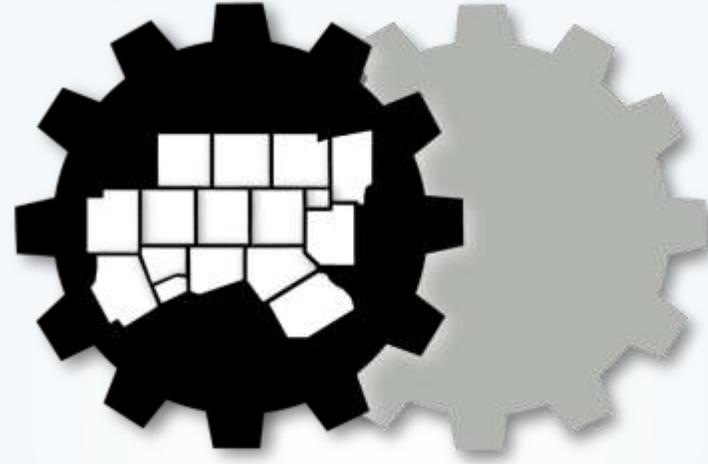


# Trinity Common Vision Steering Committee

September 10, 2020



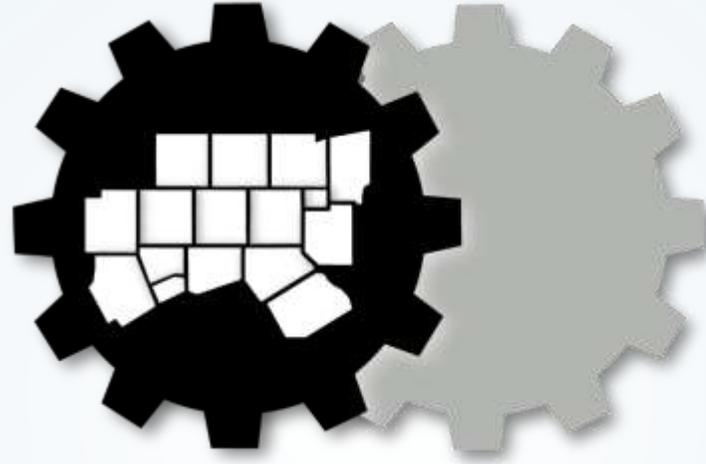


# WELCOME & INTRODUCTIONS

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# Welcome and Introductions

- ▶ Thank you for attending!
- ▶ Please introduce yourself in the chat box.
- ▶ Please mute your line until you are ready to speak.
  - ▶ We will also watch the chat box for questions



# DISCUSSION ITEMS

---

# Trinity Common Vision

Trinity River Corridor Interlocal Agreement - 1989

## TEN CITIES

Arlington	Fort Worth
Carrollton	Grand Prairie
Coppell	Irving
Dallas	Lewisville
Farmers Branch	Seagoville



## FOUR COUNTIES

Dallas County  
Denton County  
Kaufman County  
Tarrant County

## PROGRAMMATIC PARTNERS

NCTCOG Environment & Development  
U.S. Army Corps of Engineers  
Federal Emergency Management Agency  
Texas Water Development Board

## TWO SPECIAL DISTRICTS

Tarrant Regional Water District  
Trinity River Authority

# Trinity River Common Vision Program

## Timeline & Background

### 1990 Upper Trinity River Basin Reconnaissance Report

Interlocal Agreements signed by member cities & Congress authorizes the Upper Trinity River Feasibility Study (UTRFS). These studies by the Corps of Engineers simulated the cumulative impacts of flooding in the Dallas-Fort Worth area based on different levels of floodplain development.

### 1990 Flood Management Task Force

Flood Management Task Force formed and CDC criteria developed based on ROD

**\$11B**

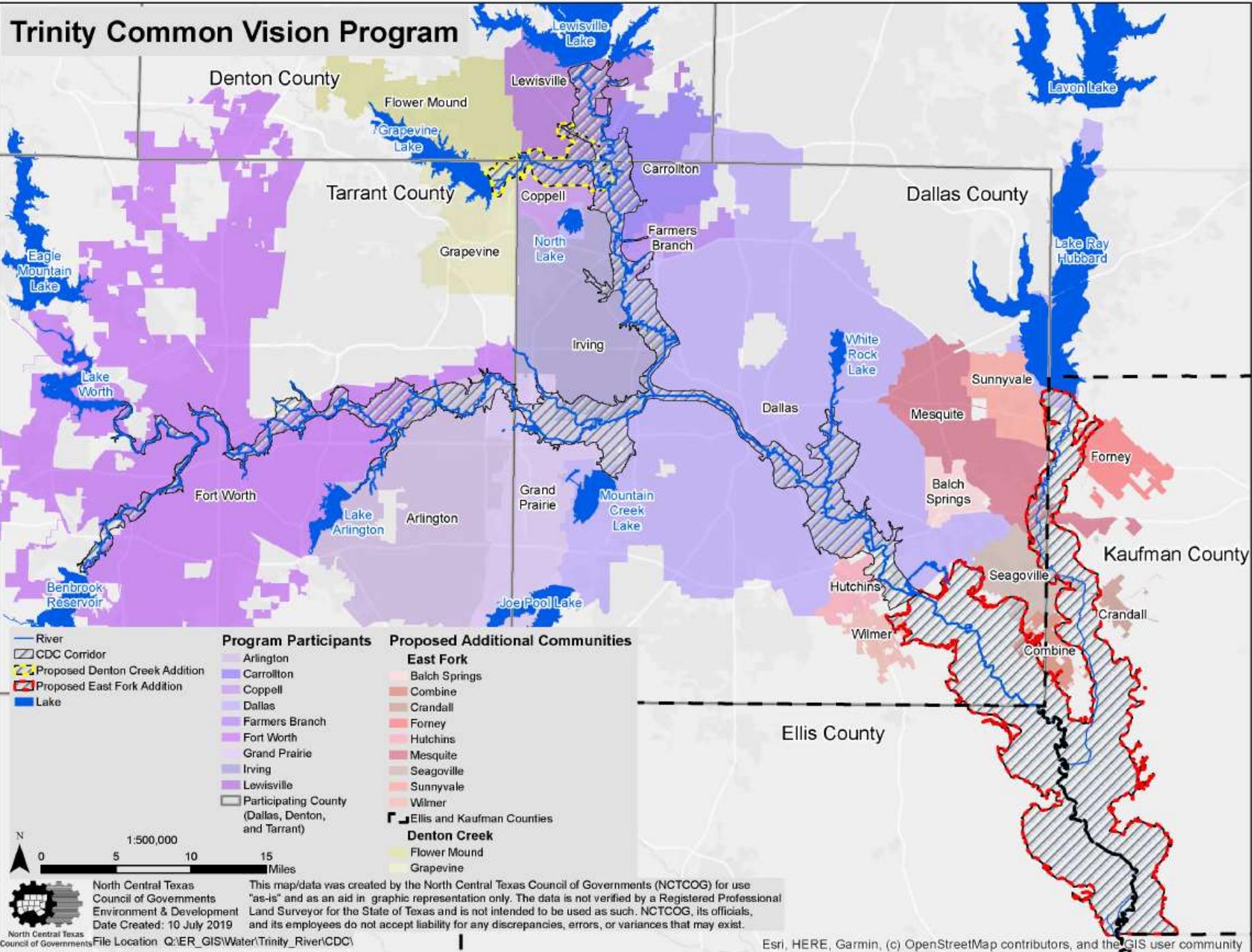
### Record of Decision

Results suggest that damages from a major flood could total more than \$11 billion if floodplain development is unregulated. A comprehensive floodplain management program could cut losses to \$4 billion.

### Corridor Development Certificate (CDC) Manual

1st Edition of the Corridor Development Certificate (CDC) Manual was produced in **1991**. We are currently on the 4<sup>th</sup> edition

Over 200 projects have been permitted along the Trinity River in the Dallas/Fort Worth Metroplex using the CDC process. Models are continuously being refined and updated to reflect new construction and redevelopment.



# CDC Program Goals

## Corridor Development Certificate Program



### Limits Impact

Limits (but does not eliminate) the impact of floodplain encroachments for regulated streams on downstream areas



### Review Process

Establishes a consistent regional criteria and review process



### Funding Stream

Provides a funding stream for updates and state-of-the-art models and modeling tools

# CDC Program Goals

## Corridor Development Certificate Program



### Provides Oversight

Provides oversight for projects constructed in the 100 year floodplain



### Allows Development

Allows development in the floodplain

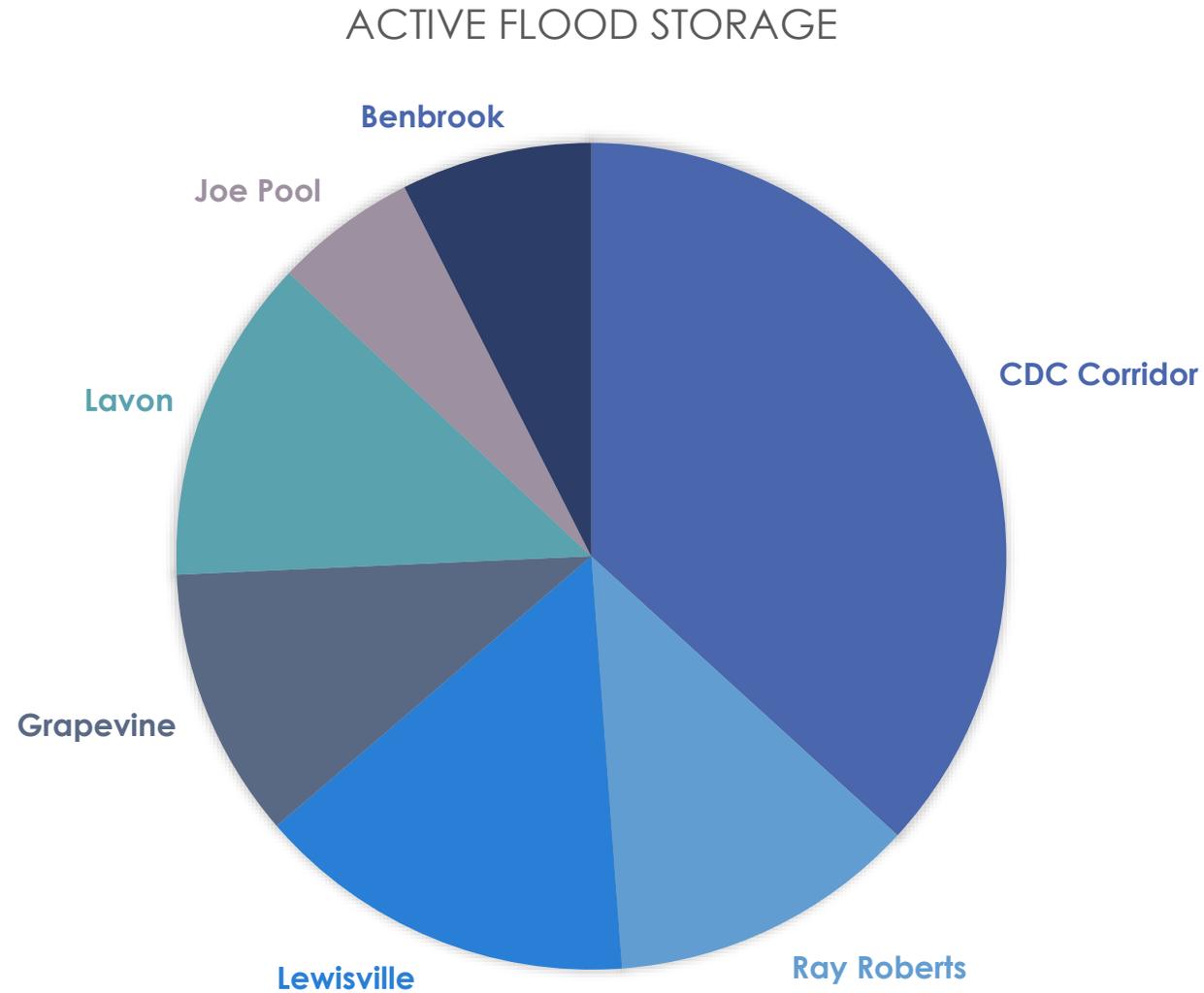


### Project Review

Allows all Flood Management Task Force (FMTF) members to review projects for the entire regulatory footprint



