ALABAMA DISTRICT FLOOD PLAN

By T.S. Hedgecock, J.L. Pearman, and V.E. Stricklin

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U.S. DEPARTMENT OF THE INTERIOR
GALE A. NORTON, Secretary

U.S. GEOLOGICAL SURVEY
CHARLES G. GROAT, Director

For additional information, contact:

District Chief
U.S. Geological Survey
2350 Fairlane Drive, Suite 120
Montgomery, AL 36116

Copies of this report can be purchased from:

U.S. Geological Survey
Information Services
Box 25286, Federal Center
Denver, CO 80225

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Acronyms and abbreviations:

ADCP	Acoustic Doppler Current Profiler
DOT	Department of Transportation
FCC	Federal Calling Card
FEMA	Federal Emergency Management Agency
GH	Gage height
GSA	General Services Administration
NOAA	National Oceanic and Atmospheric Administration
Q	Discharge
SW	Surface water
TVA	Tennessee Valley Authority
TWRI	Techniques of Water Resources Investigations
USGS	U.S. Geological Survey
WRD	Water Resources Division

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INTRODUCTION

The purpose of this flood plan is to outline and record advance planning for flood emergencies, so that all personnel will know the general plan and have a ready-reference for necessary information. This will ensure that during any flood event, regardless of the extent or magnitude, the resources of the District can be mobilized into a maximum data collection operation with a minimum of effort.

District streamflow gaging station operations generally are conducted from two offices: the District Office in Montgomery and the Field Office in Tuscaloosa. The following persons are designated as flood activity coordinators for these offices: **Montgomery, James L. Pearman; Tuscaloosa, Victor E. Stricklin**. During localized or routine flood events, field personnel assignments will be made independently by the District or Subdistrict Coordinator. When flood activities require the presence of these persons in the field, personnel assignments will be made by the **alternate District Flood Coordinator, T.S. Hedgecock**. If district or subdistrict personnel cannot adequately monitor a flood, the District Flood Coordinator assigns additional support personnel, as outlined in this plan or as modified for the existing situation.

The flood plan will be updated as required due to changes in personnel, site conditions, and by additional data acquisition.

FLOOD PERSONNEL

The flood personnel assignments and individual duties are described in **Appendix A and B** of this District Flood Plan.

COMMUNICATIONS

During flood emergencies, good communication is very important and the telephone will be the primary means of communication. Field personnel will frequently place long-distance calls, and district cellular phones will be used. Each vehicle should be equipped with a cellular phone that has been assigned to a specific individual or checked out from the office pool. Additionally, each person has a Federal Calling Card (FCC) with user instructions printed on the back. The FCC will be used to place FTS 2000 off-net calls. FCC user instructions are included in **Appendix B**, which also contains a list of telephone numbers to assist in maintaining good communications during flood emergencies. The list includes numbers for Alabama District personnel, cellular phones, streamflow stations and for the following offices: Water Resources Division (WRD), National Oceanic and Atmospheric Administration (NOAA), Alabama Power Company, U.S. Army Corps of Engineers, and Tennessee Valley Authority (TVA).

Flood personnel will contact the Flood Coordinator upon completion of assignments and give the following information for each station visited:

- gage height
- time
- rate of change of stage
- Q measurement information (GH and Q, if computed)
- time of peak (if applicable)
- weather and road conditions
- other significant information

A District form, AL- 1 (see **Appendix B**), has been prepared to assist in the compilation of this information. Field personnel will make additional telephone contacts at any time actual field conditions are found to be significantly different from expectations.

Communications with adjacent WRD Districts and with other Federal, State, and municipal agencies will generally be made by the Flood Coordinator. For extraordinary floods, requests for additional personnel and equipment will be made by the District Chief.

Liaison with Division and Regional Headquarters is the responsibility of the District Surface-Water Specialist or other appropriate District personnel. Communications will follow the instructions in WRD Memorandum 90.22 (dated August 25, 1992) and the updated Project Alert section of this document included in **Appendix B**.

EQUIPMENT

A complete set of flood-measuring equipment will be maintained for each regularly assigned vehicle. Sets of emergency equipment will also be maintained for use during extreme flood events when other vehicles must be obtained. Additional vehicles can be obtained on dispatch from the General Services Administration (GSA) Motor Pool or from commercial rental companies if the GSA is unable to meet our needs.

An adequate supply of sediment samplers and bottles will be maintained for use during extreme flood events. Sediment samplers available in the District are of two categories: (1) suspended and (2) bed material. The DH-59 and DH-76 suspended-sediment samplers are the ones routinely used to obtain depth-integrated sediment samples at miscellaneous sites and streamflow gaging stations, as assigned. Other types of suspended-sediment samplers, P-61 and D-49, are assigned to field parties with specific event sampling assignments as indicated by the footnotes to **"Flood Personnel"** in **Appendix A**. Bed material samplers, BM-54 and BMH-60, are also assigned to field parties with specific event sampling assignments as indicated in **Appendix A**. Bed material samples generally will **not** be taken during flood events, but, if required, will be at the direction of the Data Section Chief through the Flood Coordinator.

Individual responsibilities of the flood personnel for equipment maintenance are delegated in the "Duties" section of **Appendix A**.

DATA NEEDS

A complete list of sites where flood data are collected and the data needs for each site are listed in **Appendix C**. Each site is assigned a priority based on data needs and the hydrologic characteristics of the site.

PROCEDURES

The procedures as outlined in Techniques of Water-Resources Investigations (TWRI) manuals and Water-Supply Paper 2175, *Measurement and Computation of Streamflow: Volume 1. Measurement of Stage and Discharge* will be followed in collecting streamflow data during floods. Each field person should be familiar with **Appendix D**, which contains information concerning special problems encountered in conventional current-meter measurements and procedures to follow when obtaining miscellaneous or periodic sediment samples at regular streamflow stations during floods. When practical, field personnel will take or obtain photographs showing unusual flood conditions.

AERIAL PHOTOGRAPHS

Federal Emergency Management Agency (FEMA) flood maps and other maps, such as U.S. Geological Survey (USGS) flood prone maps and USGS topographic maps will be used to delineate segments of streams where aerial photographs are desired during, or immediately following, extensive floods.

These maps will be utilized for planning and executing photography flights.

POST-FLOOD OPERATIONS

Data obtained during the flood will be evaluated to determine what data needs were met and what new needs have arisen. This will be done quickly so that follow-up measurements can be made where necessary. Crest stages will be examined to determine sites where indirect measurements should be made, and marking of high-water marks for indirect measurements can be done. Upon completion of follow-up operations, the listing of data needs will be examined and priorities will be reassigned where necessary.

The Flood Coordinator will debrief field personnel to obtain qualitative information such as location of inundated roads, observed damage, and photographs.

SAFETY

Job safety is no more important during flood events than during routine field operations, but there is likely to be more potential for the occurrence of dangerous situations during flood events. These situations may include any or all of the following conditions: swollen streams with swift velocities; turbulent flow; heavy debris; poor visibility; inclement weather; darkness; heavy traffic; wet, slippery roads; or even damaged road surfaces and bridge structures. The personal protective equipment and safety supplies provided to everyone, and safety equipment placed in vehicles for routine data collection activities will generally be sufficient for operations during flood events. The objective of field operations during and following flood events is to safely collect hydrologic data in order to document certain occurrences related to individual flood events. These occurrences include the following: gage height and stream-discharge relation, including peaks; gage height and sediment-discharge relations; and chemical-quality of floodwaters at specific times. During flood events, data will be obtained by flood parties as assigned.

Flood Parties

Generally, though not always, a flood party will consist of two or more persons. The additional person(s) will provide necessary assistance required for field operations during floods, including improved measures of safety.

Communications

During flood operations the level of communication between the field and office will increase significantly due to the nature of the activity. In addition to communication dictated by daily activities, each flood party is required to communicate with the flood coordinator or his designate at the end of each workday. The contact can be as late as arrival at the motel, office, or home, but should be no earlier than the completion of work at the last site. Concerning this requirement, the flood party and flood coordinator, by mutual agreement, can make other arrangements during the course of daily activities. To assist with the increased level of communication, radio and cellular phones are available. Cellular phones can be used to improve response-time during medical and other emergencies and each flood-party member should be familiar with the use of these phones. Should cellular phones not be available for all flood parties, one-person parties, if there are any, will be given priority. For a listing of radio and cellular phone assignments and related information, see **Appendix B**. During flood events, adjustments in phone assignments will be made by the flood coordinator or his designate.

