The background of the slide is a close-up, slightly blurred image of the American flag. The stars and stripes are visible, with the blue field containing white stars on the left and the red and white stripes on the right. In the lower right quadrant, a small, golden sandcastle is visible, partially obscured by the flag's folds.

Transition to an Oracle Based Data System (Corps Water Management System, CWMS)

by

Joel Asunskis, P.E.

Hydraulic Engineer/Data Manager

Water Control Management

St. Louis District

U.S Army Corps of Engineers

August 4, 2005



US Army Corps
of Engineers

Legacy Data System



HEC – DSS

- A database system which enables efficient storage and retrieval of time series data developed to meet the needs for water resource projects and studies.

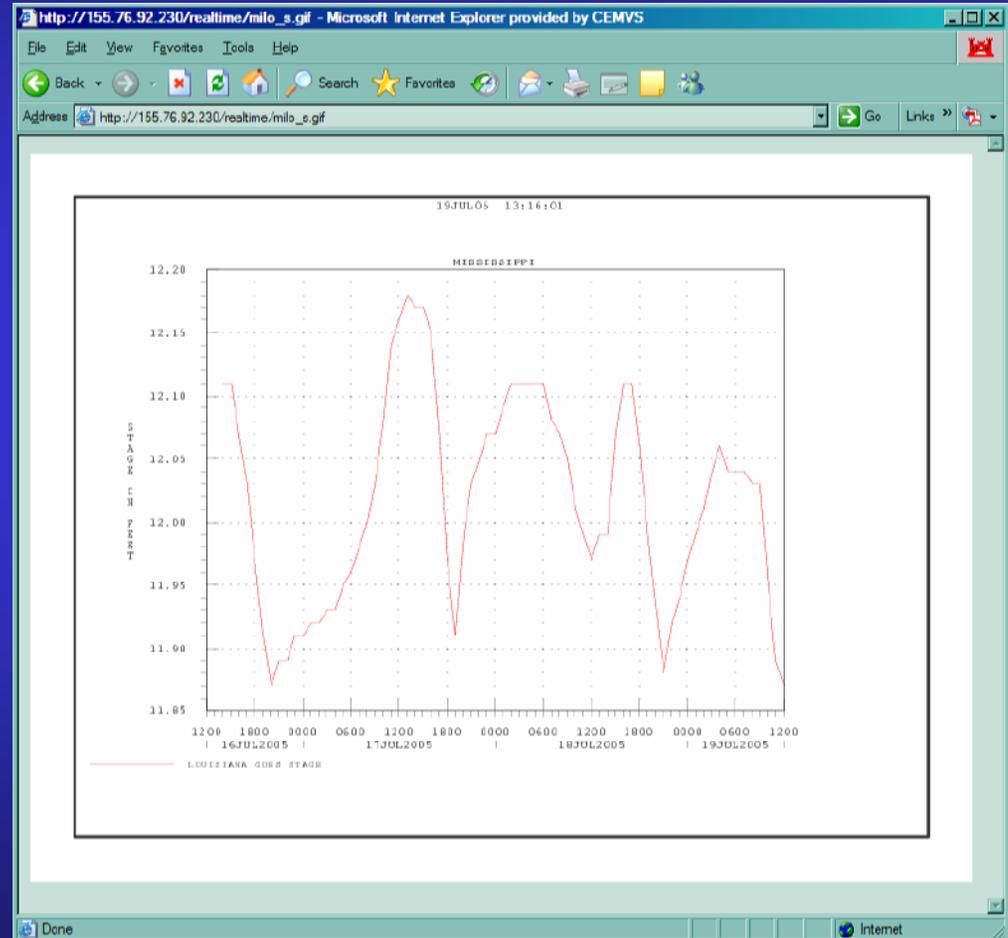
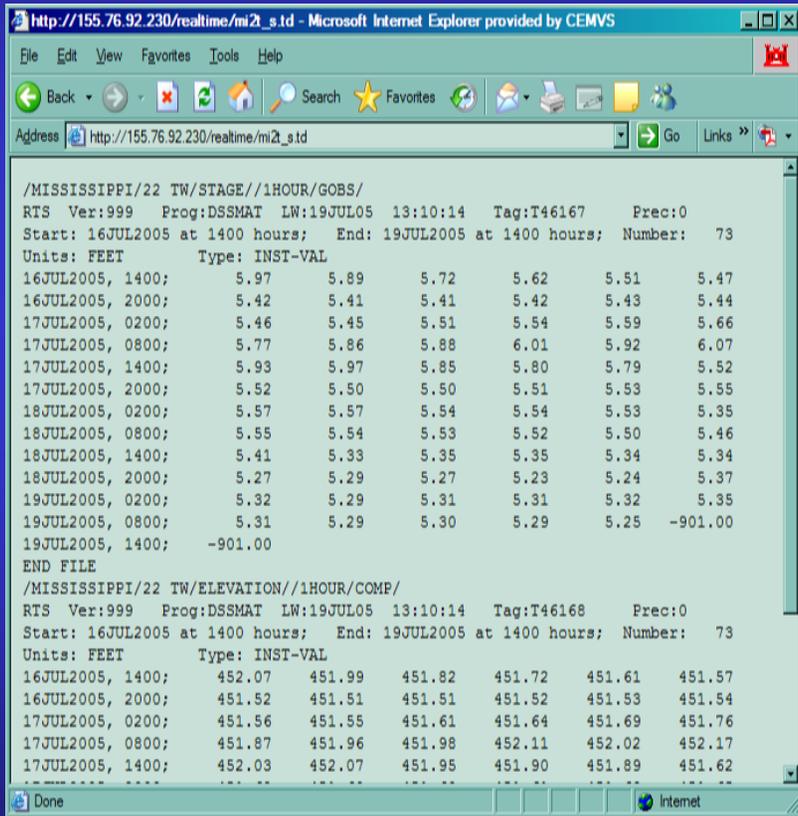


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Legacy System Web Dissemination



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Historical Records



```
Terminal
Window Edit Options Help
mosfs04cwmst:/usr1/b8cwmspd #1) datman

Daily Time Series Data Management Program
Version September 23, 1988
UNIX Workstation
Run date 19JUL06 time 12:05:59

DATMAN

U.S. Army Corps of Engineers
The Hydrologic Engineering Center
609 Second Street
Davis, California 95616
(916) 756-1104

Using configuration file ./data.fig
Enter basin > ml
ml
Note: datman requires ALL CAPS for some input!
48 Stations exist in the MISSISSIPPI River Basin.
SLD Water Data Base is Ready

If you do not understand a question, enter: ? for an explanation.
enter EXIT to come back to: What do you want to do? prompt.
enter FINISH to terminate processing this basin.
enter STOP to terminate all processing.

What do you want to do? ?
?

Enter      To Do
-----
1  DEvice  Define users (device(s))
2  OPTions Define operational modes(s)
3  EEnter,S Enter new gage specifications
4  EEnter,P Enter new gage parameters
5  EEnter,D Enter new gage description
6  EEnter,T Enter new daily flow or stage data
7  EEdit,S  Revise gage specifications
8  EEdit,P  Revise gage parameters
9  EEdit,D  Revise gage description
10 EEdit,T  Revise daily flow or stage data
11 PPrint  Print out reports
12 PPlot   Plot results
13 CAlculate Calculate statistics
14 RRetrieve Retrieve data from Water Control Data File
15 FFinish Process another basin.
16 SSTOP   Terminate all processing

What do you want to do? █
```

