



Louisiana Division of Administration

Office of Community Development

Louisiana Watershed Initiative Update

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About LOCD

Louisiana Office of Community Development is the grantee and administrator of CDBG funds in Louisiana. We lead **disaster recovery, mitigation and resilience** and **local government assistance** efforts for our communities.

Disaster Recovery

Helping residents, businesses and communities rebuild and recover

Mitigation and Resilience

Establishing resilient practices to mitigate impacts from future disaster events

Local Government Assistance

Providing grants for high-priority rehabilitation, construction and improvements projects

Types of Assistance ADMINISTERED

- Buyouts and Resettlements
- Immediate and Temporary Housing
- Disaster Recovery Programs
- Trainings and Workshops
- Small Business Recovery Programs
- Homeowner and Rental Assistance
- Provision of Public Services
- Rental Assistance
- Resilience and Mitigation
- Long-Term Recovery Planning
- Infrastructure Recovery Programs
- Infrastructure Recovery Program
- Economic Development
- Substance Abuse Training
- Clearance and Demolition

History of Funding Allocations

Disaster Recovery		Mitigation and Resilience	Local Government Assistance	
\$13.4B Hurricanes Katrina and Rita	\$1.09B Hurricanes Gustav and Ike	\$1.2B Louisiana Watershed Initiative	\$1.4B to date, Water Sector Program (Phases 1 and 2)	\$11M Annual, Community Water Enrichment Fund
\$107M Hurricane Isaac	\$1.7M Great Floods of 2016	\$92.6M National Disaster Resilience Competition	\$1.4M Annual, Recovery Housing Program	\$44.3M One time, Community Development Block Grant Program — Coronavirus
\$3.1M Hurricane Laura, Delta and Ida and the May 2021 Severe Storms	\$117.9M Hurricane Francine		\$10M Annual, Local Government Assistance Program	\$800K to date, WIIN2104
			\$22.8M Annual, Community Development Block Grant Program	\$4.2M to date, EC-SUDC

2016 Great Floods

- In response to the 2016 Great Floods, Louisiana received a \$1.7 billion in CDBG-DR funding allocation to administer across housing, infrastructure and economic development.
- Additionally, through a \$1.2 billion CDBG-MIT funding investment that resulted from the 2016 Great Floods, the state established the Louisiana Watershed Initiative, creating a watershed-based approach to flood risk management that continues to shape resilience efforts today.



\$1.2 billion

in CDBG-MIT funds for flood-risk reduction projects

132 projects awarded
\$920.7 million awarded

\$1.7 billion

in CDBG-DR funds disbursed to support recovery for residents, businesses and infrastructure projects following the 2016 Floods

\$1.7 billion expended, **97.15%** disbursed
23,482 households served
461 businesses served
12 infrastructure projects funded

Introducing LWI Through EO 18-16

- The Council on Watershed Management, established through Louisiana Executive Order 18-16, served as the state's coordinated, interagency entity for watershed-based flood risk reduction.
- Council members met on a regular basis and included directors or representatives of LOCD, CPRA, GOHSEP, DOTD and LDWF.
- In August 2018, the council launched LWI to serve as the programmatic arm under which all related efforts operate.
- Cooperating agencies released a multi-phased plan, early actions, and initial Louisiana Watershed Initiative program framework to conduct watershed-based floodplain management.



LWI Guiding Principles

The state launched LWI in 2018 guided by four key principles:

SCIENTIFIC TOOLS & DATA

- Using advanced hydrological and hydraulic models.
- Basing decisions on accurate flood data and science.

TRANSPARENT AND OBJECTIVE DECISION-MAKING

- Applying clear, data-driven criteria for project funding.
- Ensuring public and stakeholder trust through open processes.

NATURAL FUNCTIONS OF WATERSHEDS

- Protecting and enhancing natural floodplain capacities.
- Utilizing nature-based solutions to slow and filter water.

REGIONAL WATERSHED-BASED MANAGEMENT

- Crossing political and parish lines to manage water by natural boundaries.
- Uniting local governments and regional coalitions for joint planning.

