

NOAA Technical Memorandum NWS SR-143

EXPANDED USERS' DOCUMENTATION
FOR SHIMS

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October 1992

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ACKNOWLEDGEMENTS AND FOREWORD

In 1975 the Regional Hydrologist of NWS's Central Region compiled an exceptionally complete set of instructions for rendering the agency's documentation of river gaging and forecast stations—the NWS Form E-19. The instruction set was a detailed blend of explicit instructions along with hydrologic program policy and elements of hydrologic engineering and science. This instruction set was widely applied and served the hydrologic field program well for many years.

The proliferation of PC technology through the 1980s created a need for a computerized databasing of the many elements that comprise the NWS Form E-19 and a software set that would facilitate the molding of that data-based information into a modernized rendition of the Form E-19. This need was met recently when the service hydrologist at NWS's WSFO Louisville, KY, Mike Callahan, developed the software *SHIMS* (Service Hydrologists' Information Management System). The development of this highly utilitarian software set created a new need, i.e., a merging of the software instruction for *SHIMS* with the program/policy-oriented instruction set of Central Region's 1975 paper cited above. This Southern Region Technical Memorandum, *Expanded Users' Documentation for SHIMS*, is an effort to provide that needed support. It is hoped this memorandum adequately fulfills the need.

A large measure of credit is due to Southern Region's Regional Hydrologist David T. Smith for encouraging the authorship of this memorandum. He also critically reviewed the draft. Many of his suggestions for improving the readability and information presentation of this memorandum were incorporated into this finished publication.

Thanks is also due WSFO Slidell's David R. Smith for furnishing the rendering of NWS Form E-19 for Darlington, LA, which is included as an example in this memorandum. Dave's E-19 was developed without the benefit of the *Expanded Users' Documentation for SHIMS*, and was in fact instrumental in pointing out the need for an expanded instruction set such as this.

Finally, thanks is due Marsha Spencer, secretary to SRH's Scientific Services Division/Hydrologic Services Division, for skillfully turning the draft into the highly readable document you have here.

October 1992
Fort Worth, Texas

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EXPANDED USERS' DOCUMENTATION FOR SHIMS

1. INTRODUCTION

This publication, *Expanded Users' Documentation for SHIMS*, is intended to provide a user-oriented instruction set for NWS-SR application of the Service Hydrologist Information Management System (SHIMS) Version 3.11. SHIMS is a hydrologic database and accompanying database management system. SHIMS, running under the commercial database management system *Paradox*, can store information on cooperative observer sites, river gaging sites, and river forecast sites and print out forms needed for the hydrologic program at offices with hydrologic service area (HSA) responsibility. SHIMS was developed in Central Region by Mike Callahan, Service Hydrologist at WSFO Louisville, KY. It is an outstanding example of contemporary software applications. All furnished SHIMS software loads include documentation (2) for which the *Expanded Users' Documentation for SHIMS* is intended to be a supplement.

SHIMS has the capability to generate the following reports and forms:

- (1) WS Form B-44A Cooperative Station Report
- (2) NWS Station ID Request Form
- (3) WS Form E-19A Report on River Gage Station
- (4) WS Form E-19 Report on River Gage Station
- (5) A List of Observers Sorted Alphabetically by
 - a. NWS 5 Character Identifier
 - b. Station Name
 - c. Major River Basin as defined on the B-44
 - d. County

Background

SHIMS automates the printing of the E-19 and E-19A forms. The E-19 is the successor of the WB Form 531-4 which was the successor of the WS Form 4004B. The E-19 form being replaced is ten pages long; SHIMS condenses this information into eight pages.

Requirement

Sections 4.1 and 4.2 of WSOM Chapter E-20 dated October 13, 1981, specify the requirements for the preparation and submittal of the WS Forms E-19 and E-19A. E-19As must be available for every river station used in the hydrology program. The E-19A for a river gaging site should be updated when a significant change is made at a river gaging site, or every five years,

whichever comes first. A significant change may include the installation of a DCP or the changing of the reporting criteria for cooperative observing sites. E-19s should be updated whenever significant changes in the vicinity of the gage have taken place, or every ten years, whichever comes first. An example of a significant change would be the construction of a flood control levee or change in an existing one.

SHIMS automates the entry and storage of hydrologic information included in the E-19 and E-19A forms and the printing of these forms. In Southern Region, SHIMS software must be used to print these forms developed after October 1, 1992.

Need for Guidelines

The WS Form E-19 and E-19A are rather specific on the information desired. Entry of such information into SHIMS is also rather specific. Interpretations of the information may lead to inconsistencies in E-19 and E-19As without a set of guidelines which helps establish standards. Also, certain critical information may have been overlooked. Guidelines for preparing E-19s and E-19As were last published by Central Region under the heading of "Preparation of WS Form E-19, Report on River-Gage Station" (1) dated November 18, 1975. These guidelines were largely adopted by all NWS regions. Updated guidelines for entering data and information into the SHIMS database are needed and will draw heavily on this and other documentation available.

Preparation

To help in the preparation of an E-19 or E-19A, a step-by-step approach should be followed. The suggested steps are:

1. Read through an old E-19 to get an initial concept of the information needed and the information available to develop an E-19.
2. Using *Paradox* and SHIMS, get an initial concept of the specific information needed for the E-19 and E-19A.
3. Identify and collect all possible data sources, including outdated USWB Forms 4004B and 531-4 and existing NWS Forms E-19, E-19A, and B-44. Arrange to obtain additional information from water resource agencies such as the USGS, Corps of Engineers, International Boundary and Water Commission, Bureau of Reclamation, and local water agencies. (See Appendix A.)
4. Enter the data and information into SHIMS and prepare a draft E-19 for the gaging site.
5. While developing the draft, study the information to determine what items to look for during a site visit. Visit the gaging site before preparing the next draft of the E-19.
6. After visiting the site and making additional changes in SHIMS, prepare the final copy of the E-19 for distribution.

7. Distribute a copy of this report to the Office of Hydrology (W/OH22) and the appropriate Regional Hydrologist's Office, RFC, WSO, WSFO, WFO, or NWSO. A copy should be provided to the appropriate cooperating federal, state, and local agencies. The agencies receiving the E-19 should be documented. E-19As document equipment at gaging sites and should be sent to the appropriate Cooperative Program Manager or Data Acquisition Program Manager.

Periodic Updates

In Southern Region, the Regional Hydrologist's Office will keep a hard copy of each E-19/E-19A and a copy of each HSA office's SHIMS database on electronic media. To maintain a current database, each HSA office will be asked to send the Regional Hydrologist's office a copy of its SHIMS database periodically.

Updates to SHIMS

The *Expanded Users' Documentation for SHIMS* has been developed for SHIMS version 3.11. SHIMS will be updated periodically. With these updates, SHIMS will provide a utility to account for any changes in the database structure.

Suggested Guidelines for Entering Data into SHIMS

Attached is a page-by-page description of the entries into SHIMS which are used to generate E-19 and E-19As. Also included are sample reports with a cross-referenced listing of the SHIMS entries that are used in the form.

References

1. "Preparation of WS Form E-19, Report on River-Gage Station," NWS Central Region Headquarters, October 1975.
2. Callahan, Mike, Draft "NOAA, National Weather Service, Central Region Computer Programs and Problems NWS CRCP-SHIMS: Service Hydrologist Information Management System," February 1992.
3. WSOM Chapter E-20 dated October 13, 1981.
4. Cooperative Station Report Form B-44 Instructions from Regional Substation Management Branch, NWS Southern Region.
5. W/ER2 ROML E-34-85 dated September 9, 1985, filed with WSOM Chapter E-20.

2. SHIMS — THE BASIC STRUCTURE

SHIMS stores information about data collection sites. SHIMS is sufficiently flexible to store data for precipitation-only stations or for official river forecast points. SHIMS has a set of forms and scripts which make data entry, editing, and printing of reports user friendly.

SHIMS has an initialization file which provides information about the HSA office. When SHIMS is placed onto the computer, this file should be loaded with the appropriate information about the HSA office. Specific parameters defining the printer used to generate the reports must be included. *These actions should be taken before any attempt to load data into SHIMS.*

Data are entered into the SHIMS database through a series of forms. These forms include:

- (1) **Location** — Information needed for *each data location*. The Location form is one computer screen in length. Information from this screen can be used to generate the B-44 form and the SID request form.
- (2) **RiverGage** — Information needed for *all river gaging sites*. It is two computer screens in length. Information on this form and the Location form is used to generate the E-19A form.
- (3) **ForecastPoint** — Information needed for *all official NWS forecast points*. This form is three computer screens in length. Information on this form, the Location form, and the River Gage form is used to generate the E-19 form.

Procedure

The first step to enter data about a gaging site into SHIMS is to make an entry in the Location form. Precipitation-only, or climatological stations that are not collocated with a river gaging station, may also be entered. A B-44 may be generated from information in the Location form alone. After entering data on the Location form, data and information may be entered into the RiverGage form for any river gaging site. The E-19A can be generated from information on this form and the Location form. Additional information on official NWS forecast points must be entered into the ForecastPoint forms. The printed E-19 extracts its needed information from all of the forms.

Description of Nomenclature

The following chapters contain a listing of each form and a description of each entry on these forms.

Each entry in a particular form is identified by the form it is in, the page on the form, and the entry number on the page. Forms are denoted by "L" for the Location form, "R" for the RiverGage form, and "F" for the ForecastPoint form. For example, the fifth entry on page 2 of the ForecastPoint form, BED, is identified by F-2-5.

Dates

SHIMS frequently asks for dates. All dates should be entered as *mm/dd/yy*. Any year entered as four digits will be truncated to the last two digits of the year. For dates which only include a month and year, enter "1" as the day of the month.

Field Sizes

All entries have a specified length. Unless specified, the number in parentheses in the description column is the number of characters that entry may have.