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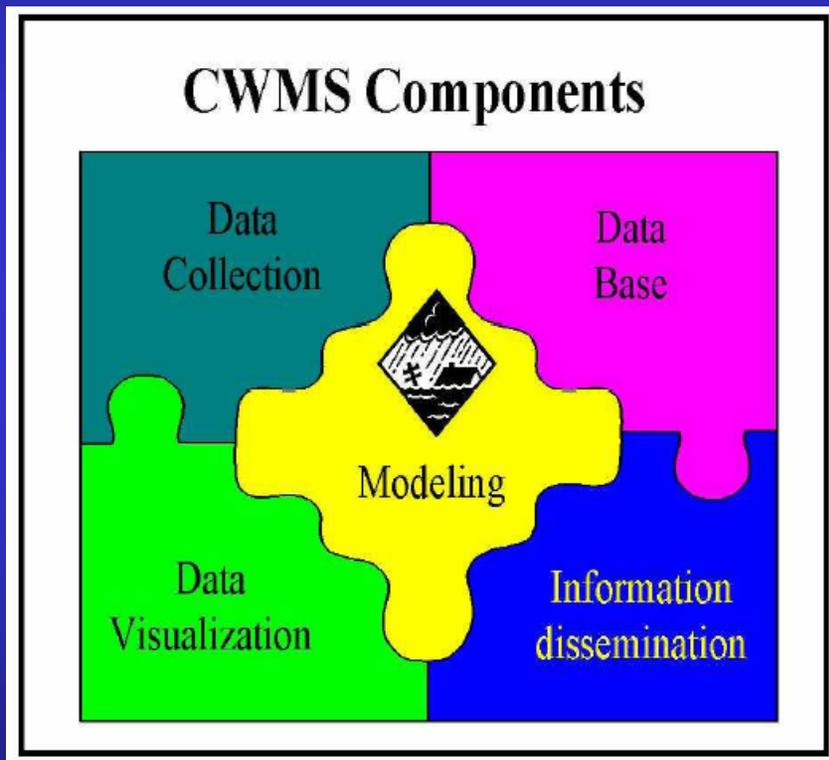
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Corps Water Management System (CWMS)



Scope and Goal

- **USACE corporate AIS for water control decision support. Real-time 24/7 dedicated system.**
- **Provides management of hydromet data and forecasting models through a single interface.**
- **Modernized Technology**
 - Oracle Database
 - Client-server architecture for network implementation



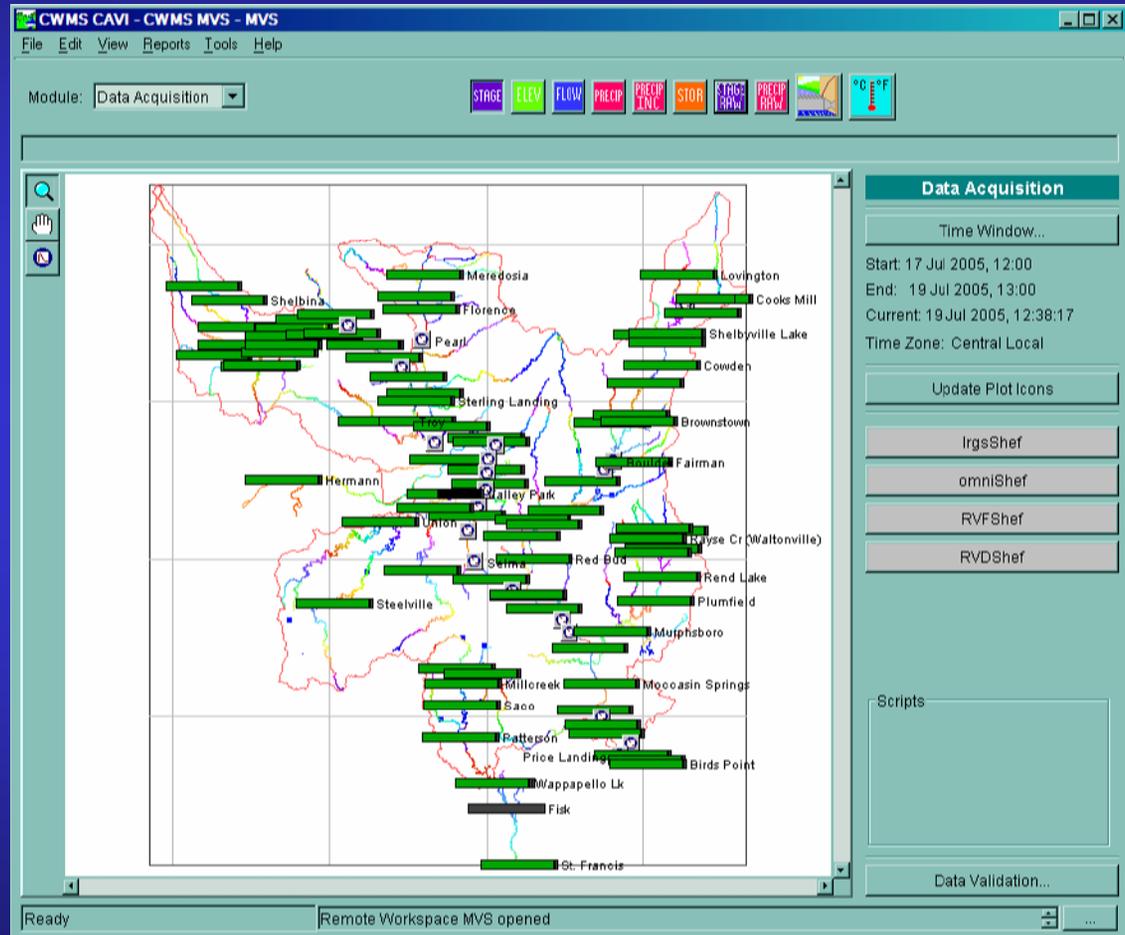


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Data Acquisition



- Socket Connections
- File Transfer
- Goes (DCP) Format
- SHEF Format
- Data Validation
- Derive Parameters
- Data Status

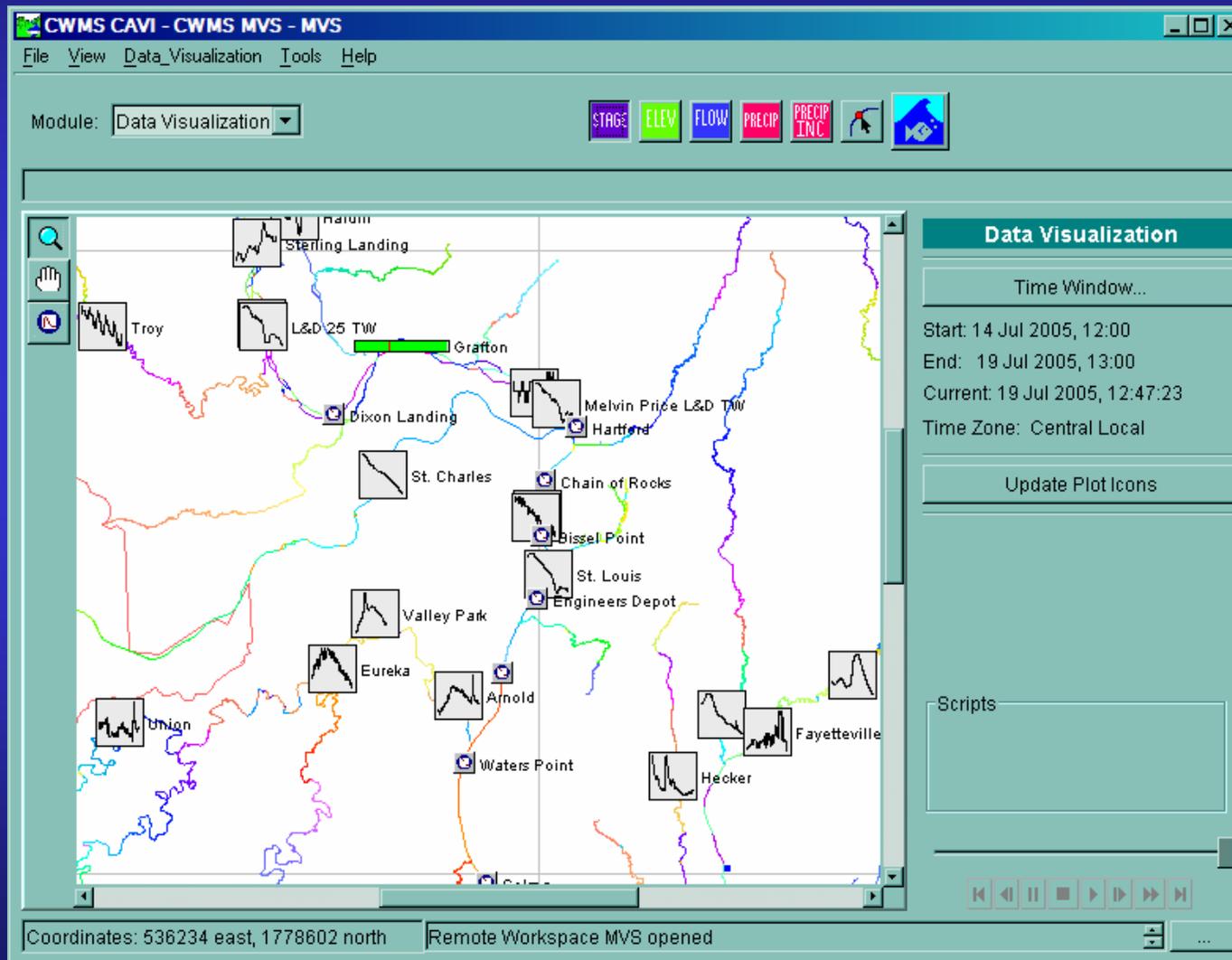


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Data Visualization



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CWMS CAVI - CWMS MVS - St._Francis

