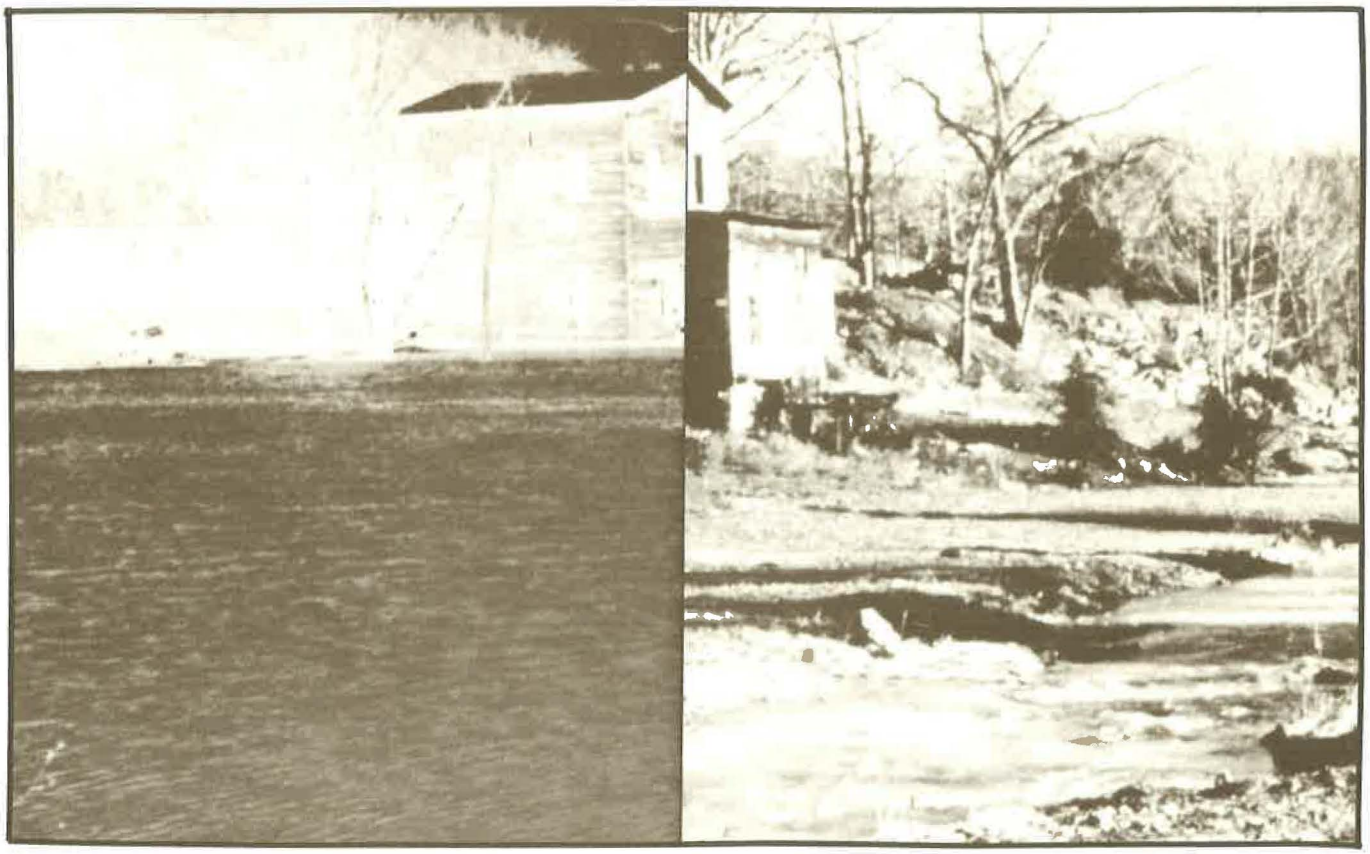
FLOOD HAZARD LITERATURE:
ANNOTATED SELECTIONS FOR GEORGIA

by

MICHAEL LEE HAUCK

and

MARY LYNNE PATE



Flood Stage

Normal Flow

DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
GEORGIA GEOLOGIC SURVEY

CIRCULAR 6

All publications listed in this document may be used in-house at the Georgia Geologic Survey's Floodplain Management Library in Atlanta. In addition to the selections listed here, the library also contains over 1,000 other documents for use by the public. Limited photocopy service is available at a cost of 15¢ per page (first six copies free).

The authors gratefully acknowledge the kind and professional assistance of Eleanore Morrow in editing and reviewing this publication. Thanks is also expressed to the Tennessee Valley Authority for the use of the photographs adapted for the cover, and to the staff of the Federal Information Center in Atlanta for their friendly assistance in obtaining addresses of government agencies.

The cover photograph is a side-by-side view of two TVA photographs of the same location taken at different times. The right is a mill by a quiet west Knox County creek taken under normal stream flow conditions; the left is a photograph of the same mill and creek during a 1973 flood of less magnitude than the 100-year flood.

FLOOD HAZARD LITERATURE

ANNOTATED SELECTIONS FOR GEORGIA

by
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Atlanta
1982

CIRCULAR 6

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Abstract

FLOOD HAZARD LITERATURE: ANNOTATED SELECTIONS FOR GEORGIA. Hauck, Michael Lee and Pate, Mary Lynne; Georgia Geologic Survey; March 1982, GGS Circular no. 6, 83 p.

Although thousands of publications relating to flood hazards and floodplain management have been produced, 78 are of particular current interest to Georgians -- both lay and professional. These selections are annotated to indicate the type and form of information contained within and the degree of technical language used. An additional 99 publications that are national in scope were selected for their relevance to Georgia. Descriptions are also provided for the eight basic types of flood hazard studies and maps available for Georgia communities. For ease in obtaining these selected references, a complete list of addresses and telephone numbers of publishers is provided. All documents are cross-referenced according to 44 categories in the subject index.

Introduction

The State of Georgia has traditionally been dependent upon its extensive surface-water resources for drinking, transportation, and energy. In Georgia's early history rivers and streams aided in European exploration and colonization, while the Indians had already established systems of commerce around major trade villages that took advantage of convenient river transportation. Later, in colonial times, rivers served for transporting farm products like "King Cotton" to the coast for shipping to northern industrial areas. Also, streams and creeks provided fresh water for drinking and power for water mills. Thus it was advantageous for settlements to develop along waterways, intimately linking the State's economy to its water resources. These settlements grew to become major river cities such as Atlanta, Augusta, Columbus, Rome, and Savannah. Unfortunately, as the cities expanded, flood damages also increased.

It is believed that carefully planned use of floodplains is the most cost-effective method of reducing flood damages. This approach is known as floodplain management. While floodplain management is primarily a responsibility of local governments, State and Federal government also play a legitimate role in recommending standards and providing technical assistance. This collection of flood hazard and floodplain management literature has been prepared to inform local citizens and officials of the resources available to them in their efforts to reduce the loss of life and property usually associated with flooding.

How to Use the Bibliography

SCOPE

FLOOD HAZARD LITERATURE: ANNOTATED SELECTIONS FOR GEORGIA is designed as a first source of information for the Georgia public, local officials, building contractors, scientists, and engineers who wish to learn what information is currently available on flood hazards and floodplain management. This subject area is defined quite broadly to include scientific, engineering, social, and economic studies that have significant usefulness to those involved in land-use planning and construction in Georgia's floodplains.

ORGANIZATION

This publication is divided into five main sections: (1) Georgia Flood Hazard Studies and Maps, which provides descriptions of the eight basic types of flood hazard studies and maps available for Georgia communities; (2) Georgia Flood Hazard Literature, which provides annotations for 78 selected publications of specific relevance to Georgia; (3) National Flood Hazard Literature, which provides a listing of 99 publications that are national in scope, but also of particular relevance to Georgia; (4) Subject Index to Flood Hazard Literature, which is a 44 category cross-referenced index to all literature cited in this bibliography; and (5) Document and Information Sources, which provides all required addresses and telephone numbers for obtaining publications listed in this bibliography. Within the Georgia Flood Hazard Literature section and the National

Flood Hazard Literature section, each publication is assigned a number, according to its order of appearance in the list. This number is used in the Subject Index to uniquely identify and categorize each selection.

S T E P - B Y - S T E P I N S T R U C T I O N S

USING THE TABLE OF CONTENTS (for general categories)

(1) Turn to the Table of Contents (pages iii-v) and find the general topic of interest. (For a description of topics, see explanation prefacing each section.)

(2) Turn to the page number of the appropriate section and examine the alphabetical listing of publications. (Much overlap exists among topics, so also check related categories.)

(3) Note the publisher and turn to the alphabetical listing of publishers in the Document and Information Sources section (pages 71-83) to find the publisher's address and telephone number.

