

8:00 AM - 5:00 PM | **Registration** | Registration Desk, Lobby

8:00 AM - Noon

Workshops

Workshop A - Hydraulic Design and Digital Delivery with Bentley Software

Magnolia E | [Kristen Dietrich](#), [Jonathon Smith](#), [Joey LouAllen](#), [Kyle Brandon](#), [Tim Robinson](#), [RoseMarie Klee](#), [Matt Lauffer](#), [Jennifer Johnson](#)

Workshop B - Working Through 2D Hydraulic Modeling Floodplain Permitting Challenges

Magnolia F | [Scott Hogan](#) and [Susan Jones](#)

12:00 - 1:00 PM | **Lunch** | Magnolia A - D

1:00 - 5:00 PM

Opening Session | Magnolia A

Welcome and Opening Remarks

[Brad White](#), Executive Director, Mississippi Department of Transportation

Keynote | A Tsunami Collides with a Landmass – The Often-Overlooked Story of Hurricane Katrina

[Gabe Faggard](#) and [Kelly Castleberry](#)

Presentation of the Mark D. Miles Distinguished Hydraulic Engineer Award

Break

FHWA Update

[Joe Krolak](#)

AASHTO Update

[Charlie Hebson](#)

TRB Update

[Mike Perez](#)

5:00 - 7:00 PM | **Ice Breaker** | Camelia Ballroom



Scan this QR Code to
view session abstracts

7:00 - 9:00 AM | **Breakfast** | Magnolia A - D

8:00 AM - 5:00 PM | **Registration** | Registration Desk, Lobby

8:00 - 10:00 AM

River Morphology & Countermeasures

Camelia A | **Moderator: Aaron Estep**

A Century on the Wolf River: Urbanization and Migration in Memphis, TN
Wesley Peck and DJ Wiseman

Real-Time Bridge Scour Monitoring in South Carolina
Tim Lanier

Scour and Stream Stability at U.S. 98 over the Pearl River
Katie Wimberly and Blake Palmer

Exciting Components of the New Edition of HEC-23
Laura Girard

Advanced Stormwater Modeling

Camelia B | **Moderator: Kyle Brandon**

Evaluation of Screen Performance for Filtering Debris from Stormwater Inlets
Troy Lyons

Computational Modeling and Analysis of the Inlet No. 3 Single Slope Barrier Hydraulic Efficiency
Marta Sitek

Computational Modeling of Infiltration from Ditches into Roadway Embankments
Marta Sitek

Storm Sewer Geysering – An Exercise in Risk and Resiliency with Stormwater Infrastructure in Urban Environments
Erik Carlson, Jose Vasconcelos, and Marta Sitek

10:00 - 10:30 AM | **Break** | Lobby

10:30 AM - 12:30 PM

Aquatic Organism Passage Panel Discussion

Camelia A | **Moderator: Casey Kramer**

Nationwide Practices in Aquatic Organism Passage Design, Construction and Monitoring, Preliminary Findings of NCHRP 55-18
Justin Lennon

AOP Panel Presentations:

NHEC History of AOP and Fish Passage – **Charlie Hebson**

WSDOT Fish Passage Program – **Julie Heilman**

USFS Fish Passage Program – **Bob Gubernick**

FHWA AOP Program – **Abhi Kapoor**

FHWA AOP Implementation Guide – **Gillian O’Doherty**

Interactive Discussion of AOP with participants and the panel

Advanced Hydraulic Modeling

Camelia B | **Moderator: Brianna Corsi**

Determination of Shear Amplification between Approach Flow and Bridge Foundation Obstructions using CFD and a 5000 Case Matrix
Hubert Ley

Selection and Application of Manning’s Roughness Values in Two-Dimensional Hydraulic Models: Results from NCHRP 24-49
Xiaofeng Liu

Automated Meshing and 3D Visualizations for 2D Bridges and Culverts in SMS/SRH-2D
Scott Hogan

Understanding the role of bank vegetation in hydraulic modeling and scour – insights gleaned from CFD simulations for a bridge over the American River
Kevin Flora

12:30 - 1:30 PM | **Lunch** | Magnolia A - D

1:30 - 3:10 PM

Lightning Sessions 1

Camelia A | **Moderator: Roberto Ruiz**

Future River Analysis & Management Evaluation (FRAME): A new forecasting tool for long-term morphological response in river channels
Charlie Little and Blake Mendrop