Application

USING SCIENTIFIC TOOLS AND DATA

- Worked with technical experts, federal partners, academic institutions and local stakeholders to create **seven regional models** of Louisiana's watershed
- Allocated \$15M to **install a river and rain gauge network** to provide enhanced statewide coverage in the real time and support the development of Louisiana's watershed models

ENABLING TRANSPARENT, OBJECTIVE DECISION-MAKING

- Utilized **regional steering committees** and **stakeholder engagement** to drive project prioritization
- Required **quantified project benefits and impacts** for project selection for CDBG-MIT funding
- Continued to **develop tools, such as the LWI models**, to support this goal

Application

MAXIMIZING THE NATURAL FUNCTION OF FLOODPLAINS

- Funded projects that harness natural features to reduce flood risk
- Provided training and technical resources to advance understanding and adoption of nature-based solutions
- Supported the development of the NBS Tool to quantify benefits and measure performance on our natural environment

ESTABLISHING REGIONAL, WATERSHED-BASED MANAGEMENT OF FLOOD RISK

- Provided regional capacity building grants designed to help the state's nine watershed planning regions build capacity for regional watershed management
- Collected regional steering committees' recommendations to guide long-term regional watershed management and create a statewide framework for flood risk reduction
- Continuously examining and supporting strategies for funding watershed management and flood risk reduction

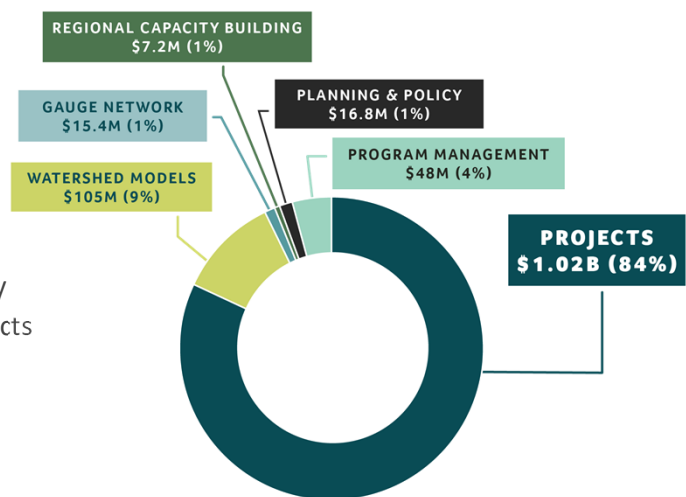


Louisiana Watershed Initiative Update

BUDGETED FUNDING

In 2019, the federal government allocated a \$1.2 billion flood mitigation grant to Louisiana—providing an unprecedented opportunity to expedite LWI efforts.

Guided by a federally approved Action Plan, the funds support planning, regional capacity building, data collection, modeling and projects focused on reducing flood risk statewide.



Louisiana Watershed Initiative Update

132
PROJECTS
AWARDED

\$920.7M
DOLLARS
AWARDED

DEMONSTRATED IMPACT

132 flood mitigation projects funded

100 gauges added to statewide river and rain gauge network

392 property buyouts in flood prone areas

9 watershed regions and steering committees created

7 watershed models developed to assess flood solutions

PROJECT TYPES:

 **8** Dam/Spillway Improvements

 **68** Drainage Improvements

 **23** Infrastructure Improvements

 **21** Flood Storage

 **3** Floodplain Preservation

 **9** Property Buyout Areas

LOUISIANA WATERSHED INITIATIVE

WORKING TOGETHER FOR SUSTAINABILITY AND RESILIENCE

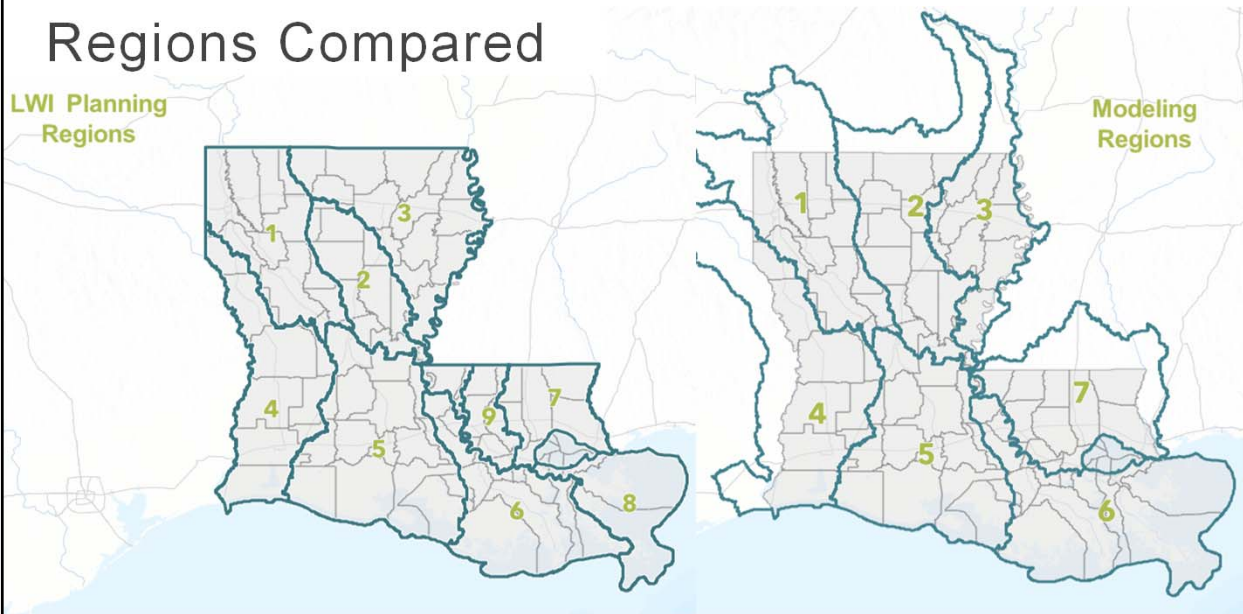
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Regions Compared