USING THE SUBJECT INDEX (for specific categories)

(1) Turn to the cross-referenced Subject Index (pages 65-69) and find the general topic of interest, noting the publication numbers listed under each category of interest.

(2) Turn to the Flood Hazard Literature section (pages 17-63) and find appropriate publications according to their sequentially assigned publication numbers.

(3) Note the publisher and turn to the alphabetical listing of publishers in the Document and Information Sources section (pages 71-84) to find the publisher's address and telephone number.

Flood Hazard Literature

GEORGIA FLOOD HAZARD STUDIES AND MAPS

(descriptions)

This section provides descriptions of the eight basic types of flood hazard studies and maps available for Georgia communities. These descriptions include: title; author; flood delineation (e.g. 100-year flood, floodway, etc.); use (e.g. rating flood insurance policies, estimating flood hazard, etc.); coverage (the number of Georgia communities affected): base map; scale; elevations (e.g. contour intervals, bench marks, etc.); format (physical dimensions and number of pages or map panels); criteria to study (basis for selecting area or community to be studied); methodology (methods and type of data used to make flood delineations); additional information (e.g. profiles, cross sections, river miles, etc.); and distribution (where to obtain or examine copies).

FLOOD HAZARD BOUNDARY MAPS (FHBMs) Federal Insurance Administration

Flood Delineation: approximate 100-year floodplain.

Use: estimating flood hazard; rating flood insurance policies in Emergency Phase communities of the National Flood Insurance Program.

Coverage: 214 communities (municipalities and unincorporated areas of counties).

Base Map: varies according to community: U.S. Census Bureau Metropolitan map series; USGS 7½ minute series quadrangles (without contours); best available planimetric maps, such as tax maps.

Scale: varies according to community: 1:1200 to 1:24,000.

Elevations: none.

Format: varies according to study: 1 to 40 map panels 25-7/8 inches high by 18-3/4 to 37½ inches wide (z-folds); 1 to 20 map panels 11 inches high by 17 inches wide (flat maps).

Criteria to Study: communities with areas where upstream drainage basin exceeds 1 square mile and where floodplain width exceeds 200 feet.

Methodology: varies according to contractor: review of USGS Maps of flood-prone areas; review of flood-flow frequency relations; no field survey.

Additional Information: none.

Distributed by: National Flood Insurance Program; Georgia Geologic Survey (limited distribution); Federal Emergency Management Agency, Region IV (file copies); Federal depository libraries (file copies).

FLOOD INSURANCE RATE MAPS (FIRMs) Federal Insurance Administration

Flood Delineation: 100- and 500-year floodplains; base flood elevation.

Use: rating flood insurance policies in Regular Phase communities of the National Flood Insurance Program.

Coverage: 73 communities (municipalities and unincorporated areas of counties).

Base Map: varies according to community: U.S. Census Bureau Metropolitan map series; FHBM; USGS 7½ minute series quadrangles (without contours); tax maps.

Scale: varies according to community: 1:1200 to 1:24,000.

Elevations: base flood elevation to nearest foot; benchmarks in hazard areas.

Format: varies according to study: 1 to 40 map panels 25-7/8 inches high by 18-3/4 to 37½ inches wide.

Criteria to Study: communities with identified hazard, in preparation for entering the Regular Phase of the National Flood Insurance Program.

Methodology: varies according to contractor: step-backwater computer models; review of flood-flow frequency analyses; revision of FHBM; field surveys.

Additional Information: river miles.

Distributed by: National Flood Insurance Program; Georgia Geologic Survey (limited distribution); Federal Emergency Management Agency, Region IV (file copies); Federal depository libraries (file copies).

FLOOD INSURANCE STUDIES (FIS's) Federal Insurance Administration

Flood Delineation: 10-, 50-, 100-, and 500-year floodplains; floodway; base flood elevation.

Use: determining hydrologic and hydraulic characteristics of flooding sources; delimiting regulatory floodway for floodplain management purposes.

Coverage: 68 communities (municipalities and unincorporated areas of counties).

Base Map: varies according to community: U.S. Census Bureau Metropolitan map series; FHBM; USGS 7½ minute series quadrangles (without contours); tax maps.

Scale: varies according to community: 1:1200 to 1:24,000.

Elevations: base flood elevation to nearest foot; benchmarks in hazard areas.

Format: varies according to study: 20 to 100 page reports plus 1 to 40 Floodway map panels 25-7/8 inches high by 18-3/4 to 37½ inches wide.

Criteria to Study: communities with significant flood hazards: approximate studies for portions of community with low flood hazard and detailed study for portions of community with severe hazard.

Methodology: varies according to contractor (Guidelines and specifications for flood insurance studies): step-backwater computer models, review of previous data and flood-flow frequency analyses, examination of historical flooding, revision of FHBM's and USGS Maps of flood-prone areas; field surveys.

Additional Information: floodplain profiles and cross sections; river miles; photographs of past floods; review of historical flooding.

Distributed by: Georgia Geologic Survey (limited distribution); individual communities for which study is prepared (file copies); Federal Emergency Management Agency, Region IV (file copies); Federal depository libraries (file copies).

FLOOD PLAIN INFORMATION REPORTS U. S. Army Corps of Engineers, District engineer's office.

Flood Delineation: Intermediate Regional Flood (100-year flood) and Standard Project Flood (usually approximates 500-year flood).

Use: determining hydrologic and hydraulic characteristics of flooding sources.

Coverage: 115 rivers and creeks in and near 40 communities.

Base Map: varies according to study: topographic maps; orthographic maps.

Scale: 1:4800.

Elevations: 25 foot contour intervals (on some studies); benchmarks.

Format: single 40 to 100 page reports with 11 inch high by 17 inch wide fold-out maps.

Criteria to Study: communities with significant flood hazards or specific flood problems where local officials request study.

Methodology: Corps flood hydrograph computer models (HEC-1 and HEC-2); field surveys.

Additional Information: floodplain profiles and cross sections; river miles; photographs of past floods and projected flood elevations; peak-flood discharges.

Distributed by: individual communities for which study is prepared; Georgia Geologic Survey (file copies).

FLOODPLAIN MANAGEMENT STUDIES (Flood hazard studies, Flood hazard analyses)

U.S. Soil Conservation Service.

Flood Delineation: 10-, 50-, 100-, and 500-year floodplains; floodway.

Use: determining hydrologic and hydraulic characteristics of flooding sources.

Coverage: 2 creeks in 2 communities ; (2 studies in progress).

Base Map: orthographic maps.

Scale: 1:4800.

Elevations: benchmarks.

Format: single 25 to 100 page reports with 11 inch high by 18½ inch wide fold-out maps.

Criteria to Study: communities with significant flood hazard or specific flood problems where local officials request study.

Methodology: hydrologic analysis according to the standard log-Pearson Type III method (Guidelines for determining flood flow frequency, USWRC Hydrology Committee bulletin no. 17A); SCS water-surface profile computer program (WSP-2); field surveys.

Additional Information: flood profiles and cross sections; river miles; photographs of past floods; flood-peak elevations.

Distributed by: U.S. Soil Conservation Service (limited distribution); Georgia Geologic Survey (file copies).

LOCAL FLOOD REPORTS Tennessee Valley Authority

Flood Delineation: Maximum Probable Flood (usually approximates 500-year flood).

Use: determining hydrologic and hydraulic characteristics of flooding sources.

Coverage: 12 rivers and creeks in and near 7 communities.

Base Map: USGS-TVA 7½-minute series topographic quadrangles, expanded scale

Scale: base map reproduced to varying scales.

Elevations: 20-foot contour intervals; benchmarks.

Format: single 20 to 50 page reports with 11 inch high by 25 inch wide fold-out maps.

Criteria to Study: communities in the Tennessee Valley with significant flood hazards or specific flood problems where local officials request study.

Methodology: review of rainfall and runoff data; examination of historical and current flood heights; TVA equations for determining occurrence and magnitude of regional floods; field surveys.

Additional Information: high-water profiles and floodplain cross sections; river miles; photographs, newspaper clippings, and descriptions of past floods; peak-flood discharges.

Distributed by: individual communities for which study is prepared; Tennessee Valley Authority (limited distribution); Georgia Geologic Survey (file copies).

MAPS OF FLOOD-PRONE AREAS (Flood-prone area maps, Flood-prone quads)

U.S. Geological Survey, Water Resources Division.

Flood Delineation: approximate 100-year floodplain.

Use: estimating flood hazard; assessing need for more detailed study.

Coverage: 424 7½-minute series quadrangles; 31 15 minute series quadrangles.

Base Map: 7½-minute series USGS topographic quadrangles (most studies); 15-minute series USGS topographic quadrangles.

Scale: 1:24,000 (7½-minute series quadrangles); 1:62,500 (15-minute series quadrangles).