# Why is the Trinity River Corridor So Important to Flood Prevention?

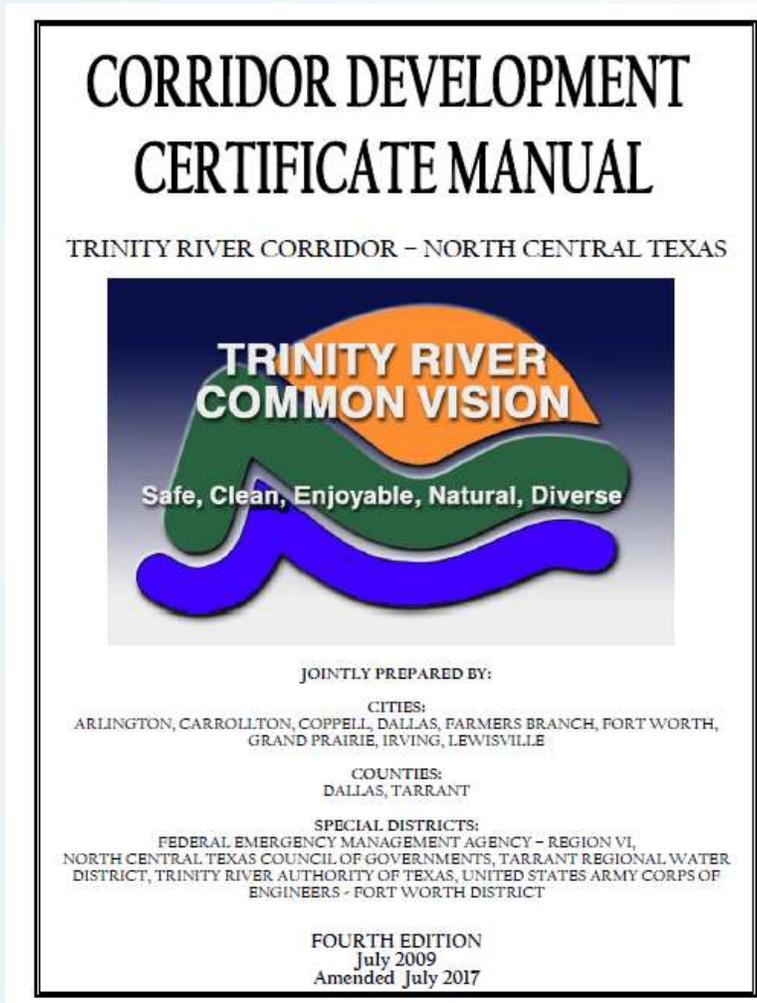


# Common Vision Work Program and Activities Update

- CDC Permitting
- FEMA L-273 Four Day Course
- Elected Officials Seminar
- FY20 Work Program – Additional Technical Item Outcomes



# CDC Permits in Fiscal Year 2020



- 2 Applications Received This Fiscal Year
- 218 Total Applications Since CDC Inception

# L-273 FEMA NFIP Course and the Elected Officials Seminar

## Floodplain Management through the NFIP

24th annual Class held November 2019 – Class was full with a wait list!

In lieu of L-273 during COVID-19, NCTCOG is partnering with FEMA to offer a “4x2” Floodplain Mgmt Course.

## Annual Combined Elected Officials Seminar/CRS Users Group

Held virtually July 30, 2020. [View the presentation here.](#)

Guest speakers from the TWDB discussed the State Flood Plan and other floodplain initiatives.

# FY 20 Work Additional Work Program Items: NFIP-CDC Model Consolidation Update

- ▶ The NFIP-CDC Model Consolidation Team has created an updated process for submitting CDC applications for the future release of the Consolidated Model. Pending approval of the FY21 Work Program, they will continue to meet to incorporate these changes into a 5<sup>th</sup> Edition Manual.

## Team Members

- ▶ Stephanie Griffin, Team Chair, Halff Associates (formerly City of Grand Prairie)
- ▶ Jim Keith - Freese and Nichols
- ▶ Amy Cannon - City of Arlington
- ▶ Kim Dewailly - City of Dallas
- ▶ Lisa Biggs - City of Fort Worth
- ▶ Craig Ottman - TRWD
- ▶ Mike Danella - USACE
- ▶ Landon Erickson - USACE
- ▶ Alan Johnson - FEMA
- ▶ Jacob LeSue - Dewberry
- ▶ Mia Brown - NCTCOG

# FY 20 Work Additional Work Program Items: NFIP-CDC Model Consolidation Update

Why is Model Consolidation Needed and What Does it Mean?

- ▶ The CDC model looks at current and future conditions
- ▶ The NFIP maps look at current conditions only
- ▶ Consolidation reduces fragmentation in the CDC process, reducing the burden for communities and developers.
- ▶ The Common Vision/CDC program is expanding to the East Fork Trinity and Denton Creek, bringing in more communities.

NCTCOG and the Team brought together two federal agencies (FEMA and USACE) at the request of the FMTF to agree on a consolidated process, a huge accomplishment for all parties involved.

FEMA contributed \$2 million to georeference the NFIP model and USACE is contributing \$215,000 to bring the existing CDC model up to date.

# FY 20 Work Additional Work Program Items: NFIP-CDC Model Consolidation Update

**November 2020** : Preliminary FEMA NFIP maps will be issued for Dallas and Tarrant counties, including the georeferenced FEMA model for the CDC area.

**Early 2021**: Preliminary FEMA NFIP maps will be issued for Kaufman and Ellis counties, including the detailed study for the East Fork Trinity.

## **Throughout FY 2021, the USACE will:**

- Update the FEMA model with CDC projects since 2017 and consolidate with future flows.
- Create the CDC future flows for the FEMA detailed study on the East Fork Trinity and the Trinity mainstem to extend the consolidated model.

One request from FMTF and the Team was for NCTCOG to serve as the CDC Model Repository. With the completion of the FY20 Work Program, NCTCOG is launching a new website that allows users to download the latest model and streamlines and automates the CDC application process.

# FY 20 Work Additional Work Program Items: Website for the CDC Application Process

Trinity River CDC Home Map Projects List Get the Model About Register User Login

## TR TRINITY RIVER Corridor Development Certificate

The Corridor Development Certificate (CDC) process aims to stabilize flood risk along the Trinity River. The CDC process does not prohibit floodplain development, but ensures that any development that does occur in the floodplain will not raise flood water levels or reduce flood storage capacity. A CDC permit is required to develop land within a specific area of the Trinity floodplain called the Regulatory Zone, which is similar to the 100-year floodplain.

Under the CDC process, local governments retain ultimate control over floodplain permitting decisions, but other communities along the Trinity River Corridor are given the opportunity to review and comment on projects in their neighbor's jurisdiction. As the Metroplex economy continues to grow and develop, the CDC process will help prevent increased flood risks.



### Map of CDC Permits

View map of all CDC projects past and current.

[View Map »](#)



### Current Model

Download the current CDC Model. View past versions of the model with change details.

[Get Model »](#)