3. THE SHIMS INITIALIZATION FILE

The SHIMS initialization, SHINIT.sc, must be modified to contain information about the specific HSA office and the computer system running *Paradox* and SHIMS. This file may be modified using any ASCII editor or using the scripts editing capability of *Paradox*. The SHIMS initialization file for WSFO New Orleans is shown in Fig. 1. Following is a description of the contents of the SHIMS initialization file:

Variable	Contents
hydrologist	Name of the Service Hydrologist
masterpw	Password to allow modification of data in the SHIMS database.
tenyear	January 1 ten years ago for use in the E-19As. This should be entered in the form of mm/dd/yy. For example if it is June 10, 1992, enter 1/1/82. Do not enclose this variable in quotes.
lastyear	January 1 of the current year. This date should be entered in the form of mm/dd/yy. This date should not be enclosed in quotes and should be updated after January 1 every year.
cd404	The beginning characters on the CD-404 order for paid observers. This variable must be changed at the beginning of each fiscal year.
office	Name of the Hydrologic Service Area office.
phone	Phone number of the office (to be used on the SID request form).
region	Region name as listed which will be printed on the SID request form.
regionno	Region number to be listed on the SID request form.
ff	The ASCII code to force a form feed on the printer.
vt	The ASCII code to force a vertical tab on the printer.
initprt	The ASCII string that sets a vertical tab at line 57, where the label at the bottom of the E-19 history page will be printed.
comon	ASCII code to place the printer in compressed print mode.
comoff	ASCII code to return the printer to normal print mode.
wd	ASCII code to place the printer in double-wide print mode.

```

; SHINIT.SC - SHIMS - WSFO NEW - 9/4/92
; Initialize all global variables

hydrologist = "David R. Smith"
masterpw = "HYDR0"
lastyear = 01/01/1990
tenyear = 01/01/1980
cd404 = "423BNW2W"
office = "WSFO New Orleans, LA"
phone = "504-589-2808"
region = "SOUTHERN"
regionno = "2"
ff = "\012"
vt = "\011"
initprt = "\027B\000\027B\057\000"
comon = "\015"
comoff = "\018"
dw = "\014"
undir = "\027U\001"
bidir = "\027U\000"
vb = "\179"
; vb = ":"
stfill = "\177"
; stfill = " "

; Service Hydrologist
; password for editing tables
; Last year on E19A reports
; Ten years on E19A reports
; CD404 order number header
; HSA office location
; office phone number
; office region
; office region number
; form feed
; vertical tab
; printer init vt at line 57
; printer condensed mode on
; printer condensed mode off
; printer double-wide one line
; printer unidirectional mode on
; printer bidirectional mode on
; printer vertical bar IBM
; printer vertical bar ASCII
; printer staff character IBM
; printer staff character ASCII

```

Fig. 1. SHIMS Initialization File, SHINIT.SC.

vb ASCII code from the IBM extended code to draw a straight line.

stfill ASCII code from the IBM extended code to draw a shaded block.

4. THE Location FORM

The Location form may be filled out for any data collection site. The Location form is a single screen. The Location form for Darlington, LA, is shown in Fig. 2. Following are the entries and a description of each entry:

Entry	Name	Description
L-1-1	REVISED	(10) Revision date. For official river forecast points, this date should be the date an E-19 was fully revised. Simply adding a historic stage, correcting a spelling error, or transferring data from the old E-19 into SHIMS does not constitute a full revision. When entering information from an existing E-19 into SHIMS, this date should be the ISSUANCE DATE on the cover page of the E-19. For non-river gage sites or precipitation only sites, enter the date on the current E-19A or the current date, respectively. (Example 10/13/92)
L-1-2	LID	(5) Approved NWS 5-character ID in the NWS Communications Handbook No. 5 assigned by NWS Comms Division (OSO). Letters in this entry must be capitals.
L-1-3	INDEX NUMBER	(10) The official station index number assigned by the National Climatic Data Center (NCDC) through the Regional Cooperative Program Section (RCPS). The two-digit state id, four-digit climate station number, and two-digit state basin number are separated by a dash ("-"). This entry should be left blank if there is no official NWS index number assigned to the station.
L-1-4	NETWORK	(3) The network the site is in. This may be the "A" (Climatologic), "B" (Hydrologic), or "AB" (both the Hydrologic and Climatologic). Enter "U" for an unofficial station.
L-1-5	NAME	(20) The name of the nearest city or town nearest to where the station is located. The city should be the one listed in the Rand McNally Commercial Atlas. The city listed must be in that state where the station is located.
L-1-6	DETAIL	(6) The direction and distance the station is from the post office of the city listed in NAME. The direction is given by the appropriate 16 compass points (i.e., ESE or SSW, for example) and the distance from the city's post office to the site should be in whole miles.

F1 Help Done Prev Tbl Next Tbl Zoom LID F2 F3 F4 F5
 SHIMS - LOCATIONS, OBSERVERS, TELEMETRY, SATELLITE
 REVISED: 1/28/92

LID: DARL1 (2) INDEX NUMBER: 16-2293-6 (3) NETWORK: B (4)
 NAME: DARLINGTON (5) STATE: LA (7)
 COUNTY: ST HELENA (8) RIVER BASIN: LAKE PONTCHARTRAIN 6 ELEV: 146 (10)
 LAT: 30 53 20 (11) UNIT NUMBER: 8070202 (12) BEGAN: 5/01/66 (15)
 LONG: 90 50 40 (14) HSA: NEW (16) WARNING: BTR RFC: SIL (18) COE: LMN WFO: (21)
 (15) CFM: BTR WSFU: NEW (16) HSA: NEW (16) WARNING: BTR RFC: SIL (18) COE: LMN WFO: (21)
 REMARKS: RIVER GAGE SITE ONLY. SMALL ROLLING HILLS W/HEAVY TREE GROWTH. F&P
 (22) WATER STAGE RECORDER, HANDAR 562 W/TB KG & VOICE, & WIKE WEIGHT GAGE
 ALL USGS EQUIPMENT. GAGE HOUSE LOCATED ON AMITE RIVER BRIDGE, STATE

OBSERVER: NATIONAL WEATHER SERVICE (23) DOS: 5/01/66 (24) GENDER: I CD404: (26)
 ADDRESS: P. O. BOX 74087 (25) SSN: (28) SPONSOR: ASSU (29)
 (27) BATON ROUGE, LA 70874 HOME: 504 389 0308 (30) TASK: N/A (31)
 CITY-ZIP: (34) WORK: (32) COMMS: AFOS/TEL (35) FAY: 0.00 (36)
 DUTIES: GUES/DCP REPORT EVERY 6 HRS. PHONE DAILY AS NEEDED. RECIPIENT: MSYL1/AFOS (37) COST: 0.00 (36)

TELEMETRY: ADR/DCF (39) OWNER: USGS (40) NESS ID: 1675432E (44) TIME: 03:46 (45)
 PHONE: 504 683 5193 PAYOR: USGS (42) INTERVAL: 1H (47)
 (41) COST: (43) CRITERIA: HRLY STAGE/PCFN W/ 6 HR GUE (48)

Fig. 2. Location form entry for Darlington, LA

L-1-7	STATE	(2) The state abbreviation.
L-1-8	COUNTY	(20) Station location's county or parish.
L-1-9	RIVER/BASIN	(20) The name of the river basin the station is in. This information should be on the B-44 or available from the CPM (see Appendix B).
L-1-10	ELEV	(5) Gage elevation above MSL of the precipitation gage in whole feet. This should be the same as entered into the Comms Handbook 5.
L-1-11	LAT	(9) Latitude in degrees, minutes and seconds of the gaging site. This should be entered in the form "dd mm ss". For river gaging sites, the latitude and longitude (L-1-14) should be taken from USGS Water Supply Information and documented in the SOURCE field in the RiverGage form (R-1-15). For precipitation stations, this should be the latitude in the Communications Handbook 5. If seconds are not known, leave them blank.
L-1-12	UNIT NUMBER	(8) Hydrologic Unit number obtained from the state Hydrologic Unit Maps.
L-1-13	BEGAN	(10) Date observations were begun at this location.
L-1-14	LONG	(9) Longitude in degrees, minutes, and seconds of the gaging site. This should be entered in the form "ddd mm ss". See L-1-11, LAT, for more information.
L-1-15	CPM	(3) 3-character AFOS identifier of the office of the cooperative program manager (see Appendix C).
L-1-16	WSFO	(3) 3-character AFOS identifier for the WSFO (see Appendix C).
L-1-17	HSA	(3) 3-character AFOS identifier for the office with hydrologic service area (HSA) responsibility (see Appendix C).
L-1-18	WARNING	(3) 3-character AFOS identifier for the office with county warning area (CWA) responsibility (see Appendix C).
L-1-19	RFC	(5) 3-character AFOS identifier for the RFC with forecast responsibility (see Appendix C).

L-1-20	COE	(3) Identifier for the Corps of Engineers (COE) district office with responsibility. Use the COE three-character identifier (see Appendix D).
L-1-21	WFO	(3) 3-character AFOS identifier for the future WFO. Use the three-character AFOS ID (see Appendix C).
L-1-22	REMARKS	(4 lines) Comments about the gaging site which will appear in the REMARKS section of the B-44.
Note	1.	Leave L-1-23 through L-1-38 blank if there is no observer at the site.
	2.	Information on backup or unofficial observers may be entered here.
	3.	For official observation sites, fields L-1-23 through L-1-38 should be available from the B-44 or the CPM.
L-1-23	OBSERVER	(20) Name of the cooperative observer.
L-1-24	DOS	(10) Date the observer entered service. Enter as mm/dd/yy.
L-1-25	GENDER	(1) Sex of the observer ("M" for male, "F" for female, or "I" for institution)
L-1-26	CD404	(4) A form CD-404 is required for all paid observers. The last four digits on the CD-404 for this observer should be listed here. This information will be combined with the CD-404 entry in the SHIMS initialization file. Leave blank if this is not a paid observer.
L-1-27	ADDRESS	(4 lines) Address of the observer.
L-1-28	SSN	(11) Social Security Number of the observer.
L-1-29	SPONSOR	(8) Sponsoring appropriation for a paid observer (Example S&E, FC-9).
L-1-30	HOME	(12) Home phone number of the observer. This should include the area code.
L-1-31	TASK	(4) Task code where costs associated with the station are charged.
L-1-32	WORK	(4) Work phone number of the observer. This should include the area code.
L-1-33	PAY	(5) Monthly salary of the observer.

