

**NATIONAL WEATHER SERVICE INSTRUCTION 10-924
DECEMBER 30, 2019**

**Operations and Services
Water Resources Services Program, NWSPD 10-9**

WEATHER FORECAST OFFICE WATER RESOURCES REPORTING

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- 1) **SUMMARY OF REVISIONS:** This directive supersedes NWS Instruction 10-924, “Weather Forecast Office Hydrologic Reporting,” dated March 13, 2017

The following revisions were made to this instruction:

1. In title and throughout document, changed “Hydrologic” terminology to “Water Resources” to reflect services nomenclature.
2. In section 2, changed wording to indicate database information will be reviewed at least once every five years and within 30 days of a significant event.
3. In section 4, clarified and consolidated reporting procedures for Flood Stage Reports and Monthly Reports.
4. In Appendix A, updated hyperlinks to current resources, updated figures with images depicting current HydroBase interface, and updated tables with correct data types.

Signed
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Director
Analyze, Forecast, and Support Office

12/16/2019
Date

Weather Forecast Office Water Resources Reporting

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1. Introduction. Centralized collection of river station descriptions and recent water resources activity is required to support operations and management of the National Weather Service (NWS) Water Resources Services Program. Historically, this reporting has been accomplished through hard copy forms such as Weather Service (WS) Forms E-19, E-19a, E-5 and E-3. This directive provides instructions to Weather Forecast Offices (WFO) on the population and maintenance of the Integrated Hydrologic Forecasting System Database (IHFS-DB) and the hydrologic reports required from WFOs. WFO Hydrology Program Managers (HPM) are responsible for ensuring the required IHFS-DB fields are current and accurately populated and for preparing the forms and reports described below.

2. River Gage Station Description and History. The database fields identified in Appendix A provide a complete description and history of all gages that have been used for public forecasts since establishment of the station. The data and information within these database fields provide an operational reference and serve as a quick review of the public service needs within a particular river reach before, during, and after a flood. The HPM will review the data stored for each gage in these fields a minimum of once every five years and within 30 days of a significant event that necessitates an update to the database, such as when a river stage reporting station is discontinued.

Database fields for river gage station information and history should be maintained for all river gage stations used by the NWS in any part of the Water Resources Services Program regardless

of ownership. These locations are sometimes separated into two categories – forecast points and data points, which are specifically defined in [NWS Instruction 10-950, *Definitions and General Terminology*](#).

For a new river forecast point, the HPM should populate the appropriate IHFS-DB fields identified in Appendix A and distribute the information to NWS offices which use the data before river forecast service for the site is added to the Water Resources Services Program. For a new data point, the appropriate IHFS-DB fields identified in Appendix A should be populated no more than 60 days after data from the site are incorporated into the NWS Water Resources Services Program.

River gage station description and history information stored in IHFS-DB may be printed and filed in traditional WS Form E-19 and WS Form E-19a formats from HydroBase to serve as a local reference document and to be distributed as appropriate.

3. Relationship to National River Location Database. The National River Location Database (NRLDB) is populated when a script accesses (1) river gage station description and history tables from each WFO's IHFS-DB and (2) forecast services tables from each RFC's IHFS-DB. The script is automatically run once every morning. WFOs and RFCs can manually run this script if more frequent updates to the NRLDB are required. The combined information is then stored as a national database. Procedures on the forecast services tables at RFCs may be found in [NWS Instruction 10-914, *River Forecast Center Reporting*](#).

4. Flood Stage and Monthly Reports. After a flood event, the HPM will ensure the crest stages and duration above flood stage data posted to the IHFS-DB are accurate. Hydrologic reporting of crests above flood stage can be accomplished by maintaining an extended Flood-TS table in the IHFS-DB. To maintain flood stage reports within IHFS-DB, the retention parameter on the Flood-TS table will be 30 months.

Whenever a river crests at or above flood stage, HPMs may also prepare a WS Form E-3 (shown in Appendix B) or provide the equivalent information through a regionally-developed mechanism. Rivers and stations in flood are listed in a downstream order. Provide inclusive dates for the duration of flooding for each station. Days with flood stage or higher will be considered in determining the duration of the flood. Any completed WS Form E-3 template should be submitted with WS Form E-5 as described below.

To submit a monthly report of hydrologic conditions, a report should be prepared summarizing hydrologic conditions in the Hydrologic Service Area (HSA) during the previous calendar month. The report will follow the format of WS Form E-5 (shown in Appendix C). The general content and dissemination of this report is specified below.

4.1 Content of Monthly Report. Include one or more of the following sections in the monthly report of hydrologic conditions:

- a. Summary
- b. Flood Conditions

- c. River Conditions
- d. Drought
- e. Water Supply
- f. General Hydrologic Conditions

Include the summary section each month. Include the other sections if local conditions warrant.

4.1.1 Summary. The text of the summary will include a general overview of hydrologic conditions. If there was no significant hydrologic activity, a simple statement to that effect is sufficient.

