

Flood Management Task Force

November 13, 2020



Welcome and Introductions

- Thanks for attending!
- Please introduce yourself in the chat box.
- Please mute your line.
- Unmute your line when you would like to speak during question and discussion time.
 - We will also watch the chat box for questions

Meeting Summary

- The link to the meeting summary is available in the download box.
- Please inform me of any corrections or additions.

FY21 Trinity River Common Vision Work Program Activities Discussion

NFIP/CDC Model Consolidation Team

- The FMTF approved the Consolidation Team's Memo in January. The USACE has submitted two scopes for work related to the model consolidation.
 - Updating the newly georeferenced CDC model with approved but not yet constructed CDC project geometries from 2017 onward and future flows.
 - Creating the CDC future flows for the FEMA detailed study on the East Fork Trinity and the Trinity mainstem to extend the consolidated model.
- The USACE set aside \$485,000 from the Floodplain Management Services (FPMS) fund to complete these scopes. Internal coordination at the USACE will be occurring this FY. Updates for FY21 will be provided as they become available.

FY21 Trinity River Common Vision Work Program Activities Discussion

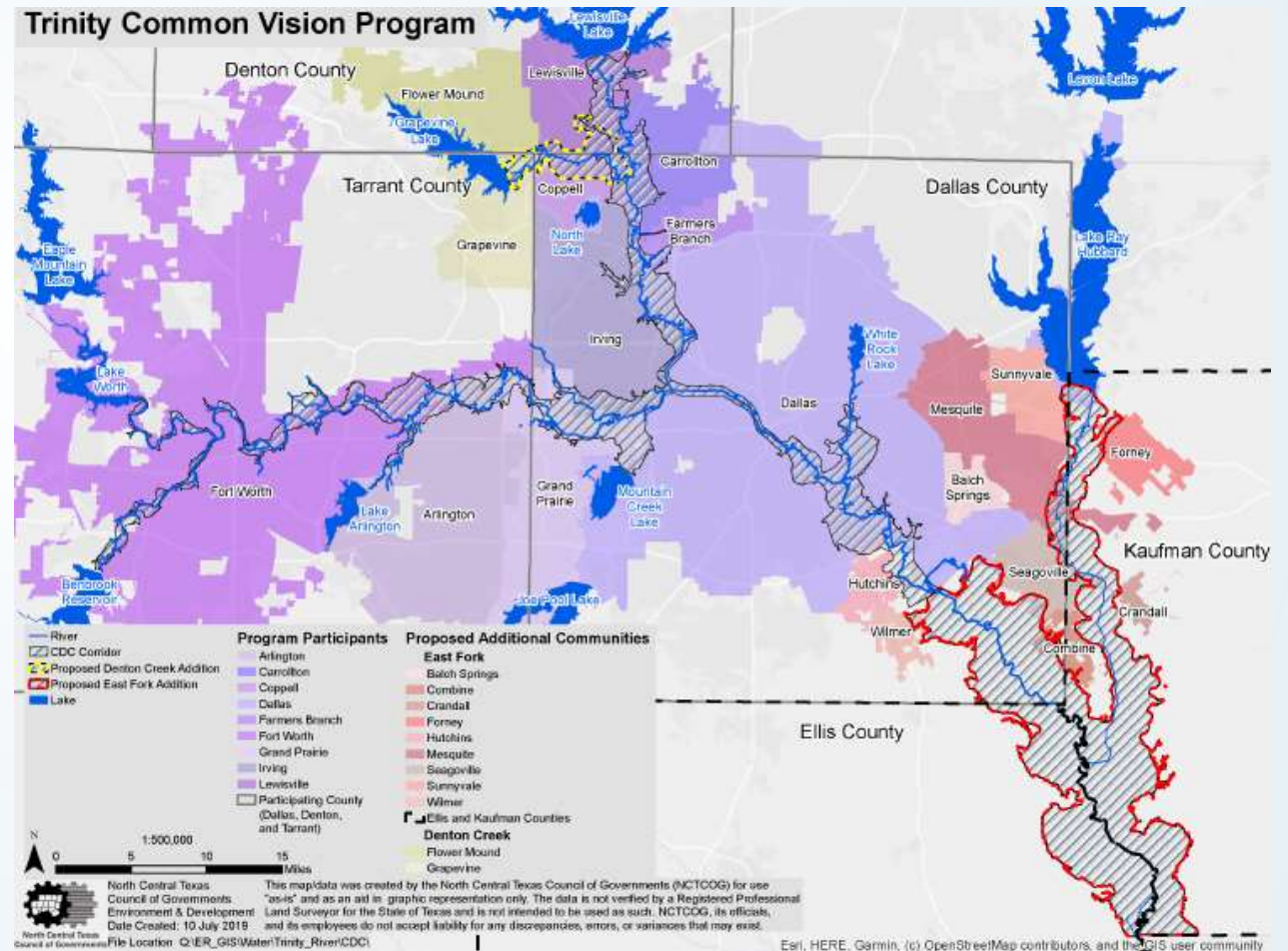
CDC Manual Update to the 5th Edition

- ▶ The NFIP-CDC Model Consolidation Team had it's first meeting of the FY on November 6th for the purpose of beginning the 5th edition update.
 - ▶ Chapter 4: CDC Process will be discussed first.
- ▶ Updates will be brought to the FMTF throughout the process and your feedback will be requested.

FY21 Trinity River Common Vision Work Program Activities Discussion

East Fork/Denton Creek Update

- NCTCOG staff sent letters to Grapevine and Flower Mound in July formally inviting them to join Trinity Common Vision.
- The City of Mesquite is taking the East Fork resolution to a future council meeting and will discuss membership with Forney and Sunnyvale.



FY21 Trinity River Common Vision Work Program: Ongoing Support Activities

OneRain Regional Flood Software

- ▶ Regional software requested by FMTF in 2016. Entities currently on the common contract are McKinney, Arlington, Frisco, and TRWD. Fort Worth and Grand Prairie feed their data into the platform.
- ▶ Current contract for services is through North Texas SHARE and expired July 5, 2020.
- ▶ NCTCOG and OneRain renewed the contract for one year, and the renewal includes multiple tiers for varying levels of service.