Travel

Travel is a necessary part of field activity, and routinely may be the most dangerous component of our work schedule. During and following serious flood events, routine hazards of travel may be accompanied by hazardous conditions. These can include any and all of

the following: wet, slippery road surfaces; poor visibility as a result of inclement weather, sunrise, sunset, or darkness of night; roads and bridges inundated by flood waters, or damaged from previous floodwater inundation; roads and bridges obstructed by debris from winds and/or floodwaters; and other vehicles. You should be alert for the existence or possible occurrence of any of these conditions. A reasonable response may be to drive slower and more defensively, remembering that other drivers are subjected to the same conditions and their failures may endanger you. It is important that **your driving be tailored to fit the conditions**. During floods, additional sounding weights may become part of the equipment for individual vehicles. It is important that these **weights be properly secured during travel**.

Data Collection

During floods, streamflow measurements, water-quality samples and sediment samples can be obtained by persons from boats, bridges and cableways; the same as during routine operations. However, the presence of certain conditions can make data collection inherently more dangerous during floods, and flood parties must always be conscious of the existence or possibility of occurrence of these conditions. Activities from boats, bridges, and cableways are all affected by the following conditions: high stream stage; fast velocity; turbulent flow; and debris, including large trees. Large debris is likely the most dangerous hazard and every effort should be made to avoid contact with it because of uncertainty of its size since only a small portion of the material may be exposed. However, the possibility always exists that suspended measuring or sampling equipment may become entangled with debris, especially trees. All reels should be equipped with break-away cables, and the flood crew should always have wire-cutters available for immediate use to cut the suspension cable if necessary. **CUTTING A CABLE IS DANGEROUS.** If you cut a cable, you must be prepared for serious recoil of booms, bases and other pieces of equipment. Cutting a cable when working in a cablecar is especially dangerous. You must be prepared to prevent yourself from being launched like a missile as car returns toward its normal position. Be sure other pieces of equipment are secured, especially the car puller.

When working from a bridge, the crew must be alert to the possibility that bridge abutments may wash-out, or that the structure itself may be washed away. Careful inspection and continuing observation generally will indicate that destruction is occurring. If serious scouring at an abutment(s) becomes obvious, you probably should get off of the bridge. In Alabama during flooding, it is standard operating procedure for the Department of Transportation (DOT) to deny access to bridges when water is on the "low steel", even if there is no evidence of bridge failure. If there is no evidence of bridge damage or failure, and you are certain that the structure is safe, you may have to exert considerable effort to obtain permission to get onto the bridge. It will very likely require approval from the supervisor of the DOT personnel on the site. If you are allowed to work on a bridge closed to the public, traffic is not a problem. However, for a bridge which is open for travel, traffic will be a problem. Inclement weather, poor visibility, and increased volume of traffic may all combine to increase the seriousness of the traffic problem. Traffic volume may increase simply because of human curiosity. There will be many persons crossing the stream just to see what the flood looks like, and the really curious ones will stop to find out what you are doing. You must immediately insist that for the safety of everyone, they should quickly move along. If possible, this should be done courteously; but "whatever it takes".

For dealing with traffic on bridges, there are numerous items available including vehicle flashers and additional emergency flashers, cones, signs, flags, flagmen, and reflective vests. **USE THEM!** In addition, there may be local law enforcement personnel available for assistance. These include city and county police, the county sheriff, and the Alabama Highway Patrol. They are usually willing to provide traffic control during flood work. The blue flashing lights on their vehicles get the attention of others. The DOT should also aid in traffic control.

In the Alabama District, boats are generally not used during severe flooding for making conventional streamflow measurements. However, sediment and water-quality samples are routinely collected using boats on the larger rivers in Alabama, such as the Alabama River and Tombigbee River. Boats are used during flooding to access gaging stations and for other transportation as required. Whether used for data collection or simply for transportation, the operators and occupants of boats must be cognizant of the additional dangers of greater depths, higher velocities, turbulent flow, and floating debris present during flood events. During severe flooding, the Alabama District has the capability to obtain streamflow measurements via a boat-mounted Acoustic Doppler Current Profiler (ADCP). The crew for this activity generally consists of three persons; a boat operator, a ADCP operator, and a "spotter". The "spotter" is responsible for watching for floating debris in the channels and for submerged stumps, trees, and other hazards in the overbank sections. The three-person crew seems reasonable and the Alabama District has adopted it as standard operating procedure when using the ADCP during floods.

If used appropriately, personal protective equipment and boat-safety equipment which are routinely provided are sufficient for survival should an accident occur. The appropriate use of your life vest or floater coat is to wear it on your body.

If during normal operations you make proper use of the safety materials, supplies and equipment provided to you and you perform your duties in a safe manner, then safety, relative to flood work, will be just another day in the field. However, you should be aware of conditions that may make field work during floods inherently more dangerous than on routine occasions. Occasional reading of the safety section of this flood plan can assist you in recognizing these conditions and provide a framework for action when they occur.

REFERENCES

Atkins, J.B., 1996, Magnitude and frequency of floods: U.S. Geological Survey Water-Resources Investigations Report 95-1499.

Buchanan, T.J., and Somers, W.P., 1969, Discharge measurements at gaging stations: U.S. Geological Survey Techniques of Water-Resources Investigations, book 3, chap. A8.

Rantz, S.E., and others, 1982, Measurements and computation of streamflow, volumes 1 and 2: U.S. Geological Survey Water-Supply Paper 2175, 631 p.

Appendixes

ALABAMA DISTRICT FLOOD PLAN - Appendix 1

FLOOD PERSONNEL

Personnel will be assigned to field parties and geographic areas as required to cover the magnitude of the flood event. Assignments will be made by the Flood Coordinator, James L. Pearman or Alternate Flood Coordinator, T.S. Hedgecock.

CONTINUING DUTIES

District Personnel:

During potential flood periods, those who routinely make data-collection field trips of 3 days or more in length will:

(1) prior to departure, obtain some information concerning the long-range weather forecast,

(2) as dictated by the weather forecast, make contact with the district or subdistrict supervisory personnel on day 2 of the trip; additional contacts at the direction of appropriate personnel, and

(3) communicate immediately to the Flood Coordinator all rainfall and stage information that would be helpful in determining the extent and magnitude of possible flooding.

It shall be the responsibility of all personnel to communicate to the Flood Coordinator, immediately from the field, all information relative to flooding.

Flood Personnel:

Flood party chiefs and individuals with specific flood-event assignments will maintain data collection equipment to be used by them during flooding. The equipment is to include a briefcase containing items such as stop watches, earphones, a steel tape, a tape weight, a flashlight, a calculator, current meter rating tables, a note pad, paper, forms (such as measurement notes and inspection forms), pencils/pens, a copy of Water-Supply Paper 2175, the Alabama District Flood Plan, the latest publication of Water Resources Data for Alabama, and WRIR 95-4199 (latest flood-frequency reports).

Montgomery and Tuscaloosa Flood Coordinators:

Montgomery and Tuscaloosa Flood Coordinators furnish to the District Flood Coordinator the information necessary to maintain the lists of gaging station and crest-stage gage measurement needs. They will also see that field crews maintain streamflow-measuring equipment according to Flood Plan instructions.

Sediment Equipment:

The Montgomery and Tuscaloosa data sections are currently responsible for maintaining an adequate supply of operable suspended and bed-material sediment samplers and related equipment as prescribed by the Flood Plan, ensuring appropriate distribution among Field Headquarters. However, at the current time there is no funding for collection of samples.

District Flood Coordinator:

The District Flood Coordinator is responsible for ensuring that:

(1) all flood plan appendices are current,

(2) appropriate personnel are familiar with the flood plan, and

(3) personnel with specific continuing duties are meeting their responsibilities.

FLOOD-EVENT DUTIES

Flood Coordinator:

The flood coordinator will use all available sources of rainfall and flow information to determine the extent and magnitude of flooding; assign personnel based on initial evaluation of the situation; examine data and other reports as received from the field and modify initial assignments and/or make additional assignments when necessary. Throughout the flood, the coordinator will maintain communications with adjacent

Districts and other Federal, State, and municipal agencies and advise the District staff of existing and forecasted flood conditions. The coordinator will continue to direct activities during follow-up operations until the level of work has returned to normal.

Alternate Flood Coordinator:

The Alternate Flood Coordinator will assist the District Flood Coordinator, act as District Flood Coordinator, or perform other duties as may be required.

Flood Parties:

Collect data as directed by the Flood Coordinator or alternate, and maintain communications according to Flood Plan instructions.