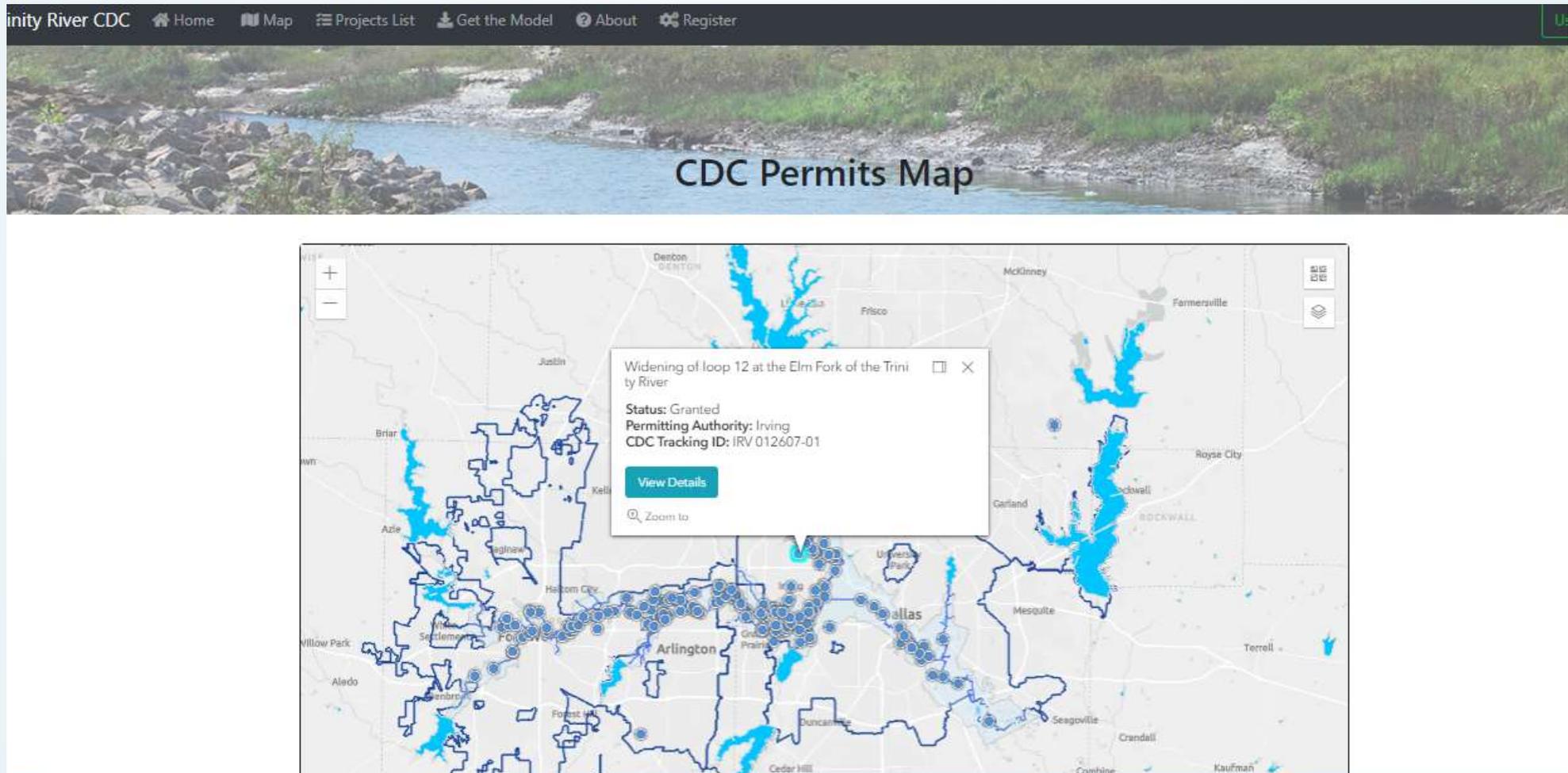


### CDC Manual

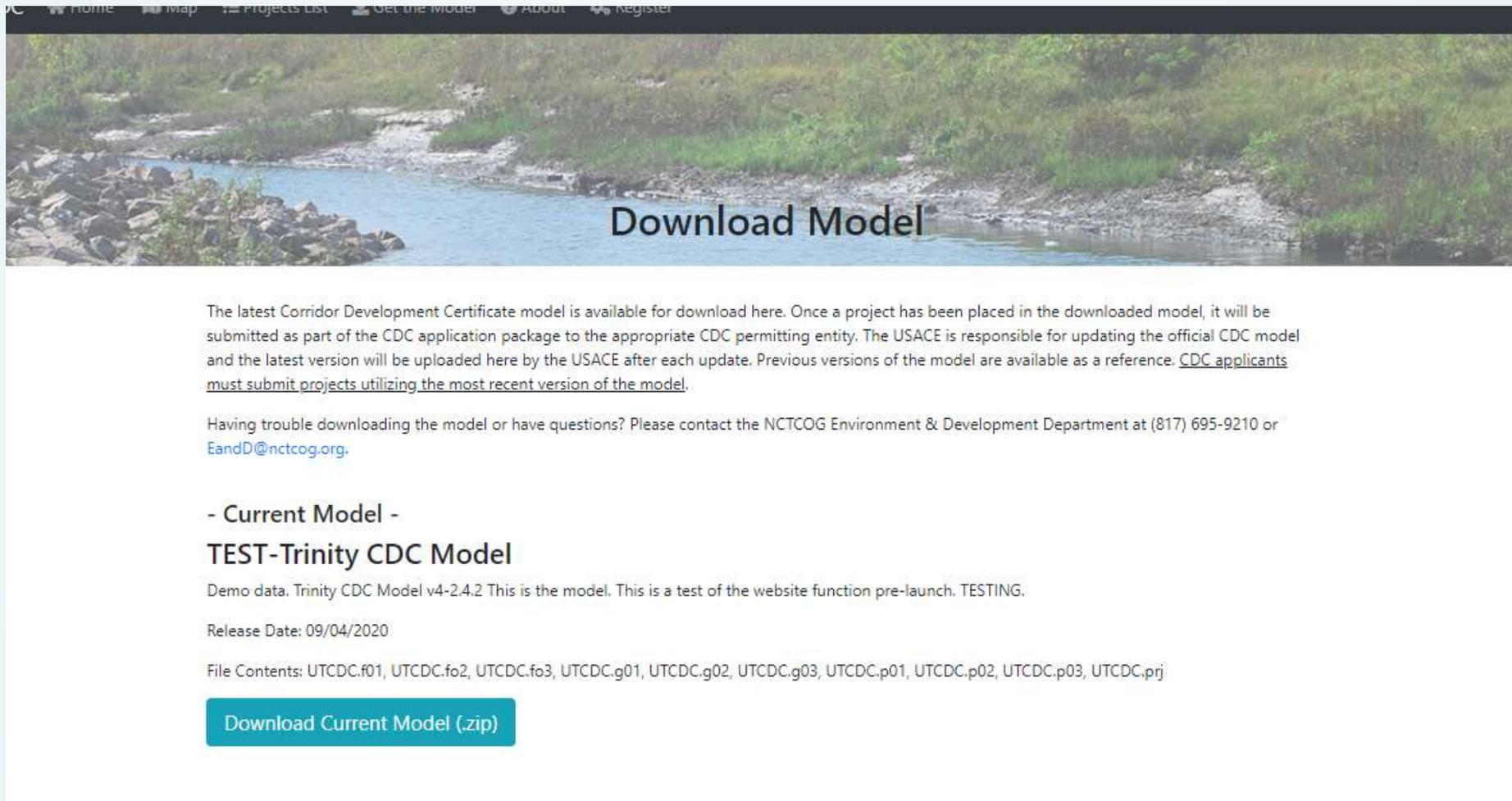
Read the latest version of the CDC manual to understand how the CDC process works.

[View Manual »](#)

# FY 20 Work Additional Work Program Items: Website for the CDC Application Process



# FY 20 Work Additional Work Program Items: Website for the CDC Application Process



The screenshot shows a website interface for downloading a model. At the top, there is a navigation bar with links for Home, Map, Projects List, Get the Model, About, and Register. Below the navigation bar is a large image of a river with a rocky bank and green vegetation. Overlaid on the image is the text "Download Model". Below the image, there is a paragraph of text explaining the model and a link to CDC applicants. Below that is contact information for the NCTCOG Environment & Development Department. Further down, there is a section titled "- Current Model -" with the heading "TEST-Trinity CDC Model". Below this heading, there is a paragraph of text, a release date, and a list of file contents. At the bottom of this section is a blue button labeled "Download Current Model (.zip)".

Home Map Projects List Get the Model About Register

## Download Model

The latest Corridor Development Certificate model is available for download here. Once a project has been placed in the downloaded model, it will be submitted as part of the CDC application package to the appropriate CDC permitting entity. The USACE is responsible for updating the official CDC model and the latest version will be uploaded here by the USACE after each update. Previous versions of the model are available as a reference. [CDC applicants must submit projects utilizing the most recent version of the model.](#)

Having trouble downloading the model or have questions? Please contact the NCTCOG Environment & Development Department at (817) 695-9210 or [EandD@nctcog.org](mailto:EandD@nctcog.org).

**- Current Model -**  
**TEST-Trinity CDC Model**

Demo data. Trinity CDC Model v4-2.4.2 This is the model. This is a test of the website function pre-launch. TESTING.

Release Date: 09/04/2020

File Contents: UTCDC.f01, UTCDC.f02, UTCDC.f03, UTCDC.g01, UTCDC.g02, UTCDC.g03, UTCDC.p01, UTCDC.p02, UTCDC.p03, UTCDC.prj

[Download Current Model \(.zip\)](#)

# FY 20 Work Additional Work Program Items: NFIP-CDC Consolidation and New Website

## Next Steps - Website

- ▶ A tutorial document with instructions and screenshots is coming out this month to both the Trinity Common Vision/CDC programmatic websites and the new CDC website at [www.trinityrivercdc.com](http://www.trinityrivercdc.com). This document and information will also be emailed to the Common Vision members and the region.
- ▶ Pending approval of the FY21 Work Program, NCTCOG staff will create video tutorials for the new CDC website application and review process.

# FY 20 Work Additional Work Program Items: NFIP-CDC Consolidation and New Website

## Next Steps – Changes to CDC Process

- ▶ A Summary of Changes document will be posted to the NCTCOG programmatic websites and the new CDC website. The biggest changes are detailed here.
  
- ▶ The **CDC Cost Recovery Fee** funds the USACE technical review, NCTCOG administration costs, and the upkeep of [www.trinityrivercdc.com](http://www.trinityrivercdc.com).
  - ▶ Project is located within both the 100-year and SPF ineffective flow areas
    - ▶ Previous fee: \$3,250
    - ▶ **Updated fee: \$4,000**
  - ▶ Or, Project is located within a 100-year ineffective flow area but within the SPF effective flow area
    - ▶ Previous fee: \$5,750
    - ▶ **Updated Fee: \$6,000**
  
- ▶ The new **Model Maintenance Fee** will fund the USACE technical review of the finished project as-built condition for incorporation into the CDC model, keeping the Consolidated Model up to date with each project. This fee will be required when the CDC applicant submits their Letter of Map Revision (LOMR) to the community. 100% of the fee will be deposited into the USACE review account.
  - ▶ **New Fee: \$2,500**



# FY 20 Work Additional Work Program Items: East Fork Trinity & Denton Creek Integration

- **April 2016 – August 2019:** Interest meetings held with East Fork Trinity communities throughout this period. TCV Steering Committee approves pursuit of the East Fork Addition. CDC program training held in Mesquite for prospective communities.
- **July 2019:** City of Seagoville joins the program.
- **December 2019:** Kaufman County joins the Program
- **February 2020:** NCTCOG staff meet with City of Grapevine and Town of Flower Mound.
- **July 2020:** NCTCOG staff send formal letters of invitation to Grapevine and Flower Mound.
- **September 2020:** Mesquite is tentatively working toward taking the East Fork Resolution to their council.

Pending approval of the FY21 Work Program, outreach will continue to these communities, as expanding the Common Vision program is an ongoing process.

# Other FY20 Updates

## Regional Flood Early Warning Software

- ▶ Members requested a regional flood early warning software in FY17 because of challenges with individual systems already in place.
- ▶ A cooperative contract with OneRain for Contrail software launched on North Texas SHARE in August 2018.
- ▶ Communities can set pre-defined alerts and see each other's gauge readings to better prepare for storms.
- ▶ Arlington, McKinney, Frisco, and TRWD are currently on the contract; Fort Worth and Grand Prairie feed data to the website.
- ▶ NCTCOG staff are working with OneRain to negotiate a contract renewal that allows any community to join regardless of system size. Proposed terms for pending renewal include six service tiers. These proposed terms are shown in draft form.

### Entry Tier

Single, view-only client in a shared resource for agencies **without** a gauging network

- ✓ **Agency-branded website** to direct the public
- ✓ **Visualize** and **download** regional data as CSV, Excel, or tab formats
- ✓ **Alarm** on shared regional rain, stream level, and air temperature gauges
- ✓ Easily edit **dashboards** or the **homepage** to deliver important information
- ✓ Understand an **approaching storm intensity** with gauge-adjusted radar rainfall
- ✓ Save **bookmarks** for quick links to graphs and webpages
- X No agency-owned gauging networks
- X No API access
- X No advanced reporting
- X No advanced options

\$1,579 (5% off)

**\$1,500/year**

### Intermediate Tier

Single client in a shared resource for agencies with a gauging network with less than 100 sensors

Everything in Entry tier, plus:

- ✓ Collect, visualize, store, and alarm on **agency-owned gauging network data**
- ✓ Access to **regional gauges** to visualize and alarm
- ✓ **Download** regional and local gauge data as CSV, Excel, or tab formats
- ✓ **Agency-branded website** to direct the public
- ✓ Access to **API** for integration into third-party websites for \$500/year
- ✓ Send data to **NWS**
- X No advanced options
- X No two-way control
- X No advanced reporting

\$4,684 (5% off)

**\$4,450/year**

## Advanced Tier

*Dedicated resource for agencies with a gauging network*

- ✓ Dedicated cloud resource for maximum performance, flexibility, and resiliency
- ✓ Collect, visualize, store, and alarm on **agency-owned gauging network data**
- ✓ Access to **regional gauges** to visualize and alarm
- ✓ **Download** regional and local gauge data as CSV, Excel, or tab formats
- ✓ **Agency-branded website** to direct the public
- ✓ **API** access for integration into third-party websites
- ✓ Send data to **NWS**
- ✓ **Advanced reporting** for network maintenance and full data download
- ✓ **Two-way control** module to remotely activate barrier gates or lights
- ✓ Collect **additional data sources** via generic data agent
- ✓ **Configure** the software to meet agency's needs
- X No locally-hosted instance

