Mississippi Valley Division
HH&C CoP
Annual Newsletter

April 2025

Watershed Resources

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PRECIP TRENDS PAPER

MR&T VIDEO

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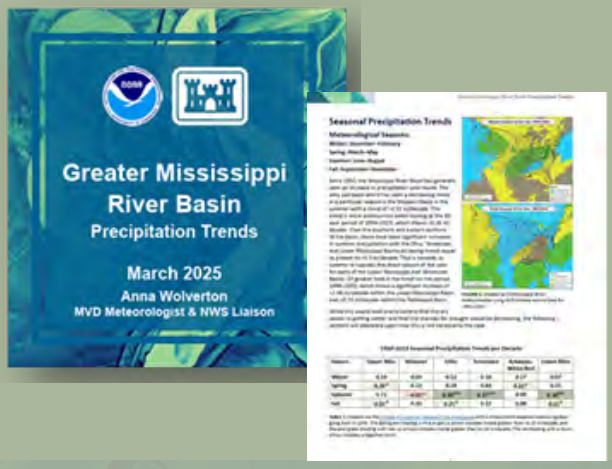
Watershed Resources

Greater Mississippi River Basin Precipitation Trends

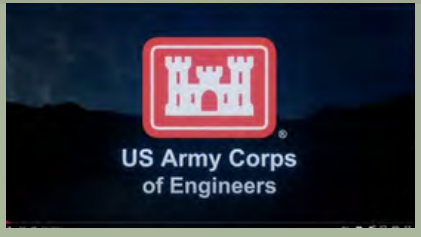


It is becoming widely known that annual precipitation is increasing throughout much of the U.S., but is that precipitation increasing just during the spring or is it from extreme precipitation events occurring more often? And how is this increase in precipitation affecting the Mississippi River and its stages? Is low water occurring more often? This paper answers those questions and more. MVD Meteorologist Anna Wolverton updated the original Precipitation Trends paper, previously published by the former MVD meteorologist Bill Frederick. This version includes updated statistics on the precipitation trends occurring throughout the basin but also includes several other topics not touched on in the old version. Anna dug through the National Climate Assessments and other research to compile this document of climate trends. She worked with the climate experts and communications branch at NOAA National Center for Environmental Information (NCEI). This document is a wonderful, multi-agency resource for the public and partners throughout the Mississippi River Basin.

https://www.mvk-wc.usace.army.mil/mvd/MS-river-basin-report-508.pdf

Watershed Resources
MR&T VIDEO

The MVD Watershed team regularly gives technical briefs to internal and external stakeholders, USACE teammates, and various other groups. A large portion of these technical briefs are an explanation on the Mississippi River and Tributaries Project (MR&T) in a briefing we've coined "How Water Works". MG Peeples had expressed her interest in capturing that briefing via an informational video an idea that Watershed was already making plans to develop. The Watershed team worked with staff here at headquarters, ERDC, and each of the districts that touch the MR&T to gather materials, develop a script, and build this great product. Team members from ERDC went out to capture and fly the features of the system with drones. We had tremendous support from the ERDC Video Lab team to build the product and develop many new products that we'll be using in multiple applications going forward. The video was published to YouTube in August of 2024 ahead of the MRC Low Water Inspection Trip with great reaction and feedback. The video was seen looping on the screens in the hearing room on the Motor Vessel Mississippi between meetings which was cool to see. We've already taken note of several minor changes we want to make to improve the video in the future. We look forward to sharing to inform others about the "Engineering Envy of the World" that is the MR&T System. Most importantly, how it emphasizes that hard work each of the MVD districts does every day to support the Nation and the critical mission we're all tasked with along the mighty Mississippi River.



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NEW HIRES

Ms. Kassie Reynolds joined the Hydraulic Design Section in the MVP Hydraulics and Hydrology Branch on 17 June 2024. Ms. Reynolds obtained her MS in Civil Engineering from the University of Minnesota where she studied the effectiveness of low-head dams used as barriers to the migration of invasive sea lamprey. She brings three years of consulting experience in hydrologic and hydraulic investigations, including XPSWMM and PCSWMM modeling experience.

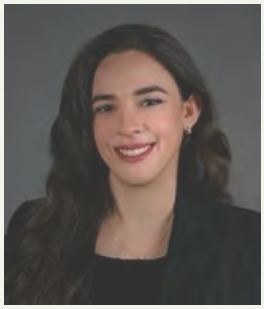
Ms. Haley Djock joined the Hydrologic Engineering Section in the MVP Hydraulics and Hydrology Branch on 28 July 2024. Ms. Djock completed a two-year DA Fellow rotation before joining the H&H Branch. She brings experience and interest in water quality and environmental restoration and the USACE planning process.

NEW HIRES

Abby Culloton joined the Rock Island District's Hydrologic Engineering Section as a Civil Engineer (Hydraulics) in February 2024. Prior to graduation, Abby worked as a student trainee in the same section, beginning in 2022. Abby graduated from the University of Illinois with a bachelor's degree in Civil and Environmental Engineering. Abby is active in the Society of Women Engineers (SWE). She is currently finishing her first deployment to help with Hurricane Helene recovery.

Andrew King joined the Rock Island District's Hydrologic Engineering Section as a Civil Engineer (Hydraulics) in July 2024. Andrew graduated from Iowa State University with a bachelor's degree in environmental engineering. He is from the Iowa City area and completed internships at different consultants. He is currently finishing his first deployment to help with Hurricane Helene recovery.

PROMOTIONS



Andrea Figueroa-Soto has worked for the MVS Hydrologic Engineering Section for over 4 ½ years, after graduating from the University of Puerto Rico – Mayaguez in 2020. For the last few years, she has been a hydraulics team member for an RMC risk cadre, focusing primarily on dam and levee safety and risk assessments. She also volunteers frequently for recruitment events and career fairs. Andrea has been promoted to Senior Hydraulic Engineer, at the GS-12 level.

Carlos Diaz-Reyes has been with the St. Louis District since 2020, beginning his career as a DA Fellow in the Civil Design Section. Carlos found his passion for Hydraulic Design after spending almost a year-and-a-half in rotations through the Design Branch, Geotechnical Branch, Geospatial Branch, H&H Branch, and Construction Branch. Since January 2022, he has worked as a Hydraulic Engineer focusing his expertise in hydraulic and sediment modeling. Recently in 2024 Carlos was promoted to a GS-12 Senior Hydraulic Engineer. He holds a Bachelor of Sciences in Civil Engineering from the University of Puerto Rico - Mayagüez and is currently working towards his Master's of Science degree in Civil Engineering with a focus in Water Resources and River Engineering from Saint Louis University. He is registered as an Engineering Intern in the State of Missouri.

Jessica Wiegand was recently promoted to a GS-12 Senior Hydraulic Engineer after a rotation in POH and obtaining her P.E. license. Jessica's love of nature and interest in environmental sustainability have fueled her career as a Professional Engineer in water resources engineering. She attended the University of Illinois Urbana-Champaign to study Civil and Environmental Engineering, graduating with Highest Honors in 2018. In 2020, Jessica joined the Hydrology and Hydraulics Branch at the St. Louis District of the U.S. Army Corps of Engineers. She is excited to be part of an agency that is striving for a more sustainable and equitable future in water resources engineering. Outside of work, Jessica enjoys fiber crafts, hiking, and spending time with her dog, Lila.

MVS

PROMOTIONS

Bradley Kruse, P.E. – Bradley has worked for the MVS Hydrologic Engineering Section for over 4 ½ years, after graduating from the Missouri University for Science and Technology in 2020. For the last few years, he has been a hydraulics team member and a team lead for the MMC Rapid Inundation Mapping Program. He has also supported a large flood risk management study for Tangipahoa Parish in the New Orleans District. Bradley recently earned his Professional Engineering Certification, and he has been promoted to Senior Hydraulic Engineer, at the GS-12 level.

NEW HIRES

Blake Elder earned his bachelor's and master's degree in civil engineering from Missouri S&T in December 2023. After taking six months to travel internationally, he started with USACE in June as a DA Fellow. Blake started his career in hydraulics, embarked on a 6-week deployment to Georgia for hurricane relief, and is currently enjoying a rotation in Geotech. In his free time, he enjoys being involved in his local church, smashing dingers on the softball field, and pretending to be good at the guitar.

Recently brought in through the DA Fellows program, Luke Guenther brings 20 years of military experience to the H&H team. Since his arrival, he has been instrumental in the development and deployment of the Meramec Valley teams bed load collector project. On his time off, you can find Luke hiking in the woods or paddling down the river. Go Army, Beat Navy! HOOAH!

Jessica Kite has worked at the Corps for 3 years as a student intern and 2 years full-time. She likes to spend time outside and reading. She loved the DA program as it gave her the opportunity to do a rotation through H&H, she is now full-time. She got to work on many projects in H&H such as a 2D HEC-RAS model for the Big River, the Upper Mississippi River Structure Assessment, and helping with weekly navigation notices.