LWI Planning Regions

Modeling Regions



LOUISIANA WATERSHED INITIATIVE

WORKING TOGETHER FOR SUSTAINABILITY AND RESILIENCE

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LWI Funding by Region

REGION	AWARD TOTAL
1	\$36M
2	\$42M
3	\$78M
4	\$103M
5	\$128M
6	\$38M
7	\$99M
8	\$21M
9	\$373M

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LWI Funding by Parish

PARISH	AWARD TOTAL
ACADIA	\$2.94M
ALLEN	\$19.33M
ASCENSION	\$113M
ASSUMPTION	\$12.79M
AVOYELLES	\$26.2M
BEAUREGARD	\$12.96M
BIENVILLE	\$4.77M
BOSSIER	\$6.30M
CADDO	\$12.04M
CALCASIEU	\$45M
CALDWELL	\$5.83M
CAMERON	\$25M
CATAHOULA	\$2M
EAST BATON ROUGE	\$140M
EAST FELICIANA	\$26.94M

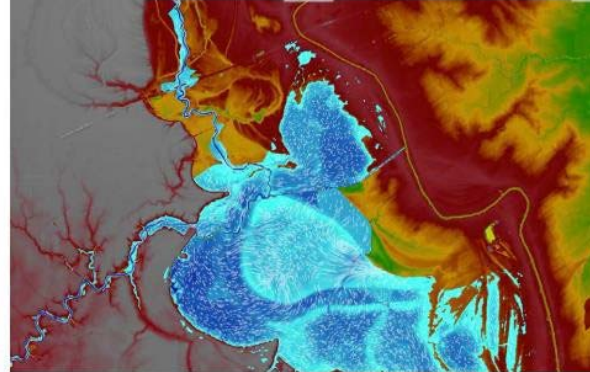
PARISH	AWARD TOTAL
EVANGELINE	\$4.60M
FRANKLIN	\$14.20M
GRANT	\$2.62M
IBERIA	\$3.11M
IBERVILLE	\$3.29M
JACKSON	\$5.27M
LAFAYETTE	\$29M
LAFOURCHE	\$3.40M
LIVINGSTON	\$91.6M
MOREHOUSE	\$4.86M
NATCHITOCHE	\$10.52M
OUACHITA	\$52.90M
POINTE COUPEE	\$9.50M
RAPIDES	\$33.2M

PARISH	AWARD TOTAL
RICHLAND	\$2.90M
ST. CHARLES	\$21.31M
ST. HELENA	\$12.78M
ST. JAMES	\$10.8M
ST. JOHN THE BAPTIST	\$14M
ST. LANDRY	\$8.53M
ST. MARTIN	\$5.26M
ST. TAMMANY	\$34.6M
TANGIPAHOA	\$25M
UNION	\$4.84M
VERMILION	\$21.9M
VERNON	\$15.37M
WASHINGTON	\$10M
WEST FELICIANA	\$3.28M
WINN	\$7.55M

LWI – Statewide Watershed Modeling

GOALS AND OBJECTIVES

- **Build:** Collect accurate, timely and consistent data to develop high-quality hydrologic and hydraulic models statewide to support evaluation of flood mitigation plans, policies and projects.
- **Sustain:** Ensure program outcomes and tools continue to support flood risk reduction efforts throughout the state long after the CDBG-MIT funds are expended.