L-1-34	CITY-ZIP	(37) The city, state, and zip code of the observer.
L-1-35	COMMS	(10) Type of communications the observer will use (Example INWATS, 1-800).
L-1-36	COST	(5) Monthly communications cost.
L-1-37	DUTIES	(45) Duties of the observer. This should include the data the observer records and if the site reports on criterion.
L-1-38	RECIPIENT	(10) Office which first receives the data report. For centrally collected data from DCPs and CADAS sites, enter "HADS" followed by the identifier of the office with HSA responsibility (HADS-FTW).
L-1-39	TELEMETRY	(10) Type of telephone telemetry connected to the gaging site (DARDC, LARC, Telmark, BDT, or the manufacturer model number of the equipment, such as Handar 550).
L-1-40	OWNER	(10) Owner of the TELEMETRY.
L-1-41	PHONE	(10) Telephone number of the telemetry, including the area code.
L-1-42	PAYOR	(10) Agency who pays for the communications cost for the telemetry.
L-1-43	COST	(5) Monthly cost for the communications.
L-1-44	NESS ID*	(8) NESDIS platform identifier of the DCP connected to the site.
L-1-45	TIME*	(8) Z-time of the first DCP transmission after 0000Z.
L-1-46	OWNER*	(10) OWNER of the DCP.
L-1-47	INTERVAL*	(4) Frequency the DCP transmits data to the GOES satellite.
L-1-48	CRITERIA*	(28) Level at which DCP will begin making random transmissions. For sites which transmit both stage and precipitation on the random channel, list the stage criterion which will trigger random transmissions.

*Information is available from the DCP owner or the RFC.

5. THE RiverGage FORM

Information on all river gaging sites is stored in the RiverGage form which consists of two computer screens. The top portion of page 1 of the form consists of information about the hydrology of the river gaging site. The bottom portion allows for entry of river gage information. Page 2 contains information on the references, bench marks, gage datums, and records. Fig. 3 shows the River Gage form for Darlington, LA.

Following are the entries in the RiverGage forms:

Entry Name	Description
R-1-1 REVISED	(10) Revision date. This date should be the date the E-19 was fully revised. Simply adding a historic stage, correcting a spelling error, or transferring data from the old E-19 into SHIMS does not constitute a full revision. When entering information from an existing E-19 into SHIMS, this date should be the <i>issuance date</i> on the cover page of the E-19. Enter this in the form of mm/dd/yy.
R-1-2 LID	(5) Approved NWS five-character ID in capital letters and numbers.
Note: When the User inputs the LID, the name (L-1-5), detail (L-1-6), state (L-1-7), and river basin (L-1-9) will automatically be displayed next to the LID.	
R-1-3 STREAM	(20) The name of the river/stream the gaging site is located on. The latest published name should be used. If there are discrepancies, contact the owner of the gage. Abbreviations such as "R" for river, "S" for stream, or "F" for fork should be used. Any name changes should be documented in the station history.
R-1-4 USGS	(10) USGS stream gage number. This field should be blank if the site does not have a USGS number assigned to it.
R-1-5 DRAINAGE	(10) Drainage area in square miles.
R-1-6 FLOOD	(7) NWS flood stage in feet. The flood stage should be for the reach of the river defined in the ForecastPoint form entry F-3-4. Leave blank if the flood stage has not been determined. Refer to WSOM Chapter E-02 for a definition.
R-1-7 MILE	(10) River miles the gage is above the mouth of the river. The latest figure published by the USGS or COE should be used. For sites used only by the NWS, the distances should be compared with river miles for nearby stations on the river with published USGS records for consistency.

^Z Zoom F1 Help F2 Done F3 Prev Tb1 Next Tb1 Zoom LID F4 F5
 SHIMS - RIVER SITES, GAGES

①
 REVISED: 7/28/92

LID: DARL1 ② L DARLINGTON 4 WNW LA in the LAKE PONTCHARTRAIN 6 basin
 STREAM: AMITE RIVER ③
 DRAINAGE: 580.0 ⑤
 MILE: 106.0 ⑦
 DATUM: 145.81 ⑧
 CHECKBAR: 28.36 ⑫
 LAT: 30 53 20 ⑭
 LONG: 90 50 40 ⑰
 PUR: MARCH, 1949 TO DATE ⑱
 RATED BY: USGS ⑲
 USGS: 07377000 ④
 FLOOD: 18.0 ⑥
 WARNING: ⑧
 BANKFULL: 15.0 ⑪
 POOL: ⑬
 TIDAL: None ⑮
 FORECAST TYPE (HF DIS): F ⑰
 PUBLISHED: USGS/NO NWS PUB. ⑳
 LEVELING: USGS 1980 ㉑

GAGE TYPE/DETAIL OWNER MAINTAINED BEGAN SERVICE ENDED SERVICE
 CREST SIG ㉓ USGS ㉔ 3/17/49 ㉖ 10/23/50 ㉗
 >> CREST-STAGE STATION ESTABLISHED BY J. S. CRAGWALL. DATUM 148.80
 ㉘

Fig. 3a. Screen 1 of the RiverGage form. Multiple GAGE TYPES may be entered; SHIMS will display only one of these entries at a time on the screen.

^Z = F1 Help F2 Done F3 Prev Tbl SHIMS ~ CRESTS, REMARKS F4 Next Tbl F5 Zoom LID
 Zoom

STAGE/REM	DATE	TIME	FLOW (CFS)	HW MARKS	OLD DATUM	ICE JAM	SUPPRESS
20.20	1/07/50	③	④ 43400	⑤	X ⑥	⑦	⑧
>>1950 STAGE WAS 17.21 FT BASED ON 148.8 FT DATUM. ⑨							

REMARKS: ALL PREVIOUS FLOODS ABOVE 18.0 FEET, CURRENT DATUM, ARE LISTED ON PAGES 5 & 8, NWS FORM E-19.

⑩

PAGE 2 of 2

Fig. 3b. Screen 2 of the RiverGage form. Multiple STAGE/REM may be entered; SHIMS will display only one of the entries.

R-1-8	WARNING	(7) Warning or caution stage in feet. Leave blank if the warning or caution stage has not been determined.
R-1-9	DATUM	(10) Elevation of the gage zero in ft. MSL. Ordinarily, gage zeros are reported to the nearest 0.01 foot. The datum should be entered to the same precision it is provided.
R-1-10	REFERENCE	(20) Reference datum is based on.
R-1-11	BANKFULL	(7) Bankfull stage in feet. Leave blank if the bankfull stage has not been determined. The bankfull stage should be for the reach of the river defined in the ForecastPoint form entry F-3-4. Refer to WSOM Chapter E-02 for a definition.
R-1-12	CHECKBAR	(10) The checkbar reading of a wire weight in feet above gage zero.
R-1-13	POOL	(7) Normal pool elevation for reservoirs in feet MSL.
R-1-14	LAT	(9) Latitude in degrees, minutes, and seconds. This must be the same as L-1-11.
R-1-15	SOURCE	(20) Source of the latitude and longitude.
R-1-16	TIDAL	(8) Indication of any tidal effects at the river gage. Appropriate answer is "None" or "Yes." For locations which are affected by backwater, enter "BKWATER" in this field and enter a description of this problem in field F-2-11, REMARKS.
R-1-17	LONG	(9) Longitude in degrees, minutes, and seconds. This must be the same as L-1-14.
R-1-18	FORECAST TYPE	(5) An indicator of the type of forecasts issued. Appropriate responses are H for headwater, D for daily, Q for discharge, S for stage, F for flood only, R for reservoir elevation, I for inflow. Multiple responses may be entered.
R-1-19	POR	(30) Period of record description. Indicates when records began at the site with a short description.
R-1-20	PUBLISHED	(20) Publication where data currently appears.

R-1-21	RATED BY	(20) Agency that has developed a rating for the gaging site. If no agency has rated the gage and the rating used is synthetic, enter "SYNTH." If possible, list the date of the release of the most recent rating.
R-1-22	LEVELING	(20) Agency which has performed leveling on the site and the year it was performed, if known. Leveling should be done periodically by the agency responsible for verifying the stability of the elevations and records.
R-1-23	GAGE TYPE	(10) Types of gaging equipment that have been at the gaging site. These entries should be a history of equipment at the sites.

Note: Multiple GAGE TYPEs may be entered. For each GAGE TYPE, fields R-1-24 through R-1-28 are repeated. For fields which the information is not known, enter "UNK."

R-1-24	OWNER	(10) The owner of the gage.
R-1-25	MAINTAINED	(10) The agency responsible for maintaining this gaging equipment.
R-1-26	BEGAN SERVICE	(10) The date the gage began service. Enter in the form of mm/dd/yy.
R-1-27	ENDED SERVICE	(10) The date the gage discontinued service. If the gage is still in service, leave this field blank. Enter in the form of mm/dd/yy.
R-1-28	REMARKS	(2 lines) Remarks or comments about this gage. This may include any recording devices connected to it, the exact location of the gage, and any other pertinent comments. This will appear on the EQUIPMENT page of the E-19.
R-2-1	STAGE	(10) Listing of the significant historical flood crests in feet and tenths of feet. For flood crests which were based on a different datum, <i>they should be converted to the current datum</i> . In the COMMENTS in field R-2-9, the stage based on the datum at the time of the flood and old datum should be listed.

CAUTION: Datums which were changed only in response to survey corrections or changes are immune to this proviso. The conversion is necessary when datum changes were the result of physically raising or lowering the gage.

Frequently, ironing out these distinctions is troublesome, but nonetheless vital to an accurate history at a gaging site.

This information should be available from the USGS Water Supply data, U.S. Weather Bureau Daily River Stages, or publications from other agencies (see Appendix A). *Care should be taken to insure that information on the flood stages is accurate and can be proven.* Sources of this information should be listed in the REFERENCES section of the ForecastPoint form F-2-2.

Note: Multiple STAGE crests may be entered. For each STAGE, fields R-2-2 through R-2-9 may be repeated.

R-2-2	DATE	(10) Date the flood crest occurred. Enter in the form of mm/dd/yy.
R-2-3	TIME	(4) Local time the crest occurred in the 2400 clock. Leave blank if not available.
R-2-4	FLOW	(8) Discharge in cfs. Flood flows need to only be given to three significant digits (i.e., 202,000 cfs or 7,540 cfs). This should only include field discharge measurements or discharge estimates from the USGS. Do not use a rating curve to pick off a discharge to enter here. Leave blank if there is no published discharge.
R-2-5	HW MARKS	(1) Put an "X" in this column to indicate if high water marks were used to determine the flood crest height as opposed to a gage reading.
R-2-6	OLD DATUM	(1) Place an "X" in this field to indicate if the gage used to measure the flood had a different datum from the current datum. In the COMMENTS in field R-2-9, the stage based on the datum at the time of the flood and old datum should be listed.
R-2-7	ICE JAM	(1) Place an "X" in this column to indicate if the flood crest was the result of ice jamming effects.
R-2-8	SUPPRESS	(1) Place an "X" in this field if it's desired to suppress the printing of this flood crest in the E-19.
R-2-9	COMMENTS	(1 line) Comments about this flood. For flood crests which are based on an old datum, the old datum and stage based on the old datum should be listed here. For example, a

stage of 22.10 feet occurred in 1965 based on a datum of 191.73 feet. In 1989, the datum was raised 3 feet to its current level of 194.73 feet. The 1965 flood crest would be 19.10 feet based on the current datum established in 1989. The entry for this flood in field R-2-1 should be 19.10 feet. In this section, the remark should be, "Stage measured was 22.10 feet based on old datum of 191.73 feet." (Note: The field is denoted by ">>" and is not specifically labeled comment.)

