and Surface Water Circulation, Alaskan Continental Shelf

B. PRINCIPAL INVESTIGATOR/GSFC ID: G. D. Sharma, F. F. Wright, J. J. Burns/UN683

C. PROBLEMS IMPEDING INVESTIGATIONS: None

D. PROGRESS REPORT:

1. Accomplishments during reporting period: Over 1,000 sea water samples were filtered for sediment load distribution in surface waters of Shelikof Strait, the Gulf of Alaska, the Bering Sea including Bristol and Kuskokwim Bays, Norton Sound, and the Chukchi Sea. Salinity-temperature-depth profiles were obtained at selected stations. Surface water samples from Cook Inlet were also collected for synchronous ground truth.

Sample collection was conducted on board the R/V OSHORU MARU during June, R/V ACONA during July-August, and R/V ALFA HELIX during August-September at no cost to the project.

2. Plans for next reporting period: The field data is presently being processed. The density slicing of imagery from various regions will also be performed.

E. SIGNIFICANT RESULTS: Selected ERTS-1 imagery was subjected to density slicing using VP-8 color density slicing equipment. Results to date indicate that routine density slicing can be performed on 70 mm negatives and variations in the suspended load concentration in the surface water can be delineated by the various color bands assigned. Typical results of density slicing can be seen by comparison between the dodged and color density sliced imagery in Cook Inlet (Fig. 1). Selection of the negative or positive for density slicing is generally controlled by the suspended load concentration, sun angle and, in general, the gray density distribution of the image. The negative image has provided the best results, particularly in MSS Bands 5-7. The 70 mm format appears to be adequate and provides results comparable to 9"x9" positive transparencies.

F. PUBLICATIONS: None

H. CHANGES IN STANDING ORDER FORMS: None

I. ERTS IMAGE DESCRIPTOR FORMS: Attached

J. DATA REQUEST FORMS: August 31, 1973, data received

N73-32226  
Unclas  
G3/13 01050  
(E73-11050) SEA, ICE AND SURFACE WATER CIRCULATION, ALASKAN CONTINENTAL SHELF Bimonthly Progress Report (Alaska Univ., Fairbanks.) 5 p HC \$3.00 CSCI 08L

Original photography may be purchased from  
EROS Data Center  
10th and Dakota Avenue  
Sioux Falls, SD 57198

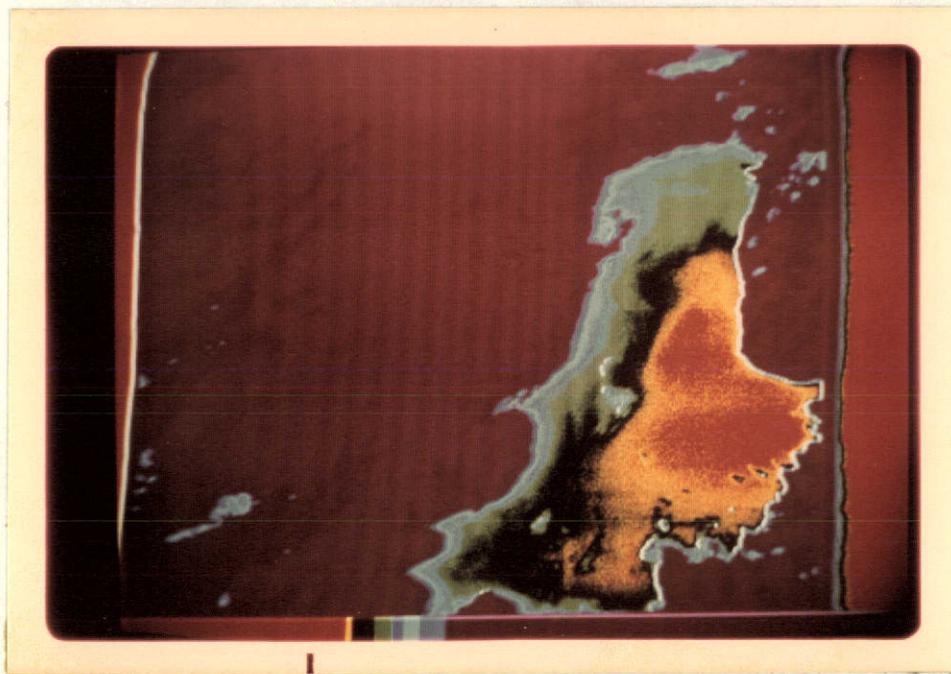
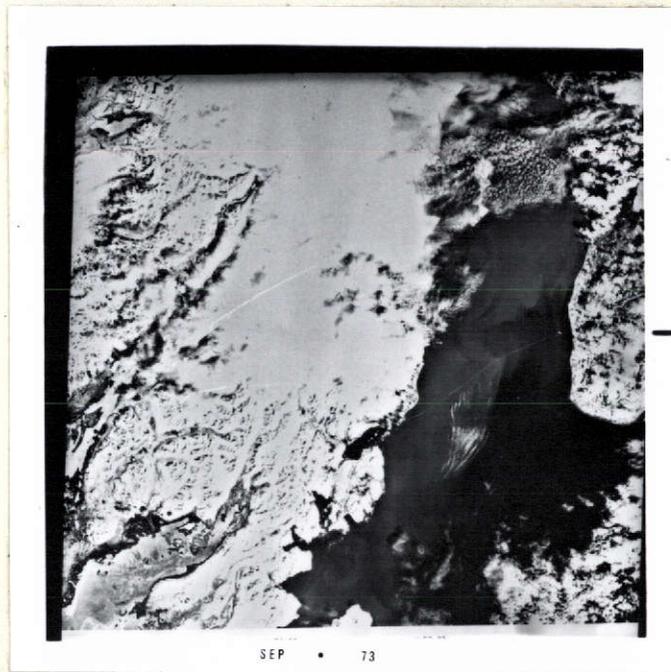