ALABAMA DISTRICT FLOOD PLAN - Appendix 2

COMMUNICATION USER INSTRUCTION

The most common calls by field personnel will be made from Southern Linc radio/phones that have been assigned to each individual. FTS 2001 can be accessed by off-net dialing from commercial stations (pay phones), using MCI calling cards that have been issued to each employee.

ALABAMA DISTRICT PERSONNEL

Brian Atkins
3105 Fernway Court
Montgomery, AL 36111
(334) 262-3542
(334) 235-1112 (cell)

Doug Batemon
1012 Commercial Street
Hanceville, AL 35077
(205) 287-2828
(205) 361-4940 (SL)

Danny Berlin
P.O. Box 237
Coosada, AL 36020
(334) 285-7954
(334) 850-1015 (SL)

Bobby Brendlinger
1514 9th Street
Tuscaloosa, Al 35401
(205) 248-6536
(205) 361-3692 (SL)

Athena Clark
1818 Beauvoir Lake Drive
Montgomery, AL 36117
(334) 272-9201
(334) 590-5248 (cell)

Mark Dickman
5 Lily Pad Circle
Millbrook, AL 36054
(334) 285-2930
(334) 850-0933 (SL)

Paula Dye
3604 Lazy Brook Lane
Montgomery, AL 36116
(334) 213-7370
(334) 324-2865 (cell)

Marty Fondren
1637 Mallard Circle
Tuscaloosa, AL 35405
(205) 752-3729
(205) 361-1660 (SL)

Amy Gill
4505 Beth Manor Drive, Apt C
Montgomery, AL 36109
(334) 277-2914

Katie Green
4477 Lee Road #137, lot 48
Auburn, AL 36832
(334) 466-0237

Bill Hard
114 Arcadia Drive
Tuscaloosa, AL 35405
(205) 633-0909
(205) 361-1661 (SL)

Susan Hartley
1251 S. Hull Street
Montgomery, AL 36104
(334) 834-0704
(334) 850-0995 (SL)

Scott Hedgecock
106 Lina Drive
Prattville, AL 36067
(334) 365-7869
(334) 850-0975 (SL)

Brett Johnston
P.O. Box 156
Verbena, AL 36091
(205) 755-4345
(205) 850-0981 (SL)

Kristin Justice
3671 Balm Road
Wetumpka, AL 36092
(334) 567-6779

Kevin Kelly
2222 Hwy 143
Elmore, AL 36025
(no phone #)
(334) 850-0984 (SL)

Bob Kidd
14704 Pine Circle
Coker, AL 35452
(205) 339-9044
(205) 361-1662 (SL)

Darrell Lambeth
609 South Capitol Parkway.
Montgomery, AL 36107
(334) 832-9464
(334) 850-0985 (SL)

Ann McPherson
P.O. Box 231353
Montgomery, AL 36123
(334) 613-1030
(334) 850-0990 (SL)

Will Mooty
619 Lockwood Street
Auburn, Al 36380
(334) 887-3251
(334) 850-0991 (SL)

Richard Moreland
542 Clayton Street
Montgomery, AL 36104
(334) 265-1693
(334) 850-0992 (SL)

Leroy Pearman
954 Silver Creek Circle
Prattville, AL 36066
(334) 361-7940
(334) 850-0993 (SL)

Bill Psinakis
4316 Florence Street
Montgomery, AL 36109
(334) 270-1378
(334) 850-3092 (SL)

Tyler Sansing
13675 Belaire Estates
Coker, AL 35452
(205) 339-8941

Michelle Smith
5104 29th Street
Tuscaloosa, Al 35401
(205) 333-9070
(205) 792-9592 (cell)
(205) 361-1767 (SL)

Vic Stricklin
336 Revere Road
Tuscaloosa, AL 35405
(205) 366-0709
(205) 886-1112 (C)
(205) 361-1663 (SL)

ALABAMA DISTRICT CELLULAR PHONES

The District has several cellular phones and all Flood Parties will have a cellular phone, if possible. Most individuals have a radio/phone (numbers provided on previous page). If there is a shortage of phones, more Flood Parties than phones, one-person Parties will have phone-possession priority over multi-person parties. Some cellular phones are assigned to specific individuals and others are maintained in a District Office Pool. It shall be the responsibility of each Flood Party to inform the Flood Coordinator of the phone in its possession. An individual with a permanent assignment will not be required to communicate with the Flood Coordinator unless no one in his Flood Party has a permanently assigned phone.

DISTRICT OFFICE POOL CELLULAR PHONES

(334) 399-4656 (Montgomery)

(205) 799-6669 (Tuscaloosa)

STREAMFLOW STATIONS WITH TELEPHONE MODEMS

02361000 - Choctawhatchee River near Newton	(334) 299-6320
02363000 - Pea River near Ariton	(334) 762-3002
02364000 - Pea River at Elba	(334) 897-8359
02423000 - Alabama River at Selma	(334) 872-9209
02423425 - Cahaba River near Cahaba Height	(205) 991-3357
02453500 - Mulberry Fork at Cordova	(205) 483-7081
02458450 - Village Creek at Avenue W at Ensley	(205) 786-0309
02462500 - Black Warrior River above Bankhead L&D	(205) 339-3829
02462501 - Black Warrior River below Bankhead L&D	(205) 339-3829
02462952 - Black Warrior River below Holt L&D	(205) 556-6357
02465000 - Black Warrior River above Oliver L&D	(205) 752-6785
02465005 - Black Warrior River below Oliver L&D	(205) 752-6785
02467000 - Tombigbee River above Demopolis L&D	(334) 289-9966
02467001 - Tombigbee River below Demopolis L&D	(334) 289-9966

STREAMFLOW STATIONS WITH SATELLITE TELEMETRY (http://water.usgs.gov/):

CHATTAHOOCHEE RIVER BASIN

02342500 - Uchee Creek near Fort Mitchell
02342933 - South Fork Cowikee near Batesville
0234296910 - Chattahoochee River at Eufaula
02343801 - Chattahoochee River at Andrews (Pool)
02343802 - Chattahoochee River at Andrews (Tail)

CHOCTAWHATCHEE RIVER BASIN

02361000 - Choctawhatchee River near Newton
02361500 - Choctawhatchee River near Bellwood
02362240 - Little Double Bridges Creek near Enterprise
02363000 - Pea River near Ariton
02364000 - Pea River near Elba

BLACKWATER RIVER BASIN

02369800 - Blackwater River near Bradley

ESCAMBIA RIVER BASIN

02371500 - Conecuh River at Brantley
02372250 - Patsaliga Creek near Brantley
02372422 - Conecuh River near River Falls
02373000 - Sepulga River near McKenzie
02374250 - Conecuh River near Brewton
02374500 - Murder Creek near Evergreen
02374700 - Murder Creek at Brewton
02374745 - Burnt Corn Creek at Highway 41 near Brewton
02374950 - Big Escambia at Stanley Cross Roads

PERDIDO RIVER BASIN

02376115 - Eleven mile Creek near Pensacola, Florida
02376500 - Perdido River at Barrineau Park
02377570 - Styx River near Silverhill

FISH RIVER BASIN

02378300 - Magnolia River at U.S. Highway 98 near Foley
02378500 - Fish River near Silverhill

COOSA RIVER BASIN

02398037 - Chattooga River at Chattooga, Georgia
02398250 - Mills Creek at Dewey
02398300 - Chattooga River near Gaylesville
02398950 - West Fork Little River near Fort Payne
02399200 - Little River near Blue Pond
02399500 - Coosa River at Leesburg
02400100 - Terrapin Creek at Ellisville
02400496 - Coosa River at Steamplant near Gadsden
02400500 - Coosa River at Gadsden
02401000 - Big Wills Creek near Reece City

STREAMFLOW STATIONS WITH SATELLITE TELEMETRY (continued):

02401390 - Big Canoe Creek at Ashville
02403395 - Choccolocco Creek at Oxford
02404400 - Choccolocco Creek near Lincoln
02405500 - Kelly Creek near Vincent
02406500 - Talladega Creek at Alpine
02407000 - Coosa River at Childersburg
02407526 - Coosa River at Steamplant near Wilsonville
02408540 - Hatchet Creek below Rockford
02411600 - Coosa River at Wetumpka