File Edit View Forecast Reports Tools Help

Module: Model Interface

Coordinates: 522421 east, 1581083 north Remote Workspace St._Francis opened

HMS Results - MHW-

Lookback Results Forecast Results

- Des Arc
- Fisk
- Fredericktown
- Millcreek
- Patterson
- Roselle
- Saco
- St. Francis

Parameter Data for Element

Parameter	Value

Lookback Summary for Element Patterson

Statistic	Value
Area	941.89
Last observed flow	1,894.00
Time of last observed flow (delta f...	2: 00
Calculated flow at time of last obs...	1,894.00

Volume Units Acre ft in cfs

Flow (cfs)

Apr2002 May2002

— PATTERSON MHW- FLOW — Observed Flow
- - - Time of Forecast

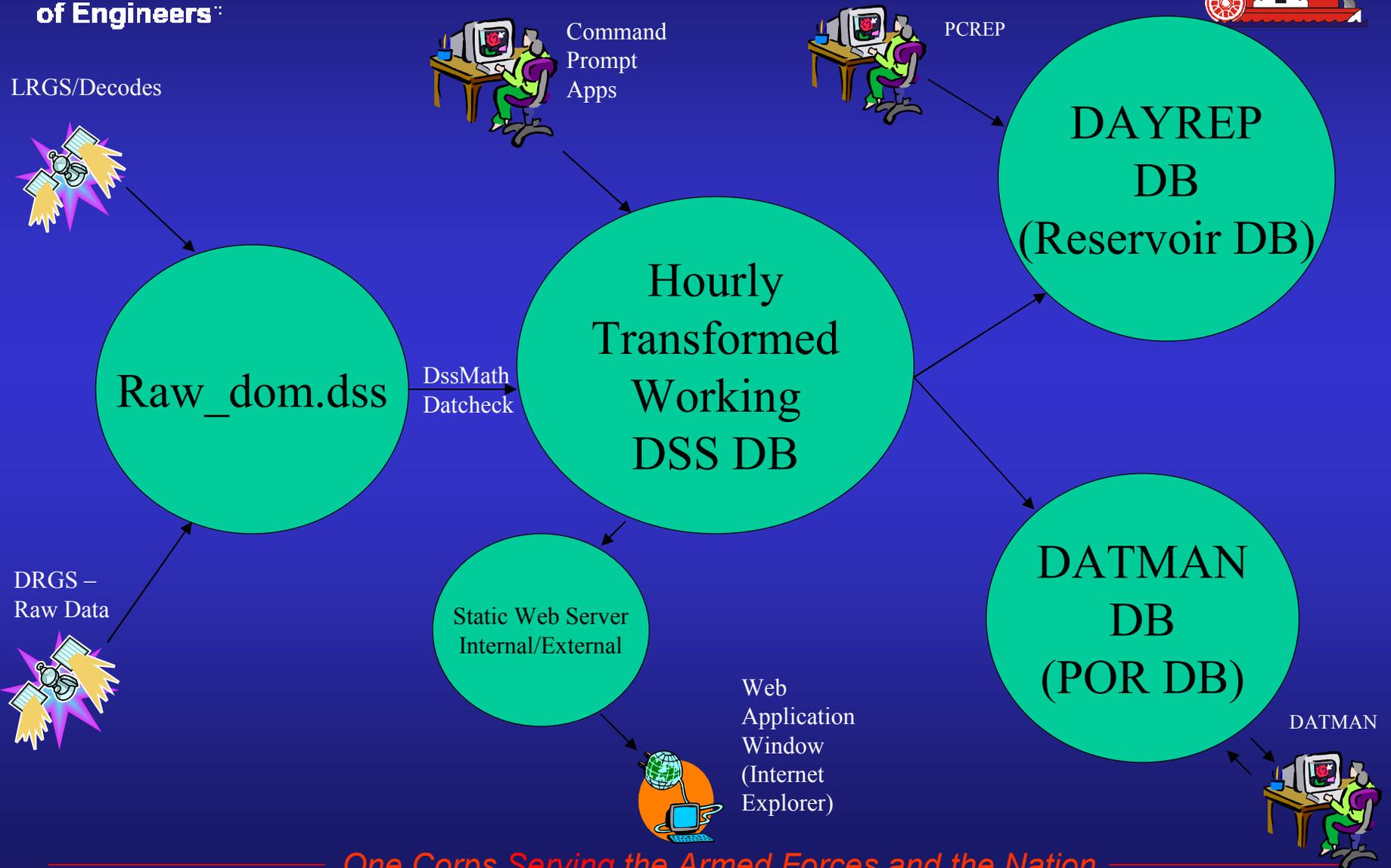
Model Interface

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Legacy System Diagram

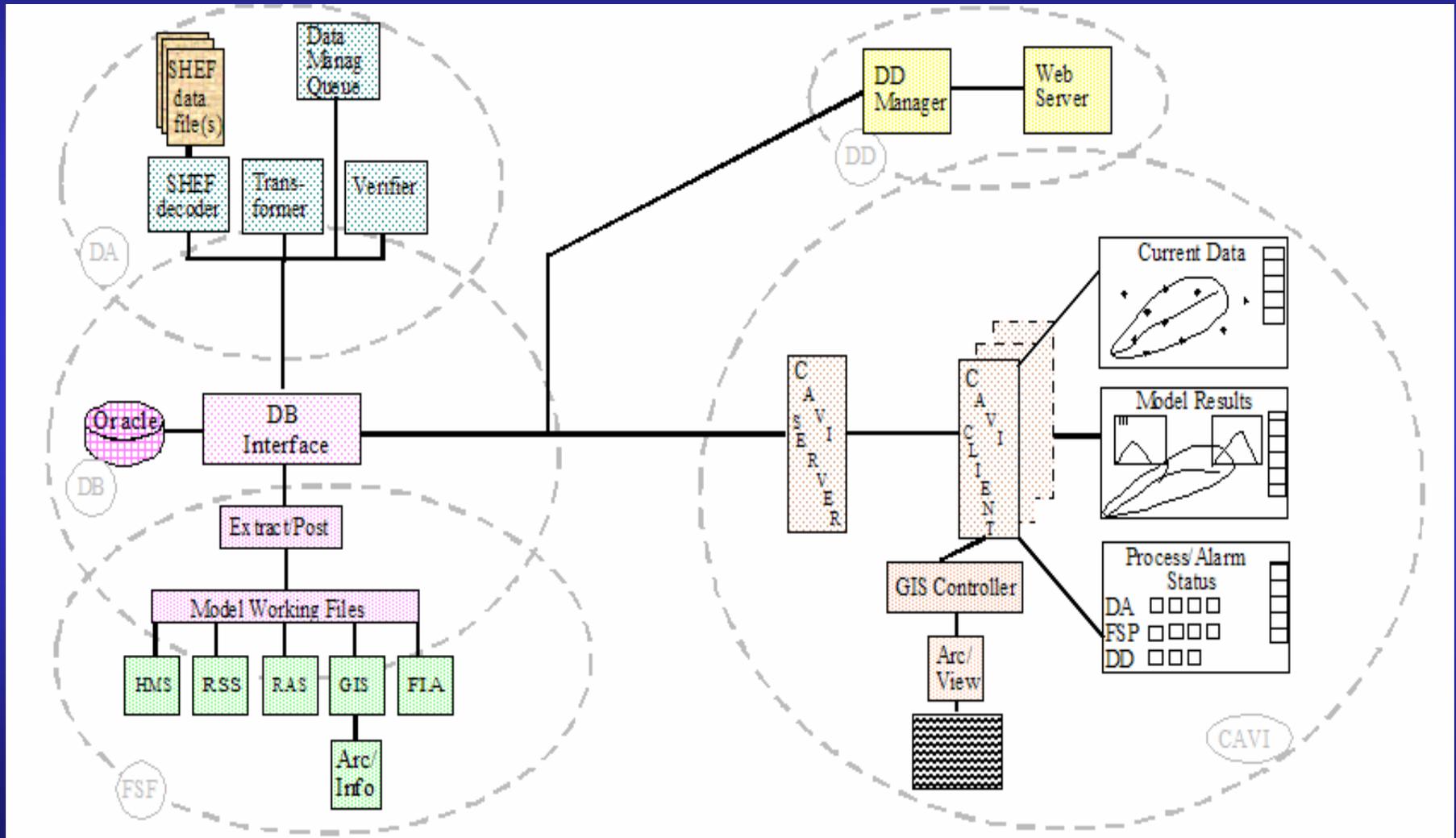


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of Engineers

CWMS System Diagram



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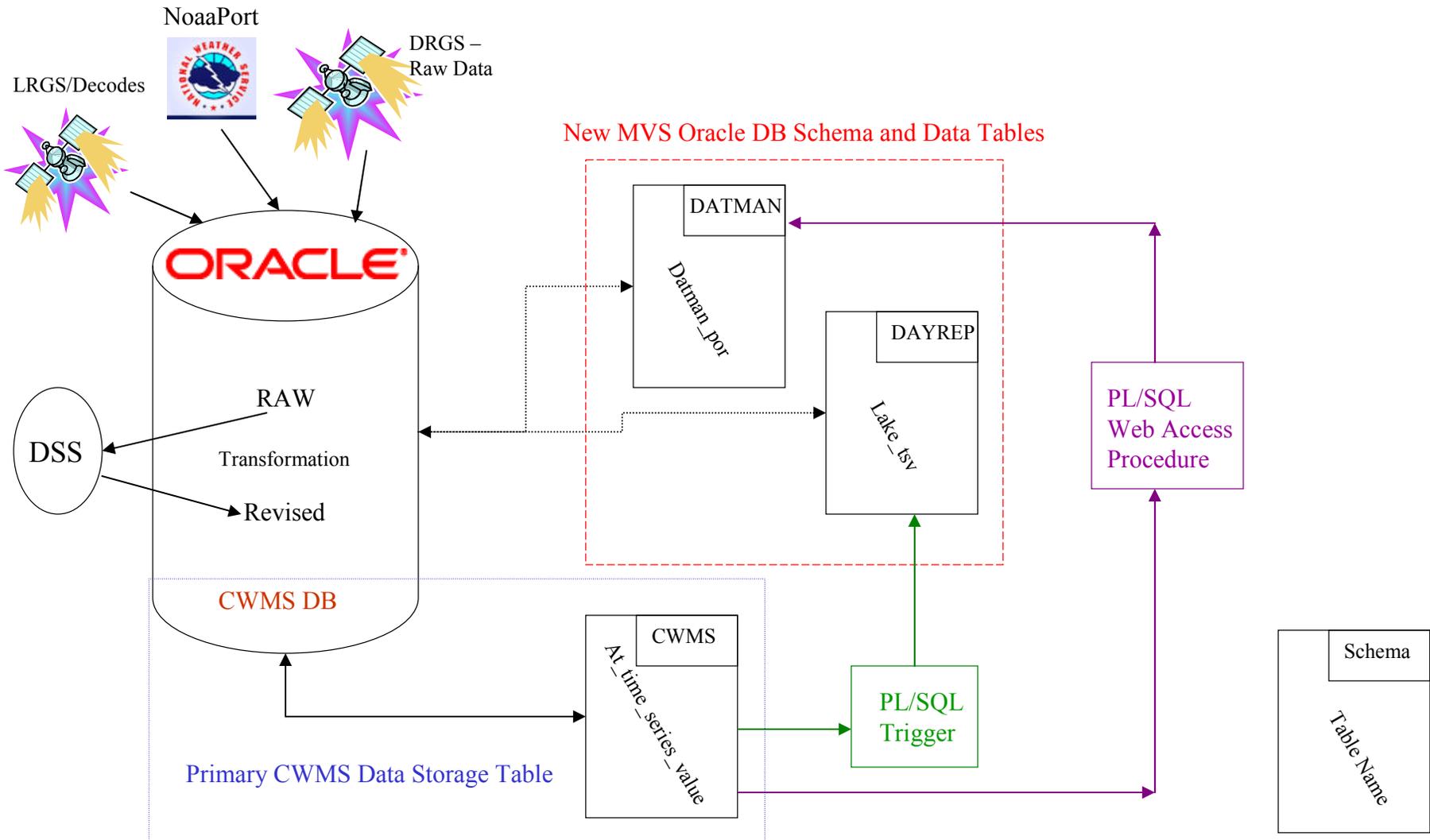


U.S. Army Corps of Engineers

St. Louis District Added Components

DATMAN -Gage Data Period of Record Database/Statistical Analysis Module

DAYREP -Reservoir Control and Associated Gage Data



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U.S. Army Corps of Engineers

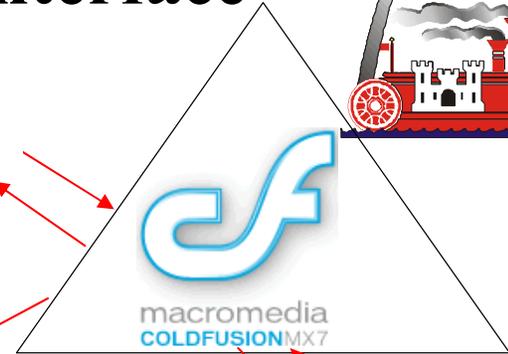
