The background of the slide is a close-up of the American flag, showing the stars and stripes. In the lower right quadrant, there is a silhouette of a castle or fortress, possibly representing a military installation or a historical site. The text is overlaid on the flag.

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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US Army Corps
of Engineers

Legacy System Web Dissemination



Microsoft Internet Explorer provided by CEMVS

File Edit View Favorites Tools Help

Address http://

```

/MISSISSIPPI/22 TW/STAGE//1HOUR/GOBS/
RTS Ver:999 Prog:DSSMAT LW:19JUL05 13:10:14 Tag:T46167 Prec:0
Start: 16JUL2005 at 1400 hours; End: 19JUL2005 at 1400 hours; Number: 73
Units: FEET Type: INST-VAL
16JUL2005, 1400; 5.97 5.89 5.72 5.62 5.51 5.47
16JUL2005, 2000; 5.42 5.41 5.41 5.42 5.43 5.44
17JUL2005, 0200; 5.46 5.45 5.51 5.54 5.59 5.66
17JUL2005, 0800; 5.77 5.86 5.88 6.01 5.92 6.07
17JUL2005, 1400; 5.93 5.97 5.85 5.80 5.79 5.52
17JUL2005, 2000; 5.52 5.50 5.50 5.51 5.53 5.55
18JUL2005, 0200; 5.57 5.57 5.54 5.54 5.53 5.35
18JUL2005, 0800; 5.55 5.54 5.53 5.52 5.50 5.46
18JUL2005, 1400; 5.41 5.33 5.35 5.35 5.34 5.34
18JUL2005, 2000; 5.27 5.29 5.27 5.23 5.24 5.37
19JUL2005, 0200; 5.32 5.29 5.31 5.31 5.32 5.35
19JUL2005, 0800; 5.31 5.29 5.30 5.29 5.25 -901.00
19JUL2005, 1400; -901.00
END FILE
/MISSISSIPPI/22 TW/ELEVATION//1HOUR/COMP/
RTS Ver:999 Prog:DSSMAT LW:19JUL05 13:10:14 Tag:T46168 Prec:0
Start: 16JUL2005 at 1400 hours; End: 19JUL2005 at 1400 hours; Number: 73
Units: FEET Type: INST-VAL
16JUL2005, 1400; 452.07 451.99 451.82 451.72 451.61 451.57
16JUL2005, 2000; 451.52 451.51 451.51 451.52 451.53 451.54
17JUL2005, 0200; 451.56 451.55 451.61 451.64 451.69 451.76
17JUL2005, 0800; 451.87 451.96 451.98 452.11 452.02 452.17
17JUL2005, 1400; 452.03 452.07 451.95 451.90 451.89 451.62

```

Done Internet

Microsoft Internet Explorer provided by CEMVS

File Edit View Favorites Tools Help

Address http://

19JUL05 13:16:01

MISSISSIPPI

STAGE IN FEET

LOUISIANA GOBS STAGE

Done Internet

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Historical Records



```

Terminal
Window Edit Options Help
mosfs04owns:/usr1/b3ownspd #1 > datman

Daily Time Series Data Management Program
Version September 23, 1993
UNIX Workstation
Run date 19JUL06 time 12:06:59

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  DDevice 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 CCalculate 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? █