4.1.2 Flood Conditions. When a flood occurs, prepare a descriptive summary of the flooding. The report should be comprehensive but concise and should include the following:

- a. A statement as to the rivers, areas, and states in which the floods occurred; the period of flooding, its magnitude, and interesting or unusual features; if floods were of unusual severity; and a tabular comparison with past floods.
- b. A summary relative to the rainfall or other conditions causing the floods, indicating the approximate average precipitation over the basins.
- c. A summary of impacts during significant flood events that produced one or more fatalities and/or large-scale property damage. This section should include location and extent of the impacts, number of deaths by state, and total property damage figures (if available). The HPM should coordinate with the local Warning Coordination Meteorologist, who is responsible for gathering this information and writing impact summaries of major flood events for the NWS Storm Data Program. This information is useful to the National Weather Service Headquarters, which is tasked with providing flood damage reports and flood loss statistics to the U.S. Army Corps of Engineers and upper-level NWS leadership.
- d. A general statement as to hydrologic warnings and forecasts issued and effectiveness of water resources services provided by the WFO. In the discussion of lead time, include flood mitigation actions taken and monetary savings realized, if known.

4.1.3 River Conditions. When no floods have occurred, describe miscellaneous hydrologic conditions such as significant rises, record low stages, ice conditions, and opening and closing of the river to navigation.

4.1.4 Drought. When drought conditions affect the HSA, a drought section will be included in the monthly summary. Topics may include information on precipitation deficits, stream conditions, ground water levels, soil moisture conditions, impacts on water supply, agriculture and fire danger, drought declarations issued by civil or water management authorities, as well as long-term outlooks. A copy of a recently issued Drought Information Statement (DGT) for the

WFO area may be used for this section (see [NWS Instruction 10-1201, WFO Drought Products Specification](#)).

4.1.5 Water Supply. In areas where water supply conditions are of particular interest, the summary may include information on past precipitation, snow conditions, water supply forecasts, reservoir and ground water levels, and anticipated problems.

4.1.6 General Hydrologic Information. This section may include general information on hydrology in the HSA that is not included in the sections above. It may also include topics of local interest.

4.2 Distribution of Reports. When a Monthly Report of Hydrologic Conditions and/or a Flood Stage Reports are prepared, these should be submitted by the 15th of the following month to the appropriate river forecast center and hydrologic services division, hydrologic and climate services division, or hydrologic services branch (within a climate, water, and weather division) at regional headquarters. Additional copies of the report may be sent to other offices based on local agreements.

The file format may be either Microsoft Word (.doc, .docx) or Portable Document Format (.pdf). File name will adhere to the following format:

E5_SID_YYYY-MM.ext and
E3_SID_YYYY-MM.ext,

where,

SID is the 3-letter WFO site identification,
YYYY is the 4-digit year,
MM is the 2-digit representation of the month, and
ext is the three letter file format extension (doc, docx, or pdf).

APPENDIX A – Required IHFS-DB Fields of River Gage Station Description and History

The HPM is responsible for overall quality of the information stored in the IHFS-DB. Information in the database fields identified below summarizes a river/stream location's description and history. Filling in these fields is required for all river/stream locations used in any part of the NWS Water Resources Services Program regardless of who operates the gaging station. If it is impossible to obtain information for a field, it may be left unpopulated. Sources for supporting information on the IHFS-DB are listed below.

- Documentation on the IHFS-DB can be found at the following website:
<https://vlab.ncep.noaa.gov/group/awips-hydro-support/doc-links>
- Guidance on the content and format of information to be entered in each field, which was developed by the 2009 Database Standardization Team, is included in the [Guidelines and Standards for Selected Reference Tables in the IHFS and RAX Databases](#). The IHFS Guidelines and Standards 2009 can be found at the AWIPS Hydro Field Support Documents website (<https://vlab.ncep.noaa.gov/group/awips-hydro-support/doc-links>) under the header Misc Documentation.
- Various data codes for SHEF are referenced in the [Standard Hydrometeorological Exchange Format \(SHEF\) Code Manual](#). The SHEF Code Manual can be found at the AWIPS Hydro Field Support Documents website (<https://vlab.ncep.noaa.gov/group/awips-hydro-support/doc-links>) under the header IHFS Data Ingest.
- Definitions of key terms used in these database field names can be found in [NWS Instruction 10-950, Definitions and General Terminology](#).

Site Information. Tables 1-19 contain a list of fields required in the IHFS-DB. The contents of each table include tablename.column.name (where the data value can be found in the database), the type of database value, and a description of the field. Asterisks indicate foreign key constraints. IHFS-DB is a relational database. In the context of relational databases, foreign key constraints refer to field values that have to be previously defined in other tables. Figures 1-19 show HydroBase windows that depict the database fields that are required to be maintained.

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19. Reservoir menu/Reservoir window in HydroBase

Table 1. Location information found in the HydroBase Location menu/Modify Location window.

Table Name Column Name	Type	Column Description
location.lid	char(8)	Unique identifier
location.name	char(50)	Name (Location)
location.county	char(20)	*County name
location.state	char(2)	*State
location.rb	char(30)	River basin name
location.lat	float	Latitude
location.lon	float	Longitude
location.sn	char(10)	Station Number (NWS Index Number) (NCDC station number)
location.rfc	char(5)	*RFC
location.hsa	char (3)	*HSA
location.sbd	date	Station begin date
location.lremark	char(255)	Directions to gage station/other remarks
location.tzone	char(8)	Time zone
location.elev	float	Elevation of the normal ground surface where the station is located
location.network	char(3)	Network
location.wfo	char(3)	*WFO
location.detail	char(10)	The direction and distance (in whole miles) from a location to the nearest U.S. Post Office

Figure 1. Location menu/Modify Location window in HydroBase.

