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NTIS HC \$325

CALIFORNIA COAST NEARSHORE PROCESSES STUDY
ERTS-A EXPERIMENT #088

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Principal Investigator, User ID #DE324
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San Francisco, California 94102

(E72-10316) - CALIFORNIA COAST NEARSHORE PROCESSES STUDY Progress Report, 1 Sep. - 31 Oct. 1972 D.M. Pirie (Corps of Engineers, San Francisco, Calif.) 31 Oct. 1972 21 p	N73-13365 Unclas CSCL 08C G3/13 00316
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October 31, 1972
Type I Progress Report for Period September 1 to October 31, 1972

Prepared for

GODDARD SPACE FLIGHT CENTER
Greenbelt, Maryland 20771

TECHNICAL REPORT STANDARD TITLE PAGE

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11. Contract or Grant No. S-70257-AG			
12. Sponsoring Agency Name and Address Mr. Art Fihelly, Code 430 Technical Monitor Goddard Space Flight Center Greenbelt, Maryland 20771		13. Type of Report and Period Covered ERTS TYPE I 1 Sep - 31 Oct, 1972	
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15. Supplementary Notes Prepared in cooperation with Earth Resources Operations, North American Rockwell Corporation, Downey, California.			
16. Abstract This Type I report contains a resume of the accomplishments of the California Coast Nearshore Processes Study for the period 1 September thru 31 October 1972. Due to delays in receipt of precision ERTS imagery, little analysis of data has been accomplished. However, ground truth teams, underflight test cells and flightlines, and experimental procedures have been established. Ground truth data have been obtained and are available for the coast of California and the first underflight is scheduled for December 1972.			
17. Key Words (Selected by Author(s)) Coastal Processes Coastal Currents Sediment Transport		18. Distribution Statement	
19. Security Classif. (of this report) UNCLASSIFIED	20. Security Classif. (of this page) UNCLASSIFIED	21. No. of Pages 21	22. Price* 7 3.25

PROGRESS REPORT TYPE I, NO. I,
CALIFORNIA COAST NEARSHORE
PROCESSES STUDY

1. OBJECTIVES OF STUDY

Multiple elements under the broad topic of nearshore processes will be studied with airborne and spaceborne sensor data coincident with sea truth. These elements include (1) nearshore currents, (2) estuarine flushing, (3) season river discharges, and (4) nearshore sediment dispersion. These processes will be studied primarily along the central and southern California coast. Sophisticated data processing techniques will be utilized to obtain the maximum information from available data, and to provide correlation and comparison when possible.

2. WORK PERFORMED DURING REPORTING PERIOD

Based on bulk imagery received, four test cells were established within the 088 sites. These cells include offshore San Francisco, Monterey Bay, Santa Barbara Channel and San Pedro Channel. Ground truth for the coastal zone for one flight (Inclosure 1) is presented as an example of types of data obtained. In addition to this data, 5,000 and 10,000 foot aircraft visible and thermal data are available for analysis, but are awaiting precision photographic imagery of the ERTS-1 overflight. Two aircraft flights for the December ERTS pass have been planned with coordination between the Corps of Engineers, NASA/Houston, North American Rockwell Corporation and the various ground truth teams.

3. SCHEDULE

The only problem affecting the schedule is the delay of precision imagery required for processing and analysis.

4. WORK PROGRESS

Work progress has been hampered by lack of adequate imagery and has forced the investigators to transfer the primary analytical functions from photo manipulation to a combination of photo and digital tape systems using algebraic functioning.

5. RELIABILITY

No input at this time.

6. FUNDS

As of the time of this report, the scheduled funding for this study is adequate to complete the tasks required.

7. PERSONNEL

There have been no significant changes in personnel involved in this study. The primary personnel remain:

Principal Investigator - Douglas M. Pirie
Co-Investigators - David D. Steller and
Orville T. Magoon

8. WORK NEXT PERIOD

The investigators have two aircraft underflights planned for the next reporting period (1 November thru 31 December 1972). In addition to these flights and associated ground truth collection, tape and photo analysis will be performed on imagery provided by Goddard.