Elevations: 20-foot contour intervals (inland); 5-foot contour intervals (coast); benchmarks.

Format: single map panels 27 inches high by 22 inches wide.

Criteria to Study: urban areas where upstream drainage basin exceeds 25 square miles; rural areas where upstream drainage basin exceeds 100 square miles; smaller drainage basins, depending upon topography and potential use of floodplain.

Methodology: high-water marks; regional stage-frequency relations (Floods in Georgia, magnitude and frequency: Techniques for estimating the magnitude and frequency of floods in Georgia with compilation of flood data through 1974, USGS Water-resources investigations 78-137); tide-frequency relations (NOAA Technical memorandum HYDRO-19); no field surveys.

Additional Information: none.

Distributed by: Georgia Geologic Survey.

SPECIAL FLOOD HAZARD INFORMATION REPORTS U. S. Army Corps of Engineer, district engineer's office.

Flood Delineation: Intermediate Regional Flood (100-year flood) and Standard Project Flood (usually approximates 500-year flood).

Use: determining hydrologic and hydraulic characteristics of flooding sources.

Coverage: 56 rivers and creeks in and near 46 communities.

Base Map: varies according to study: topographic maps; orthographic maps.

Scale: 1:12,000

Elevations: 20 foot contour intervals (on some studies); benchmarks.

Format: single 20 to 50 page reports with 11 inch high by 17 inch wide fold-out maps.

Criteria to Study: communities with significant flood hazards or specific flood problems where local officials request study.

Methodology: Corps flood hydrograph computer models (HEC-1 and HEC-2); field surveys.

Additional Information: high-water profiles; river miles; photographs of past floods and projected flood elevations.

Distributed By: individual communities for which study is prepared; Georgia Geologic Survey (file copies).

GEORGIA FLOOD HAZARD LITERATURE

(selected, annotated references)

This section provides annotations for 78 publications of specific relevance to Georgia. Annotations include: title; author; publisher; date; report number or stock number; number of pages; ten to 75 word synopsis of the information contained within; and a statement of the usefulness of the entry.* Publications in this section are subdivided according to eight subject categories: coastal Georgia (publications concerning coastal environment, methodology, data, and construction); corridor and river studies (broad environmental assessments of specific river basins); current surface-water activities (status reports of research and construction activities in Georgia's waters); environmental studies and floodplain ecology (discussions of floodplain and wetland natural processes and inhabitants); methodology (methods for data computation, methods for control of drainage and flooding problems); pilot and case studies (model programs and case studies concerning surface-water management); policies, regulations, and laws (publications containing rules, regulations, and laws pertaining to surface-water resource management); and surface-water data (sources of information on stream-gage heights, flood-flow frequencies, tide-frequency relations).

* Twelve publications are marked with an asterisk to indicate exceptional usefulness.

COASTAL GEORGIA

1. ACTIVITIES IN GEORGIA'S COASTAL WATERS: PAST TRENDS AND FUTURE PROSPECTS. Georgia Department of Natural Resources, Office of Planning and Research; May 1975, 220 p.

Reviews commercial fishing, navigation, commerce, recreation, and environmental quality on the coast. Evaluates the compatibility of shoreline and coastal water uses. Displays coastal water activities on county maps. Includes historical and legal information. Prepared as background information for the Georgia Coastal Zone Management Program.

2. A COORDINATION, EDUCATION AND MITIGATION MODEL FOR DISASTER PREPAREDNESS IN COASTAL AREAS. Coastal Georgia Area Planning and Development Commission; August 1980, 190 p.

Researches existing storm preparedness efforts throughout the country. Reviews legal responsibilities for disaster preparedness. Recommends a plan for implementing the model. Discusses planning, training, education, communication, warning, resource inventory, evacuation, shelters, clean up, recovery, mapping, and methods of damage reduction. Report may be of interest to other coastal states.

3. A COORDINATION, EDUCATION AND MITIGATION MODEL FOR DISASTER PREPAREDNESS IN COASTAL AREAS: SUMMARY. Coastal Georgia Area Planning and Development Commission; September 1980, 43 p.

Shortened version of listing no. 2.

4* HANDBOOK: BUILDING IN THE COASTAL ENVIRONMENT. Georgia Department of Natural Resources, Office of Planning and Research; June 1975, 120 p.

Examines legal, economic, man-made, and natural environments encountered in choosing coastal building sites. Discusses site analysis and "do's and don'ts" of planning and design. Outlines the construction process. Offers guidelines for buying and selling. Prepared for planning agencies, developers, and citizens as background for the Georgia Coastal Zone Management Program.

5. HURRICANE EVACUATION PLAN FOR COASTAL GEORGIA. Georgia Department of Defense, Civil Defense Division; May 1981, 100 p.

Designates responsibilities and procedures for State agencies during hurricane emergency operations, evacuation, reentry, and clean up. Outlines evacuation scheme for the coast, delineating warning and communication networks, and evacuation and hosting zones. Discusses disaster assistance programs. Prepared for government officials.

6. METHODS FOR BEACH AND SAND DUNE PROTECTION: CONFERENCE REPORT. Georgia Department of Natural Resources, April 1974, 23 p.

Papers presented March 31 through April 2 at Jekyll Island, Georgia include: "The importance of the natural beach and sand dune system" by George Oertel and W.W. Woodhouse; "Critical areas in the shore zone of of some Georgia coastal islands" by J.R. Woolsey and V.J. Henry; "A field study of coastal processes at an eroding barrier island: Tybee Island" by George Oertel; and "A case study in inter-governmental cooperation: Dune protection at Savannah Beach, Georgia" by Paul Ramee.

Other papers presented were on dune ecology, laws, history, and structural methods for dune protection.

7. NATIONAL SHORELINE STUDY: REGIONAL INVENTORY FOR SOUTH ATLANTIC-GULF REGION AND PUERTO RICO AND THE VIRGIN ISLANDS. U.S. Army Corps of Engineers, South Atlantic Division; August 1971, 160 p.

Details shore ownership, use, development, and history. Outlines Federal projects and studies. Discusses improvement methods and costs. Describes physical characteristics, shoreline erosion, shore ownership, and use. Also has maps and photographs.

8. SAVANNAH BEACH: PLAN FOR A PROGRESSIVE FUTURE. Savannah Beach Planning Commission; December 1975, 173 p.

Sample planning document addresses problems such as beach reclamation, traffic across dunes, street and sewer placement, waste disposal, and development pressures. Advocates a balance among residential, resort, and commercial development. General interest publication for planners.

9.* THE VALUE AND VULNERABILITY OF COASTAL RESOURCES: BACKGROUND PAPERS FOR REVIEW AND DISCUSSION. Georgia Department of Natural Resources, Office of Planning and Research; May 1975, 325 p.

Includes chapters on coastal resource planning, terrestrial ecology of barrier islands, beaches, dunes, fresh-water ecosystems, wildlife, cultural resources, soils, vegetation, and marshes. Contains tables on coastal acreage, vegetation, wildlife, geology, hydrology, and shoreline profiles.

CORRIDOR AND RIVER STUDIES

10. CHATTAHOOCHEE CORRIDOR STUDY. Atlanta Regional Commission; July 1972, 80 p.

Discusses the effects of urbanization on the river. Discusses water quality, land vulnerability, land use, and visual and cultural features. Outlines the river's significance to metropolitan Atlanta. Analyzes existing man-made influences. Proposes implementing a plan of public acquisition of parklands and open space, and adopting new laws to regulate private development.

11. COMPTROLLER GENERAL'S REPORT TO THE HONORABLE HERMAN E. TALMADGE ON THE SPREWELL BLUFF DAM PROJECT. U.S. General Accounting Office; June 13, 1974, 42 p.

Outlines environmental issues associated with the proposed (but never completed) dam, such as fish and wildlife, water quality, and archaeological sites. Reviews benefits of the proposed dam, such as recreation, electric power, flood control, and area economic growth.

12.* ENVIRONMENTAL CORRIDOR STUDY. Georgia Department of Natural Resources; July 1976, 363 p.

Provides a resource analysis for the State. Selects linear environmentally sensitive areas as a focus for investigation and categorization. Discusses corridor planning and management. Inventories 26 corridors according to human use, intrinsic and extrinsic value, and endangeredness. Contains maps of slope, vegetation, soil, wildlife, geol-

ogy, roads, population density, and cultural sites.

13. THE FLINT RIVER: A NATURAL PARK PROPOSAL. Georgia Department of Natural Resources; April 1976, 180 p.

Discusses regional accessibility, history, climate, geology, slope, hydrology, wildlife, vegetation, and water quality. Examines recreational uses and needs, land use and ownership, management tactics, and land acquisition policy and methods. Contains many maps and photographs.

