Question and answer
Agenda

• About the Louisiana Watershed Initiative
• Statewide Modeling Effort
• Gauge Network Objectives
• Context
• Next Steps
• Questions
Gov. John Bel Edwards launched the LWI in 2018 to:

Reduce flood risk, improve floodplain management throughout the state and maximize the natural and beneficial function of floodplains
Our vision

Transform how Louisiana manages and reduces flood risk statewide through regional collaboration, science-based decision making and best practices in floodplain management.
Guiding principles

- Maximizing natural function of floodplains
- Regional water management
- Scientific tools and approaches
- Transparent and objective decision making
Strategic areas of focus

- FUNDING
- INTEGRATED PLANNING
- CAPABILITY & CAPACITY
- DATA
- STANDARDS
- ENGAGEMENT
“It’s harder. It requires more work. It’s politically risky, but it is the right thing to do.”

– Gov. John Bel Edwards
Shared focus on resilience

Technical Advisory Groups
- Projects
- Data & Modeling
- Policy

Council on Watershed Management
- Outreach
- Planning

Regional Steering Committees
- Organized within watershed-based boundaries
- Composed of 11 – 19 residents with diverse areas of expertise in watershed issues

Continual input from additional stakeholders and experts
Statewide watershed modeling effort

SCIENCE-BASED UNDERSTANDING OF RISK

- Modeling guidance creates consistency in models statewide and enables evaluation of projects with regional impacts.
- The state issued RFQs for developing models in May 2019, and procurement is nearly complete.
- Modeling will be conducted at the HUC8 scale, consistent with watershed boundaries.
- Gauge network data will enhance modeling outputs.
- This approach aligns with USACE and FEMA methodologies.

Map of Louisiana DOTD modeling regions
Source: DOTD Modeling RFQ
Objectives of the gauge network

**SCIENCE-BASED UNDERSTANDING OF RISK**

- **Monitor water levels, flow rates and rainfall in Louisiana watersheds**
- **Support calibration of LWI models**
- **Provide real-time river heights**
- **Inform waterway and watershed management**
- **Improve quality of life in and around Louisiana waterways**
A collaborative, stakeholder-driven approach

- Develop a backbone network in collaboration with USGS and federal, state and local agencies
- Hold public meetings with regional and local stakeholders
- Solicit stakeholders’ suggestions for new gauge infrastructure and gauge locations
- Revise network design to incorporate stakeholders’ input
- Engage DEQ and USGS to support the deployment and operation of the network

A stage sensor at Coulee Mine in Lafayette
Source: UL-Lafayette
Louisiana has thousands of miles of streams

Mermentau Basin
Total stream length: 8,629 miles

Vermilion-Teche Basin
Total stream length: 13,227 miles
Why should we invest in monitoring?

We need a watershed-scale monitoring system that supports communities in flood risk assessment, planning, preparedness and real-time warning and response.
What can we monitor?

**STAGE (WATER LEVEL)**

Source: Andy Cloutier, USGS

**FLOW RATE (DISCHARGE)**

Source: USGS

**RAINFALL**

Source: Dr. Emad Habib, Ph.D., P.E.
Many regions lack river gauges

- 26 of 60 HUC8s without flow gauges
- 188 of 250 HUC10s without flow gauges
- 23 of 60 HUC8s without stage gauges
- 177 of 250 HUC10s without stage gauges
Rain gauge coverage is sparse

A DATA MAP OF LOUISIANA’S LIMITED RAIN GAUGE NETWORK

- Hourly Global
- 15 Minute Precipitation
- Hourly Precipitation
River and rain gauge network phases

Design and Deployment

• Develop backbone network to address clear gaps
• Review with USGS and regional and local stakeholders
• Solicit requests for additional gauges from modeling contractors
• Engage DEQ and USGS to deploy gauges

Operation and Maintenance

• Collect data and evaluate quality
• Use in model setup, calibration and validation
• Disseminate data through open-access web portals
• Incorporate real-time flood warning and forecasting systems
• Develop sustainability plans with regional and local partnerships
• Identify funding for long-term operations and maintenance
How can you participate?

PROPOSE LOCATIONS FOR NEW GAUGES

1. Use our interactive web apps at [watershed.la.gov/gauge-network-program](https://watershed.la.gov/gauge-network-program) to mark desired locations
2. Email [watershed@la.gov](mailto:watershed@la.gov) with proposed gauge locations in your area—provide specific coordinates, justification and variables to be measured

PROVIDE FEEDBACK ON PRELIMINARY DESIGN

1. Use our web apps to comment on proposed locations

*DEADLINE FOR FEEDBACK IS MARCH 27*
Web app demonstration
Crowdsourcing gauge placement web apps

PREVIEW OF INTERACTIVE WEB APP

Use the interactive web app to like and comment on proposed gauges.
Crowdsourcing gauge placement web apps

PREVIEW OF INTERACTIVE WEB APP

Use the interactive web app to propose sites for new gauges.
Questions?
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THANK YOU

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