**Under 100 sensors**

\$12,000 (5% off)

**\$6,650/year**

**Unlimited sensors**

\$12,000 (5% off)

**\$11,400/year**

## Redundancy Tier

*Dedicated cloud resource and **local instance** for agencies with mission critical need*

- ✓ Dedicated **cloud resource** and **local instance** for maximum flexibility, resiliency, and redundancy
- ✓ Ideal for agencies that need to view data during power outage or internet failure
- ✓ Collect, visualize, store, and alarm on **agency-owned gauging network data**
- ✓ Access to **regional gauges** to visualize and alarm
- ✓ **Download** regional and local gauge data as CSV, Excel, or tab formats
- ✓ **Agency-branded website** to direct the public
- ✓ **API** access for integration into third-party websites
- ✓ Send data to **NWS**
- ✓ **Advanced reporting** for network maintenance and full data download
- ✓ **Two-way control** module to remotely activate barrier gates or lights
- ✓ Collect **additional data sources** via generic data agent
- ✓ **Configure** the software to meet agency's needs

### First Year

~~\$32,000~~ (5% off)

**\$30,400**

### Starting Year 2

~~\$17,000~~ (5% off)

**\$16,150/year**

## High Redundancy Tier

***Two** dedicated cloud resource and **local instance** for agencies with mission critical need*

- ✓ **Two cloud resources** are run in **separate data centers**, as well as a **local instance** for ultimate flexibility, resiliency, and redundancy
- ✓ Ideal for agencies that need to view data during power outage or internet failure
- ✓ Collect, visualize, store, and alarm on **agency-owned gauging network data**
- ✓ Access to **regional gauges** to visualize and alarm
- ✓ **Download** regional and local gauge data as CSV, Excel, or tab formats
- ✓ **Agency-branded website** to direct the public
- ✓ **API** access for integration into third-party websites
- ✓ Send data to **NWS**
- ✓ **Advanced reporting** for network maintenance and full data download
- ✓ **Two-way control** module to remotely activate barrier gates or lights
- ✓ Collect **additional data sources** via generic data agent
- ✓ **Configure** the software to meet agency's needs

### First Year

~~\$44,000~~ (5% off)

**\$41,800**

### Starting Year 2

~~\$29,000~~ (5% off)

**\$27,550/year**



The Regional Flood Warning Software Platform provides a comprehensive look at rainfall and water levels across the North Texas region through a connected network of flood gauges made possible through partnerships with local municipalities and agencies.



### Rainfall Map

View live data of rainfall across the region.

[View Maps](#)



### Current Stage Level Map

View live data of the current stage level of flood gauges across North Texas.

[View Map](#)



### How to Join

Communities of North Texas can join the program for a cost savings on flood warning hardware and software. Communities can view and integrate all other communities' data for a comprehensive look at the region as a storm moves across.

[Visit North Texas Share](#)

**Disclaimer:** FloodDataNTX is an interactive mapping application developed by the North Central Texas Council of Governments through a cooperative contract with OneRain, Inc. The data and information presented may not be presented in real-time and should not be assumed to be exact conditions in the indicated area on the map. Neither FloodDataNTX nor the sponsoring agencies including the North Central Texas Council of Governments and member municipalities participating in this program assume any legal liability or responsibility, or make any guarantees or warranties as to the accuracy, completeness, or suitability of the information for any specific purpose. The public is urged to closely monitor information provided by local emergency management organizations during emergency situations.

Weather for Arlington, TX

Map at Dark Sky



Home

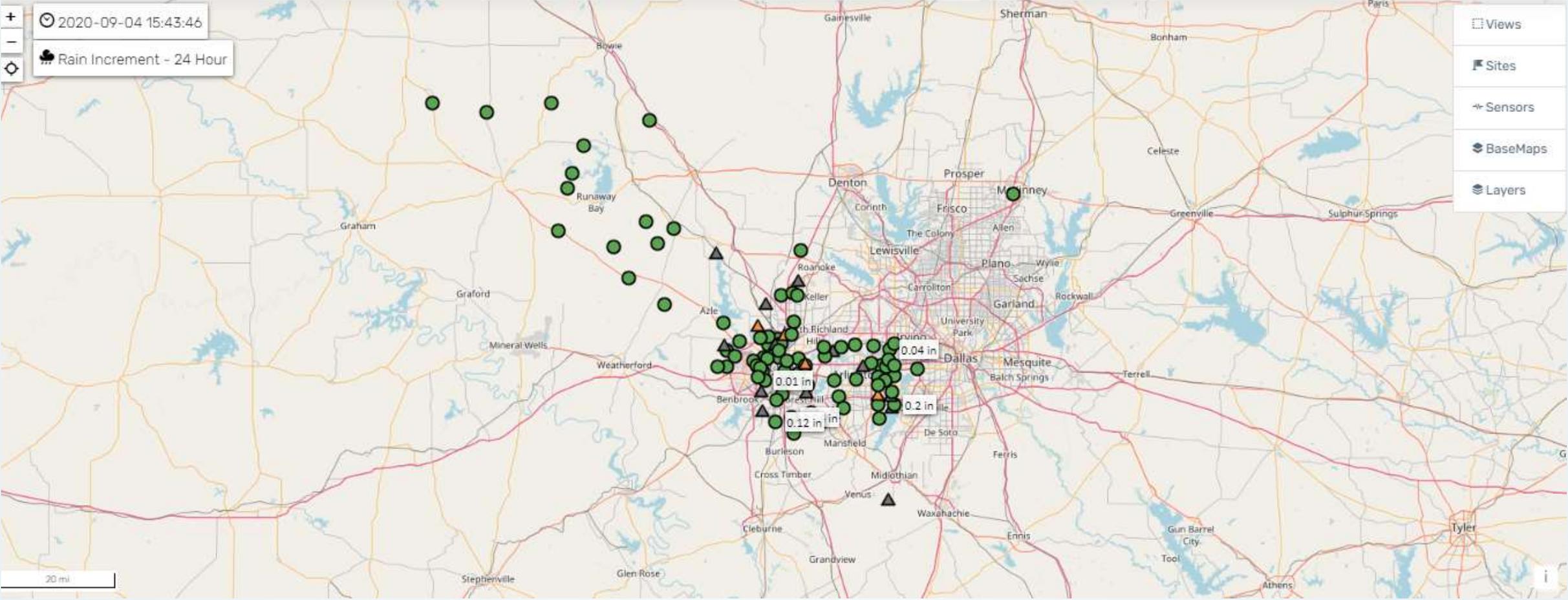
Map

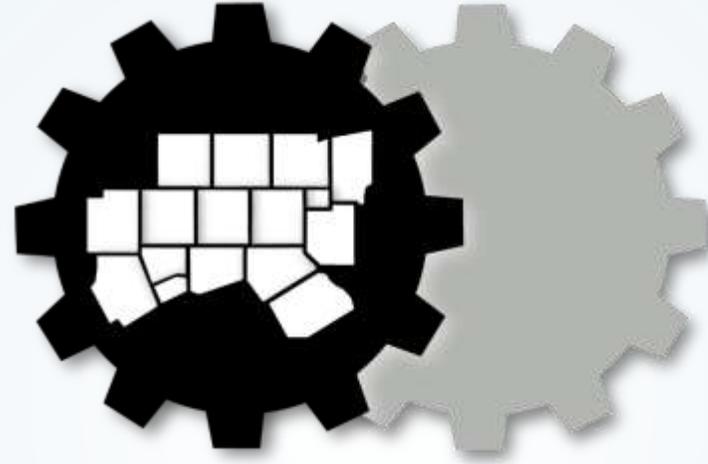
Sites

2020-09-04 15:43:46

Rain Increment - 24 Hour

- Views
- Sites
- Sensors
- BaseMaps
- Layers





# Action Items

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# 2019 Trinity Common Vision Steering Committee Meeting Summary

- ▶ NCTCOG staff are seeking approval of the 2019 Trinity Common Vision Steering Committee Meeting Summary.



North Central Texas Council of Governments

## SUMMARY

Trinity River COMMON VISION Steering Committee  
Thursday, September 13, 2018  
9:30 AM, Pitstick Executive Board Room  
NCTCOG Offices, CPII  
616 Six Flags Drive, Arlington, TX 76011

- 1. Welcome and introductions (Mia Brown)**

The meeting began with introductions of all present.

### DISCUSSION ITEMS

- 2. Presentation on COMMON VISION**
  - a. Overview of COMMON VISION and the Corridor Development Certificate (CDC) Program (Mia Brown)**

Mia Brown presented an overview of the Trinity COMMON VISION program history and the goals of the program.
- 3. COMMON VISION Work Program Overview and Activities Update.** NCTCOG staff will provide an overview and update of the listed activities of the Trinity River COMMON VISION Program:
  - a. CDC Permitting Update (Mia Brown)**

Mia Brown told the committee that 11 CDC applications were received during the fiscal year. This brings the total applications since the beginning of the program to 206.
  - b. NCTCOG hosting of the 23<sup>rd</sup> annual FEMA 4-day National Flood Insurance Program (NFIP) course (Mia Brown)**

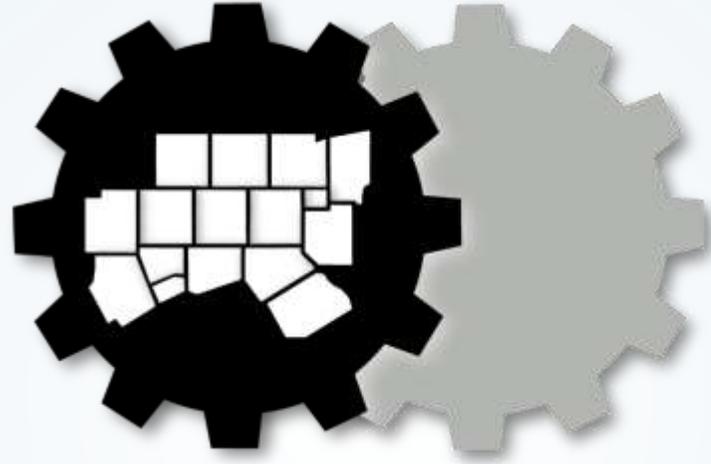
Mia Brown let the Committee know that this year NCTCOG would host the FEMA 4-day National Flood Insurance Program (NFIP) course for the 23<sup>rd</sup> year in a row, and that registration for COMMON VISION communities opened last week.
  - c. Elected Officials Seminar and Community Rating System (CRS) Meeting (Mia Brown)**

Mia Brown gave the Committee a recap of the Combined Elected Officials Floodplain Seminar/CRS Users Group that was held July 18, 2018. The topics were new NCTCOG regional floodplain efforts, a NOAA Atlas 14 update from the USACE, and a presentation from FEMA's Resilience Action Partners on flood economics and their IMMERSSED virtual reality tool.

616 Six Flags Drive, Centerpoint Two  
P.O. Box 5888, Arlington, Texas 76005-5888  
(817) 640-3309 FAX: 817-608-2372  
[www.nctcog.org](http://www.nctcog.org)

# FY21 Trinity River Common Vision Draft Work Program Vote

- **NCTCOG is seeking the Steering Committee's approval of the Draft FY21 Work Program, recommended by the Flood Management Task Force on August 14<sup>th</sup>, 2020.**
- Additions to existing Ongoing Support Activities
  - Maintenance of CDC Application and Tracking Website
- Additional Technical Activities
  - Participation in the Model Consolidation Committee
  - Update the CDC Manual to the 5<sup>th</sup> Edition
  - East Fork Trinity and Denton Creek Integration
- No change in the annual cost shares; total program cost of \$100,000
  - East Fork Communities will not be invoiced this year since CDC products are not yet available.