R-2-10

REMARKS

(5 lines) Remarks about the gaging site printed on the bottom of the E-19A.

6. THE ForecastPoint FORM

Additional information on all forecast points is stored in the ForecastPoint form which consists of three computer screens. Page 1 of the form includes a list of references, descriptions of benchmarks, and datum changes. Page 2 contains information on previous low flow conditions and the geography of the area. Page 3 includes entries to be displayed on the bar chart page of the E-19. The ForecastPoint form for Darlington, LA, is shown in Fig. 4.

Following are the entries in the ForecastPoint forms:

Entry	Name	Description
F-1-1	LID	NWS 5-character ID in capital letters and numbers.
F-1-2	REFERENCES	(1 line) Any references used in preparing the E-19 should be listed here. A list of possible references is given in Appendix A.

Note: Multiple entries of REFERENCES are permitted. SHIMS will display only one of these entries.

F-1-3	BENCH MARK	(4) An abbreviation defining all bench marks, reference marks, and reference points in the vicinity of the gage.
-------	------------	--

Note: Multiple entries of BENCH MARK are permitted; SHIMS will display only one of these entries. For each BENCH MARK entered, fields F-1-4 and F-1-5 may be repeated.

In defining bench marks, the following definitions should be used:

Bench Mark — Permanent mark that has been incorporated by the National Geodetic Survey (NGS) into its national level net, described in its publications, and installed originally by the NGS or its predecessor, the United States Coastal and Geodetic Survey (USC&GS). Only rarely will bench marks be found in the vicinity of a river gage.

Reference Mark — Refers to a permanent mark in the vicinity of the river gage and usually installed and described by the agency that established the river gage. Reference marks are often called bench marks by many agencies. They should be highly immune to vertical disturbances.

Reference Point — Refers to the elevation marks immediately associated with a river gage. This may be found inside a gage house, on a bridge near a staff gage, or the bridge curb or railing near a wire weight gage, and again should be highly immune to vertical disturbance.

^Z Zoom F1 Help F2 Done F3 Prev Tbl Next Tbl Zoom LID F4 F5
 SHIMS - REFERENCES, BENCH-MARKS, DATUM, PUBLICATION

LID: DARL1 ① L DARLINGTON 4 WNW LA in the LAKE PONTCHARTRAIN 6 basin

REFERENCES

"WATER RESOURCES DATA FOR LOUISIANA", USGS, 1990. ②

BENCH - MARK / DESCRIPTION ELEVATION (ft)

RBAR ③ 174.17 ④

>> ⑤

DATUM	DATE	LOCATION OF RECORDS	BEGAN DATE	ENDED DATE
14B.8 ⑥	3/17/49 ⑦	USGS WATER RESOURCES DATA ⑧	3/17/49 ⑨	⑩

Fig. 4a. Screen 1 of the ForecastPoint form. SHIMS stores multiple BENCH/MARK, DATUM, and LOCATION of RECORDS; it will display only one of these records at a time.

^Z F1 Help F2 Done F3 Prev Tbl Next Tbl F4 Zoom LID F5 Zoom LID
 SHIMS - LOW WATER, CONDITIONS

STAGE (ft) DATE Q (CFS) LOW WATER NOTES

① 10/18/54② 188③ MINIMUM DISCHARGE OF RECORD ④

BED: SAND AND GRAVEL ⑤

CONTROL: SAND AND GRAVEL SHOAL BELOW A GAGE HGT OF ABOUT 3 FT, AND CHANNEL CONTROL ABOVE THAT STAGE. ⑥

REGULATION: NONE ⑦

DIVERSION: NONE ⑧

WINNER: CHANNEL RARELY SUBJECT TO FREEZING. ⑨

TOPOGRAPHY: BOTH BANKS CONSIST OF BLUFFS 50 TO 60 FT HIGH WITHIN A MILE OR SO OF THE RIVER, RISING TO MORE THAN 100 FT WITHIN TWO MILES. AT GAGE, BANKS ARE 15 TO 16 FT. ⑩

REMARKS: SEE PHOTOS TAKEN 4/16/92. BANK ELEVATION 160 FT MSL. BANKFULL GAGE HGT 15 FT. FLOOD STAGE 18 FT. AT 15-18 FT LOW-LYING AREAS AFFECTED. AT 21.8 FT WATER LEVEL IS AT THE UNDERSIDE OF THE LA HWY 10 BRIDGE. ⑪

PAGE 2 of 3

Fig. 4b. Screen 2 of the ForecastPoint form. SHIMS stores multiple STAGES but will display only one at a time.

^Z	F1	F2	F3	F4	F5
Zoom	Help	Done	Prev Tbl	Next Tbl	Zoom LID

SHIMS - DAMAGE, REACH

STAGE/DAMAGE/DETAIL

15 ①
 >>BANKFULL (MINIMUM STAGE TO REQUIRE ENTRY THIS SHEET & ON GRAPH PG 8).
 ②
 >>
 ③

REACH:LA/MS STATE LINE DS TO GRANGEVILLE, LA. *STAGES ADJUSTED TO PRESENT DATU

④

PAGE 3 of 3

Fig. 4c. Screen 3 of the ForecastPoint form. SHIMS stores multiple STAGE/DAMAGE entries but will display only one at a time.

Bench marks should be entered first, followed by reference marks, and finally reference points.

- F-1-4 ELEVATION (7) Elevation in feet MSL of the bench mark. Bench marks should be to hundredths of a foot MSL.
- F-1-5 COMMENTS (4 lines) Comments to describe the benchmark, reference mark, or reference point.
- F-1-6 DATUM (9) Datums or gage zeroes used at the gaging site in feet MSL. These should be listed chronologically. A trip to the USGS may be required to obtain all the information. Datums should be to hundredths of a foot MSL.

Note: Multiple DATUMs may be entered. For each DATUM entered, field F-1-7 may be repeated.

- F-1-7 DATE (10) Initial date datum was used.
- F-1-8 RECORDS (25) References to describe where records are kept.

Note: Multiple RECORDS may be entered. For each RECORDS entered, fields F-1-9 and F-1-10 may be repeated.

- F-1-9 BEGAN DATE (10) Date records began in this publication. *Enter as mm/dd/yy.*
- F-1-10 ENDED DATE (10) Date records ended in this publication. *Enter as mm/dd/yy.*
- F-2-1 STAGE (7) Record low flow stages in feet and tenths above current datum. These may be available from annual USGS publications or those of other agencies such as the NWS (Daily River Stages), COE Districts or Divisions, or the International Boundary and Water Commission.

Note: Multiple STAGEs may be entered. For each STAGE entered, fields F-2-2 through F-2-4 may be repeated.

- F-2-2 DATE (10) Date record low stage occurred. *Enter as mm/dd/yy.*
- F-2-3 Q (7) Discharge corresponding to the record low stage. This should only include field discharge measurements or discharge estimates from the USGS. Do not use a rating curve to pick off a discharge to enter here. Low flows may be given to the nearest whole cfs or nearest tens (i.e., 14 cfs or 140 cfs).

F-2-4	LOW WATER	(45) Comments about this low flow entry.
F-2-5	BED	(1 line) A description of the stream bed where the river gage is located. This is best determined by a station visit, but may be available from USGS gaging descriptions.
F-2-6	CONTROL	(3 lines) Description of any control features below the gage. A control is normally a fixed feature below the gage such as a rock or gravel riffle, a dam, or constriction in the channel.
F-2-7	REGULATION	(2 lines) Description of control structures upstream of the gaging site which affect flow at the site. Control structures may include dams and levees. The description should include a brief explanation of how these structures affect flow.
F-2-8	DIVERSION	(1 line) Description of any known diversions near the gage.
F-2-9	WINTER	(2 lines) Description of any changes in flow due to freezing in the winter. This may be available in the USGS publications.
F-2-10	TOPOGRAPHY	(3 lines) Description of the topography along this reach of the river. The REACH is defined in the F-3-4.
F-2-11	REMARKS	(3 lines) Additional remarks about the gaging site.
F-3-1	STAGE	(7) Critical stages that will be displayed on the bar chart of the E-19. The damage at that stage will also be displayed. This should include important stages such as stages when roads and landmarks flood.

Note: Multiple STAGES may be entered. For each STAGE entered, fields F-3-2 and F-3-3 may be repeated.

F-3-2	DAMAGE	(5 lines) Damages that will be listed at the appropriate locations on the bar chart.
F-3-3	DETAIL	(5 lines) Details about the damages listed above.
F-3-4	REACH	(1 line) Defines the reach of the river for which the stage and forecasts are representative. The reach will be much longer for rivers which have mild slopes than for those with steep slopes with often changing terrain.

