

# History of Flooding and Floodplain Management in North Texas

Texas Floodplain Managers Association, Fall Meeting, September 18-21, 2012 - Rockwall, TX |

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T. Lynn Lovell, PE, CFM, D.WRE – Halff Associates, Inc.

John Ivey, PE, CFM – Halff Associates, Inc.

Roy Sedwick, CFM – Executive Director, TFMA

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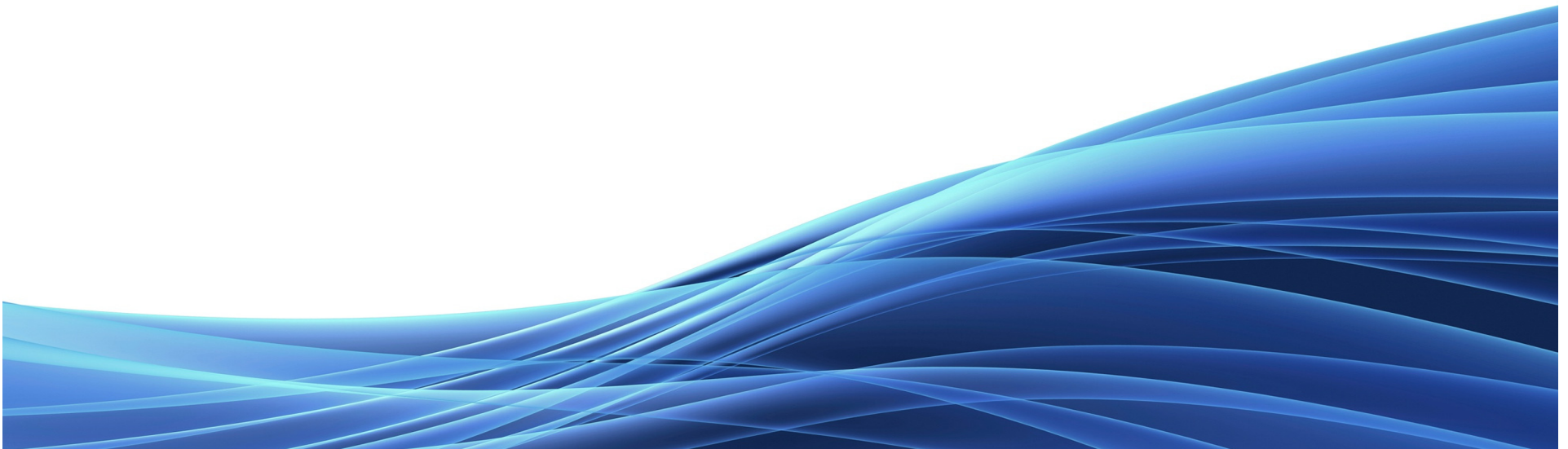
## **Part 1**

# **History of Floodplain Management in North Texas**

- History of Corps' Flood Plain Management Program
- Examples of Early Floodplain Maps/Recent Maps
- Conclusions

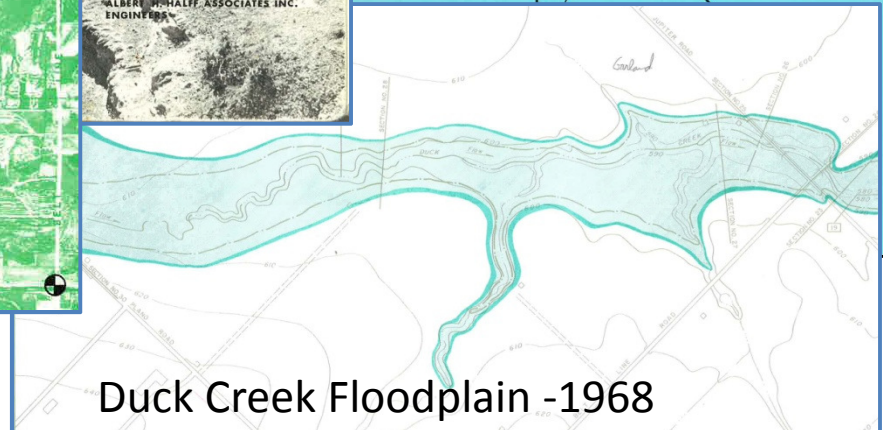
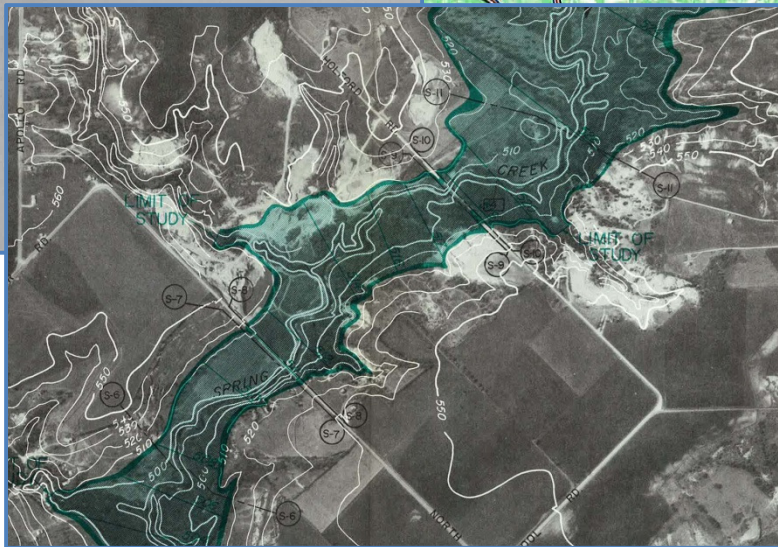
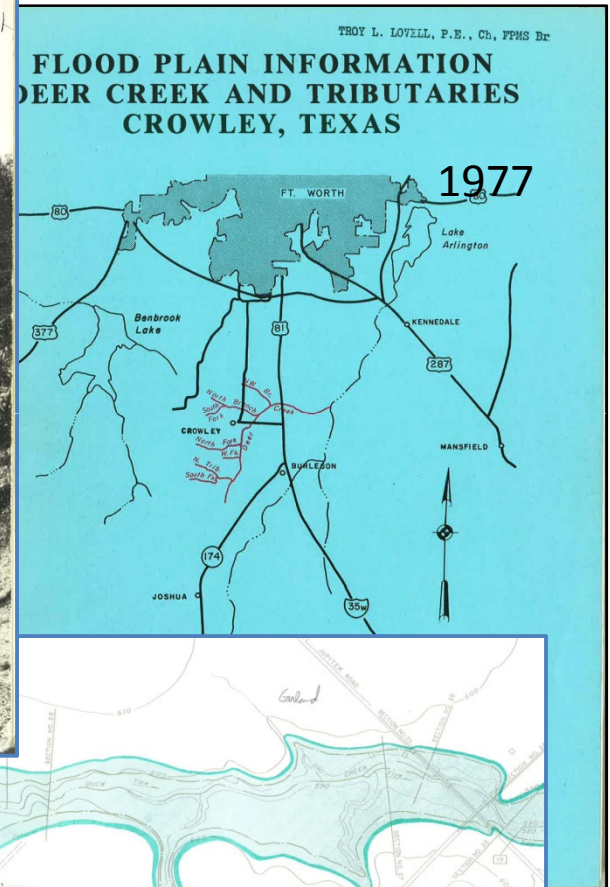
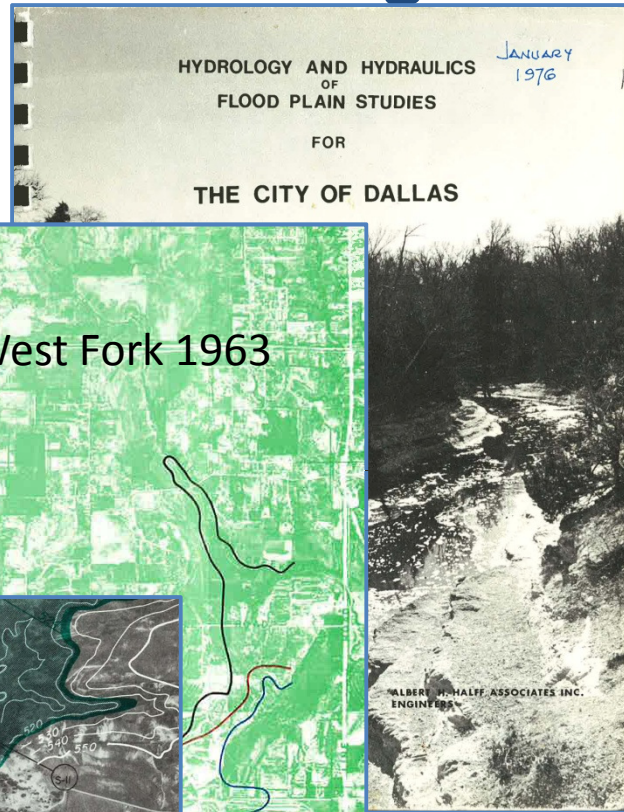
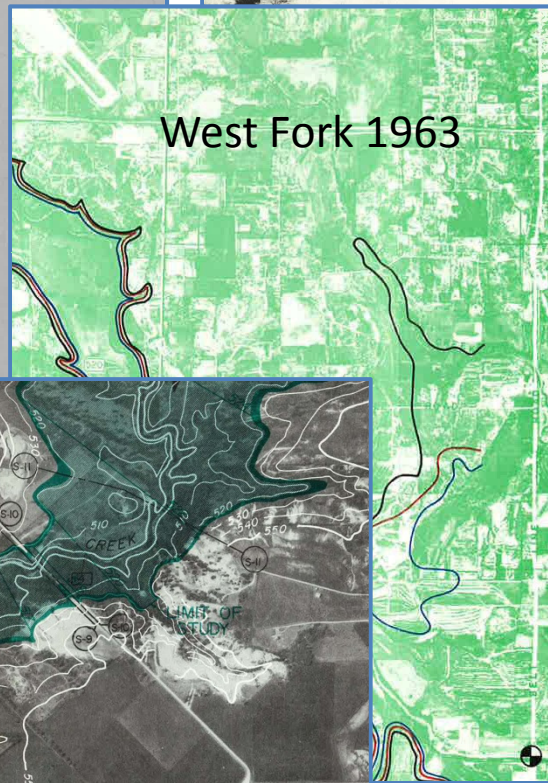
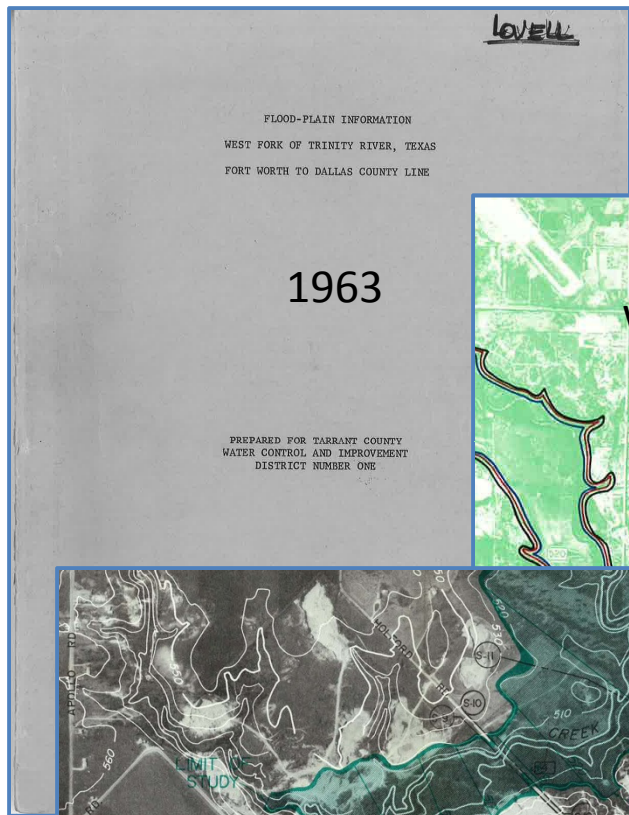
## **Part 2**

# **History of Flooding in North Texas**



# Part 1

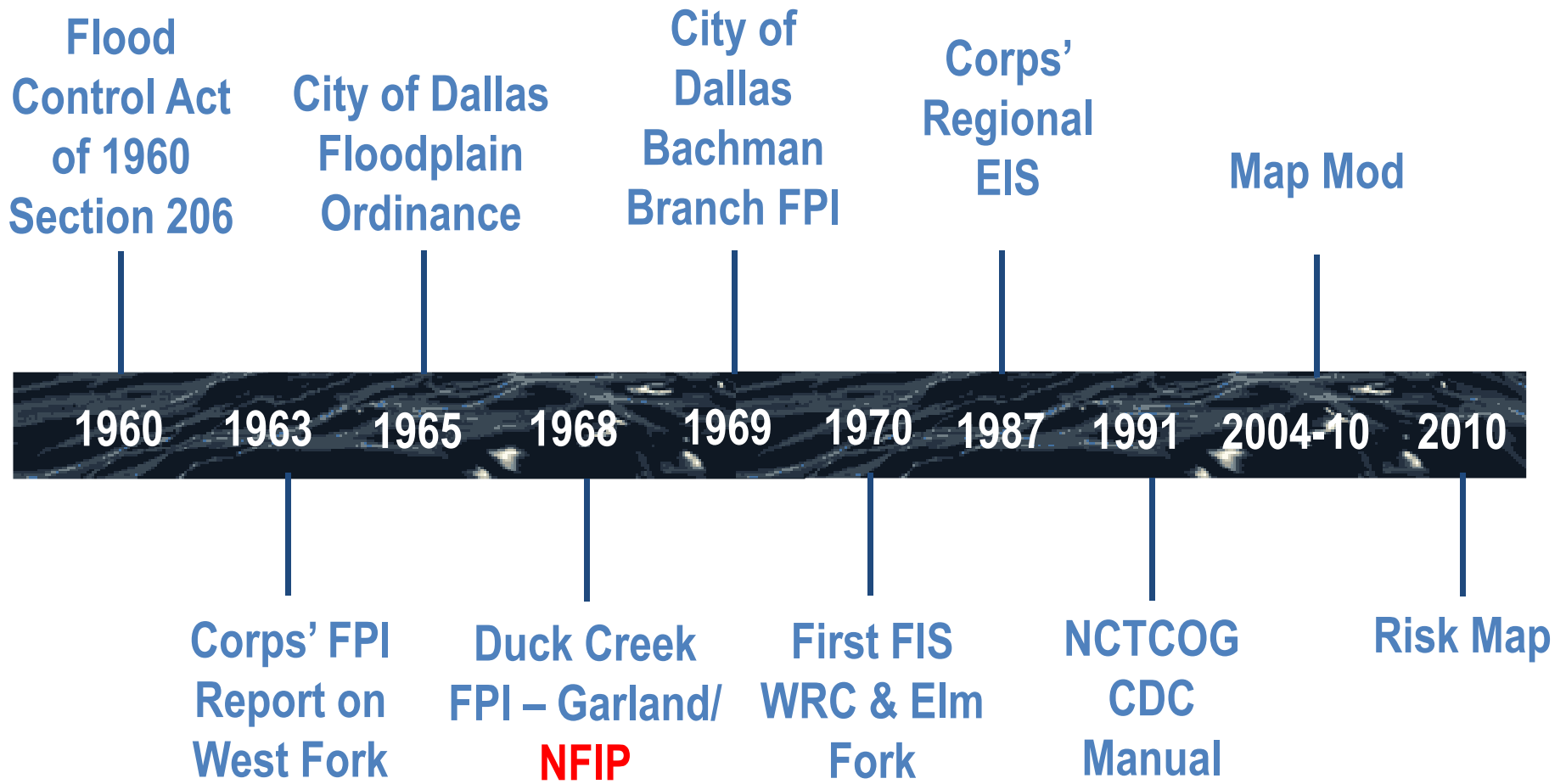
## History of Floodplain Management in North Texas



# First Example of “Turn Around Don’t Drown” in North Texas



# Time Line – Floodplain Management History North Texas



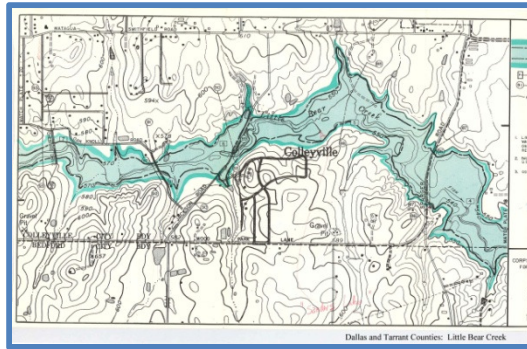
# Corps' Floodplain Information (FPI) Program

**Authority:**

**Public Law 86-645**

**Flood Control Act of 1960,**

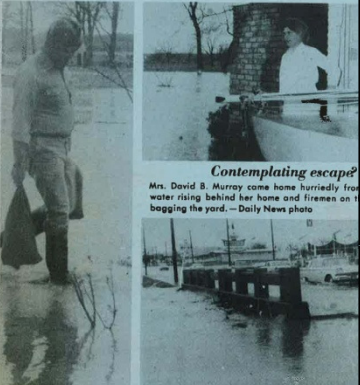
**Section 206**



# Examples of Floodplain Information (FPI) Reports

LOVELL

## FLOOD PLAIN INFORMATION RUSH AND VILLAGE CREEKS ARLINGTON, TEXAS



**Contemplating escape?**  
Mrs. David B. Murray came home hurriedly from water rising behind her home and firemen on bagging the yard. — Daily News photo

**No fires here**  
Through rising water a fireman carries sandbags to prevent flooding. — Daily News photo

**Where's the creek?**  
The bridge over Johnson Creek on Abram Street in many places where water went far outside the creek yesterday's rain. — Daily News photo.