Modify Location - BRKM2 - Little Falls ✕

Page Geophysical Copy to New Location

Geographic/Physical

Location: BRKM2 Inactive Revise: 09/21/2011

Name: Little Falls

Basin: potomac-05 Detail: AT

Lat/Lon: 38.949722222222 77.327777777778 Network: b

Lat/Lon (DMS): 38 56 59 77 19 40 RFC: MARFC

Elevation: 38.0 HSA: LWX
LZK
MAF WFO: LWX
LZK
MAF

Station Num: 01646500

County/State: Montgomery, MD

Time Zone: EST5EDT (Eastern Standard & Daylight)

Remarks

FRM BELTWAY/I495, CLARA BARTON PARKWAY E TOWARDS GLEN ECHO TO PUMPING STATION/DALECARLIA RESERVOIR. ALL VISITORS MUST STOP AT U.S.E. OFFICE TO BE ESCORTED FRM GATE TO DAM. 1.8 SE P.O.

Station Characteristics (View-Only)

Station Type:

<input checked="" type="checkbox"/> Forecast Point	<input checked="" type="checkbox"/> Reservoir	<input checked="" type="checkbox"/> Snow	<input checked="" type="checkbox"/> Other
<input type="checkbox"/> River Data	<input checked="" type="checkbox"/> Precipitation	<input checked="" type="checkbox"/> Temp	<input type="checkbox"/> Undefined

Data Sources:

<input checked="" type="checkbox"/> Dcp	<input type="checkbox"/> Observer
<input checked="" type="checkbox"/> Telemetry	

OK
Apply
Cancel
Delete

Table 2. Observer information found in the HydroBase Location menu/Data Sources window/Observer Page.

Table Name Column Name	Type	Column Description
observer.firstname, observer.lastname	char(12), char(28)	Observer's Name
observer.a1, observer.a2, observer.a3, observer.city, observer.state, observer.zip	char(30), char(30), char(30), char(30), char(2), char(10)	Address: Number and Street 2 nd line for location, if needed 3 rd line for location, if needed City State Zip Code
observer.dos	date	Start date of service
observer.spons	char(7)	*Sponsor
observer.ornr	char(4)	Order number found on form CD-404
observer.hphone	char(18)	Home phone number
observer.phone	char(18)	Work phone number
observer.rate	float	Rate
observer.email	char(60)	E-Mail address of contact
observer.rprt	char(60)	Duties or reporting criteria
observer.recip	char(15)	*Recipient
observer.comm	char(10)	*Comms type
observer.tsk	char(13)	Task
observer.ssn	char(11)	Social security number
observer.gn	char(1)	Gender

Figure 2. Location menu/Data Sources window/Observer Page in HydroBase.

Data Sources - BRKM2 - Little Falls x

Type: **Observer** ▾

Observer

First Name: DoS:

I/Last Name: Home:

Address1: Work:

Address2: SSN:

Address3: Gender: M F I

City:

State: AA ▾

Zip:

E-Mail:

Administration

Comms: 1-800 ▾ Task No:

Sponsor:

- A&E
- ASSO
- ASSOC
- BPA-1
- COE

 Rate: CD-404:

Recip:

- ABQ
- ABR
- ACR
- AFC
- AFG

Report:

Apply Close Delete

Table 3. Telemetry information found in the HydroBase Location menu/Data Sources window/Telemetry Page.

Table Name Column Name	Type	Column Description
telem.type	char(10)	*Telemetry Type
telem.owner	char(10)	*Telemetry Owner
telem.payor	char(10)	*The organization that pays for the telemetry services costs
telem.rptfreq	char(4)	Reporting Frequency
telem.obsvfreq	char(4)	Observation Frequency
telem.cost	float	Monthly telemetry pay or cost of line
telem.phone	char(18)	Phone number
telem.sensorid	char(10)	Device sensor id

Figure 3. Location menu/Data Sources window Telemetry Page in HydroBase.

Data Sources - BRKM2 - Little Falls x

Type: **Telemetry** ▾

General

Telemetry: **handr550**
handr550a
handr555
handr555es
handr560

Owner: **NWS**
NWS/ARMY
NWS,FAA
NWS/FAA
NWS/STWV

Payor: **NWS**
NWS(phone)
Obsvr
OCS
OK WTR BRD

Phone:

Cost:

Sensor Id:

Reporting Frequency:

Observation Frequency:

Criteria

Table 4. DCP information found in the HydroBase Location menu/Data Sources window DCP Page.

Table Name Column Name	Type	Column Description
dcp.goes	char(8)	DCP (GOES) ID
dcp.owner	char(10)	*DCP Owner
dcp.rptime	char(8)	DCP Report Time
dcp.rptfreq	char(4)	DCP Report Interval/Frequency
dcp.obsvfreq	char(10)	DCP Observation Frequency
dcp.randrept	char(1)	T/F column which defines whether or not the DCP provides random reports at intervals less than the published reporting frequency for the platform
dcp.criteria	char(50)	Statement of the criteria for reporting observations that is assigned to each automated telemetry or GOES DCP platform

Figure 4. Location menu/Data Sources window DCP Page in HydroBase.

Data Sources - BRKM2 - Little Falls x

Type: DCP

General

Owner: USEBUF
USE PIT
USFS
USFWS
USGS

GOES ID: DDAC4370

Reporting Time: 00:53:40

Reporting Frequency: 60

Observation Frequency: 15

Random Report

Criteria

HG 15 min, WC 60 transmitted every 4 hours

Apply Close Delete

Table 5. River location information found in the HydroBase RiverGage menu/RiverGage window.