```



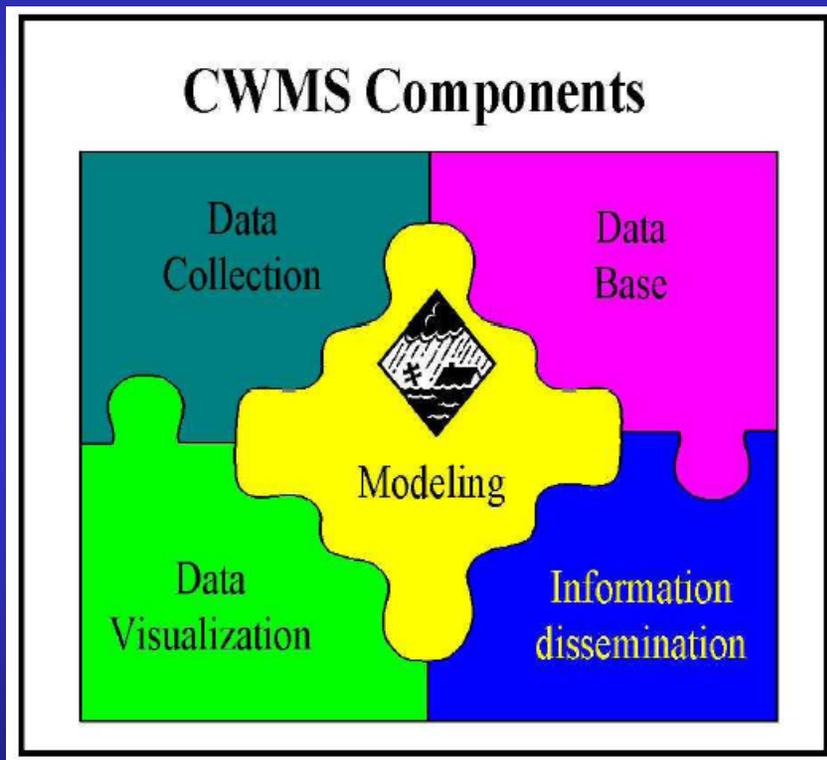
US Army Corps
of Engineers

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



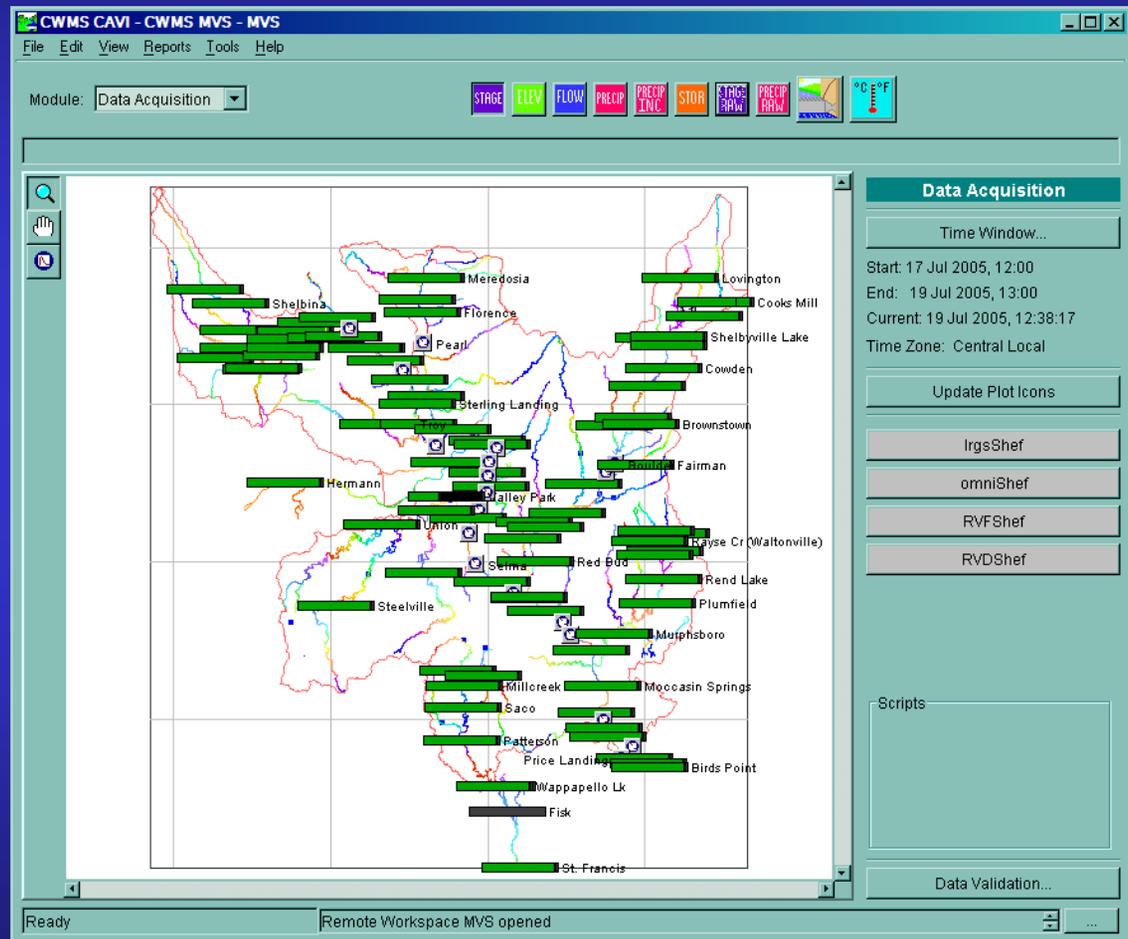


US Army Corps
of Engineers

Data Acquisition



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

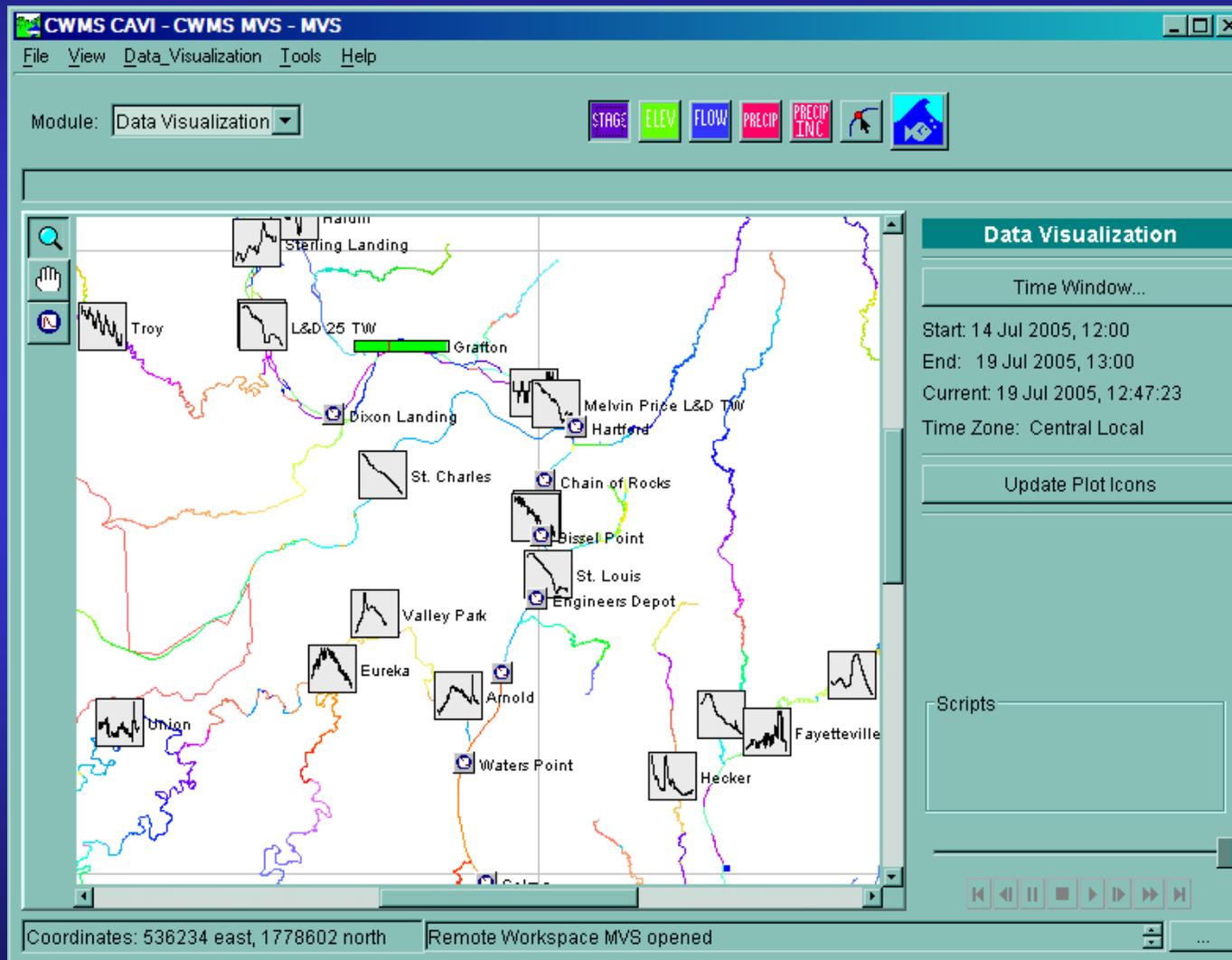


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Data Visualization