PROMOTIONS

Grayson Holt, PE recently promoted to an SME position within the Hydraulic Design Section. Grayson's career spans consulting, Design Branch, and 6 years in the Memphis District Hydraulic Design Section. He is one of the valley's most proficient AdH modelers with expertise in modeling and designing large scale river training structures. Grayson also serves as the Tech Lead for some of the district's most complex studies and projects.

Joseph Hopper was promoted to Lead Hydrologic Technician. Joseph worked in Operations Division in MVM prior to joining the Water Control Team as a Hydrologic Technician in 2022. Joseph's knowledge of the gauge network and ability to execute a large-scale data collection and maintenance program are superior. Joseph leads the team that performs all installations and maintenance for stage gauges, collects discharge measurements, and ensures our data is reliable and readily available.

NEW HIRES

Marie Green joined the River Engineering Section in July of 2024 as a Civil Technician supporting the collection and processing of bathymetric data on the Mississippi River. Marie also supports branch-wide activities ensuring consistency and efficiency for all employees.

Julia Huffman joined the Hydraulic Design Section in January 2025. Julia worked with the H&H Branch for the last two summers as a Student Intern, and she has now joined us full time after graduating from Mississippi State University with a B.S. in Civil Engineering. Julia was a true asset as an intern and is already engaged in hydraulic modeling for some of the districts highest priorities.

Kyle White worked with Water Control over the summer of 2023 and joined us full time after graduating from the University of Memphis. Kyle serves as a Hydrologic Technician, and he is already adept at gauge installation, maintenance, and troubleshooting, ensuring reliable stage and discharge data during two record low waters.

PROMOTIONS

Stephanie Bell became the new Chief of Water Management for the Vicksburg District in October 2024. She has worked in the Vicksburg District Hydraulics Branch for 10 years. Prior to this, Stephanie was Chief of the Hydraulics and Hydrology Section and her experience includes Red River Studies and Flowline Update, Flood Inundation Modeling and Mapping, and Analyses for Dam and Levee Safety. She lives in Vicksburg with her husband, who works at ERDC-CHL, and her two children who are 1 and 5 years old.

NEW HIRES

Maura Coker is an engineer in the Hydraulic Design & Environmental section who joined our team in April of 2024. Ms. Coker graduated in 2021 from Louisiana State University with a degree in environmental engineering. She served as a program manager of a large variety of transportation and water resources projects, specializing in developing hydraulic models of the urban drainage system to help troubleshoot flooding problems. This experience ultimately led her to the USACE H&H group where she now works on large-scale hydraulic design and water quality projects.

Marcus Stricklin is the new secretary for the Hydrology, Hydraulic & Coastal Branch. Mr. Stricklin joined our team in Augus of 2024. Mr. Stricklin spent the past 25 years in public education, including 18 years as a High School Math Teacher. He was most recently the math department chairperson at the Willow High School New Orleans.

Hoonshin (Hoon) Jung is our newest team member who joined the Hydraulic Design & Environmental section of our branch in December 2024. Mr. Hoon is a civil engineer (hydraulics). He worked as a research scientist for over 10 years at a non-profit organization, contributing to various projects related to coastal restoration, water quality, and blue carbon in coastal and estuarine systems. Throughout his career, Hoon has applied advanced numerical models to address complex environmental challenges, helping to advance sustainable solutions for coastal management.

Gavin Stevens joined the River Engineering Team as a Hydraulic Engineer in 2024. He previously worked at the US Army Corps of Engineers at the New Orleans District as a Hydraulic Engineer in the H&H Branch. Gavin has been with USACE for 3 years where he has worked on SELA Algiers Economic Update and Comite River Diversion. Gavin earned his Bachelor of Science in Civil Engineering from the University of New Orleans in 2021

NEW HIRES

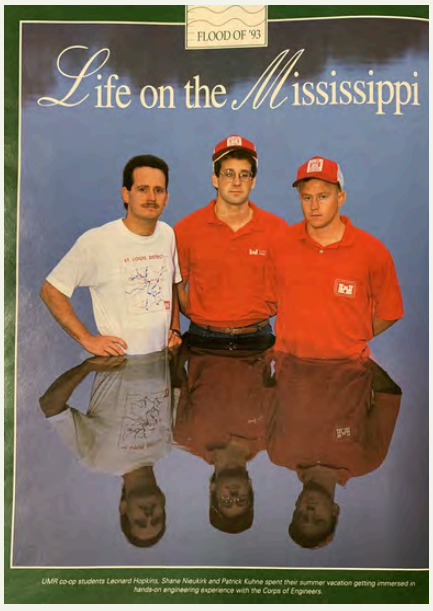
Theresa Romero joins MVN as a Hydrologic Technician in the Stream Gaging Unit. Before joining MVN, she worked as a field technician for environmental conservation and restoration nonprofits in the Greater New Orleans Area for 2 years. She has a Bachelor's Degree in Music Education and has completed courses in Earth and Environmental Science from The University of New Orleans. She enjoys identifying birds and plants, and she spends her free time playing music.

Aaron Terrell joined the River Engineering Team as a Hydraulic Engineer in 2024. He previously worked at the Rock Island District as a Hydraulic Engineer in the Water Quality Section. Aaron received his bachelor's degree in aerospace engineering from the University of Kansas in 2009 and received his master's in civil engineering from the University of Illinois at Urbana-Champaign in 2021. Aaron most recently returned to New Orleans to be closer to family.

Baylor Evans joined the River Engineering Team as a Hydraulic Engineer in 2024. He is a recent graduate and has earned his Bachelor of Science in Environmental Engineering from Louisiana State University.

MVS

Leonard Hopkins is planning to retire 31 May 2025, after 32 years with USACE. He currently is in the St. Louis District as Chief, Hydrologic & Hydraulics Branch which began in March 2008 to present. He was previously in the U.S. Army Garrison, Fort Leonard Wood, Director of Public Works for a 14-month detail from October 2021 through January 2023. From May 2019 through July 2020, he was with the Afghanistan District as Chief, Engineering & Technical Services Division for a 14-month detail; South Atlantic Division, Hurricane Maria - Task Force Power Restoration, Quality Assurance Representative, Deputy Area Engineer, Project Engineer, and Lead Project Engineer, 5-month detail from October 2017 through April 2018; Northwestern Division, Senior Engineer for Civil Works and Program Manager for Hydrology, Hydraulics, and Coastal Engineering in a 7-month detail from March 2016 to September 2016; St. Louis District, Assistant Chief, Operations Division for a 90-day detail from June 2013 through October 2013; Technical Project Officer, for the Implementing Arrangement between USACE and the Ministry of Land, Infrastructure and Transport of Japan from March 2008 to June 2013; St. Louis District, Project Manager, June 2003 – March 2008; St. Louis District, Civil Engineer (Hydraulics), Jan 2003 – Jun 2003; St. Louis District, Project Manager, Aug 2002 – Jan 2003.



Hopkins – 1993

Hopkins – 2025

MVN

Clyde Barre retired from the Hydrology, Hydraulic & Coastal Branch after 32 years of service. His contributions were vast and impactful. Mr. Barre will be sorely missed, both for his expertise and good spirit. We wish him well in his new primary endeavor, golf.

ANNUAL SUB-COP AWARDS

Each year MVD's Hydrology, Hydraulics and Coastal (HH&C) Community of Practice (CoP) leaders select deserving candidates to receive a Sub-CoP award. The Branch Chiefs will also submit nominations to receive the Outstanding Achievement Award. All of the award recipients are then considered for the MVD HH&C Professional of the Year Award. The selected MVD HH&C CoP Professional of the Year is also MVD's nominee for the National Headquarters HH&C CoP Award. The following are the 2024 award winners in each of the Sub-CoPs. Adam Howard from MVP was selected to be nominated for the National HQ Award. The HQ Award is still to be determined and will be announced at a future date. Congratulations to all!

Climate Adaptation
Abby Moore (MVP)

Navigation, Rivers & Sedimentation Engineering and Ecosystem Restoration
Erin La Russo (MVR)

Hydraulic Modeling and Design
Cameron Broussard (MVN)

Water Control and CWMS Utilization
Leighton Janes (MVD)

Water Control Data Systems
Bradley Palmer (MVR)

Hydraulics & Hydrology Planning Studies
Brandon Bringer (MVS)

Outstanding Achievement Awards
Bradley Kruse (MVS)
Adam Howard (MVP)
Daniel Smith (MVR)

CONGRATULATIONS!