TALLAPOOSA RIVER BASIN

02411930 - Tallapoosa River below Tallapoosa, Georgia
02412000 - Tallapoosa River near Heflin
02413210 - Little Tallapoosa River below Bowdon
02413300 - Little Tallapoosa River near Newell
02414500 - Tallapoosa River at Wadley
02414715 - Tallapoosa river near New Site
02415000 - Hillabee Creek near Hackneyville
02418230 - Sougahatchee Creek near Loachapoka
02419000 - Uphapee Creek near Tuskegee
02419500 - Tallapoosa River at Milstead
02419890 - Tallapoosa River near Montgomery (Montgomery water plant)

UPPER ALABAMA RIVER BASIN

02419988 - Alabama River at Montgomery
02420000 - Alabama River at U.S. Highway 31 near Montgomery
02421000 - Catoma Creek near Montgomery
02421350 - Alabama River at Jones Bluff (Pool)
02421351 - Alabama River at Jones Bluff (Tail)
02422500 - Mulberry Creek at Jones
02423000 - Alabama River at Selma

CAHABA RIVER BASIN

02423130 - Cahaba River at Trussville
02423380 - Cahaba River near Mountain Brook
02423397 - Little Cahaba River below Leeds
02423398 - Little Cahaba River near Leeds
02423425 - Cahaba River near Cahaba Heights
02423496 - Cahaba River near Hoover
02423500 - Cahaba River near Acton
0242354750 - Cahaba Valley Creek at Pelham
02423555 - Cahaba River near Helena
02423586 - Shades Creek near Homewood
02423630 - Shades Creek near Greenwood
02424000 - Cahaba River at Centreville

STREAMFLOW STATIONS WITH SATELLITE TELEMETRY (continued):

02424590 - Cahaba River near Suttle
02425000 - Cahaba River near Marion Junction

LOWER ALABAMA RIVER BASIN

02427250 - Pine Barren Creek near Snow Hill
02427505 - Alabama River Miller Ferry (Pool)
02427506 - Alabama River Miller Ferry (Tail)
02428400 - Alabama River near Claiborne (Pool)
02428401 - Alabama River near Claiborne (Tail)
02429540 - Alabama River at Choctaw Bluff near Carl

UPPER TOMBIGBEE RIVER BASIN

02438000 - Buttahatchee River below Hamilton
02442500 - Luxapallila Creek at Millport
02444160 - Tombigbee at Pickensville (Pool)
02444161 - Tombigbee at Pickensville (Tail)
02444490 - Bogue Chitto Creek near Memphis
02444500 - Tombigbee River near Cochrane
02446500 - Sipsey River near Elrod
02447025 - Tombigbee at Gainesville (Pool)
02447026 - Tombigbee at Gainesville (Tail)
02448500 - Noxubee River near Geiger
02448900 - Bodka Creek near Geiger

MULBERRY FORK BASIN

02449840 - Duck River near Berlin
02449882 - Blue Springs Creek near Blountsville
02450000 - Mulberry Fork near Garden City
02450180 - Mulberry Fork near Arkadelphia
02450250 - Sipsey Fork near Grayson
02450825 - Clear Creek near Poplar Springs
02453000 - Blackwater Creek near Manchester
02453500 - Mulberry Fork at Cordova
02454055 - Lost Creek above Parrish

LOCUST FORK BASIN

02455000 - Locust Fork near Cleveland
02455900 - Locust Fork at Warrior
02455980 - Turkey Creek near Pinson
02456000 - Turkey Creek at Morris
02456500 - Locust Fork at Sayre
02457000 - Fivemile Creek at Ketona
02457595 - Fivemile Creek at Republic
02457670 - Fivemile Creek near Graysville
02458148 - Village Creek at 86th Street at Roebuck
02458200 - Village Creek at Apalachee Street at Birmingham

STREAMFLOW STATIONS WITH SATELLITE TELEMETRY (continued):

02458300 - Village Creek at 24th Street at Birmingham
02458450 - Village Creek at Avenue W near Ensley
02458502 - Village Creek near Pratt City
02458600 - Village Creek near Docena

BLACK WARRIOR RIVER BASIN

02461130 - Valley Creek at Birmingham
02461500 - Valley Creek near Bessemer
02461630 - Halls Creek at Bessemer
02461640 - Valley Creek at Bessemer
02462000 - Valley Creek near Oak Grove
02462500 - Black Warrior River at Bankhead (Pool)
02462501 - Black Warrior River at Bankhead (Tail)
02462951 - Black Warrior at Holt (Pool)
02462952 - Black Warrior at Holt (Tail)
02464000 - North River near Samantha
02464146 - Turkey Creek near Tuscaloosa
02464800 - Lake Tuscaloosa near Tuscaloosa
02465000 - Black Warrior River above Oliver Dam (Pool)
02465005 - Black Warrior River below Oliver Dam (Tail)
02465292 - Cribbs Mill Creek at Tuscaloosa
02465493 - Elliotts Creek at Moundville
02466030 - Black Warrior River near Eutaw (Pool)
02466031 - Black Warrior River near Eutaw (Tail)

LOWER TOMBIGBEE RIVER BASIN

02467000 - Tombigbee River at Demopolis (Pool)
02467001 - Tombigbee River at Demopolis (Tail)
02467500 - Sucarnoochee River at Livingston
02469525 - Tombigbee River near Nanafalia
02469761 - Tombigbee River at Coffeeville (Pool)
02469762 - Tombigbee River at Coffeeville (Tail)
02469800 - Satilpa Creek at Coffeeville
02470050 - Tombigbee River near Leroy
02470072 - Bassett Creek near Thomasville

MOBILE RIVER BASIN

02471001 - Chickasaw Creek near Kushla
02471013 - Threemile Creek at Ziegler Blvd.
0247101490 - Threemile Creek at Mobile
02471016 - Threemile Creek near Prichard
02471017 - Mobile River at State Docks at Mobile
02471078 - Fowl River near Laurendin

STREAMFLOW STATIONS WITH SATELLITE TELEMETRY (continued):

PASCAGOULA RIVER BASIN

02479560 - Escatawpa River near Agricola, Mississippi
02479945 - Big Creek near Wilmer
02479980 - Crooked Creek near Fairview
02480004 - J.B. Converse Reservoir near Semmes

UPPER TENNESSEE RIVER BASIN

03573182 - Scarham Creek near McVille
03574500 - Paint Rock River at Woodville
0357526200 - Big Cove Creek near Huntsville
03575500 - Tennessee River at Whitesburg
0357568650 - Aldridge Creek at Toney Drive at Huntsville
0357568980 - Aldridge Creek at Sherwood Drive at Huntsville
03575700 - Aldridge Creek near Farley
03575830 - Indian Creek near Madison
0357586650 - Fagan Creek at Adams Street at Huntsville
0357587090 - West Fork Pinhook Blue Spring Road at Huntsville
0357587140 - East Fork Pinhook Creek at Winche Road at Huntsville
0357587400 - Pinhook Creek at Mastin Lake Road at Huntsville
0357587728 - Dallas Branch at Coleman Street at Huntsville
03575890 - Pinhook Creek at Clinton Avenue at Huntsville
0357591500 - Broglan Branch at Oakwood Avenue at Huntsville
03575933 - Broglan Branch at Clinton Avenue at Huntsville
03575950 - Huntsville Springs Branch at Johnson Road
03575980 - McDonald Creek at Patton Road at Huntsville
03576250 - Limestone Creek near Athens
03577150 - Tennessee River at Decatur

LOWER TENNESSEE RIVER BASIN

03586500 - Big Nance Creek at Courtland
03589500 - Tennessee River at Florence
03590680 - Tennessee River at Smithsonia

U.S. GEOLOGICAL SURVEY (WRD) OFFICES

Alabama:

Tuscaloosa — **(205) 752-8104 ext 223**
Field Office: Victor Stricklin

Montgomery — **(334) 213-2332 ext 22**
District Office: Leroy Pearman (Data Chief)
(334) 213-2332 ext 15
Surface Water (SW) Specialist: Scott Hedgecock
(334) 213-2332 ext 19
District Chief: Athena Clark

Florida:

Tallahassee — **(850) 942-9500 ext 3028**
District Office: Stewart Tomlinson

Georgia:

Atlanta — **(770) 903-9100**
Hydrologic Records: Brian McCallum **903-9127**
Hydrologic Data Unit: John Kerestes **903-9134**
Field Headquarters: George Bailey **903-9124**

Tifton — **(912) 382-6353**
Field Headquarters: Terry Nichols

Albany — **(912) 430-8420**
Field Headquarters: Mark Reynolds

Mississippi:

Pearl — **(601) 933-2900**
District Chief: Mickey Plunkett **(601) 933-2940**
Records Section: John Storm **(601) 933-2951**

North Carolina-

Raleigh — **(919) 571-4017**
District Office: Jeanne Robbins (SW Specialist)
(919) 571-4073
Hydrologic Records Section: Ron Garrett

South Carolina:

Columbia — **(803) 750-6118**
District Office: Lamar Sanders (SW Specialist)
(803) 750-6112
Hydrologic Data Management Unit: Ted Cooney

Tennessee:

Nashville — **(615) 837-4700**
Data Chief: Paul Hampson
(615) 837-4732
George Law
(615) 837-4731
Rodney Knight (SW Specialist)

Southeast Regional Office

Norcross — **(770) 409-7717**
Surface Water Specialist: Larry Bohman

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Weather Service Forecast Offices

Birmingham, Alabama: (205) 621-5645 ext 228
Roger McNeil
Mobile, Alabama: (251) 633-0921
Keith Williams
Peachtree City, Georgia: (770) 486-0028
Service Hydrologist
Tallahassee, Florida: (850) 942-8837
Joel Lanier

Recent rainfall and river stage data and current weather forecasts for Alabama and adjacent areas can be obtained from the appropriate (WSFO).

