Coastal Zone
Information
Center

COASTAL ZONE
INFORMATION CENTER

COM-74-10312

Salt Marshes

A Bibliography with Abstracts

NTIS-WIN-74-014

January 1974

This is a WIDE INTEREST

NTISearch

National Technical Information Service
U. S. DEPARTMENT OF COMMERCE

National Technical Information Service
U.S. Department of Commerce. N.T.I.S.

Z
5322
.W47
R56
1974

AUTHENTICATED
U.S. GOVERNMENT
INFORMATION
GPO

01482

BIBLIOGRAPHIC DATA SHEET	1. Report No. NTIS-WIN-74-014		COM-74-10012

4. Title and Subtitle Salt Marshes. A Bibliography With Abstracts.	5. Report Date January 1974 6.
7. Author(s) Axel C. Ringe	8. Performing Organization Rept. No.
9. Performing Organization Name and Address National Technical Information Service 5285 Port Royal Road Springfield, Virginia 22151	10. Project/Task/Work Unit No. 11. Contract/Grant No.
12. Sponsoring Organization Name and Address Same	13. Type of Report & Period Covered 1964-December 1973 14.

15. Supplementary Notes

16. Abstracts

The bibliography contains 34 selected abstracts of research reports retrieved using the NTIS on-line search system--NTISearch. Citations are concerned with all aspects of salt marshes, including their ecology, preservation, pollution, and development.

Property of CSC Library

JUN 1 9 1997

17. Key Words and Document Analysis. 17a. Descriptors

U.S. DEPARTMENT OF COMMERCE NOAA
COASTAL SERVICES CENTER
2234 SOUTH HOBSON AVENUE
CHARLESTON, SC 29405-2413

17b. Identifiers/Open-Ended Terms

Reproduced by
NATIONAL TECHNICAL INFORMATION SERVICE
U S Department of Commerce
Springfield VA 22151

17c. COSATI Field/Group

18. Availability Statement	19. Security Class (This Report) UNCLASSIFIED	21. No. of Pages
	20. Security Class (This Page) UNCLASSIFIED	22. Price $20.00

This bibliography was prepared from NTIS's on-line interactive bibliographic retrieval system consisting of more than 360,000 records of documents. These documents, dating back to 1964, were submitted to NTIS by all major Departments and Agencies within the Federal Government, as well as leading private organizations or individuals with Federal grants and contracts. Examples of document sources include the Departments of Defense, Housing and Urban Development (HUD), the Environmental Protection Agency (EPA), Booz-Allen, TRW Systems Group, Mitre Corporation, Massachusetts Institute of Technology, Sandia Labs, and the RAND Corporation. Each citation indicates the availability of the document and when available from NTIS quotes the price. Special order forms are available at the end of this bibliography.

MICROFICHE PRICE INCREASE

Many of the microfiche announced in these abstracts are priced at $0.65 or $0.95. However, due to the high cost of handling individual requests for microfiche, we have found it necessary to raise our price for this service. Effective August 16, 1973, the price for a report in microfiche will be $1.45 for domestic orders and from $2.45 to $2.95 for foreign orders, unless announced at a higher price. Microfiche announced at a price higher than $1.45 will continue to be sold at the announced price. The $1.50 added charge for foreign orders continues to apply. Deposit Account holders will be charged for the increased price automatically. The price charged will be reflected on the monthly statement.

If your organization regularly places individual orders for microfiche in specialized subject areas, we suggest that you place a standard order for microfiche through our SCIM (Selected Categories in Microfiche) services. You can inquire about SCIM by writing the NTISearch Program at NTIS, or you may telephone your NTISearch analyst at (703) 451-0560.

Base Food Chain Relaticnships in Coastal Salt Marsh Ecosystems

Lehigh Univ., Bethlehem, Pa. (205 450)

Completion rept. 21 Nov 69-31 Mar 71
AUTHOR: Brickman, Laurence Michael
C1551L1 FLD: 6F, 57H, 86Q USGRDR7320
1972 189p
GRANT: NMFS-3-114-R
Doctoral thesis. Sponsored in part by New Jersey Dept. of Environmental Protection, Trenton. Div. of Fish, Game and Shellfisheries.

ABSTRACT: The distribution and abundance of the meiobenthos was studied monthly frcm October 1969 to Decemoer 1970 at six stations within the Dividing Creek watershed in Cumberland County, New Jersey. The total number of individuals ranged from 36-10,594/10sqcm and the dry weight biomass frcm 0.62-17.59mg/10sqcm. Free living nematodes which comprised 78.3% of the total numbers and 62.3% of the biomass were the most abundant organisms collected at all but the stations located in the middle and upper reaches of Dividing Creek. Harpacticoid copepods were second in overall abundance, comprising 14.8% of the total numbers and 14.7% of the total biomass, and were the most abundant organism at the remaining two stations. (Modified author abstract)

DESCRIPTORS: (*Food chains, *Swamps), Biomass, Abundance, Estuaries, Drainage, Benthos, Nematoda, Crustacea, Ecology, Theses, New Jersey

IDENTIFIERS: *Salt marshes, Spartina alterniflora, Spartina patens, Meiobenthos, Meicfaun, Copepods, NOAA

COM-73-11320/1 NTIS Prices: PC$11.50/MF$1.45

Cooperative Gulf of Mexico Estuarine Inventory and Study, Mississippi. Phase I: Area Description. Phase II: Hydrology. Phase III: Sedimentology. Phase IV: Biology

Gulf Coast Research Lab., Ocean Springs, Miss. (159 970)
AUTHOR: Christmas, J. Y.
C1551A3 FLD: 8H, 48C, 47C, 64H, 78H, 86Q USGRDR7320
1973 433p
CONTRACT: DI-14-17-0002-292 GRANT: NMFS-2-25-R

ABSTRACT: The dynamics of estuaries of the Gulf of Mexico bordering Mississippi are described in four phases. Phase I, Area Description, reviews the history and evolution of Mississippi estuaries and depicts the prevailing environmental conditions and economic development along the Mississippi coast. Phase II, Hydrology, presents data on the physico-chemical water quality of estuaries and describes the seasonal and areal variations. Phase III, Sedimentology, describes the composition and grain size of sediments in Mississippi Sound and adjoining bays and streams. Phase IV, Biology, identifies and quantifies the flora and fauna of Mississippi estuaries and describes their associations. Floral descriptions include the marsh grasses and emergent and submergent aquatic vegetation. Faunal descriptions include estuarine zooplankton, invertebrates and vertebrates. (Author)

DESCRIPTORS: (*Estuaries, *Mississippi), (*Mexico Gulf, Estuaries), Inventories, Hydrology, Ecology, Fisheries, Sedimentology, Coasts, Littoral zone, Aquatic biology, Evolution(Development), Seasonal variations, Water quality, Swamps, Aquatic animals, Aquatic plants

IDENTIFIERS: Salt marshes, NOAA

COM-73-11269/0 NTIS Prices: PC$8.75/MF$1.45

An Interactive Analysis of Natural Resource Allocation in a Contemporary Estuarine Ecosystem

Cornell Univ., Ithaca, N.Y. Water Resources and Marine Sciences Center.