Professional of the Year Award Winner 2024

MVD 2024 Hydrologic Professional of the Year Award

Adam Howard
St. Paul District

Mr. Howard is recognized for his outstanding work in hydraulic design within the Corps of Engineers. His contributions include executing and mentoring others in the design and analysis of erosion protection features for earthen levees, drop structure design, interior drainage, and environmental mitigation support. Mr. Howard's many accomplishments include co-leading the Hydraulic Modeling and Hydraulic Design Sub-CoP, authoring technical papers with the Engineer Research and Development Center, serving as technical and discipline lead on high-profile flood risk management projects, and training and mentoring countless engineers. Mr. Howard's actions have positively impacted the Corps of Engineers by enhancing our ability to meet our mission while helping develop the next generation of skilled engineers.

CONGRATULATIONS!

MVP

The 2024 Joint Engineer Training Conference & Expo was held in Orlando, FL. Four teammates from the U.S. Army Corps of Engineers were recognized at the Society of American Military Engineers Acadamy of Fellows Investiture Lunch. The SAME Academy of Fellows recognizes those members who have rendered an outstanding service to the Society, military engineering and the Architecture, Engineering and Construction profession. Shown (Left to right): Roger Perk, Chief, Engineering and Construction Division, Rock Island District; Ed Gauvreau, Installation Readiness Division, Headquarters; Maj. Gen. Kimberly Colloton, USACE Deputy Commanding General for Military and International Operations; Ann Banitt, Hydrologic Engineering Section, St. Paul District; and Lloyd Caldwell, former Director of Military Programs, Headquarters.

MVD

The Mississippi Valley Division (MVD), U.S. Army Corps of Engineers (USACE), held its annual Awards Day ceremony, on Oct. 3, 2024.

ERNEST P. BLANKENSHIP AWARDS

The Ernest P. Blankenship awards are among the highest honorary awards presented to MVD employees by the division commanding general, Maj. Gen. Kimberly A. Peeples. The awards cover three categories: engineer/scientist, professional, and technical/administrative. Established in 1987, they honor the commitment, dedication, and knowledge of the long-time MVD executive assistant who died in 1973.

ENGINEER/SCIENTIST AWARD

The 2024 Ernest P. Blankenship Engineer/Scientist Award was presented to Mr. Drew Smith, the deputy chief in the watershed management division.

As Deputy Chief of the Watershed Division and a Senior Hydraulic Engineer for the MVD, between August 2023 to August 2024 Mr. Smith has shown outstanding initiative and made outstanding impacts to not only the Watershed Division but the entire Mississippi Valley Division.

Mr. Smith was instrumental during the 2023 Low Water Season. This drought broke many records within the MVD and required substantial coordination across all the MVD districts and neighboring divisions. This coordination led to the understanding and solution to the swings on the Ohio River that created major impacts to navigation on the Lower Mississippi River. Mr. Smith led these coordination efforts and used this information to brief the senior staff and stakeholders weekly.

MVS

John McEnery, PhD, PE, CFM – John is Senior Hydraulic Engineer in the Hydrologic Engineering Section, and he has worked in MVS since March 2021. John participated in the "ERDC University" research program in 2024. His research examined the estimation of riverine bathymetry, which is crucial for accurate continental-scale hydraulic modeling and flood forecasting. This study utilized existing river segment characteristics and a computational method for estimating the synthetic representation of river channel bottoms, where data is not included in LiDAR sources.

MVK

Dana Moree: Ms. Moree received ASA recognition coin from the Acting Assistant Secretary of the Army, Mr. Jamie Pinkham.

Wesley Crosby – Helene inundation response

Coral Cruz – Bonanza Bar Dikes

Wesley Crosby & Dana Moree received the Meritorious Civilian Service Medal in recognition of the Pearl River Study.

MVN

Dr. T. (Jerry) Shih, Lead Hydraulic Engineer attended and presented at the 2024 LASCE Conference. Dr. Shih presented on the Numerical Modeling of Annual Shoaling Rate at Baptist Collette Bayou, Louisiana, in the Authorized Ship Channel Improvement Project. The presentation was to share a Coastal Modeling System (CMS) numerical modeling results for an authorized navigation channel deepening project and associated shoaling rate at Baptiste Collette Bayou, Louisiana. Model results show the preferred alternative in the authorized channel deepening project has the smallest channel shoaling rate than the two other alternatives with a longer north route and shorter south route in the outer channel.

Dr. T. (Jerry) Shih

MVN

Dr. Brendan Yuill provided support to the Mobile District Latin American Program serving as a technical reviewer for the Rio Coca Project. Dr. Yuill is reviewing a numerical model developed for the government of Ecuador to predict channel scour in the Rio Coco after the 475 ft San Rafael waterfall collapsed. The channel bed is quickly head cutting upstream of the former waterfall site towards an important hydropower plant that supplied 26% of the country's electricity located 12 miles upstream.

MVN

Dr. Brendan Yuill, Hydrologist, participated in the River Engineering Working Group's annual meeting held at the USACE district office in Albuquerque, NM in November 2024. Dr. Yuill gave a technical presentation on MVN's work using numerical models to predict the geomorphic impact of construction of the saltwater sill, built to mitigate saltwater intrusion up the Mississippi River channel, and its subsequent erosion on the channel bed.

He also worked with ERDC on a project collaborating with the University of New Orleans and The Water Institute on a field experiment to develop new ways to stabilize the channel crevassing on the east bank of the Lowermost Mississippi. Large crevasses like Neptune Pass are natural delta processes that mitigate deteriorating marshland but may generate adverse impacts to the LMR navigation channel if not properly controlled.

ACHIEVEMENT RECOGNITION

2024 INNOVATION OF THE YEAR AWARD

Team members from the U.S. Army Corps of Engineers, New Orleans District, received a 2024 Innovation of the Year Award for developing a notched underwater sill barrier to help slow saltwater progression up the Mississippi River from the Gulf of Mexico during the 2023 low-water season.This annual award recognizes successful innovations associated with the incorporation of new technologies, the novel application of science-driven methodologies,

Working together with personnel from the USACE Engineer Research and Development Center in Vicksburg, Miss., the New Orleans team developed the idea for the notched sill when the original sill constructed in July 2023 was overtopped by saltwater intruding up the Mississippi River.

USACE augmented the underwater sill from its original depth of -55 feet to a depth of -30 feet when the initial sill was overtopped by saltwater moving upriver. A 620-foot-wide navigation lane was kept on the sill at a depth of -55 feet to ensure deep-draft shipping continued along the nation's busiest inland waterway.

The "notch" allowed MVN to build the sill to higher elevations while not impacting navigation on the Lower Mississippi River.It also helped arrest further intrusion of the saltwater wedge up the Mississippi River in 2023.

MVN HH&C TEAM MEMBERS WHO RECEIVED THIS AWARD: DAVE RAMIREZ, KEVIN DERBIGNY, HAILEY LAURENT, DEBORAH CENTOLA, BRENDAN YUILL, KATELYN KELLER, ANTHONY PEGUES, JULIE MURPHY, EDEN KROLOPP, NOAH FRENCH, DAN WIET, CANDA LORSON, ANDREW TSAY, CAMERON ALEXANDER, LEELAND BRANDON

CONGRATULATIONS

Licensure Updates

Grant Halvorson, PE MVP
Bradley Kruse, PE MVS
John Zacher, PE MVM
Rachel Marzion, PE MVN
Benjamin Bell, FE MVK
Gabby Tran, FE MVK

FOR IMMEDIATE RELEASE
April 19, 2024

LOCAL WATER RESOURCES ENGINEER EARNS BOARD CERTIFICATION

Drew Smith Named Board-Certified Water Resources Engineer of the American Academy of Water Resources Engineers and Civil Engineering Certification Inc.

Drew Smith, PE, Deputy Chief, Watershed Division, Mississippi Valley Division, US Army Corps of Engineers, was recently announced as a Board-Certified Water Resources Engineer (BC.WRE) of the American Academy of Water Resources Engineers, a subsidiary of Civil Engineering Certification Inc. and the American Society of Civil Engineers.

In support of CEC's mission to certify experienced civil engineers who demonstrate specialty expertise beyond professional license and to broaden and deepen the body of knowledge for practicing professional engineers, the BC.WRE board certification was launched to improve the practice, elevate the standards, and advance the profession of water resources engineering. The BC.WRE certification is the highest post-license certification one can attain in the water resources engineering profession, and it is an accredited program by the Council of Engineering & Scientific Specialty Boards (CESB).
The BC.WRE demonstrates specialty expertise beyond professional licensure, strong professional ethics, and a commitment to life-long learning and continuing professional development.

Mr. Smith has served as the Deputy Chief of the Watershed Division at the Mississippi Valley Division since January 2023. From September 2021 to January 2023, Drew served as the Senior Hydraulic Lead for the Lower Mississippi River in the Watershed Division. Earlier in his career, Drew served as the Chief of the Water Management Section in the Hydraulics Branch at the Vicksburg District from 2016 to 2021, a temporary assignment as the Vicksburg District Deputy of Engineering and Construction in 2020, and as a project engineer for the Marmal Resident Office in Mazar-e-Sharif, Afghanistan in 2013 and 2014. He earned a Bachelor of Science Degree in Civil Engineering and a Master of Engineering from Mississippi State University. He is a registered professional engineer in the State of Mississippi and is a member of the Society of Military Engineers. He lives in Clinton, MS and is married to wife Leslie with two sons Grant (6) and Jackson (1).