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US Army Corps
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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

Model Interface

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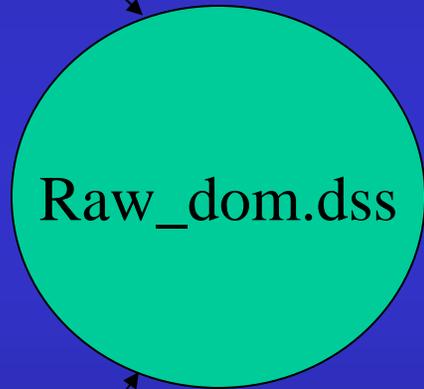


US Army Corps
of Engineers

Legacy System Diagram



LRGS/Decodes



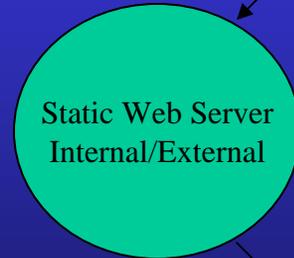
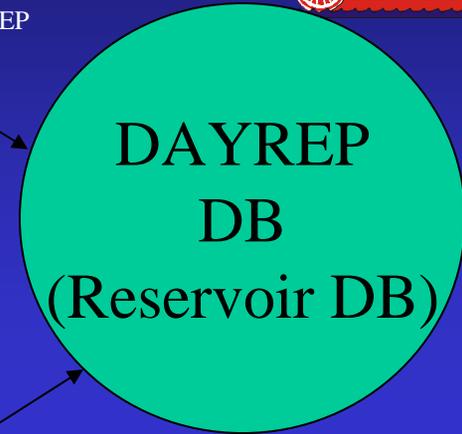
DRGS –
Raw Data