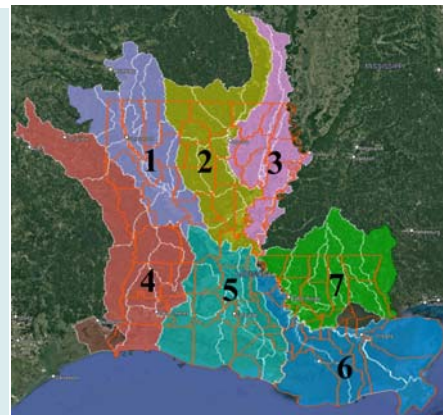
H&H models use software to simulate rainfall runoff processes and predict the rise of water levels and flooding.



LWI – The Modeling Program

METHODOLOGY

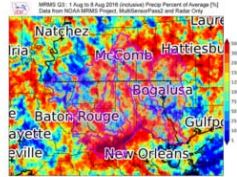
- Regional modeling is completed on the HUC 8 scale.
- Forty-seven (47) models developed in seven modeling regions.
- Main modeling software includes HEC-HMS and HEC-RAS.
- LWI issued Guidance on Modeling Methodology to guide design approach.
- Design approach developed for each HUC and reviewed by the Technical Design and Quality Team.



Raw Data Inputs

Gridded Precipitation

- Multi-Radar/Multi-Sensor System (MRMS)
- NOAA Stage IV
- Point Precipitation Gages
- Streamflow Gages (volumetric analysis)



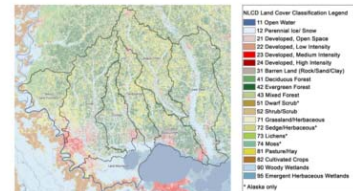
Hydrology (HEC-HMS)

- LiDAR
- SSURGO (soils)
- USGS (gage data)



Hydraulics (HEC-RAS)

- LiDAR
- Survey (structures)
- Bathymetric survey
- USGS (gage data)
- NLCD (land use)



Example raw data inputs from Region 7 consultant, Dewberry.

LOUISIANA WATERSHED INITIATIVE

WORKING TOGETHER FOR SUSTAINABILITY AND RESILIENCE

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Survey

Combination of:

- Bathymetric survey
- Traditional ground survey
- Ground based laser scanning
- Leveraging of existing survey

> 2000 structures surveyed throughout Region 7



Example of bridge scans and scan of the Amite River Diversion Canal Weir from Region 7 consultant, Dewberry.

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LWI Data Products

OVERVIEW OF KEY OUTPUTS FROM THE MODELING AND DATA COLLECTION EFFORT

MODELS

- Regional HUC 8 Hydrologic (HECHMS or HEC-RAS Rain on Grid) Models
- Regional HUC 8 Hydraulic (HEC-RAS 1D, 2D) models
- Modeling Reports
- Modeling Quick Guides

MODEL OUTPUTS

- **Flood depth, velocity, and water surface elevation** results for design storms (5-, 10-, 25-, 50-, 100-, 200-, and 500-year events with 12-, 24-, and 48-hour durations)
- **Historic flood event outputs**, including depth grids, velocity grids, water surface elevations, flood boundaries, and hindcasts for major events (e.g., Hurricanes Isaac and Gustav, 2016 rainfall event)
- **Historic and Annual Exceedance Probability (AEP) flood boundaries**
- **Consequence modeling**, including per-structure estimates of building and contents damage
- **Compound flooding analyses** for coastal areas

STANDALONE DATA

- Updated digital elevation models
- Statewide structure inventory
- Geodatabase of surveyed hydraulic structures (locks, floodgates, culverts, bridges, pumps, etc.)



LWI Data Products

OVERVIEW OF KEY OUTPUTS AND FUTURE APPLICATIONS

TOOLS AND FUTURE APPLICATIONS

- | | |
|--|---|
| • Nature based solutions tools | • Local small-scale modeling |
| • Flood forecasting | • Engineering design |
| • Water quality and low-flow modeling | • Environmental restoration |
| • Economic models | • State and federal flood hazard programs |
| • Land Use planning and development review | |



Data and Model Storage

LOUISIANA WATERSHED INITIATIVE

Search [] Log out []

Home Create See all Help Admin

Environmental Data and Model Catalog (EnDMC)

Welcome to Louisiana Watershed Initiative's (LWI's) EnDMC (pronounced like "endemic"), which simplifies the management and discovery of environmental data and models. EnDMC was created to achieve the LWI's model use, storage, and maintenance initiatives, by helping users identify relevant models and data, and is used in conjunction with [LWI's Watershed Map](#) to visualize geospatial datasets. This application will allow you to:

- Create metadata for the model, simulation, and/or (non-model) dataset you want to include in the repository;
- Upload the digital assets associated with your metadata entry, and
- Search and download the model, simulation, and/or dataset files you need.