9. OTHER

ERTS Image Descriptor Form is attached as Inclosure 2.

CALIFORNIA COAST NEARSHORE
PROCESSES STUDY

PROGRESS REPORT TYPE I, NO. I, 31 October 1972

PROPOSAL NO. 088

DOUGLAS M. PIRIE, DE324

SIGNIFICANT RESULTS

As of the time of this report, there have been no significant results from the California Coast Nearshore Processes Study.

TYPE OF DATA OBTAINED

Quality of Data	Temperature		Waves		Wind		Current		Comments
	Air	Water	Ht.	T. Dir.	Speed	Dir.	Speed	Dir.	
Good	X	X	X	X	X	X	X	X	Can gather data in Crescent City-Eureka area.
Good		X	X	X	X	X	X	X	Can gather data in Crescent City-Eureka area.
Good	X	X	X	X	X	X	X	X	Can gather data in Crescent City-Eureka area.

Two miles south of
Crescent City

Mr. Clemens
California Division
of Highways
P.O. Box 3700
Eureka, California 95501
Ph: 707-442-5761 Ex: 282

Freshwater Lagoon Beach

Mr. Clemens
California Division
of Highways
P.O. Box 3700
Eureka, California 95501
Ph: 707-442-5761 Ex: 282

Humboldt Bay

Mr. Clemens
California Division
of Highways
P. O. Box 3700
Eureka, California 95501
Ph: 707-442-5761 Ex: 282

TYPE OF DATA OBTAINED
-Continued-

Quality of Data	Temperature		Waves		Wind		Current		Comments
	Air	Water	Ht.	T. Dir.	Speed	Dir.	Speed	Dir.	
Good	X	X	X	X	X				
Fair		X	X	X	X	X	X	X	
Good		X	X	X	X		X	X	

Humboldt Yacht Club
North of Patricks Point

California Division
of Highways
P.O. Box 3700
Eureka, California 95501
Ph: 707-442-5761 Ex: 282

Mac Kerricher State Park

Mac Kerricher State Park
Ranger (Ken Jones)
P.O. Box 24100
Mac Kerricher Road
Fort Bragg, California 95437
Ph: 707-964-3438

Salt Point State Park

Salt Park Ranger (Jeff Jones)
Salt Point State Park
25050 Coast Highway 1
Jenner, California 95450
Ph: 707-847-3221

TYPE OF DATA OBTAINED

-Continued-

Quality of Data	Temperature		Waves		Wind		Current		Comments
	Air	Water	Ht.	T. Dir.	Speed	Dir.	Speed	Dir.	
Very Good	X	X	X		X	X	X	X	Occasionally have access to boat.
Good		X	X	X			X	X	Can organize student to gather data.
Fair		X	X	X	X	X	X	X	Can gather data in area from Stinson to Pidgeon Point.

Bolinas Bay

Pat Cassey

Bolinas Marine Station

Bolinas, California 94924

Ph: 415-868-1771

Bolinas Bay

Professor Pat Wilde

University of California

438 Hearst Mining Building

Berkeley, California 94720

Ph: 415-642-6535

Stinson Beach

Ralph Yoshizuka

Department of Navigation &

Ocean Development

1416 Ninth Street, Room 1336-24

Sacramento, CA 95814

Ph: 916-445-8349

TYPE OF DATA OBTAINED

-Continued-

Quality of Data	Temperature		Waves		Wind		Current		Comments
	Air	Water	Ht.	T. Dir.	Speed	Dir.	Speed	Dir.	
Fair			X	X	X	X	X	X	
Fair			X	X	X	X			Can gather data in area from Stinson to Pescadero Point.
Fair			X	X	X	X	X	X	Can gather data in area from Stinson to Pidgeon Point.