Southeast River Forecast Centers

Peachtree City, Georgia: (770) 486-0028
Hydrologist-in-Charge: Brad Gimmestad
Slidell, Louisiana: (504) 641-4343
Hydrologist-in-Charge: David Reed

The River Forecast Center uses real-time river stage and rainfall data, and rainfall-runoff models to forecast peak flood stages for major streams in the Southeast.

Flood forecasts are available for the following sites:

Station name	Station number	Flood stage (ft)	Gaging station
Choctawhatchee River nr Newton	02361000	19	Active
Pea River at Elba	02364000	30	Active
Coosa River at Leesburg	02399500	564	Active
Coosa River at Gadsden	02400500	511	Active
Coosa River at Childersburg	02407000	402	Active
Coosa River at Wetumpka	02411600	45	Active
Tallapoosa River at Wadley	02414500	13	Active
Tallapoosa River at Milstead	02419500	40	Active
Tallapoosa River near Montgomery	02419890	25	Active
Alabama River at Montgomery	02419988	35	Active
Catoma Creek near Montgomery	02421000	20	Active
Alabama River at Robert F. Henry L&D	02421351	122	Active
Alabama River at Selma	02423000	45	Active

Station name	Station number	Flood stage (ft)	Gaging station
Cahaba River near Cahaba Heights	02423425	14	Active
Cahaba River at Centreville	02424000	23	Active
Cahaba River near Suttle	02424590	32	Active
Cahaba River near Marion Junction	02425000	36	Active
Alabama River at Millers Ferry L&D	02427506	66	Active
Alabama River below Claiborne L&D	02428401	42	Active
Tombigbee River at Bevill L&D	02444160	122	Active
Tombigbee River at Heflin L&D	02447025	101	Active
Mulberry Fork at Cordova	02453500	16	Active
Locust Fork at Sayre	02456500	25	Active
Village Creek at Avenue W at Ensley	02458450	10	Active
Black Warrior River at Bankhead L&D	02462500	189	Active
Black Warrior River at Holt L&D	02462951	140	Active
Black Warrior River at Oliver L&D	02465000	129	Active
Black Warrior River at Selden L&D	02466030	90	Active
Tombigbee River below Demopolis L&D	02467001	68	Active
Sucarnoochee River at Livingston	02467500	18	Active
Tombigbee River below Coffeeville L&D	02469762	29	Active
Tombigbee River near Leroy	02470050	24	Active
Paint Rock River near Woodville	03574500	16	Active
Flint River near Chase	03575000	16	Inactive
Tennessee River at Whitesburg	03575500	18	Active
Tennessee River at Florence	03589500	17	Active

ALABAMA POWER COMPANY OFFICE DIRECTORY

Manager Environmental and Research: (205) 257-3220

Charles Stover

Coordinator Reservoir Operations: (205) 257-3207

Andy Sheppard

Load Dispatcher: (205) 257-3545 (Hours: 0800-1700)

Weekend Dispatcher: (205) 257-4010

U.S. ARMY CORPS OF ENGINEERS OFFICE DIRECTORY

Mobile District

Hydraulic Data:	(334) 694-4016, Doug Otto
Water Management:	(334) 690-2737, General Operations
	(334) 690-2730, Memphis Vaughan
	(334) 690-3054, Glen Duval
	(334) 690-2733, Steve Lloyd
	(334) 690-2735, James Hathorn
	(334) 690-3386, Charles Yanny

TENNESSEE VALLEY AUTHORITY OFFICE DIRECTORY

Flood Information:

TVA OPERATOR: (865) 632-2101

Knoxville: (865) 632-6115, Roger Millstead

Knoxville: (865) 632-6851, Stephen C. Allen

Knoxville: (865) 632-6847, Steven Amick

Data Management Section:

Knoxville: (865) 632-2859, Edward Thornton

Knoxville: (865) 632-4222, L. Wayne Hamberger

Reservoir Operations:

Knoxville: (865) 632-7063, Lead Engineer

Knoxville: (865) 632-6065 Janice Pinkston

Field Offices:

Knoxville: (865) 632-1901, Chuck Bach (Supervisor)

Knoxville: (865) 632-4483, Steve McLemore (Supervisor)

Knoxville: (865) 632-2420, Brent Alexander

Muscle Shoals: (256) 368-2485. Robert Atwell

ALABAMA STATE TROOPERS

City	Telephone number
Birmingham:	(205) 322-4601
Decatur:	(256) 353-0631
Dothan:	(334) 983-4587
Evergreen:	(251) 578-1315
Eufaula:	(334) 687-2054
Huntsville:	(256) 533-4202
Jacksonville:	(256) 435-3521
Mobile:	(251) 660-2300
Montgomery:	(334) 242-4128
Opelika:	(334) 745-4651
Selma:	(334) 874-8234
Sheffield:	(256) 383-9212
Tuscaloosa:	(205) 553-5531

ALABAMA DEPARTMENT OF TRANSPORTATION

	Telephone number
1st Division - Guntersville:	(256) 582-2254
[Cullman, DeKalb, Jackson, Madison, Marshall, Morgan]	
District 1 Engineer - Tanner:	(256) 353-8862
District 2 Engineer - Huntsville:	(256) 837-0111
District 3 Engineer - Dutton:	(256) 228-6028
District 4 Engineer - Joppa:	(256) 586-4178
2nd Division - Tuscumbia:	(256) 389-1401
District 1 Engineer - Tuscumbia:	(256) 389-1441
District 2 Engineer - Moulton:	(256) 974-0648
District 3 Engineer - Hamilton:	(205) 921-2117
3rd Division - Birmingham:	(205) 581-5603
District 1 Engineer - Birmingham:	(205) 581-5702
District 2 Engineer - Oneonta:	(205) 274-2112
District 3 Engineer - Gadsden:	(256) 442-4436
District 4 Engineer - Jasper:	(205) 221-9128
District 5 Engineer - Calera:	(205) 668-0173
4th Division - Alexander City:	(256) 234-8401
[Calhoun, Chambers, Clay, Cleburne, Coosa, Lee, Randolph, Russell, Tallapoosa, Talladega]	
District 1 Engineer - Alexander City:	(256) 234-8481
District 2 Engineer - Anniston:	(256) 820-3131
District 3 Engineer - Opelika:	(334) 887-3341
District 4 Engineer - Delta:	(256) 253-2158
District 5 Engineer - Talladega:	(256) 362-1240
District 6 Engineer - Seale:	(334) 855-4735
5th Division - Tuscaloosa:	(205) 553-7030
[Bibb, Chilton, Fayette, Green, Hale, Lamar, Pickens, Perry, Tuscaloosa]	
District 1 Engineer - Fayette:	(205) 932-8939
District 2 Engineer - Tuscaloosa:	(205) 554-3288
District 3 Engineer - Carrollton:	(205) 367-8746
District 4 Engineer - Maplesville:	(334) 366-2954
District 5 Engineer - Greensboro:	(334) 624-8851