PREPARED FOR  
THE CITY OF ARLINGTON, TEXAS

BY  
CORPS OF ENGINEERS, U. S. ARMY  
FORT WORTH, TEXAS, DISTRICT

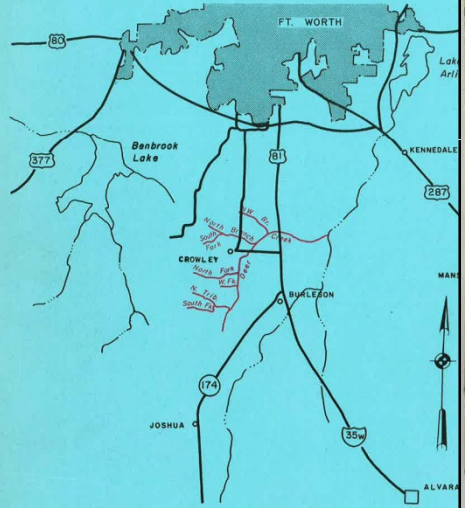
FEBRUARY 1971

FLOOD PLAIN INFORMATION, RUSH AND VILLAGE CREEKS, ARLINGTON, TEXAS, OCTOBER 1971

LOVELL

TROY L. LOVELL, P. E., Ch., FPMS Br

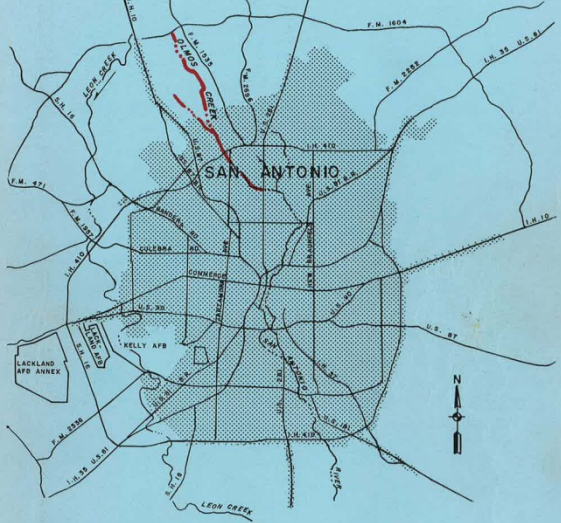
## FLOOD PLAIN INFORMATION DEER CREEK AND TRIBUTARIES CROWLEY, TEXAS



PREPARED FOR  
THE CITY OF CROWLEY, TEXAS  
BY  
CORPS OF ENGINEERS U.S. ARMY  
FORT WORTH, TEXAS, DISTRICT  
OCTOBER 1977

Lovell

## FLOOD PLAIN INFORMATION OLMOS CREEK SAN ANTONIO, TEXAS



PREPARED FOR  
THE CITY OF SAN ANTONIO  
&  
THE SAN ANTONIO RIVER AUTHORITY  
BY  
CORPS OF ENGINEERS, U S ARMY  
FORT WORTH, TEXAS, DISTRICT  
FEBRUARY 1972



## Section 206 – FPM Program - 1960

1. Compile and disseminate information on floods and flood damages
2. Identification of areas subject to inundation by floods
3. Guidance in the use of floodplain areas
4. Provide engineering advice for planning to ameliorate the flood hazard
5. Request of a State or a responsible local government.



## Corps' Floodplain Information (FPI) Reports in Texas

1. West Fork of the Trinity River (1963) – 1<sup>st</sup> in Texas, Corps prepared for TRWD
2. Floodplain Information (FPI) Reports, Special Flood Hazard Information, and Expanded Floodplain Information (XFPI) Reports.
3. Over 100 TX studies were completed in a 15 year period (1963-1979 +/-). 38 in No.TX



## FPI Report Contents

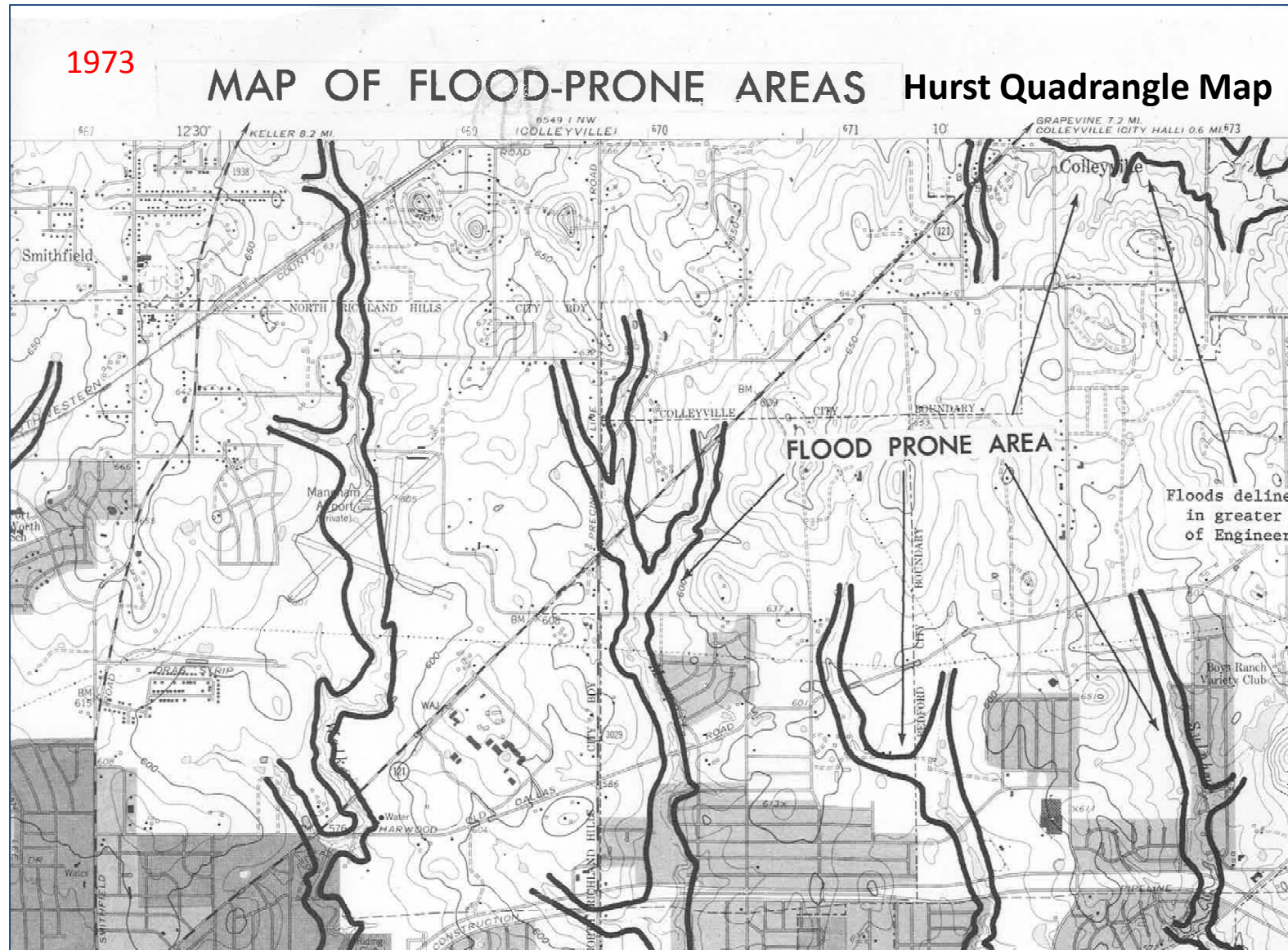
1. History of past floods, include HWM and photos
2. Description of hydrologic and hydraulic studies
3. Discussion of floodplain management principles
4. Floodplain maps, profiles, cross sections and hydrographs.

# Additional Features of FPI Reports

- Small brochure was also printed
- Photographs of local landmarks to relate flood elevations



# USGS Flood Prone Area Maps – Early 1970s

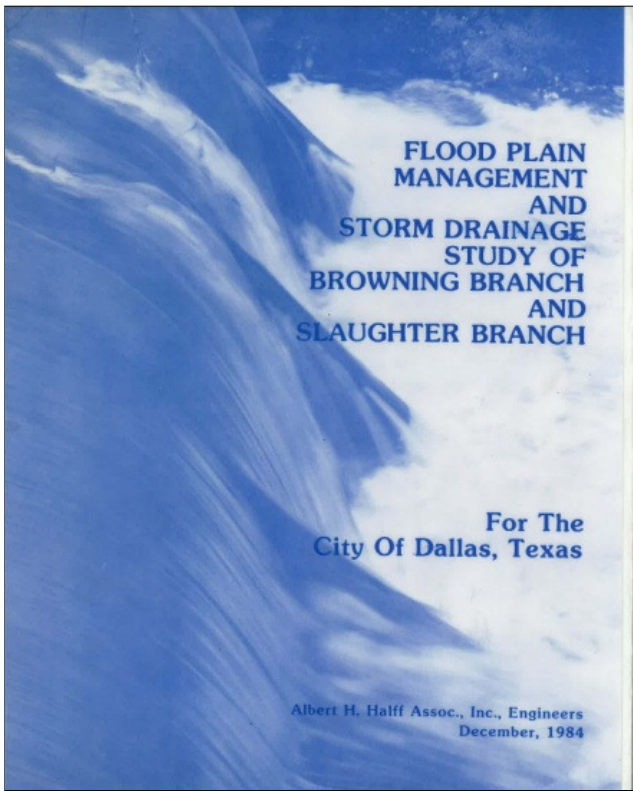
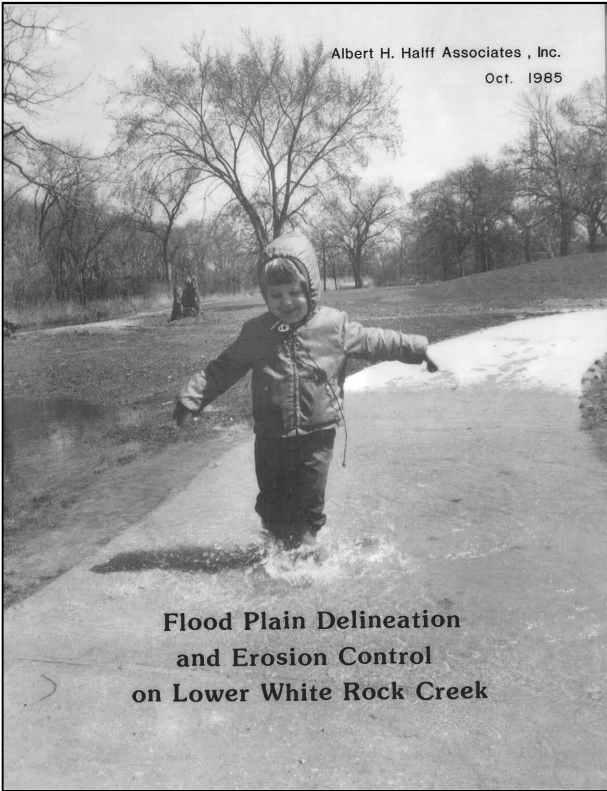
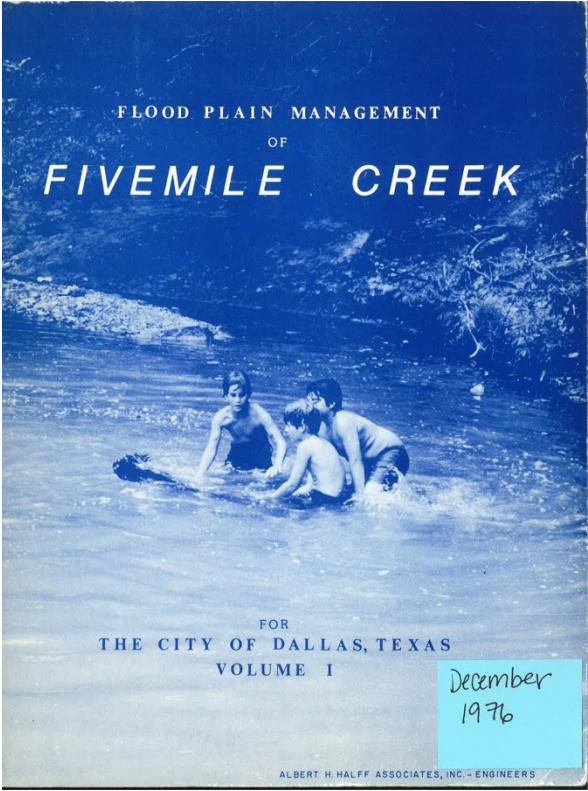




## Some City of Dallas FPM History

- 1910 – George Kessler Plan – Floodplains for Open Space/Parkways, Turtle Creek
- March 1965 – Adopted Stormwater Ordinance With Floodplain Zoning
- 1969 – Bachman Branch Study, 1<sup>st</sup> Floodplain Management/Delineation/Alternatives
- 1972 – Strengthened Ordinance – Preserve the hydraulic capacity of streams, no rise in 100-year