# Presentation Items

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# Related Activities Update



# Trinity River National Recreation Trail



- ▶ The Trinity Coalition (formerly Trinity Nature Conservancy) has worked with NPS on designation for the Trinity River.
- ▶ Designation was anticipated in June 2020, but all applications this year have been delayed.
- ▶ This effort was awarded the Conservation Wrangler designation by Texan By Nature.
- ▶ Trinity Coalition is working with communities on signage and possible additional launches.
- ▶ Thank you to the Trinity River communities for your efforts and support!

# Cooperating Technical Partners Grant - FEMA

2004

- Joined CTP
- Created Master Plan

2009

- NCTCOG Participates in Map Modernization

2012

- West Fork Trinity and Elm Fork Trinity Discovery

2013

- Village Creek Flood Risk Project

2014

- Bear Creek Flood Risk Project

2015

- Cedar and Denton Watershed Discovery
- Lynchburg and Irving Creek Flood Risk Studies

2016

- East Fork Trinity Discovery
- Silver Creek and McAnear Creek Flood Risk Studies

2017

- Richland-Chambers Watershed Discovery
- Town Creek and Clear Fork Tributary Flood Risk Studies

2018

- Marys Creek Flood Risk Study

2019

- Waxahachie Creek and Harriet Creek Flood Risk Studies

2020

- Catherine Branch Flood Risk Study and a Communications & Outreach grant for the Transportation-Stormwater Planning Study Area (western area).

# Integrated Stormwater Management - iSWM

## Why iSWM?

- Flooding and streambank erosion due to increased runoff
- Water quality concerns / stormwater regulations
- Loss of natural features
- Interest in green infrastructure
- Provide a comprehensive approach
- Regional consistency and equity

## Certified Communities

- Denton (Silver)
- Grand Prairie (Silver)
- Kennedale (Silver)
- Frisco (Silver)
- Fort Worth (Silver)
- Irving (Silver)

## Applications Under Consideration as of this meeting 9/10/20:

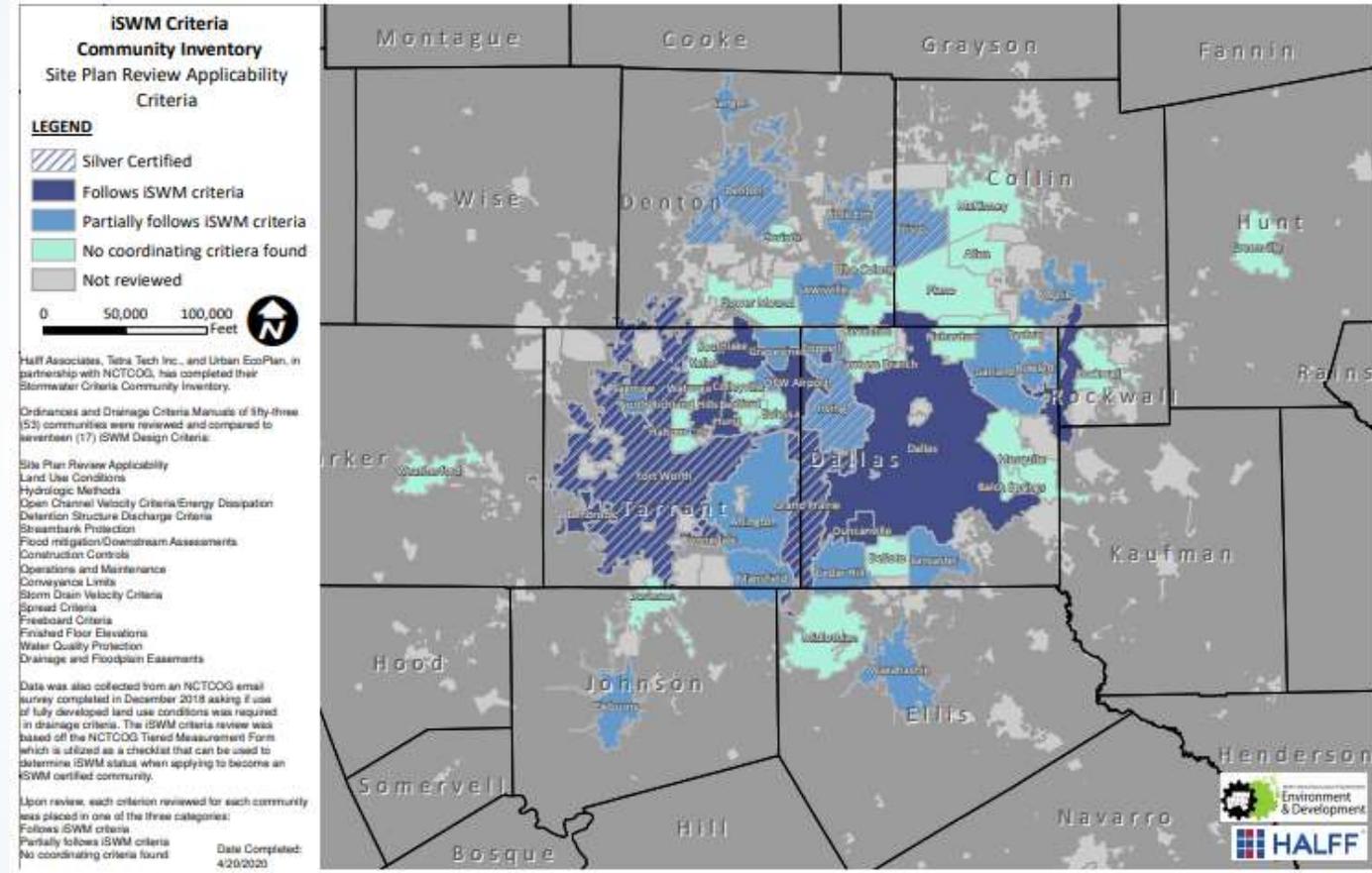
- Celina (Gold)
- Corinth (Silver)



# Integrated Stormwater Management - iSWM

Many resources are available through iSWM

- ▶ New website: [www.iswm.nctcog.org](http://www.iswm.nctcog.org)
- ▶ [Program Guidance](#)
- ▶ [Technical Manual](#)
- ▶ [Criteria Manual](#)
- ▶ [Proprietary Device Guidance](#)
- ▶ Instructional Videos
  - ▶ [Bioretention Facility Installation and Maintenance](#)
- ▶ iSWM Criteria Community Inventory
  - ▶ [City](#) (PDF)
  - ▶ [County](#) (PDF)



Example of the Community Inventory by city for the Site Review Applicability Criteria. There are 16 criteria. You can also view each criteria on an interactive map at <http://iswm.nctcog.org/participating-cities.html>.

# Texas Water Development Board's State Flood Plan

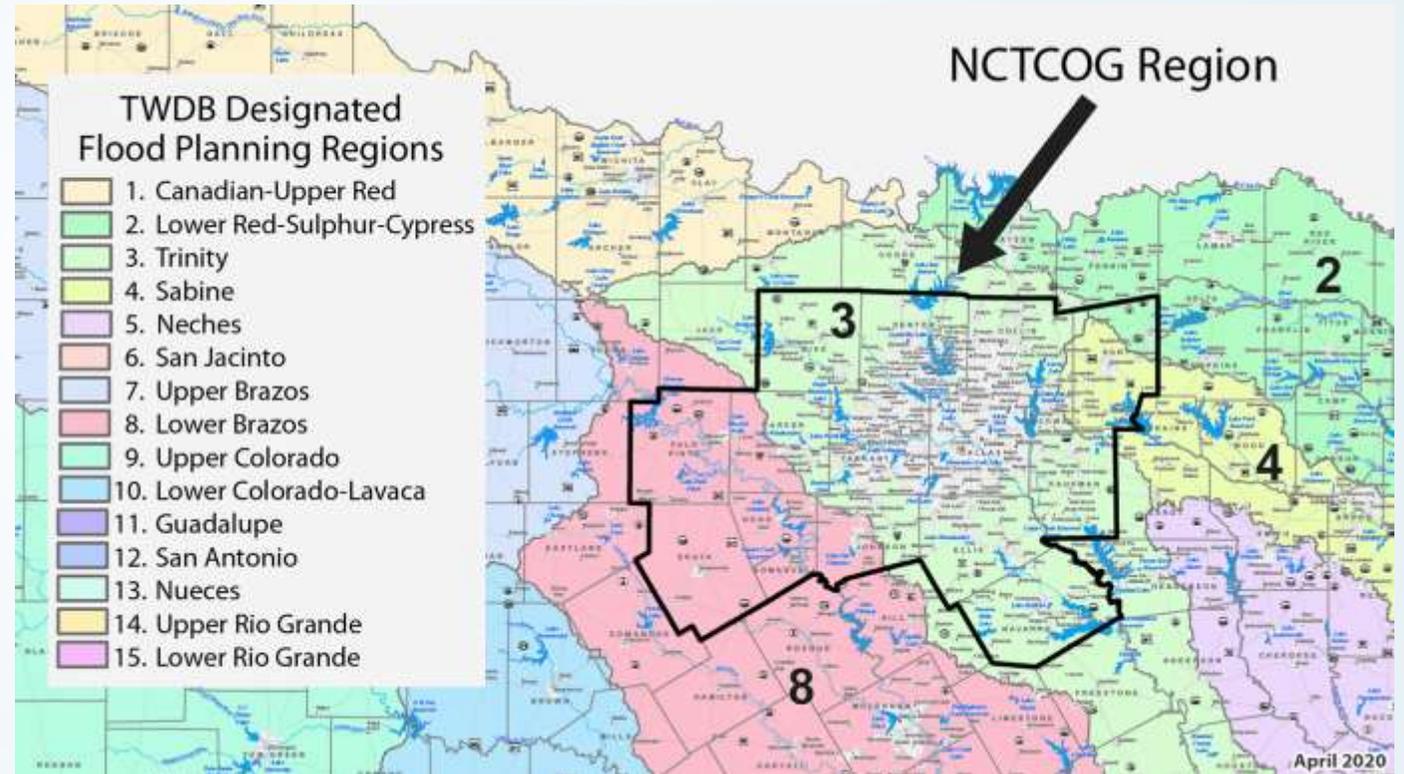
- ▶ The 2019 Legislature gave the TWDB the role of creating and administering the first State Flood Plan, modeled after the State Water Planning Process.
- ▶ In Spring 2020, the TWDB approved boundaries for Flood Planning Regions based on major river basins and adopted flood planning rules.
- ▶ The TWDB Executive Administrator will name the members and sponsors of the Regional Flood Planning Groups sponsors in late 2020.
- ▶ 1/10/23: Each flood planning group shall submit a regional flood plan to TWDB
- ▶ 9/1/24: A state flood plan must be prepared and adopted by TWDB
  - ▶ An updated flood plan will be prepared and adopted every 5 years
- ▶ Updates are posted to TWDB's Flood Planning website:  
<http://www.twdb.texas.gov/flood/planning/index.asp>



# Texas Water Development Board's State Flood Plan

## NCTCOG Participation in the TWDB Flood Planning Process

- ▶ Edith Marvin submitted a nomination for membership in the Environmental Interests category for the Trinity River RFPG.
- ▶ NCTCOG has nominated itself for sponsor of the Trinity River RFPG.
- ▶ NCTCOG will do everything possible to help bridge disconnects and overlaps of effort, just like our participation in the Region C Water Planning Group.