Command
Prompt
Apps



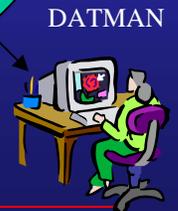
PCREP



Static Web Server
Internal/External



Web
Application
Window
(Internet
Explorer)



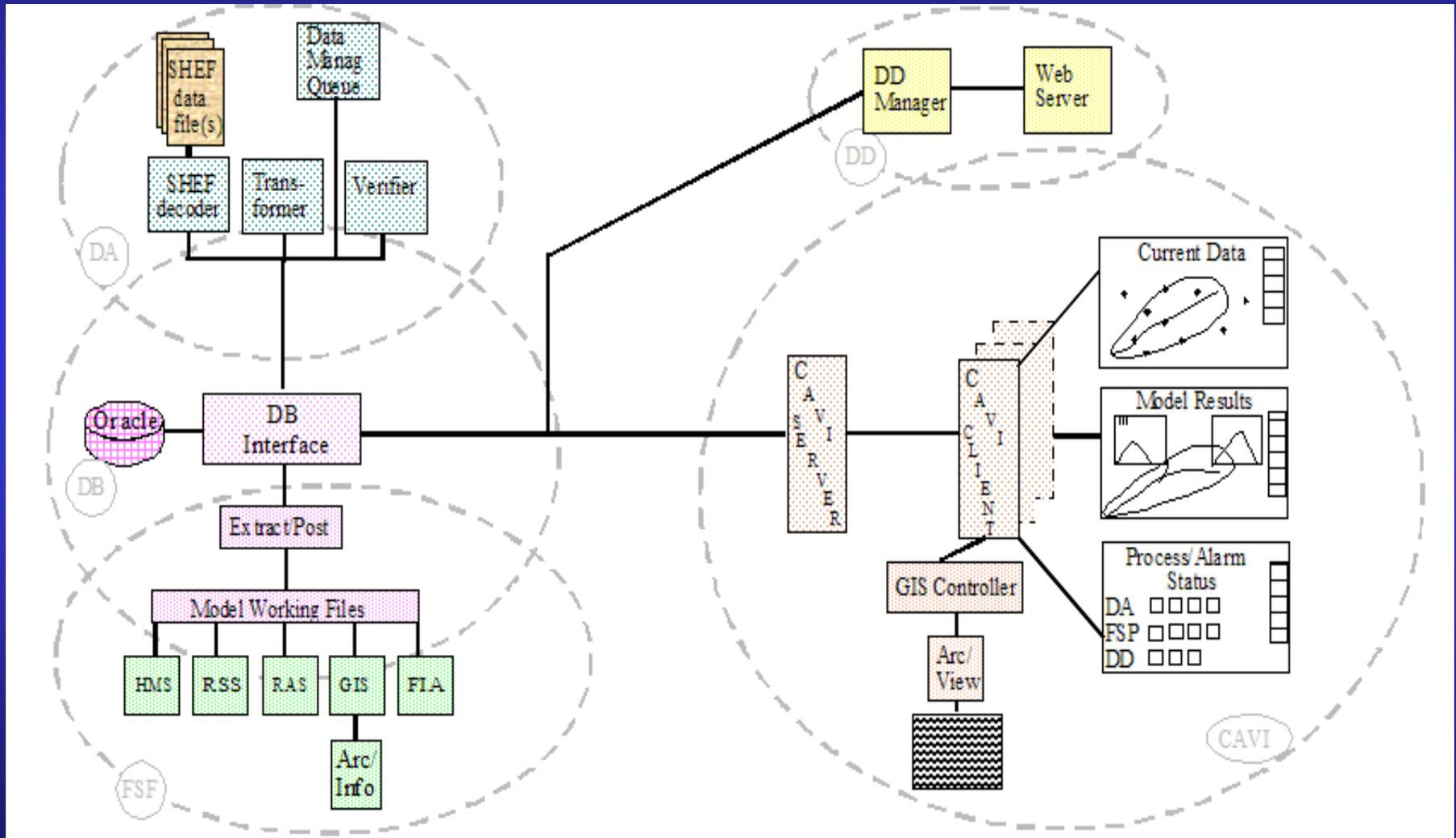
DATMAN

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US Army Corps of Engineers

CWMS System Diagram