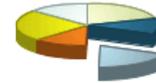
SLD CWMS Web Service Interface

CWMS CAVI



CWMS DBI

Corde
PopChart
Server



DRGS –
Raw Data



NOAAPort



LRGS/Decodes

ORACLE

CWMS Oracle DB
Instance

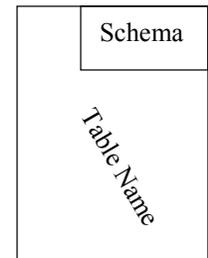
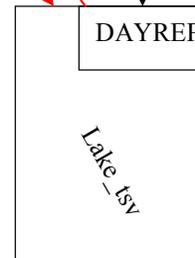
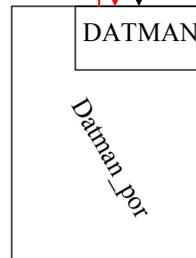
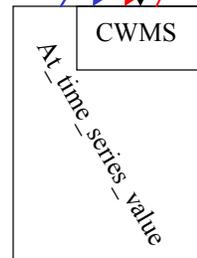


Query
Stored Procedures

RIVERGAGES.COM
Water Levels of Rivers and Lakes Within the Mississippi Valley Division



Web Application
Window
(Internet
Explorer) –
Internal Only



Oracle Database Time Series Schema/Table Structure

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Lake Reports (PCREP)



CARLYLE Data Sheet - Microsoft Internet Explorer provided by CEMVS

Address: http://155.76.92.232/cf/realtime/lake/carlyle_dat.cfm

CARLYLE Data Sheet

DATE: 07-20-2005 submit previous day next day print page print page large

Upstream Gages

Station		0600 hrs	1200 hrs	1800 hrs	2400 hrs	0600 hrs today
Ramsey, IL	STAGE:	81.93	81.91	81.91	81.91	81.89
	FLOW:					
Vandalia, IL	STAGE:	2.91	2.87	2.86	2.83	2.82
	FLOW:	180	174	172	167	166
Brownstown, IL - Hickory Cr.	STAGE:	3.34	3.33	3.33	3.32	3.32
	FLOW:	1	1	1	1	1
Mullberry Grove, IL - Hurricane Cr.	STAGE:	3.09	3.09	3.12	3.18	3.16
	FLOW:	7	7	8	10	9
Fairman, IL - East Fork	STAGE:	2.74	2.64	2.57	2.52	2.48
	FLOW:	11	9	8	7	6