	Telephone number
6th Division - Montgomery:	(334) 241-8560
[Autauga, Bullock, Butler, Dallas, Elmore, Lowndes, Macon, Montgomery]	
District 1 Engineer - Elmore:	(334) 567-4379
District 2 Engineer - Union Springs:	(334) 738-2150
District 3 Engineer - Montgomery:	(334) 242-6572
District 4 Engineer - Greenville:	(334) 382-6614
District 5 Engineer - Selma:	(334) 875-4455
7th Division - Troy:	(334) 670-2420
[Barbour, Coffee, Covington, Crenshaw, Dale, Geneva, Henry, Houston, Pike]	
District 1 Engineer - Dothan:	(334) 794-4958
District 2 Engineer - Enterprise:	(334) 347-8166
District 3 Engineer - Andalusia:	(334) 222-5555
District 4 Engineer - Ozark:	(334) 774-4542
District 5 Engineer - Troy:	(334) 670-2475
District 6 Engineer - Eufaula:	(334) 687-3161
8th Division - Grove Hill:	(334) 275-4103
[Choctaw, Clarke, Marengo, Monroe, Sumter, Washington, Wilcox]	
District 1 Engineer - Livingston:	(205) 652-7964
District 2 Engineer - Thomaston:	(334) 627-3458
District 3 Engineer - Camden:	(334) 682-4718
District 4 Engineer - Grove Hill:	(334) 275-3675
9th Division - Mobile:	(251) 470-8204
[Baldwin, Conecuh, Escambia, Mobile]	
District 1 Engineer - Mobile:	(251) 470-8209
District 2 Engineer - Bay Minette:	(251) 937-2086
District 3 Engineer - Evergreen:	(251) 578-2434

PROJECT ALERT (WRD Memorandum 90.22)

The purpose of Project Alert is to notify U.S. Geological Survey and Department of the Interior officials of significant or unusual hydrologic events so that they may disseminate information about the event to the news media and arrange for emergency operations, if necessary.

Descriptions of significant or unusual water events of interest should include the following:

- Floods and the imminent threat of floods--Information should include all of those data shown on the attached form, used for the National Water Conditions. **If all information is not readily available, prompt reporting is more important; additional information can be relayed later.** This report format does fit electronic mail -- California, Nevada, Virginia, West Virginia, and other States used it to submit data for floods which affected many sites in those States in the last several years (Note that when a peak discharge exceeds that for the 100-year flood, the ratio of the peak discharge to that of the 100-year flood should be furnished). Flood forecasts, rainfall data, and damage estimates are helpful for background. Floods with recurrence intervals of less than 10 years are not to be reported unless lives are lost or damages are widespread or sizable (in the hundreds or thousands of dollars). Information desired by the Public Affairs Office for record-high or near-record-high streamflows or where damages are newsworthy is shown on page A4 of this attachment.
- Lake and reservoir levels--Extremely high or low water levels and associated effects on shorelines, water quality, or water supplies.
- Droughts--Location and extent of areas affected by persistent low flows, low reservoir levels, declining ground-water levels, and dry soil moisture conditions that may restrict water use and affect crops and wildlife. Provisional data should include date, stream name and location, gaging station number, discharge, drainage area, recurrence interval, and comparative ranking with previous low flows. Data on rainfall, soil moisture conditions, and damage estimates are helpful for background. Descriptions of emergency actions taken by local agencies to conserve water, reduce demand, or obtain emergency supplies also will help put the event in perspective.
- Toxic and radiological spills--Reports of significant toxic and radiological spills in waterways, lakes, reservoirs, and on the ground should include date, water body name, location and nature of spill, amount of spill, water supplies endangered, and cleanup actions being taken. Effects might include fish kills, temporary closing of water-treatment plants downstream from the spills, closing of water bodies to swimming or fishing, or closing of wells.
- Ground-water levels--Location and extent of unusually high or low ground-water levels and their effects.
- Ground-water contamination--Reports of newly discovered ground-water contamination should include date of discovery, well location, contaminant, extent of contamination, and actions being taken such as the closing of wells or well fields. Population affected by the closure of a water-supply well would be useful for background interest. Contaminants include, but are not limited to, salt, radioactive materials, petroleum products, organics, trace metals, nitrates, and bacteria.

Other water-related events of unusual severity that should be reported include, but are not limited to, ice jams, mudflows, and subsidence. If an event is determined to be newsworthy. then speed in reporting the event is essential.

To facilitate the flow of information, the following actions should be taken:

(1) As soon as preliminary data are available, they should be entered on the **Project Alert Web Page**: **water.usgs.gov/project_alert** and follow the instructions on that page, or

(2) **fax** information to **(703) 648-5295**. Use forms on pages **B-35** and **B-36** for types of data needed to report to Headquarters, or

(3) **email** information to: **project_alert@usgs.gov**

FLOOD NEWS REPORT FORM FOR USE BY USGS PUBLIC AFFAIRS OFFICE

1. WRD DISTRICT/STATE_____ DATE_____

2. NAME OF PREPARER_____

   TELEPHONE NUMBER_____

3. NAME OF STREAM_____

4. LOCATION OF GAGE_____

5. PEAK STREAMFLOW IN CFS_____

   RECURRENCE INTERVAL (YEARS, OR RATIO TO 100-YEAR FLOOD IF > 100 YEARS)_____

   DATE OF PEAK_____

6. IS THIS A NEW PEAK OF RECORD? NO YES (SKIP 7)

7. LAST TIME THIS FLOW WAS EXCEEDED: DATE_____

   (IF CURRENT PEAK IS NOT PEAK OF RECORD) FLOW IN CFS_____

8. AT THE TIME OF MEASUREMENT/READING, FLOW WAS: AT ITS PEAK_____

   (CHECK ONE IF DISCHARGE MEASUREMENT OR INCREASING_____

   NON-PEAK FLOW IS BEING REPORTED) DECREASING_____

9. PREVIOUS RECORD HIGH:

   FLOW IN CFS_____ DATE_____

   STAGE IN FEET_____ DATE_____(IF NOT CONCURRENT WITH PEAK FLOW)

10. OTHER INFORMATION: _____

_____

_____

_____

_____

_____

NOTE: When reporting streamflow for a flood, give at least the highest flow/stage which has occurred so far. This information is always important but is of particular interest if the previous record high has been exceeded, even if flow has not yet peaked. Aiso, data indicating how flow is changing, both before and after the peak occurs, is important when reporting major floods on large rivers.

AL-1

FLOOD DATA INFORMATION FORM

Station_____

Date_____ Time_____

Stage_____ dh/dt_____

Peak stage_____ Time_____

Discharge Measurements:

Flow discharge .....Yes_____ No_____

Stage_____Discharge_____

Sediment discharge .....Yes_____ No_____

Weather and road conditions_____

_____

_____

_____

_____

Additional remark_____

_____

_____

_____

ALABAMA DISTRICT FLOOD PLAN - Appendix 3

STATION PRIORITY LIST

Active Continuous Record Stations

[*, special bridge/traffic considerations; ** bridge/flag indirect measurement; H, high; M, moderate; L low]

Station number and name	Drainage area (square mile)	Observed maximum stage (feet)	Maximum stage measure-ment	Measurement above stage	Priority
02342500 Uchee Creek near Fort Mitchell	322	(I)26.45	(I)26.45	20.00	L
02342933 South Fork Cowikee Creek near Batesville	112	43.40	36.82	15.00	M
02361000 Choctawhatchee River near Newton	686	40.30	40.27	25.00	H
02361500 Choctawhatchee River near Bellwood	1,280	15.70	(I)15.70	17.00	H
02362240 Little Double Bridges Creek nr Enterprise	21.4	16.45	(I)13.40	12.00	H
02363000 Pea River near Ariton	498	24.87	24.36	17.00	L
02364000 Pea River at Elba	959	43.5	37.90	40.00	M
02369800 Blackwater River near Bradley	87.7	25.35	23.00	18.00	M
02371500 Conecuh River at Brantley	500	24.51	24.51	22.00	L
02372250 Patsaliga Creek near Brantley	442	25.67	24.40	25.00	M
02372422 Conecuh River near River Falls	1,273	52.5	48.4	45.00	H
02373000 Sepulga River near McKenzie	470	33.0	25.54	25.00	L
02374250 Conecuh River at Highway 41, Brewton	2,661	46.6	30.16	30.00	H
02374500 Murder Creek near Evergreen	1,76	26.6	15.18	15.00	L
02374700 Murder Creek at Brewton	435	37.0	25.81	26.00	M
02374745 Burnt Corn Creek near Brewton	182	22.15	21.91	22.00	M
02374950 Big Escambia Creek nr Stanley Crossroads	143	16.63	13.63	14.00	H
02375500 Escambia River near Century, Florida	3,817	37.8	--	Florida Station	
02376500 Perdido River at Barrineau Park	2,394	26.30	(D)26.18	26.00	M
02377570 Styx River near Elsanor	192	28.60	26.65	27.00	M
02378300 Magnolia River near Foley	16.6	8.36	7.62	8.00	H
02378500 Fish River near Silverhill	55.3	22.78	22.26	22.00	M
02348037 Chattooga River nr Chatoogaville, Georgia	281	17.49	9.10	5.00	H
02398300 Chattooga River above Gaylesville	366	24.25	21.98	20.00	L
02398950 West Fork Little River near Fort Payne	42.8	11.18	8.55	9.00	M (*)
02399200 Little River near Blue Pond	199	16.98	(I)16.98	10.00	M