Table Name Column Name	Type	Column Description
riverstat.stream	char(32)	Official name of river or stream
riverstat.da	float	Drainage area
riverstat.mile	float	River Mile
riverstat.zd	float	Zero Datum (Elevation of the gage zero)
riverstat.lat	float	Latitude
riverstat.lon	float	Longitude
riverstat.fs	float	Official flood stage of a river, stream, or lake
riverstat.wstg	float	Official action stage of a river, stream, or lake
riverstat.fq	float	Flood Flow
riverstat.action_flow	float	Action Flow
riverstat.remark	char(255)	Directions to gage station/other remarks
riverstat.threshold_runoff	float	Threshold runoff value for a site
riverstat.rrevise	date	The date when E-19 data was last updated for a river station
riverstat.use_latest_fcst	char(1)	A true/false flag indicating whether RiverPro should use the latest (as in basis time) forecast data when computing the mofo (maximum observation/forecast)
riverstat.primary_pe	char(2)	Primary stage or discharge physical element (SHEF PE code) for a river station

Figure 5. RiverGage menu/RiverGage window in HydroBase.

River Gage - BRKM2 - Little Falls

Page: Geophysical

Geographic/Physical

Stream: Potomac River

Lat/Lon: 38.94972222 77.32777777

Drainage Area: 11560.0

River Mile: 117.4

Flood Stage: 10.0 Flow: 134000.0

Action Stage: 5.0 Flow: 22000.0

Zero Datum: 37.95 Issuance Stage:

Threshold Runoff: Issuance Flow:

Revise Date: 09/21/2011

Forecast Point Group Assignment: POTriver

Primary Stage/Flow Physical Element

- HG River Stage**
- HH Reading Height - MSL
- HI Stage Trnd Indicator
- HL Lake Elevation

Use Latest Forecast When Computing Maximum Forecast Value

Remarks

OK Apply Cancel Delete

Table 6. River location information found in the HydroBase RiverGage menu/RiverGage window/Additional Info page.

Table Name Column Name	Type	Column Description
riverstat.vdatum	char(20)	Vertical Datum
riverstat.cb	float	Checkbar Stage
riverstat.bf	float	Bankfull Stage
riverstat.tide	char(8)	Tidal Effects
riverstat.gsno	char(15)	USGS Gage Number
riverstat.por	char(30)	Period of Record
riverstat.level	char(20)	Leveling Agency and Leveling Date (Level)
riverstat.rated	char(20)	Rating Agency (Rated)
riverstat.ratedat	date	Date that the current rating curve for a river station became effective
riverstat.rsource	char(20)	Agency that determined the latitude and longitude for a river station
riverstat.usgs_ratenum	char(5)	USGS rating number
riverstat.backwater	char(8)	Indication of any backwater effects at a river gage site
riverstat.pool	float	Normal pool elevation, measured in feet above mean sea level, at a river station

Figure 6. RiverGage menu/RiverGage window Additional Info page in HydroBase.

River Gage - BRKM2 - Little Falls x

Page **Additional Info** ▾

Information

Period of Record:	<input type="text" value="03/1930-"/>	USGS No:	<input type="text" value="01646500"/>
Lat/Lon Source:	<input type="text" value="USGS Water Resources"/>	Bankfull:	<input type="text" value="10.0"/>
Level:	<input type="text" value="Level"/>	Check Bar:	<input type="text"/>
Vertical Datum:	<input type="text" value="NGVD29"/>	Pool:	<input type="text"/>
Rated:	<input type="text" value="USGS"/>		
Date of Rating:	<input type="text" value="10/17/2017"/>		
USGS Rating No.:	<input type="text"/>		
Tidal Effect:	<input type="text" value="None"/> ▾		
Backwater:	<input type="text" value="None"/> ▾		

OK Apply Cancel Delete

Table 7. Flood Impact Statement Information found in the Hydrobase Rivergage menu/Impact Statement window.

Table Name Column Name	Type	Column Description
floodstmt.impact_value	float	Impact Value
floodstmt.impact_pe	char(2)	Impact PE
floodstmt.datestart	char(5)	Seasonal start date
floodstmt.dateend	char(5)	Seasonal end date
floodstmt.statement	char(512)	Impact
floodstmt.rf	char(1)	Code that indicates a rising or falling condition exists in relation to river stage

Figure 7. Rivergage menu/Impact Statement window in HydroBase.

Impact Statement - BRKM2 - Little Falls

IMPACT VALUE	IMPACT PE	BEGIN	END	TENDENCY
22.0	HG	01/01	12/31	RISING
17.0	HG	01/01	12/31	RISING
15.0	HG	01/01	12/31	RISING
14.0	HG	01/01	12/31	RISING
12.0	HG	01/01	12/31	RISING
11.5	HG	01/01	03/31	RISING
11.5	HG	10/02	12/31	RISING

Characteristics

Impact Value: Impact PE: Begin (Seasonal):

Tendency: Rising End (Seasonal):

Falling

Impact

Flood waters reach highway 431 (Lewisburg Pike) in Franklin.

Buttons: OK, Apply, Cancel, New, Delete, Print All, Save to File

Table 8. Fields found in the HydroBase RiverGage menu/Flood Category window.

Table Name Column Name	Type	Column Description
floodcat.major_stage	float	Major flood stage
floodcat.major_flow	float	Major flood flow
floodcat.moderate_stage	float	Moderate flood stage
floodcat.moderate_flow	float	Moderate flood flow
floodcat.minor_stage	float	Minor flood stage
floodcat.minor_flow	float	Minor flood flow

Figure 8. RiverGage menu/Flood Category window in HydroBase.