Technical rept.
AUTHOR: Sullivan, Arthur L.
C1422A1 FLD: 13B, 5C, 68D, 52I, 91A USGRDR7318
May 73 24p
REPT NO: TR-66
CONTRACT: DI-14-01-0001-1852, DI-14-01-0001-3032

ABSTRACT: Using the bicounty Nassau-Suffolk region of Long Island as a case study, it was found that the natural resources and resource-use processes of the estuarine zone could be conceptually related in a 'system'. This ecosystem and its interrelationships were specifically displayed in a matrix form so that planning analysis for management decisions could be accomplished. Visually, the twenty-one important processes occurring in the physical, biological, resource-use (market) and socio-economic sectors of the system have been related. The effect of an increase in any one process on all of the others has been indicated in a directional sense as causing an increase, decrease, no effect or countervailing effect. The implication of these effects for planning future activities has been discussed. Emphasized in this study are: fish and shellfish, sand and gravel, waterfront land for housing and commercial development, dredging, erosion, recreational activities including boating, fishing, and swimming, park development, pesticide application and waste discharge. (Modified author abstract)

DESCRIPTORS: (*Natural resources, Management planning), (*Long Island, Land development), (*Land development, Natural resources), (*Estuaries, Land development), Ecology, Water pollution, Dredging, Decision making, Recreation, Pesticides, Erosion, Swamps, Marine fishes, Shellfish, Mining, Matrix methods, Conflict

IDENTIFIERS: OWRR

PB-222 003/6 NTIS Prices: PC$3.00/MF$1.45

Research to Determine the Environmental Response to the Deposition of Spoil on Salt Marshes using Diked and Undiked Techniques

Skidaway Inst of Oceanography Savannah Ga (407934)

Annual progress rept. no. 2.
C1374E1 FLD: 6F, 8A, 13B, 68C, 68D, 57H, 78A USGRDR7318
Mar 73 196p
CONTRACT: DACW21-71-C-0020
See also Annual progress rept. no. 1, AD-757 717.

ABSTRACT: The second year's studies included: water quality changes in relatively polluted areas during dredging; the effects on water quality of dredge spoil impoundment; processes responsible for water quality changes during dredging and after dredge spoil disposal; significant sediment parameters which can be measured that would give some basis for predicting water quality changes during dredging; dredging effects on fish and macroinvertebrates; and effects of dredging on benthic infaunal populations.

DESCRIPTORS: (*Swamps, Ecology), (*Soils, Disposal), Estuaries, Water pollution, Metals, Ammonia, Aquatic animals, Salinity, Concentration(Chemistry), Temperature, Grasses, Plankton, PH, Regeneration

IDENTIFIERS: *Dredging, Earth fills, *Spoil, *Solid waste disposal, *Salt marshes, Species diversity, Cordgrass, Spartina alterniflora, Dikes, Sediments, Periphyton, *Water pollution effects(Animals), *Water pollution effects(Plants), Water quality, Pelagic zone, Benthos , A

AD-763 920 NTIS Prices: PC$3.00/MF$1.45

Effects of Mosquito Control Ditching on Estuarine Ecosystems

North Carolina Water Resources Research Inst., Raleigh.
AUTHOR: Kuenzler, Edward J., Marshall, Howard L.
C1271F4 FLD: 6F, 57P, 57H USGRDR7316
Feb 73 93p
REPT NO: 81
CONTRACT: DI-14-31-0001-3315

ABSTRACT: Large areas of irregularly flooded North Carolina salt marsh dominated by Juncus roemerianus were ditched in an attempt to control mosquito breeding. Comparative study of ditched and unditched marshes at three locations in N.C., was carried out to determine the extent of ecological changes. Ditches increase the area of aquatic habitat in marshes by a factor of 5, are inhabited by large numbers of juvenile fishes, crabs, and shrimp, and increase the amount of nursery ground for fish and crustaceans. Animal variety in ditches is low. Oysters planted in the ditches do not grow well. It is unlikely that oysters or shrimp could be cultured successfully on a commercial basis in ditches. Marshes were flooded 10-28% of the time. Fiddler crabs were present on all marshes. During flood tides fishes occur on both ditched and unditched marshes. Brushy vegetation invaded many spoil piles and along ditches. Invasion continued during the two year study. Failure of vegetation to significantly cover many spoil piles after eight years, and continuing erosion of spoil piles to form water-retaining levees along ditches is cause for concern.

DESCRIPTORS: (*Ditches, *Ecology), (*Insect control, Ditches), (*Estuaries, Ecology), Swamps, Soil erosion, Aquatic biology, Drainage, Culicidae, North Carolina

IDENTIFIERS: Ecosystems, OWRR

PB-220 951/8 NTIS Prices: PC$3.00/MF$0.95

Waterfront Housing Developments: Their Effect on the Ecology of a Texas Estuarine Area

National Marine Fisheries Service, Galveston, Tex. Biological Lab.
AUTHOR: Trent, W. L., Fullen, E. J., Moore, D.
C1091H2 FLD: 6F, 68D, 57H, 78A, 86Q USGRDR7314
1972 8p
REPT NO: Contrib-311
Summaries in French and Spanish.
Pub. in Marine Pollution and Sea Life, p1-7 Dec 72.