# City of Dallas Floodplain Management Reports

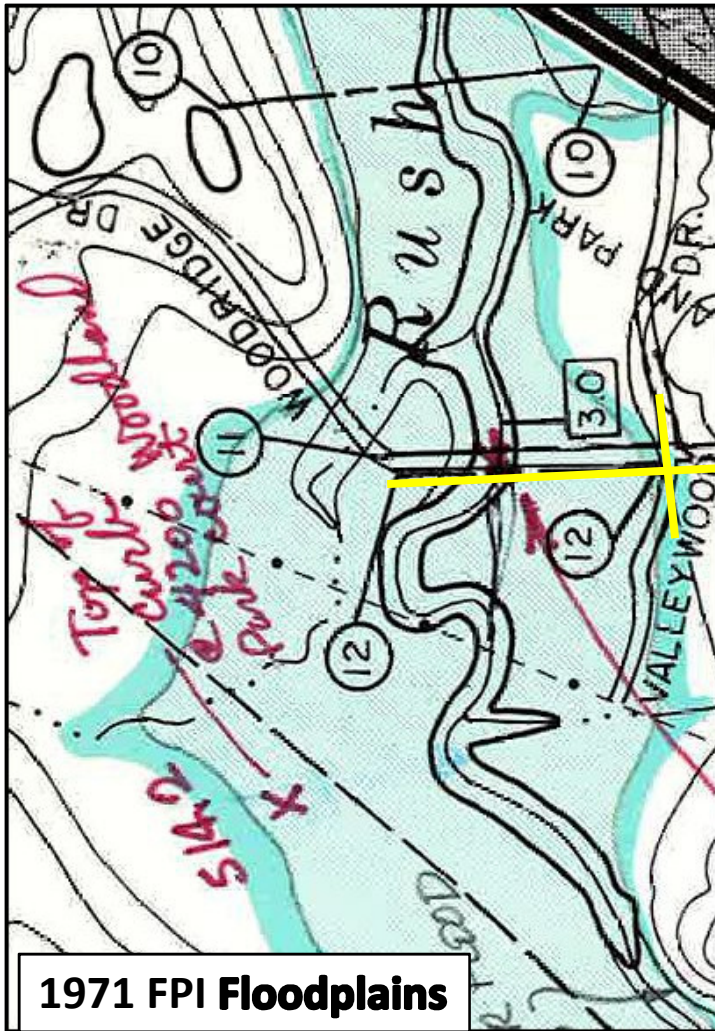




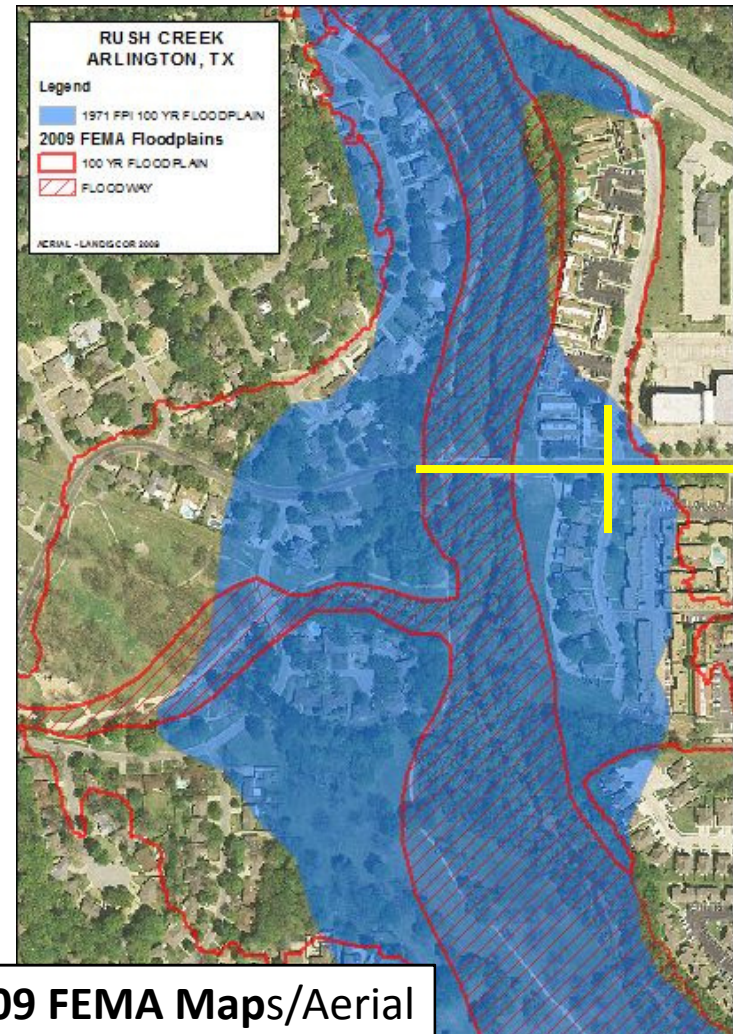
# Floodplain Information Reports

EXAMPLES OF FLOODPLAIN MAPPING

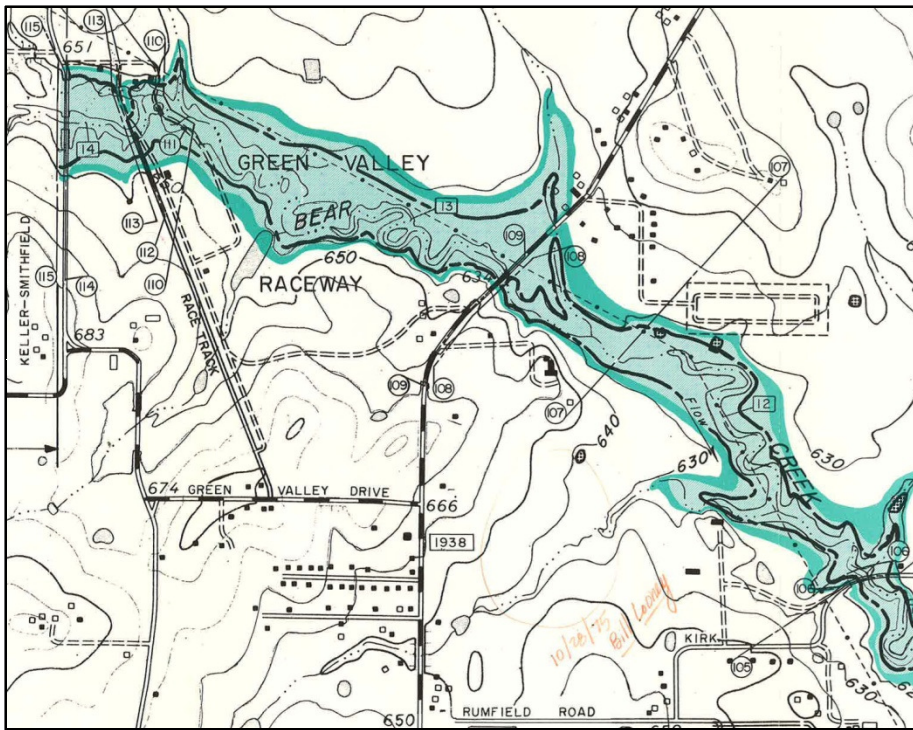
# Example Maps - Rush Creek in Arlington, Texas – 1971 to 2009 Mapping



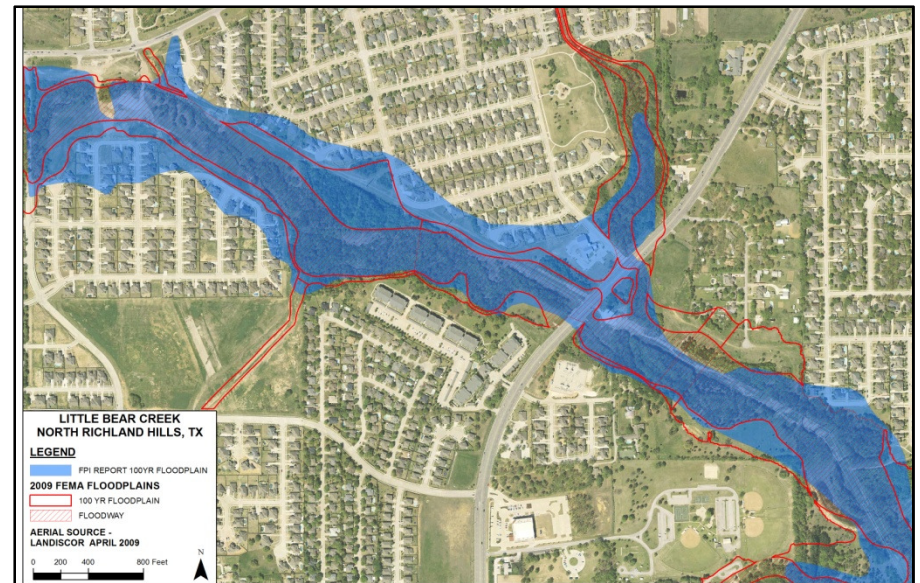
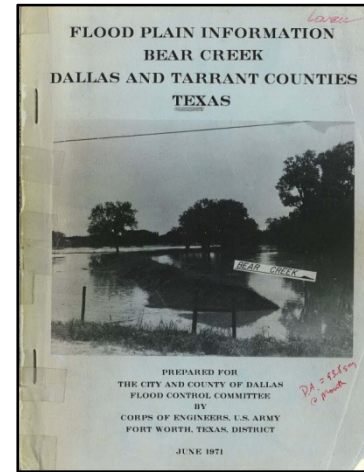
Note:  
Channelization



# Little Bear Creek – North Richland Hills

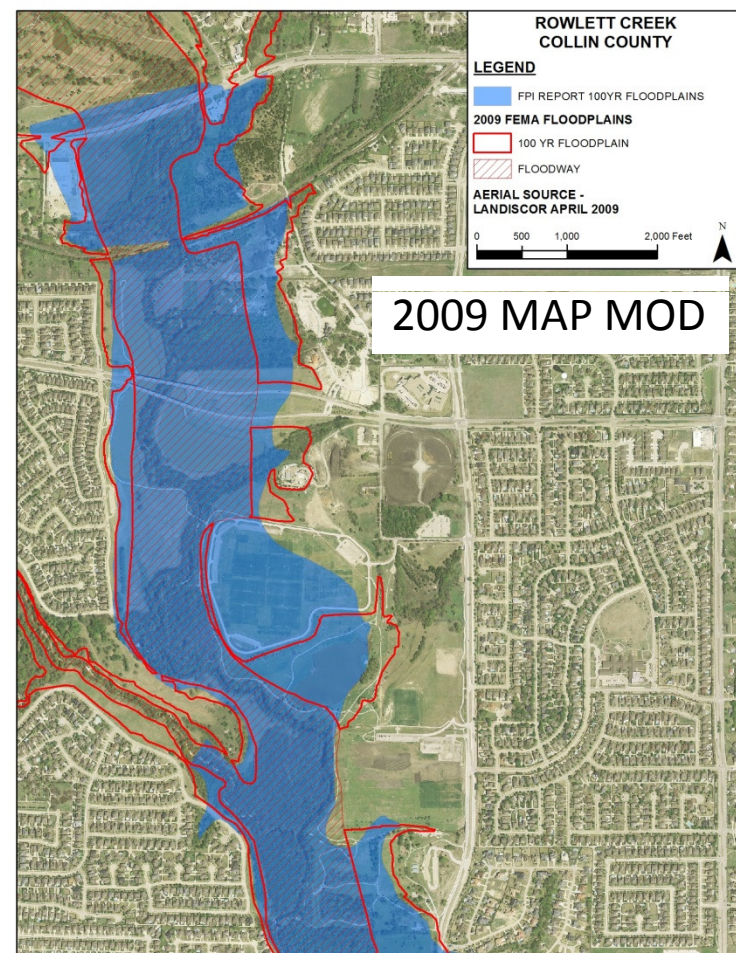
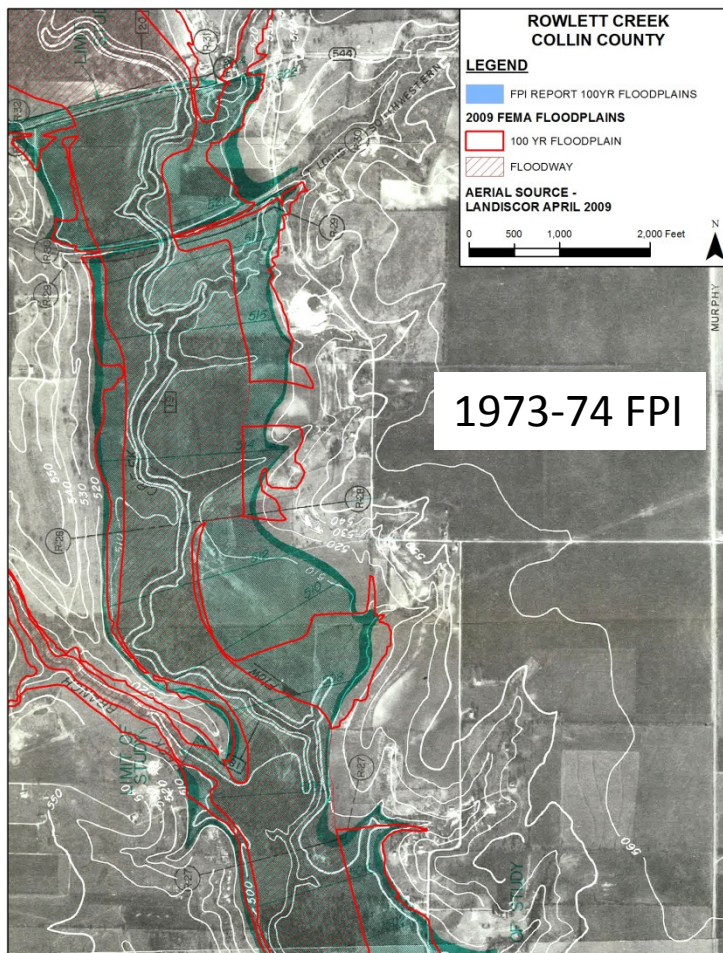


1971 FPI



2009 FEMA Map Mod

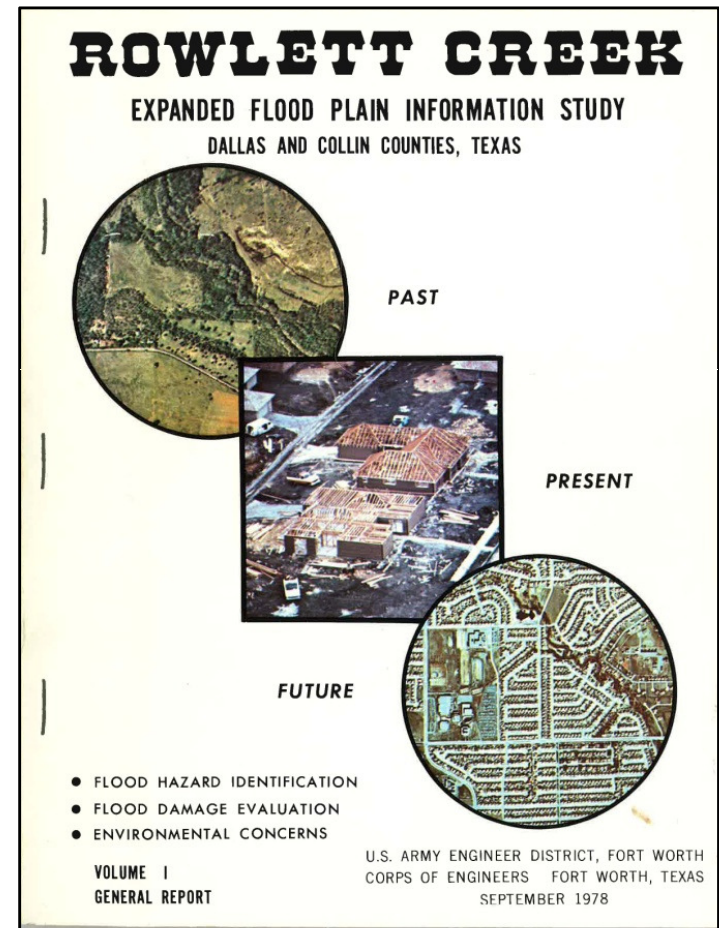
# Spring Creek, Dallas/Collin Counties, Texas (note intense urbanization, but lack of floodplain development, i.e. GOOD FPM!)



# Rowlett Creek, Dallas/Collin County, Texas

1. Two Part Study in 1973-74

2. 1978 – XFPI Report →





## Conclusions for Part 1 - FPM

1. Generally, the historical floodplain information in north Texas has been utilized by communities to protect development from flood hazards.
2. Urbanization of watersheds had a major impact upon the increase in projected flood levels over time, especially in last 50 years.