Flood Category - BRKM2 - Little Falls x

Categories

	Stage	Discharge
Major:	14.0	1.75465E7
Moderate:	13.0	1.70465E7
Minor:	10.0	1646500.0

OK Cancel Delete

Table 9. Crest information found in the HydroBase RiverGage menu/Crest History window.

Table Name Column Name	Type	Column Description
crest.datcrst	date	Date of Crest
crest.timcrst	char(5)	Time (LST)
crest.stage	float	Crest (ft)
crest.q	integer	Flow (cfs)
crest.hw	char(1)	True/false flag that indicates whether an observer determined a crest event by visually examining high water marks on a staff gage or not
crest.olddatum	char(1)	True/false flag indicator of whether an old datum was in effect when the associated crest was recorded or observed
crest.jam	char(1)	True/false flag indicating if the crest was caused by an ice jam
crest.suppress	char(1)	True/false flag that indicates whether a crest event should be suppressed or displayed on output depictions
crest.prelim	char(1)	Indicates if the associated crest is a preliminary reading, observation subject to adjustment upon receipt of official records from the rating agency, or a record
crest.cremark	char(160)	Remarks

Figure 9. RiverGage menu/Crest History window in HydroBase.

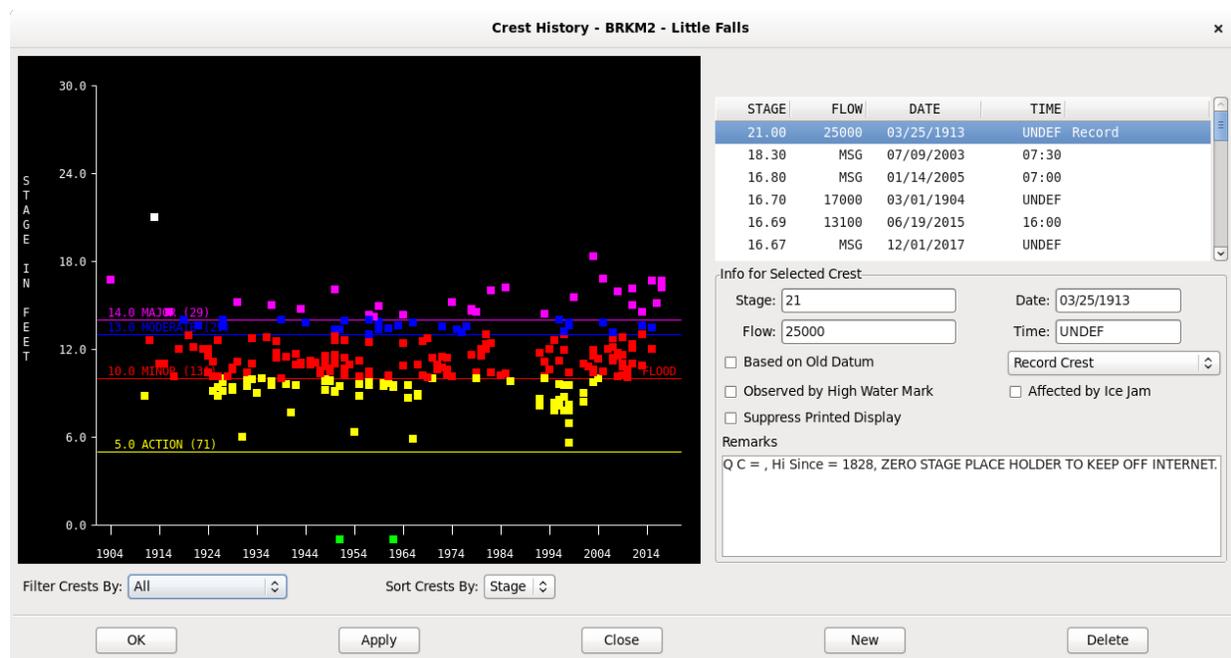


Table 10. Reference information found in the HydroBase RiverGage menu/References window.

Table Name Column Name	Type	Column Description
refer.reference	char(70)	References

Figure 10. RiverGage menu/References window in HydroBase.

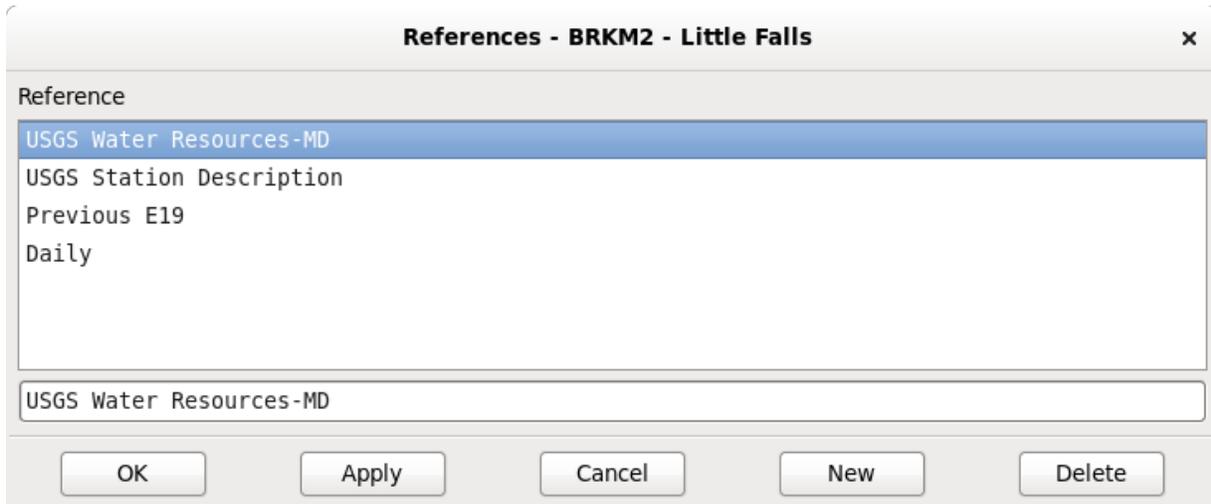


Table 11. Datum information found in the HydroBase RiverGage menu/Datum window.