Stinson Beach
 Stinson State Park Rangers
 (Henry Richards)
 P.O. Box 56
 Stinson Beach, California 94970
 Ph: 415-868-1922

Pescadero Point
 Ralph Yoshizuka
 Department of Navigation &
 Ocean Development
 1416 Ninth Street, Room 1336-24
 Sacramento, California 95814
 Ph: 916-445-8349

Pidgeon Point
 Ralph Yoshizuka
 Department of Navigation &
 Ocean Development
 1416 Ninth Street, Rm 1336-24
 Sacramento, California 95814
 Ph: 916-445-8349

TYPE OF DATA OBTAINED

-Continued-

Quality of Data	Temperature		Waves		Wind		Current		Comments
	Air	Water	Ht.	T. Dir.	Speed	Dir.	Speed	Dir.	
Fair		X	X	X	X	X	X	X	
Fair			X	X	X	X	X	X	Tregeiro in charge of several State Pa
Very Good		X	X	X	X	X	X	X	Much data can be obtained when research ship is working in Monterey area.
Very Good			X	X	X	X	X	X	Will gather data in Monterey area.

Capitola Beach

Ryder Ray (or Chuck Famularo)
City of Capitola
Ph: 408-475-7300

Seacliff Beach

Anton Tregeiro
State of California
Park Rangers
120 - 9th Street
Santa Cruz, California 95060
Ph: 408-475-2222

Moss Landing & Monterey Bay

Dr. Mary Silver
Moss Landing Marine Lab
Moss Landing, California 95039
Ph: 408-633-3304

Salinas River Mouth

Robert H. Bourke (or Ed Thornton)
Assistant Professor
Naval Postgraduate School
Monterey, California 93940
Ph: 408-646-2552

TYPE OF DATA OBTAINED

-Contained-

Quality of Data	Temperature		Waves		Wind		Current		Comments
	Air	Water	Ht.	T. Dir.	Speed	Dir.	Speed	Dir.	
Very Good			X	X	X	X	X	X	Will gather data in Monterey Area.
									Sea temperature & possibly other oceanographic data can be obtained if research ship is in Monterey Area.
									Wave gauge charts, wind speed and direction, and sea surface temperature available.

Holiday Inn Beach
in Monterey

Robert H. Bourke (or Ed Thornton)
Assistant Professor
Naval Postgraduate School
Monterey, California 93940
Ph: 408-646-2552

Monterey Bay

Dr. Gilmartin
Hopkins Marine Station
Pacific Grove, California 93950
Ph: 408-373-0464

Del Monte Beach, Monterey

J.M. Sturgeon
District Materials Engineer
Division of Highways
District 5, P.O. Box L
San Luis Obispo, California 93401
Ph: 805-543-6000

TYPE OF DATA OBTAINED
-Continued-

Quality of Data	Temperature		Waves		Wind		Current Speed Dir.	Comments
	Air	Water	Ht.	T. Dir.	Speed	Dir.		
Fair		X	X	X	X	X		
Fair		X	X	X	X	X		
Good		X	X	X	X	X		Interested in Morro Bay and Carmel areas

Point Pinas (Pacific Grove)

Mel Odemar
California Fish & Game
Ph: 213-435-7741 Ex: 211

Carmel

Mel Odemar
California Fish & Game
Ph: 213-435-7741 Ex: 211

Mouth of Carmel River

Mr. Nighswonger
Regional Water Quality
Control Board
2238 Broad Street
San Luis Obispo, California
93401
Ph: 805-543-5671

TYPE OF DATA OBTAINED
-Continued-

Quality of Data	Temperature		Waves		Wind		Current		Comments
	Air	Water	Ht.	T. Dir.	Speed	Dir.	Speed	Dir.	
Fair	X	X	X	X	X	X		X	Can gather data at other locations.
Fair		X	X		X	X		X	Can gather data at other locations.
Fair		X	X						
Fair									

Big Sur

J. M. Sturgeon
District Materials Engineer
Division of Highways
District 5, P.O. Box L
San Luis Obispo, California 93401
Ph: 805-543-6000

Willow Springs

J. M. Sturgeon
District Materials Engineer
Division of Highways
District 5, P. O. Box L
San Luis Obispo, California 93401
Ph: 805-543-6000

Morro Bay (Ataca Beach)

Mr. Dunkel
Morro Bay Museum of Natural
History
State Park Road
Morro Bay, California 93442
Ph: 805-772-2694

Morro Bay

J.M. Sturgeon
Division of Highways

Can gather data at other locations in area.