Figure 1. MSS Band 5 image of Cook Inlet (I.D. 1266-20581) dodged black and white print (above) and VP-8 color density slice (below).

**ERTS IMAGE DESCRIPTOR FORM**

(See Instructions on Back)

DATE September 30, 1973

PRINCIPAL INVESTIGATOR G. D. Sharma

GSFC UN 683

ORGANIZATION University of Alaska

NDPF USE ONLY

D \_\_\_\_\_

N \_\_\_\_\_

ID \_\_\_\_\_

PRODUCT ID (INCLUDE BAND AND PRODUCT)	FREQUENTLY USED DESCRIPTORS*			DESCRIPTORS	
	Sediment plume	Coast	Estuary	Ice	Bay
1266-20581-M	X	X	X		
1266-20584-4	X	X			
1266-20584-5	X	X			
1266-20584-6	X	X			
1267-21035-4	X	X	X		
1275-21483-4	X	X		X	X
1275-21483-5	X	X		X	X
1276-21542-4	X	X		X	X
1276-21542-5	X	X		X	X
1288-21212-M	X	X			Peninsula
1293-21482-4	X	X		X	X
1293-21482-5	X	X		X	X
1294-21550-4	X	X		X	
1294-21550-5	X	X		X	
1310-21423-4	X	X		X	X
1310-21423-5	X	X		X	X
1310-21425-4	X	X		X	
1310-21425-5	X	X		X	
1311-21481-4	X	X		X	X
1311-21481-5	X	X		X	X
1311-21484-M	X	X		X	

\*FOR DESCRIPTORS WHICH WILL OCCUR FREQUENTLY, WRITE THE DESCRIPTOR TERMS IN THESE COLUMN HEADING SPACES NOW AND USE A CHECK (✓) MARK IN THE APPROPRIATE PRODUCT ID LINES. (FOR OTHER DESCRIPTORS, WRITE THE TERM UNDER THE DESCRIPTORS COLUMN).

MAIL TO ERTS USER SERVICES  
 CODE 563  
 BLDG 23 ROOM E413  
 NASA GSFC  
 GREENBELT, MD. 20771  
 301-982-5406

# ERTS IMAGE DESCRIPTOR FORM

(See Instructions on Back)

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NDPF USE ONLY

D \_\_\_\_\_  
 N \_\_\_\_\_  
 ID \_\_\_\_\_

PRODUCT ID (INCLUDE BAND AND PRODUCT)	FREQUENTLY USED DESCRIPTORS*			DESCRIPTORS	
	Sediment plume	Coast	Estuary	Ice	Bay
1311-21490-M	X	X		X	
1328-21422-M	X	X			X
1330-21525-M	X	X	X	X	
1330-21532-4	X	X	X	X	
1330-21532-5	X	X	X	X	
1334-22155-4	X	X		X	
1334-22155-5	X	X		X	
1334-22161-4	X	X		X	Strait
1334-22161-5	X	X		X	Strait
1346-21420-M	X	X			X
1346-21423-M	X	X			X
1351-22102-M	X	X			Peninsula

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TITLE OF INVESTIGATION: Sea, Ice and Surface Water Circulation,  
Alaskan Continental Shelf.  
DISCIPLINE: Marine Geology and Ecology

SUMMARY OF SIGNIFICANT RESULTS:

Salinity and temperature measurements in the Bering Sea indicate that the Yukon River outflow extends as far as 200 km from its mouth. The fresh water flow from the Yukon River flows north and east into Norton Sound.

Various levels of suspended sediment concentration in waters have been successfully color coded using a VP-8 color density slicing image analyser. The 70 mm negative transparencies have provided the best fit for the ground truth observations.