Reservoir

LAKE CARLYLE	ELEV:	444.40	444.44	444.44	444.41
	STOR:	134300	134740	134740	134410

Conservation Pool Utilization (%): 93.9 Flood Pool Utilization (%): 0.0

CARLYLE Data Sheet - Microsoft Internet Explorer provided by CEMVS

Address: http://155.76.92.230/cf/realtime/lake/carlyle_dat.cfm

Gate Settings

Time	Gate 1 (ft)	Gate 2 (ft)	Gate 3 (ft)	Gate 4 (ft)	Outflow (cfs)
00:00	2.70	2.90	2.70	2.70	9930
NONE					

Average Outflow (cfs): 9930 Save Gate Reset Gate

Inflow

Day	Chg Storage (dsf)	Average Outflow (dsf)	Inflow Storage w/ Evap (dsf)	Concensus (dsf)	Balance Flag
02-24-2005	-5400	9930	4557	4950	Y
02-25-2005	-5000	9850	4877	4870	Y
02-26-2005	-4900	9820	4947	4560	Y
02-27-2005	-5330	9910	4607	4610	Y
02-28-2005	-6200	9890	3717	4400	N
03-01-2005	-4990	9890	4968	4970	N

Signifies estimated value Save Inflow Reset Inflow

Lake Office - 24-hour Precipitation

0.0 Save Precipitation

Crest Forecast

Option: NO CRST Crest: Crest Date (mm/dd/yyyy): Time: Reset Crest Save Crest

Balance Window

Date of Last Balance	Sum of Computed Inflow	Sum of Concensus
02-27-2005	8685	4400

Additional Look Back Days (Default 5) Balance Inflow Module

Downstream Gages

Station		0600 hrs	1200 hrs	1800 hrs	2400 hrs	0600 hrs today	24 hour change
Carlyle, IL Tailwater	STAGE:	21.1	21.2	21.2	21.2	21.2	0.0

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Forecast Parser



NWS Preliminary Forecast Parser - Microsoft Internet Explorer provided by CEMVS

Address: http://155.76.92.230/cf/realtime/fcst_p.cfm

NWS Preliminary Forecast Parser By River

NOTE: **Yellow times signify forecasts ingested within the last 24 hrs.**
Green times signify todays forecast.
White times signify outdated forecasts.

Mississippi:

Gage	RVF			RVD	
	24 hr Fcst DED	72 hr Fcst DED (Contingency)	NWS Product ID - LDM Link	24 hr Fcst DED	NWS Product ID - LDM Link
Hannibal	03-02-2005 09:49	01-11-2005 12:16	RVFMIS	03-01-2005 11:41	RVDLSX
Louisiana	03-02-2005 09:49	01-11-2005 12:16	RVFMIS	03-01-2005 11:41	RVDLSX
L&D 24 TW	03-02-2005 09:49	01-11-2005 12:16	RVFMIS	03-01-2005 11:41	RVDLSX
L&D 25 TW	03-02-2005 09:49	01-11-2005 12:16	RVFMIS	03-01-2005 11:41	RVDLSX
Grafton	03-02-2005 09:49	01-11-2005 12:17	RVFMIS	03-01-2005 11:41	RVDLSX
Mel Price TW	03-02-2005 09:49	01-11-2005 12:17	RVFMIS	03-01-2005 11:41	RVDLSX
St. Louis	03-02-2005 09:49	01-11-2005 12:17	RVFMIS	03-01-2005 11:41	RVDLSX
Chester	03-02-2005 09:49	01-11-2005 12:17	RVFMIS	03-01-2005 11:41	RVDLSX
Cape Girardeau	02-28-2005 09:08		RVFLOM	03-01-2005 10:31	RVDPAH
Thebes	02-18-2005 20:25		RVFLOM		RVDPAH

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Webrep Bulletin



RIVER AND RESERVOIR REPORT - Microsoft Internet Explorer provided by CEMVS

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Media

Address <http://155.76.92.230/cf/realtime/webrep/webrep.html> Go Links

U.S. ARMY CORPS OF ENGINEERS, ST. LOUIS DISTRICT, RIVER & RESERVOIR DAILY REPORT
(PHONE: 800-432-1208)

NOTE: ALL WATER LEVELS GIVEN IN STAGE, UNLESS INDICATED (GAGE ZERO + STAGE = ELEVATION {#}) FORECASTS INCLUDE OBSERVED PRECIP UP TO 6AM TODAY + EXPECTED PRECIP TO 6AM TOMORROW ONLY.

LAST MODIFIED: Wednesday - March 2, 2005 10:00 AM <http://mvs-wc.mvs.usace.army.mil>

River Mile	Gage Station	6am Levels	24hr Chg	National Weather Service River Forecast			Flood Level	Gage Zero	Record Level	Record Date	
				Next 3 days	Forecast Time	Crest/Date					
MISSISSIPPI RIVER											
309.0	Hannibal	-M-		11.1	11.0	11.0	03/01/05 11:41	16.0	449.43	31.80	7-16-93
301.2	L&D 22 TW	7.2	0.1	6.7	6.5	6.2	03/01/05 11:41	16.0	446.10	29.58	7-25-93
282.9	Louisiana	12.2	0.1	12.1	12.1	12.1	03/01/05 11:41	15.0	437.33	28.40	7-28-93
273.5	L&D 24 HW (elev)	448.6	-0.1						421.81		
273.2	L&D 24 TW	17.2	0.4	16.4	16.0	15.7	03/01/05 11:41	25.0	421.81	37.70	7-29-93
260.3	Mosier Landing (elev)	436.1	0.2					441.0	400.00	454.30	7-29-93
241.5	L&D 25 HW (elev)	433.5	0.2						407.00		
241.2	L&D 25 TW	17.0	0.1	16.5	16.3	16.1	03/01/05 11:41	433.0	407.00	39.60	8-1-93
218.6	Grafton	15.8	0.2	15.7	15.9	15.9	03/01/05 11:41	18.0	403.79	38.20	8-1-93
201.1	Mel Price L&D HW (elev)	418.0	0.1						395.48		
200.5	Mel Price L&D TW	9.3	0.0	8.9	8.6	8.3	03/01/05 11:41	21.0	395.48	42.70	8-1-93
180.0	St. Louis	11.2	-0.4	11.0	10.4	9.9	03/01/05 11:41	30.0	379.94	49.60	8-1-93
136.0	Brickeys Landing	12.6	-1.0					26.0	357.78	47.00	8-5-93
109.9	Chester	14.6	-1.1	14.2	13.9	13.4	03/01/05 11:41	27.0	341.05	49.70	8-7-93
52.1	Cape Girardeau	21.3	-1.0	20.7	20.3	-901.0	03/01/05 10:31	32.0	304.65	47.90	8-8-93
43.7	Thebes	21.1	-0.8					33.0	300.00	45.50	8-7-93
20.2	Thompson Landing	31.4	-1.1					319.0	280.00	51.95	5-28-95
2.0	Birds Point	33.1	-0.9					38.0	274.53		
ILLINOIS RIVER											
263.1	Morris	7.4		7.0	6.8	6.7	03/01/05 21:03	13.0	478.50	24.60	2-24-85

Done Internet

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Real-time Oracle Data Reports



River Basin Data - Microsoft Internet Explorer provided by CEMVS

Address: http://155.76.92.230/cf/realtime/dsp_data.cfm?type=html

River Basin Data

[Mississippi River](#)
 [Ohio River](#)
 [Salt River](#)
 [Cuivre River](#)
 [Illinois River](#)
 [Missouri River](#)
 [Meramec River](#)
 [Kaskaskia River](#)
 [Big Muddy River](#)
 [St. Francis River](#)