7. WS FORM B-44, ENTRIES, AND CROSS REFERENCE

The B-44 for Darlington, LA, is shown in Appendix E and is based on the information listed in Fig. 2. The B-44 requires that the LocationForm be completed. Following are the entries on the B-44 and the corresponding entries in SHIMS:

B-44 Entry	SHIMS Cross Reference Entry
Station Name	L-1-5
Station Detail	L-1-6
LID - NWS 5 char ID	L-1-2
State	L-1-7
County	L-1-8
Latitude	L-1-11
Elevation	L-1-10
Longitude	L-1-14
Hydrologic Unit Number	L-1-12
Station Begin Date	L-1-13
River Basin	L-1-9
Observer	L-1-23
DOS - Date of Service	L-1-24
Gender	L-1-25
Address	L-1-27
Home Phone	L-1-30
Office Phone	L-1-32
State and Zip Code	L-1-34
Recipient	L-1-38
Comms	L-1-35
Duties	L-1-37
CPM	L-1-15
WSFO	L-1-16
HSA	L-1-17
WFO	L-1-21
RFC	L-1-19
COE	L-1-20
Warning	L-1-18
Remarks	L-1-22

8. STATION ID REQUEST FORM, ENTRIES, AND CROSS REFERENCE

The station ID request form is composed of information from the Location form and the SHIMS initialization file. The station id request form for Darlington, LA, is shown in Appendix F. Following are the entries on the SID Request form and the corresponding entries in SHIMS:

SID Entry	SHIMS Cross Reference Entry
Regional Headquarters	SHIMS initialization file
Date	System Clock
Submitted BY	SHIMS initialization file
Phone No.	SHIMS Initialization file
Office	SHIMS initialization file
City	L-1-5
State	L-1-7
Detail	L-1-6
Latitude	L-1-11
Longitude	L-1-14
Elevation	L-1-10
Region	SHIMS initialization file
GOES Identifier	L-1-44
WSFO	L-1-16
Required SID	L-1-2
Cooperative Station Number	L-1-3

9. E-19A FORM, ENTRIES, AND CROSS REFERENCES

The E-19A form is composed of information from the Location form, SHIMS initialization file, and the River Gage forms. The E-19A form for Darlington, LA, is shown in Appendix G. Following are the entries on the E-19A form and the corresponding entries in SHIMS:

E-19A Entry	SHIMS Cross Reference Entry
Name	L-1-5
Station detail	L-1-6
Stream	R-1-3
LID	L-1-2 or R-1-2
County	L-1-8
Basin	L-1-9
Drainage	R-1-5
Flood Stage	R-1-6
Station Number	L-1-3
River mile	R-1-7
Warning (Caution) Stage	R-1-8
USGS Number	R-1-4
Zero Datum	R-1-9
Bankfull Stage	R-1-11
NESS ID	L-1-44
Checkbar	R-1-12
Normal Pool	R-1-13
RFC	L-1-19
Latitude	R-1-14
Tidal Effects	R-1-16
HSA	L-1-17
Longitude	R-1-17
Period of record	R-1-19
Forecast Type	R-1-18
Published	R-1-20
Observer name	L-1-23
DOS - Date of Service	L-1-24
Sponsor	L-1-29
Address of Observer	L-1-27
First 8 char of CD404	SHIMS initialization file
CD-404	L-1-26
Task	L-1-31
Home Phone	L-1-30
Rate	L-1-33
Work	L-1-32
Comms	L-1-36
State and Zip Code	L-1-34
Duties	L-1-37

Recipient	L-1-38
Telemetry	L-1-39
Phone	L-1-41
Owner	L-1-40
Gage Type	R-1-23
Owner	R-1-24

Note: All current gages active at the site will be listed.

Crest information levels	R-2-1
Crest level dates	R-2-2

Note: SHIMS will access R-2-1 and R-2-2 fields and determine the appropriate crest information to print.

Remarks	R-2-10
Hydrologist	SHIMS initialization file
Date Printed	System Clock

10. E-19 FORM, ENTRIES, AND CROSS REFERENCE

The E-19 form is composed of information from the Location form, SHIMS initialization file, and River Gage form, and the ForecastPoint forms. The E-19 is divided into nine pages. The E-19 for Darlington, LA, which is based on information included in Figs. 1 through 4 is in Appendix H. Following are the entries on the E-19 form and the corresponding entries in SHIMS:

E-19 Entry - Cover Page

Entry	SHIMS Cross Reference Entry
Date	System Clock
Location name	L-1-5
Location Detail	L-1-6
State	L-1-7
Stream	R-1-3
Basin	L-1-9
HSA	SHIMS initialization file
References	F-1-2

Note: All references stored will be printed.

Location ID	L-1-2, R-1-2, and F-1-1
NWS Index Number	L-1-3
USGS Number	R-1-4

E-19 Entry - Page 1 - Gage Map

Entry	SHIMS Cross Reference Entry
Latitude	R-1-14
Longitude	R-1-17
Source	R-1-15
Location - Stream	R-1-3
Location - City	L-1-5
Location detail	L-1-6
Location - State	L-1-7
HSA	SHIMS initialization file
Date	System Clock
LID	L-1-2, R-1-2, or F-1-1

E-19 Entry - Page 2 Bench-marks

Entry	SHIMS Cross Reference Entry
Elevation of gage Zero	R-1-9
Reference	R-1-10
Leveling agency and year	R-1-22
Rating Agency	R-1-21
Checkbar	R-1-12
Bench-marks - Column 1	F-1-3
Bench-marks - Column 2	F-1-5
Gage Zero Elevations	Computed
MSL	F-1-4

Note: The previous four entries will be printed for each Bench-mark.

Location - Stream	R-1-3
Location - City	L-1-5
Location detail	L-1-6
Location - State	L-1-7
HSA	SHIMS initialization file
Date	System Clock
LID	L-1-2, R-1-2, or F-1-1

E-19 Entry - Page 4 History

Entry **SHIMS Cross Reference Entry**

Publication F-1-8
Starting date F-1-9
Ending date F-1-10

Note: The previous three entries will be printed for all publications.

Type of gage R-1-23
Owner R-1-24
Starting date R-1-26
Ending date R-1-27

Note: The previous four entries will be printed for each gage type.

Zero Elevation F-1-6
Starting date F-1-7

Note: The previous two entries will be printed for each gage datum.

Location - Stream R-1-3
Location - City L-1-5
Location detail L-1-6
Location - State L-1-7
HSA SHIMS initialization file
Date System Clock
LID L-1-2, R-1-2, or F-1-1

E-19 Entry - Page 5 High Water

Entry	SHIMS Cross Reference Entry
Flood Stage	R-1-6
Warning (Caution) Stage	R-1-8
Bankfull stage	R-1-11
Date of crest	R-2-2
Time	R-2-3
Crest	R-2-1
Flow	R-2-4
From high water marks	R-2-5
Based on old datum	R-2-6
Caused by ice jam	R-2-7
Remarks	R-2-9

Note: The previous eight entries will be printed for each flood crest that does not have an entry in the suppress field, R-2-8.

Location - Stream	R-1-3
Location - City	L-1-5
Location detail	L-1-6
Location - State	L-1-7
HSA	SHIMS initialization file
Date	System Clock
LID	L-1-2, R-1-2, or F-1-1

E-19 Entry - Page 6 Low Water

Entry	SHIMS Cross Reference Entry
Date of Low water	F-2-2
Stage	F-2-1
Flow	F-2-3
Remarks	F-2-4

Note: The previous four entries will be repeated for each low flow stage defined.

Miles above mouth	R-1-7
Drainage area	R-1-5
Pool stage	R-1-13
Streambed	F-2-5
Control	F-2-6
Regulation	F-2-7
Diversion	F-2-8
Winter	F-2-9
Topography	F-2-10
Remarks	F-2-11
Location - Stream	R-1-3
Location - City	L-1-5
Location - State	L-1-7
HSA	SHIMS initialization file
Date	System Clock
LID	L-1-2, R-1-2, or F-1-1

E-19 Entry - Page 7 Flood Levels

Entry **SHIMS Cross Reference Entry**

Stage F-3-1
Areas affected F-3-2

Note: The previous two entries will be printed for each stage entered.

Location - Stream R-1-3
Location - City L-1-5
Location detail L-1-6
Location - State L-1-7
HSA SHIMS initialization file
Date System Clock
LID L-1-2, R-1-2, or F-1-1

E-19 Entry - Page 8 Staff Picture

Entry

SHIMS Cross Reference Entry

Entries on the left side of the staff gage.

Stage F-3-1
Areas affected F-3-2

Note: The previous two entries are printed for each stage entered.

Entries on the left side of the staff gage.

Stage R-2-1
Date R-2-2

Note: The previous two entries are printed for each stage entered.

Reach F-3-4
Elevation Zero R-1-7
Location - Stream R-1-3
Location - City L-1-5
Location detail L-1-6
Location - State L-1-7
HSA SHIMS initialization file
Date System Clock
LID L-1-2, R-1-2, or F-1-1

APPENDIX A

SOURCES OF RIVER DATA

AGENCY

Signal Service, U.S. Army	1871-1890
U.S. Weather Bureau	1891-1968
National Weather Service	1969-1971 (Publications ceased after 1971.)

Daily River Stages on the Principal Rivers of the United States

- Volume I. Stages of the Ohio River and of Its Principal Tributaries, 1858 to 1889.
- Volume II. Stages of the Mississippi River and of Its Principal Tributaries, Except the Ohio River, 1860 to 1889.
- Volume III. Stages of Water at Miscellaneous River Stations in California, Oregon, North Carolina, Etc. 1875 to 1889.
- Volume IV. 1890 to 1892. Daily River Stages on the Principal Rivers of U.S.
- Volume V. 1893 to 1895. Daily River Stages on the Principal Rivers of U.S.
- Volume VI. 1896 to 1899. Daily River Stages on the Principal Rivers of U.S.
- Volume VII. 1900 to 1904. Daily River Stages on the Principal Rivers of U.S.
- Volume VIII. 1905 and 1906. Daily River Stages on the Principal Rivers of U.S.
- Volume IX. 1907 and 1908. Daily River Stages on the Principal Rivers of U.S.
- Volume X. 1909 and 1910. Daily River Stages on the Principal Rivers of U.S.
- Volume XI. 1911 and 1912. Daily River Stages on the Principal Rivers of U.S.
- Volume XII. 1913 and 1914. Daily River Stages on the Principal Rivers of U.S.

Annual volumes continued 1915-1971.

This publication ceased after the 1971 edition (Volume 67).

AGENCY

U.S. Army Corps of Engineers (USCE)

Stages and Discharges of the Mississippi River and Tributaries and Other Watersheds in the New Orleans District, 1932-present

Stages and Discharges of the Mississippi River and Tributaries in the Vicksburg District, 1932-present

Stages and Discharges of the Mississippi River and Tributaries and Other Watersheds in the Memphis District, 1932-present

Stages and Discharges of the Mississippi River and Tributaries and Other Watersheds in the St. Louis District, 1932-present

Prior to 1932, the Mississippi River Commission published annual records of stages along the Mississippi River, commencing in 1886. In 1932 the publications were taken over by the respective Corps of Engineers Districts listed above.

AGENCY

U.S. Geological Survey (USGS)

Data on stream discharge and stage and on lake or reservoir contents and stage were first published in a series of U.S. Geological Survey Water-Supply Papers entitled "Surface Water Supply of the United States." Through September 30, 1960, these Water-Supply Papers were in an annual series, then in a five-year series for 1961-65 and 1966-70. Records of chemical quality, water temperature, and suspended sediment were published from 1941 to 1970 in an annual series of Water-Supply Papers entitled "Quality of Surface Waters of the United States." Records of ground-water levels were published from 1935 to 1974 in a series of Water-Supply Papers entitled "Ground-Water Levels in the United States." Water-Supply Papers generally are available in the libraries of the principal cities of the United States or may be purchased from U.S. Geological Survey, Books and Open-File Reports, Federal Center, Box 25425, Denver, Colorado, 80225.