ABSTRACT: Studies were conducted during 1969 to compare the ecology of a natural estuarine area (Marsh and bay) with the ecology of an adjacent estuarine area altered by channelization, bulkheading, and filling. In each area, hydrographic factors, fishes, crustaceans, and benthic macro-invertebrates were sampled. Setting, growth, and mortality rates of juvenile oysters were measured. In general, productivity was highest in the marsh, intermediate in the canals of the altered areas and lowest in the open bay. If the altered area is not self-supporting and if areas of marsh are developed in ways similar to the present, then biclogical productivity of the estuarine zone will be reduced in relation to the acres of marsh altered.

DESCRIPTORS: (*Biological surveys, Estuaries), (*Land development, *Estuaries), Land use, Swamps, Primary biological productivity, Invertebrates, Benthos, Dredging, Spoil, Channels(Waterways), Hydrology, Sediments, Phytoplankton, Oysters, Marine fishes, Seasonal variations, Ecology, Mexico Gulf, Water pollution

IDENTIFIERS: Salt marshes, NOAA

COM-73-10851 NTIS Prices: Reprint

Monitoring Toxaphene Contamination in a Georgia Estuary

Georgia Marine Science Center, Savannah.

Technical rept. series
AUTHOR: Reimold, Robert J., Durant, Charles J.
C1085A1 FLD: 6F, 8A, 68E, 57H, 78A, 86M USGRDR7314
Nov 72 21p
REPT NO: TR-72-8
Prepared in cooperation with Skidaway Inst. of Oceanography, Savannah, Ga.

ABSTRACT: In this study efforts were made to quantify the flux of toxaphene through the salt marsh cordgrass Spartina alterniflora, to consider the species diversity of Terry Creek, and to evaluate toxaphene concentrations in selected fauna and flora. It was found that there was a significant increase in species diversity in the Creek during the past two years. In general it appears that there was a significant decrease in toxaphene levels from 1970-1971 to 1971-1972.

DESCRIPTORS: (*Estuaries, Insecticides), (*Insecticides, *Swamps), Chlorine aliphatic compounds, Concentration(Composition), Food chains, Aquatic animals, Ecology, Accumulation, Georgia

IDENTIFIERS: Sea Grant program, Spartina alterniflora, Toxaphene, Salt marshes, Species diversity, Water pollution effects(Animals), Path of pollutants, NOAA

COM-73-10721 NTIS Prices: PC$3.00/MF$0.95

Environmental Vulnerability of the Delaware Bay Area to Supertanker Accommodation. Volume II. Biology

Delaware Univ., Newark. Coll. of Marine Studies. (407 178)

Final rept. on Sea Grant Project
AUTHOR: Maurer, Don, Wang, Hsiang
C0872B2 FLD: 6F, 8A, 13B, 68D*, 57H, 78A, 60E USGRDR7312
Feb 73 360p*
See also Volume 1, PB-219 801 and Volume 3, PB-219 803.
Paper copy also available from NTIS $29.70/set of 4 reports as PB-219 800-SET.

ABSTRACT: The report evaluates the environmental impact of construction and operation of a supertanker terminal at three sites, one inside Delaware Bay off Cape May and the other two 8 and 20 miles off Cape Henlopen. Volume II details the biology of the area and estimates the effects of oil spills on the biota.

DESCRIPTORS: (*Delaware Bay, Environmental surveys), (*Marine terminals, Delaware Bay), (*Water pollution, *Estuaries), Tanker ships, Marine biology, Ecology, Algae, Phytoplankton, Ocean environments, Marine fishes, Invertebrates, Benthos, Coasts, Climate, Construction, Maintenance, Littoral zone, Recommendations, Swamps

IDENTIFIERS: Sea Grant Program, *Deepwater ports, Supertankers, *Oil pollution, Oil spills, Water pollution effects(Animals), Water pollution effects(Plants), Salt marshes, CEQ

PB-219 802/6 NTIS Prices: PC$9.00/MF$0.95

ERTS-1 Data User Investigation of Wetlands Ecology

American Univ., Washington, D.C. Dept. of Biology.

Progress rept. no. 5
AUTHOR: Anderson, Richard R.
C0852E1 FLD: 8H, 93A USGRDR7312
16 Apr 73 5p
CONTRACT: NAS5-21752

ABSTRACT: The author has identified the following significant results. ERTS-1 imagery (enlarged to 1:250,000) is an excellent tool by which large area coastal marshland mapping may be undertaken. If states can sacrifice some accuracy (amount unknown at this time) in placing of boundary lines, the techniques may be used to do the following: (1) estimate extent of man's impact on marshes by ditching and lagooning and accelerated successional trends; (2) place boundaries between wetland and upland and hence estimate amount of coastal marshland remaining in the state; (3) distinguish among relatively large zones of various plant species including high and low growth S. alterniflora, J. roemerianus, and S. cynosuroides' and (4) estimate marsh plant species productivity when ground based information is available. (Author)

Wetlands, Ecology, Chesapeake Bay(US), South Carolina, Georgia, Mapping earth resources program, Imagery, Vegetation, Marshlands

IDENTIFIERS: NASA

E73-10507 NTIS Prices: PC$3.00/MF$0.95

The Movement and Impact of Pesticides Used for Vector Control on the Aquatic Environment in the Northeastern United States

Little (Arthur D.), Inc., Cambridge, Mass. (208 850)

Pesticide study series 9
AUTHOR: Reese, Charles D., Becker, David L.
C0721D3 FLD: 6F, 13B, 68E*, 57H, 68D USGRDR7310
Jul 72 234p
CONTRACT: DI-68-01-0129
Paper copy available form GPO $1.75 as EP2.25:9.

ABSTRACT: In the northeastern United States the mosquito abatement programs are conducted for the vector control of Eastern equine encephalitis, to reduce the nuisance problem caused by mosquitoes, and to enhance recreation areas. Typically, these programs consist of the application of pesticides (vectoricides) and the drainage of stagnant water. The report summarizes a case study of a specific vectoricide use situation documenting the kinds and quantities used, their route from the point of initial application into the water environment, their ultimate effect on the ecosystem, and the laws and regulations which affect their use. Cape Cod was chosen for the study area.