## Conclusions

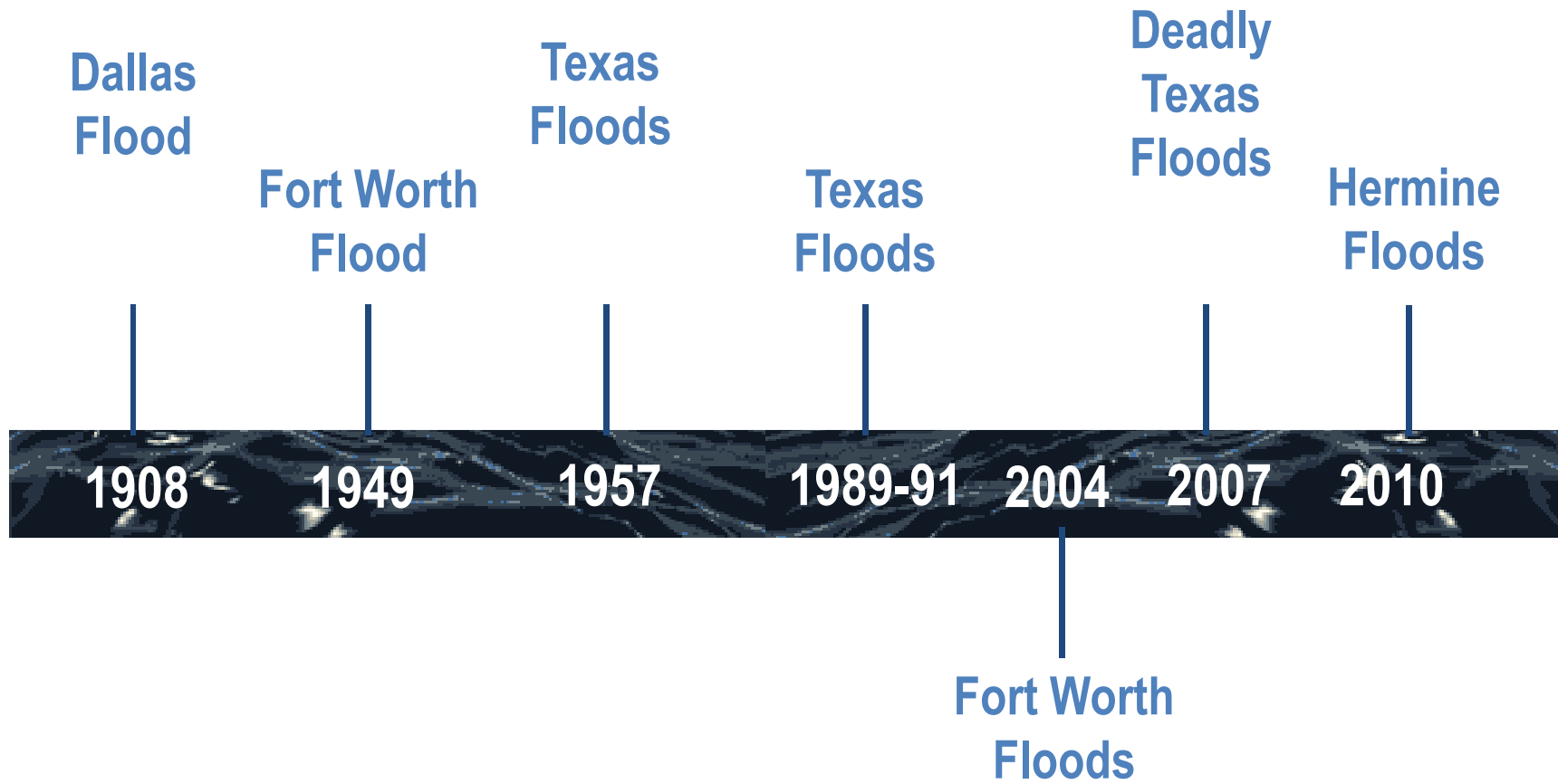
3. In some of the floodplains, flood disasters have occurred despite the available floodplain information.
4. It is noteworthy that in most examples where a “FEMA” floodway was developed in the 1970’s and 1980’s, it is rare to find buildings in the floodway area.

# Part 2

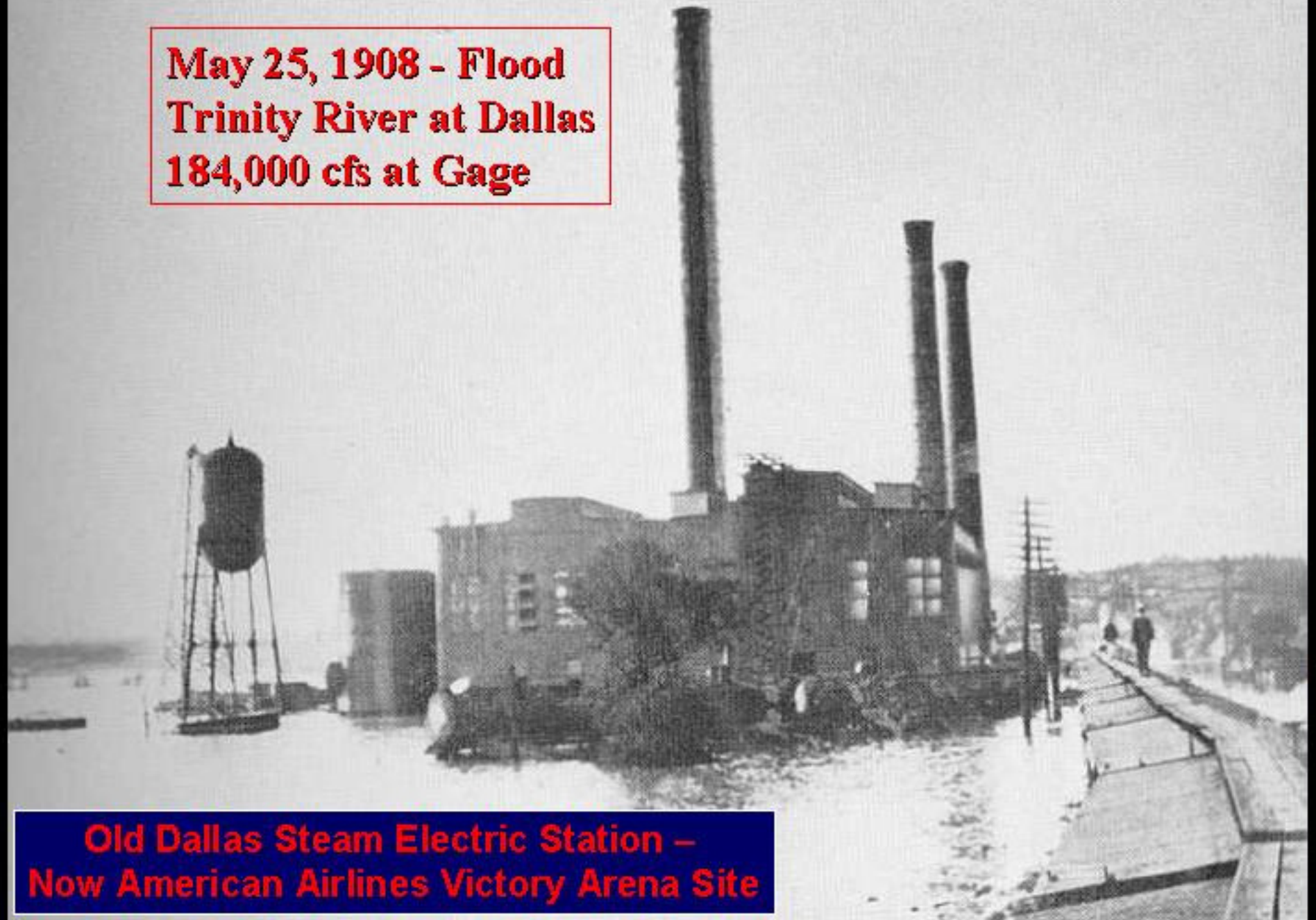
## History of Flooding in North Texas



# Time Line – Flood History North Texas



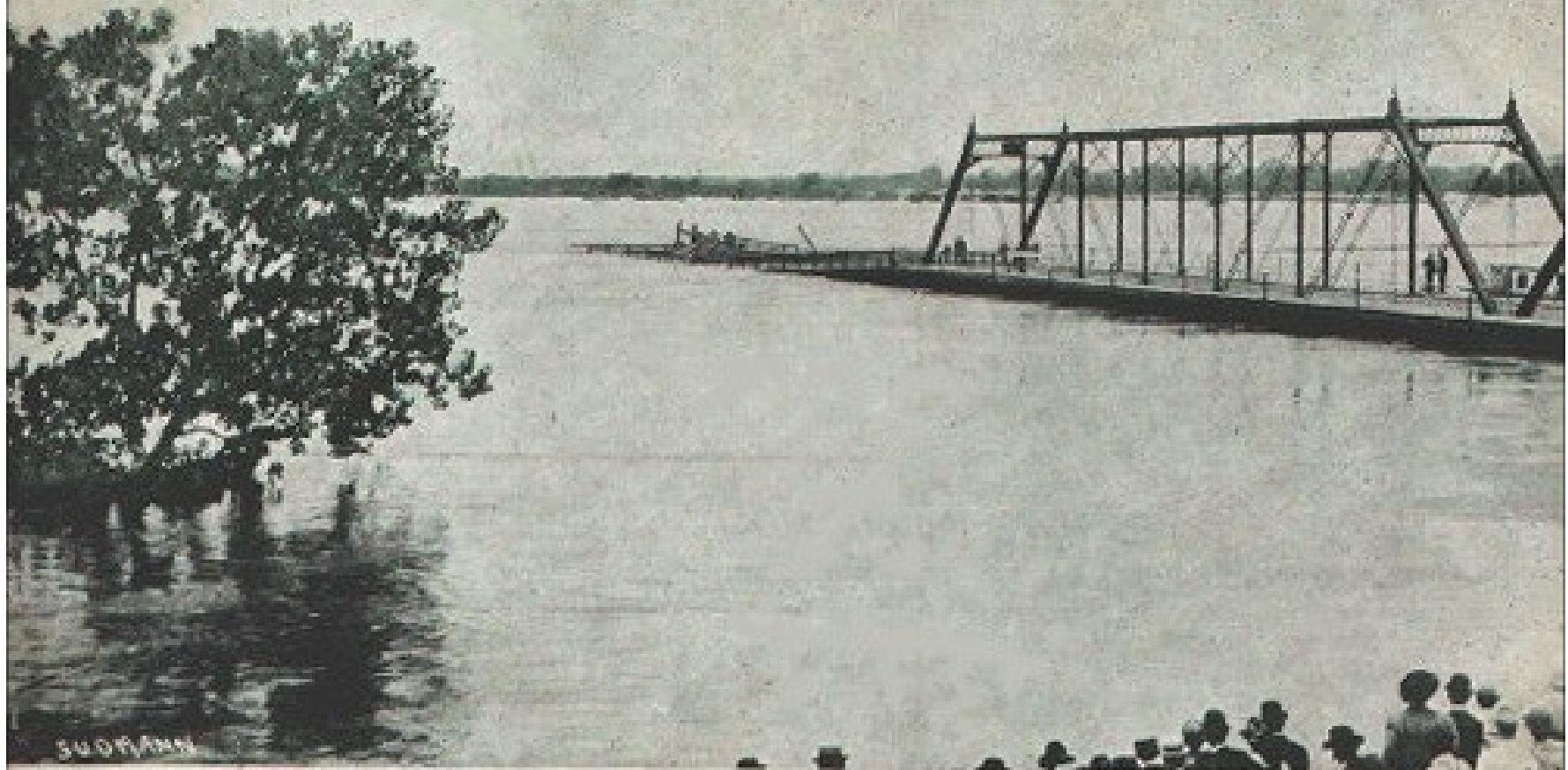
**May 25, 1908 - Flood  
Trinity River at Dallas  
184,000 cfs at Gage**



**Old Dallas Steam Electric Station –  
Now American Airlines Victory Arena Site**



## MAY 1908 FLOOD - DALLAS



SUORANN

South side of Commerce St. Bridge. Taken from East bank of River.—Dallas, May 25, '08