In order to use most of the functionalities of the repository, you need to [register](#) or [login](#) if you have an existing account.

All users can search and download models and simulations filed. To create metadata and upload the digital assets associated with it, you need an editor role. This can be requested in the registration form and can be approved by an administrator.

This application is currently under development. Please provide us with any [feedback via this survey](#) that would help us improve your user experience. For general questions or more in-depth feedback, please contact us at enDMC@thewaterinstitute.org

THE WATER INSTITUTE EnDMC

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LWI Data Viewer

LWI Data Viewer Search for address or parish Share/Download []

Flood Depth

25-Year Flood [Change scenario](#)

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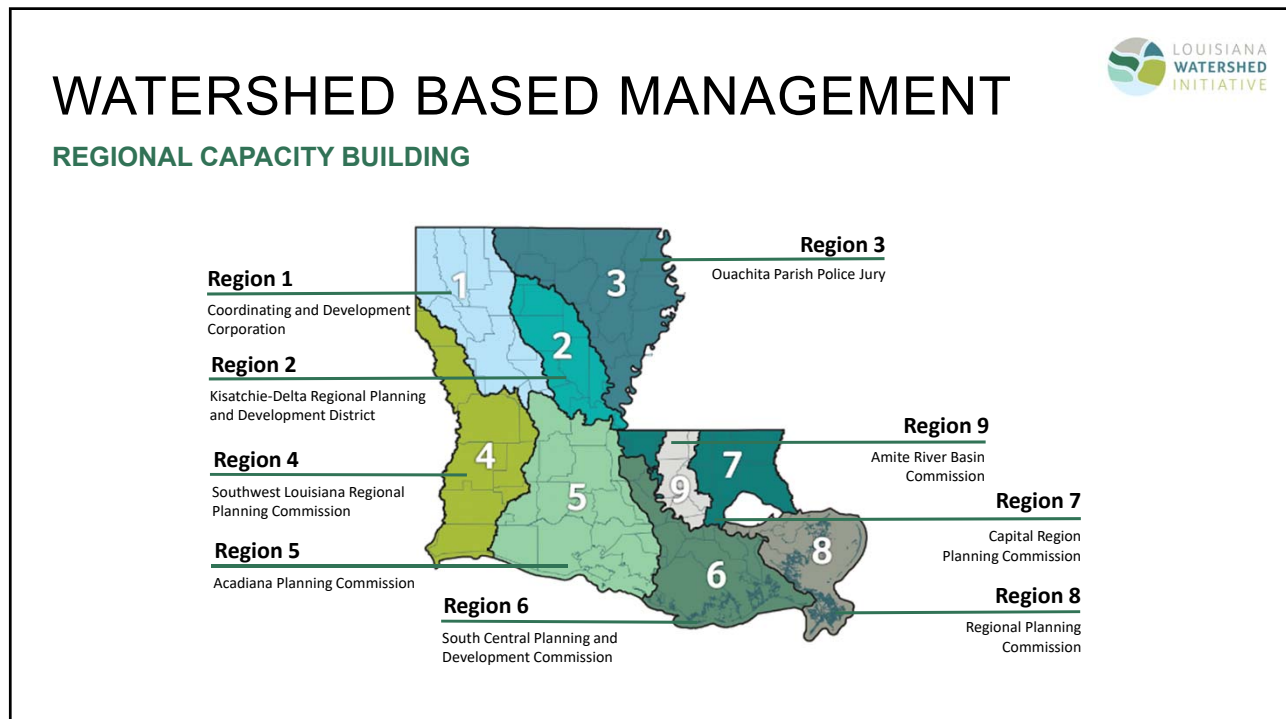
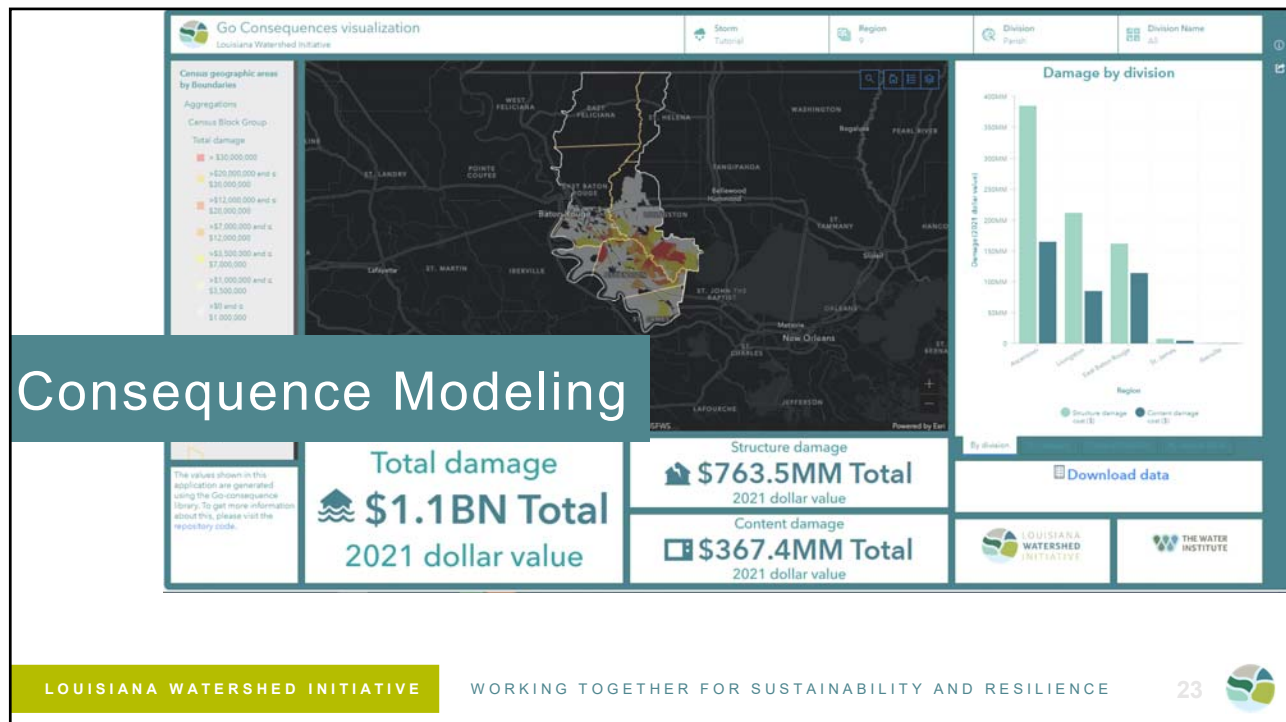
- 9ft+
- 6-9ft
- 3-6ft
- 1-3ft
- 0.5-1ft
- 0-0.5ft