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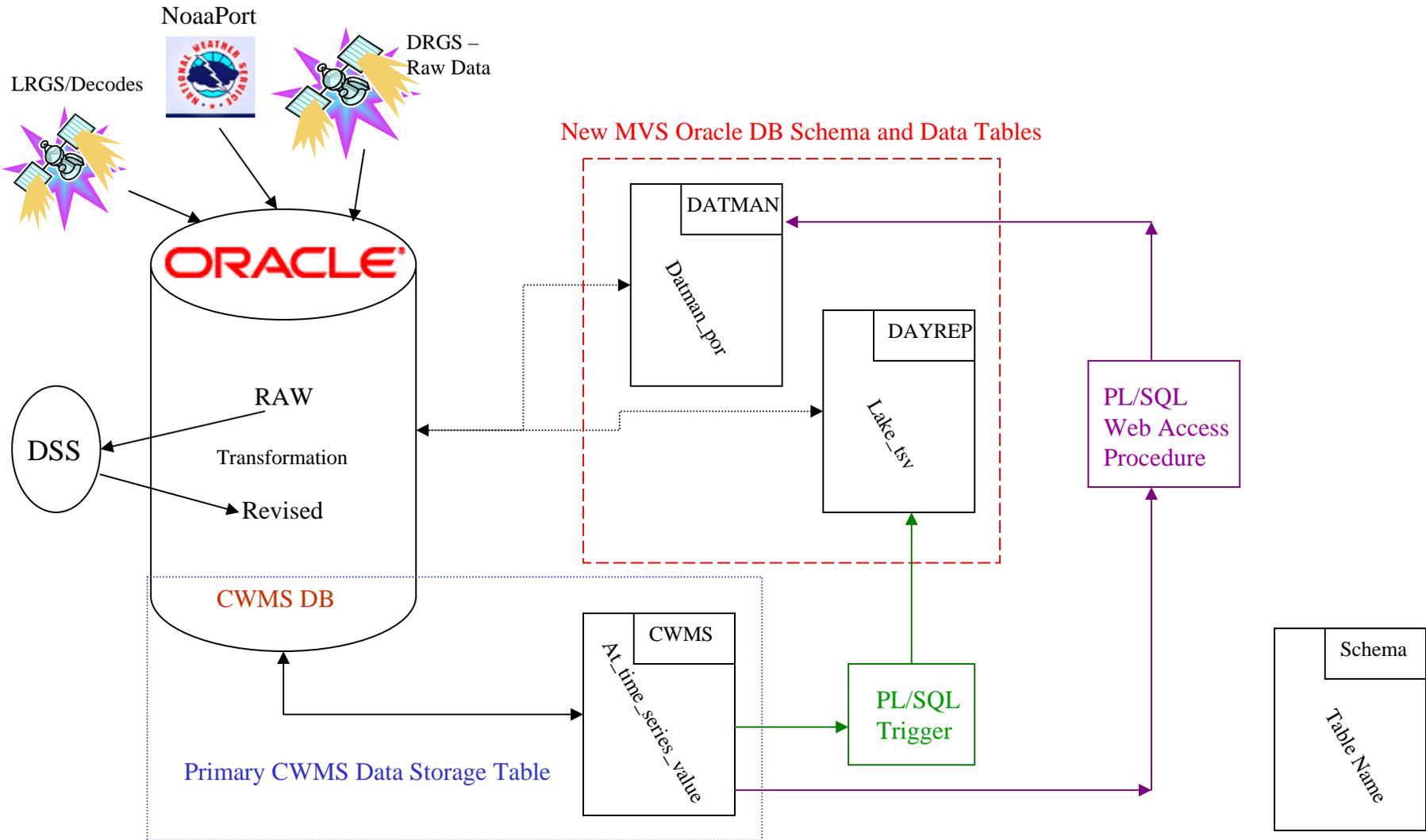


U.S. Army Corps of Engineers

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

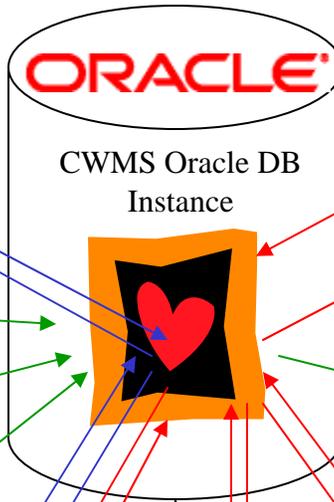
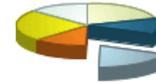
SLD CWMS Web Service Interface