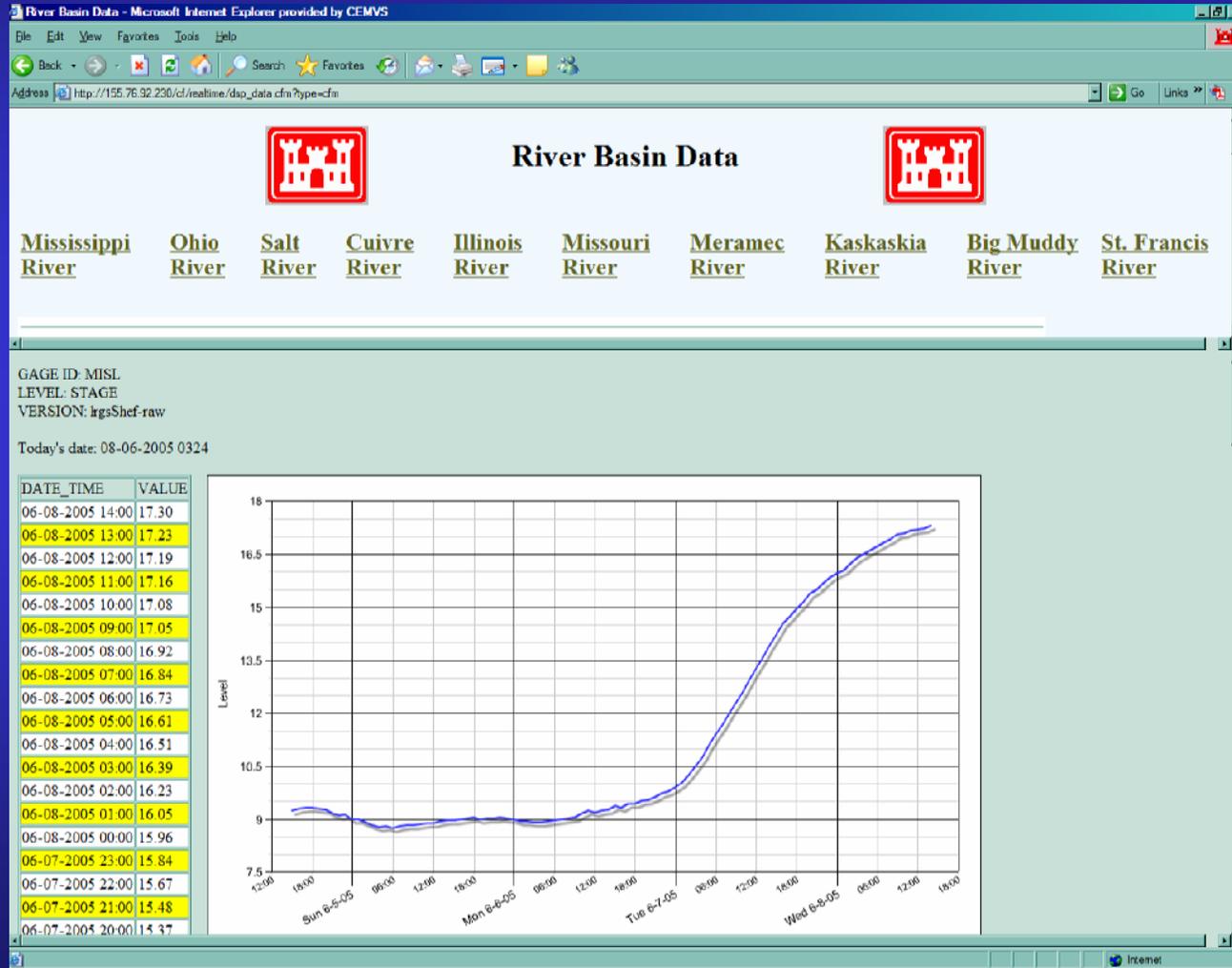
Station	Time of Value (CDT)	Water Level (ft.)		Incremental Precip (in.)		30 Day Data
		Level	Last 24hr change	Last 6hr	Last 24hr	
HANNIBAL, MO	03-02-2005 09:00	11.5	0.15	0	0	STAGE ELEV
LOCK AND DAM 22 (LOWER) SAVERTON, MO	03-02-2005 10:00	7.17	0.1	0	0	STAGE ELEV
MUNDY'S LANDING, MO Manually Read Gage		-	-	-	-	-
LOUISIANA, MO	03-02-2005 10:00	12.11	0.02	-	-	STAGE ELEV
LOCK AND DAM 24 (UPPER) CLARKSVILLE, MO		119.56	0.1	-	-	STAGE ELEV

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Real-time Oracle Data Reports

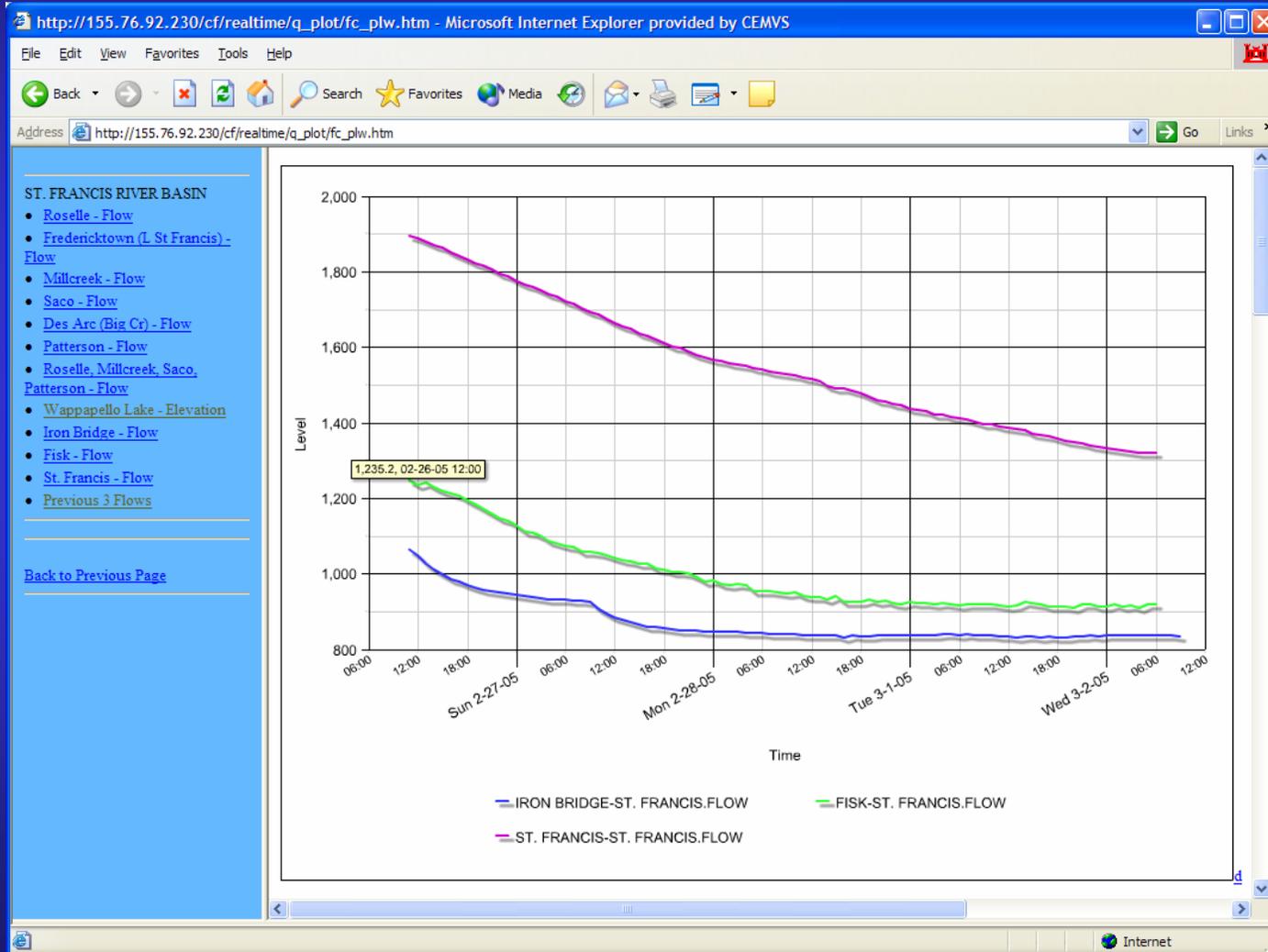


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Plot Macros



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Precipitation Tables



Cumulative Precip - Microsoft Internet Explorer provided by CEMVS

Address: http://155.76.92.230/cf/realtime/bas_prec_cum.cfm?ws=ME

St. Louis District



Cumulative Precipitation Table

Zero Precip.
 Low
 Low-Med
 Med-High
 High
 Missing Data



Gage Location	River	6 hr	12 hr	24 hr	48 hr	72 hr	Zero hr
ROLLA	MERAMEC	0	0	0	0	0.12	03-02 09:45
STEELVILLE	MERAMEC	0	0	0	0	0.10	03-02 09:30
SULLIVAN	MERAMEC	0	0	0	0	0.03	03-02 09:45
UNION	BOURBEUSE	0	0	0	0	0.05	03-02 09:30
PACIFIC	MERAMEC	0	0	0	0.01	0.06	03-02 09:45
EUREKA	MERAMEC	0	0	0	0	0.05	03-02 09:30
RICHWOODS	BIG	0	0	0	0	0.10	03-02 09:45
VALLEY PARK	MERAMEC	0	0	0	0	0.05	03-02 09:45
ARNOLD	MERAMEC	0	0	0	0	0.12	03-02 09:45