14. RIVER CORRIDOR STUDIES OF THE UPPER CHATTAHOOCHEE, CHESTATEE, AND ETOWAH RIVERS. Georgia Mountains Area Planning and Development Commission; March 1973, 254 p.

Contains location and description of the six-county study area with related economic and social factors. Describes the river corridor, pressures and constraints on development, and environmentally sensitive areas. Researches laws involved in a river protection plan. Contains maps and water quality data.

15. A SCENIC AND RECREATIONAL RIVER PROPOSAL FOR THE GREAT ALTAMAHA SWAMP. Georgia Department of Natural Resources, Office of Planning and Research; January 1978, 205 p.

Describes the natural and cultural history, recreation, land use, climate, landscape, fauna, earth and water resources, and environmental vulnerability. Proposes a plan and program for recreational activities. Discusses implementation and implications of the plan. Includes specific site descriptions with maps and photographs.

CURRENT SURFACE WATER ACTIVITIES

16.* FLOOD HAZARD EVALUATIONS FOR GEORGIA MUNICIPALITIES IN THE EMERGENCY PHASE OF THE NATIONAL FLOOD INSURANCE PROGRAM. Pate, Mary Lynne and Lowman, G. Anthony; Georgia Geologic Survey, Floodplain Management Unit; March 1981, 250 p.

Presents brief synopsis of the flood hazard in 221 flood-prone Georgia communities. Includes information on principle flooding sources, flooding history, assessment of hazard, National Flood Insurance Program status, contact people, floodplain management measures, estimated number of structures in floodplain, average width of 100-year floodplain, number of stream miles, population in flood hazard areas, and recommended actions. Useful information for anyone considering building or buying within the city limits of Georgia municipalities. File copies are retained by all Georgia area planning and development commissions (APDC's).

17. GEORGIA WATER RESOURCES INFORMATION EXCHANGE 1980. U.S. Geological Survey and Georgia Environmental Protection Division; September 1980, 69 p.

Presents results of joint conference among State and Federal agencies dealing with water data. Includes agency status reports, emerging water problems, water-data needs, and summaries of water-data availability and potential to meet identified needs. Also includes names and addresses of conference participants. Published and updated annually.

18. GEORGIA WATERSHED PROGRESS: STATUS REPORT, JANUARY 1980. U.S. Soil Conservation Service; January 1980, 105 p.

Lists SCS watershed projects with information on location, size, benefits, measures installed, and sponsors for each project. Includes location map. Published annually.

19. RIVER AND HARBOR, FLOOD CONTROL AND BEACH EROSION CONTROL PROJECTS. U.S. Army Corps of Engineers, Savannah District; September 1980, 50 p.

Presents Corps projects on detailed location maps. Lists legal authorizations and status for each project. Includes data on channel depths. Published annually.

20. WATER RESOURCES DEVELOPMENT BY THE U.S. ARMY CORPS OF ENGINEERS IN GEORGIA. U.S. Army Corps of Engineers; January 1979, 130 p.

Discusses Corps functions in navigation, beach erosion and flood control, hurricane protection, water supply, electric power generation, recreation, and dam safety. Describes how Corps projects are initiated, authorized, and constructed. Describes projects according to river basin. Includes maps, photographs, and statistical data.

21. WATER RESOURCES RESEARCH ACTIVITIES IN GEORGIA UNDER PUBLIC LAW 95-467, ANNUAL REPORT FOR FISCAL YEAR 1980. Georgia Institute of Technology, Environmental Resources Center; December 1980, 112 p.

Lists research reports published by the ERC. Also details information on current public-supported research projects. Includes project numbers, titles, investigators, accomplishments, practical applications, publications, and project status.

ENVIRONMENTAL STUDIES AND FLOODPLAIN ECOLOGY

22. THE ENVIRONMENTAL IMPACT OF FRESHWATER WETLAND ALTERATIONS ON COASTAL ESTUARIES. Georgia Department of Natural Resources, Office of Planning and Research; June 1976, 85 p.

Papers presented at a technical planning seminar June 23, 1976 at the Savannah Civic Center. Titles include "Case study: The Santee River, S.C." by Bjorn Kjerfve, "Hydrologic and environmental effects of long-term drainage on a coastal area" by Diane D. Barile, and "Integrating scientific data into environmental planning and impact analysis" by W.M. Kemp and W.R. Boynton.

23. FORMATIVE PROCESSES OF PELICAN SPIT, GEORGIA. Ephraim, D., Hauck, M., Randle, J., and Scobee, C.; Emory University, Geology Department; March 1981, 49 p.

Relates the growth of Pelican Spit to beach erosion on a nearby barrier island (Sea Island) through sediment analysis and ripple mark orientation. Briefly reviews current thinking on barrier island formation.

24. GEORGIA HERITAGE TRUST, PHASE IV REPORT, F.Y. 1979. Georgia Heritage Trust Commission: December 1977, 253 p.

Summarized Heritage Trust program, discussing criteria for selection of sites. Outlines planning process and offers statistics on funding and State-owned acreage. Inventories about 100 sites of recreational and ecological significance.

25. GEORGIA WILDLIFE HABITAT AND RESOURCES INVENTORY. Morrow, James E.; Georgia Game and Fish Division; undated 345 p.

Inventories quantity and location of fish and wildlife by region. Also details acreage of forests, grasslands, crop and idle lands, water, developed areas, railroads, and highways. Lists quantity of streams of various widths. Conducted by the Environmental Research Group of Georgia State University.

26. GEORGIA'S PROTECTED PLANTS. McCollum, Jerry L., Ettman, David R., and Neville, Mary Anne; Georgia Department of Natural Resources, Office of Planning and Research; September 1977, 86 p.

Outlines basis for protected species classification. Provides detailed descriptions for each plant including habitat maps and sketch with selected references.

27. GEORGIA'S PROTECTED WILDLIFE. Odum, Ron R., McCollum, Jerry L., Neville, Mary Anne, and Ettman, David R.; Georgia Game and Fish Division; September 1977, 90 p.

Outlines basis for protected species classification. Lists for each endangered species common name, scientific name, characteristics, life history, habitat, status, population trends, and management activities. Includes habitat maps.

28. INLAND LAND USE ACTIVITIES AND GEORGIA'S COASTAL WATERS: INTERIM REPORT. Dean, L., Hogan, B., and McNiel, N.; Georgia Department of Natural Resources, Office of Planning and Research, October 1976, 245 p.

Explores the ecology and processes of coastal waters. Discusses tidal influence, salinity, circulation patterns, role of floodplains and marshes, and interaction of freshwater systems with the estuary. Discusses effects of inland pollution, agricultural practices, public works projects, and urbanization on coastal waters. Suggests topics for further research. Includes maps of coastal watersheds, forestry locations, types of agriculture by county, and public works projects. Contains profiles of coastal freshwater rivers. Compares components of river swamp ecosystems at high and low water. Contains large bibliography.

29.* THE NATURAL ENVIRONMENTS OF GEORGIA, Wharton, Charles H.; Georgia Department of Natural Resources, Office of Planning and Research; 1977, 227 p.

Organizes Georgia's natural environments as hydric, mesic, and xeric. Further divides environments according to province. Details location, description, flora, fauna, natural and cultural values, and man's impact for 100 natural environments. Excellent publication includes photographs, sketches, glossary and bibliography.

30. TOWARD SIMULATION AND SYSTEMS ANALYSIS OF NUTRIENT CYCLING IN THE OKEFENOKEE SWAMP, GEORGIA. Rykiel, Edward J.; Georgia Institute of Technology, Environmental Resources Center; January 1977, ERC 01-77, 139 p.

Details hydrology, streamflow, and surface-water composition of the swamp. Discusses climatology, geology, precipitation, relation of streamflow to water level, and water balance. Contains data, regressions, and graphs of streamflow.

31. THE WETLANDS OF GEORGIA IN RELATION TO THEIR WILDLIFE VALUE, U.S. Fish and Wildlife Service, Region IV, 1954, 34 p.

Outlines Fish and Wildlife Service wetlands inventory procedure, with emphasis on waterfowl. Discusses physiographic provinces, land uses, and distribution and value of wetlands. Explores problems and opportunities in wetland management.

METHODOLOGY

32. DRAINAGE MANUAL FOR HIGHWAYS, Georgia Department of Transportation, Office of Road Design, 1975, 220 p.

Procedural guide for the design and construction of drainage structures on all Georgia roads. Presents design policy, survey procedures, drainage plans, preparation guidelines, and methods for computing runoff. Contains design charts to determine pipe and culvert sizes. Discusses hydraulic design of culverts, Talbot's formula for selecting culvert size, erosion control, hydraulic design of curb inlets and longitudinal pipe. Contains peak rate graphs, flood frequency relations map, nomographs and charts for discharge relations, Talbot charts, Manning's roughness coefficients, cross slope tables, and other data and charts. Has location map of gaging stations.