TYPE OF DATA OBTAINED
- Continued -

Quality of Data	Temperature Air Water	Waves		Wind		Current		Comments
		Ht.	T. Dir.	Speed	Dir.	Speed	Dir.	
Good	X	X	X	X	X	X	X	Average outlet and inlet temperatures of Morro Bay Power Plant circulating water available.
		X	X	X	X	X	X	
Fair	X	X	X	X	X	X	X	Can gather data at other locations in area.
		X	X	X	X	X	X	

Morro Bay Power Plant
 Roy Hawes
 Pacific Gas & Electric Company
 894 Monterey Street
 P.O. Box 592
 San Luis Obispo, Calif. 93401
 Ph: 805-772-2741

Morro Bay (Rock)
 Mr. Nighswonger
 Regional Water Quality Control Board
 2238 Broad Street
 San Luis Obispo, Calif. 93401
 Ph: 805-543-5671

Pismo Beach
 J. M. Sturgeon
 District Material Engineer
 Division of Highways
 District 5, P.O. Box L
 San Luis Obispo, Calif. 93401
 Ph: 805-543-6000

TYPE OF DATA OBTAINED

- Continued -

Quality of Data	Temperature		Waves		Wind		Current		Comments
	Air	Water	Ht.	T. Dir.	Speed	Dir.	Speed	Dir.	
Good		X	X	X		X			
Fair		X	X	X		X			Can gather information in nearby area.
Fair	X	X	X			X		X	Can gather data at other locations in area.

Oceano, California

M.L. Vernon, Superintendent
 Department of Public Works
 Division of Highways
 P.O. Box 335
 Santa Maria, California 93456

El Capitan

LEO Data Available

Campus Point (North of
 Santa Barbara Harbor)

T. Bailey
 Marine Science
 University of California
 Santa Barbara, California
 93106

Santa Barbara

J.M. Sturgeon
 District Materials Engineer
 Division of Highways
 District 5, P.O. Box L.
 San Luis Obispo, Calif. 93401
 Ph: 805-543-6000

TYPE OF DATA OBTAINED

-Continued-

Quality of Data	Temperature		Waves		Wind		Current		Comments
	Air	Water	Ht.	T. Dir.	Speed	Dir.	Speed	Dir.	
Fair		X	X	X	X	X	X	X	Can gather data at other locations in area.
Fair		X	X	X				X	
Fair		X	X	X				X	

Stern's Wharf Santa Barbara
 Mr. Sturgeon
 California Division of
 Highways
 District 5, P.O. Box L
 San Luis Obispo, Calif. 93401
 Ph: 805-543-6000

Capenteria

LEO Data Available

Punta Gorda

Al Palmer (or Oscar Stankov)
 California Division of
 Highways
 550 South Vermont Avenue
 Los Angeles, Calif. 90005
 Ph: 213-620-3280

Oxnard

Al Palmer (or Oscar Stankov)
 Division of Highways
 550 South Vermont Avenue
 Los Angeles, Calif. 90005
 Ph: 213-620-3280

Can gather data in
 Los Angeles area.

TYPE OF DATA OBTAINED

-Continued-

Quality of Data	Temperature		Waves		Wind		Current		Comments
	Air	Water	Ht.	T. Dir.	Speed	Dir.	Speed	Dir.	
Good		X	X	X	X	X			Sea surface temperature in area of power plant
									Temperature data available.
									Temperature data available.