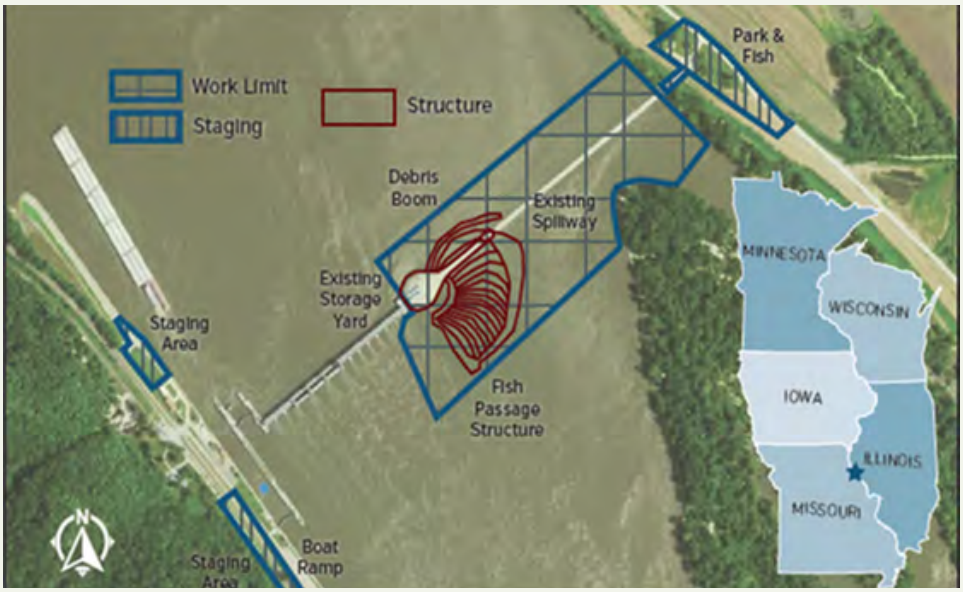
The American Academy of Water Resources Engineers' mission is to provide excellence in leadership by elevating the professional practice of water resources engineering through advanced certification, continuing education, and ethical practice. The AAWRE was founded by members of the ASCE's Environmental & Water Resources Institute and is the first academy of Civil Engineering Certification Inc. and the American Society of Civil Engineers.

MVR PROJECTS

Lock and Dam 22 Fish Passage

Lock and Dam 22 is one of five fish passage locations on the Mississippi River authorized by NESP, and the first to be funded for construction. The objective of this project is to restore longitudinal connectivity for a wide range of migratory warm water fish species through the construction of a fish passage structure. This project will increase access to upstream habitats and improve the size and distribution of native migratory fish populations. Future design considerations learned through monitoring and evaluation at the Lock and Dam 22 fish passage will be applied to future fish passage projects. The three components of monitoring and evaluation are 1) information needed for project planning and design (pre-project monitoring), 2) project performance monitoring and 3) apply lessons learned to subsequent fish passage projects (adaptive management).

H&H involvement included 1-D HEC-RAS floodplain impact analyses, 2-D HEC-RAS modeling for debris boom/pier configuration and design, 3-D modeling for rock and ripple configuration down the ladder itself, and physical modeling to investigate navigation impacts and debris boom design. Overall, FY2024 work included design completion by an AE and an awarded construction contract. FY2025 work consists of beginning on-site project construction and continuing fish monitoring activities during construction in collaboration with the USGS, and USFWS.



MVR PROJECTS

Upper Mississippi River Flow Frequency Study

St. Paul, Rock Island, and St. Louis Districts are working in collaboration to produce a new Flow Frequency Study for the Upper Mississippi River. The previous Flow Frequency Study on this reach was completed in 2004. The new study will update flow frequencies at gages of interest and produce associated hydraulic profiles along the Mississippi River from Anoka, MN to the Ohio River Confluence near Cairo, IL and along the Illinois River from Dresden Island L&D to the Mississippi River Confluence near Grafton, IL. This effort will evaluate the period of record through 2024. Updated federal guidance (Bulletin 17C) will be utilized as well as newly developed HEC-RAS models for the region.

This study was initiated in 2021 with Phase I which included Data Collection, Climate Assessment, and Hydrologic Engineering Management Plan (HEMP) Development. Intermittent funding over the past three years limited production. This changed in FY2024 when $1 million was appropriated. This has allowed the team to complete the HEMP through the ATR review with public review commencing in February 2025. The study is now progressing into Phase II which includes the development of homogenous flow records for both regulated and unregulated conditions from 1935-2024. This Phase is scheduled to be completed in Q2 of FY 2026.The final phase of the study (Phase III) will include the frequency analysis and the development of the associated hydraulic profiles for the 50%, 20%, 10%, 4%, 2%, 1%, 0.5%, and 0.2% Annual Chance Exceedance Events.

As external communication with partner agencies and public stakeholders is crucial to the success of this project, multiple public reviews and study updates are scheduled throughout Phases II and III. Near the completion of the study, a public web-based product database will be developed to house the results in a user-friendly georeferenced format. The study is scheduled to be completed in FY 2028.

MVS PROJECTS

Lock and Dam 25
New 1200 Lock

Like many of the locks on the river, Lock 25 was constructed in the 1930s and designed to accommodate smaller tows and only a fraction of the traffic volume that currently transits the system. The existing lock chamber at Lock 25 is 600 ft long, while the prevailing 15-barge tow size has a length approaching 1200 ft long. As a result, tows must lock through using a two-step process, which takes approximately 1.5 to 2 hours in normal conditions, causing significant delays to navigation and causing the lock to be near its maximum capacity. Delays increase significantly once a lock reaches capacity. In contrast, a tow can lock through a 1200 ft lock in approximately 0.5 to 1 hour. The capacity of a 110 ft by 600 ft lock is approximately 45 to 55 million tons per year. A 110 ft by 1200 ft lock has a capacity of approximately 100 million tons per year. Design work continues for a new 1200 foot long lock which will be constructed next to the existing lock. Project features include construction of a new 1200 ft drilled shaft-founded lock in the existing auxiliary miter gate bay, an approximately 1250 ft ported upstream Guard Wall, a 650 ft downstream Guard Wall, and a new 50 ft diameter downstream Guide Cell. The new lock will significantly reduce lockage delays and increase overall safety for operating and towing personnel. Once the new 1200 ft lock is constructed, the existing 600 ft lock will remain in service and become the auxiliary chamber. Having two operating chambers will provide redundancy during lock chamber maintenance or emergency repairs. Both chambers can be operated at the same time once the 1200 ft chamber is constructed.

MVS PROJECTS

Meramec River Basin Ecosystem Restoration

The St. Louis Riverfront - Meramec River Basin Ecosystem Restoration Feasibility Study resulted in a Federally justified Recommended Plan for a future ecosystem restoration project, which led to a Chief's Report signed in November 2019.Construction for the Meramec River Basin Ecosystem Restoration project was authorized in Section 401 of the Water Resources Development Act (WRDA) of 2020.

Preconstruction Engineering and Design (PED) was fully funded by Congress in 2023 and initiated with a signed Design Agreement (DA) between the U.S. Army Corps of Engineers (USACE) and the non-Federal sponsor, the Missouri Department of Natural Resources (MoDNR). A Federal construction appropriation is still required to execute a Project Partnership Agreement (PPA) and advance from PED to project construction.

MVS is conducting site-specific efficacy testing of bedload collector technology on the Big River as a part of PED. MVS is using a small version (full size is 30 feet!) that's just about the size of a standard pallet (48x40 inches). The aim is to place a small version in the river prior to a flood event; secure hoses and power to pumps; run the pumps during the flood; collect discharged sediment in small tanks for evaluation and disposal; and evaluate the overall intention to use full-scale bedload collectors for this purpose here and/or elsewhere in the Big River. This technology is demonstrated to not create an impingement of flow into the bedload collector hopper; the technology relies on sediment falling into it by means of gravity alone.

This system can be relatively passive and was designed by the manufacturer to not adversely affect aquatic species.

Our non-federal partner (MoDNR) has been supportive by supplying a test location, equipment, and personnel to assist with the deployment and monitoring of the bedload collector. MVS partnered with ERDC to customize a miniature 4-ft bedload collector onto a custom modular metal frame complete with electric submersible pumps, all designed for high mobility to be installed without significant site disturbance or the use of heavy equipment. In January 2025, MVS mobilized and installed the collector ahead of some forecasted rain, but the rain did not fall as initially forecasted, so there was no flood. However, installation was considered a partial success because it tested our logistics, processes, and equipment. The goal is to run the collector during one or more flood events during Spring 2025 to refine our collection strategy and better understand the possibilities and limitations of this technology. In the future, if this small bedload collector shows promise, we may seek to test a larger scale bedload collector or implement a full-scale collector.