Flood Management Task Force Virtual Meeting

11/13/2020



New Flood Early Warning Contact

Sue Swenor

OneRain & High Sierra Electronics

Gulf Region Hydrology Sales Manager

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Flood Early Warning Updates

- Renegotiated Flood Early Warning Program
- More sustainable long term
- Options for agencies of all sizes
 - Don't need a network to participate
 - Larger agencies previously unable to participate
- Added benefits and discount
 - 5% discount for existing Contrail customers and new tiers
 - StormData GARR included for all options
 - Private Trainings
 - More easily share data



Flood Early Warning Updates

Notes

- Sue and Charles to assist in finding best option
- Will work to understand needs before selecting
- If already participating in the program, feel free to reach out to evaluate
- Working on summary video to share within your organization



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 networks
 - 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

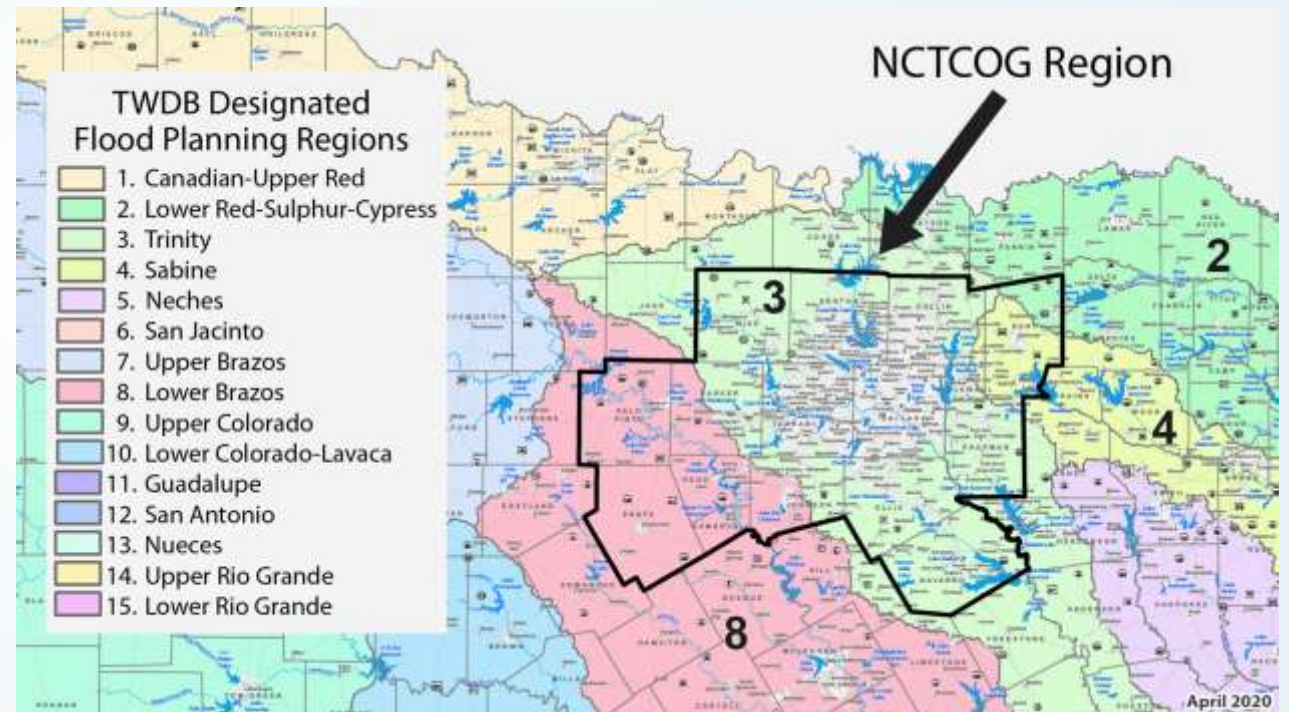
~~\$29,000~~ (5% off)

\$27,550/year

FY21 Trinity River Common Vision Work Program: Ongoing Support Activities

TWDB Flood Planning Process

- ▶ The Trinity Regional Flood Planning Group (RFPG) held its first meeting on October 27th.
 - ▶ Trinity River Authority (TRA) was selected as the RFPG sponsor.
 - ▶ Glenn Clingenpeel of TRA was selected as the interim chair.
 - ▶ Members approved bylaws.
 - ▶ The Trinity RFPG will discuss adding non-voting seats for federal and regional entities.
 - ▶ View meeting recordings [here](#)
 - ▶ View meeting schedules [here](#).