DESCRIPTORS: (*Insecticides, *Ecology), (*Pesticides, *Water pollution), (*Culicidae, *Insect control), Law(Jurisprudence), Swamps, DDT, Dieldrin, Malathion, Pyrethrum, Biocides, Larvae, Cape Cod, Massachusetts, Mineral oils, Aquatic biology, Impact, Estuaries, Toxicity, Biodeterioration, Metabolism, Public health, Disease vectors

IDENTIFIERS: *Salt marshes, *Pesticide persistence, Path of pollutants, Methoxychlor, Water pollution effects(Animals), Pesticide residues, Abate, EPAL

PB-217 843/2 NTIS Prices: PC-GPO/MF$0.95-NTIS

Fatty-Acid Ecology of a Tidal Marsh

Rhode Island Univ., Kingston. Graduate School of Oceanography. (406 099)
AUTHOR: Jeffries, H. Perry
C0695E4 FLD: 8H, 6F, 6A, 64H, 57H, 57B, 86M USGRDR7310
1972 9p
Pub. in Limnology and Oceanography, v17 n3 p433-440 May 72.

ABSTRACT: A salt marsh has differing biochemical patterns: The grasses have a terrestrial pattern rich in 16-18 C fatty acids, the animals a marine pattern dominated by long-chain polyunsaturates. The patterns vary, but they remain far more distinct than at corresponding positions in the structure of an offshore community. Each pattern is reflected in the diet of two species of marsh fishes. Their most probable diet is a mixture of 5 parts detritus to 1 part marine invertebrates. This ratio is also a boundary condition: It cannot go any higher and still account for the patterns occurring in the digestive tracts. Food is so abundant during spring that despite identical diets the two species could avoid competition. (Author)

DESCRIPTORS: (*Ecology, Swamps), (*Swamps, *Biochemistry), (*Fatty acids, Swamps), Grasses, Aquatic animals, Fishes, Diets, Limnology, Water chemistry, Lipids

IDENTIFIERS: NOAA

COM-73-10423 NTIS Prices: Reprint

Research to Determine the Environmental Response to the Deposition of Spoil on Salt Marshes Using Diked and Undiked Techniques

Skidaway Inst of Oceanography Savannah Ga (407934)

Annual progress rept. no. 1, Nov 70-Dec 71
AUTHOR: Windom, Herbert L., Stickney, Robert R.
C0625D2 FLD: 6F, 8A, 13B, 68C, 68D, 57H, 78A USGRDR7309
Apr 72 408p
CONTRACT: DACW21-71-C-C020

ABSTRACT: The report presents the results of the first year studies of a three year research contract to determine the environmental response to the deposition of dredged material on salt marshes using diked and undiked confinement techniques. The report includes studies of water quality changes, studies of salt marsh sediment responses, and biological studies directed toward identifying any changes in the biota in areas of dredging activities. (Author Modified Abstract)

DESCRIPTORS: (*Swamps, Ecology), Seacoast, Estuaries, Water pollution, Metals, PH, Salinity, Temperature, Iron, Tides, Mercury, Aquatic animals, Georgia, Plankton, Fishes, Disposal

IDENTIFIERS: *Dredging, *Savannah River, *Earth fills, *Spoil, *Solid waste disposal, Dikes, *Salt marshes, Cordgrass, Spartina alterniflora, Periphyton, Sediments, Water pollution effects(Animals), Water quality data, Pelagic zone, Benthos, Dissolved gases, Nutrients, Biochemical oxygen demand, A

AD-757 717 NTIS Prices: PC$6.00/MF$0.95

ERTS-1 Data User Investigation of Wetland Ecology

American Univ., Washington, D.C. Dept. of Biology.

Progress rept. no. 4
AUTHOR: Anderson, Richard R.
C0572K1 FLD: 93B USGRDR7308
15 Feb 73 3p
CONTRACT: NAS5-21752

Imagery, Ecology, Wetlands, Maryland, Georgia, Chesapeake Bay(US), Earth resources program, Computer programs, Plants(Botany)

E73-10288 NTIS Prices: PC$3.00/MF$0.95

Color-Infrared Aerial Photographic Interpretation and Net Primary Productivity of a Regularly Flooded North Carolina Salt Marsh

North Carolina Water Resources Research Inst., Raleigh.
AUTHOR: Stroud, Linda M., Cooper, Arthur W.
C0415I2 FLD: 6F USGRDR7306
Nov 68 100p
REPT NO: 14
CONTRACT: DI-14-01-0001-978

ABSTRACT: A study was made of net primary productivity of salt marsh communities in a 2000-acre, regularly flooded marsh in Brunswick County, North Carolina. Color infra-red aerial photographs were used to determine acreages of community types. Net primary productivity estimates were based on harvest method data. Observed harvest data were fitted to a fourth degree polynomial in time in order to express the average behavior of the standing crop through the year. Net productivity was determined by two methods: Use of living standing crop only, and Use of changes in living and dead standing crop. Over the entire marsh net primary productivity was estimated to be 1534 kcal/m sq/yr. These values were lower than similar values from Georgia but resembled closely other estimates of net primary productivity for salt marsh vascular plants in North Carolina.

DESCRIPTORS: (*Swamps, *Primary biological productivity), (*Aerial photography, Primary Biological productivity), Estuaries, Infrared photography, Coasts, Tide water, Grasses, Ecology, Color photography, Salt water

IDENTIFIERS: Marshes

PB-214 368/3 NTIS Prices: PC$7.00/MF$0.95

Wetlands Ecology

American Univ., Washington, D.C. Dept. of Biology.

Progress rept. Jun-Oct 72
AUTHOR: Anderson, Richard B., Carter, Virginia, McGinness, John W. Jr
C0201H2 FLD: 93A USGRDR7303
Nov 72 11p
CONTRACT: NAS5-21752

ABSTRACT: The author has identified the following significant results. The ERTS imagery analyzed provides approximately 2/3 coverage of the test site. Analysis was made using visual methods, density slicing, and multispectral analysis. Preliminary conclusions reached are that most, if not all, of the investigation objectives can be met. Saline and near-saline wetlands can be delineated from ERTS-1 images as the wetland-upland boundaries and land-water interface are clearly defined. Major plant species or communities such as Spartina alterniflora (high and low vigor forms), Spartina patens/Distichlis spicata, and Juncus roemarianus can be discriminated and spoil disposal areas identified. (Author)

Coastal ecology, Wetlands, Salinity, Imagery, Earth resources program, Shallow water, Plants(Botany), Mapping