# CDBG-MIT Funding

- \$4.3 billion has been set aside in different funding pots for Texas from CDBG-DR funds for mitigation.
- Certain NCTCOG counties are eligible for the 2015 and 2016 Floods State Mitigation Competitions.
- While at least 50% of funds must be spent in HUD Most Impacted & Distressed Areas (MID), the eligible NCTCOG counties are State MID and can still compete for funds.
- 50% of all CDBG-MIT funds must benefit low-to-moderate income (LMI) persons.
- No requirement for a tie-back to the qualified disaster.
- The application period for the 2015 and 2016 competitions is open; it closes 5 p.m. on October 28<sup>th</sup>, 2020.
- The GLO/TDEM webinar series about these funds can be viewed here:  
<https://www.hudexchange.info/news/cdbg-dr-and-cdbg-mit-webinar-series-spring-2020/>

# CDBG-MIT Funding

## Federal/Presidential Declarations for Texas By County: 2015 Floods

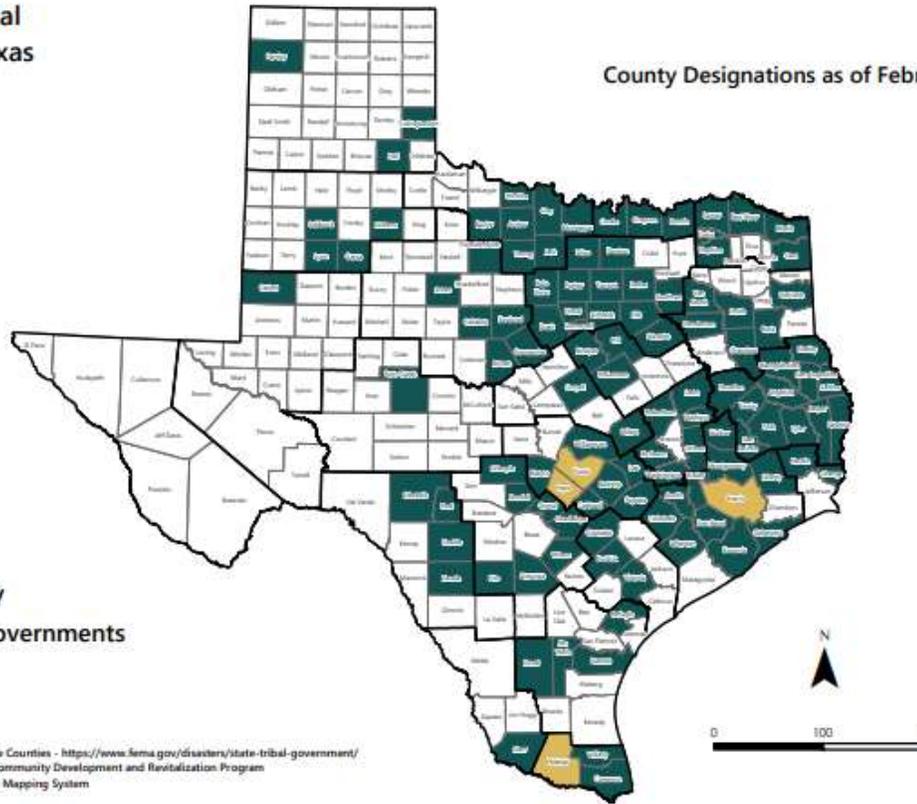
DISASTER LIST:

"Floods 2015"  
DR-4245 (Nov 25, 2015)  
DR-4223 (May 29, 2015)

County Designations as of February 5, 2019

- HUD MID
- State MID
- Texas County
- Council of Governments

Data Source: FEMA Disaster Assistance Counties - <https://www.fema.gov/disasters/state-tribal-government/>  
Author: Texas General Land Office - Community Development and Revitalization Program  
Projection: NAD 1983 Texas Statewide Mapping System



## Federal/Presidential Declarations for Texas By County: 2016 Floods

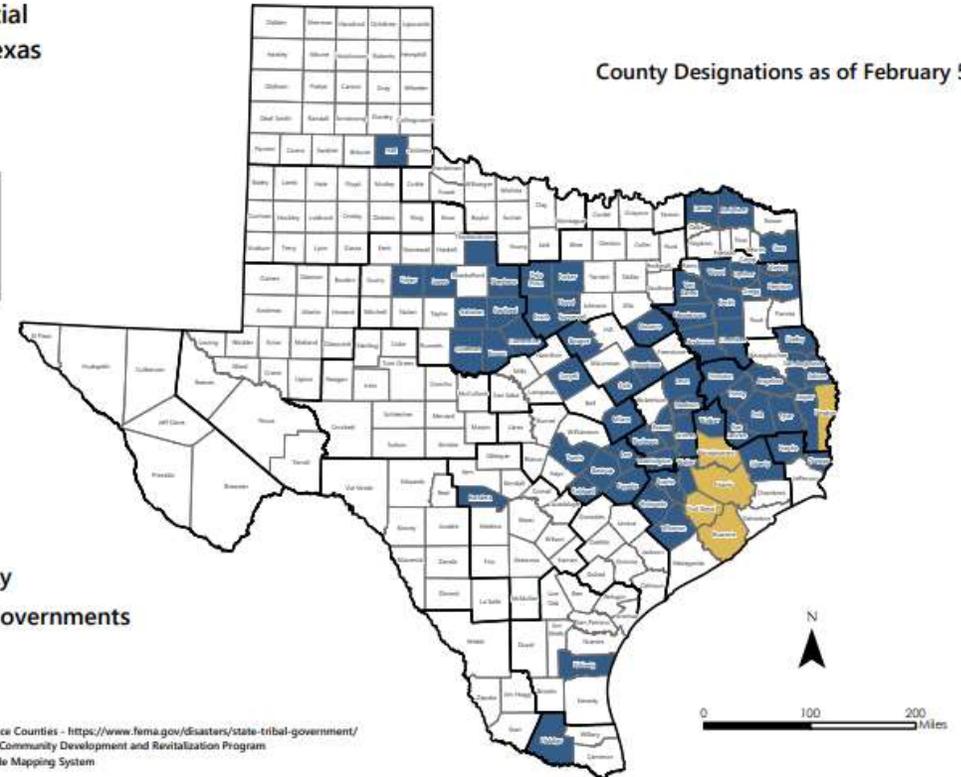
DISASTER LIST:

"Floods 2016"  
DR-4272 (June 11, 2016)  
DR-4269 (April 25, 2016)  
DR-4266 (March 19, 2016)

County Designations as of February 5, 2019

- HUD MID
- State MID
- Texas County
- Council of Governments

Data Source: FEMA Disaster Assistance Counties - <https://www.fema.gov/disasters/state-tribal-government/>  
Author: Texas General Land Office - Community Development and Revitalization Program  
Projection: NAD 1983 Texas Statewide Mapping System



<https://recovery.texas.gov/mitigation/competitions.html>

# 16-County Watershed Management Effort

- Menu of Regionally Recommended Standards in Watershed Management for New Development Within County Regulated Areas.
- Developed by our counties at a March 2017 Roundtable.
- Presented to the 16-County Watershed Management Forum on July 12, 2017.
- NCTCOG Executive Board endorsed this effort in October 2017.
- Dallas, Denton, and Kaufman Counties have fully or partially adopted these standards.

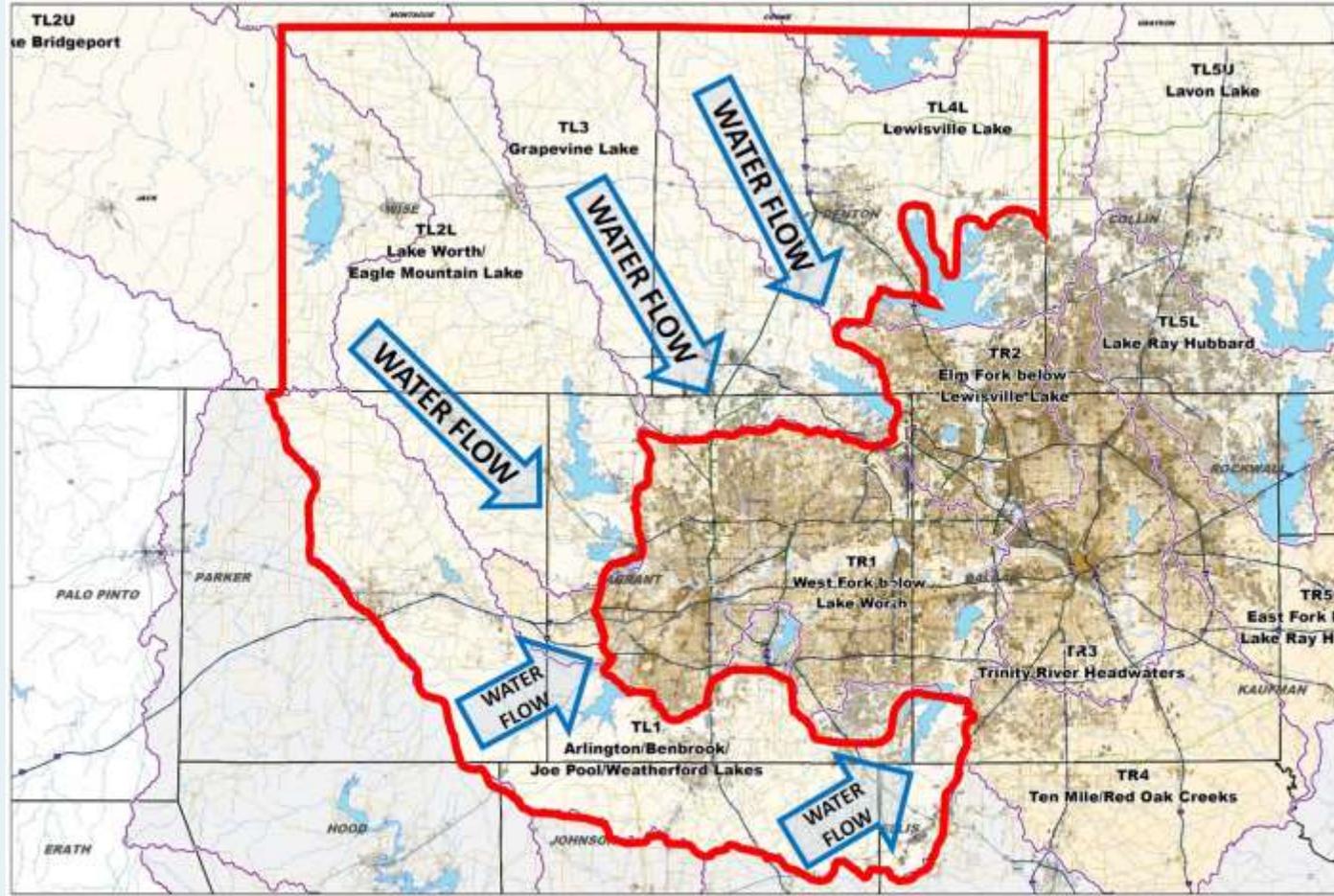


## Menu of Regionally Recommended Standards in Watershed Management For New Development Within County Regulated Areas

1. Design infrastructure to fully developed conditions with approved land-use maps if data is available
2. Begin protection at the most upstream end of the watershed above Federal Emergency Management Agency Limit of Detail Study
3. Maintain unfilled valley storage areas
4. Protect against and reduce erosive velocities
5. Match pre-developed site runoffs
6. Verify/require adequate downstream conveyance
7. Require freeboard from fully developed (if data is available) and changing watershed conditions
8. Define written operation and maintenance responsibilities
9. Size conveyance of street and storm systems adequately to safely convey traffic
10. Create stream buffers and preserve open space; limit clearing and grading
11. Consider regional (on or off stream) detention incentives
12. Implement Conservation and/or Cluster Development incentives
13. Encouraging low impact development techniques and/or green infrastructure

These Regionally Recommended Standards in Watershed Management were developed by the North Central Texas Countywide Watershed Management Roundtable held on March 14, 2017

# Integration of Transportation & Stormwater Planning



**Integrated Transportation and Stormwater Management Project Proposed Study Area**

North Central Texas Council of Governments

Data Source: Watershed Boundary Dataset (WBD) by USDA - Natural Resources Conservation Service  
Stream Data by National Hydrography Dataset (NHD)

This initiative will target undeveloped and developing communities in the Upper Trinity River watershed. The goal is to limit the increase in future flooding associated with growth and development by providing resources to communities to plan for transportation and stormwater infrastructure together. Outreach will begin in early 2021.