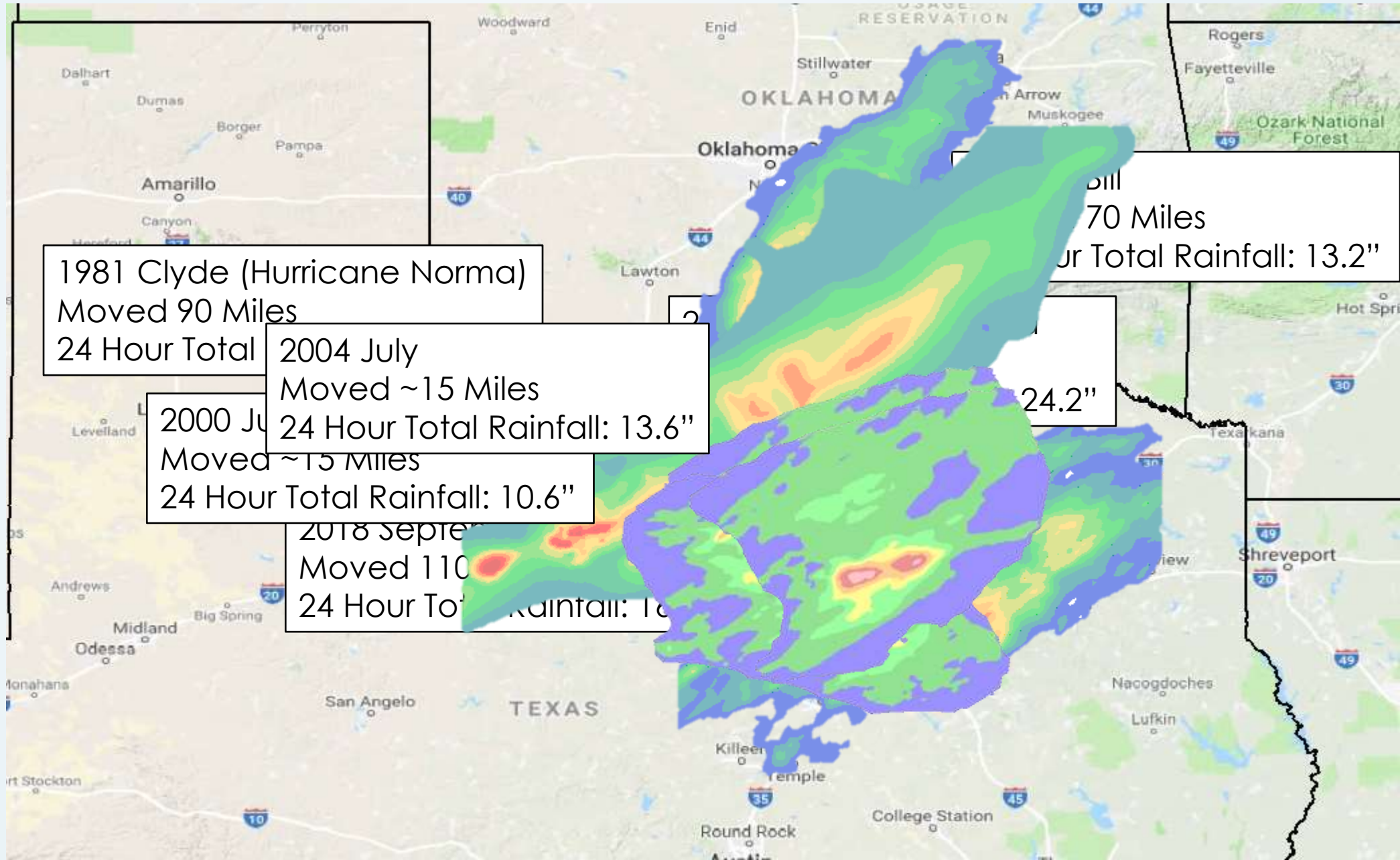
Storm Shifting Study – Why Should I Care?

- Flooding doesn't stop at lines on a map...
 - But flood maps show 100 year lines (floodplains)
- “What if that storm hit where I live?”
 - What is my risk?
 - Have there been nearby events that would adversely impact communities?
- There's a tool for that:
 - Planning and design guidance for more resilient communities
 - Can be used in EM Action/Hazard Mitigation Plans



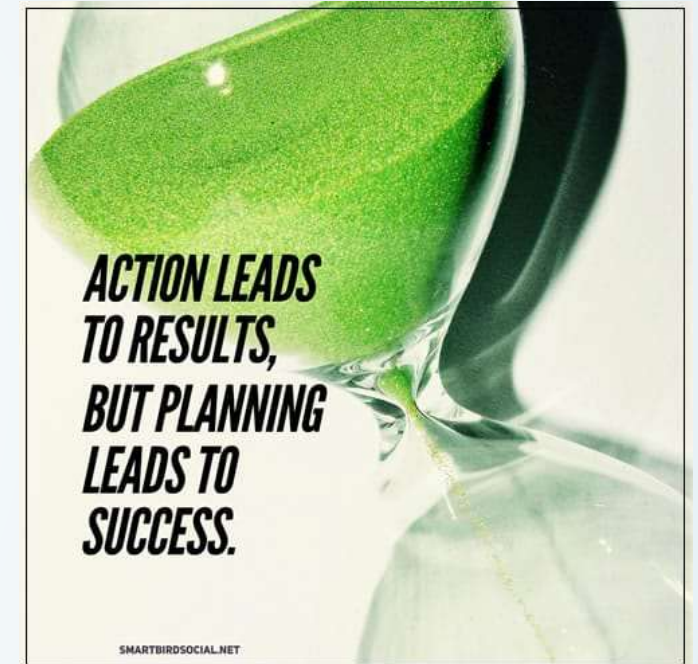
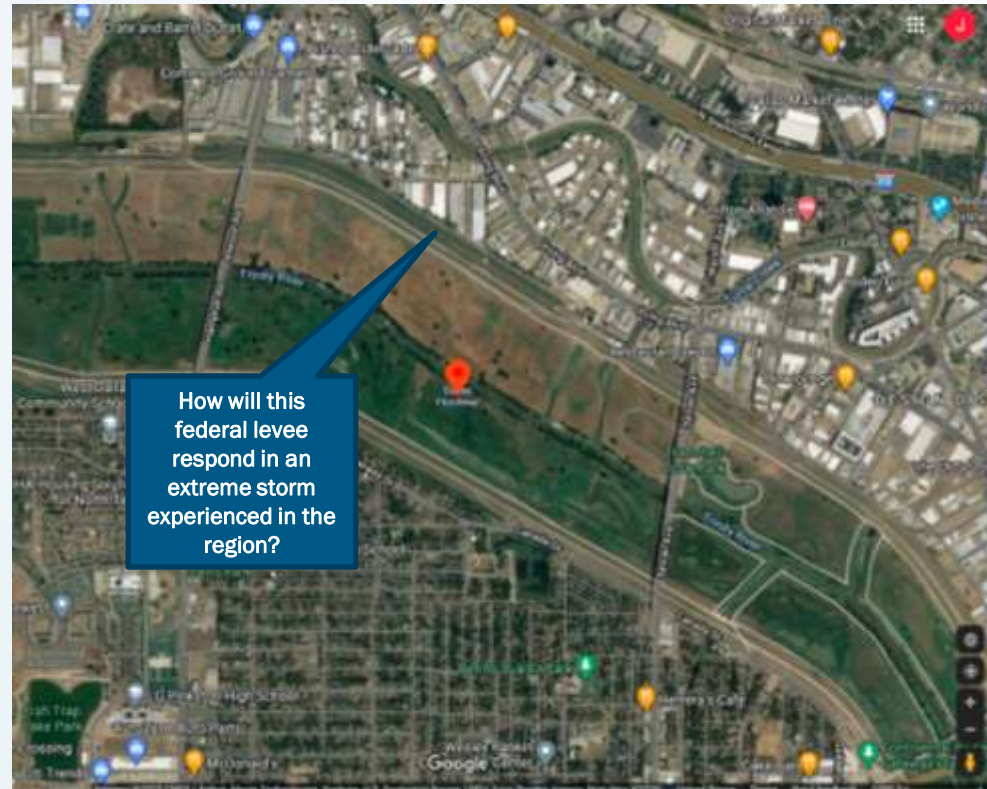
Scary Storms are Everywhere...