E72-10290 NTIS Prices: PC$3.00/MF$0.95

Identification of Coastal Vegetation Species in ERTS-1 Imagery

Delaware Univ., Newark. Coll. of Marine Studies. (407 178)
AUTHOR: Klemes, V., Bartlett, D.
A5392D3 FLD: 93B USGRDR7223
4 Oct 72 2p

Earth resources technology satellite A, Imagery, Vegetation, Delaware, Coastal ecology, Ground truth, U-2 aircraft, B-57 aircraft, Maps, Wetlands, Hay, Grasses, Marshlands, Multispectral band scanners, Forests, Beaches

E72-10120 NTIS Prices: PC$3.00/MF$0.95

ERTS-1 Data User Investigation of Wetland Ecology

American Univ., Washington, D. C. (027 650)

Progress rept. no. 2
AUTHOR: Anderson, Richard R.
A5305I1 FLD: 93B USGRDR7222
Sep 72 2p

Earth resources technology satellite A, Ecology, Imagery, Wetlands, North Carolina, South Carolina, Aerial photography, U-2 aircraft, Chesapeake Bay(US), Spectral reflectance, Ground truth, Plants(Botany), Computer programs, Multispectral band scanners, Multispectral photography, Watersheds, Infrared photography

E72-10073 NTIS Prices: PC$3.00/MF$0.95

Observations on 'Claviceps purpurea' on 'Spartina alterniflora' in the Coastal Marshes of Mississippi

Gulf Coast Research Lab., Ocean Springs, Miss. (159 970)
AUTHOR: Eleuterius, Lionel N.
A5294C4 FLD: 6M, 57K, 57C, 86Q USGRDR7222
1970 6p
GRANT: NMFS-2-25-R
Pub. in Gulf Research Reports, v3 n1 p105-109 Sep 70.

ABSTRACT: The fungus Claviceps purpurea was observed on the oyster grass Spartina alterniflora during the late summer and fall of 1968. List-count quadrats are used to obtain data on the intensity of the infection. C. purpurea was present on 96.5% of the mature culms. Seventy-one percent of the seed produced on infected panicles bore sclerotia. It is estimated that the fungus reduced the total potential production of viable seeds by 58.5% during 1968. The importance of S. alterniflora in reducing erosion in the estuarine environment makes this infection a serious detriment to environmental protection.

DESCRIPTORS: (*Grasses, *Fungi), Swamps, Water erosion, Inhibition, Estuaries, Ecology, Alabama, Louisiana, Mississippi, Mexico Gulf

IDENTIFIERS: Spartina alterniflora, Claviceps purpurea, Ergot

COM-72-10962 NTIS Prices: Reprint

Interpretation of Wetlands Ecology from ERTS

American Univ., Washington, D.C. (027 650)
AUTHOR: Anderson, Richard R., Carter, Virginia, McGinness, Bill
A5242E1 FLD: 93B USGRDR7221
Sep 72 1p
CONTRACT: NAS5-21752
Presented as Preliminary Findings from Analyses of ERTS Observations, NASA Goddard Space Flight Center, Greenbelt, Md., 29 Sep 72.

Earth resources technology satellite A, Imagery, New Jersey, Coastal ecology, Wetlands, South Carolina, Georgia, Return beam vidicons, Multispectral band scanners, Infrared radiation, Spectral bands, Color, Density(Mass/Volume), Imaging techniques

E72-10059 NTIS Prices: PC$3.00/MF$0.95

ERTS-A Data User Investigation of Wetlands Ecology

American Univ., Washington, D.C. (027 650)

Progress rept. no. 1
AUTHOR: Anderson, Richard R.
A5071J1 FLD: 93B USGRDR7219
Jul 72 2p

Spectral reflectance, Wetlands, Ecology, Multispectral band scanners, Data acquisition, Maryland, Earth resources technology satellite A, Satellite-borne instruments, Airborne equipment, Ground truth, U-2 aircraft, Plants(Botany), C-130 aircraft, Aerial photography, Watersheds, Color photography, Infrared imagery, Imaging techniques, B-57 aircraft

E72-10001 NTIS Prices: PC$3.00/MF$0.95

Insect Pest Management in Coastal and Estuarine Habitats

North Carolina State Univ., Raleigh. Dept. of Entomology. (406 314)

Summary rept.
AUTHOR: Axtell, R. C., Knight, K. L.
A4331F1 FLD: 6F, 57P, 86M USGRDR7212
31 Dec 71 58p*
GRANT: NSF-GH-78

ABSTRACT: The extreme ecological importance of coastal and estuarine zone makes it essential that the populations of insect pests be managed by methods that are compatible with the estuarine ecosystem. Ecologically sound insect control in this situation requires the judicious meshing of chemical, cultural, and biological methods into a program of pest management. The objective is to lower the mean level of abundance of an entire pest population by methods or a combination of methods which supplement the natural control agents, give long term alleviation of the problem, and cause the least disruption of the ecosystem. It is based on the realization that natural pest populations cannot be eliminated; rather they must be managed so that they occur at tolerable levels.

DESCRIPTORS: (*Insect control, *Estuaries), (*Pest control, *Shores), Coasts, Diptera, Culicidae, Ecology, Economic factors, Recreation, Methodology, Swamps, North Carolina

IDENTIFIERS: Tabanidae, Carteret County(North Carolina)

COM-72-10453 NTIS Prices: PC$3.00/MF$0.95

Integration of Computer Modeling Techniques with Laboratory Experiments at All Stages of Design, Modification and Interpretation of Results

Rhode Island Univ., Kingston. (305 500)
AUTHOR: Welsh, Barbara L., Carney, Edward J.
A3784J1 FLD: 6F, 57H, 57C, 86M USGRDR7207
1971 8p
REPT NO: Marine Reprint-1
GRANT: NSF-GH-99
Pub. in Unidentified jnl.

ABSTRACT: Computer simulation, laboratory experiments and field measurements were integrated to determine the dynamics of growth of mixed populations of bacteria associated with the marsh grass, Spartina alternaflora. Simulation was useful in optimizing the design of the laboratory experiments which in turn provided empirical values for updating the model. Both theoretical considerations, as elucidated by simulation of the system, and laboratory results were useful in determining the ecologically significant parameters for verification, and also in completing the dynamics of the system as a whole in those areas where direct field determinations were difficult or impossible. Modeling and simulation provide subunits that are in a form which may be integrated with an overall system even before complete investigation and refinement of the individual unit. (Author)

DESCRIPTORS: (*Grasses, Growth), (*Aquatic plants, Bacteria), (*Computerized simulation, Ecology), Swamps, Laboratories, Field tests, Systems analysis, Correlation

IDENTIFIERS: Spartina alternaflora

COM-72-10123 NTIS Prices: Reprint

South Florida's Mangrove-Bordered Estuaries--Their Role in Sport and Commercial Fish Production

Miami Univ., Fla. Sea Grant Institutional Program.