Active Continuous Record Stations

[*, special bridge/traffic considerations; ** bridge/flag indirect measurement; H, high; M, moderate; L low]

Station number and name	Drainage area (square mile)	Observed maximum stage (feet)	Maximum stage measure-ment	Measurement above stage	Priority
02400100 Terrapin Creek at Ellisville	252	19.82	15.52	16.00	H
02401000 Big Wills Creek near Reece City	182	16.3	14.37	14.00	M
02401390 Big Canoe Creek at Ashville	141	18.75	18.75	17.00	L
02403395 Choccolocco Creek at Oxford	222	11.85	11.53	11.00	H
02404400 Choccolocco Creek near Lincoln	481	42.4	39.84	32.00	L
02405500 Kelly Creek near Vincent	193	27.39	(I)27.08	25.00	L
02406500 Talladega Creek at Alpine	150	16.60	(I)16.60	14.00	M
02408540 Hatchet Creek below Rockford	263	27.90	24.14	7.00	L
02411000 Coosa River near Wetumpka	10,102	47.67	--	--	as needed
02411930 Tallapoosa River below Tallapoosa	272	12.87	9.40	10.00	H
02412000 Tallapoosa River near Heflin	448	31.34	31.14	20.00	M
02413300 Little Tallapoosa River below Bowden	245	11.74	11.54	11.00	H
02413300 Litttle Tallapoosa River near Newell	406	19.30	18.10	10.00	H
02414500 Tallapoosa River at Wadley	1,675	26.72	26.37	20.00	M
02414715 Tallapoosa River near New Site	2,058	19.15	13.50	14.00	H
02415000 Hillabee Creek near Hackneyville	190	28.10	23.43	10.00	L
02418230 Sougahatchee Creek near Loachapoka	71.3	7.88	7.44	7.50	H
02418500 Tallapoosa River below Tallassee	3,328	51.35	--	--	as needed
02419000 Uphapee Creek near Tuskegee	333	28.17	26.12	24.00	L
02419890 Tallapoosa River near Montgomery	4,646	41.9	35.29	36.00	L
02421000 Catoma Creek near Montgomery	290	29.78	28.82	29.00	L
02422500 Mulberry Creek at Jones	203	33.6	29.34	21.00	H
02423130 Cahaba River at Trussville	19.7	10.46	9.72	7.00	L
02423380 Cahaba River near Mountain Brook	140	16.19	14.57	12.00	L
02423397 Little Cahaba River below Leeds	17.0	12.92	I	6.00	(**)
02423398 Little Cahaba River near Leeds	19.4	12.11	8.95	8.00	M
02423425 Cahaba River near Cahaba Heights	201	28.86	28.57	20.00	M(*)
02423496 Cahaba River near Hoover	226	34.38	13.24	15.00	M(*)

Active Continuous Record Stations

[*, special bridge/traffic considerations; ** bridge/flag indirect measurement; H, high; M, moderate; L low]

Station number and name	Drainage area (square mile)	Observed maximum stage (feet)	Maximum stage measure-ment	Measurement above stage	Priority
02423500 Cahaba River near Acton	230	44.25	39.83	35.00	L
0242354750 Cahaba Valley Creek at Pelham	25.6	10.89	9.93	8.00	M
02423555 Cahaba River near Helena	335	34.85	3.55	20.00	M (*)
02423630 Shades Creek near Greenwood	72.3	15.19	13.87	13.00	M
02424000 Cahaba River at Centreville	1,027	36.63	34.96	25.00	L
02424590 Cahaba River nesr Suttle	1,480	44.0	40.95	41.00	M
02425000 Cahaba River near Marion Junction	1,766	43.80	41.53	42.00	L
02427250 Pine Barren Creek near Snow Hill	261	25.70	25.45	25.50	L
02428400 Alabama River at Claiborne L&D	21,473	57.59	--	-- as needed	
02438000 Buttahatchee River below Hamilton	277	35.49	35.36	15.00	M
02442500 Luxapallila Creek at Millport	247	14.07	13.65	13.00	L
02444160 Tombigbee River at Bevil L&D	5,750	44.33	--	-- as needed	
02444490 Bogue Chottp Creek near Memphis	52.6	16.29	13.15	14.00	H
02446500 Sipsey River near Elrod	528	18.83	18.63	15.00	L
02447025 Tombigbee River at Heflin L&D	7,230	120.74	--	--	
02448500 Noxubee River near Geiger	1,097	48.58	47.54	35.00	L (*)
02448900 Bodka Creek near Geiger	158	24.20	21.87	20.00	M (*)
02449882 Blue Springs Creek near Blountsville	13.0	11.37	4.97	(I) 10.00	M (**)
02450000 Mulberry Fork near Garden City	365	25.04	21.65	15.00	M
02450180 Mulberry Fork near Arkadelphia	487	42.90	42.58	15.00	L
02450250 Sipsey Fork near Grayson	92.1	44.27	44.20	20.00	L
02450825 Clear Creek near Popular Spring	101	17.74	13.54	10.00	M
02453000 Blackwater Creek near Manchester	181	13.10	9.65	8.00	L
02454055 Lost Creek above Parrish	143	29.48	20.10	20.00	M
02455000 Locust Fork near Cleveland	303	19.20	12.24	15.00	M
02455900 Locust Fork at Warrior	707	29.61	22.98	25.00	H
02455980 Turkey Creek near Pinson	27.4	16.17	(I)16.17	(I) 10.00	M (**)
02456000 Turkey Creek at Morris	80.9	23.12	22.11	10.00	H

Active Continuous Record Stations

[*, special bridge/traffic considerations; ** bridge/flag indirect measurement; H, high; M, moderate; L low]

Station number and name	Drainage area (square mile)	Observed maximum stage (feet)	Maximum stage measure-ment	Measurement above stage	Priority
02456500 Locust Fork at Sayre	885	48.60	48.44	(I) 20.00	L
02457000 Fivemile Creek at Ketona	23.9	17.28	(I)5.15	10.00	M
02457595 Fivemile Creek near Republic	51.9	18.35	(I)18.35	12.00	L
02457670 Fivemile Creek near Graysville	91.7	18.24	(I)16.45	10.00	M (**)
02458148 Village Creek at Roebuck	4.10	10.98	(I)10.98	5.00	M
02458200 Village Creek at Birmingham	15.6	18.78	10.55	10.00	M
02458300 Village Creek at Birmingham	26.0	13.23	11.65	12.00	M
02458450 Village Creek at Ensley	33.5	13.70	9.18	10.00	H
02458502 Village Creek near Pratt City	36.7	17.67	15.90	(I) 15.00	M (**)
02458600 Village Creek near Docena	52.2	11.93	11.92	8.00	H
02461130 Valley Creek at Birmingham	7.00	12.06	(I)12.06	7.00	H
02461500 Valley Creek near Bessemer	52.5	18.6	10.69	10.50	M
02461640 Halls Creek at Bessemer	7.30	13.16	10.17	8.00	M
02461640 Valley Creek below Bessemer	61.4	13.24	6.51	7.00	H
02462000 Valley Creek near Oak Grove	148	33.98	28.86	25.00	M(*)
02462500 Black Warrior River at Bankhead L&D	3,981	255.60	--	--	as needed
02462951 Black Warrior River at Holt L&D	4,219	190.19	--	--	as needed
02464000 North River near Samantha	223	35.08	34.16	25.00	M
02464146 Turkey Creek near Tuscaloosa	6.16	11.98	4.35	5.00	H
02464360 Binion Creek near Samantha	57.2	15.19	11.22	12.00	H
02465000 Black Warrior River at Oliver L&D	4,820	155.05	--	--	as needed
02465493 Elliotts Creek at Moundville	32.3	8.80	8.21	8.00	H
02466030 Black Warrior River at Selden L&D	5,810	108.87	--	--	as needed
02467000 Tombigbee River at Demopolis L&D	15,385	93.03	--	--	as needed
02467500 Sucarnoochee River at Livingston	607	33.47	32.88	20.00	L
02469761 Tombigbee River at Coffeeville L&D	18,417	53.4	--	--	as needed
02469800 Satilpa Creek near Coffeeville	164	18.37	16.04	16.00	H
02470072 Bassett Creek near Thomasville	10.5	10.33	9.79	10.00	H