MVM PROJECTS

Fairfield/New Haven Long Wharf Pump Station Design

For New England District

Lead Hydraulic Engineers: Grayson Holt and Talor Harry

900 cfs pumps station to be designed by MVM and MVN for NAE. The pump station will be built in conjunction with a new floodwall in New Haven, Connecticut. The protected area is highly urbanized, including Yale University's campus, requiring complex modeling of both the sub-surface drainage system and overland flow.

MVK PROJECTS

Yazoo Backwater Pumps

The Yazoo Backwater Area is located in west-central Mississippi, immediately north of Vicksburg, Mississippi. It extends northwest, approximately 65 miles and comprises approximately 1446 square miles. The Big Sunflower, Little Sunflower, Deer Creek, and Steele Bayou flow through the area, draining 4093 square miles of the Mississippi Alluvial Valley and include a major portion of the Mississippi Delta.

The Yazoo Backwater Water Management Plan illustrates the unique approach to the flooding problem that has plagued the communities within this area for the past 84 years. The plan was a direct result of successful collaborative effort between the Department of Army, Environmental Protection Agency, US Fish and Wildlife Service, and the US Army Corps of Engineers.

From the initial collaborative memo signed in 2023 by the Department of Army and the Environmental Protection Agency, to the Record of Decision signed in January of 2025, the Project Delivery Team has been on the forefront of innovation and collaboration. Through the use of internal and external PDT working sessions, new agreements and processes, consistent and transparent communication, and a willingness to compromise, the PDT was able to overcome the obstacles of the past to finally develop a plan for the future of the Yazoo Backwater Area.

Addressing the recurring backwater flooding while minimizing environmental impacts are the key concepts behind the Yazoo Backwater Water Management Plan. During the 2023-2024 plan development process, the PDT held weekly working sessions, virtually and face-to-face with team members as well as interagency subject matter experts, as well as held over 20 community and public meetings. These sessions allowed the team to fully understand the interagency concerns, but also the community needs. The end result is a collaborative plan between federal agencies at leadership and working levels that provides vital flood risk reduction while avoiding, minimizing, and/or fully mitigating for unavoidable impacts to protected resources.

MVK PROJECTS

Arkabutla Dam DSMS

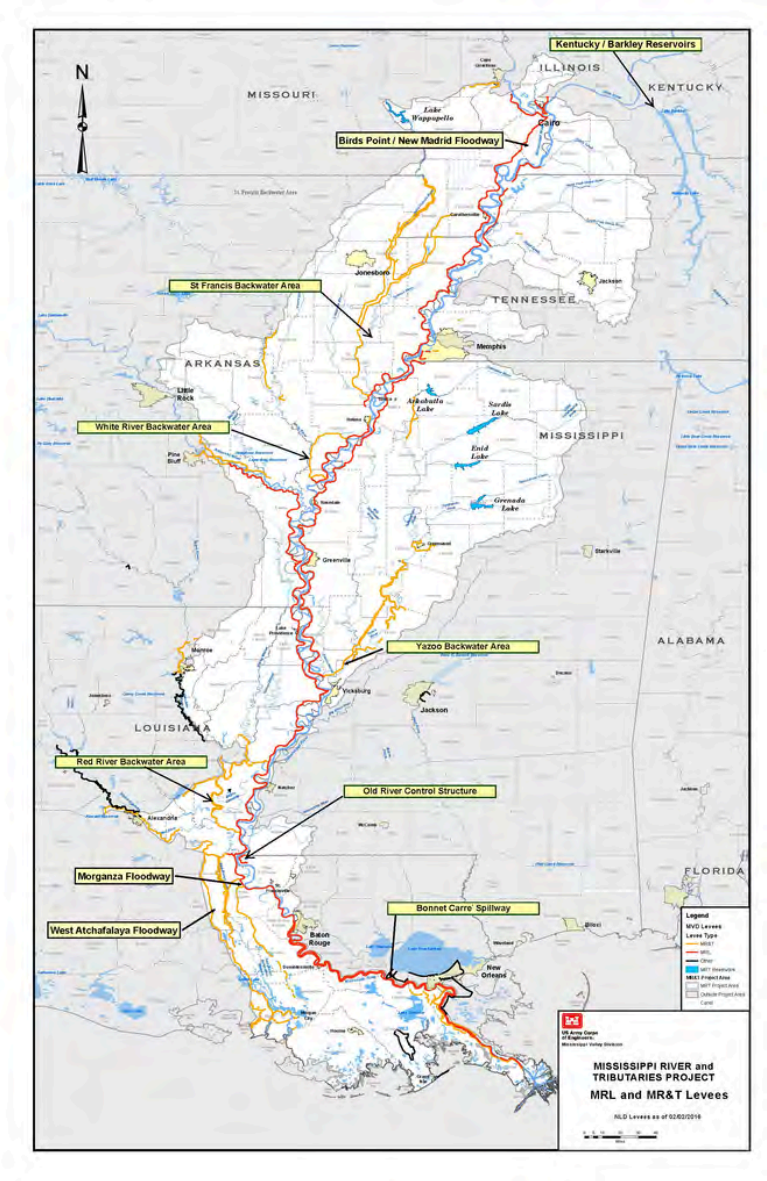
The Vicksburg District Hydraulics and Hydrology Section is currently assisting on the Arkabutla Dam DSMS. The project is currently finalizing the DSMR and working on TSP refinement. The project will go to PED starting later this FY. H&H provided hydraulic design considerations and calculations for a conduit liner in the existing outlet works, a new outlet works, and a new stilling basin. Calculations include sizing of conduit barrels, stilling basin, and baffle blocks based on the discharge capacities needed for each alternative. Preliminary calculations also included vortex potential, discharge rating curves, and estimated tailwater rating curves. Refinements to a potential new outlet works and stilling basin are currently being calculated. This includes optimizing the hydraulic design of the conduit and outlet works in a way that will reduce complex hydraulic design and inflows and keeps original operational considerations at Arkabutla.

MVN PROJECTS

Lower Mississippi River Comprehensive Management Study

This is a comprehensive study of the Lower Mississippi River basin from Cape Girardeau, Missouri, to the Gulf, to identify recommendations of actions under existing authorities or after congressional authorization, for the comprehensive management of the basin for the purposes of: Hurricane and storm damage reduction, flood risk management, structural and nonstructural flood control, navigation, ecosystem restoration and floodplain management strategies.

Systemwide Sediment Management – Optimize distribution of sediment throughout the MR&T system. Sediment modeling and Geomorphic analysis of the MS and Atch Rivers.



MVN PROJECTS

WEST SHORE LAKE PONCHARTRAIN - ST. JAMES PARISH

The West Shore Lake Pontchartrain (WSLP) project is located in southeast Louisiana on the east-bank of the Mississippi River in St. Charles Parish, St. John the Baptist Parish, and St. James Parish. The West Shore Lake Pontchartrain Chief's report was published in June 2016 and the project has been included in the Bipartisan Budget Act of 2018. This analysis focuses on the St. James Parish portion of the project.

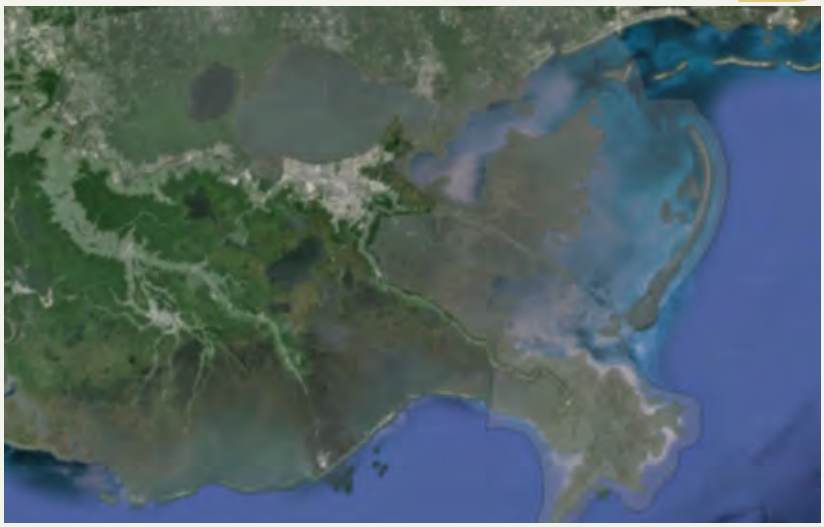
Over 60,000 people in the 3-parish study area have little to no hurricane risk reduction in place. The project will construct a 100-year or 1% annual exceedance probability (AEP) coastal storm risk reduction levee system as well as pump stations, drainage structures, and drainage canals that are designed for the 10-year/10% AEP precipitation event.