**This photo from Dallas Observer website**

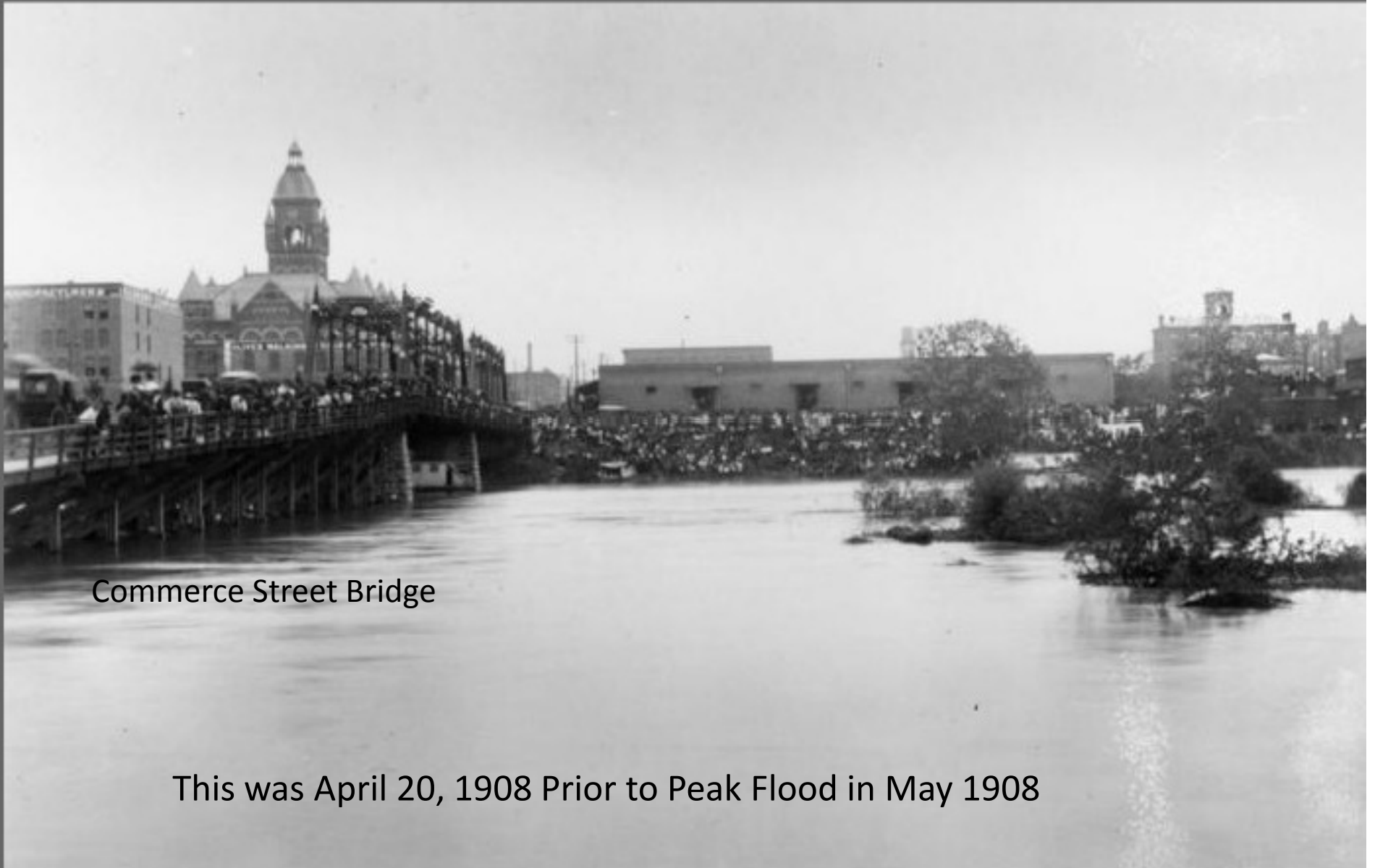
# The Great Flood of 1908

Credit: Dallas Morning News Archives



# The Great Flood of 1908

Credit: Dallas Morning News Archives



Commerce Street Bridge

This was April 20, 1908 Prior to Peak Flood in May 1908

**Fort Worth or Bust!**



**Lots of People Left Dallas in 1908!**



**Marine Creek – 1938 Flood At Stockyards**

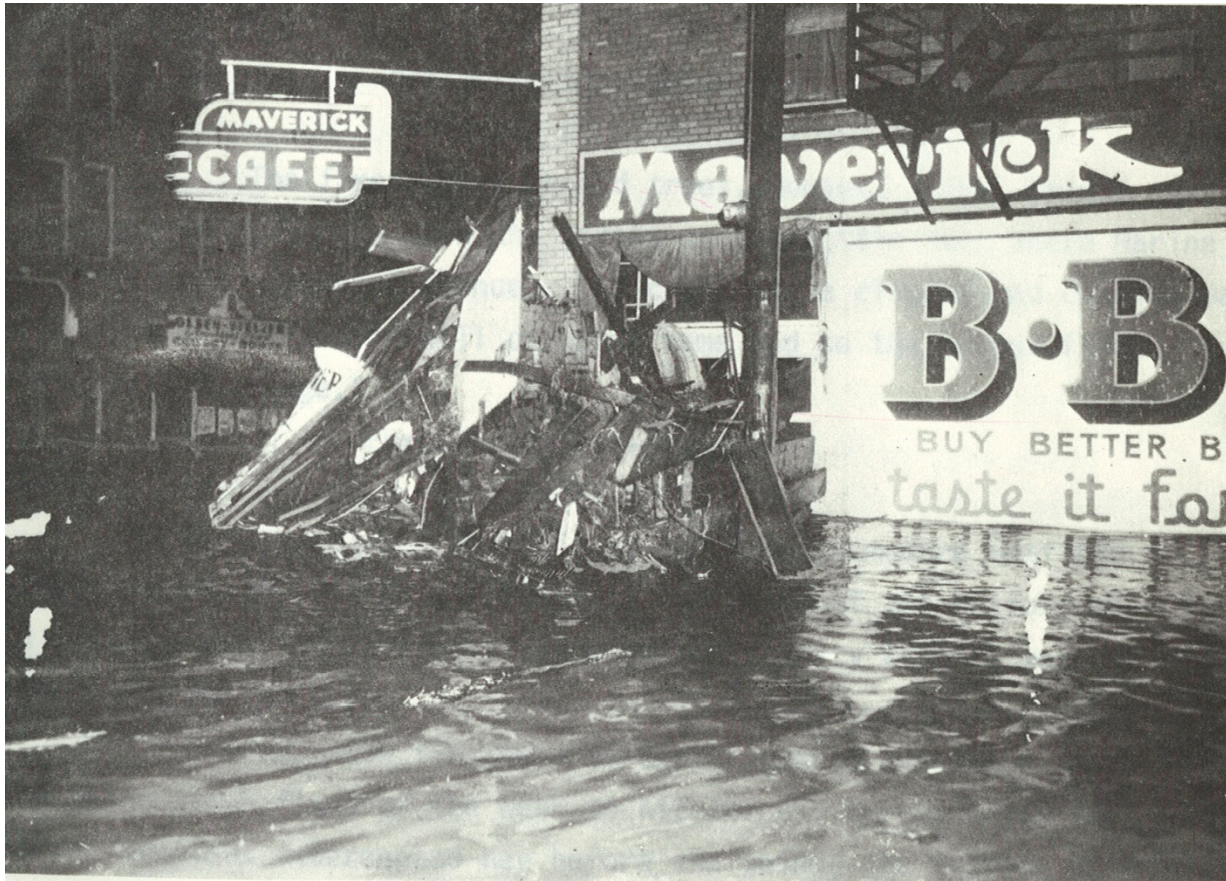


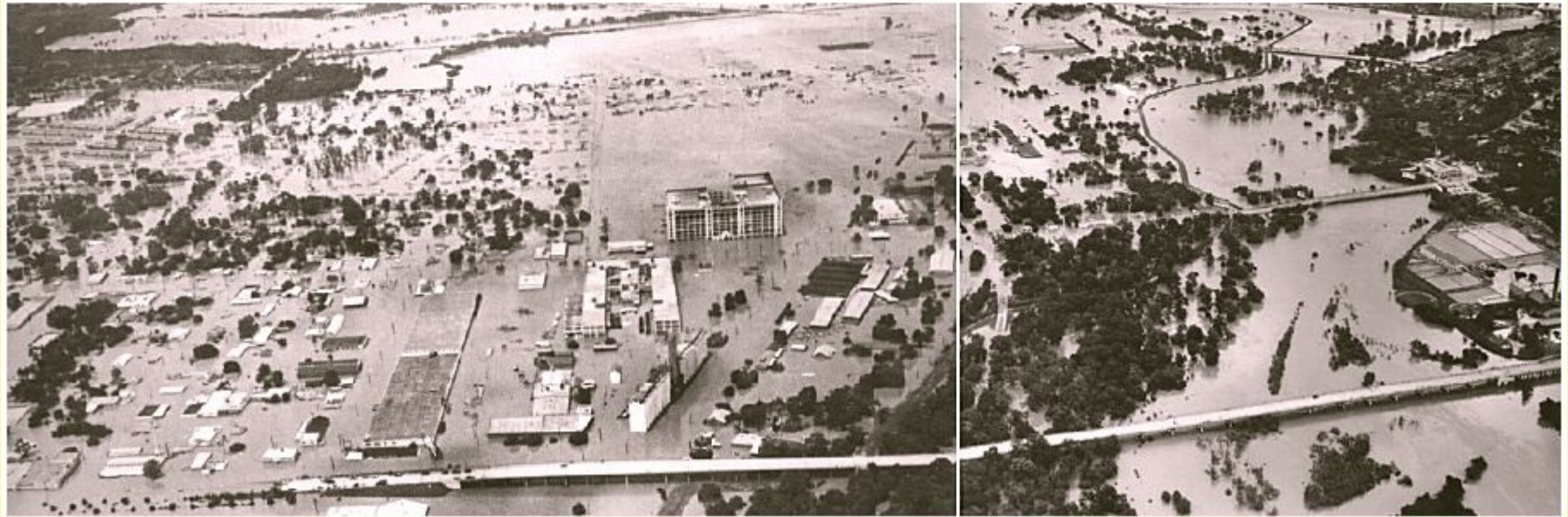
Figure 1.--FLOOD SCENES ON MARINE CREEK

Upper photograph shows damaging results of April 1942 flood in hardware store on North Main Street. Lower picture shows debris piled up near East Exchange Avenue and North Main Street after April 1942 flood. (Photos courtesy of Fort Worth Star-Telegram.)

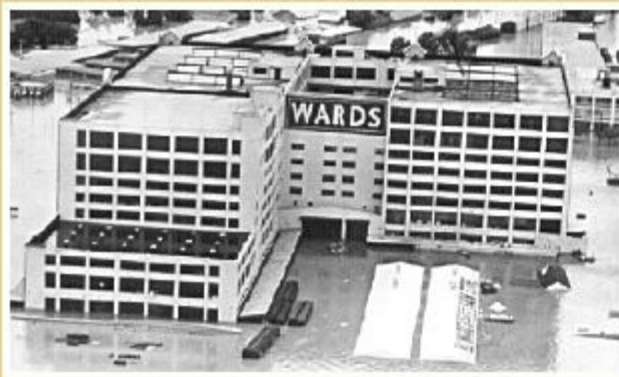
## Marine Creek – 1942 Flood At Stockyards

Fort Worth  
...the way  
we were.

## Trinity flood of May 17, 1949 covered most of near west side



From the Jack White Collection of Historic Fort Worth Photos, University of Texas at Arlington



Between 6 p.m. May 16 and 3 a.m. May 17, 11 inches of torrential rain fell on the watershed of the Clear Fork of the Trinity River west of Fort Worth. Fort Worth residents found when they awoke on May 17 that the levee system had been breached and much of the town was under water. Ten lives were lost and more than a million dollars damage was done in Fort Worth. In the panorama above assembled from two National Weather Service photos, the Lancaster bridge is seen at bottom. At far right, the Holly Water Treatment Plant fortunately survived with a higher levee, so the city water supply was not interrupted. At top center and left, the huge Montgomery Ward store on West Seventh was inundated with water so deep that it reached the second floor. The 1949 flood was undoubtedly the greatest flood in Fort Worth history, surpassing the floods of 1908 and 1922. The flood resulted in the construction of Lake Benbrook and a channelization program of the river by the Corps of Engineers.



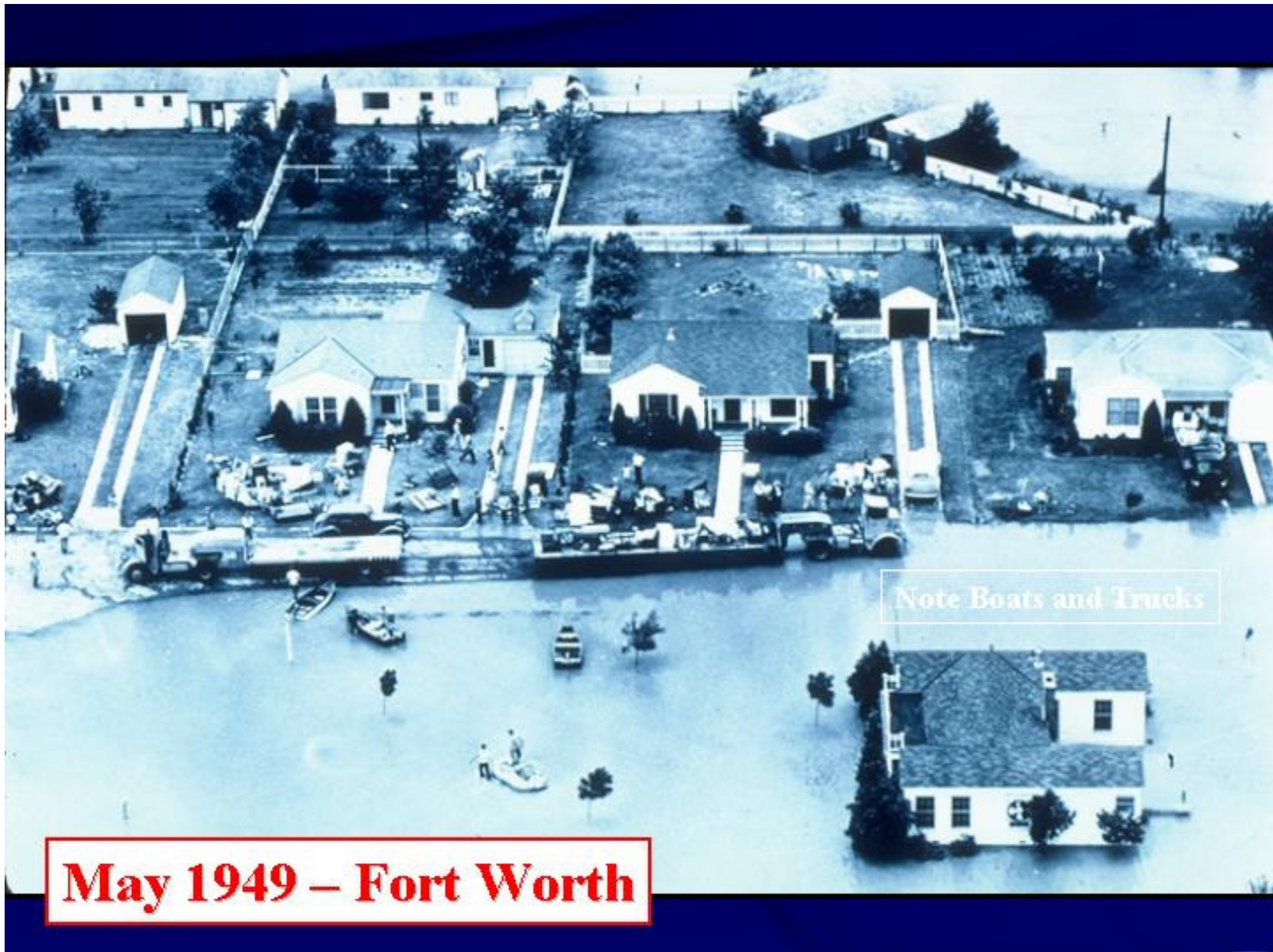
**1949 Flood at 7<sup>th</sup> Street Traffic Circle**