Active Continuous Record Stations

[*, special bridge/traffic considerations; ** bridge/flag indirect measurement; H, high; M, moderate; L low]

Station number and name	Drainage area (square mile)	Observed maximum stage (feet)	Maximum stage measure-ment	Measurement above stage	Priority
02471001 Chickasaw Creek near Kushla	125	25.40	22.14	23.00	M
02471078 Fowl River near Laurendine	16.5	12.56	10.13	11.00	H
02479560 Escatawpa River nr Agricola, Mississippi	562	22.81	22.72	22.80	L
02479945 Big Creek near Wilmer	31.5	14.21	12.61	13.00	M
02479980 Crooked Creek near Fairview	8.08	8.59	3.14	(I) 4.00	M (**)
02480002 Hamilton Creek near Semmes	8.22	8.70	6.98	7.00	H(*)
03573182 Scarham Creek near McVille	50.0	12.48	5.16	6.00	H
03574500 Paint Rock River near Woodville	320	24.40	22.46	20.00	L
0357526200 Big Cove Creek near Huntsville	4.89	12.20	12.18	(I)	L
0357526200 Aldridge Creek at Toney Drive	1.41	9.40	3.19	(I)	L
0357568980 Aldridge Creek at Sherwood Drive	6.97	14.55	4.27	(I)	L
03575700 Aldridge Creek near Farley	13.0	13.78	7.98	(I)	L
03575830 Indian Creek near Madison	49.0	12.70	11.49	8.00	M
0357586650 Fagan Creek at Huntsville	3.44	5.50	--	(I)	L
0357587090 West Fork Pinhook Creek at Huntsville	2.28	9.18	--	(I)	L
0357587140 East Fork Pinhook Creek at Huntsville	2.52	8.19	--	(I)	L
0357587400 Pinhook Creek at Mastin Lake Road	8.50	8.89	--	(I)	L
0357587728 Dallas Branch at Huntsville	2.99	5.20	1.70	(I)	L
03575890 Pinhook Creek at Huntsville	22.6	16.48	(I)16.50	(I)	L
0257591500 Broglan Branch at Huntsville	1.47	12.90	--	(I)	L
03575933 Broglan Branch near Huntsville	8.93	10.15	--	(I)	L
03575950 Huntsville Spring Branch near Huntsville	41.8	20.14	11.24	(I)	L
03575980 McDonald Creek near Huntsville	9.64	14.21	--	(I)	L
03576250 Limestone Creek near Athens	119	17.48	14.03	8.00	H(*)
03586500 Big Nance Creek at Courtland	166	24.97	24.50	16.00	M

Note: Huntsville sites shown above are all primarily flood hydrograph sites with recording gages and crest-stage gages utilized in making indirect measurements on several peaks during most year.

SPECIAL PROBLEMS IN CONVENTIONAL CURRENT-METER MEASUREMENTS:

MEASUREMENT OF DEEP, SWIFT STREAMS

Measurement of deep swift streams presents no serious problems when a sounding weight of sufficient size is available and there is not an excessive amount of drift and/or ice flowing in the stream. However, there are times when it is necessary to alter our normal stream gaging procedures when gaging deep swift streams. The six most common circumstances are listed below:

1. Able to sound but weight and meter drift downstream.
2. Cannot sound; standard cross section available.
3. Cannot sound; standard cross section not available.
4. Cannot put meter in water.
5. Measurements during rapidly changing stage.
6. Series of measurements needed during a peak of short duration.

The procedures outlined for items 2, 3, and 4 above assume that there is a stable cross section. At stations with unstable channels it is necessary to decide on a procedure based on the situation at each station.

1. The first item, when measuring where soundings can be obtained but the weight and meter drift downstream, is adequately covered on pages 159-170 of Volume I of WSP 2175. The use of tags on the sounding line and stay lines is also discussed.

2. The procedure to follow when measuring where a standard cross section is available, but where it is impossible to make soundings, is:

A. Determine the depths from the standard cross section.

B. Measure the velocity at the 0.2 depth.

C. Determine coefficients to adjust the 0.2 depth velocities to the mean velocity in the vertical on the basis of previous measurements made by the 0.2 and 0.8 depth method.

D. Compute the measurement in the normal manner using the depths from the standard cross section and the velocities as adjusted in step C.

3. The procedure to follow when measuring where it is impossible to obtain soundings and a standard cross section is not available is:

A. Reference the water-surface elevation before and after the measurement to an RP on a bridge or a driven stake or tree along the water's edge.

B. Estimate the depths and observe the velocity at 0.2 of the estimated depth. The meter should be at least 2.0 feet below the water surface. The actual depth the meter was placed below the water surface should be recorded in the notes. If an estimate of the depth is impossible just place the meter 2.0 feet below the water surface and observe the velocity there.

C. Make a complete measurement, including some vertical velocity curves, at a lower stage.

D. Use the complete measurement and difference in stage between the two measurements to determine the cross section of the first measurement.

E. Use vertical velocity curves to determine coefficients to adjust the velocities observed in step B to mean velocity.

F. Compute the measurement in the normal manner using the depths from step D and the velocities from step E.

4. The procedure to follow when measuring where it is impossible to keep the weight and meter in the water is:

A. Repeat step A in procedure 3.

B. Measure surface velocities by timing floating drift.

C. Repeat steps C, D, E, and F in procedure 3.

It should be remembered that just after the crest the amount of floating drift or ice will usually be greatly reduced and it may be possible to obtain velocity observations with a current meter. If this condition appears probable it would be best to omit the float measurement and make a current-meter measurement at a slightly lower stage.

5. During periods of rapidly changing stage, measurements should be made as quickly as possible to keep the change in stage to a minimum. The procedure to follow to speed up a measurement is:

A. Use the 0.6 depth method. The 0.2 depth method or the subsurface method could be used if placing the meter at the 0.6 depth creates vertical angles and thus wastes time because air and water depth corrections have to be made.

B. Reduce the velocity observation time to about 20-30 seconds.

C. Reduce the number of sections taken to about 15-18.

By incorporating all three of the above practices a measurement very often can be made in 15 to 20 minutes. If the subsurface method for observing velocities is used, then some vertical velocity curves will be needed later to establish coefficients to convert observed velocity to mean velocity.

Anderson (1961) has shown that the discharge measurement error for a 45-second period of observation, the 0.2 depth and 0.8 depth method of velocity observation, and depth and velocity observed at 25 locations is 2.2 percent. This means that two-thirds of the measurements made using this procedure would be in error by 2.2 percent or less. Using Anderson's data, the error for a 25-second period of observation, the 0.6 depth method of velocity observation, and depth and velocity observed at 16 locations is 4.2 percent. This slight increase in error due to using the short-cut methods suggested in procedure (5) is more than offset by the reduction in accuracy that would be caused by excessive change in stage during the time required to make a normal measurement.

6. The procedure to follow if a series of measurements is wanted during a peak of short duration is:

A. Take about 10 sections.

B. Take velocity observations at 0.6 depth.

C. Repeat velocity and depth observations at the 10 sections as often as possible throughout the period of the flood wave.

D. Develop stage-velocity and stage-depth curves for each of the 10 sections.

E. Compute the discharge corresponding to any stage from the curves thus defined.

ALABAMA DISTRICT FLOOD PLAN - Appendix 5

EQUIPMENT REQUIREMENTS

Current meters - Price AA (2)
Headphones (2)
Stop watches (2)
Tagline reel (Lee-Au 500 ft.)
Protractor
Reel (B56 or B50)
Spare cable and connector for reel
Sounding weight (30c, 50c, 75c, 100c)
Spare hanger for reel
Weight pins (30c, 75c, 100c)
Tool box
Water-level measurement steel tape
Wading rod

Hip boots
Waders
Raincoat or rainsuit
Rainhat

Thermometer
Sample bottles

Life Jacket
Safety equipment for traffic

Flashlight
Camera
Stakes, nails, and flagging for high water marks
Hatchet
Hand level
Rope

Flood note measurement sheets
Pencils
Calculator
Airline and wetline correction table
Current meter rating tables
Copy of district flood plan
Field folders
TWRI Book3, Chapter A8

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