Table Name Column Name	Type	Column Description
datum.elev	float	Zero Datum (Elevation at Gage Zero) (Elevation of the normal ground surface where the station is located (ie. NGVD 1929))
datum.ddate	date	Date of the last update of this record in the Datum or DamCat tables

Figure 11. RiverGage menu/Datum window in HydroBase.

Datum - BRKM2 - Little Falls [X]

DATE	ELEVATION
10/01/1999	37.940
10/01/1966	37.950
04/23/1930	38.000

Information

Date: Elevation:

Save Delete Close

Table 12. Benchmark information found in the HydroBase RiverGage menu/Benchmark window.

Table Name Column Name	Type	Column Description
benchmark.bnum	char(6)	Benchmark number
benchmark.remark	char(510)	Description
benchmark.elev	float	Elevation of the normal ground surface where the station is located

Figure 12. RiverGage menu/Benchmark window in HydroBase.

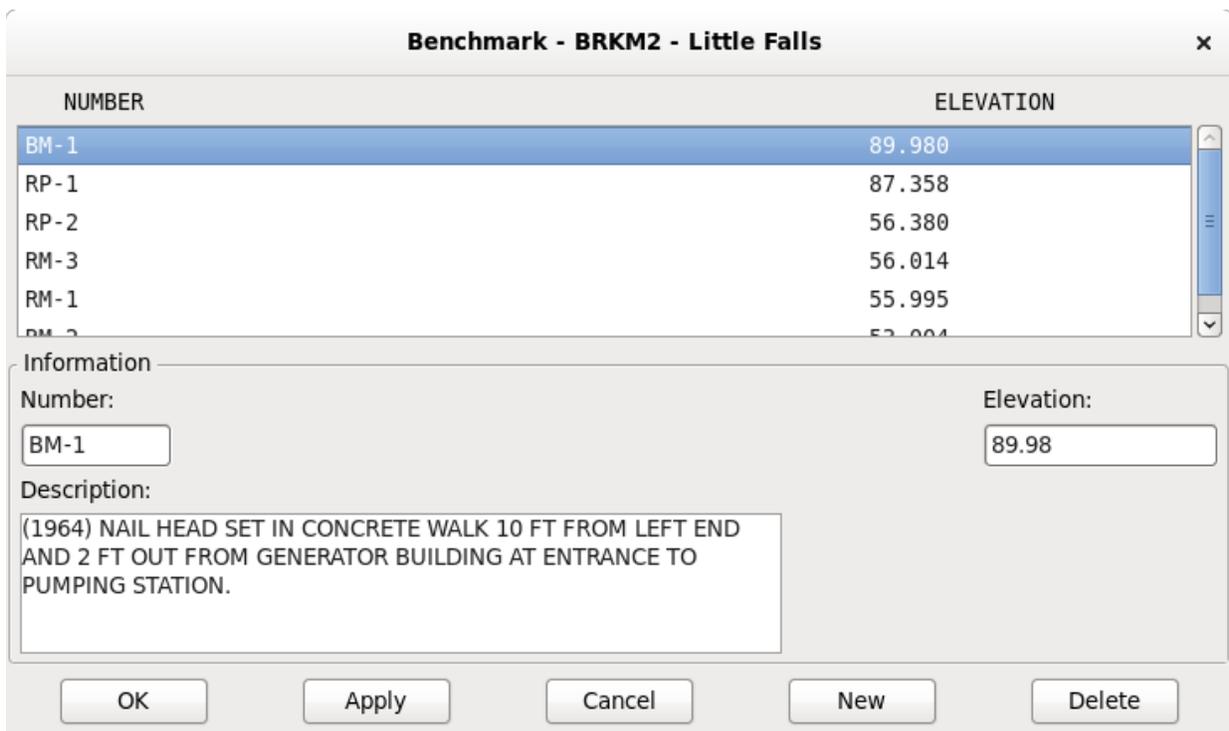


Table 13. Gage information found in the HydroBase RiverGage menu/Publications window.

Table Name Column Name	Type	Column Description
pub.ppub	char(25)	Publication/Location of Records
pub.pbegin	date	Starting date of records
pub.pend	date	Ending date of records

Figure 13. RiverGage menu/Publications window in HydroBase.

Publications - BRKM2 - Little Falls x

BEGIN	END
10/21/2015	10/22/2015
10/21/2015	10/22/2015
10/19/2015	10/20/2015
10/06/2015	10/07/2015

Information

Begin: End:

Location:

OK Apply Cancel New Delete

Table 14. Gage information found in the HydroBase RiverGage menu/Gage History window.