33. ESTIMATING FLOOD DAMAGES IN THE STATE OF GEORGIA, Debo, Thomas N. ; Georgia Institute of Technology, Environmental Resources Center, January 1981, ERC 01-81, 213 p.

Documents urban flood damages with published reports, studies, newspaper articles, interviews, and government files. Six case studies include: Albany, Columbus, Dekalb County, Macon, Rome, and Waycross. Develops and applies two urban flood damage predictive techniques involving computer modeling. Contains figures on flood damages per acre, damage vs.

drainage area, and flood insurance policies. Contains tables for stage frequency, regional coefficients, upstream development coefficients, and indirect damage factors.

34. FLOOD-FREQUENCY ANALYSIS FOR SMALL NATURAL STREAMS IN GEORGIA. Golden, H.G. and Price, McGlone: U.S. Geological Survey, Water Resources Division; July 1976, Open-file report 76-511, 80 p.

Gives relations for estimating magnitude and frequency of flood-peak discharges on natural streams with a drainage area of 0.1 to 20 square miles. Divides the State into five regions of distinct flood-frequency relations. Contains equations and nomographs. Contains rainfall vs. runoff data for 104 locations from 1964 to 1974. Gives gaging-station location, drainage area, period of record, and annual maximum gage heights and discharges. Written for planners and designers, but requires some technical expertise.

35. FLOW CHARACTERISTICS OF GEORGIA STREAMS. Inman, Ernest J.; U.S. Geological Survey, Water Resources Division; Open-file report, 262 p.

Contains computerized summaries of flow duration, low flow, and high flow. These can be used for studying water-supply problems involving streamflow variability, calculating draft rates required for seasonal storage facilities, and providing data useful in the design of dams, reservoirs, and flood-control works. Contains data from 179 stream-flow gaging stations having 5 years or more of continuous record, as of September 1969.

36.* HANDBOOK FOR CONTROL OF SOIL AND SEDIMENT IN AREAS UNDERGOING URBAN DEVELOPMENT. U.S. Soil Conservation Service Athens Office; 1972, 66 p.

Discusses role of SCS in dealing with erosion and sediment problems, causes of accelerated erosion in urban developments, and the detrimental effects of sediment escaping from urban development sites. Details methods of critical and non-critical area stabilization. Contains standards and specifications for erosion and sediment control measures. Includes sketches of structures and lists of suitable vegetation for erosion control.

37. HEC-1 FLOOD HYDROGRAPH PACKAGE USER'S MANUAL; GENERALIZED COMPUTER PROGRAM 723-X6-L2010. U.S. Army Corps of Engineers, Hydrologic Engineering Center; January 1973, 175 p.

Describes the origin, capabilities, requirements, limitations, and methods of computation for the flood hydrograph computer program. Used for simulating the hydrologic response of a watershed and for modeling the effects of various development plans. Contains sample input-output listings.

38. AN ISSUE PAPER ON THE ORGANIZATION AND INTEGRATION OF FLOOD PLAIN INFORMATION INTO A DATA BASE MANAGEMENT SYSTEM. Faust, N.L., Georgia Institute of Technology; May 1981, A-2086, 35 p.

Discusses the application of geographic data base techniques to floodplain management. Gives example of a data base. Integrates Landsat remote sensing with soil, land-use, and geologic information. Offers techniques for analysis.

39.* MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA. State Soil and Water Conservation Committee of Georgia; undated, 340 p.

Includes chapters on sediment and erosion control processes, planning, local programs, urban hydrology for small watersheds, soils, sediment basin design, diversion design, grass waterway design, drainage, engineering structures, and survey criteria. Offers sources of assistance and resource information. Contains the Erosion and Sedimentation Act of 1975 and a model ordinance.

40. PRELIMINARY FLOOD-FREQUENCY RELATIONS FOR URBAN STREAMS, METROPOLITAN ATLANTA, GEORGIA. Golden, Harold G.; U.S. Geological Survey, Water Resources Division; August 1977, Water-resources investigations 77-57, 16 p.

Presents techniques for estimating magnitude and frequency of floods on urban streams in the Atlanta area, which are useful for flood mapping studies, bridge and drainage system design, preparation of zoning ordinances, and water-resources studies.

41. TECHNIQUES FOR ESTIMATING FLOOD DEPTH FREQUENCY RELATIONS ON NATURAL STREAMS IN GEORGIA. Price, McGlone; U.S. Geological Survey, Water Resources Division; October 1977, Water-resources investigation 77-90, 33 p.

Discusses determination of flood-depth frequency relations on gaged and ungaged sites where drainage area is 1 to 1,000 square miles. Maps locate gaging stations in Georgia and delineate regional flood-depth frequency boundaries. Graphs show relation of 100-year flood depth to drainage area, and relation of flood-depth frequency to drainage area. Tables contain summary of regression equations, standard errors, and flood depth for the 10- , and 40- , and 100-year recurrence interval for gaging stations.

PILOT AND CASE STUDIES

42. AREAWIDE LAND USE DATA TECHNOLOGY TRANSFER PROGRAM. Wikle, Marsh Lee; Georgia Mountains Area Planning and Development Commission; November 1976, 100 p.

Survey current remote-sensing technology as it applies to the regional land-use planner: photographic and non-photographic remote sensing, LUDA, LUNR, color infrared, and LANDSAT. Analyzes data needs in the region for highway corridor studies, solid waste disposal siting, effluent irrigation siting, tax appraisal, industrial development siting, water quality management plans, flood insurance, recreation siting, wildlife management and lakeshore management plans. Discusses data acquisition, information processing, and information display for computer mapping of geographic information. Proposes a prototype information system for land-use planning, with review of costs.

43. COLUMBUS STORM WATER MANAGEMENT HANDBOOK. Debo, Thomas, N., Lumb, Alan M., and Linsley, Ray K.; Columbus Department of Community Development; October 1977, 215 p.

Prepared by Hydrocomp, Inc. (Atlanta) as an engineering design guide for city engineers, local agencies, and private developers. Discusses the Rational Method of hydrologic design, culvert design, closed conduit systems, flood proofing, and drainage improvement cost allocation. Contains extensive charts, drawings, nomographs, and equations.

44. COLUMBUS STORM WATER MANAGEMENT PROGRAM: DRAINAGE CATEGORIZATION STUDY. Debo, Thomas N., Westerich, D., and Newsome, T.; Columbus Department of Community Development; April 1978, 33 p.

Prepared by the Georgia Institute of Technology for planners seeking to identify drainage and flooding problems in Columbus. Discusses classification and prioritization methods and the use and development of identification maps. Outlines the innovative Citizen's Drainage Program for community structural damage reduction. Considers limitations of the program. Includes hazard maps.

45. COLUMBUS STORM WATER MANAGEMENT PROGRAM: INTERIM SOILS SURVEY. Columbus Department of Community Development; August 1977, 285 p.

Prepared for planners and developers by the U.S. Soil Conservation Service and the University of Georgia, College of Agriculture. Discusses components of the storm water management program. Details soil associations and series. Describes mapping units with regard to engineering properties, physical and chemical properties, soil and water features, building site development, wildlife habitat, water management, woodland management and productivity, and crop and pasture yields. Maps cover geology, relief, soils, and stream gaging stations.

46. COLUMBUS STORM WATER MANAGEMENT UROS USERS MANUAL. Debo, Thomas N. and Lumb, Alan M.; Columbus Department of Community Development; December 1978, 170 p.

Describes the Urban Runoff Simulation (UROS) computer program for simulating storm runoff through hypothetical drainage systems, computing flood frequencies and costs vs. benefits. Outlines hydrologic and economic inputs, input routing, the UROS processor, and error messages. Contains data for past floods, vs. benefits. Outlines hydrologic and economic inputs, input routing, the UROS processor, and error messages. Contains data for past flooding events.

47. DAM BREACH FLOOD MAPS FOR GWINNETT COUNTY, GEORGIA. Georgia Governor's Safe Dams Interagency Task Force; September 1980, 50 p.

Presents results of NOAA computer dam breach simulation model applied to about 50 Category II dams (where failure would probably not cause loss of life) in Gwinnett County. Briefly explains methodology and specific assumptions. Provides references and model ordinance. Contains summary data table and inundation map.

48.* FLOOD-PROOFING PRIMER FOR DEKALB COUNTY, GEORGIA (A DOLLAR AND CENTS GUIDE FOR HOME IMPROVEMENTS THAT REDUCE FLOOD DAMAGE). U.S. Army Corps of Engineers, South Atlantic Division; January 1979, 28 p.

Concise guide to reducing flood damage to private home through structural modification of the home. Defines flood-proofing. Discusses points to consider before deciding to flood-proof, such as flood elevations, lowest floor elevation, and permit requirements. Offers both a quick analysis and a detailed analysis of four flood-proofing methods, considering cost vs. benefits for various flooding probabilities. Contains a short but useful listing of information sources. Well-done document for private homeowners.