NOTE: Zero hour refers to time of most current precipitation data

[Mississippi](#)
[Ohio](#)
[Salt](#)
[Cuivre](#)
[Illinois](#)
[Missouri](#)
[Meramec](#)
[Kaskaskia](#)
[Big Muddy](#)
[St. Francis](#)

Done Internet

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Historic Data Management DatRep

DatRep - Microsoft Internet Explorer provided by CEMVS

Address: http://155.76.92.230/cf/realtime/datman/datrep.cfm

DatRep - Daily Gage Values

Basin: MI
Gage: ST. LOUIS- MISSISSIPPI MISL
Data type: STAGE

Available POR: Start Time 01/01/1861, End Time 05/01/2005

Select Time Window: Starting Year 1864, Ending Year 1865

Buttons: Compute HTML, Compute PDF

1864 Daily Values

MISSISSIPPI - ST. LOUIS (MISL)

Location: LAT. 38-37-44, LONG. 90-10-47, AT THE FOOT OF MARKET STREET, 15 MILES DOWNSTREAM FROM THE MOUTH OF THE MISSOURI RIVER AND AT MILE 179.6 ABOVE THE MOUTH OF THE OHIO RIVER.

Gage: COMBINED SLOPE AND VERTICAL STAFF GAGE AT RIVER MILES 179.6. OWNED, OPERATED & MAINTAINED BY THE ST. LOUIS DISTRICT CORPS OF ENGINEERS. NOTE: AUXILLARY GAGE IS G.O.E.S. TELEMETERED DATA COLLECTION PLATFORM WITH PRESSURE TRANSDUCER AT RIVER MILE 180.0 & LOCATED ON EADS BRIDGE. OWNED & OPERATED BY ST. LOUIS DISTRICT CORPS OF ENGINEERS. MAINTAINED IN COOPERATION WITH THE US GEOLOGICAL SURVEY (USGS).

General Information: FLOOD STAGE 30 FT DRAINAGE AREA, 697,013 SQUARE MILES. NOTE: 4,000 SQUARE MILES IN GREAT DIVIDE BASIN ARE NOT INCLUDED.

Records Available: STAGE, JAN 1861 TO DATE. NOTE: STAGES FOR GAGE AT EADS BRIDGE ALSO PUBLISHED BY NATIONAL WEATHER SERVICE & USGS. DISCHARGE, JAN 1861 TO DATE ALSO IN REPORTS OF USGS. ALL DISCHARGE DATA AFTER 1979 PUBLISHED BY USGS.

Mean Level: PERIOD OF RECORD, 11.23 FEET

Extreme Level: PERIOD OF RECORD, HIGHEST: 49.50 FEET ON AUG. 01, 1993 & LOWEST: -6.2 FEET ON JAN 16, 1940

Zero Gage Datum: 379.94 ft NGVD. NOTE: ADD DATUM TO STAGE TO OBTAIN ELEVATION.

ALL VALUES RECORDED AT 8AM. STAGE IN FT:

Day	Month											
	January	February	March	April	May	June	July	August	September	October	November	December
1	1.59	7.73	6.42	8.15	18.40	9.31	11.52	7.57	3.85	3.32	2.35	2.81
2	1.22	8.62	6.27	8.15	17.40	9.10	11.81	7.37	3.85	3.19	2.35	2.81
3	2.03	9.69	6.27	8.15	16.57	8.89	11.35	7.15	3.85	3.05	2.35	2.81
4	2.83	9.77	6.67	8.15	15.82	8.72	10.88	6.94	3.79	2.92	2.61	3.38
5	4.27	9.77	7.37	8.51	15.30	8.85	10.42	6.73	3.73	2.92	2.61	3.94
6	5.35	9.77	7.85	8.51	14.31	8.98	10.17	6.57	3.67	3.05	2.57	5.35
7	5.96	9.77	8.34	8.62	13.77	10.67	10.67	6.50	3.67	3.34	2.52	5.87
8	6.27	9.77	9.01	8.83	13.40	11.27	12.27	6.43	3.67	3.34	2.52	6.66

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Historic Data Management Comparative Stage Hydrograph



CSH - Comparative Stage Hydrograph - Microsoft Internet Explorer provided by CEMVS

File Edit View Favorites Tools Help

Address <http://155.76.92.230/cf/realtime/datman/csh.cfm>

CSH - Comparative Stage Hydrograph

Basin: MI
Gage: ST. LOUIS- MISSISSIPPI MISL
Data type: STAGE

Available POR	
Start Time	End Time
01-01-1861	05-01-2005

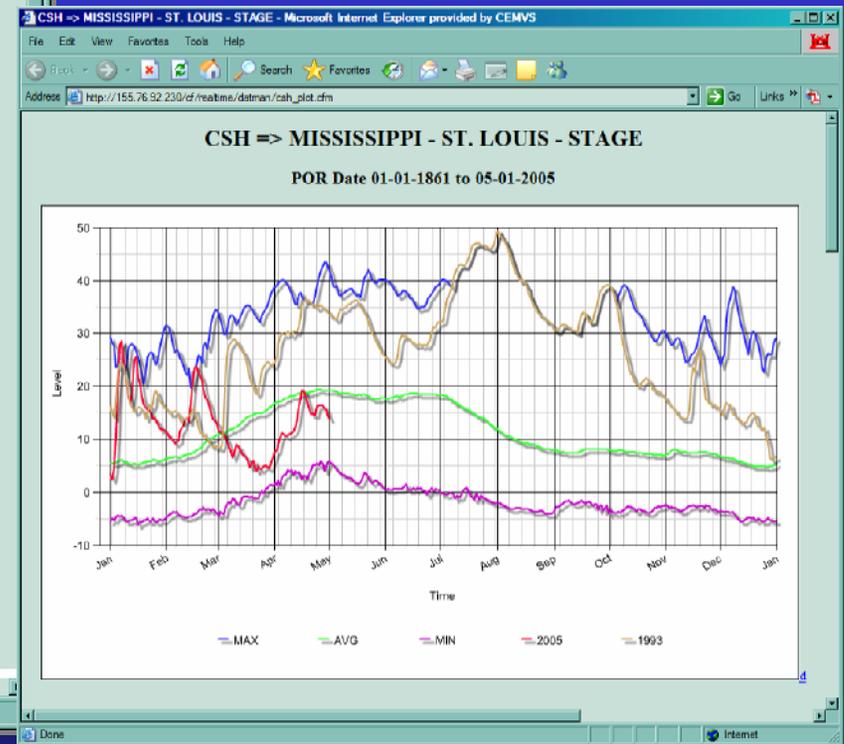
Statistical Time Window -
Please Select POR or User-specified Time Window option:

POR - Period of Record - See Default Time Window
 User Specified Time Window - Enter Time Window in Fields Below (MM-DD-YYYY)

Select Data to Plot -
Please Select 1 or 3 Years:

Plot Year 1: 2005
Plot Year 2: 1993
Plot Year 3: NONE

Plot CSH



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Historic Data Management FreqDur

FreqDur - Microsoft Internet Explorer provided by CEMVS

Address: http://155.76.92.230/cf/realtime/datman/freqdur.cfm

FreqDur - Frequency-Duration Analysis

Frequency/Duration Analysis of Daily Sample Data

Basin: MI
 Gage: ST. LOUIS- MISSISSIPPI MISL
 Data type: STAGE

Available POR		Select Time Window (MM-DD-YYYY):	
Start Time	End Time	Starting Time	Ending Time
01/01/1861	05/01/2005	01-01-1861	05-01-2005

Group Interval: 5

Time Window for Data Exclusions (Season, Single month, Single day, etc...)