Impact to infrastructure of the January and March 2023 Flooding
Cathy Avila

Scour calculations using HEC-RAS 2D: Comparison of Modeling and Parameterization Alternatives for Bridges
Shams Al-Amin

Two Dimensional Modeling of the Lower Wolf River in Memphis, TN
Amanda Whitlock

Bridge Scour Mitigation using Concrete Armor Units - 25-years of Performance
Daniel Priest

Flood Monitoring for South Carolina Bridges
Beatrice Hunt and Ellen Newman

Taking on River Woes: The Whitewater Bridge's Battle with Bed Degradation in California's High Desert Amid Climate Challenges
Oscar Suaznabar and Kevin Flora

Bedform Evolution in Aquatic Organism Passage Culverts
Haoyin Shan

The US Coastal Research Program and How it Can Help Our Coastal Roads
Daniel Sharar-Salgado

1:30 - 4:30 PM

Hydraulic Resilience Workshop and Panel Discussion

Camelia B | **Moderator: Megan Frye and Laura Girard**

Adapting to Climate Change in Maryland: Highway Drainage Manual Updates and the St. George Island Coastal Resiliency Project
Ryan Doheny

Building MnDOT's Road to (Hydraulic) Resiliency
Nick Olson

Update on FHWA's Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Program
Robert Kafalenos and Elizabeth Habic

U.S. Department of Transportation Resiliency Coalition
Matt Lauffer

Interactive discussion with participants and the panel

1:30 - 6:30 PM

Ship Island Tour with USACE

3:10 - 3:30 PM | Break | Lobby

3:30 - 4:30 PM

Panel Discussion - FHWA Metric 18 under the National Bridge Inspection Program

Camelia A | **John Hunt and Will deRosset**

6:30 - 8:00 PM

Research Needs Discussion

Camelia B | **Brad McManus**

7:00 - 9:00 AM | **Breakfast** | Magnolia A - D

8:00 AM - 5:00 PM | **Registration** | Registration Desk, Lobby

8:00 - 10:00 AM

Scour

Camelia A | **Moderator: Kacie Braddy**

A New Scour Tool: NextScour Shear Decay Method
Kornel Kerenyi and James Pagenkopf

Data-driven Shear Decay Design Analysis
Kornel Kerenyi and Haoyin Shan

Enhancing Coastal Bridge Resilience: Hydrodynamic Modeling for Scour Evaluation
Don Hendon

Lake Superior Water Level Impacts on Bridge Scour
Steve Neary

Hydrology

Camelia B | **Moderator: Luis Calderon**

Introduction to Hydrologic Modeling with SRH-W and SMS
Alan Zundel

Neptune Close Upon Vulcan’s Heels: Post-Wildfire Bulked Runoff Analysis of a Burned Watershed Using Multiple First-Response Methods
Steven Griffin

Drainage Area Limitations for NRCS Methods
Rollin H. Hotchkiss

Watershed Surface and Channel Runoff Coefficient Assessment with Unified Runoff Time Implications
Ken Kagy

Lightning Presentation 1 Poster Sessions (and additional posters)

10:00 - 10:30 AM | **Break** | Lobby

10:30 AM - 12:30 PM

Water Quality Analysis and Stormwater Design

Camelia A | **Moderator: Wes Perry**

Uncertainty in stormflow-quality estimates at unmonitored sites can confound efforts to determine if infrastructure projects will have an adverse effect on water quality.
Gregory E. Granato

Updates to the USGS-FHWA Highway-Runoff Database to support highway-stormwater practitioners
Alana B. Spaetzel

Effects of Impoundments on Selected Flood-Frequency and Daily Mean Streamflow Characteristics in Georgia, South Carolina, and North Carolina
Toby D Feaster

FDOT Water Quality BMP Research Updates
Jennifer Johnson

Hydraulic Modeling Case Studies

Camelia B | **Moderator: Jeff Syar**

Aquatic Algorithms: A Comparative Analysis of 2D Modeling Methods
Abigail Richardson

A Comparison of Complex Hydraulic Modeling along Crabtree Creek using HEC-RAS 2D and SRH-2D
Emma Bones and Matt Lauffer