For water years 1961 through 1974, streamflow data were released by the Geological Survey in annual reports for each state. Water-quality records for water years 1964 through 1974 were similarly released in separate reports. Beginning with water year 1975, data for streamflow, water quality, and ground water were combined in reports published annually for each state. These reports have an identification number consisting of the two-letter state abbreviation, the last two digits of the water year, and the volume number. These Water-Data Reports are for sale by the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia, 22161.

For archiving and general distribution, the reports for 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or in microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia, 22161.

Additionally, these State Water-Data Reports are now available on CD-ROMs, on a water year basis, commencing with water year 1990. Records for selected states for water-years 1987-1989 are also included in the 1990 CD-ROM. The states of Alaska, Arizona, Georgia, and Hawaii are not available on the 1990 CD-ROM. Each year's CD-ROM is intended for use on DOS-based computer systems. The minimum system requirements to use with the software provided on the disc are:

- IBM or compatible PC
- 640 kb RAM
- MS- or PC-DOS version 3.0 or later
- Microsoft MSCDEX version 2.1 or later
- CD-ROM drive with ISO 9660 software driver
- Hard disk drive
- Color monitor

Current Publications of the USGS

Water Resources Data
(STATE NAME)
WATER YEAR 19XX

For Southern Region NWS

Water Resources Data
Alabama/Arkansas/Colorado/Florida/Georgia/Kansas/Louisiana/Mississippi/Missouri/New
Mexico/North Carolina/Oklahoma/South Carolina/Puerto Rico/Tennessee/Texas/Virginia
Water Year 19XX

USGS Water-Data Report AL-XX-1

USGS Water-Data Report AR-XX-1

USGS Water-Data Report CO-XX-1

USGS Water-Data Report CO-XX-2

USGS Water-Data Report FL-XX-1A

USGS Water-Data Report FL-XX-1B

USGS Water-Data Report FL-XX-2A

USGS Water-Data Report FL-XX-2B

USGS Water-Data Report FL-XX-3A

USGS Water-Data Report FL-XX-3B

USGS Water-Data Report FL-XX-4

USGS Water-Data Report GA-XX-1

USGS Water-Data Report KS-XX-1

USGS Water-Data Report LA-XX-1

USGS Water-Data Report MS-XX-1

USGS Water-Data Report MO-XX-1

Current Publications of the USGS (Continued)

USGS Water-Data Report NM-XX-1

USGS Water-Data Report NC-XX-1

USGS Water-Data Report OK-XX-1

USGS Water-Data Report PR-XX-1

USGS Water-Data Report SC-XX-1

USGS Water-Data Report TN-XX-1

USGS Water-Data Report TX-XX-1

USGS Water-Data Report TX-XX-2

USGS Water-Data Report TX-XX-3

USGS Water-Data Report VA-XX-1

AGENCY

International Boundary and Water Commission (IB&WC), United States and Mexico

Flow of the Rio Grande and Related Data — From Elephant Butte Dam, New Mexico, to the Gulf of Mexico

The first publication in this series was *Water Bulletin No. 1* for the year 1931. The Bulletin is prepared jointly by the United States and Mexico Sections of IB&WC with publications in both English and Spanish.

Water Bulletin Number 1 Flows for 1931, also analysis of water samples, 1924-1931

Water Bulletin Number 2 Flows for 1932, also stored water in large reservoirs, 1924-1932

Water Bulletin Number 3 1933, also evaporation 1924-1933; Rio Grande and Tributary Flow at Mexican Stations, 1929 and 1930

Water Bulletin Number 4 1934, also Rio Grande and Tributary flow at various stations, 1924 to 1928

Water Bulletin Number 5 1935, also Authenticated Discharge Records, 1924-1935

Annual publication continues, 1936-present time; 1990 publication is *Water Bulletin No. 60*.

United States Section, IB&WC
4171 North Mesa Street
El Paso, TX 79902

APPENDIX B

DRAINAGE BASINS — SOUTHERN REGION

ALABAMA

- 1 — Alabama
- 2 — Black Warrior
- 3 — Cahaba
- 4 — Chattahoochee
- 5 — Choctawhatchee
- 6 — Conecuh
- 7 — Coosa
- 8 — Escambia
- 9 — Gulf
- 10 — Pea
- 11 — Tallapoosa
- 12 — Tennessee
- 13 — Tombigbee

ARKANSAS

- 1 — Arkansas
- 2 — Mississippi
- 3 — Quachita
- 4 — Red
- 5 — Saint Francis
- 6 — Saline
- 7 — White

FLORIDA

- 1 — Apalachicola
- 2 — Atlantic
- 3 — Choctawatchee
- 4 — Everglades
- 5 — Gulf
- 6 — Ochlockonee
- 7 — Okeechobee
- 8 — St. Johns
- 9 — St. Mary
- 10 — Suwannee

GEORGIA

- 1 — Altamaha
- 2 — Atlantic
- 3 — Chattahoochee
- 4 — Coosa
- 5 — Etowah
- 6 — Flint
- 7 — Hiwassee
- 8 — Ochlockonee
- 9 — Ocmulgee
- 10 — Oconee
- 11 — Ogeechee
- 12 — Oostanaula
- 13 — Satilla
- 14 — Savannah
- 15 — St. Mary
- 16 — Suwannee
- 17 — Tallapoosa
- 18 — Tennessee

LOUISIANA

- 1 — Atchafalaya
- 2 — Bayou Teche-Vermilion
- 3 — Black
- 4 — Calcasieu
- 5 — Gulf of Mexico
- 6 — Lake Pontchartrain
- 7 — Mermentau
- 8 — Mississippi
- 9 — Ouachita
- 10 — Pearl
- 12 — Sabine

MISSISSIPPI

- 1 — Big Black
- 2 — Chickasawhay
- 3 — Gulf
- 4 — Leap
- 5 — Mississippi
- 6 — Pascagoula
- 7 — Pearl
- 8 — Tangipahoa
- 9 — Tennessee
- 10 — Tombigbee
- 11 — Yazoo
- 12 — Amite

NEW MEXICO

- 1 — Animas Valley
- 2 — Brazos
- 3 — Canadian
- 4 — Cimarron
- 5 — Colorado (Texas)
- 6 — Estancia Valley
- 7 — Gila
- 8 — Little Colorado
- 9 — Lower Rio Grande (below Elephant Butte)
- 10 — Mimbres Valley
- 11 — Pecos
- 12 — Playas Lake
- 13 — Sacramento
- 14 — St. Augustine Plains
- 15 — San Juan
- 16 — Tularosa Valley
- 17 — Upper Rio Grande (above Elephant Butte)

OKLAHOMA

- 1 — Arkansas
- 2 — Canadian
- 3 — Cimmaron
- 4 — Red
- 5 — Washita

PUERTO RICO & VIRGIN ISLANDS

- 1 — Atlantic
- 2 — Caribbean
- 3 — Carite Lake
- 4 — Cruz Bay
- 5 — Melania Lake
- 6 — Mona Passage
- 7 — Rio Bayamon
- 8 — Rio Blanco
- 9 — Rio Caonillas
- 10 — Rio Cibuco
- 11 — Rio Coamo
- 12 — Rio Culebrinas
- 13 — Rio Fajardo
- 14 — Rio Grande de Anasco
- 15 — Rio Grande de Arecibo
- 16 — Rio Grande de Loiza
- 17 — Rio Grande Do Manati
- 18 — Rio Grande de Patillas
- 19 — Rio Guamani
- 20 — Rio Guanajibo
- 21 — Rio Guajataca
- 22 — Rio Humacao
- 23 — Rio Jacaguas
- 24 — Rio Jueyes
- 25 — Rio Lapa
- 26 — Rio La Plata
- 27 — Rio Limones
- 28 — Rio Loco
- 29 — Rio Manati
- 30 — Rio Maunabo
- 31 — Rio Salinas
- 32 — Rio Santiago
- 33 — Rio Tallaboa
- 34 — Rio Usabon
- 35 — Rio Yaguez
- 36 — Rio Yauco
- 37 — Rio Espiritu Santo

TENNESSEE

- 1 — Caney Fork
- 2 — Clinch
- 3 — Cumberland
- 4 — Duck
- 5 — French Broad
- 6 — Green
- 7 — Hiwassee
- 8 — Holston
- 9 — Little Tennessee
- 10 — Mississippi
- 11 — Oostanaula
- 12 — Tennessee

TEXAS

- 1 — Brazos
- 2 — Canadian
- 3 — Colorado
- 4 — Guadalupe
- 5 — Gulf of Mexico
- 6 — Lavaca
- 7 — Neches
- 8 — Nueces
- 9 — Pecos
- 10 — Red
- 11 — Rio Grande
- 12 — Sabine
- 13 — San Antonio
- 14 — San Jacinto
- 15 — Trinity
- 16 — Washita

APPENDIX C

AFOS 3-CHARACTER ABBREVIATIONS

RFCs

Office	Abbreviation
Southeastern RFC - Atlanta, GA	ATR
West Gulf RFC - Fort Worth, TX	FWR
Lower Mississippi RFC - Slidell, LA	SIL
Arkansas Red Basins RFC - Tulsa, OK	TUR

WSFOs/WSOs

Office	Abbreviation	Future WFO
WSO Abilene, TX	ABI	
WSFO Albuquerque, NM	ABQ	Y
WSO Amarillo, TX	AMA	Y
WSO Appalachicola, FL	AQQ	
WSO Athens, GA	AHN	
WSFO Atlanta, GA	ATL	Y
WSO Augusta, GA	AGS	
WSO Austin, TX	AUS	
WSO Baton Rouge, LA	BTR	
WSO Beaumont, TX	BPT	
WSFO Birmingham, AL	BHM	Y
WSO Brownsville, TX	BRO	Y
WSO Chattanooga, TN	CHA	
WSO Columbus, GA	CSG	
WSO Corpus Christi, TX	CRP	Y
WSO Daytona Beach, FL	DAB	
WSO Del Rio, TX	DRT	
WSO El Paso, TX	ELP	Y
WSO Fort Smith, AR	FSM	
WSFO Fort Worth, TX	FTW	Y
WSO Houston, TX	HOU	Y
WSO Huntsville, AL	HSV	
WSO Jacksonville, FL	JAX	Y
WSFO Jackson, MS	JAN	Y
WSO Key West, FL	EYW	Y
WSO Knoxville, TN	TYS	
WSO Lake Charles, LA	LCH	Y