EXCLUSION: No Data Exclusion (Default)

Single Month Only
 Single Day Only
 Specific Time Window Only From: 01/01 To: 03/31 ==> Month/Day (MM/DD)

Compute

MISSISSIPPI - ST. LOUIS (MISL)

Location: LAT. 38-37-44, LONG. 90-10-47, AT THE FOOT OF MARKET STREET, 15 MILES DOWNSTREAM FROM THE MOUTH OF THE MISSOURI RIVER AND AT MILE 179.6 ABOVE THE MOUTH OF THE OHIO RIVER.

Gage: COMBINED SLOPE AND VERTICAL STAFF GAGE AT RIVER MILES 179.6. OWNED, OPERATED & MAINTAINED BY THE ST. LOUIS DISTRICT CORPS OF ENGINEERS. NOTE: AUXILIARY GAGE IS G.O.E.S. TELEMETERED DATA COLLECTION PLATFORM WITH PRESSURE TRANSDUCER AT RIVER MILE 180.0 & LOCATED ON EADS BRIDGE. OWNED & OPERATED BY ST. LOUIS DISTRICT CORPS OF ENGINEERS. MAINTAINED IN COOPERATION WITH THE US GEOLOGICAL SURVEY (USGS).

General Information: FLOOD STAGE 30 FT DRAINAGE AREA, 697,013 SQUARE MILES. NOTE: 4,000 SQUARE MILES IN GREAT DIVIDE BASIN ARE NOT INCLUDED.

Records Available: STAGE, JAN 1861 TO DATE. NOTE: STAGES FOR GAGE AT EADS BRIDGE ALSO PUBLISHED BY NATIONAL WEATHER SERVICE & USGS. DISCHARGE, JAN 1861 TO DATE ALSO IN REPORTS OF USGS. ALL DISCHARGE DATA AFTER 1979 PUBLISHED BY USGS.

Mean Level: PERIOD OF RECORD, 11.23 FEET
 Extreme Level: PERIOD OF RECORD, HIGHEST: 49.50 FEET ON AUG. 01, 1993 & LOWEST: -6.2 FEET ON JAN 16, 1940
 Zero Gage Datum: 379.94 ft NGVD. NOTE: ADD DATUM TO STAGE TO OBTAIN ELEVATION.

ALL VALUES RECORDED AT 3AM. STAGE IN FT:

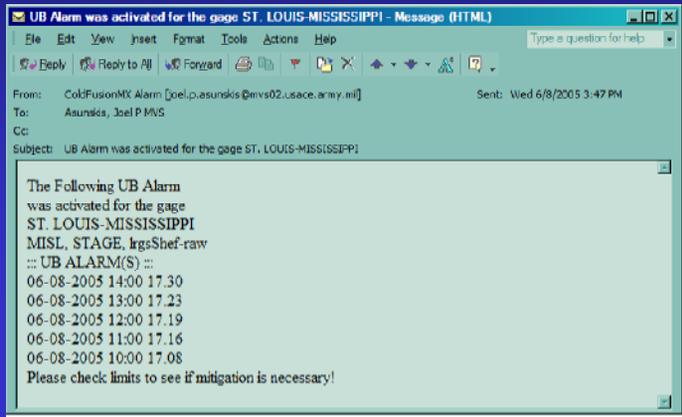
Frequency			Duration		
Interval	Total	Percent	Level	Total	Percent
WS >= 39	86	0.16	>= 39	86	0.16
34 >= WS < 39	14	0.03	>= 34	100	0.19
29 >= WS < 34	79	0.15	>= 29	179	0.34
24 >= WS < 29	200	0.57	>= 24	478	0.91





Alarm Manager (Blackberry)

US Army Corps
of Engineers



Beep! Beep!



Level 1
Encoded
Message

Untitled Document - Microsoft Internet Explorer provided by CEMVS

Address: http://155.76.92.230/cf/realtime/wam/secure/adj_bnd.cfm?

Alarm Manager

Bound Management:

	Gage	Level	Up bnd	Up off set	Ovr up	Lw bnd	Lw off set	Ovr lw	Chg	Ovr chg
1	MISL	STAGE	30.00	0	<input type="checkbox"/>	0	0	<input type="checkbox"/>	1.00	<input checked="" type="checkbox"/>
2	M12T	STAGE			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	1.00	<input type="checkbox"/>
3	MI4P	ELEV	449.00	0.20	<input type="checkbox"/>	445.50	0.10	<input type="checkbox"/>		<input checked="" type="checkbox"/>
4	MI4T	STAGE	25.00	0	<input type="checkbox"/>	12.30	0	<input type="checkbox"/>		<input checked="" type="checkbox"/>
5	MILO	STAGE	12.20	0.05	<input type="checkbox"/>	11.50	0.05	<input type="checkbox"/>	0.50	<input type="checkbox"/>
6	MI5P	ELEV	434.00	0.20	<input type="checkbox"/>	429.70	0.10	<input type="checkbox"/>		<input checked="" type="checkbox"/>
7	M15T	STAGE	26.00	0	<input type="checkbox"/>	11.50	0	<input type="checkbox"/>		<input checked="" type="checkbox"/>
8	M1ML	ELEV	437.00	0.05	<input type="checkbox"/>	434.00	0.05	<input type="checkbox"/>	1.00	<input type="checkbox"/>
9	MI6P	ELEV	419.00	0.20	<input type="checkbox"/>	412.50	0.10	<input type="checkbox"/>		<input checked="" type="checkbox"/>
10	MI6T	STAGE	21.00	0	<input type="checkbox"/>	0.82	0	<input type="checkbox"/>		<input checked="" type="checkbox"/>
11	MIAL	ELEV			<input checked="" type="checkbox"/>	414.00	0	<input type="checkbox"/>		<input checked="" type="checkbox"/>
12	KANP	ELEV	368.80	0.20	<input type="checkbox"/>	363.00	0.10	<input type="checkbox"/>		<input checked="" type="checkbox"/>
13	KARB	ELEV	370.00	0.20	<input type="checkbox"/>	368.00	0.10	<input type="checkbox"/>	1.00	<input checked="" type="checkbox"/>
14	SARR	ELEV			<input checked="" type="checkbox"/>	520.20	0	<input type="checkbox"/>		<input checked="" type="checkbox"/>
15	MIGR	STAGE	16.20	0.05	<input type="checkbox"/>	14.20	0.05	<input type="checkbox"/>	1.00	<input type="checkbox"/>

Submit Changes

Add Gage:

Gage ID	Level	UP BND	UP off set	OVR UP	LW BND	LW off set	OVR LW	Int chg	OVR CHG
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>

Add Gage

Email Management:

	First Name	Last Name	Email	Alarm
1	Joan	Stemler	joan.m.stemler@mvs02.usace.army.mil	<input type="checkbox"/>
2	Mary	Miles	mary.m.miles@mvs02.usace.army.mil	<input type="checkbox"/>
3	Joel	Asunskis	joel.p.asunskis@mvs02.usace.army.mil	<input checked="" type="checkbox"/>
4	David	Busse	david.r.busse@mvs02.usace.army.mil	<input type="checkbox"/>
5	Don	Coleman	donald.m.coleman@mvs02.usace.army.mil	<input type="checkbox"/>
6	Jerry	Rapp	robert.j.rapp@mvs02.usace.army.mil	<input type="checkbox"/>
7	Leonard	Hopkins	leonard.l.hopkins@mvs02.usace.army.mil	<input type="checkbox"/>

Submit Changes

Applet coldfusion.applets.CFGridApplet started



US Army Corps
of Engineers

Contact Information



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 - **314 – 331 – 8338**
 - **joel.p.asunskis@mvs02.usace.army.mil**
 - **U.S. Army Corps of Engineers**
 - ◆ **St. Louis District**