➔ What if one hit where I live?



There's a Tool for That – Storm Shifting

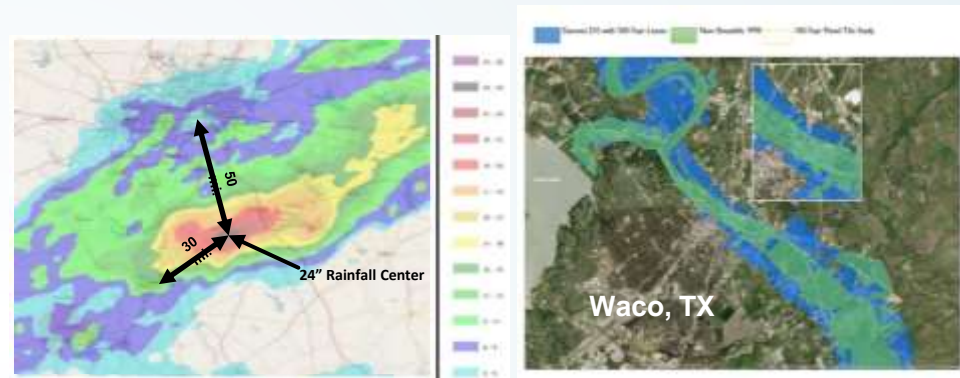
- ▶ Planning and design guidance for federal agencies/projects
- ▶ Planning, design and operational data for dams and levees
- ▶ Evaluation criteria for 408 actions, real estate actions, risk assessments, dam and levee safety studies
- ▶ Support for response, mitigation, and higher standards



Storm Shifting Study – Examples

► 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



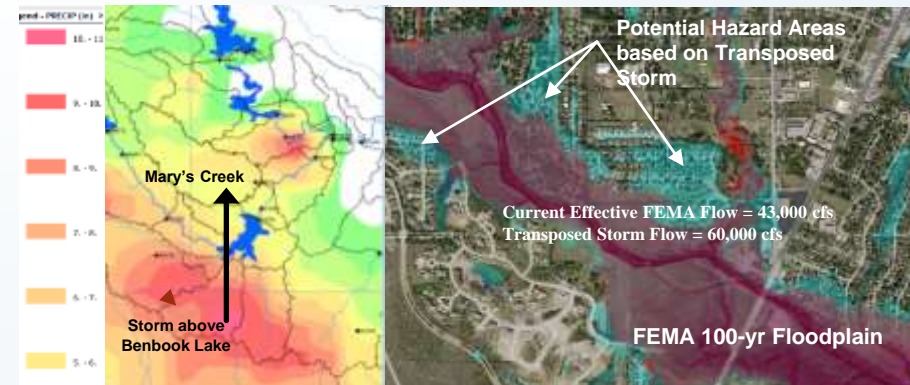
► Mary's Creek, DFW, TX area

- Issue: Uncertainty associated with determination of flood potential
- Shifted 2010 100-year± storm 10 miles
- Outcome: Flood potential is greater than previously understood

► San Marcos underway

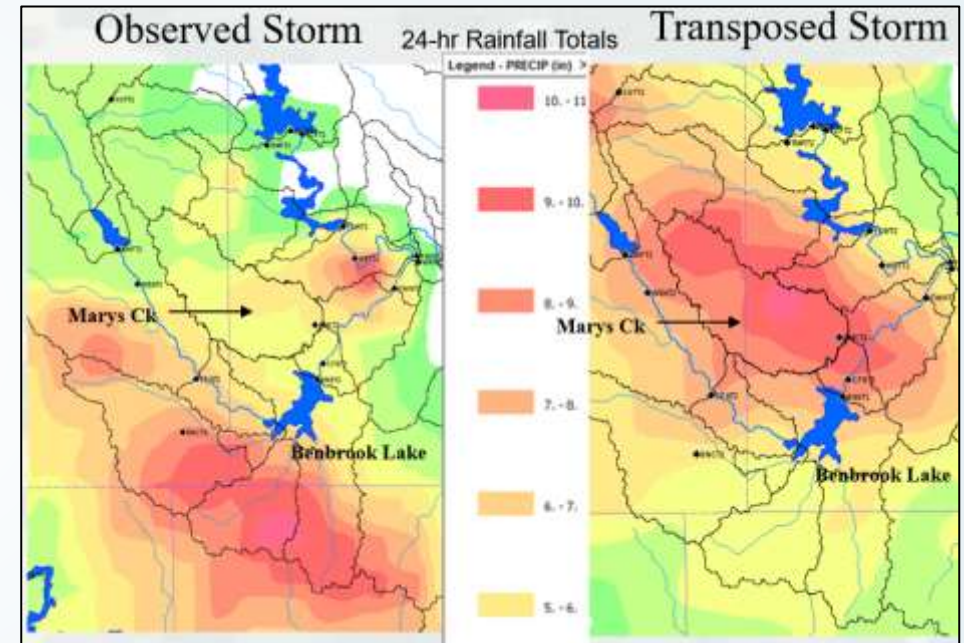
► Future

- InFRM product
- DFW Airport
- TSI Project



Storm Shifting Study – Upper Trinity River Watershed (Silver Jackets Program)

- Need to identify specific study area(s) through collaboration between USACE, NCTCOG, and Communities
 - Community interest is critical (i.e., letter of interest)
- Funded through USACE FPMS program and provides USACE technical and planning support to local, state, and federal entities
- Utilizes existing engineering models and data to produce hypothetical scenarios
- Study is contingent upon selection
- \$100,000 project (12 months)
 - HEC-RAS models with flows from shifted storm
 - HEC-HMS models with shifted storm data
 - Inundation maps
 - Project Study Report
 - USACE support in public meetings or tabletop exercises