An all-2D HEC-RAS geometry was used to model the project area. The 2D model extends from the east side of Baton Rouge to the Chandeleur Sound along the east bank of the Mississippi River to the Bird's Foot Delta, excluding the city of New Orleans. The model was calibrated to the May 2021 event and Hurricane Ida and was validated to Hurricane Isaac. This project is not authorized for future conditions, so all model runs were done in present year.

HEC-RAS simulations were conducted for past events including Hurricane Isaac, the storm in May 2021, and Hurricane Ida. Simulations were also conducted for the without-project condition and two different with-project conditions for the 2-year, 5-year, 10-year, 25-year, 50-year, 100-year, 200-year and 500-year precipitation events, and the same precipitation events plus a 100-year surge event.

When the 100-year surge is applied to the model, there is a significant decrease in water surface elevation on the interior of the proposed systems. This is an intuitive response when considering that the proposed levee encloses the project area and thus protects the interior from storm surge water levels. For the EDR/GRR levee alignment, the 10-year precipitation plus 100-year surge event has an increase in water surface elevation only on the west side of the exterior of the levee system. This is due to the levee system blocking off the typical west to east flow path in this area.

WEST SHORE LAKE PONCHARTRAIN - ST. JAMES PARISH

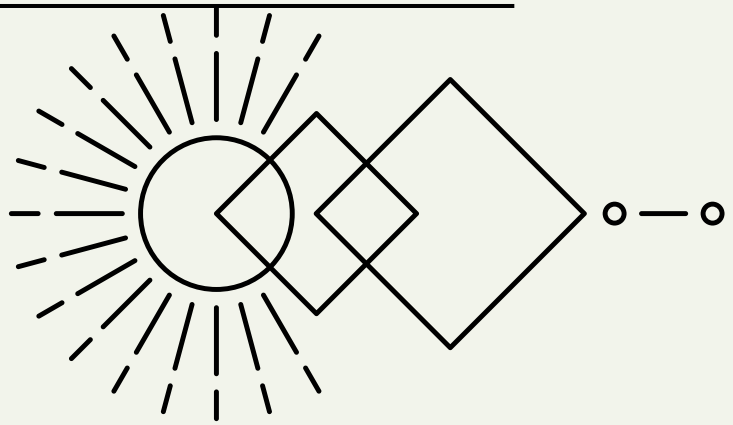


2D Model Domain

Maximum Depth Grid for the 10-year Precipitation plus 100-year Surge Event, EDR/GRR Levee Alignment

Maximum Depth With-Project Conditions minus Without-Project Conditions for the 10-year Precipitation plus 100-year Surge Event, EDR/GRR Levee Alignment

Conference



MVP is organizing gage gap workshops. These will be held with the National Weather Service and USGS focused on MVP - Feb 2025 and focused on International Rainy/ Lake of the Woods Water Board (IRLWWB) and International Red River Water Board (IRRWB) - summer 2025

MVS Water Control
MVS Water Management will be hosting Water Management 101 the week of August 25th
Hosting the Greater Mississippi River Basin (GMRB) Forecaster's Meeting in late summer

MVK
WM attending CWMS
- **Sub-Cop**
- **RAS User Group – May 2025**

SMART Rivers PIANC – September 2025
ASFPM – MMC - May 2025
ASDSO – MMC - September 2025
USSD – MMC - May 2025
Alluvial Aquifer – Water Quality

MVN TEAM PARTICIPATION
Coastal Working Group Annual Meeting, Gulf Shores, AL
Water Quality Workshop, Vicksburg, MS
Wave Watch Training Workshop, Vicksburg, MS
National Hurricane Conference, New Orleans, LA
ASCE Annual Conference LCECS, Kenner, LA

WATERSHED MEETINGS

FARGO-MOORHEAD FRM PROJECT SITE VISIT (FARGO, ND) NOVEMBER 2024

The St. Paul District hosted MVD Watershed and NCRFC for a tour of the Fargo-Moorhead FRM project. The tour included site visits and discussions for the Diversion Inlet, Wild Rice River, and Red River Structures.

WATERSHED MEETINGS

MRC LOW WATER INSPECTION TRIP AUGUST 2024

Watershed's new MRT video was unveiled during the MRC Low Water Inspection Trip. This was a great opportunity to hear and discuss regional issues affecting USACE programs and projects for the Mississippi River and Tributaries, and how USACE can better serve our partners and stakeholders.

WATERSHED MEETINGS

GMRB FORCASTER'S MEETING
OCTOBER 2024

The GMRB Forecaster's Meeting was held at Oklahoma State University in Tulsa, OK. Multiple USACE Divisions and Districts, along with multiple NWS RFCs, and TVA gathered to discuss forecasting issues and opportunities for improving and streamlining forecasting within the Valley. Topics included low water ratings and measurements, districts updates, and NWS products. Watershed staff provided briefings on Low Water AAR and IDIS Drought Dashboard Development.

WATERSHED MEETINGS

QUAD AGENCY MEETING
DECEMBER 2024

The Annual Quad Agency Meeting was held 10-12 December at the Minnesota Valley National Wildlife Refuge in Bloomington, MN. This meeting brings together several Federal agencies and is very well attended in-person and through TEAMS. This past meeting we had the following attendance in-person: USACE-37, USGS-16, NWS-12, FEMA-2, MNDNR-2, and MNHSEM-1. There were 20-25 that attended through TEAMS. The meeting had seven themes: Theme 1: Part 1 - Incident Management and Coordination; Part 2 – Rapidan Dam Retrospective and Discussion. Theme 2: Climate Change-based Flooding, Risk Assessment and Mitigation. Theme 3: Urban/Pluvial Flooding. Theme 4: Gage Operations and Modernization. Theme 5: Gage Operations and Modernization (cont). Theme 6: Regional Extreme Events. Theme 7: Special Projects/CIROH. The in-person meeting is a great way to network with other agencies on a daily basis. The meeting host is rotated amongst the agencies and held at various locations each year, which is decided upon by the planning committee. The planning committee typically has 1 to 2 people from each agency attend a monthly planning call. These calls focus on discussing what went well at our last meeting, what could we change, and then we start focusing on location/date, followed by developing the agenda.

WATERSHED MEETINGS

BRANCH CHIEF'S FACE TO FACE FEBRUARY 2025

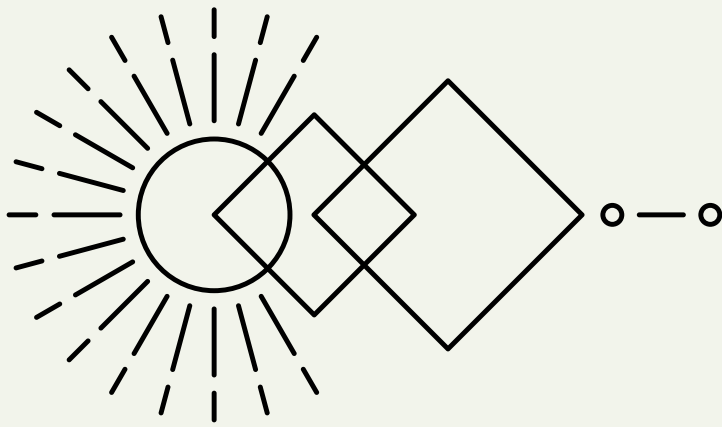
The MVD Branch Chief's Meeting was held in St. Louis, MO. H&H SubCoP leads provided updates and overviews of their respective SubCoPs. MVD and Districts had meaningful discussions revolving around workload and staffing, inundation mapping responsibilities, as well as H&H's role in planning studies.

New Publications

LINK: HTTP://DX.DOI.ORG/10.21079/11681/49522

Report Number: ERDC/CHL TR-25-1
Title: Geomorphic Assessment of the St. Francis River Phase II
By Sarah E. Girdner, J. Michael Lamport, and Holly K. Enlow
Approved for Public Release; Distribution is Unlimited. January 2025

Technology Update



Water Management also completed a successful COOP exercise this year. Conducting COOP exercises often ensures that in the event of any unforeseen circumstance that renders the MVK CWMS server inoperable, Water Management is still able to continue day-to-day operations seamlessly. During the COOP exercise, the MVK CWMS database, website, and server-side scripts performed routinely, and Water Management successfully distributed daily river products to stakeholders, ran a CWMS model, and produced an inundation map.