Table Name Column Name	Type	Column Description
gage.type	char(10)	*Gage Type
gage.owner	char(10)	*Owner
gage.maint	char(10)	*Maintaining agency
gage.gbegin	date	Begin service date
gage.gend	date	End service date
gage.remark	char(510)	Gage Location/Remarks

Figure 14. RiverGage menu/Gage History window in HydroBase.

Gage History - BRKM2 - Little Falls x

TYPE	OWNER	BEGIN	END
OS STAFF	COE	06/22/2005	
Pressure	COE	06/22/2005	
pres trans	COE	06/22/2005	
pres trans	USGS	05/06/1999	

Information

Type: NONRECORD
NON-RECORD
NonRecrdng
optical
OS STAFF Begin:
End:

Owner: CITY/SHR
CLT CITY/C
Cnty
COCORAHS
COE

Maint: USEPA
USE PIT
USFS
USFWS
USGS

Location

Sutron Satlink2 DCP and Sutron Accububbler system housed in a 1.5 ft by 3.5 ft metal shelter attached to the left DS bridge abutment.

Table 15. Low Water information found in the HydroBase RiverGage menu/Low Water window.

Table Name Column Name	Type	Column Description
lowwater.lwdat	date	Date of low water
lowwater.stage	float	Stage (ft)
lowwater.q	integer	Flow (cfs)
lowwater.lwrem	char(160)	Remarks

Figure 15. RiverGage menu/Low Water window in HydroBase.

Low Water - BRKM2 - Little Falls [x]

STAGE	FLOW	DATE
22.40	66	09/09/1966

Information

Stage: Flow: Date:

Notes:

OK Apply Cancel New Delete

Table 16. Drought/Low Water Impact Information found in the Hydrobase Rivergage menu/Low Water Statement window.

Table Name Column Name	Type	Column Description
lwstmt.pe	char(2)	SHEF physical element code value
lwstmt.lower_value	float	Lower value defining the range for which the low water impact information applies
lwstmt.upper_value	float	Upper value defining the range for which the low water impact information applies
lwstmt.lw_criteria	varchar(512)	Criteria of low water statement table
lwstmt.lw_source	varchar(512)	Source of low water statement
lwstmt.statement	char(512)	Text statement describing the low water conditions
lwstmt.criteria_rank	integer	If multiple criteria for a given range exist, then this column specifies the order in which the criterion are listed and uniquely identifies each

Figure 16. RiverGage menu/Low Water Statement window in HydroBase.

The screenshot shows a window titled "Low Water Statement - BRKM2 - Little Falls". At the top, there is a table with the following columns: LOWER LIMIT, UPPER LIMIT, PHYSICAL ELEMENT, and ORDER. The table contains one row with the values 1.00, 9.00, hg, and 2. Below the table is an "Information" section with several input fields: Lower Limit (1.00), Upper Limit (9.00), Physical Element (hg), and Order (2). There are also three text areas: Criteria (Crit), Source (Src), and Statement (Stmt). At the bottom of the window, there are five buttons: OK, Apply, Close, New, and Delete.

LOWER LIMIT	UPPER LIMIT	PHYSICAL ELEMENT	ORDER
1.00	9.00	hg	2

Information

Lower Limit: Upper Limit: Physical Element: Order:

Criteria:

Source:

Statement:

OK Apply Close New Delete

Table 17. Descriptive conditions for a location found in the HydroBase RiverGage menu/Description window.

Table Name Column Name	Type	Column Description
descrip.bed	char(60)	Stream Bed
descrip.reach	char(80)	Reach (limits, width, length)
descrip.res	char(255)	Regulation of upstream reservoir
descrip.divert	char(60)	Diversion (Effect that streamflow diversion has on a river station)
descrip.ice	char(160)	Winter (Freezing)
descrip.topo	char(255)	Topography
descrip.remark	char(255)	Remarks
descrip.proximity	char(6)	*Proximity
locarea.area	char(500)	The area of a two-dimensional planar figure such as a county, a forecast zone, or a river basin

Figure 17. RiverGage menu/Description window in HydroBase.

Description - BRKM2 - Little Falls

Proximity:

Stream Bed:

Divert:

Remarks:

Freezing:

Reach:

Regulation:

Topography:

Affected Area:

Buttons: Delete, Save, Exit

Table 18. Flood damage information found in the HydroBase RiverGage menu/Flood Damage window.

Table Name Column Name	Type	Column Description
flood.stage	float	Stage
flood.damage	char(512)	Areas Affected (Damage)
flood.dispstmt	char(60)	Displayable statement to summarize flood damage

Figure 18. RiverGage menu/Flood Damage window in HydroBase.