Improving West Memphis Port Hydraulics
Andy McCoy

Salt Creek Boardwalk: Water and Life in Death Valley National Park
Amanda Peters

Coastal Modeling Review/ Sea Level Rise Workshop

Magnolia E & F
Daniel Sharar-Salgado

12:30 - 1:30 PM | **Lunch** | Magnolia A - D

1:30 - 3:30 PM

Lightning Sessions 2

Camelia A | **Moderator: Timothy Mallette**

Comparison of 1D and 2D Hydraulic Models Applications for Maryland SHA Stream Crossings

Pawel Mizgalewicz

The KISS Method – Keep It Simple and Sustainable – for Hydraulic Engineers

Rachel Westerfield

Navigating CLOMR Complexity: Moving a Project with Over a Mile of Natural Stream Design & 9 New Structures Through FEMA’s CLOMR Process

David Spinks

Reliability-based Lower-bound Critical Shear Stress Prediction for Cohesive Soils

Haoyin Shan

Beyond the FEMA Model: Innovations in Flood Assessment

Colin McKernan

Coastal Strategies for Drainage Resilience and Permitting in Florida

Carl Spirio

Developing a New Generation of Hydraulic Engineers

Megan Frye

The Mississippi River Basin Model - A Triumph in Hydraulic Engineering

Don Hendon and Sarah McEwen

FHWA’s Development of a Scour Assessment Template

Paul Sharp and Laura Girard

Innovation

Camelia B | **Moderator: RoseMarie Klee**

TPF 5(461) Research Study Updates

James Pagenkopf

Development of the New Highway Drainage Manual

James Schall and Casey Kramer

New Tools to Support Rapid Assessment and Response in Remote Areas

Michael Knapp

A Tidal Wave of Innovation – Washington State Department of Transportation Hydraulics Office

Julie Heilman and Casey Kramer

Introduction to the Stochastic Empirical Loading and Dilution Model (SELDM)

Magnolia E & F

Greg Granato and

Alana B. Spaetzel



3:30 - 4:00 PM | Break | Lobby

4:00 - 6:00 PM

Aquatic Organism Passage (AOP)

Camelia A | Moderator: [Wendy Hiciano](#)

Design and Resilience of Waterway Crossing for Aquatic Organism Passage in the Coastal Plains of Maryland
[Art Parola](#)

Reconnecting the Bayou Darter: A One of its Kind Partnership in the Southeast
[Sarah McEwen](#)

Challenges in Meeting Local Community Floodplain Management Requirements for Fish Passage and Stream Restoration Projects
[Henry Hu and Julie Heilman](#)

A GIS-based hydraulic modeling tool for Massachusetts stream crossing replacement projects in USGS StreamStats
[Gardner Bent](#)

Coastal

Camelia B | Moderator: [Taylor Buie](#)

A framework for evaluating pavement vulnerability to shallow groundwater rise in coastal Alabama.
[Bruno J. O. Sousa](#)

Innovative Culvert Hydraulics for Coastal Climate Resilience
[Timothy S. Mallette and Charlie Hebson](#)

Sea Level Rise Adaptation in SCDOT's Coastal Design
[Roberto G Ruiz and Mark Gosselin](#)

Using Cumulative Celerity to Predict Damage and Mitigate Risks for Coastal
[Garland Pennison](#)

Discussion on the technical foundations of hydroplaning prediction & the use of the NCDOT Hydroplaning Assessment Tool (HAT 2.0)

Magnolia E & F
[Matt York, Rick Renna, and Rebecca Purvis](#)

6:00 - 8:00 PM | Maritime and Seafood Industry Museum Tour and Reception

FRIDAY, AUGUST 30

7:00 - 9:00 AM | Breakfast | Magnolia A - D

8:00 - 10:00 AM

Climate

Camelia A | Moderator: [Van Wilson](#)

Programmatic Discussion of FHWA's Floodplain Program
[Susan Jones](#)

Climate change altering geomorphic processes in New England
[Nicole Buck](#)

NCDOT Interstate 95 Flood Resiliency
[Tyler Longberry and David Markwood](#)

New Inland Flooding Design Standards and Procedures for Resilience and Sustainability in the Face of Climate Change
[Roger Kilgore](#)

Coastal Modeling Review/ Sea Level Rise Workshop

Camelia B | [Daniel Sharar-Salgado](#)

Lightning Presentation 2 Poster Sessions

Lobby

10:00 - 10:15 AM | Break | Lobby

10:15 - 11:30 AM

Closing Session Remarks

Camelia A