CWMS CAVI

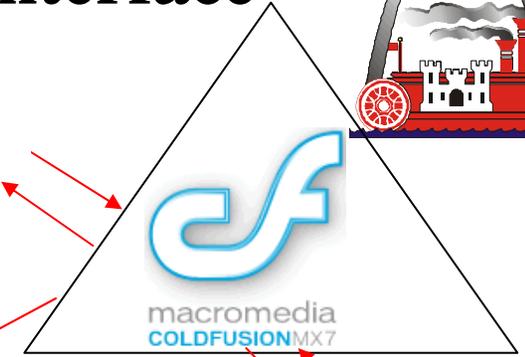


CWMS DBI

Cordea PopChart Server



Query Stored Procedures



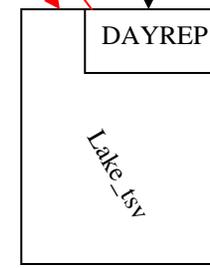
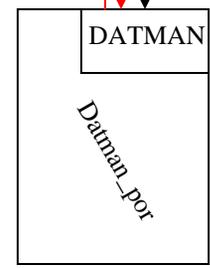
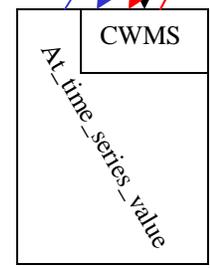
DRGS – Raw Data



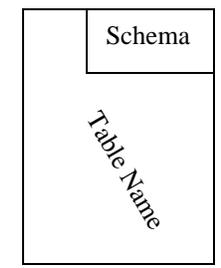
NOAAPort



LRGS/Decodes



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

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media

Address [redacted]

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
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

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Address [redacted]

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 Crest Crest Date (mm/dd/yyyy) Time Reset Crest

NO CRST NONE 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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Webrep Bulletin



RIVER AND RESERVOIR REPORT - Microsoft Internet Explorer provided by CEMVS

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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

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Real-time Oracle Data Reports



River Basin Data - Microsoft Internet Explorer provided by CEMVS

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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

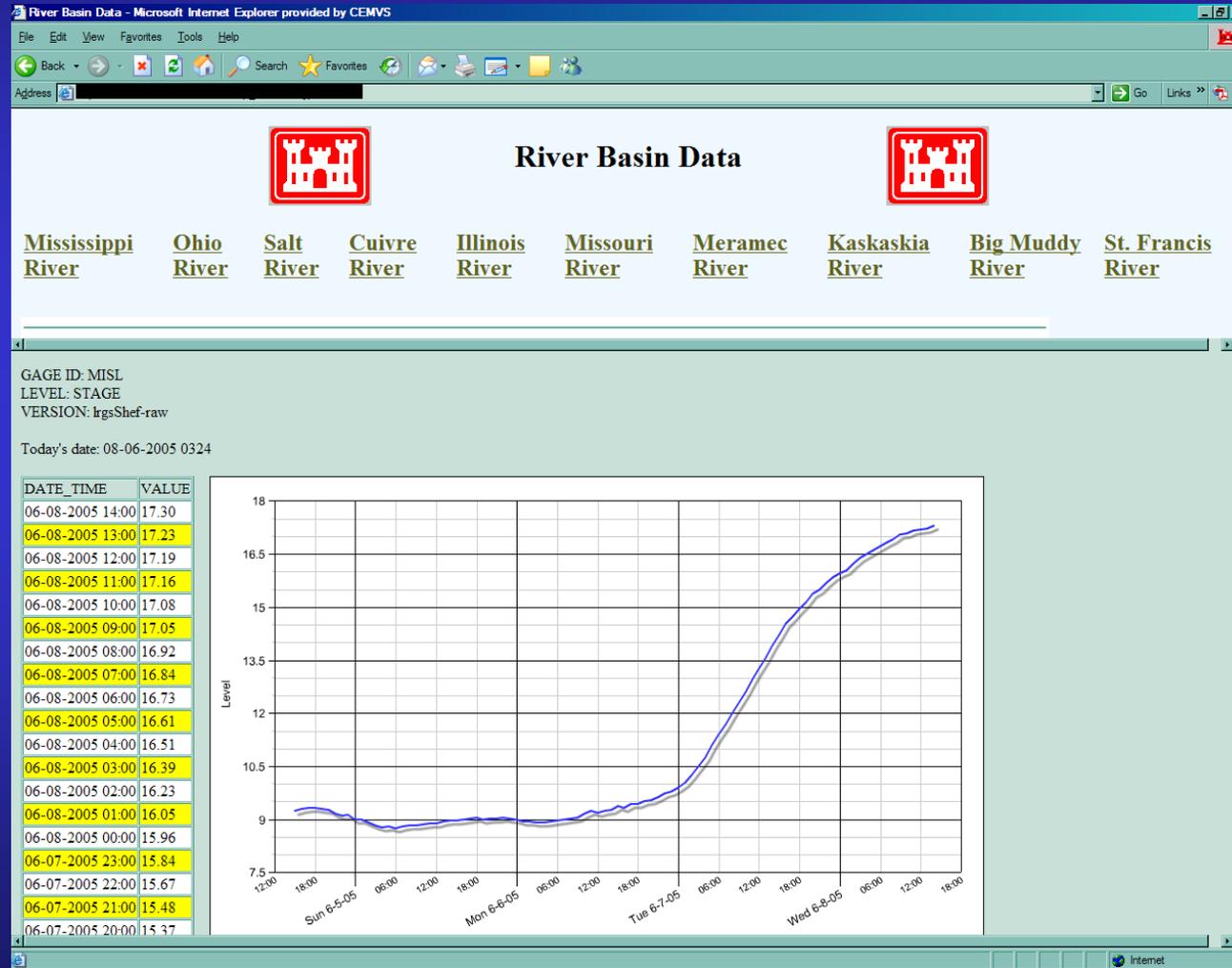
Internet

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US Army Corps
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Real-time Oracle Data Reports