NCTCOG website for this initiative:  
<https://www.nctcog.org/envir/watershed-management/upper-trinity-river-transportation-and-stormwater>

June 18<sup>th</sup> webinar recording:  
<https://www.youtube.com/watch?v=eXGJTHLiRbg>

# Other Program Related Efforts

## Funding Application Update for Integrated Transportation and Stormwater Planning

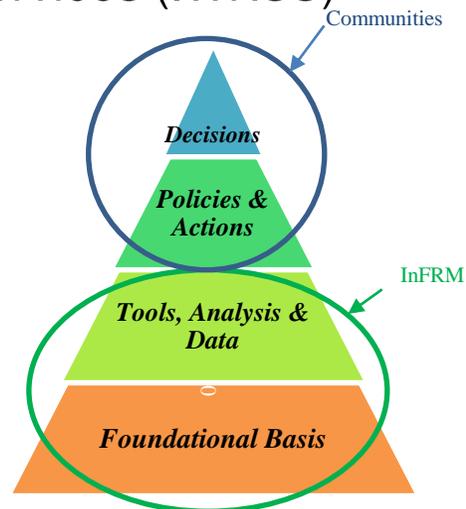
	SUBMITTED APPLICATIONS			ANTICIPATED/REQUESTED FUNDS OR APPLICATIONS*	
Funding Agency/ Funding Opportunity Name	TWDB (Flood Infrastructure Fund)	USACE (Various Authorities)	FEMA (Community Outreach and Mitigation Strategies)	Regional Transportation Council (Transportation Planning Dollars)	General Land Office (CDBG MIT or Other Funding Category)
Requested Funding	\$3.0 Million	\$3.0 Million	\$80,000	\$3.0 Million	?
Current Status	Submitted Abridged Application June 15th; will know in the fall if invited to submit complete application.	Submitted to USACE Fort Worth District in March/Expect to hear in late 2020.	Award received; Phase 1 engagement to begin in early 2021.	Included in Unified Planning Work Program	Currently awaiting news from TxGLO for the dates of the Planning fund competitions.

\*Anticipate applying to additional funding opportunities as they become available (ex. FEMA BRIC, GLO, TDEM, etc.) and working with partner organizations to identify project funding.

# The Interagency Flood Risk Management (InFRM) Team

## Collaboration of Federal Agencies → One Mission

- Pilot Program began in 2014 within FEMA Region 6
- Purpose to develop actionable information to reduce *long-term flood risk* in the region
- Leverages information, expertise, programs and resources across the federal agencies
- Operates under the umbrella of Integrated Water Resources Science and Services (IWRSS)



To provide reliable, impartial, timely information that is needed to understand the Nation's water resources.

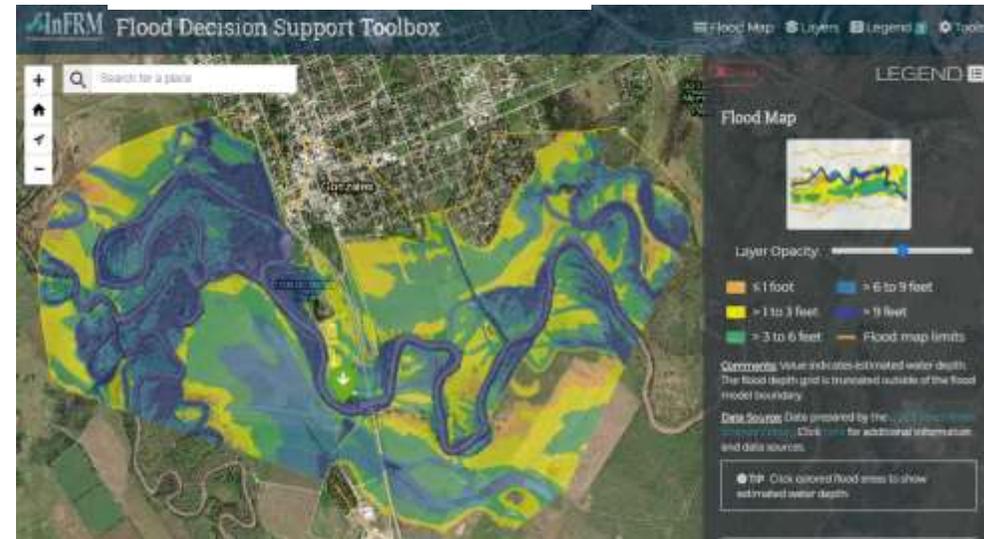
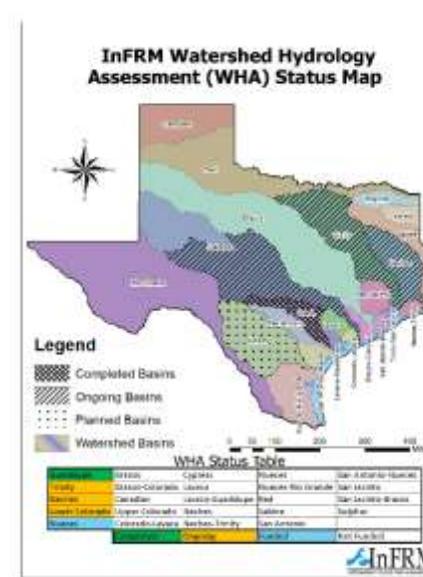
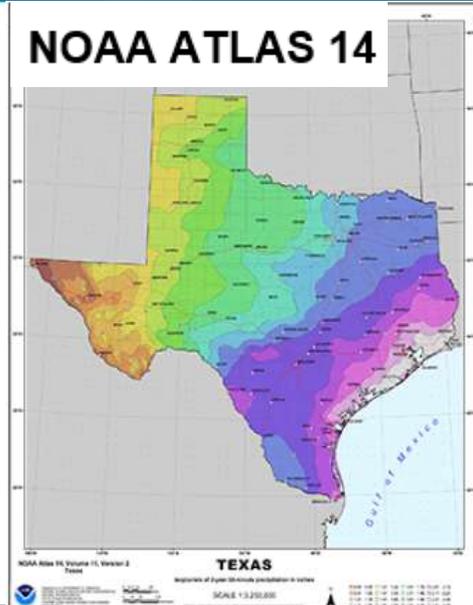
provide the best weather, water, and climate forecasts through international cooperation on hydro-meteorological observations, data exchange, modeling, research, and technology development; and to provide global leadership in setting meteorological standards and building partnerships to save lives and protect property.

Deliver vital public and military engineering services; partnering in peace and war to strengthen our Nation's security, energize the economy and reduce risks from disasters.

Support our citizens and first responders to ensure that as a nation we work together to build, sustain and improve our capability to prepare for, protect against, respond to, recover from and mitigate all hazards

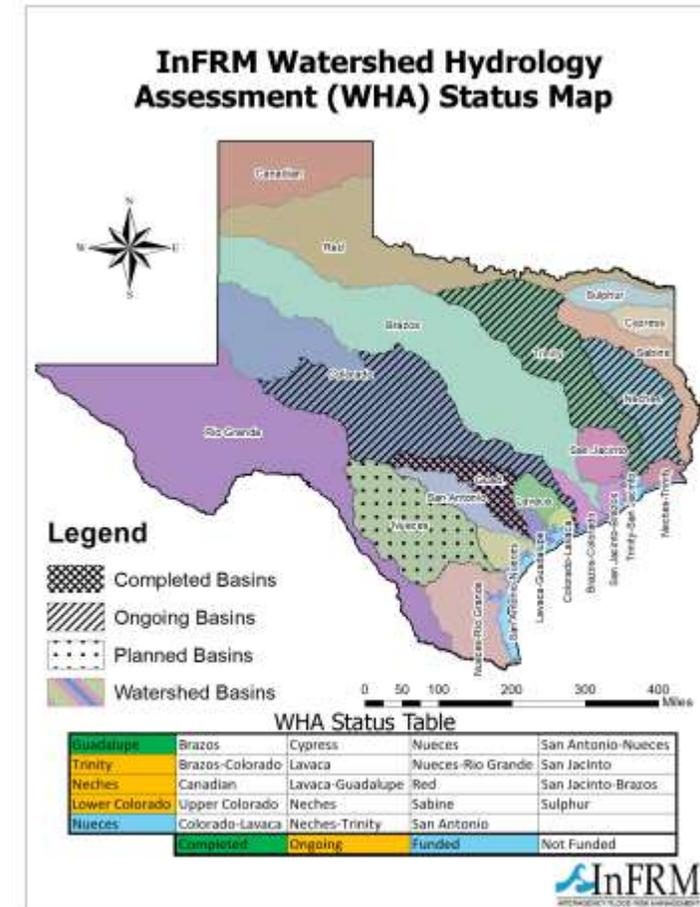
# Collaborating Nationally. Empowering Locally.