Information bull
AUTHOR: Robas, Ann K.
A3412A2 FLD: 6F, 5C, 8H, 57H, 53D, 86M USGRDR7203
Dec 70 29p
REPT NO: Sea Grant IB-4
Sponsored in part by National Science Foundation, Washington, D.C.

ABSTRACT: The bulletin is designed to promote a greater awareness of the importance of the estuarine areas as well as associated marsh and mangrove shallows-to fishermen, both commercial and sport, and to those who enjoy the sea as a place of recreation and relaxation. (Author)

DESCRIPTORS: (*Estuaries, *Fishing), (*Florida, Fishing grounds), Swamps, Food chains, Ecology, Life cycles, Environments, Resources, Commerce, Recreation, Legislation, Land use zoning

IDENTIFIERS: Sea Grant program, Mangrove trees

COM-71-50601 NTIS Prices: PC$3.00/MF$0.95

The Production of Organic Detritus in a South Florida Estuary

Miami Univ., Fla. Sea Grant Institutional Program.
AUTHOR: Heald, Eric J.
A3323F3 FLD: 6F, 57H, 86M USGRDR7202
Jan 71 120p
REPT NO: Sea Grant Technical Bull-6
Report on Sea Grant Program (Estuarine and Coastal Studies).

ABSTRACT: Growing realization of the highly fertile nature of estuaries and coastal marshes has been accompanied by more active consideration of the mechanisms by which this high productivity is maintained. It has become evident that in many instances plant detritus, often of allochthonous origin, is at least in part responsible. Since the estuarine regions of Everglades National Park are dominated by dense mangrove forests, it is important to investigate the role played by mangorves in the productivity of the area. The study, conducted on the North River from 1967 to 1969, is an attempt to delineate and quantify the mechanisms and pathways by which dead plant material, particularly that of red mangroves, becomes incorporated into the aquatic system and thereby constitutes an important energy source.

DESCRIPTORS: (*Detrius, *Estuaries), (*Biological productivity, Estuaries), (*Ecology, Estuaries), (*Swamps, Ecology), Plants(Botany), Aquatic plants, Dissolved organic matter, Food chains, Aquatic biology, Biochemical oxygen demand, Florida

IDENTIFIERS: Mangroves

COM-71-01071 NTIS Prices: PC$3.00/MF$0.95

Pathways of Energy Flow in a South Florida Estuary

Miami Univ., Fla. Sea Grant Institutional Program.
AUTHOR: Odum, William E.
A3323E2 FLD: 6F, 57H, 86M USGRDR7202
Jan 71 175p
REPT NO: Sea Grant Technical Bull-7
Report on Sea Grant Program (Living Resources).

ABSTRACT: The annual contribution of mangrove forests to the ecosytem solely from leaf fall exceeds three tons (dry wt.) per acre. This leaf fall when converted by bacterial and fungal action into detritus particles supports a large population of detritus consumers both in the vicinity of the mangrove forest and in surrounding coastal waters. The detritus consumers, in turn, provide food for organisms at higher trophic levels such as gamefishes and wading birds. The permanent removal of large numbers of mangroves from an estuary will reduce the annual production of organic detritus in that estuary; ultimately, this will limit the population size of detritus consumers and reduce the numbers of animals at higher trophic levels which are of interest to man from a commercial and recreational standpoint.

DESCRIPTORS: (*Estuaries, *Detritus), (*Biological productivity, Estuaries), (*Ecological succession, Estuaries), (*Swamps, Ecology), Food chains, Biochemical oxygen demand, Dissolved organic matter, Plants(Botany), Aquatic plants, Aquatic biology, Florida

IDENTIFIERS: Mangroves

COM-71-01066 NTIS Prices: PC$3.00/MF$0.95

Ecological Aspects of Selected Crustacea of Two Marsh Embayments of the Texas Coast

Texas A and M Univ., College Station. (347 350)
AUTHOR: Conte, Fred S., Parker, Jack C.
A3034J4 FLD: 6F, 57H, 86M USGRDR7122
Jun 71 193p
REPT NO: TAMU-SG-71-211
GRANT: NSF-GH-101
Report on Sea Grant Program.

ABSTRACT: Crustacea from two marsh embayments, Oyster and Alligator Lakes, were collected twice a month for two years, identified, and their seasonal abundance determined with respect to temperature and salinity. Collections included commercial penaeid shrimp, grass shrimp (Palaemonetes), sergestid shrimp, and mysid shrimp.

DESCRIPTORS: (*Shrimps, *Ecology), (*Swamps, Shrimps), (*Insecticides, Crustacea), Texas, Seasonal variations, Yield, Temperature, Salinity, Water analysis, Malathion

COM-71-00963 NTIS Prices: PC$3.00 MF$0.95

Smith Island: A Resource Capability Study

North Carolina Univ., Wilmington, Dept. of Biology.

Interim rept.
AUTHOR: Parnell, James F., Adams, David A.
A2595F4 FLD: 6F, 52I, 86M USGRDR7117
Apr 70 91p

ABSTRACT: In recent years, developers have focussed their attention on Smith Island and several plans have been put forth to transform it into a coastal resort community. Alternate proposals have been made to retain the island in a more natural state and in some form of public ownership. This project was designed to study the ecology of the island complex and to evaluate the effect of man on the island. This interim report is based on the first one-half year to study. (NOAA-OSG abstract)

DESCRIPTORS: (*Ecology, *Islands(Landforms)), (*Recreational facilities, Islands(Landforms)), North Carolina, Soils, Habitability, Land use, Beaches, Swamps, Limnology, Biogeography

IDENTIFIERS: *Smith Island

COM-71-00827 NTIS Prices: PC$3.00 MF$0.95

Automated Delineation of Wetlands in Photographic Remote Sensing

Grumman Aerospace Corp Bethpage N Y Research Dept (406165)

Research memo.
AUTHOR: Egan, Walter G., Hair, Malcolm E.
A2485F4 FLD: 8B, 8F, 64A, 64E USGRDR7116
Jun 71 26p
REPT NO: RM-509J
Presented at the International Symposium on Remote Sensing of Environment (7th), 17-21 May 71, Ann Arbor, Mich.