June 2000 storm transposed 15 miles North

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Other Program Related Efforts

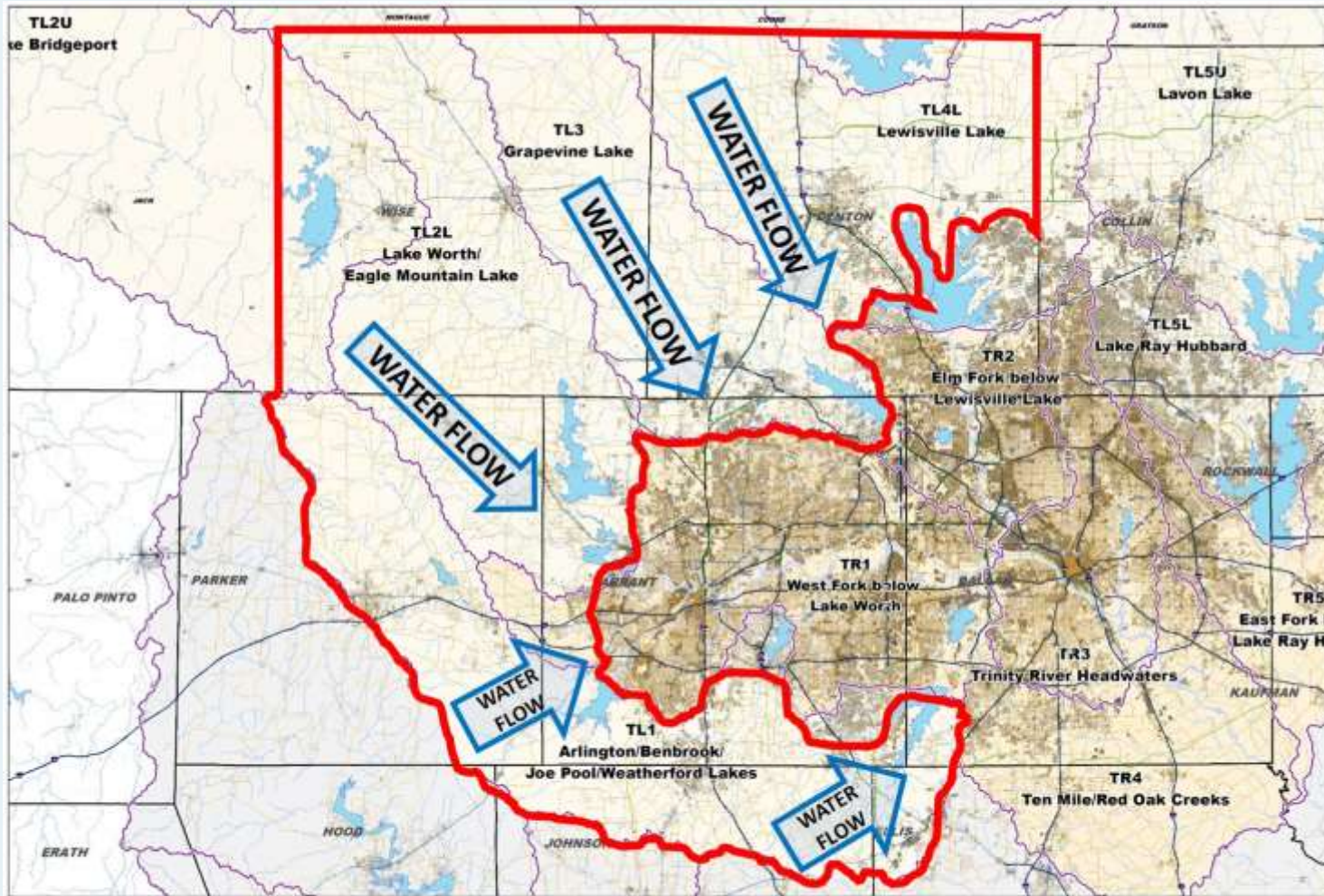
Trinity River National Recreation Trail Update

- ▶ In 2018, the [Trinity Coalition](#) (formerly the Trinity Nature Conservancy) began working with NCTCOG and communities along the Trinity River and its branches to achieve National Recreation Trail designation from the National Park Service (NPS).
 - ▶ 27 letters of support were sent in from all the communities along the trail and several state and regional agencies.
- ▶ On October 22nd, the Secretary of the Interior [announced](#) 30 new national recreation trails, including the Trinity River National Recreation Trail! More information will be forthcoming from the Trinity Coalition
- ▶ The trail is 130 miles with 21 launches (more launches planned in the future). The NPS logo will be used in conjunction with the trail.



Other Program Related Efforts

Update on Efforts Toward Integrated Transportation & Stormwater Planning



NCTCOG is actively pursuing funding for this project, whose boundary is shown at left.

Project resources and materials can be found at:

<https://www.nctcog.org/envir/watershed-management/upper-trinity-river-transportation-and-stormwater>

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



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

Transportation and Stormwater Infrastructure (TSI)