**May 1949 – Fort Worth**

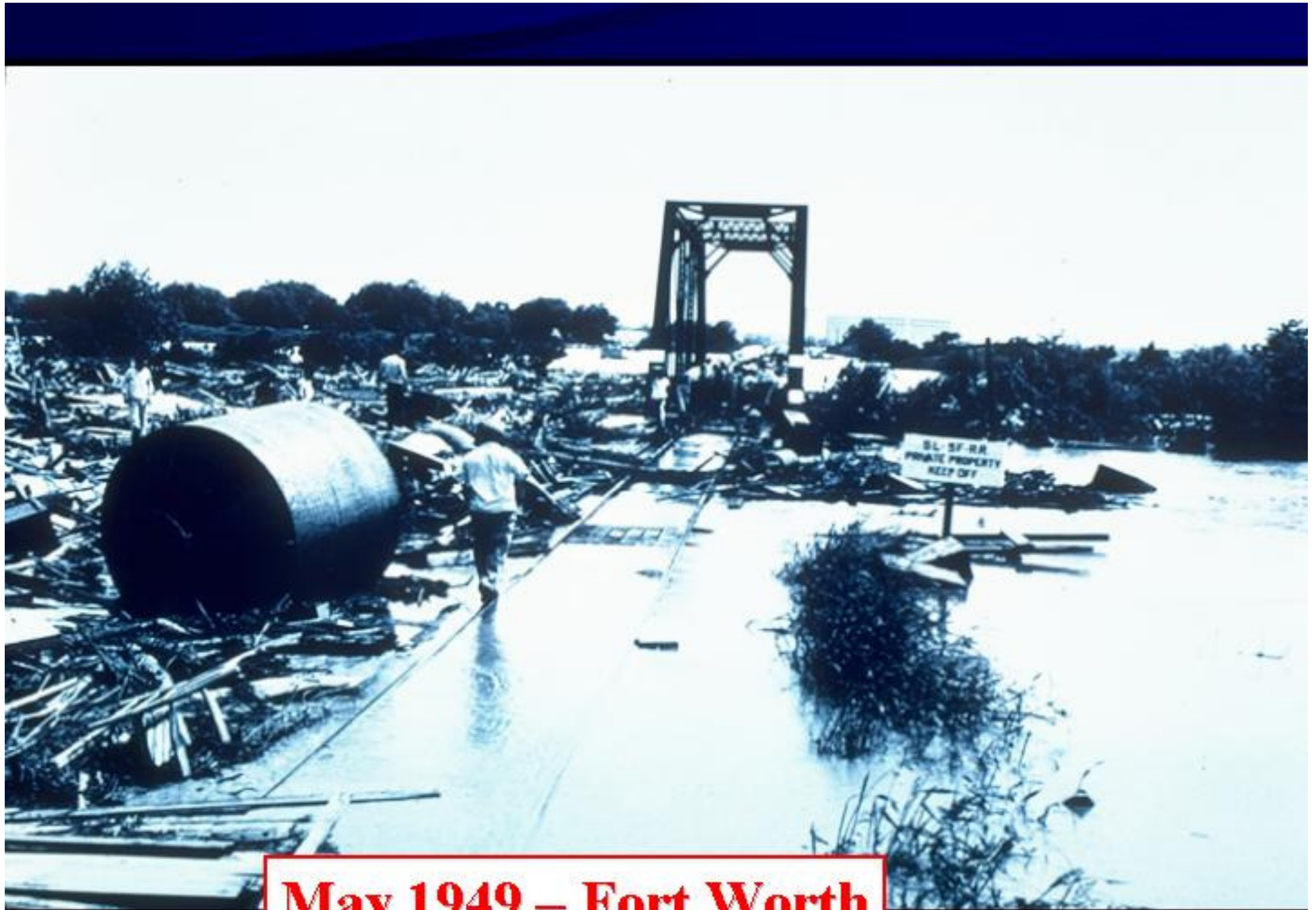


**May 1949 – Fort Worth**



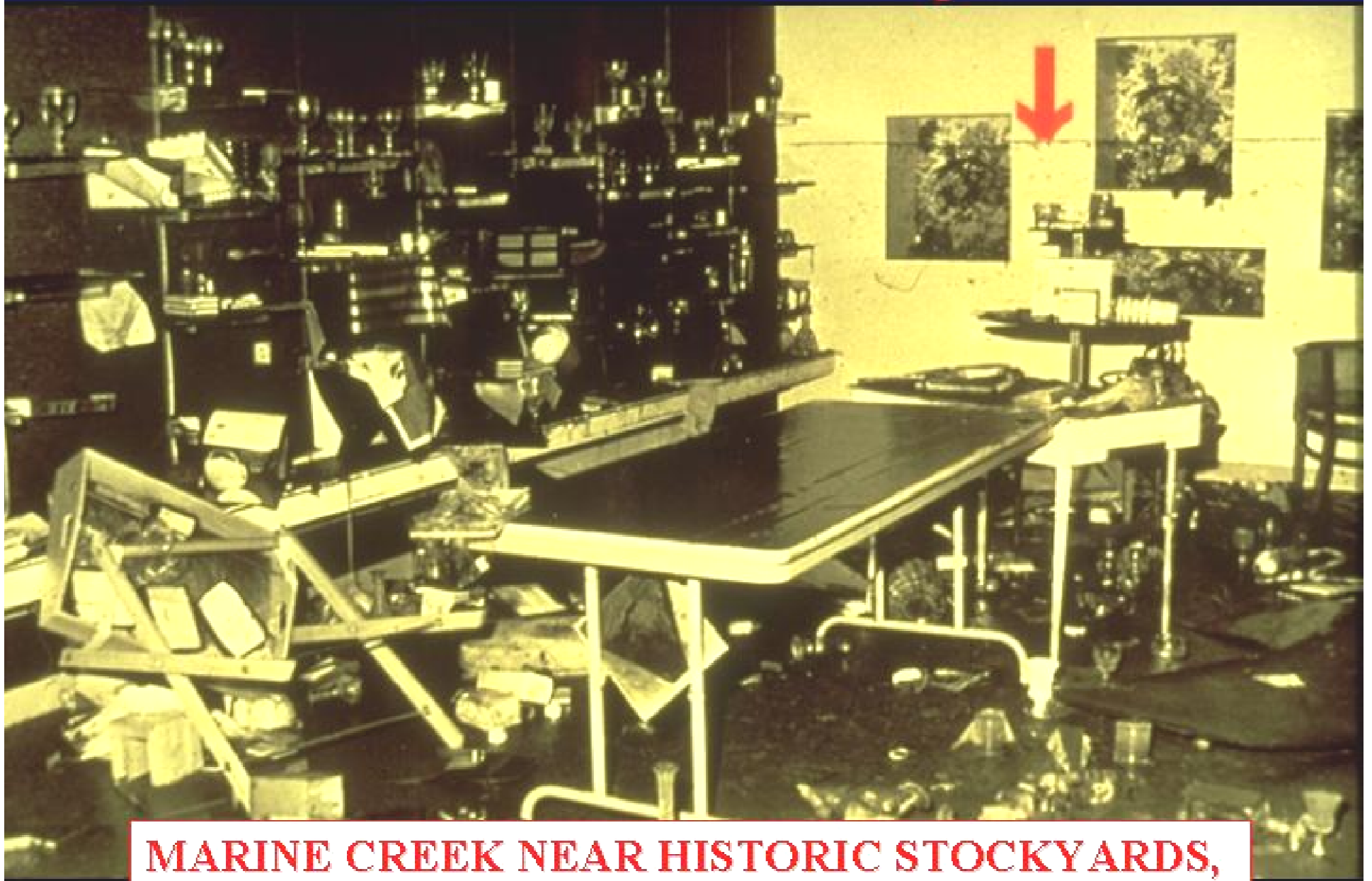
Note Boats and Trucks

**May 1949 - Fort Worth**



**May 1949 – Fort Worth**

High Water Mark



**MARINE CREEK NEAR HISTORIC STOCKYARDS,  
FORT WORTH, TEXAS – PROBABLY 1949**



**May 1949 – Fort Worth**

**AFTER THE 1949 FLOODS PEOPLE SAID...**



Dallas or Bust

**Let's Move Back to Dallas!**

## **Big Fossil Creek, April 1957 – Richland Hills, Tx**

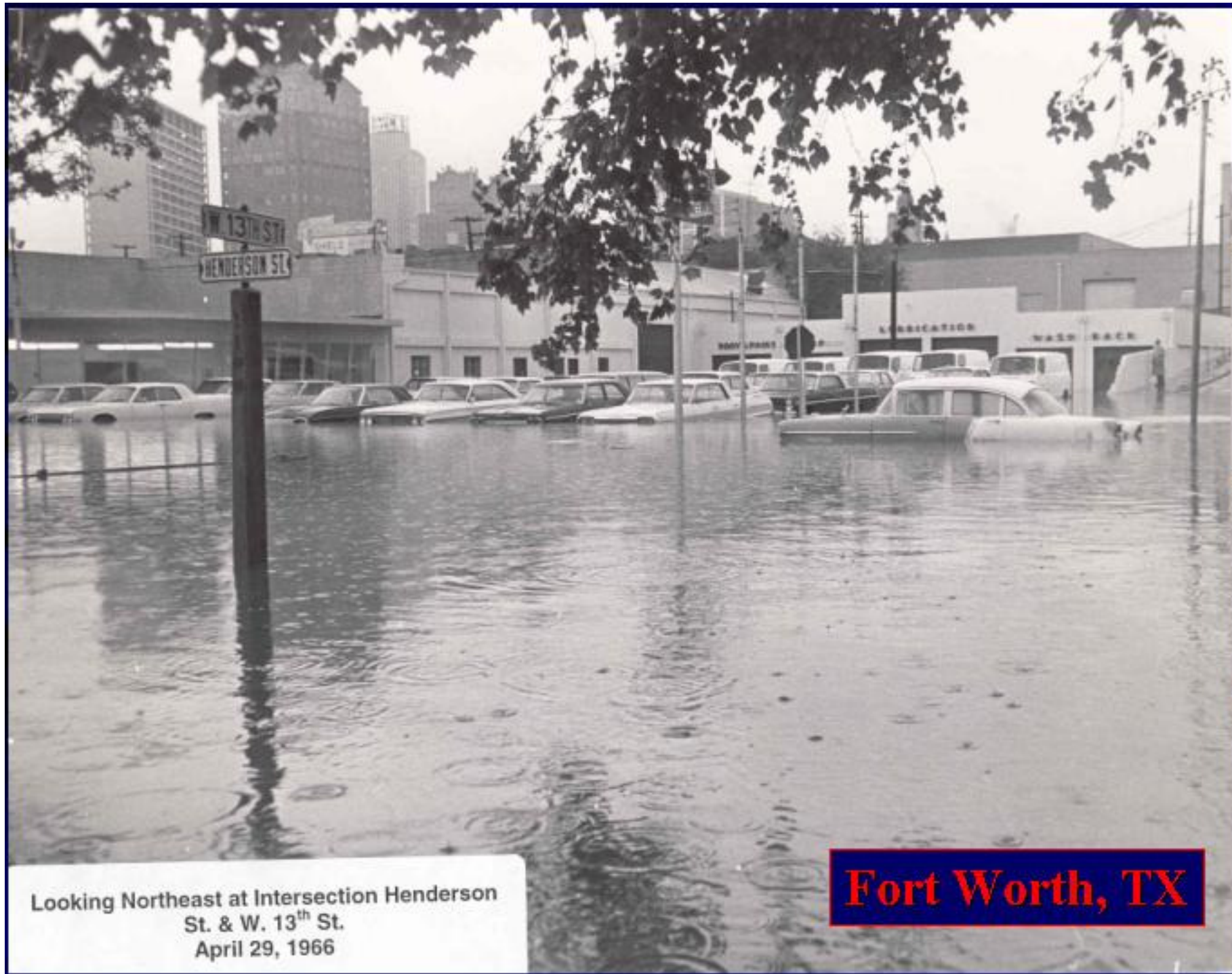


**Floods recorded here in 1900, 08, 22, 32, 42, and 49. Subdivision developed in 54, flooded in 57, 59, 61 and three times in 62. Protection project costing \$2.1 million initiated in mid 64.**

**Village Creek at  
Mansfield Highway  
1957**

Note cheap gas!





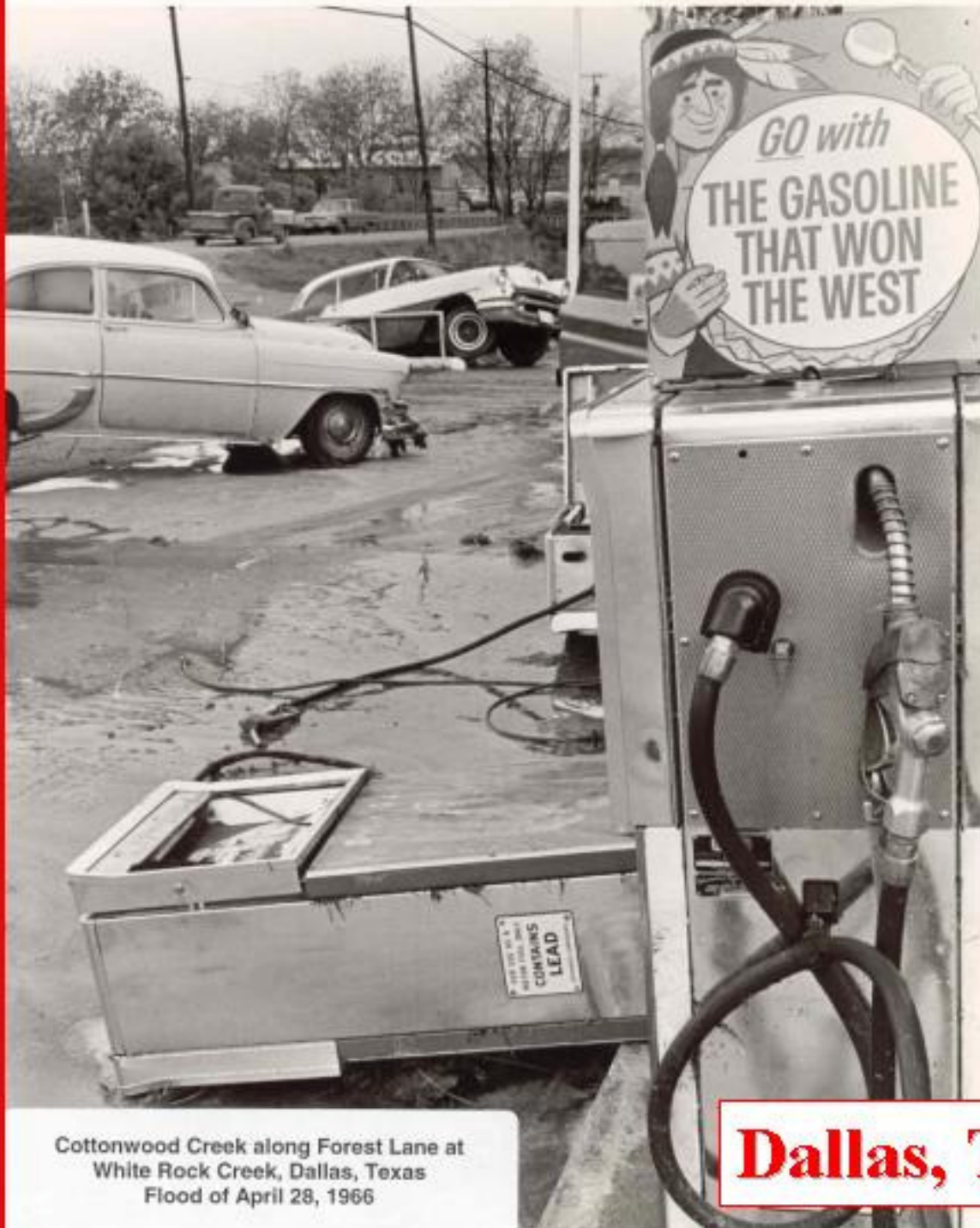
Looking Northeast at Intersection Henderson  
St. & W. 13<sup>th</sup> St.  
April 29, 1966

**Fort Worth, TX**



Looking Southeast along  
2500 Block of Eighth Avenue  
April 29, 1966

**Dallas, Texas - 1966**



Cottonwood Creek along Forest Lane at  
White Rock Creek, Dallas, Texas  
Flood of April 28, 1966

**Dallas, Texas - 1966**

White Rock Creek  
Texas & New Orleans R.R. below Scyene Road  
Dallas, Texas  
Flood of April 28, 1966

**Dallas, Texas - 1966**



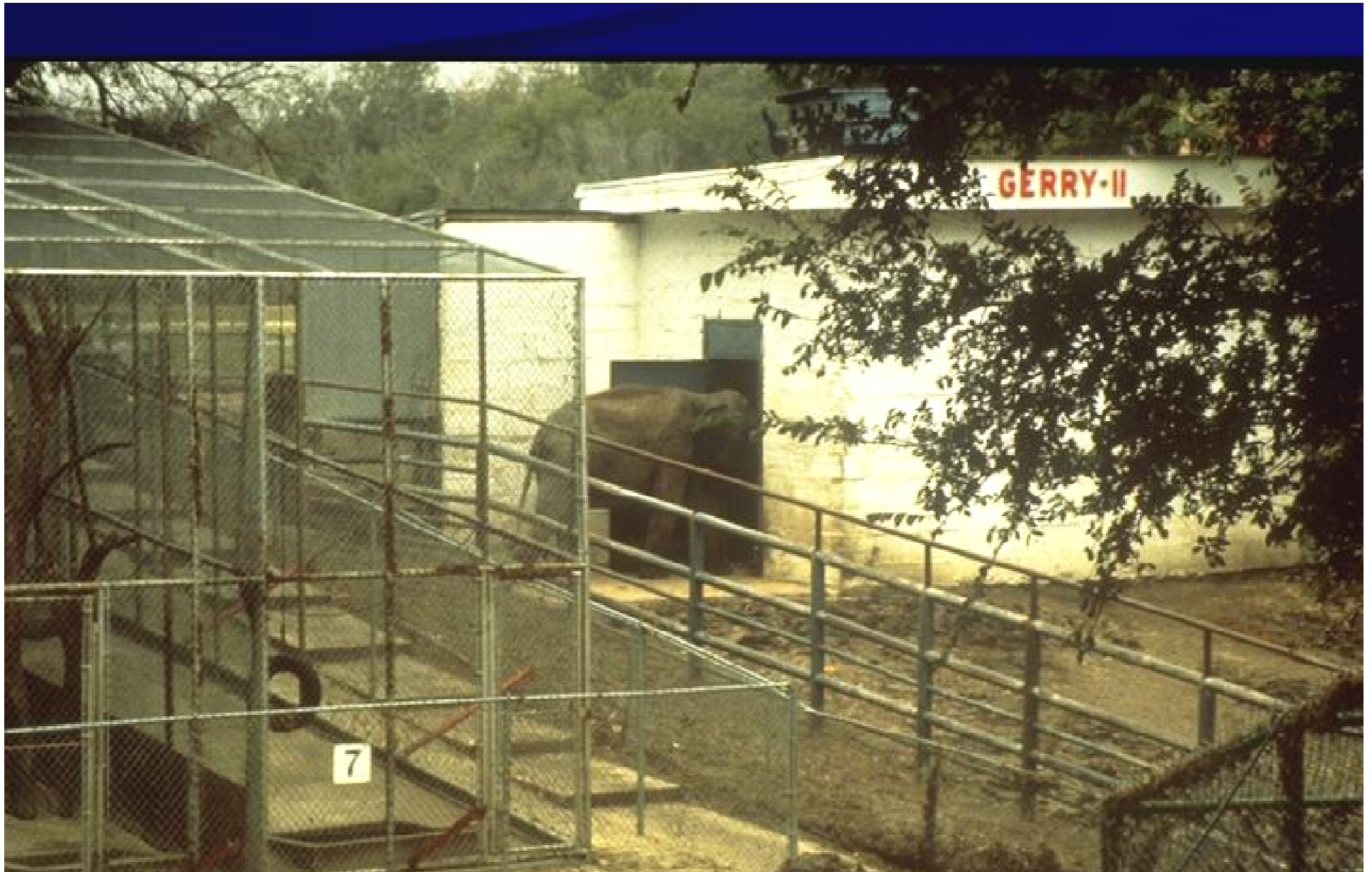


## **Bachman Creek, April 1966 – Dallas, Tx**

FIGURE 25.—Flood damage on Bachman Branch. Peak marks can be seen on curtains. Photograph by Dallas Morning News



**Elm Fork of Trinity River – Gainesville, TX - 1981**



**Elm Fork of Trinity River – Gainesville, TX - 1981**

# Probably 1981 Flood on Mountain Creek/West Fork (Photo by Jose Novoa)



**Pflash Floods - Grand Prairie**

**1989 – 1991**

**Three Wettest Years on  
Record**



**1989 or 1990**



**West Fork of Trinity River – Grand Prairie, TX**



**West Fork of Trinity River - Grand Prairie, TX**

# VILLAGE CREEK AT KENNEDALE

## TEXAS STORMS



BRN  
MAY  
111  
111  
8-8  
RO  
LE  
LE  
LE  
111  
8-4  
LO  
111  
F-1  
8  
-1  
1

Floodwaters strand cars in the middle of a mobile home park near Kennedale on Wednesday. Continued rains caused flash floods around the region.