ABSTRACT: Precision automated photometric mapping of wetlands in Calvert County, Maryland has been achieved in an operational system as the result of a program including aerial color film (both true color and false color infrared) calibration and control. Although the system was operated over this area, it may be adapted to other areas. The recognition appears to be most accurately achieved by microdensitometric analysis of the true color transparency in a narrow band centered in the red (0.633 millimicrons), on 3000-foot altitude imagery. A computer generated map is obtained. (Author)

DESCRIPTORS: (*Mapping, Swamps), (*Swamps, *Maryland), Automation, Color photography, Infrared photography, Sensors, Photographic techniques, Densitometers, Ecology

IDENTIFIERS: Wetlands, *Remote sensing, Calvert County (Maryland)

AD-726 142 NTIS Prices: PC$3.00 MF$0.95

Distribution of Aquatic Macro-Fauna in a Marsh on West Galveston Bay, Texas and Possible Effects Thereon Resulting From Impoundments for Shrimp Culture

Texas A and M Univer., College Station. (347 350)

Final rept.
AUTHOR: Parker, Jack C., Holcomb, Hoyt W. Jr, Klussmann, Wallace G., McNeill, James C. IV
A2234J3 FLD: 6F, 8H, 6C, 57H, 52G USGRDR7113
Mar 71 39p,
REPT NO: TAMU-SG-71-208
GRANT: NSF-GH-101
Report on Sea Grant Program.

ABSTRACT: A survey was conducted to identify the macro-fauna of a marsh adjacent to West Galveston Bay, Texas. The factors affecting their distribution were studied for evaluation of changes which might result from large areas of marsh being impounded for shrimp culture. Results indicate that construction of large-scale impoundments for shrimp culture, at the expense of removing flooded grasslands, would alter the physical features of the marsh and reduce habitats suitable for year-round survival of the stable macro-fauna. In addition, competitor and predator control in these ponds would require the removal of all aquatic macro-fauna other than shrimp. The impact of these changes on the total marsh ecosystem is not known but should be considered and studied in detail before ponds are constructed. Conceivably, marsh areas could be managed so as to insure a reasonable amount of habitat for the stable macro-fauna while allowing ample lands for shrimp culture. (TAMU-SG abstract)

DESCRIPTORS: (*Aquatic animals, Swamps), (*Swamps, Texas), (*Shrimps, *Aquaculture), (*Ecology, Swamps), (*Marine microorganisms, Ecology), Aquatic biology, Land use

IDENTIFIERS: *West Galveston Bay, *Impoundments

PB-199 196 NTIS Prices: PC$3.00 MF$0.95

Spartina Die-Back in louisiana Marshes

Louisiana State Univ Baton Rouge Coastal Studies Inst (086700)

Technical rept.
AUTHOR: Smith, W. G.
A1763A4 FLD: 6F, 57C, 57H USGRDR7108
Dec 70 9p
REPT NO: TR-91
CONTRACT: N00014-69-A-0211-0003, Nonr-1575(03)
Sponsored in part by Grant NSF-GH-47.
Availability: Pub. in Coastal Studies Bull-5, Special Sea Grant Issue, p89-96 Feb 70.

ABSTRACT: 'Die-back' is a term applied to degeneration and death of large areas of Spartina townsendii marshes in England. What appears to be the same condition affects S. alterniflora marshes in Louisiana and possibly elsewhere in North America. Several factors are likely to be involved and should be assessed in future work. These include (1) excess salinity, (2) pathogenic organisms, (3) lack of available iron, (4) hydrogen sulfide toxicity, (5) change of tidal regime, and (6) pollution. It is especially important that the effects of pollution and alteration of tidal regime through dredging be investigated. (Author)

DESCRIPTORS: (*Grasses, *Ecology), (*Estuaries, Louisiana), Deterioration, Salinity, Deficiency diseases, Iron compounds, Hydrogen compounds, Toxicity, Tides, Water pollution, Swamps, Sulfides

IDENTIFIERS: Spartina alterniflora, Dredging

AD-719 077 NTIS Price: REPRINT

FIELD EXPERIMENTS ON THE FLUX OF RADIONUCLIDES THROUGH A SALT MARSH ECOSYSTEM

Georgia Univ., Athens. Dept. of Zoology.

Progress rept.
AUTHOR: Pomeroy, L. R., Odum, E. P., Reimold, R. J., Jones, R. D., Shenton, L. R.
7091D2 FLD: 6F, 6R, 908 NSA2323
25 Sep 69 24p
CONTRACT: AT(40-1)-3238

DESCRIPTORS: (*Swamps, Ecology), (*Ecology, Radioactive isotopes), Radioactive fallout

ORO-3238-7 CFSTI Prices: HC$6.00 MF$0.95

ABSTRACT: During the 1969 contract year the flux of ^{32}P from the sediments through Spartina alterniflora, and its subsequent release into the salt marsh ecosystem were evaluated. Related field experiments have been concerned with the flux of ^{32}P, ^{65}Zn; ^{90}Sr, and ^{59}Fe through the five compartments identified in our mathematical model. Mathematical modeling efforts have been directed toward digital, analog, and digital-analog hybrid computer solutions as well as analytical solutions. Effects of inputs and outputs in the five compartment model have been considered as well as the effect of perturbations of the standing stock values. The model appears to respond closely to natural environmental measurements and consequently can be expanded in complexity to include a greater number of compartments and non-linear flux rates. (Author)

LIST OF PLANTS ON BIG PINE KEY, FLORIDA

Smithsonian Institution, Washington, D. C. (325 300)
AUTHOR: Franklin, Alicelia H., Smith, Lyman B.
5391H1 FLD: 6C USGRDR6902
1968 31p

ABSTRACT: A plant list of 466 species and varieties in 87 families is provided for Big Pine Key, Florida. (Author)

DESCRIPTORS: (*Plants(Botany), Catalogs), Trees, Classification, Grasses, Beaches, Sand, Ecology, Distribution, Islands, Swamps, Florida

IDENTIFIERS: Mangroves, Orchids, Big Pine Key(Florida), Everglades

PB-180 221 CFSTI Prices: PC$6.00 MF$0.95

SEDIMENTARY ENVIRONMENTS IN A MARINE MARSH

Scripps Institution Of Oceanography La Jolla Calif (319100)
AUTHOR: Phleger, Fred B., Bradshaw, John S.
3121H4 FLD: 8H, 8A, 8G USGRDR6708
20 Sep 66 5
CONTRACT: Nonr-2216(23)
Availability: Published in Science v154 n3756 p1551-3 Dec 23 1966.