49. METROPOLITAN ATLANTA AREA WATER RESOURCES MANAGEMENT STUDY: SUMMARY REPORT. U.S. Army Corps of Engineers, Savannah District; May 1978, 110 p.

Outlines planning organization, strategy formulation, and interagency cooperation for the comprehensive water resources study. Cites authorities and scope of the program. Provides climate, topography, flood and drought, demographic, wastewater management system, water supply system, and reservoir information. Examines problems and needs. Discusses flood damage reduction, floodplain management, and

flood control. Contains tables on population, employment, land use, waste-water discharge, urban runoff, average weekly flow of the Chattahoochee River, and water demand forecasts. Contains the Georgia Surface Water Management Act.

50. METROPOLITAN ATLANTA AREA WATER RESOURCES MANAGEMENT STUDY: A SURVEY OF LOCAL WATER MANAGEMENT INSTITUTIONS. U.S. Army Corps of Engineers, Savannah District; October 1974, 85 p.

Describes the water supply and wastewater management institutions in the Atlanta area, and discusses their interrelationships. Descriptions include role, address, data created, level of jurisdiction, service area, function, organizations, legal powers, enabling legislation, financial resources, water source, wastewater management system, and available reports for about 50 area institutions.

51. MODEL FLOOD HAZARD AND FLOOD MANAGEMENT STANDARDS. Oliver, H., Fisher, J.C., Saggese, M. and Mathews, H.; Georgia Mountains Area Planning and Development Commission; September 1975, 28 p.

Proposes a floodplain management ordinance that includes: statement of intent, findings of fact, establishment of zoning districts, permitted uses of special flood hazard areas, special exceptions (permitted uses) within the hazard area in cases where there is no floodway encroachment, procedures for determining exceptions, time for acting on applications, penalties for violation, warning and disclaimer, severability, jurisdiction, official signatures, and definitions.

52. THE PEACHTREE CREEK WATERSHED AS A CASE HISTORY IN URBAN FLOOD PLAIN DEVELOPMENT. James, L.D., Kelnhofer, G.J., Elmore, G.R., and

Laurent, E.A.; Georgia Institute of Technology, Environmental Resources Center; October 1971, ERC-0971, 83 p.

Presents historical sequences and causes for floodplain development, including government encouragement. Analyzes the relative values of undeveloped lots in and out of the floodplain, and discusses the extent to which observed differences in property value can be traced to expected damage as opposed to other residential considerations. Discusses the effects of urbanization in changing water quality. Explores implications of findings for floodplain management. Contains map of land lots in the Peachtree-Nancy watershed and an historical bibliography.

53. PHASE I OCONEE BASIN PILOT STUDY, TRAIL CREEK TEST: AN INVESTIGATION OF CONCEPTS AND METHODS FOR BROADENED SCOPE FLOOD PLAIN INFORMATION STUDIES. U.S. Army Corps of Engineers, Hydrologic Engineering Center; September 1975, 104 p.

Discusses data management and processing, environmental assessment, and land use. Considers a general approach to flood hazard evaluation, hydrologic studies, flooded area mapping, and the Trail Creek test application. Also considers a general approach to economic analysis, damage reaches, reference flood, composite and aggregate damage functions, and land-use pattern assessments. Contains maps and data on land use, damages, and surface-water hydrology.

54. PLANNING FOR FLOOD DAMAGE PREVENTION IN FORT OGLETHORPE AND CHICKAMAUGA, GEORGIA AND IN WALKER AND CATOOSA COUNTIES WITH RINGGOLD SUPPLEMENT. Coosa Valley Area Planning and Development Commission; April 1969, 94 p.

Disusses the flood problem by examining drainage area, developments in the floodplain, past floods, and future floods. Discusses ways to deal

with the flood problem, such as dams, levees, channel improvements, temporary evacuation and forecasting, flood proofing, and regulating land use. Proposes floodplain management ordinances. Contains maps of the area watershed and regulatory floodway. Tables cover flood crest elevations above bankful stage, maximum known discharges, and high water profiles. Publication is slightly dated, and should be used critically.

55. REGIONAL GROWTH STRATEGIES FOR SOUTHEAST GEORGIA: DEVELOPMENT AND IMPLEMENTATION MECHANISMS. Southeast Georgia Area Planning and Development Commission; June 1979, 90 p.

Planning document considers transportation, industry, water and sewer capabilities, manufacturing centers, housing, recreation, and minority and population concentrations. Discusses planning capabilities and authorities of area agencies. Tables include soil associations, amount of flood-prone and wetland area, wildlife management areas, and land-use regulations. Maps include soil types, flood-prone areas, wetlands, highways, industries, and population centers.

POLICIES, REGULATIONS, AND LAWS

56. COMPREHENSIVE INTERSTATE POLICY DEVELOPMENT FOR THE SAVANNAH RIVER BASIN: A FEASIBILITY ASSESSMENT. Coastal Plains Regional Commission, Industrial Development Advisory Committee; April 1978, 69 p.

Prepared by the Research Group, Inc. (Atlanta and Denver) as a policy planning document for government officials. Examines interstate programs and organizations affecting the Savannah River. Provides views and suggestions from State officials. Proposes an interstate policy development

for the Savannah River. Contains a draft interstate agreement. Considers the implications of this program to other interstate rivers. Summarizes comprehensive land-use and economic development plans from local agencies.

57. ENVIRONMENTAL IMPACT STATEMENT CONFERENCE. U.S. Environmental Protection Agency, Region IV; February 1979, 121 p.

Papers presented Feburary 22-23 at the Atlanta meeting include: "Wetlands" by E.T. Heinen and "Georgia's endangered species program" by Mary Ann Young and Ron Odom. Workshops included: "Environmental impact statement review procedure", "Information: The backbone of the environmental impact statement", "Wetlands and the environmental impact statement", and "Environmental impacts of cultural practices on natural ecosystems".

58. * ENVIRONMENTAL REGULATIONS FOR GEORGIA INDUSTRY. Roger, Howard D.; Georgia Bureau of Industry and Trade; January 1976, 240 p.

Provides contacts, legal references, permit information, standards, variance information, Federal regulations, prohibited acts, and enforcement procedures for environmental regulations concerning surface mining, water quality and supply control, ground-water use, coastal marshlands protection, erosion and sedimentation, and scenic resources. Publication is continuously updated.

59. GEORGIA NATURAL DISASTER OPERATIONS PLAN. Georgia Department of Defense, Civil Defense Division; September 1979, 60 p.

Document presents the official emergency operations plan for response to all accidents, incidents, and natural disasters, except nuclear war.

Contains legal authorities, policy statements, responsibilities, threat assessment, and definitions. Outlines readiness, response, and recovery functions of all State and many private agencies. Plan does not include detailed procedures within agencies, but rather coordinates activities among agencies. Emergencies considered are: dam failure, drought, epidemic, fire, flash flooding, hail, ice, lightening, pestilence, spills, and tornado.

60.* GEORGIA SAFE DAMS ACT 1978 AND RULES FOR SAFETY. Georgia Environment Protection Division; July 1979, 35 p.

Contains: Georgia Safe Dams Act of 1978, No. 796 (House Bill No. 914); Executive Reorganization Act of 1972, No. 1489 (Senate Bill No. 499); and Rules of Department of Natural Resources Environmental Protection Division, Chapter 391-3-8, Rules for Dam Safety.

61. INTEGRATION OF HYDROLOGIC, ECONOMIC, ECOLOGIC, SOCIAL, AND WELL-BEING FACTORS IN PLANNING FLOOD CONTROL MEASURES FOR URBAN STREAMS. James, L.D., Benke, A.C., and Ragsdale, H.: Georgia Institute of Technology, Environmental Resources Center; February 1975, ERC-0375, 192 p.

Discusses how to plan flood control projects, including historical trends in flood control philosophy, costs on nonstructural measures, evaluation of flood control measures, and information needed for evaluation. Considers need for data on flood rates, site flood hazard, floodplain geometry, and hydrologic response time. Examines costs of channel design, flood proofing, land-use adjustment, and residual damages. Provides case studies of Noonday, Proctor, Utoy, and Warren Creeks in Atlanta. Contains a 93-reference bibliography.

62. AN INTRODUCTION TO FLOODPLAIN MANAGEMENT IN GEORGIA. Hauck, Michael Lee; Georgia Office of the Governor, Governor's Intern Program; December 1979, 30 p.

Discusses the purpose, organization, resources, and procedures of Georgia's Floodplain Management Program. Includes Executive Order 11988, and various procedural documents used in the A-95 Comprehensive Review Process (Federal funding review).