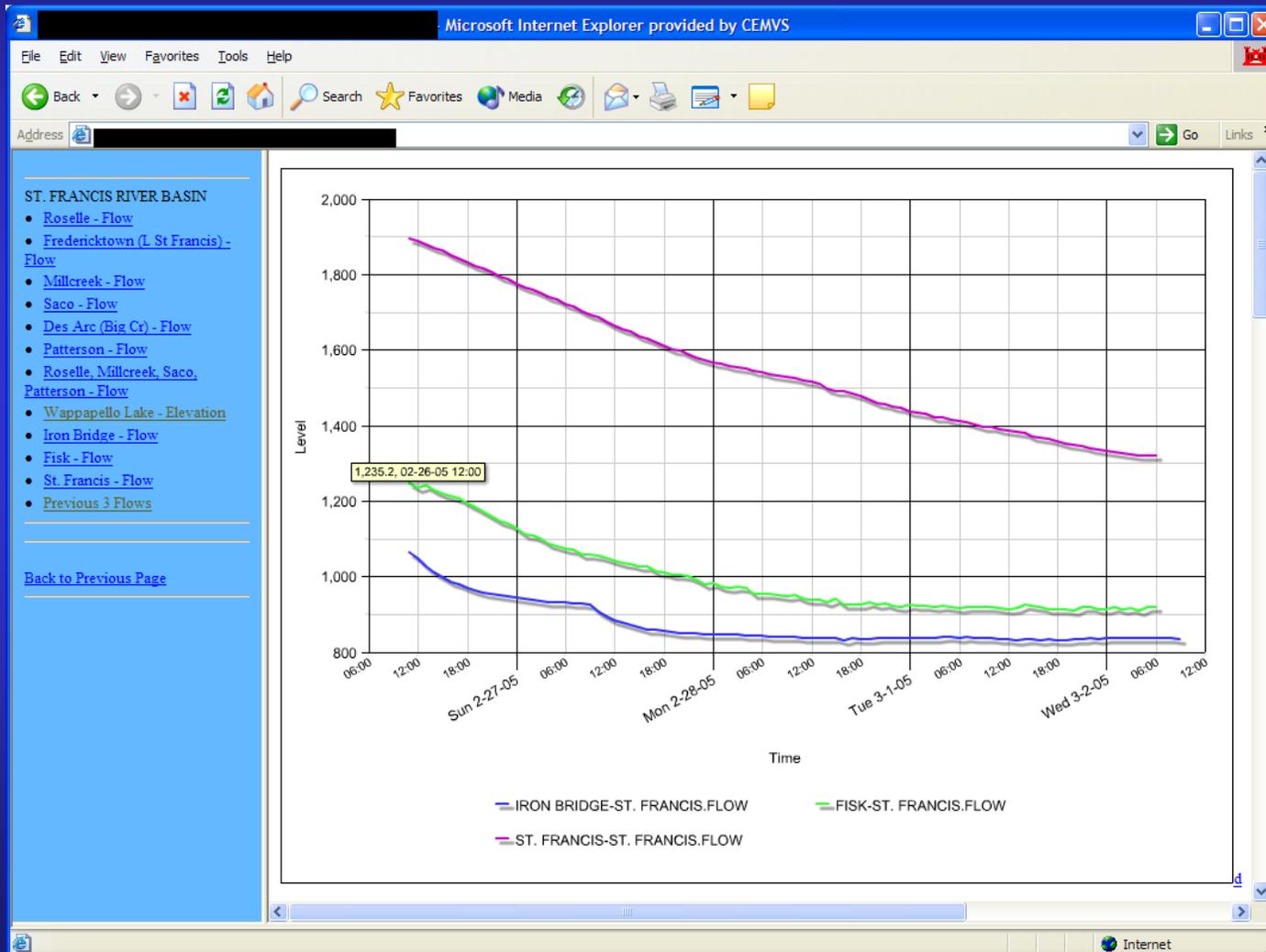


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Plot Macros



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Precipitation Tables



Cumulative Precip - Microsoft Internet Explorer provided by CEMVS

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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](#)

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Historic Data Management DatRep

DatRep - Microsoft Internet Explorer provided by CEMVS

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Address [redacted] Go Links

DatRep - Daily Gage Values

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

Available POR		Select Time Window:	
Start Time	End Time	Starting Year	Ending Year
01/01/1861	05/01/2005	1864	1865

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 INCUDED.