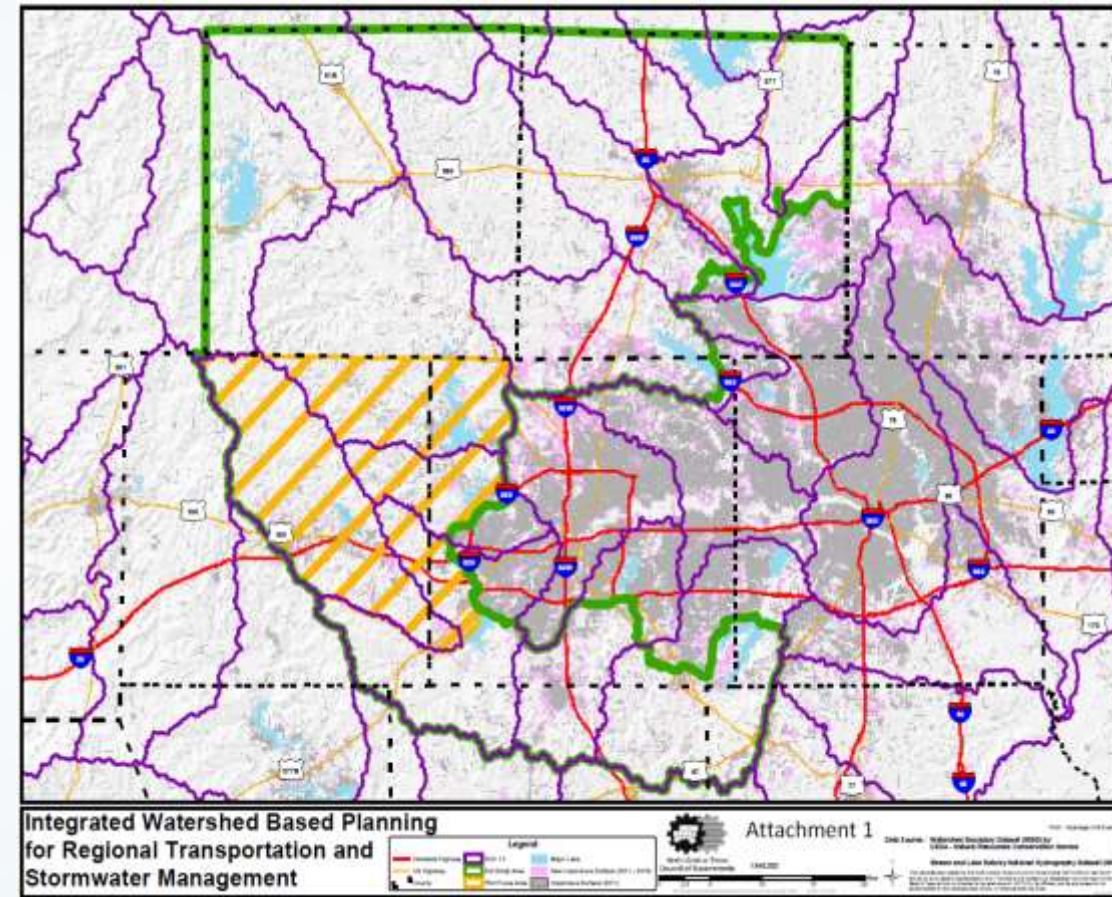
► What is the TSI project?

- Integration of regional stormwater management, urban development, transportation, and environmental planning: **a collaborative effort with regional Transportation planners**
- Identify impacts and alleviate risks from severe weather events such as flooding
- Will develop of a comprehensive Upper Trinity River Basin Transportation - Stormwater Infrastructure Plan for a First Phase – Proof of Concept Pilot Focus Area.

► Objective: a 'roadmap' for communities

- Produce planning-level designs for transportation, stormwater detention, environmental
- **Integrate these infrastructure layers and understand what needs to be built and what benefits will be achieved**
- Work with Transportation and Congress to establish ways to fund planned infrastructure for implementation

► Proactive Prevention vs. Response

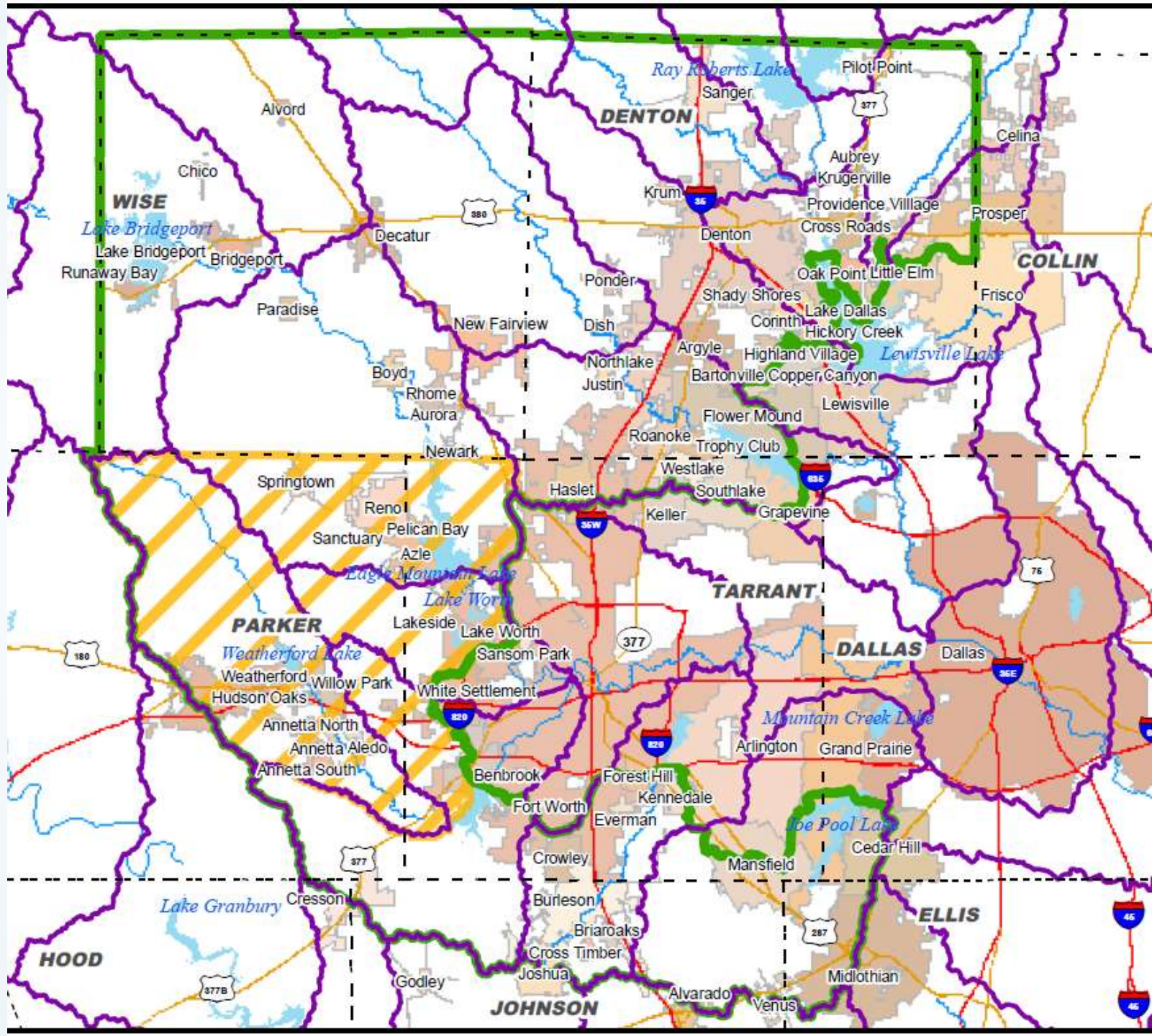


A Few Benefits of the Study and Resultant Upper Trinity River Basin Transportation – Stormwater Infrastructure Plan