The Dallas Morning News: David Woo

# Spring flooding



# Fort Worth Star-Telegram

Thursday, May 18, 1989

Fort Worth, Texas ☆ Where The West Begins

Price 25¢

## Rising waters claim 3 lives

### *Raging creek floods homes*

BY CHRISTOPHER EVANS  
AND R. ROBIN McDONALD  
Fort Worth Star-Telegram

KENNEDALE — After Kennedale police closed Mansfield Highway over Village Creek yesterday morning, residents of nearby mobile home parks stood vigil on a bridge in the rain, watching their lives sweep by beneath them.

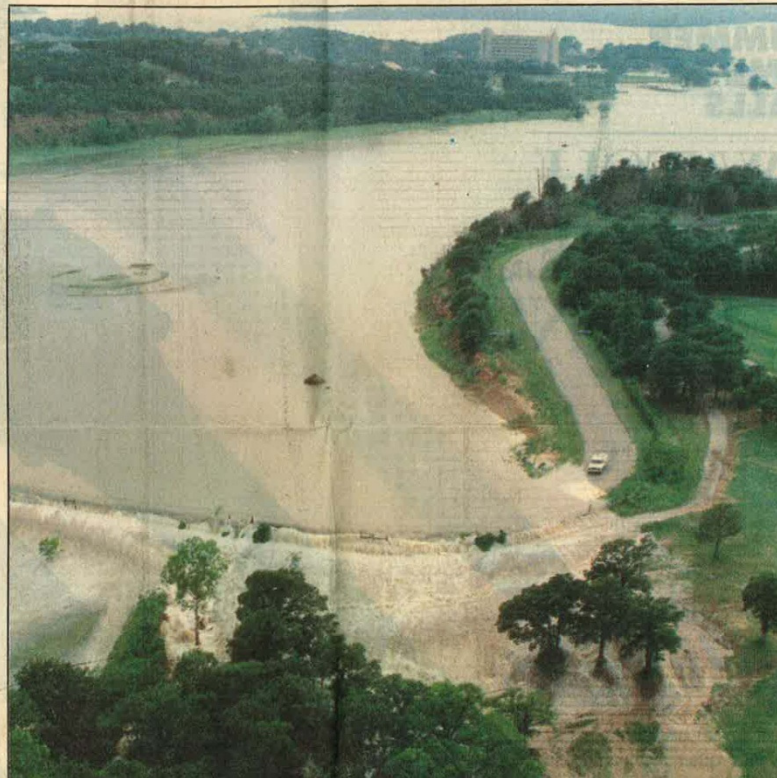
The creek, normally shallow enough to wade, had risen to the roadway. And the current had grown strong enough to dislodge mobile homes from their foundations and send them spinning down the creek. Trucks, cars and trailers were sucked into the maelstrom.

The Village Creek Mobile Home Park, which sits on the southeast bank of the creek, was devastated.

"My trailer was the first one that went down," said Calvin Wainwright, 55, as he stood on the bridge watching water rush through hastily abandoned trailers about 10 a.m. "It's holding the bridge up. . . . When they said, 'Get out,' I got the hell out. Everything I had except what I got on my back is gone."

Kennedale police and firefighters began evacuating Village Creek and Taylor's Acres mobile home parks near the creek about 10 p.m. Tuesday when the water began spilling over the

(More on KENNEDALE on Page 14)



### *Hundreds forced to evacuate*

BY THOMAS KOROSCEK  
AND JAY B. LEWIS  
Fort Worth Star-Telegram

Violent thunderstorms that swelled some North Central Texas waterways to record flood levels killed at least three people yesterday, forced hundreds from their homes and left others watching in fear as lakes and rivers rose through the day.

The storm, which dumped as much as 13 inches on some parts of the already saturated Metroplex, forced Lake Arlington to rage over its spillway for the first time since 1957.

A Dallas woman and a Grand Prairie man who ignored barricades blocking bridges were killed, and Cleburne authorities found the body of a businessman in a creek downstream from where his car was washed off a low-water bridge.

Elsewhere in Texas, one woman was killed and 23 people were injured in Jarrell after an early-morning tornado hit the small community about 40 miles north of Austin.

A tornado that hit Cleburne on Tuesday night was one of at least six that touched down in North Texas as a line of severe thunderstorms roared through the region. Damage was most severe in Johnson County, although twisters also caused problems in Hood and Ellis counties.

Another wave of storms crossed the region before dawn yesterday, sending creeks out of

## Lake Arlington

come the biggest public safety problem at the Lake Arlington golf course, as water cascaded past the 13th tee and through the fairway. Police ejected rubbernecks from the course and adjacent Green Oaks Boulevard.

Arlington police closed Spur 303 between Green Oaks and Park Springs boulevards to control a flood of sight-seers who were impeding emergency operations around the lake, officials said.

No other main thoroughfares were closed, said police Capt. Mike Johnston.

City officials said all roads should be open today if it doesn't rain anymore. However, as much as an inch of rain would immediately affect North Collins Street and several areas in southwest Arlington, officials said.

The flooding would take its toll on the golf course, said Ray Fields, a maintenance worker.

"It's going to leave a massive cleanup. There will be a lot of silt and dead grass. It's going to be an enormous effort," Fields said.

With his head swaddled in a tiny pink blanket, 12-day old Danny Prine II didn't know it, but he was seeing his first flood.

Toted along with the curious who went to watch Lake Arlington as it rolled over the emergency spillway, Danny appeared more concerned with the speck of sun poking through the gray sky and into his eye.

"I've lived here 29 years and I've never seen it like this," said Danny Prine Sr.

In the Interlochen neighborhood, David McWhitney stood in his living room, staring out his waterfront back window and across the beige carpet full of dimples where the best furniture

**Mansfield** — Erna Nash Elementary School, Broad and Hillcrest streets, 473-4511; First United Methodist Church of Mansfield, 601 Pleasant Ridge Drive, 477-2287

used to be.

The antiques were on the Ryder rental truck in his driveway. The clothes would be next.

"It's been a tense day, not knowing what you are going to have to do," said McWhitney, a district manager for Southwestern Bell who was handling company problems on the phone while monitoring the rising problem in his back yard.

"I should be at work because of the weather, but I came home this morning because of the weather."

In the courtyard across the street, self-appointed flood committee member John Henderson had returned from fishing on Randol Mill Road, where kids tried to ride bikes through waist-high water. The haul: six catfish, none very big.

Down the road, water was threatening to cover the road under the Interstate 30 overpass. Two shirtless men considered options — including swimming — for plucking an unclaimed canoe from the pile of brush stacked up by the floodwaters about 60 feet away.

John Henderson, a 20-year-old Interlochen resident, said he and a friend caught five catfish in the canals behind his house yesterday afternoon. He said they decided to go fishing because they were "bored and had nothing else to do."

One of the hardest-hit areas early yesterday was along Shady Valley



An aerial view of the spillway at Lake Arlington taken about 4 p.m. yesterday shows the overflow of water

Fort Worth Star-Telegram / NORM TINDELL

Drive, a section of \$200,000 homes where about 10 homes and double that many people were evacuated early yesterday morning.

One woman, an invalid, braved the night in a second-floor bedroom and was evacuated by ambulance yesterday morning, said Arlington police Officer Chuck Johnson.

At the 250-resident Willows at Val-

leywood complex, near the intersection of Pioneer Parkway and Park Springs Boulevard, floodwaters lapped at first-floor doorways yesterday morning but had receded 3 feet by 9:30 a.m.

"I've lived here five years and haven't seen anything like this," said Ola Barr, 64, as she stared glumly at the barely visible hood of her 1988 Olds Delta 88.

The storms brought Arlington's precipitation to 13.37 inches in May, compared with the 13.10 inches that filled Lake Arlington years ahead of schedule in May 1957.

That 1957 May rain, though, was preceded by a monstrous 17.98 inches in April. This year's April rainfall in Arlington was only 2.43 inches.

"In either case the ground was fully

saturated, so additional rain has no place to go," said Charles Hawkes, who has kept Arlington rainfall measurements for the U.S. Weather Bureau for more than 25 years.

Staff writers Jay B. Lewis, Janice Johnston, Steve Pollitt, Duane Bidwell, and Sue Stevens and correspondent Randy Simmans contributed to this report.

## For Lake Arlington, it seems like rains of '57 all over again

Lake Arlington's emergency spillway doesn't see many emergencies. In fact, until yesterday afternoon, water never went over the top.

The reservoir has been around since 1957, so the conclusion must be that the lake designers must have been exceedingly precise with their calculations. The rule for years has been that residents always seem to be taking more out of the lake than Mother Nature can manage to put back in.

Though Lake Arlington seemed to be the answer to the city's problems back in 1957 — the population was then 40,000 — it hasn't done such a good job of keeping up since. Were it not for a pipeline to Cedar Creek Reservoir, Arlington would drink the lake down to the mud flats every summer. It simply isn't big enough for a quarter-million population community.



**O.K. Carter**  
About  
Arlington

Still, it's interesting every now and then to see that supply of any of nature's valuable commodities — in this case that's water — can exceed immediate consumption.

The lake filled to marvelous proportions back in 1979 without spilling over the emergency spillway. Before then you had to look all the way back to 1957 to find it as full as it is this morning.

Old-timers will recall that 1957 capped an extended drought that converted West Texas into a Sahara-style landscape while changing

the area around here to semi-arid. The drought went on so long that kids growing up in this region thought that the horned toads and green striped "runner" lizards that proliferated were natural residents.

They weren't. They prefer dryer, less humid climates farther west as a rule, but from 1953 until 1957 this region was definitely horned toad country.

That's why many critics scoffed when Lake Arlington was built. Construction time broke all records — after all, there were no rain breaks to slow things down.

But it did precipitate a little in late March 1957, and on the last day of that month, water superintendent Jack Cherry pulled up his trousers and waded through mud to close the valve on the dam, which had been completed just four weeks earlier.

His timing was perfect. The projection was that the lake would require a minimum of 2½ years to fill. So Arlington — by then accustomed to frequent water rationing — sat back to wait. An emergency pipeline had been laid to Lake Benbrook.

Patience wasn't required. It began to rain in April — in fact, it rained about as much as it did the whole year before: almost 18 inches. The parched earth absorbed half of it easily but eventually became saturated.

The rains continued in May, another 13.1 inches. Long before then the lake was full, having completed its 30-month mission in less than 30 days.

For what it's worth, Arlington broke that old drought-busting May record this month, hitting almost 13.4 inches by noon yesterday, with forecasts of more to come.

A radio station back in 1957 brought in an expert who said the Lake Arlington dam was so new that it might break. A minor panic resulted, though the dam proved reliable. In the end only about 25 homes and businesses were flooded.

The town would have liked to have gotten off that lightly yesterday. More autos than that were washed down the rushing banks of normally pastoral Johnson, Rush and Village creeks. Some apartment complexes flooded more than a hundred units.

Nature will sneak up on you, sooner or later. It did in May of 1957. It's back again, 32 years later, with the same trick and a much larger city to play chaos with.

O.K. Carter's column appears Tuesday and Thursday in the Arlington edition.