Additional tasks Water Management will complete in 2025 will pertain to cloud migration. These updates will entail creating a new website to comply with the 21st Century Integrated Digital Experience Act, migrating period of record data to the national database within the CWBI Cloud, and reconstructing CWMS server data processes to run in the cloud environment. Furthermore, Water Management will participate in multiple trainings and meetings to prepare for cloud migration and to cross train and learn from other districts. These trainings include a Web Development training in April 2025, a MVD Water Management Face-To-Face SubCop Meeting in May 2025, CURG in July 2025, and the Greater Mississippi River Basin Forecaster's Meeting and the Quad Agency Meeting towards the end of 2025.

GIS Survey MVK Link is a new tool being developed by MVK Technical Services Branch which will catalog all survey data within MVK. The site will show an outline of where survey data exists for an area which could range from a river survey to a survey of all the creeks in a watershed. Each entry will be color coded to show how the data was collected, will include a short description of the data, and will include a hyperlink to where that survey data is stored within the MVK server. Currently this is still in development and testing.

Current MVD HH&C RTS Structure

Adam Howard
MVP:
Hydraulic Design

Devin Hogg
MVS:
Hydrologic Statistics & Risk

Ann Banitt
MVP
Hydrologic Modeling

Edward Brauer
MVS:
River Engineering

Emily Moe
MVP:
Water Management Modeling

Aaron Buesing
MVP:
Hydraulic Modeling

Joel Asunskis
MVS:
Small Stream Restoration, Interior Flood Control, Planning Studies

Melinda Sisco
MVK:
Water Control Data Systems

LySanias Broyles
MVS:
Water Control Data Systems

Tim Lauth
MVS:
Navigation & Flood Control

Kacie Opat
MVP
Ecosystems Hydraulics

Lucie Sawyer
MVR
Infrastructure and Installation Resilience

HH&C SUB COPS

Infrastructure and Installation Resilience

Lead: Lucie Sawyer
CHAMPION: Mike Hrzic
DIVISION REP: Anna Wolverton
MVP POC: Leigh Youngblood
MVS POC: Jessica Wiegand
MVM POC: Talor Harry
MVK POC: Garrett DeYoung
MVN POC: Scott Rappold
Areas of concentration: Adaption, Preparedness, and Resilience

Hydraulic Modeling and Hydraulic Design

Co-Lead: Aaron Buesing MVP (Hydraulic Modeling)
Co-Lead: Adam Howard MVP (Hydraulic Design)
CHAMPION: Kevin Landwehr
DIVISION REP: Don Duncan
MVR POC: John Burant
MVS POC: Carlos Diaz Reyes
MVM POC Michael Lamport
MVK POC: Martha Contreras and Blake Davis
MVN POC: Cameron Broussard
Areas of concentration:Numerical hydraulic modeling (1D, 2D, 3D, no-rise/NFIP, sediment, wind/wave, pumps/ pipes, stormwater/interior drainage), physical hydraulic modeling, flood control operations, hydraulic design (spillways, stilling basins, gates, revetment, channel sizing, local scour, general scour),

H&H Planning Studies Support

Lead: Joel Asunskis MVS
CHAMPION: Leonard Hopkins
DIVISION REP: Leighton Janes
MVP POC: Pat Dowd
MVR POC: Matthew Zager
MVM POC: Morgan Cowles
MVK POC: Jimmie Elliott
MVN POC: Whitney Hickerson
Areas of concentration: H&H Aspects in Planning Studies

HH&C SUB COPS

WCDS Admin

Co-Lead: LySanias Broyles MVR (Water Control Data Systems)
Co-Lead: Melinda Sisco MVK (Water Control Data Systems)
CHAMPION: Dave Ramirez
DIVISION REP: Drew Smith
MVP POC: Mitch Weier
MVS POC: Ivan Nguyen
MVM POC: Tim Belles
MVN POC: Hailey Laurent
Areas of concentration: Address matters pertaining to the administration of district CWMS servers including but not limited to data acquisition/processing/dissemination, migration, storage, troubleshooting

Navigation, River & Sedimentation Engineering, and Ecosystem Restoration

Co-Lead: Eddie Brauer MVS (River Engineering)
Co-Lead: Tim Lauth MVS (Navigation & Flood Control Structures)
Co-Lead: Kacie Grupa (Opat) MVP (Ecosystem Hydraulics)
CHAMPION: Michael Clay
DIVISION REP: Leighton Janes
MVP POC: Geoff Kramer and Alex Le
MVR POC: Daniel Smith and Elizabeth Bruns
MVS POC: Brad Krischel and Joe Collum
MVM POC: Holly Enlow
MVK POC: Coral Cruz and Dalton Blakeney
MVN POC: Brendan Yuill Karina Ginsberg
Areas of concentration: Navigation, lock design, navigation structure scour, flood control structures, reservoir sedimentation, dredging, river engineering, geomorphology & potamology, channel stabilization, sediment transport, regional sediment management, engineering with nature, ecosystem restoration design, stream restoration, fish passage, water quality, post-project monitoring.

Water Control & CWMS Utilization

Co-Lead: Joan Stemler MVS (Water Control)
Co-Lead: Emily Moe MVP (CWMS Modeling)
CHAMPION: Cory Winders
DIVISION REP: Justin Giles
MVP POC: Elizabeth Nelsen
MVR POC: Chris Trefry
MVM POC: Sarah Girdner
MVK POC: Stephanie Bell
MVN POC: Hailey Laurent
Areas of concentration: Forecasting, data acquisition and management, reservoir system analysis, water quality

HH&C SUB COPS

Hydrologic Modeling & Statistics and Risk

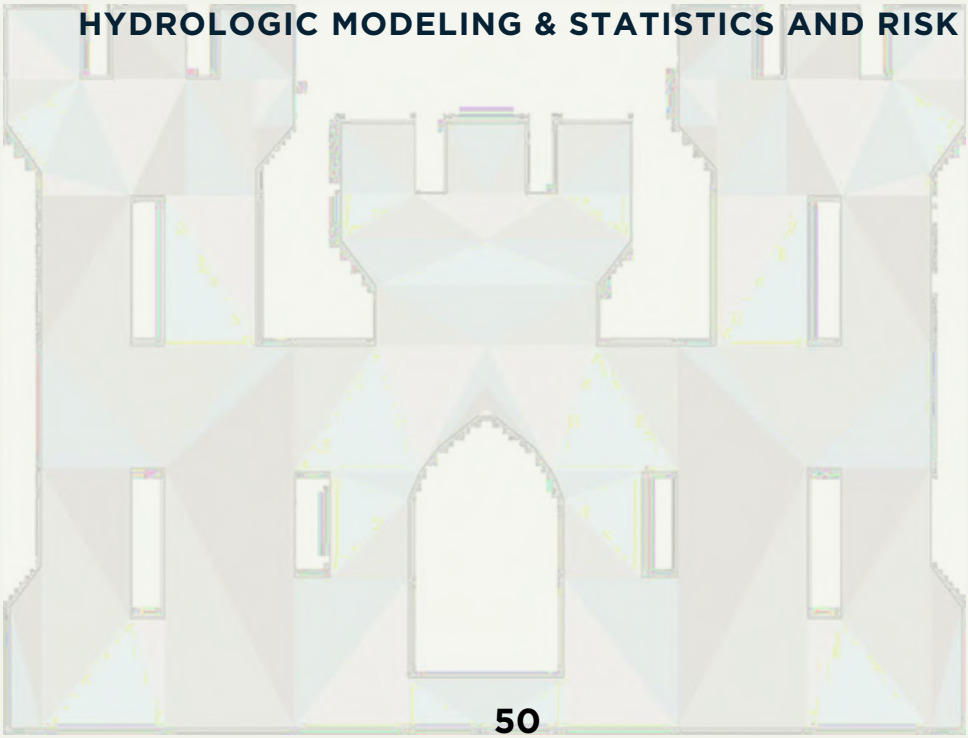
Co-Lead: Ann Banitt MVP (Hydrologic Modeling)
Co-Lead: Devin Hogg MVS (Statistics and Risk)
CHAMPION: Heather Henneman
DIVISION REP: Jodi Sonterre
MVR POC: Lindsay Scalora
MVS POC: Bradley Kruse
MVM POC: Grayson Holt
MVK POC: Gabby Tran
MVN POC: Rachael Marzion
Areas of concentration: Hydrologic modeling, extreme storms, flow frequency studies, risk analysis on dams and levees, inflow design flow, project maximum flow floods

SUB-COPS ARE NOW ON TEAMS!

Would you like to stay informed on the activities and knowledge sharing of one or more of the Sub-CoPs? Teams have been set up for each of the Sub-CoPs with all current members. You can join each one on Microsoft Teams by contacting the Sub-CoP team leads. You can join as many as you'd like. If you feel you're not the best fit for that Sub-CoP, you can always leave the team by clicking on the three dots button next to the team's name in your Teams list and select "Leave the team".