63. LAND USE POLICIES FOR GEORGIA PART I: SURVEY OF PRESENT GEOGRAPHY, ENVIRONMENT, AND NATURAL RESOURCES. The Georgia Conservancy; November 1977, 132 p.

Draft describes mineral resources, geologic constraints on development, water cycle and budget, surface water, tidal marshes and estuaries, climate, soils and vegetation, special wildlife areas, and cultural resources. Offers conclusions about information available, and presents the Conservancy's position on land use in 1977.

64. THE METROPOLITAN RIVER PROTECTION ACT (GEORGIA LAWS 1973, ACT NO. 66, AMENDED). Atlanta Regional Commission; November 1975, 10 p.

Reprint of the act. Sections cover definitions, finding and purpose, duties of the Commission, stream corridor regulation, Commission review, pre-review procedure, minimum standards, appeals, other requirements, other counties, exemptions from the act, enforcement and penalties, jurisdiction, exceptions, public information, severability, effective date, and repealer of previous regulations.

65. STATE ORGANIZATION FOR WATER RESOURCES MANAGEMENT. Elmore, George Roy, Jr.; Georgia Institute of Technology, Environmental Resources Center; May 1972, ERC-0472, 143 p.

Reviews water resources management in the United States and Georgia as it existed in 1972. Discusses natural resource organization in several states. Lists 1972 water resource management programs in Georgia. Explores the effect of organizational structure on water resources management programs.

66. VITAL AREAS COUNCIL: REPORT TO THE GENERAL ASSEMBLY ON LAND USE. Georgia General Assembly, Vital Areas Council; January 1974, 51 p.

Prepared by a citizen's council on land use for policymaking by the Georgia Legislature. Lists results of hearings on land use. Provides recommendations on land use, including Vital Areas Program, floodplain protection, sedimentation and soil erosion, and property tax changes.

SURFACE-WATER DATA

67. FLOODS IN GEORGIA: FREQUENCY AND MAGNITUDE. Carter, R.W.; U.S. Geological Survey; March 1951, Circular 100, 127 p.

Discusses Georgia's river systems, climate, available flood records, flood-frequency relations, determination of mean annual flood, and maximum floods known. Provides records at gaging stations from late 1800's to 1949. Data is of historical interest. Methodology is updated in listings no. 68 and 69.

68. FLOODS IN GEORGIA: MAGNITUDE AND FREQUENCY. Bunch, Clyde M. and Price, McGlone; U.S. Geological Survey; 1962, Open-file report, 152 p.

Updated version of no. 67 with stream gage data to 1961.

69. FLOODS IN GEORGIA, MAGNITUDE AND FREQUENCY: TECHNIQUES FOR ESTIMATING THE MAGNITUDE AND FREQUENCY OF FLOOD IN GEORGIA WITH COMPILATION OF FLOOD DATA THROUGH 1974. Price, McGlone; U.S. Geological Survey, Water Resources Division; October 1979, Water-resources investigation 78-137, 269 p.

Defines regional relations for estimating magnitude and frequency of floods having recurrence intervals of 2, 5, 10, 25, and 100 years on streams with natural flow. Uses multiple-regression analysis to define the relationship between flood-discharge frequency of annual peak discharge for streams draining 0.1 to 1,000 square miles and 10 climatological and physical basin characteristics. Delineates five regions of distinct flood-discharge frequency characteristics. Provides individual relations of flood magnitude and frequency to drainage area for parts of the main stems of the major rivers that are not significantly regulated and that drain more than 1,000 square miles.

70. KELLY BARNES DAM FLOOD OF NOVEMBER 6, 1977, NEAR TOCCOA, GEORGIA. Sanders, C.L., Jr., and Sauer, V.B.; U.S. Geological Survey; 1979, Atlas HA-613, 2 maps.

Documents the dam failure that resulted in 39 deaths and $2.8 million in damages. Describes the condition of the dam, rainfall events leading to the dam failure, water-surface profiles, stream discharges, and areas inundated by the flood. Prepared for public officials, planners, engineers, and hydrologists as a reference of the magnitude and effects of the flood. Provides data useful in the development and calibration of dam break models.

71. 1975 NATIONAL ASSESSMENT OF WATER AND RELATED LAND RESOURCES, SOUTH ATLANTIC-GULF WATER RESOURCES REGION: MAIN REPORT. Southeast Basins Inter-Agency Committee; December 1977, 3 volumes, total 846 p.

Provides regional profile, conclusions and recommendations, severe problem identification, implications of problems, and regional views of present and emerging national issues. Volume I provides maps, extensive references, and listing of program participants. Volume II discusses State and regional future problems, with data on surface-water area and land use. Volume III contains detailed maps and data on problem areas.

72. THE NATION'S WATER RESOURCES: THE SECOND NATIONAL ASSESSMENT BY THE U.S. WATER RESOURCES COUNCIL. U.S. Water Resources Council; April 1978, (03) and (06), 150 p. and 77 p.

Describes regional physiography, cultural resources, surface-water problems, and study conclusions and recommendations. Details problems in the South Atlantic-Gulf Region (03) and the Tennessee Region (06) with maps, graphs and descriptions. Report (03) covers most of Georgia. Report (06) covers a small portion of extreme northeast and northwest Georgia.

73. PROBABLE MAXIMUM PRECIPITATION ESTIMATES, UNITED STATES EAST OF THE 105TH MERIDIAN. Schreiner, Louis C. and Riedel, John T.; National Weather Service; June 1978, Hydrometeorological report no. 51, GPO stock no. 003-017-00424-4, 87 p.

Provides generalized estimates of the greatest rainfall rates for specified duration theoretically possible. Estimates are the greatest for any time of the year and for durations of 6 to 72 hours in drainage areas of 10 to 20,000 square miles. Shows location of storms and expected intensities. Also details procedures and methods used for developing rainfall estimates.

74. SHORT CONTRIBUTIONS TO THE GEOLOGY, GEOGRAPHY AND ARCHAEOLOGY OF GEORGIA. Georgia Department of Mines, Mining and Geology; 1950, Bulletin no. 56, 160 p.

Relevant reports include: "An appraisal of Georgia's surface water resources investigations program" by M.T. Thompson; "Magnitude and frequency of historic floods on the Chattahoochee River at Columbus, Georgia" by Alexander A. Fishchback, Jr., which gives a flood-frequency curve for data from 1827 to 1949; and "The frequency of floods on the Flint River" by C.M. Bunch, which relates Flint River peak discharges to drainage area.

75. STORM TIDE FREQUENCY RELATIONS FOR THE COAST OF GEORGIA. Ho, Francis P.: National Weather Service; September 1974, NOAA Technical memorandum NWS HYDRO-19, 28 p.

Summarizes historical hurricanes and shows their paths. Explains climatology of hurricane characteristics, such as frequency of hurricane tracts, probability distribution of hurricane intensity, radius of maximum winds, and speed and direction of forward motion. Proposes a surge model that considers the shoaling factor. Describes the method for determining tide frequency by joint probability. Provides data on tropical storm parameters, astronomical tides, tide frequencies, and actual vs. calculated high water levels. Relates the report to disaster planning. Includes references, map, and graphs.

76.* STREAMFLOW MAPS OF GEORGIA'S MAJOR RIVERS. Thompson, M.T.; Georgia Department of Mines, Mining and Geology; 1960, Information circular 21, 21 p.

Contains maps with descriptions of river locations, average flow, runoff, storage required and available, mean annual flood flow, and range in stage

for indicated flows. Supplements include "Georgia river's" pamphlet that briefly describes the character of Georgia's rivers and "Major Georgia rivers, the counties and APDC's they drain, their major cities, and their major reservoir-producing dams" compiled by the Georgia Geologic Survey's Floodplain Management Unit.

77.* WATER RESOURCES DATA FOR GEORGIA. U.S. Geological Survey, Water Resources Division; 1981, 455 p.

Contains listing and map of gaging stations. Explains collection, examination, accuracy and publication of surface-water data. Discusses hydrologic conditions. Provides selected references. Contains gaging-station records. Graphs compare records at long-term gaging stations. Publication is updated and published annually.

78. WATER RESOURCES OF THE ATLANTA METROPOLITAN AREA. Carter, R.W. and Herrick, S.M.; U.S. Geological Survey; November 1951, Geological Survey Circular 148,, 19 p.

Contains average flow for month and year, minimum flow, duration of flow, and flood flow for the Chattahoochee River before the completion of Buford Dam. Contains similar data for other metropolitan area streams. Contains a water-resources map. Information is of historical interest only.