ABSTRACT: Several foraminiferal assemblages are recognized in Spartina-Salicornia marshes along the Pacific and Gulf of Mexico coasts. Continuous recordings in one Pacific marsh show considerable diurnal and seasonal variation in pH, oxygen, water temperature, and salinity. This is related to tidal flushing, air temperature variations, sunlight duration, and marsh plant metabolism.

DESCRIPTORS: (*Swamps, Marine biology), (*Marine geology, Swamps), Foraminifera, Plants(Botany), Sedimentary rock, Environment, Salinity, Ecology, Sedimentation, Terrain

AD-647 619

PATTERNS OF MARSH FORAMINIFERA, GALVESTON BAY, TEXAS

Scripps Institution of Oceanography L Jolla Calif (319100)
AUTHOR: Phleger, Fred B.
2775J3 FLD: 8, 6B USGRDR6620
18 Jul 66 2p
CONTRACT: Nonr-2216(23)
Availability: Published in Limnology and Oceanography v10 suppl pR169-84 Nov 1965.

ABSTRACT: Populations of living Foraminifera were studied from six areas of marine marsh in Galveston Bay. The general marsh foraminiferal assemblage is an Ammotium salsum-Miliammina fusca one, with common Ammonia beccarii, Arenoparrella mexicana, and Trochammina inflata, and also containing Ammoastuta inepta, Elphidium spp., Tiphotrocha comprimata, and Trochammina macrescens in somewhat smaller frequencies. The following marsh environments have distinctive assemblages of Foraminifera; (1) channel or bay bordering a marsh, (2) fringing Spartina zone, (3) Salicornia berm, (4) inner Spartina zone, (5) inner Salicornia zone, (6) lagoon barrier marsh, (7) more saline marsh, and (8) less saline marsh. Living populations are very small to very large, living-total population rates are large and deposition rates are high. Extreme range of environmental conditions limits the variety of marsh Foraminifera. Knowledge of the environment is inadequate to explain distributions within the marsh. (Author)

DESCRIPTORS: (*Foraminifera, Swamps), Ecology, Bays, Beaches, Texas

AD-638 090

MAIL ORDER TO:

NTIS

National Technical Information Service
U. S. DEPARTMENT OF COMMERCE
5285 Port Royal Road, Springfield Va. 22151

Date _____,

Ship to: (Enter if different from address at left.)

PURCHASER:

Name _____

Address _____

City, State, Zip _____

Attention: _____

Name _____

Address _____

City, State, ZIP _____

TELEX 89-9405

☐ Charge my NTIS deposit account no. _____
☐ Send me an application for an NTIS deposit account.
☐ Purchase order no. _____
☐ Check enclosed for $ _____
☐ Bill me (not applicable to foreign customers) add 50¢ per title.

Wherever a foreign sales price is NOT specified in the listings, all foreign buyers must add the following charges to each order.
$2.50 for each document
$1.50 for each microfiche

FOR DDC USERS ONLY
DDC USER CODE _____
CONTRACT NUMBER _____
(LAST 6 CHARACTERS ONLY)

Please allow two weeks for delivery on your order.
If ordering without a document number, by title only, add a week.

☐ Magnetic Tape (tape) ☐ 7 track ☐ 200 BPI ☐ 556 BPI ☐ 800 BPI ☐ odd parity ☐ even parity
☐ 9 track—800 BPI odd parity only

Document Number (If ordered by title, see reverse side first)	Routing Code (Details on Reverse)	Check one: Paper Copy	Micro fiche	Other (specify)	Quantity	Unit Price	Total Price

Titles ordered are from:
☐ Weekly Government Abstracts, _____ titles
☐ NTISearch, _____ titles
☐ Government Reports Topical Announcements, _____ titles
☐ Government Reports Announcements or Index, _____ titles
☐ Unknown Source, _____ titles
☐ Other: _____ titles

Enter Grand Total → $

FORM NTIS-173a (2-73)

USCOMM-DC 12324-P73

Routing Code. NTIS can label each document for routing within your organization. If you want this service put your routing code in the box marked Routing Code.

Ship and bill Service: The National Technical Information Service appreciates prepayment for documents through the use of an NTIS Deposit Account, check, or money order. Should this not be convenient, NTIS will mail your order and bill you about 15 days after shipment. There is a charge of 50¢ per item for this service. NTIS does not bill customers whose shipments are destined for outside the United States.

If ordering magnetic tape check mode ☐ Magnetic Tape (tape) ☐ 7 track ☐ 200 BPI ☐ 556 BPI ☐ 800 BPI ☐ odd parity ☐ even parity

☐ 9 track—800 BPI odd parity only

Please allow two weeks for delivery. If ordering without an order number, by title only, add a week.

TITLE #1		
Sponsor's Series #	Contract or Grant Number of Report	Date Published
Originator (Give specific laboratory, or division and location.)		Personal Author
Turn to other side. Write "1" in the number block. Complete the line.		

TITLE #2		
Sponsor's Series #	Contract or Grant Number of Report	Date Published
Originator (Give specific laboratory, or division and location.)		Personal Author
Turn to other side. Write "2" in the number block. Complete the line.		

TITLE #3		
Sponsor's Series #	Contract or Grant Number of Report	Date Published
Originator (Give specific laboratory, or division and location.)		Personal Author
Turn to other side. Write "3" in the number block. Complete the line.		

TITLE #4		
Sponsor's Series #	Contract or Grant Number of Report	Date Published
Originator (Give specific laboratory, or division and location.)		Personal Author
Turn to other side. Write "4" in the number block. Complete the line.		

TITLE #5		
Sponsor's Series #	Contract or Grant Number of Report	Date Published
Originator (Give specific laboratory, or division and location.)		Personal Author
Turn to other side. Write "5" in the number block. Complete the line.		