Mandalay Power Plant
 Ron Stracham, Room 360
 Southern California Edison
 P.O. Box 800
 Rosemead, California 91770
 Ph: 213-572-1874

Scattergood Power Plant
 Santa Monica Bay

Mike Nosanov
 Los Angeles Department
 of Water and Power
 111 North Hope Street, Rm. 1042
 Los Angeles, California 90054
 Ph: 213-481-5491

Haynes Power Plant
 Mike Nosanov
 Los Angeles Department of
 Water & Power
 111 North Hope St. Room 1042
 Los Angeles, California 90054
 Ph: 213-481-5491

TYPE OF DATA OBTAINED

-Continued-

Quality of Data	Temperature		Waves		Wind		Current		Comments
	Air	Water	Ht.	T. Dir.	Speed	Dir.	Speed	Dir.	
Fair		X	X	X	X	X			
		X	X	X	X	X		X	

L.A. Harbor Breakwater
 Mel Odemar
 California Fish & Game
 Ph: 213-435-7741 Ex: 211

Huntington

LEO Data Available

Dana Point

Al Palmer (or Oscar Stankov)
 Division of Highways
 550 South Vermont Avenue
 Los Angeles, California 90005
 Ph: 312-620-3280

Dana Point

Dwight Schroeder
 Boyle Engineering
 P.O. Box 178
 412 S. Lyon Street
 Santa Ana, California 92702
 Ph: 714-547-4471

Currently engaged in study at Dana Point. May have other coast studies in future.

TYPE OF DATA OBTAINED

-Continued-

Quality of Data	Temperature		Waves		Wind		Current		Comments
	Air	Water	Ht.	T. Dir.	Speed	Dir.	Speed	Dir.	
		X	X	X	X	X			
Good		X	X	X	X	X	X	X	

San Clemente

LEO Data Available

Carlsbad

Fred Warn
Department of Materials
Laboratory
California Division of
Highways

4075 Taylor Street
San Diego, California 92110
Ph: 714-297-4501 Ex: 397

Central Point Loma

Ron McPeak
Kelco Company
2145 East Belt Street
San Diego, California 92113
Ph: 714-232-1011

Silver Strand

LEO Data Available

TYPE OF DATA OBTAINED

-Continued-

Quality of Data	Temperature Air Water	Waves Ht. T. Dir.	Wind Speed Dir.	Current Speed Dir.	Comments
Encina Power Plant, Carlsbad J.F. Dietz San Diego Gas & Electric Co. P.O. Box 1831 San Diego, California 92112					Temperature readings of cooling water system are available.
Station B Power Plant, San Diego Bay J.F. Dietz San Diego Gas & Electric Co. P.O. Box 1831 San Diego, California 92112					Temperature readings of cooling water system are available
Silver Gate Power Station San Diego Bay J.F. Dietz San Diego Gas & Electric Co. P.O. Box 1831 San Diego, California 92112					Temperature readings of cooling water system are available
South Bay Power Plant San Diego J.F. Dietz San Diego Gas & Electric Co. P.O. Box 1831 San Diego, California 92112					Temperature readings of cooling water system are available

ERTS IMAGE DESCRIPTOR FORM

(See Instructions on Back)

DATE 10-27-72PRINCIPAL INVESTIGATOR Douglas T. PirieGSFC D 324ORGANIZATION U. S. Army Corps of Engineers

NDPF USE ONLY

D _____
N _____
ID _____

PRODUCT ID (INCLUDE BAND AND PRODUCT)	FREQUENTLY USED DESCRIPTORS*			DESCRIPTORS
	Sediment	Kelp	Clouds	
1-019-18062 M				
1-019-18064 M				
1-020-18115 M				
1-010-18121 M			X	
1-020-18124 M			X	
1-036-18010 M	X		X	Los Angeles
1-036-18012 M			X	
1-038-18020 M	X		X	
1-054-18010 M			X	
1-055-18064 4			X	Channel Islands
1-055-18064 6			X	Channel Islands
1-055-18064 7			X	Channel Islands
1-055-18071 4			X	
1-055-18071 5			X	
1-055-18071 6			X	
1-056-18120 4			X	
1-056-18120 5			X	
1-056-18120 6			X	
1-056-18124 M			X	
1-057-18170 M				
1-057-18172 M			X	Monterey
1-057-18175 M			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).

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