- **Key Plan Goals:** Development of a replicable/transferable process to conduct a watershed-based stormwater infrastructure planning effort resulting in a plan with actionable strategies and implementation projects.
- **Key Plan Benefits/Outcomes (not all-inclusive):**
 - Proactively prevent flooding and decrease flood risk
 - Minimize overall life cycle costs
 - Address vulnerable and critical assets
 - Minimize Impacts of growth and development on existing downstream communities along the Trinity River
 - Account for changing frequency, duration, and intensity of storms, when combined with increased impervious surface
 - Extend the design life of transportation and stormwater infrastructure by planning for future conditions
 - Stabilize stormwater runoff levels and account for future conditions
 - Evaluate regional stormwater management features
 - Design road crossings for adequate access during emergencies
 - Reduce channel erosion and stream sediment transport and their impacts on the operation and maintenance budgets of transportation and infrastructure
 - Provide meaningful environmental features such as wetlands, riparian stream reaches and habitat and provide environmental and ecosystem benefits to accommodate future population growth in a more resilient manner
 - Improve water quality through the comprehensive planning of environmental features
 - Provide regulatory tools for unincorporated areas and extra-territorial jurisdictions (ETJ) that county officials may use to regulate their floodplains in a more resilient and sustainable manner
 - Develop a planning model that could be replicated throughout the larger Project Area, State, and Nation

First Phase - Proof of Concept Pilot Focus Area

- ▶ Pilot Focus Area (*Hatched Yellow*)
 - ▶ 19 cities
 - ▶ 2 counties
 - ▶ Population of approximately 173,000
- ▶ Establish the hydrology and hydraulic modeling, community engagement, data collection, infrastructure and environmental integration processes and standard operating procedures to apply to larger area (*outlined in Green*)
- ▶ **Project Partners:**
 - ▶ Tarrant Regional Water District
 - ▶ Texas A&M AgriLife
 - ▶ US Army Corps of Engineers



Project Tasks

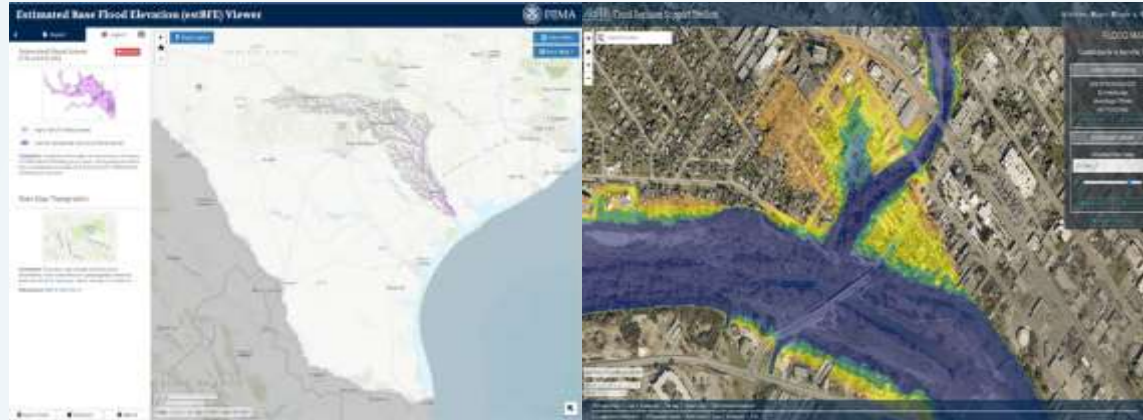
TWDB Flood Infrastructure Fund Application

- **Task 1.0: Data Collection and Analysis**
- **Task 2.0: Stakeholder Engagement**
- **Task 3.0: Integrated Transportation, Stormwater, and Environmental Planning**
 - Subtask 3.1 Project Area Hydrology and Hydraulics Assessment and Scenarios
 - Subtask 3.2. Assess Transportation Infrastructure Impacts and Develop Decision-Making Tools
 - Subtask 3.3 Environmental Planning
 - Subtask 3.4 Project Area Real-Time Flood Warning System
 - Subtask 3.5 Managing Land through Strategic Planning and Development Regulations
- **Task 4: Project Management and Project Replication**
 - Subtask 4.1 Project Management
 - Subtask 4.2 Replicate and Amplify Outcomes



Hydrologic and Hydraulic Support to TSI

Leverage existing Flood Risk Management initiatives...

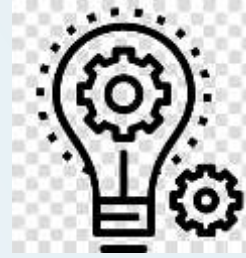


► ... to innovate at a local scale

- Provide a roadmap for communities in the study area through integration of key layers such as infrastructure, transportation, stormwater, environmental
- Investigate and enhance Trinity River Watershed Hydrology Assessment (WHA)
- Review & enhance existing hydraulic models such as Base Level Engineering (BLE)
- Storm shifting to simulate the impact of larger regional storms
- Response and emergency management modeling tool



H&H Support to TSI Initiative



► Outcome:

- Collaborative effort with regional transportation planners, who plan transportation on a 5 year cycle, to work together to produce these infrastructure plans.
- Minimize overall life cycle costs, **decrease flood risk**, and **reduce impacts** to the natural environment as a result of future population growth for a discrete pilot watershed area.
- Innovation:
 - Leverage existing best practices through collaboration, literature review, and data gathering
 - Study of how stormwater and transportation infrastructure can be integrated
 - Develop resources for transportation routing and safety
 - Include environmental and wetland analysis
 - Explore real-time flood warning system
 - **Establish a documented and repeatable process that can be applied across Texas and the Nation**
- Will benefit both study area AND downstream
 - Promote sound flood risk management decisions
 - Enable **actionable** local flood risk awareness and resiliency opportunities