WSFO Little Rock, AR	LIT	Y
WSFO Lubbock, TX	LBB	Y
WSO Macon, GA	MCN	
WSO Melbourne, FL	MLB	Y
WSFO Memphis, TN	MEM	Y
WSO Meridian, MS	MEI	
WSFO Miami, FL	MIA	Y
WSO Midland, TX	MAF	Y
WSO Mobile, AL	MOB	Y
WSO Montgomery, AL	MGM	
WSO Nashville, TN	BNA	Y
WSFO New Orleans, LA	NEW	Y
WSFO Norman, OK	OUN	Y
WSO Pensacola, FL	PNS	
WSO San Angelo, TX	SJT	Y
WSFO San Antonio, TX	SAT	Y
WSFO San Juan, PR	SJU	Y
WSO Savannah, GA	SAV	
WSO Shreveport, LA	SHV	Y
WSO Tallahassee, FL	TLH	Y
WSO Tampa Bay, FL	TBW	Y
WSO Tri Cities, TN	TRI	Y
WSO Tulsa, OK	TUL	Y
WSO Victoria, TX	VCT	Y
WSO Waco, TX	ACT	
WSO Wichita Falls, TX	SPS	

APPENDIX D

ABBREVIATIONS OF THE CORPS OF ENGINEERS OFFICES

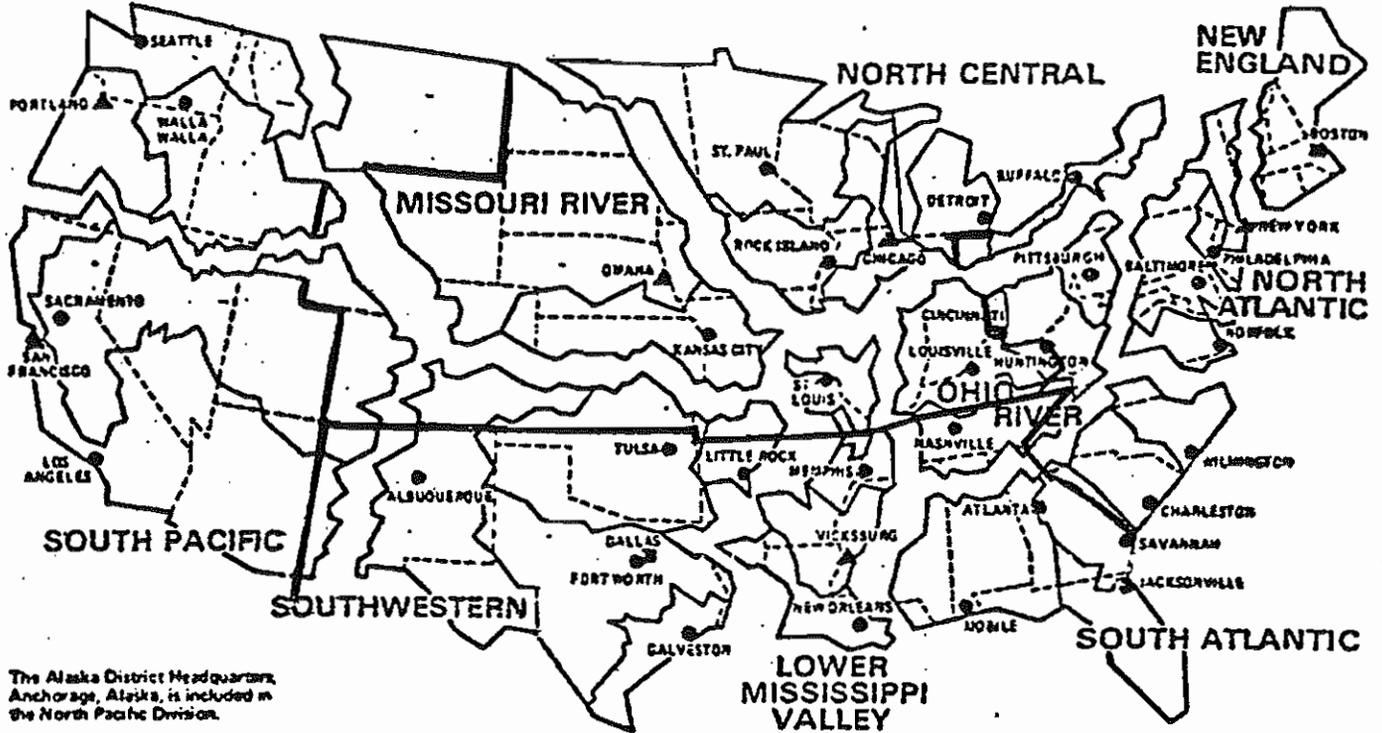
Abbreviation	Office
SWD	Southwestern Division - Dallas, TX
SWA	Albuquerque District
SWF	Fort Worth District
SWG	Galveston District
SWL	Little Rock District
SWT	Tulsa District
LMV	Lower Mississippi River Valley Division - Vicksburg, MS
LMK	Vicksburg District
LMM	Memphis District
LMN	New Orleans District
LMS	St. Louis District
MRD	Missouri River Division - Kansas City, MO
MRK	Kansas City District
MRO	Omaha District
NAD	North Atlantic Division - New York City
NAB	Baltimore District
NAN	New York City District
NAO	Norfolk District
NAP	Philadelphia District
NCD	Northcentral Division - Chicago, IL
NCB	Buffalo District
NCC	Chicago District
NCE	Detroit District
NCR	Rock Island District
NCS	St. Paul District
NED	New England Division - Waltham, MA
NPD	North Pacific Division - Portland, OR
NPA	Alaska District
NPP	Portland District
NPS	Seattle District
NPW	Walla Walla District

ORD	Ohio River Division - Cincinnati, OH
ORH	Huntington District
ORL	Louisville District
ORN	Nashville District
ORP	Pittsburgh District
POD	Pacific Ocean Division - Honolulu, HI
POH	Honolulu District
SAD	South Atlantic Division - Atlanta, GA
SAC	Charleston District
SAJ	Jacksonville District (includes Puerto Rico)
SAM	Mobile District
SAS	Savannah District
SAW	Wilmington District
SPD	South Pacific Division - Los Angeles, CA
SPK	Sacramento District
SPL	Los Angeles District
SPN	San Francisco District

APPENDIX D (continued)

The Corps of Engineers Civil Works program covers nationwide water resources development including investigations and surveys, planning, construction, and operation and maintenance of federal flood control, rivers and harbors, beach erosion, and multiple-purpose power projects. This map shows those elements with Civil Works responsibilities.

NORTH PACIFIC



The Alaska District Headquarters, Anchorage, Alaska, is included in the North Pacific Division.

The State of Hawaii and Islands in the Pacific are included in Honolulu District, Pacific Ocean Division, with Headquarters at Honolulu, Hawaii.

The Territory of Puerto Rico and adjacent Islands is included in Jacksonville District, South Atlantic Division.

- DISTRICT BOUNDARIES
- DIVISION HEADQUARTERS
- DISTRICT HEADQUARTERS
- ▲ DIVISION AND DISTRICT HEADQUARTERS
- NWS Region Boundaries

APPENDIX E

B-44 FOR DARLINGTON, LA

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE

WS-FORM B-44A

UNOFFICIAL COOPERATIVE STATION REPORT

IDENTIFICATION SECTION

Station Name: DARLINGTON 4 WNW
State: LA
Latitude: 30 53 20
Longitude: 90 50 40
Station Begin Date: 5/01/1966
River Basin: LAKE PONTCHARTRAIN 6

LID: DARL1
County: ST HELENA
Elevation: 146
Hydrologic Unit No: 8070202

OBSERVER SECTION

Observer: NATIONAL WEATHER SERVICE
Address: P. O. BOX 74087
BATON ROUGE, LA 70874

DOS: 5/01/1966 Gender: i
Home Phone: 504 389 0308
Office Phone:
Recipient: M5YL1/AFDS
Comms: AFDS/TEL

Duties: GUES/DCP REPORT EVERY 6 HRS. PHONE DAILY AS NEEDED.

STATION MANAGEMENT SECTION

CPM: BTR
RFC: SIL

WSFO: NEW
COE: LMN

HSA: NEW
Warning: BTR

WFO:

REMARKS

RIVER GAGE SITE ONLY. SMALL ROLLING HILLS W/HEAVY TREE GROWTH. F&P WATER STAGE RECORDER, HANDAR 562 W/TB RG & VOICE, & WIRE WEIGHT GAGE ALL USGS EQUIPMENT. GAGE HOUSE LOCATED ON AMITE RIVER BRIDGE, STATE HWY 10. TOWNSHIP 2S. RANGE 4E.

Effective Date: 10/15/92

Hydrologist: David K. Smith

APPENDIX G
E-19A FOR DARLINGTON, LA

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE

WS-FORM E19A

REPORT ON RIVER GAGE STATION

----- SITE -----

NAME: DARLINGTON 4 WNW STREAM: AMITE RIVER LID: DARL1
COUNTY: ST HELENA BASIN: LAKE PONTCHARTRAIN 6

DRAINAGE: 580.0 FLOOD STAGE: 18.00 STATION NO: 16-2293-6
RIVER MILE: 106.0 WARNING STAGE: USGS NO: 07377000
ZERO DATUM: 145.81 BANKFULL STAGE: 15.00 NESS ID: 1675432E
CHECKBAR: 28.36 NORMAL POOL: RFC: SILL1
LATITUDE: 30 53 20 TIDAL EFFECTS: None HSA: NEW
LONGITUDE: 90 50 40

PERIOD OF RECORD: MARCH, 1949 TO DATE FORECAST TYPE: F
PUBLISHED: USGS/NO NWS PUB.

----- OBSERVER -----

NATIONAL WEATHER SERVICE DOS: 5/01/1966 SPONSOR: ASSU
P. O. BOX 74087 CD-404: TASK: N/A
BATON ROUGE, LA 70874 HOME PHONE: 504 389 0308 RATE: \$ 0.00
WORK PHONE: COMMS: \$ 0.00
TOTAL COST: \$ 0.00
COMMS TYPE: AFOS/TEL

DUTIES: GOES/DCP REPORT EVERY 6 HRS. PHONE DAILY AS NEEDED.
RECIPIENT: MSYL1/AFOS

----- GAGES -----

TELEMETRY: ADR/DCP PHONE: 504 683 5193 OWNER: USGS

GAGE TYPE OWNER OF GAGE
WIRE-WGT USGS
F&P ADR USGS

----- CRESTS -----

	LEVEL	DATE
HIGHEST BASED ON GAGE READING:	22.05	1/25/1990
HIGHEST BASED ON HIGH WATERMARKS:		
HIGHEST SINCE 1/01/1980	22.05	1/25/1990
HIGHEST SINCE 1/01/1990:	22.05	1/25/1990

----- REMARKS -----

ALL PREVIOUS FLOODS ABOVE 18.0 FEET, CURRENT DATUM, ARE LISTED ON PAGES 5 & 8, NWS FORM E-19.