SUB-COP

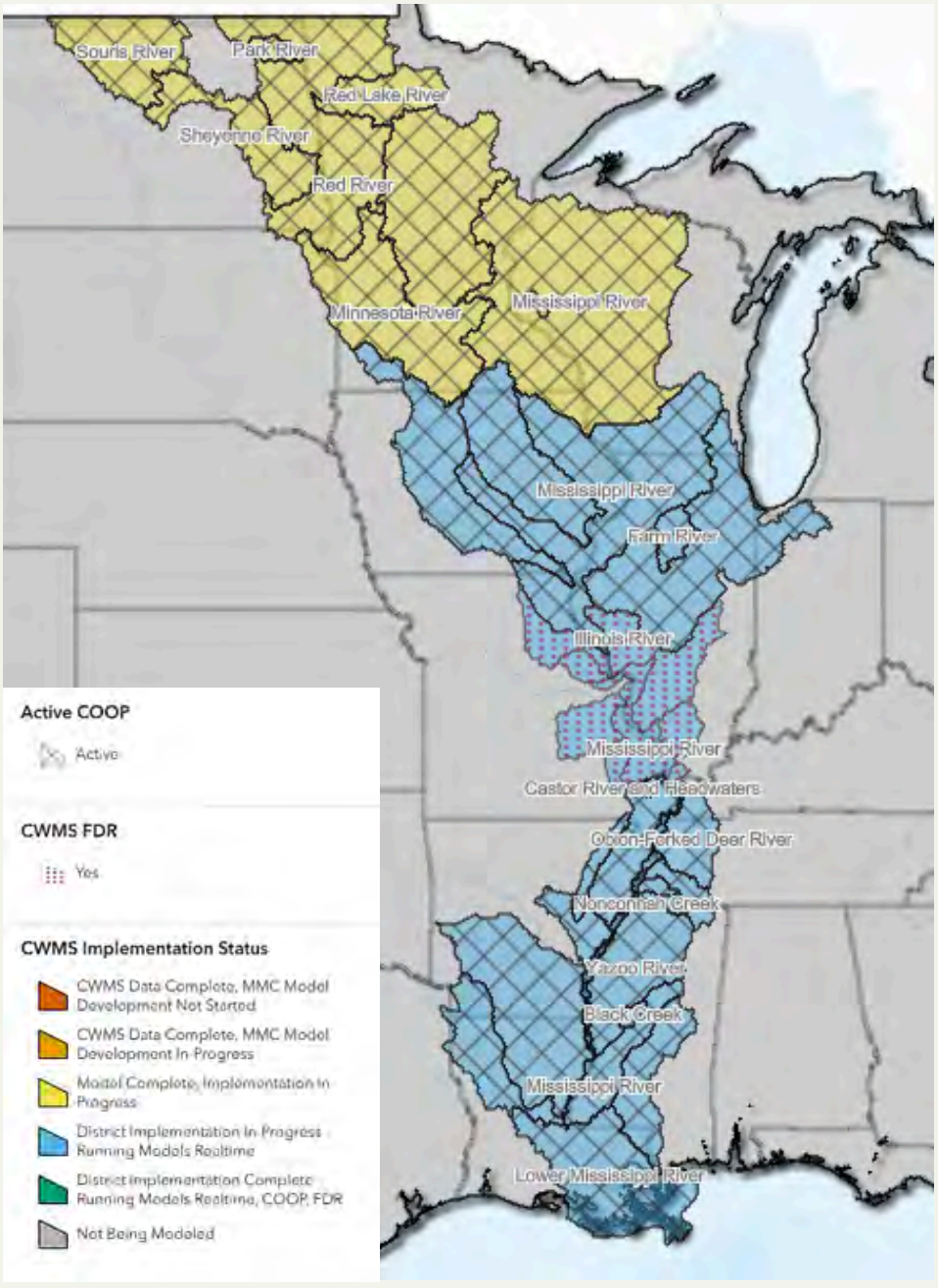
ADAPTION, PREPAREDNESS, AND RESILIENCE
HYDRAULIC MODELING AND HYDRAULIC DESIGN
H&H PLANNING STUDIES SUPPORT
WCDS ADMIN
NAVIGATION, RIVER & SEDIMENTATION ENGINEERING, AND ECOSYSTEM RESTORATION
WATER CONTROL & CWMS UTILIZATION
HYDROLOGIC MODELING & STATISTICS AND RISK



Corps Water Management System Utilization Status

Watershed modeling is essential for integrated decision making across USACE. It is the basis for how we operate projects, how we manage and prioritize infrastructure investment, how we respond to disasters, how we sustain competencies, how we manage risks and how we communicate with partners, stakeholders, and the public. The Corps Water Management System (CWMS) is a key enabler for USACE to transform Civil Works from an individual project and business line investment plan approach to a systems-oriented approach that is risk informed.

The CWMS modeling system combines four standard models created and maintained by the Hydrologic Engineering Center (HEC) in Davis, CA: the HMS model, the ResSim model, the RAS model, and the FIA model. The HMS model calculates runoff for river basins and assists in forecasting. The ResSim model is used for water management and provides information needed for reservoir release schedules. The RAS model calculates water surface profiles which can then be used to create inundation maps. The FIA model provides consequence or damage estimates created by the forecasted inundation areas. Corps-wide there are 212 operational basins; of which, MVD has 40. These basins have been implemented into the CWMS system to achieve the full range of authorized purposes. The map at the right displays the MVD basins. The current CWMS status can be found on the next two pages.



Current Status Map of MVD Basins

CORPS WATER MANAGEMENT SYSTEM UTILIZATION STATUS

St. Paul District (MVP)

Inundation maps for five basins (Mississippi Locks and Dams, Mississippi Headwaters, Sheyenne River, Bois de Sioux/Otter Tail Rivers, and the Minnesota River) were produced in September 2024 to exercise the models. Funding was found from multiple sources to complete this exercise. In addition, consequences models and associated hydraulic models were updated in preparation for the fall Annual Flood Damages estimates. In the table below, Blue represents having a current inundation map uploaded to the FIM map within the last six months and being able to produce an inundation map within 24 hours of a request. Green represents Blue plus the economic consequences assessment. Red Lake, Homme and Souris will not be compliant without additional funding. Eau Galle is still being developed.

Rock Island District (MVR)

CWMS models were utilized to produce flood inundation maps (FIMS) for the entire MVR reach of the Mississippi River during the Summer 2024 flood. FIMS were developed throughout the event and uploaded to the FIM viewer until the river crested throughout the district. Two COOP exercises were completed during the last year. The COOP server is now fully operational. Work is underway to upgrade to CWMS version 3.4 with the target date of completion set at 1 March. MVR continues to use CWMS daily to produce water level forecasts and is working towards using HEC-RAS daily for Mississippi & Illinois River forecasts.

St. Louis District (MVS)

The MVS utilizes CWMS models on a daily basis. Internal and external stakeholders depend on these daily products. This past year we did not have a high-water event, but instead used our models for decision making during low-water operations. We did have a minor flood event on the Meramec River, which we utilized our Meramec CWMS model to help the flood fight team and levee district make decisions on flood fighting efforts. Outside of forecasting and inundation mapping, each year our CWMS models are utilized for a variety of studies, RIM development, semi-annual FIM updating, annual FDR calculations, and deviation requests. Each year we attempt to update one of our models, this year (funding permitting) the Kaskaskia River HMS model. The past year the funding was not available, and we did not make any model updates. We are finalizing the CWMS Mississippi River forecasting for our District.

Memphis District (MVM)

The Memphis district has 9 CWMS models for our AOR. All models were upgraded to CWMS 3.4.1 in March 2025 and we have capability of producing inundation maps for all basins. The Obion-Forked Deer model was used to produce inundation maps during the February Flood on the Obion River near Rives, TN. A COOP exercise was conducted in July 2024 and the COOP server is fully operational. Geometry updates were made to the St. Francis and White River RAS models in the last year. Our CWMS models have been utilized for numerous studies by our Hydraulic Design section. Two RIM projects (Obion-Forked Deer and Nonconnah Creek) were completed in FY2024.

Vicksburg District (MVK)

The Vicksburg District Water Management is currently utilizing CWMS 3.3.1 on the Mississippi, Yazoo, Ouachita, Red, and Pearl River basins. All basin models are currently being utilized to make operational decisions and to create inundation maps. In 2024, calibration updates were made for the RAS component of the Yazoo and Pearl River Basin CWMS models. Further updates to CWMS models are planned for 2025, which will include incorporating the new RAS models into the CAVI suite, updating to CWMS 3.4.1 by May 2025, removing MFP from all CWMS models, and adding CDA extract capability.

New Orleans District (MVN)

The New Orleans District has complete models for our Basin. MVN Water Management is running CWMS models parallel to legacy systems increasing efficiency and fine tuning to inform daily operation decisions. MVN has hired and trained new Water Management personnel in all aspects of CWMS. This year, MVN will help build the pre-MR&T HEC-RAS model.