NATIONAL FLOOD HAZARD LITERATURE

(selected references)

This section lists 99 publications that are national in scope, but also of particular relevance to Georgia (exception: several entries in the pamphlet section relate specifically to Georgia). These listings include: title; author; publisher; date; report number or stock number; and number of pages.* Publications in this section are subdivided according to 13 subject areas: bibliographies (and lists of publications); coastal (publications concerning coastal ecology, methodology, and construction); flood proofing (literature on structural methods of reducing flood damages, including elevating and water-proofing homes); floodplain planning (discussions of flood hazard and floodplain management); insurance and NFIP requirements (guides for floodplain ordinance development and National Flood Insurance Program documents); intergovernmental relations (attempts to coordinate Federal, State, and local floodplain management policies); methodology (methods for calculating wave heights, planning river basins, and collecting water data); non-structural damage reduction (warning systems, floodplain zoning regulations, floodplain acquisition); pamphlets (both Georgia and national); pilot and case studies (model programs and case studies regarding surface-water management); policies, regulations, and laws (Federal agency policies and rules for

floodplain management); preparedness, response, and recovery (guides on how to prepare for and cope with flood disasters); and miscellaneous (two books on floodplain hydrology and geomorphology).

* Twenty publications are marked with an asterisk to indicate exceptional usefulness.

BIBLIOGRAPHIES

79. ANNOTATIONS OF SELECTED LITERATURE ON NONSTRUCTURAL FLOOD PLAIN MANAGEMENT MEASURES. Owen, H. James; U.S. Army Corps of Engineers, Hydrologic Engineering Center; March 1977, 95 p.

80.* CONSUMERS GUIDE TO FEDERAL PUBLICATIONS. U.S. Government Printing Office; undated, pamphlet, 17 p.

81. BIBLIOGRAPHY OF HURRICANE AND SEVERE STORMS OF THE COASTAL PLAINS REGION. Coastal Plains Center for Marine Development Services; 1970, No. 70-2, 51 p.

82. DISASTER PREPAREDNESS PUBLICATIONS. National Weather Service; 1980, pamphlet, NOAA/PA 76021, 12 p.

83. FLOOD INSURANCE: AN ANNOTATED BIBLIOGRAPHY. Natural Hazards Research and Applications Information Center; 1979, 22 p.

84. FLOOD DAMAGE PREVENTION: AN INDEXED BIBLIOGRAPHY. Weathers, John W.; Tennessee Valley Authority, Division of Water Management; October 1976, 8th edition, 61 p.

85. THE GEORGIA RESOURCE ASSESSMENT PROGRAM: A GUIDE TO NATURAL RESOURCE INFORMATION OF GEORGIA, RESOURCE INDEX. Storey, J. Steven; Georgia Department of Natural Resources, Office of Planning and Research; September 1976, 145 p.

86. LIST OF PUBLICATIONS OF THE GEORGIA GEOLOGIC SURVEY. Morrow, Eleanore; Georgia Geologic Survey; 1980, Circular 1, 17th edition, 28 p.

87. A SELECTED, ANNOTATED BIBLIOGRAPHY OF FLOODPLAIN MANGEMENT LITERATURE FOR STATE AND LOCAL OFFICIALS. Newton, Charles W. and Wright, Mary V.L.; Academy for Contemporary Problems; November 1980, 4 p.

88. SELECTED AND ANNOTATED BIBLIOGRAPHY OF COASTAL ZONE MANAGEMENT LITERATURE FOR STATE AND LOCAL OFFICIALS. Wright, Mary V.L.; Academy for Contemporary Problems; February 1981, 6 p.

89. SELECTIVE GUIDE TO CLIMATIC DATA SOURCES. Butson, Keith D. and Hatch, Warren L.; National Climatic Center; December 1979, Key to meteorological records documentation no. 4.11, 142 p.

90. U.S. GEOLOGICAL SURVEY PUBLICATIONS ON FLOODS. U.S. Geological Survey; 1976, pamphlet, 27 p.

COASTAL

91. COASTAL ENVIRONMENTAL MANAGEMENT: GUIDELINES FOR CONSERVATION OF RESOURCES AND PROTECTION AGAINST STORM HAZARD. Clark, J., Banta, J.S., and Jeffrey, A.Z.; The Conservation Foundation; June 1980, 161 p.

92.* CONSTRUCTION GUIDELINES TO MINIMIZE HURRICANE DAMAGE TO SHORE AREA HOMES. Collier, C.A.; November 1976, 29 p.

93. DESIGN AND CONSTRUCTION MANUAL FOR RESIDENTIAL BUILDINGS, IN COASTAL HIGH HAZARD AREAS. Dames and Moore, Inc.; Federal Insurance Administration; January 1981, 189 p.

94. ELEVATING TO THE WAVE CREST LEVEL, A BENEFIT: COST ANALYSIS. Sheaffer, J.R.; Sheaffer and Roland, Inc.; June 1980, 72 p.

95. ROOKERY BAY: ECOLOGICAL CONSTRAINTS ON COASTAL DEVELOPMENT. Clark, John; The Conservation Foundation; December 1974, 19 p.

96. A SCREENING MODEL FOR COASTAL RESOURCE ALLOCATION. Hatcher, Kathryn June; Massachusetts Institute of Technology; June 1974, thesis, 180 p.

97. SHORE PROTECTION GUIDELINES, NATIONAL SHORELINE STUDY. U.S. Army Corps of Engineers, August 1971, 59 p.

FLOOD PROOFING

98. ECONOMIC FEASIBILITY OF FLOODPROOFING ANALYSIS OF A SMALL COMMERCIAL BUILDING. Federal Insurance Administration; June 1979, pamphlet, 43 p.

99. ELEVATED RESIDENTIAL STRUCTURES, REDUCING FLOOD DAMAGES THROUGH BUILDING DESIGN; A GUIDE MANUAL. Federal Insurance Administration; February 1977, 126 p.

100. FLOOD-PROOFING: EXAMPLE OF RAISING A PRIVATE RESIDENCE. McKeever, Shelton R.; U.S. Army Corps of Engineers, South Atlantic Division March 1977, 19 p.

101. FLOOD-PROOFING REGULATIONS. U.S. Army Corps of Engineers; June 1976, 90 p.

102. INTRODUCTION TO FLOOD-PROOFING: AN OUTLINE OF PRINCIPLES AND METHODS. Sheaffer, John,; University of Chicago, Center for Urban Studies; April 1967, 61 p.

103. MANUAL FOR THE CONSTRUCTION OF RESIDENTIAL BASEMENT IN NON-COASTAL FLOOD ENVIRONMENTS. Anderson, Charles M.; Federal Insurance Administration, February 1978, 264 p.

104. PRACTICES IN THE DETENTION OF URBAN STORMWATER RUNOFF: AN INVESTIGATION OF CONCEPTS, TECHNIQUES, APPLICATIONS, COSTS, PROBLEMS, LEGISLATION, LEGAL ASPECTS AND OPTIONS. Poertner, Herbert G.; American Public Works Association; June 1974, Special report no. 43 231 p.

FLOODPLAIN PLANNING

105. FLOOD HAZARD MANAGEMENT AND NATURAL RESOURCE PROTECTION: TRAINING INSTITUTE WORKBOOK. The Conservation Foundation; April 1980, 50 p.

106. FLOOD HAZARD MANAGEMENT AND NATURAL RESOURCE PROTECTION: COMMUNITY ACTION GUIDE. The Conservation Foundation; April 1980, 75 p.

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SUBJECT INDEX TO
FLOOD HAZARD LITERATURE

(cross-referenced)

This section contains 44 cross-referencing categories by which publications on a desired topic or of a certain type can be found. These subject categories overlap with the subsections in the literature listings, but are more detailed, as there are additional categories as well. Most publications fit into several categories, so the index is cross-referenced. Further, the index distinguishes between specifically Georgia publications and those of national scope. Each publication in the Georgia Flood Hazard Literature section and the National Flood Hazard Literature section is assigned a number, according to its order of appearance in the listings. The subject index uses these unique numbers to identify publications. By locating the numbers in the literature listings that fall under a desired topic in the subject index, all selections that relate to that topic can be found. (For further instructions, refer to the How to Use the Bibliography section.)

WARNING SYSTEMS AND EMERGENCY EQUIPMENT

National: 135, 136, 144, 174

Document and Information Sources

This section contains current (at the time of printing, March, 1982) names, addresses, and telephone numbers for 99 document and information sources. This section alphabetically lists all publishers that are listed in the literature sections. In instances in which the publisher or performing agency no longer exists, every effort has been made to find a forwarding address or replacement agency. Since many Federal agencies were being reorganized or dissolved at press time, some inaccuracies may exist in the names, addresses and telephone numbers for agencies that have assumed the responsibilities and resources of the replaced or disbanded agency. Also, the Georgia Geologic Survey has a file copy of all publications selected for this bibliography.

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Documents produced by the Geologic Survey's Floodplain Management Office include:

FLOOD ASSISTANCE DIRECTORY. March 1981, 8 p.

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