Project Tasks FEMA Community Outreach & Mitigation Strategies (COMS) Grant

- **Task 1:** Project Management
- **Task 2:** Educational Roadshow, Data Collection, and Community Project Team Establishment
- **Task 3:** Community Training on Existing Regional and Other Resources
- **Task 4:** Compilation of Data on Current Community Policies and Presentation to Communities
- **Task 5:** Report Detailing Best Practices for Mitigating Flood Risk in Developing Areas in North Central Texas

Funding Application Update for Integrated Transportation and Stormwater Planning

	SUBMITTED APPLICATIONS		CONFIRMED FUNDS		ANTICIPATED APPLICATIONS*
Funding Agency/ Funding Opportunity Name	TWDB (Flood Infrastructure Fund)	USACE (Various Authorities)	FEMA (Community Outreach and Mitigation Strategies)	Regional Transportation Council (Transportation Dollars)	General Land Office (CDBG MIT or Other Funding Category)
Requested Funding	\$1.5 Million	\$3.0 Million	\$80,000	\$1.5 Million	?
Current Status	Submitted Complete Application Oct. 19th; contract execution anticipated early 2021.	Submitted to USACE Fort Worth District in March/Expect to hear in late 2020.	Award received; Phase 1 engagement to begin in early 2021.	Match funding for the TWDB FIF Grant approved at the October 2020 Executive Board.	Application period for the planning funds has not been announced.

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

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Other Program Related Efforts

North Central Texas Floodplain Administrators/CRS Users Group

- ▶ The next meeting will be held Thursday, November 19th, from 11 a.m. to 12 p.m.
- ▶ David Arken, the new ISO representative that performs CRS reviews for the North Texas region, will introduce himself and speak on the review process.
- ▶ The meeting will be worth one (1) CEC for Certified Floodplain Managers.
- ▶ Register here: <https://www.addevent.com/event/JP5377941>
- ▶ What topics interest you for future CRS Users Group meetings?

Other Program Related Efforts

Cooperative Technical Partnership (CTP) Program

➤ FY18 Projects

- Flood Risk ID on Marys Creek in Parker County is 92% complete. A Flood Risk Review Meeting was held with all partners in on October 2nd. A flood resilience meeting is anticipated for spring 2021.

➤ FY19 Projects

- Harriet Creek (Denton County, 7 miles) and Waxahachie Creek (Ellis County, Midlothian, Waxahachie; 19 miles) flood risk identification projects kicked off in April and are ongoing, with survey and hydrologic and hydraulic analyses underway. Waxahachie Creek is 38% complete and Harriet Creek is 8% complete.

➤ FY20 Projects

- NCTCOG received awards for the Catherine Branch flood risk identification project in Denton County and a communications and outreach project related to NCTCOG's efforts for integration of transportation and stormwater planning in northern/western portions of the region. Both projects will kick off in early 2021.

➤ FY21 Projects

- NCTCOG is working on the draft Business Plan due to FEMA by December 30th.

Other Program Related Efforts

Integrated Stormwater Management (iSWM) Subcommittee

The City of Corinth was awarded the silver iSWM designation. NCTCOG staff presented the Corinth City Council with a plaque and street sign designating their new iSWM status in October 2020.

Task Order 4 Update

- Draft Summary Pages will be available for review at the January Subcommittee meeting for the following tasks:
 - Task 2 – Reorganize/Re-evaluate Site Development Controls
 - Task 3 – Guidance on developing a regional detention program
 - Task 4 – Detention criteria guidance research
 - Task 5 – Re-evaluate 85th Percentile (1.5”) Rainfall Requirements
- Task 6: 5-Year Outreach and Implementation Strategy (High priority)
 - Part A – 2-hour training for design and maintenance of BMPs – Early December 2020
 - Part B – Outreach & Implementation Strategy
- Task 7: Provide details and specifications for water quality BMPs
 - Draft details and specifications will be available at the next subcommittee meeting

Next Meeting: January 13th at 1:30 p.m. Keep up with NCTCOG E&D meetings and events at: <https://www.nctcog.org/envir/events>

Questions about iSWM? Contact Sydni Ligons at sligons@nctcog.org or (817) 608-2360

Corridor Development Certificate Applications

As of October 1st, the following [changes to the CDC Program](#) went into effect:

CDC Cost Recovery Fees

- 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: (A) Within the 100-year and SPF effective flow areas or (B) Within a 100-year ineffective flow area but within the SPF effective flow area.
 - Previous Fee: \$5,750
 - **Updated Fee: \$6,000**

Model Maintenance Fee

- **New Fee: \$2,500**
 - This fee is to be paid when the applicant requests the LOMR from the community. The community will send the fee to NCTCOG for processing just like they do for the Cost Recovery Fee.

New Website

Members submit applications through the web portal, accessible at www.TrinityRiverCDC.com.
Resources for system users: [CDC Tracking System Guide](#)

Corridor Development Certificate Applications

Received Since Last FMTF Meeting:

- ▶ New CDC Applications
 - ▶ CAR 092120-1 Western Extrusions Expansion
 - ▶ **CAR 102120-1 Cotton Belt Regional Rail Design-Build***
- ▶ Technical Review Completed
 - ▶ GP 052020-1 Central Wastewater System Alternative Plant Access
- ▶ Final Action Forms - None

***Members - This application is within the 30-day community comment period. If you haven't already done so, please activate your Orchestly account to review and comment.** Please contact Mia Brown at mbbrown@nctcog.org or (817) 695-9227 for assistance.

Corridor Development Certificate Applications

The USACE has requested the CDC communities' assistance with updating their tracking sheet so that they can incorporate recent projects into the update of the CDC hydraulic model.

Please download the [CDC Tracking Chart](#) to view and make updates to your entity's CDC projects and email to Mia Brown at mbbrown@nctcog.org. We have only received one community's updates.

Roundtable



Next FMTF Meeting Date

Friday, January 15, 2021

9:30 a.m.

The meeting will be held virtually on Microsoft Teams.

Add to Calendar:

<https://www.addevent.com/event/DI5506005>

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