View other layers Add dams, levees, parish boundaries, and more to this map

About
 Louisiana Watershed Initiative website
 EnDMC

The application will have an overflow menu that can link out to secondary external content, such as an "About" page, partner websites, etc.







RCBG TWO-YEAR VISION/GOALS

WHAT DID WE AIM TO ACCOMPLISH?

1. An organizational structure tailored to each Watershed Region.
 2. A completed Regional Watershed Action Plan, covering
 - Stakeholders and Influencers
 - Physical/Projects Plan
 - Policies/Protocols/Programs/Actions\
 - Funding and Implementation
 3. A broad network of regional stakeholders that have ownership of the plan, the data, and necessary actions.
- Watershed Plan Development**
4. A robust understanding of best practices to successfully secure state and local funding and a map of funding-related resources.
 5. A pipeline of quality future projects that directly address regional needs and are connected to appropriate funding sources for implementation.
- Regional Funding Support**
6. Regular use of the regional models, data and MUSM to support local decision-making and project development/ prioritization.
 7. Increased expertise in Nature Based Solutions and related tools.
- Models and Technical Support**





LWI – Supporting the Future of CURRENT

OPPORTUNITIES

- Leverage models and model outputs for CURRENT Master Plan
- Create a data sharing MOU among agencies
- Designate responsible entity to manage gauge network, model investment and updates
- Engage LWI regional watershed committee stakeholders in CURRENT effort
- Utilize regional plans to identify flood risk problems, potential solutions, and regional priorities
- Coordinate among agencies to prioritize projects against available funds and cost-sharing mechanisms





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