HYDROLOGIST: David R. Smith

DATE PRINTED: 10/14/1992

APPENDIX H
E-19 FOR DARLINGTON, LA

WS FORM E-19 (COVER)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE

REPORT ON RIVER GAGE STATION

DATE: 10/14/1992

LOCATION: DARLINGTON 4 WNW LA

STREAM: AMITE RIVER

BASIN: LAKE PONTCHARTRAIN 6

HSA: WSFO New Orleans, LA

REFERENCES:

"WATER RESOURCES DATA FOR LOUISIANA", USGS, 1990.
NWS FORM B-44, RENDITION 5, 10/01/88.
NWS FORM E-19, 1984
REVISED GAGING STATION DESCRIPTION, USGS, 12/20/88

ABBREVIATIONS:

BM	- bench mark	EPA	- Environmental Protection Agency
DS	- downstream	IBWC	- International Boundary and Water Comm.
US	- upstream	MSRC	- Mississippi River Commission
HW	- high water	MORC	- Missouri River Commission
LW	- low water	NOAA	- National Oceanic and Atmospheric Admin.
RB	- right bank	NOS	- National Ocean Survey
LB	- left bank	NWS	- National Weather Service
MGL	- mean gulf level	TVA	- Tennessee Valley Authority
MLW	- mean low water	USE	- U.S. Army Corps of Engineers
MSL	- mean sea level	USBR	- U.S. Bureau of Reclamation
MLT	- mean low tide	USGS	- U.S. Geological Survey
MT	- mean tide	USWB	- U.S. Weather Bureau
WQ	- water quality		

LOCATION IDENTIFICATION: DARL1
NWS INDEX NUMBER: 16-2293-6
USGS NUMBER: 07377000

MAP OF GAGE LOCATION

LATITUDE: 30 53 20

LONGITUDE: 90 50 40

SOURCE: USGS

LOCATION: AMITE RIVER at/near DARLINGTON 4 WNW LA

HSA: WSFO New Orleans, LA

DATE: 10/14/1992

FORM E-19

LID: DARL1

PAGE 1: GAGE MAP

BENCH-MARKS

ELEVATION OF GAGE ZERO: 145.810 REFERENCE: ZERO NGVD 1929
 LEVELING AGENCY AND YEAR: USGS 1980
 RATING AGENCY: USGS
 CHECKBAR: 28.36

BENCH-MARK	GAGE ZERO	MSL
RBAR	28.356	174.166
RM 9 RM 1 THROUGH 8 DESTROYED. RM9 CHISLED SQUARE ON THE LEFT US CORNER OF THE LEFT US WING WALL.	26.425	172.235
RM10 CHISLED SQUARE ON THE RIGHT DS CORNER OF THE LEFT DS WING WALL.	26.430	172.240
RP UPPER EDGES OF BRASS SCREW SET IN EDGE OF RECORDER SHELF. TAPEDOWN MADE THROUGH HOLE IN FLOOR.	29.760	175.570
RP2 OUTSIDE GAGE HANDLE BRACKET.	29.130	174.940

EQUIPMENT

NESS ID: 1675432E
 OWNER: USGS
 REPORT TIME: 03:46
 INTERVAL: 1H
 CRITERIA: HRLY STAGE/PCPN W/ 6 HR
 GUES INTERROGATION.

TYPE OF TELEMETRY: ADR/DCP
 OWNER: USGS
 PHONE NUMBER: 504 683 5193
 COST OF LINE:
 PAYOR: USGS

GAGE TYPE	OWNER	MAINTENANCE	BEGAN	ENDED	LOCATION OF GAGE AND REMARKS
CREST STG	USGS	USGS	3/17/1949	10/23/1950	CREST-STAGE STATION ESTABLISHED BY J. S. CRAGWALL. DATUM 148.80
STAFF	USGS	USGS	10/24/1950	1/12/1951	DATUM 148.80
WATER STG	USGS	USGS	1/13/1951	5/28/1963	RECORDER USED AT FORMER CHANNEL 700 FT. TO THE LEFT. DATUM 148.80.
WIRE-WG1	USGS	USGS	7/30/1963		CURRENTLY IN USE AS BACK-UP TO F&P AUTOMATIC DIGITAL RECORDER (ADR). DATUM REVISED TO THE CURRENT 145.81 LEVEL
F&P ADR	USGS	USGS	2/12/1964		BDT TELEMARK 1968-1987. HANDAR560 (GUES DCP) INSTALLED 11/18/1986, OPERATIONAL 3/2/1987. METAL SHELTER ON 24-IN. CORRUGATED ALUMINUM PIPE WELL

LOCATION: AMITE RIVER at/near DARLINGTON 4 NW LA

HSA: WSFO New Orleans, LA

DATE: 10/14/1992

WS FORM E-19

LID: DARL1

PAGE 3: EQUIPMENT

HISTORY

PUBLICATION/LOCATION OF RECORDS	STARTING DATE	ENDING DATE
USGS WATER RESOURCES DATA	3/17/1949	

TYPE OF GAGE	OWNER	STARTING DATE	ENDING DATE
CREST STG	USGS	3/17/1949	10/23/1950
STAFF	USGS	10/24/1950	1/12/1951
WATER STG	USGS	1/13/1951	5/28/1963
WIRE-WGT	USGS	7/30/1963	
F&P ADR	USGS	2/12/1964	

ZERO ELEVATION	STARTING DATE
148.800	3/17/1949
145.810	5/28/1963

HIGH WATER RECORDS

FLOOD STAGE: 18.0

WARNING STAGE:

BANKFULL STAGE: 2

DATE OF CREST	TIME LST	CREST (ft)	FLOW (CFS)	FROM HIGH WATERMARKS	BASED ON OLD DATUM	CAUSED BY ICE JAM	REMARKS
1/07/1950		20.20	43400			X	1950 STAGE WAS 17.21 FT BASED ON 148.8 FT DATUM.
3/30/1951		19.04	31600			X	1951 STAGE WAS 16.05 FT BASED ON 148.8 FT DATUM.
4/13/1955		21.17	55700			X	1955 STAGE WAS 18.18 FT BASED ON 148.8 FT DATUM.
9/23/1958		18.05	22400			X	1958 STAGE WAS 15.06 FT BASED 148.8 FT DATUM.
3/18/1961		19.69	37900			X	1961 STAGE WAS 16.70 FT BASED 148.8 FT DATUM.
3/03/1964		19.40	44500				
10/05/1965		19.37	44500				
4/15/1967		18.97	39300				
12/07/1972		19.43	45500				
3/25/1973	19:45	20.19	62100				
6/09/1975	07:30	18.98	40700				
4/22/1977	04:00	21.76	76400				
11/30/1977	23:45	18.09	30500				
4/23/1979	05:45	19.25	43400				
3/28/1980	19:19	19.59	47500				
4/07/1983	10:00	20.29	63300				
1/25/1990	16:30	22.05	104000				HIGHEST STAGE AND GREATEST FLOW ON RECORD.

LOCATION: AMITE RIVER at/near DARLINGTON 4 WNW LA

HSA: WSFO New Orleans, LA

DATE: 10/14/1992

WS FORM E-19

LID: DARL1

PAGE 5: HIGH WATER

LOW WATER RECORDS

DATE OF LOW WATER	STAGE (ft)	FLOW (CFS)	REMARKS
10/18/1956		188.0	MINIMUM DISCHARGE OF RECORD
6/29/1973	2.30	360.0	
7/01/1973	2.30	366.0	
10/29/1976	2.40	274.0	10/14-29/76; MINIMUM FLOW 10/21-22/76.
11/11/1976	2.40	284.0	11/04-11/76; MINIMUM FLOW 11/06/76.
11/04/1989	2.59	288.0	MINIMUM FLOW 281 CFS, 9/8-9/89.

CONDITIONS AFFECTING FLOW

MILES ABOVE MOUTH: 106.0 DRAINAGE AREA: 580.0 POOL STAGE:

STREAM BED: SAND AND GRAVEL

CONTROL: SAND AND GRAVEL SHOAL BELOW A GAGE HGT OF ABOUT 3 FT, AND CHANNEL CONTROL ABOVE THAT STAGE.

REGULATION: NONE

DIVERSION: NONE

WINTER: CHANNEL RARELY SUBJECT TO FREEZING.

TOPOGRAPHY: BOTH BANKS CONSIST OF BLUFFS 50 TO 60 FT HIGH WITHIN A MILE OR SO OF THE RIVER, RISING TO MORE THAN 100 FT WITHIN TWO MILES. AT GAGE, BANKS ARE 15 TO 16 FT.

REMARKS: SEE PHOTOS TAKEN 4/16/92. BANK ELEVATION 160 FT MSL. BANKFULL GAGE HGT 15 FT. FLOOD STAGE 18 FT. AT 15-18 FT LOW-LYING AREAS AFFECTED. AT 21.8 FT WATER LEVEL IS AT THE UNDERSIDE OF THE LA HWY 10 BRIDGE DECK.

LOCATION: AMITE RIVER at/near DARLINGTON LA

HSA: WSFO New Orleans, LA

DATE: 10/14/1992

WS FORM E-19

LID: DARL1

PAGE 6: LOW WATER &
CONDITIONS

FLOOD LEVELS

STAGE AREAS AFFECTED

15.00 BANKFULL (MINIMUM STAGE TO REQUIRE ENTRY THIS SHEET & ON GRAPH PG 8).

16.00 LOW-LYING AREAS AFFECTED.

18.00 FLOOD STAGE. SAND/GRAVEL EXTRACTION OPERATIONS STOPPED.

21.80 WATER TO BRIDGE DECK UNDERSIDE.

22.05 FLOOD OF RECORD--JANUARY, 1990

Requests for additional copies of this Technical Memorandum may initially be made by contacting:

Regional Hydrologist
National Weather Service
Southern Region Headquarters
819 Taylor Street, Room 10A26
Fort Worth, TX 76102

Phone: 817-334-2674

Requests for a copy of the SHIMS software (exclusive of Paradox) may be made to:

Scientific Services Division
National Weather Service
Central Region Headquarters
601 East 12th Street, Room 1836
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