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

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Address Go Links

CSH - Comparative Stage Hydrograph

Basin: Available POR

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

Gage:

Data type: STAGE

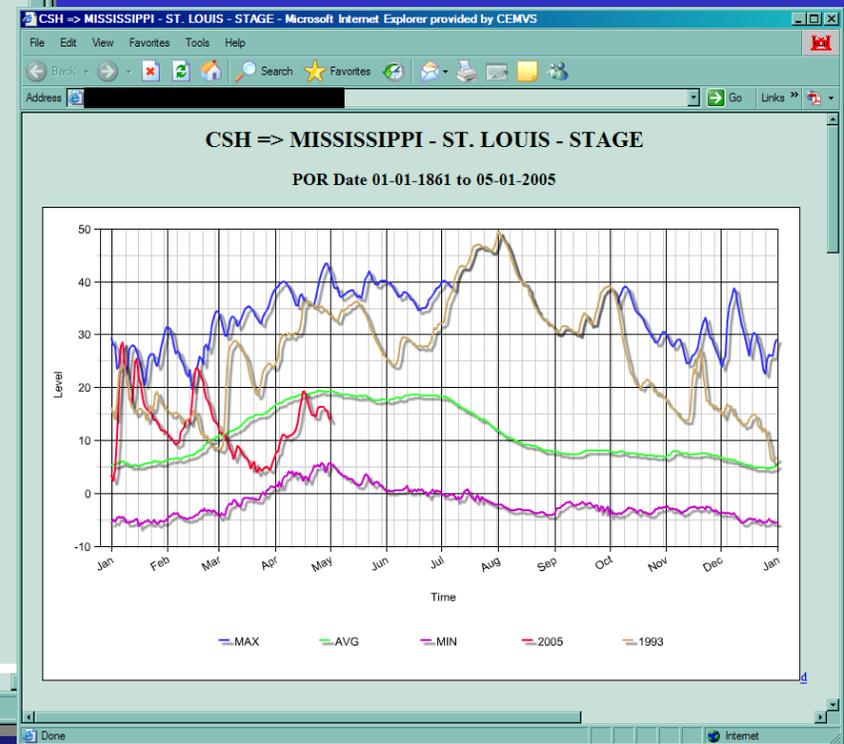
Statistical Time Window -
Please Select POR or User-specified Time Window option:

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:
Plot Year 2:
Plot Year 3:

Done Internet



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Historic Data Management FreqDur



FreqDur - Microsoft Internet Explorer provided by CEMVS

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FreqDur - Frequency-Duration Analysis

Frequency/Duration Analysis of Daily Sample Data

Basin: Available POR: Select Time Window (MM-DD-YYYY):

Gage: Start Time: End Time: Starting Time: Ending Time:

Data type: STAGE

Group Interval:

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: To: ==> Month/Day (MM/DD)

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 8AM. 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	299	0.57	>= 24	478	0.91

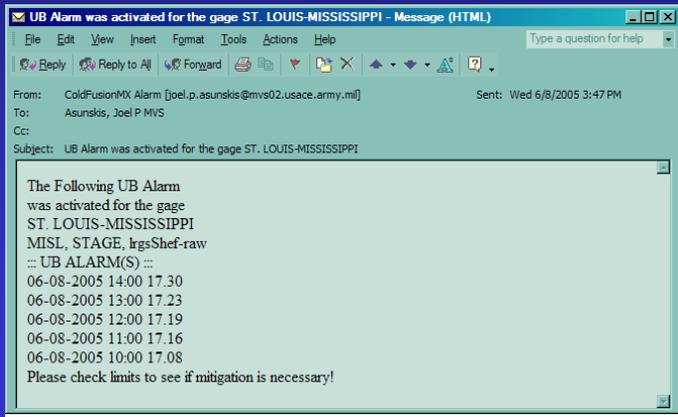
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One Corps Serving the Armed Forces and the Nation



Alarm Manager (Blackberry)

US Army Corps
of Engineers



Beep! Beep!



Level 1
Encoded
Message

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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	MIZT	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	MI5T	STAGE	26.00	0	<input type="checkbox"/>	11.50	0	<input type="checkbox"/>		<input checked="" type="checkbox"/>
8	MIML	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 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				<input type="checkbox"/>
2				<input type="checkbox"/>
3				<input checked="" type="checkbox"/>
4				<input type="checkbox"/>
5				<input type="checkbox"/>
6				<input type="checkbox"/>
7				<input type="checkbox"/>

Submit Changes

Applet coldfusion.applets.CFGGridApplet started

Internet



**US Army Corps
of Engineers**

Contact Information



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 - **U.S. Army Corps of Engineers**
 - ◆ **St. Louis District**