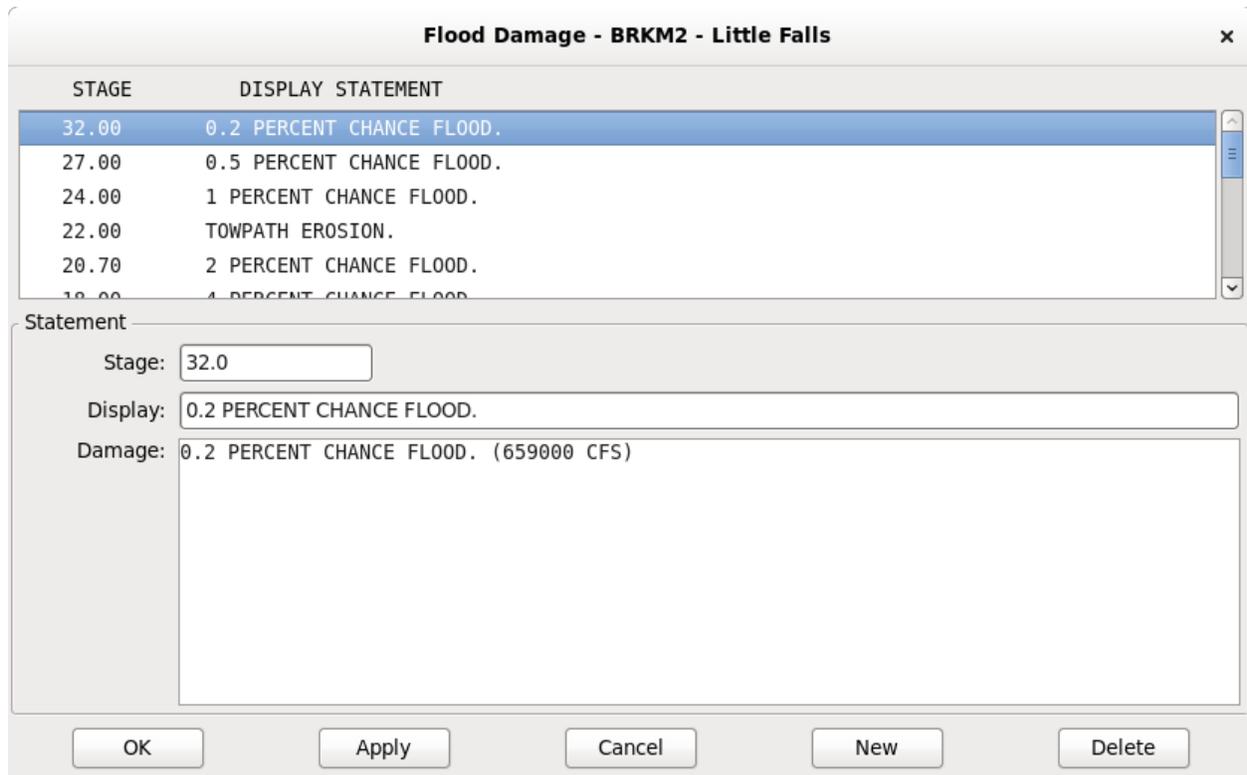


Table 19. Reservoir information found in the HydroBase Reservoir menu/Reservoir window.

Table Name Column Name	Type	Column Description
reservoir.name	char(20)	Reservoir name
reservoir.impounded	date	Impound date (Start date for the reservoir)
reservoir.type	char(10)	*Reservoir type
reservoir.owner	char(10)	*Reservoir owner and/or operator
reservoir.surchg	float	Max surcharge elevation (Maximum elevation at which water will be stored in a reservoir before release is required)
reservoir.top	float	Top elevation (Elevation of the top of the dam that holds a reservoir)
reservoir.sill	float	Sill elevation (Elevation of the sill structure of the dam that holds a reservoir)
reservoir.elev	float	Reservoir elevation
reservoir.floodpool	float	Flood pool height (Capacity of a reservoir) (Water releases occur at this level)
reservoir.spillway	float	Spillway pool height (Elevation of the spillway structure of the dam that holds a reservoir)
reservoir.conserpool	float	Conservation pool height (Water level of a reservoir that is desired to be conserved in order to serve the needs of downstream water users during non-rainy times of the year)
reservoir.deadpool	float	Dead pool height (Lowest water level allowed for a reservoir through normal operations)
reservoir.damidn	char(5)	National Inventory of Dams ID (NIDID)
reservoir.damids	char(2)	National Inventory of Dams State
reservoir.uses	char(8)	Designator of the uses made of a reservoir
reservoir.gates	integer	Number of output gates that a reservoir has

Figure 19. Reservoir menu/Reservoir window in HydroBase.

Reservoir - BRKM2 - Little Falls x

Information

Name:

Impound Date:

Gates:

Type:

Owner:

National Inventory of Dams

State: Id:

Uses:

- Flood Control
- Hydroelectric
- Low Flow Augmentation
- Navigation
- Recreation
- Water Supply

Elevations

Max Surcharge:

Top:

Sill:

Reservoir:

Pools

Flood:

Spillway:

Conservation:

Dead:

OK Cancel Delete

APPENDIX B – Template of WS Form E3: Flood Stage Report

NWS Form E-3 (04-2006) (PRES. BY NWS Instruction 10-924)		U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE		Hydrologic Service Area (HSA)	
				REPORT FOR: MONTH YEAR	
FLOOD STAGE REPORT					
RIVER AND STATION	FLOOD STAGE (Feet)	ABOVE FLOOD STAGES (Date)		CREST	
		FROM	TO	STAGE (Feet)	DATE

APPENDIX C – Template of WS Form E5: Monthly Report of Hydrologic Conditions

<p>NWS Form E-5 (04-2006) (PRES. BY NWS Instruction 10-924)</p> <p style="text-align: center;">U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE</p>	<p>HYDROLOGIC SERVICE AREA (HSA)</p>
<p>MONTHLY REPORT OF HYDROLOGIC CONDITIONS</p>	<p>REPORT FOR: MONTH YEAR</p>
<p>TO:</p>	<p>SIGNATURE</p> <hr/> <p>DATE</p>

When no flooding occurs, include miscellaneous river conditions below the small box, such as significant rises, record low stages, ice conditions, snow cover, droughts, and hydrologic products issued (NWS Instruction 10 -924).

An X inside this box indicates that no flooding occurred within this hydrologic service area.