www.InFRM.us

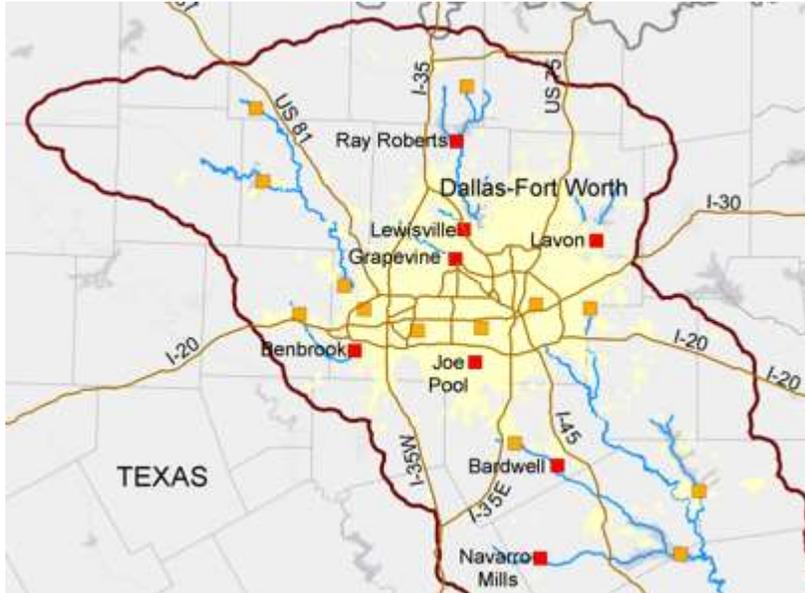


# Purposes of the InFRM Watershed Hydrology Assessments (WHAs)

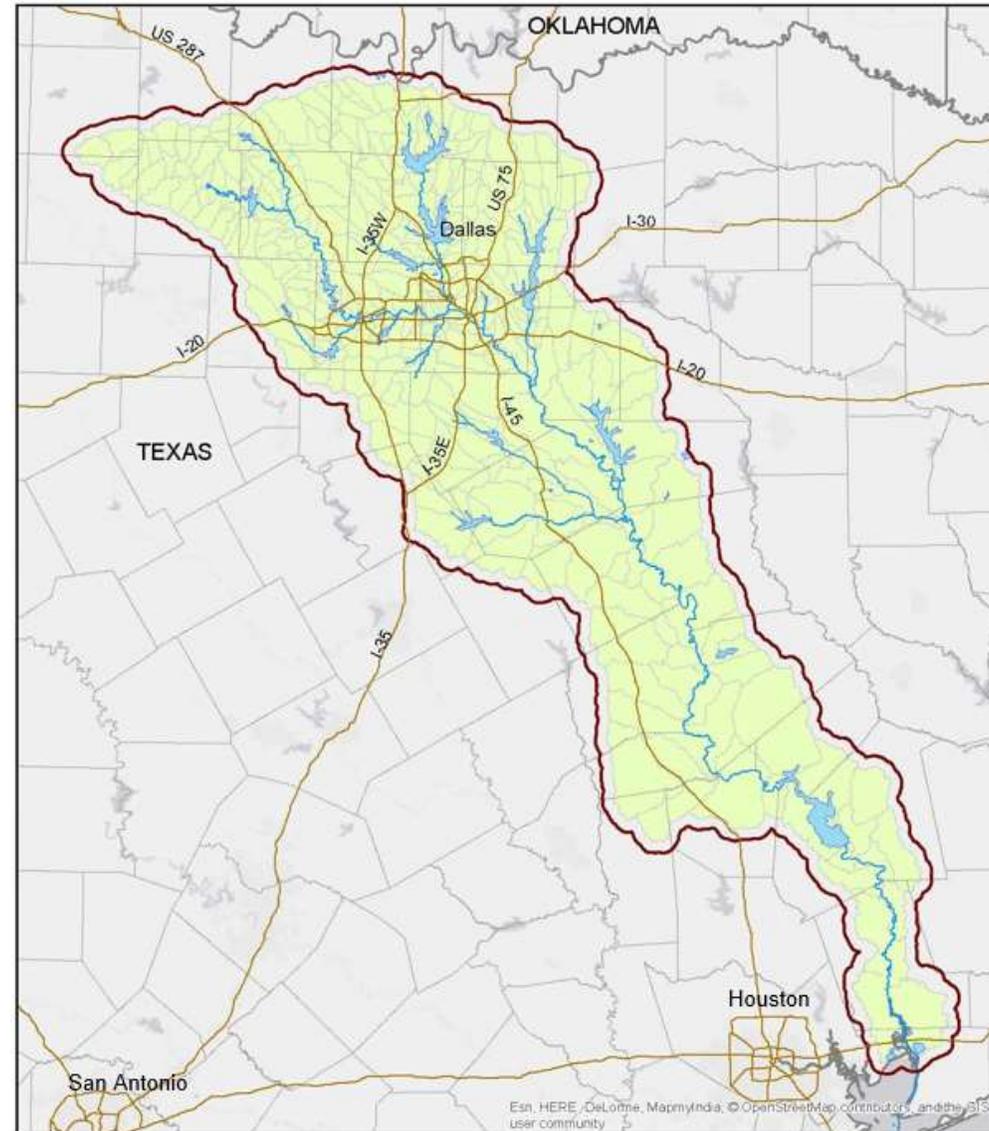
- Design flows, e.g. 1% annual chance (100-yr)
- Larger streams and rivers
- Replaces dated and obsolete information
- Employs a Comprehensive Approach to Hydrology:
  - Multi-agency science team
  - PEER reviewers from agencies within each watershed
  - Employs multiple methods and compares their results
  - Uses state-of-the-art technics
  - Leverages more detailed studies and data
  - Considers non-stationary factors like regulation, land use & climate variation
  - Provides future land use condition design flows
  - Tells the story of how the 1% flow has changed over time
  - Significant shifts are possible
- Outcomes provide design data and suggest areas where FEMA flood hazard information may need to be updated



# Trinity River Watershed Hydrology Assessment



- Trinity WHA began Sept.2015
- Drainage Area - 18k square miles
- Watershed Length - 700 miles
- 8 USACE Reservoirs
- Fort Worth and Dallas Levees
- 100 Active USGS Gages
- HMS Subbasins - 289 (60 sq. mi avg.)



# Tools, Analysis and Data for Communities

- Planning and design guidance for more resilient communities
- What is my risk?
- Have there been nearby events that would adversely impact communities?



# Tools, Analysis and Data for Federal Agencies/Projects

- Planning and design guidance for federal agencies/projects
- Planning, design and operational data for dams and levees
- Evaluation criteria for 408 actions, real estate actions, risk assessments, dam and levee safety studies

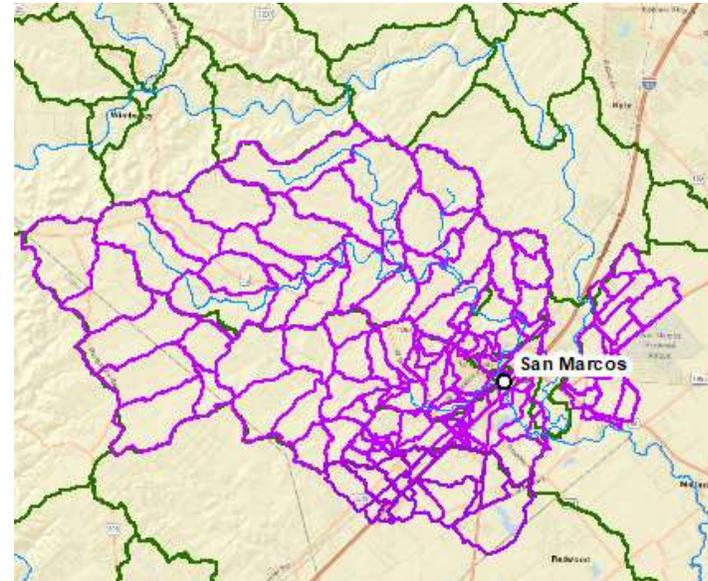


# Community Adoption and Use - San Marcos, TX Example

**Guadalupe InFRM  
Study Subbasin Boundaries**

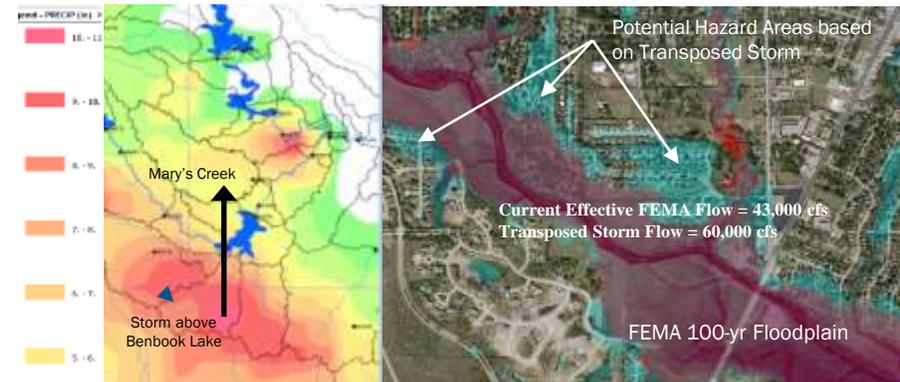
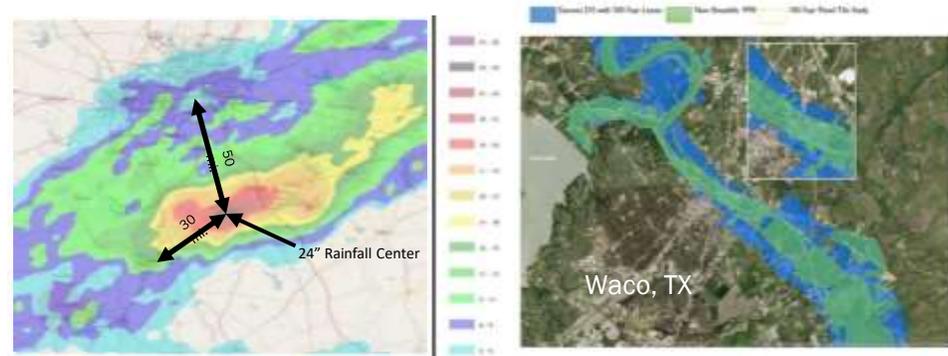


**City of San Marcos  
Detailed Subbasin Boundaries**



# Shifting Nearby Observed Storms

- **Waco, TX completed**
  - Issue: Uncertainty associated with determination of flood potential (dams)
  - Shifted several storms (30+ mi)
  - Examined different operational constraints, multiple scenarios
  - Outcome: showed flood potential is greater than 100-year
- **Mary's Creek, DFW, TX area**
  - Issue: Uncertainty associated with determination of flood potential
  - Shifted 2010 100-year± storm 10 miles
  - Outcome: Flood potential is greater than previously understood
- **San Marcus underway**
- **Future**
  - InFRM product
  - DFW Airport



# Tools, Analysis and Data for Communities

- Planning and design guidance for more resilient communities
- What is my risk?
- Have there been nearby events that would adversely impact communities?



# Questions?



## Jerry L. Cotter, P.E.

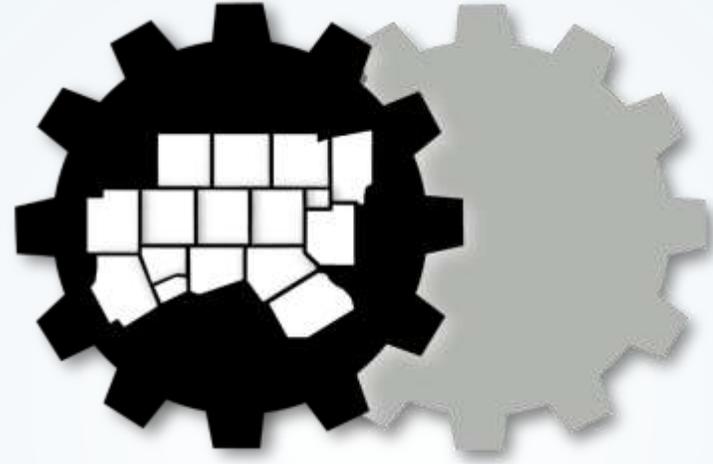
Chef Water Resources

US Army Corps of Engineers

Fort Worth District

[Charles.Erickson@usace.army.mil](mailto:Charles.Erickson@usace.army.mil)

817-886-1692 (office)



# Roundtable

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