**Grand Prairie, Tx  
Backwater from Johnson  
Creek - 1990**



**Grand Prairie, Tx  
Backwater from Johnson  
Creek - 1990**



**Trinity River Near Cadillac Heights, Dallas, TX**



**Trinity River Near Cadillac Heights, Dallas, TX**

**West Fork of Trinity River – Grand Prairie, Tx**



**Beltline Road**

**1989**

# West Fork of Trinity River – Grand Prairie, Tx



Beltline Road

1990



**International Wildlife Park  
1990**

**West Fork of Trinity River – Grand Prairie, TX**



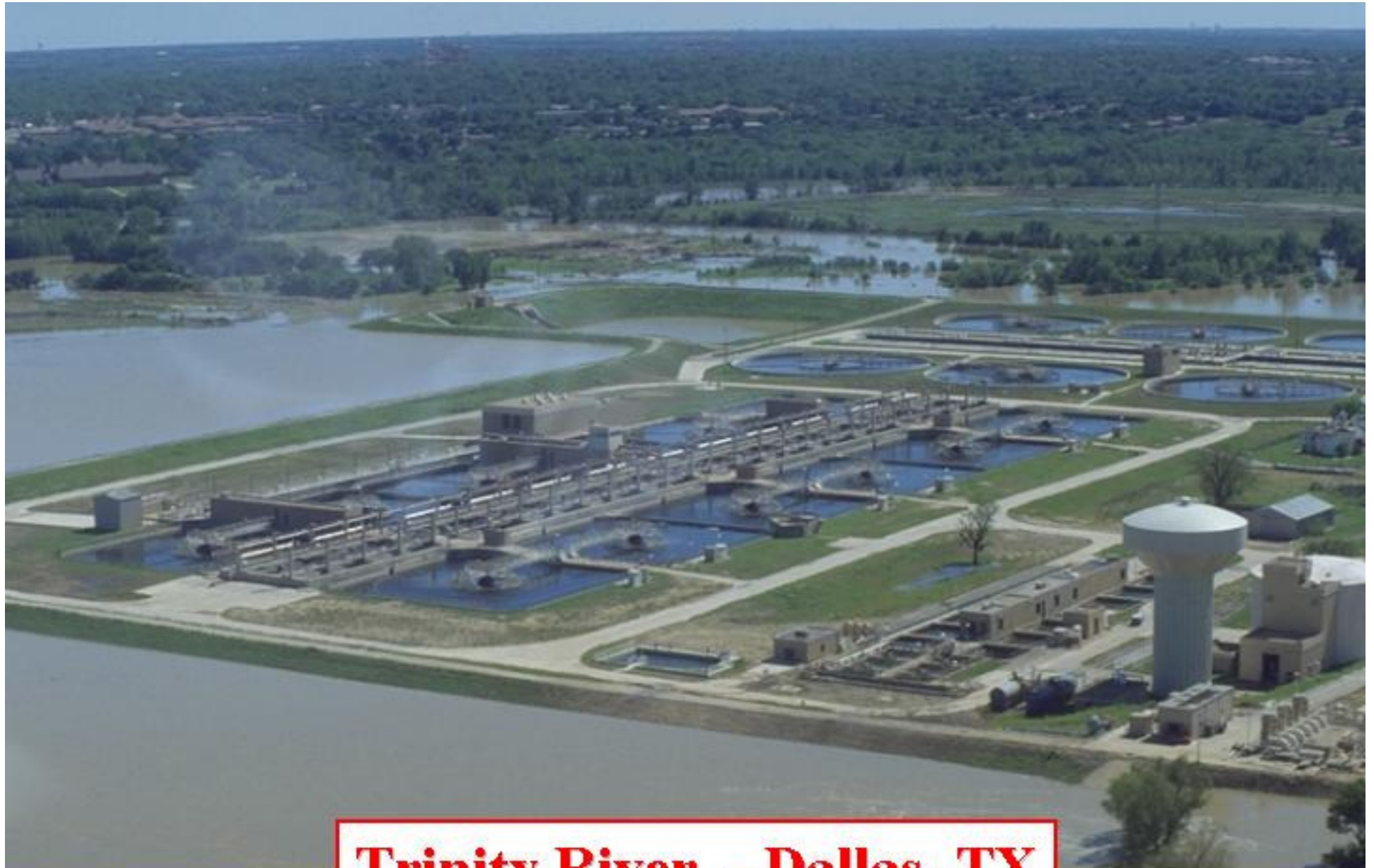
**Johnson Creek – Arlington, TX**



**Johnson Creek – Arlington, TX**

**Elm Fork – Coppell, Tx  
1990 Flood**





**Trinity River - Dallas, TX**



**Trinity River - Dallas, TX**

# Fort Worth June 2004 Floods



From City of Fort Worth Files

# Fort Worth June 2004 Floods



From City of Fort Worth Files

# Fort Worth June 2004 Floods



From City of Fort Worth Files

# Fort Worth June 2004 Floods

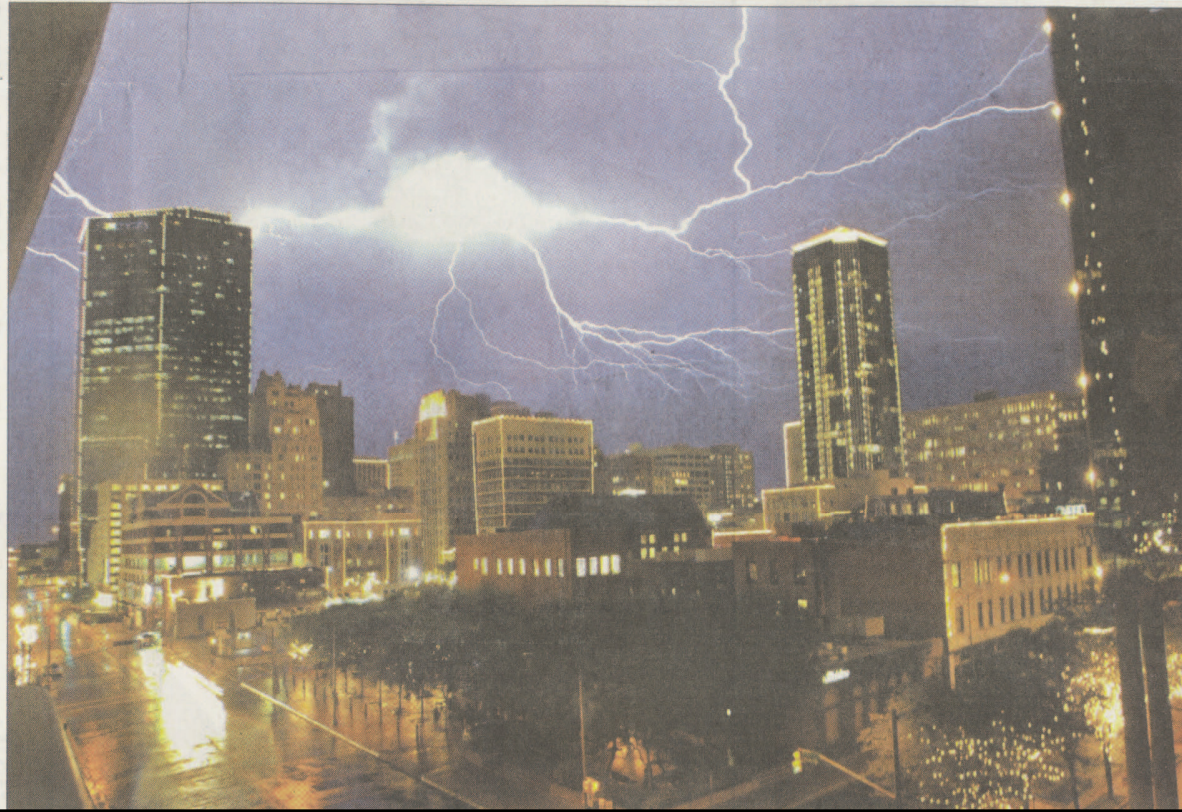


From City of Fort Worth Files

# THEN CAME THE DEADLY YEAR 2007

## Fury from the skies

Storms flood parts of city, damage homes in neighboring counties



The Star Telegram - April 25, 2007

# Lovell's Archived Flood Articles

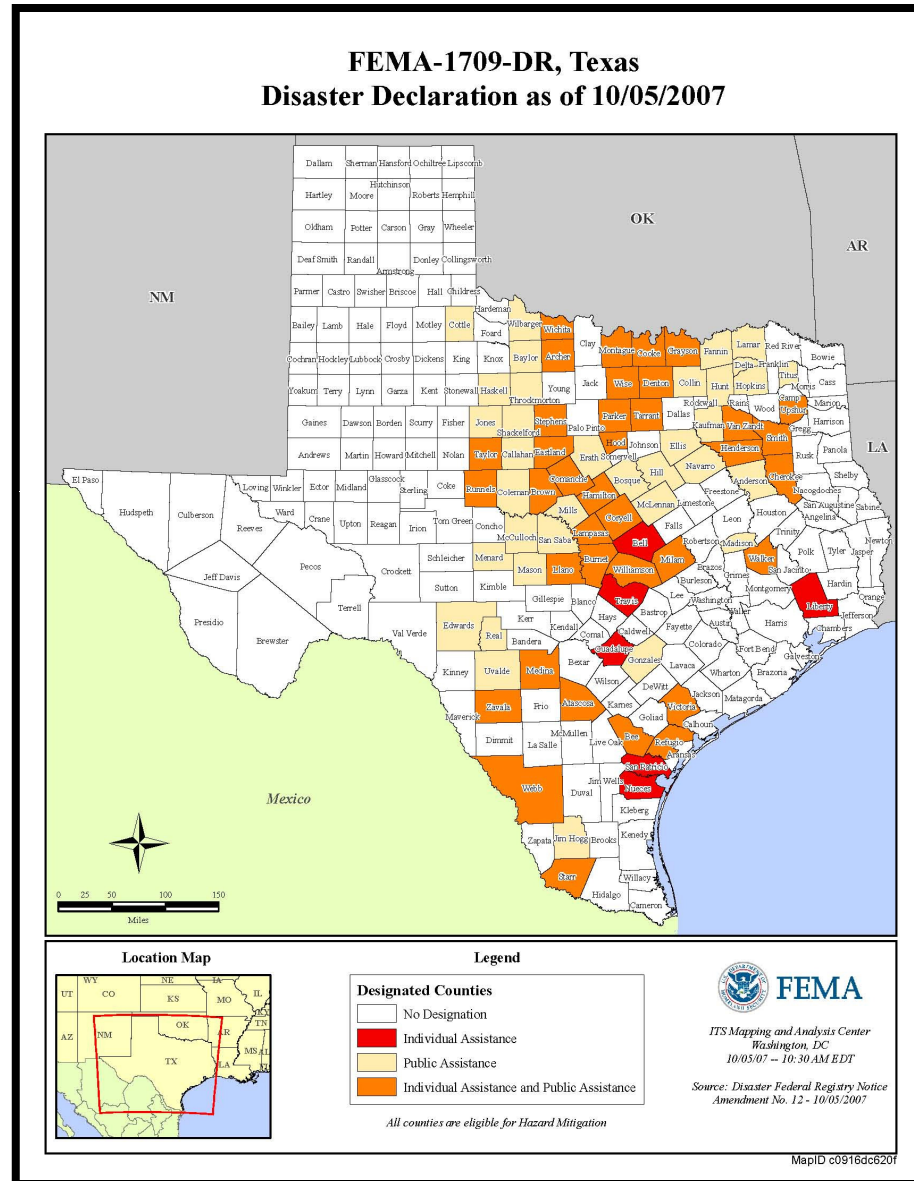


# Summary of 2007 Floods in Texas

- 1,345 identified flood or flash flood events
- **51 Documented Flood-Related deaths**
- At least 3 deaths not fully documented for this presentation
- 35- Vehicle-Related Deaths
- Over \$264 Million in flood damages.
- IT WAS A VERY HARD YEAR!

# Map of FEMA Disaster Declaration of October 2007

**Includes flood and  
Wind events from  
June-August 2007**



# Fort Worth May 2007 Floods



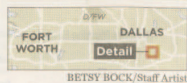
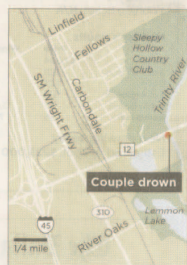
# June 7, 2007 – Trinity River

## Wrong turn turned deadly for couple in rainstorm



JIM MAHONEY/Staff

At left: Danielle Kim is held by her aunt Susie Park as she breaks down moments after being told that her husband and she were found dead inside their submerged car in the Trinity River in southern Dallas.



BETSY BOCK/Staff Artist

## 911 call reveals frantic plea from sinking car

By TANYA EISERER  
Staff Writer  
teiserer@dallasnews.com

Sook Yeon Kim died reaching out to her husband.

She was in the passenger seat. Young Hwan Kim was partially in the backseat, stretched out, trying to find a way for him and his wife to escape murky waters that swept into their silver Hyundai Sonata.

The Garland couple's car, with their bodies inside, was pulled from the Trinity River around noon Wednesday in southeast Oak Cliff along Loop 12 near Lemmon Lake. Police say they apparently took a wrong turn in Monday's blinding rainstorm and drove into the water where the highway access road ends in a boat ramp.

Mrs. Kim was 57, and Mr.

Kim 60.

Even as they mourned life's cruel twist, their grief-stricken children took comfort in their parents' strong faith and their love for mission work.

"They were really good Christians," said their eldest daughter, Danielle Kim. "I truly believe they are in heaven."

See BODIES Page 12A

## Bodies pulled from car

Continued from Page 1A

The events that led to the Kims' deaths began Monday afternoon when they set out for Chuck's Pizza at 4853 Sunnyvale St. Unfamiliar with the area, the couple got lost as severe rainstorms pounded the area.

"He tried to find the pizza business," said Han Soo Kim, the couple's son. "He went the wrong way."

Joe Min, the owner of the restaurant, said Mr. Kim was looking for a job at his restaurant. Mr. Kim called him because he had gotten lost, and he gave him directions.

Mr. Min said when Mr. Kim called a second time, he said, "Help. Water is coming."

But Mr. Min wasn't overly alarmed — waters often rise around his business when it rains. He also said it was hard for him to hear Mr. Kim because Mr. Min was standing outside his restaurant in the rain, waiting.

Mr. Kim also called 911. But the 911 operator couldn't understand what he was saying. A woman, presumably Mrs. Kim, can be heard screaming in the background. The sound of what appears to be rushing water can also be heard.

The operator repeatedly tried to find out what was wrong with the caller and where he was calling from. "What language are you speaking?" she asked. "Are you



JIM MAHONEY/Staff Photographer

A tow truck pulls the car containing the bodies of Young Hwan Kim and his wife, Sook Yeon Kim, from the Trinity River on Wednesday a few feet from the Loop 12 bridge.

speaking Chinese or something?" But the line went dead before she could get any information. The 911 operator tried to call the man back but got voice mail.

Lt. Joel Lavender, a Dallas-Fire Rescue spokesman, said since the person was calling from a cellphone and the operator wasn't able to get a location, rescuers could not respond.

"That was the end of it because we didn't have a location to dispatch to," Lt. Lavender said. "It's unfortunate all the way around."

When the Kims didn't report for work at a maintenance company Tuesday morning, their family knew something was terribly wrong. Authorities were contacted. Police said they drove the route that would have been taken by the couple and did not find the car.

Police then contacted the couple's cellphone company, which tracked the cellphone signal to a tower.

Police began searching outward from the cellphone tower and located the car about three-quarters of a mile away about 9 a.m. Wednesday. The car was completely submerged except for an antenna.

It appears that the couple made a wrong turn and then tried to make a U-turn under the bridge where Loop 12 crosses the Trinity, without realizing that the access road led directly into the river and did not loop around under the bridge.

It took authorities more than two hours to pull the Kims from the car. Distraught family members watched from a short distance as their worst fears were realized.

A Dallas Fire-Rescue boat wasn't able to get to the car. Divers had to be brought in to attach a cable to a tow truck so that the Kims' car could be pulled from the water.

The car was pulled out by about noon. As onlookers and re-

porters watched, police notified the couple's children that the bodies had been found.

It was a devastating end for a couple who came to the United States more than a decade ago from South Korea, seeking a new and better life for them and their three children. They had dedicated themselves to mission work, said Danielle Kim.

Ms. Kim said she and her sister had taken a trip to Afghanistan last year. Recently, her parents had gone on a mission trip to an Oklahoma Indian reservation. They were dedicated members of Binnerri Presbyterian Church in Richardson.

"My father had a vision," Ms. Kim said.

"They are a faithful Christian family," said Kyong Kim, an assistant pastor at their church. "They were committed to mission work. They worked so hard."

Rebecca Lopez of WFAA-TV contributed to this report.

The Dallas Morning News  
June 7, 2007

# June 18-26, 2007 – Dallas , TX



The rising Trinity River was contained by the levee system Wednesday morning after torrential rains. Weather forecasts predict continued heavy rains through Thursday.

# June 18-26, 2007 – Haltom City – Whites Branch



Lost one 4-year old  
Girl in flood.

# Whites Branch – Flood of 2007



# June 27-28, 2007 – North Texas

The Dallas Morning News  
June 27, 2007

## Teen dies as floods hit North Texas again



REX C. CURRY/Special Contributor

Garland firefighters watch upstream for a 13-year-old boy who was swept away in Duck Creek during heavy rains on Tuesday. Rescuers threw the boy a rope but he couldn't grasp it; he was eventually found but was later pronounced dead.

### Boy swept away in Garland creek; emergency declared in Hood County

By PAUL MEYER  
Staff Writer  
pmeyer@dallasnews.com

Heavy rain triggered widespread flooding that killed a Garland teenager Tuesday night and forced Hood County to declare a local disaster after residents fled onto the roofs of their homes to escape rising water.

The storms, unloading inches of water on an already saturated region, stranded motorists, overwhelmed creek banks, submerged roads and led to high-water rescues across North Texas.

In Garland, the rushing waters of Duck

Creek swept away a 13-year-old boy who was playing with a friend, said Garland fire spokesman Merrill Balanciere. Rescuers threw the boy a rope, but he couldn't grasp it and vanished downstream shortly after 8 p.m. He was found about two hours later after an intense search. Paramedics performed CPR and took him to a hospital, where he was declared dead.

In Hood County, County Judge Andy Rash declared an emergency at 10 p.m., saying the floods were worse than any he has seen in four decades. Mr. Rash said nobody in the county was reported missing or injured but that the water was still rising.

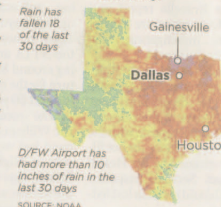
"The water is from waist to chest deep in some areas, and there are some people even

### TEXAS PRECIPITATION



Last 30 days

Rain has fallen 18 of the last 30 days



D/FW Airport has had more than 10 inches of rain in the last 30 days

SOURCE: NOAA

See STORMS Page 6A

# June 27-28, 2007



Aerial photographs of the Trinity River, seen from west of downtown Dallas early Thursday afternoon, show water from month-long rains nearly filling the flood plain of the river to the top of the levees.

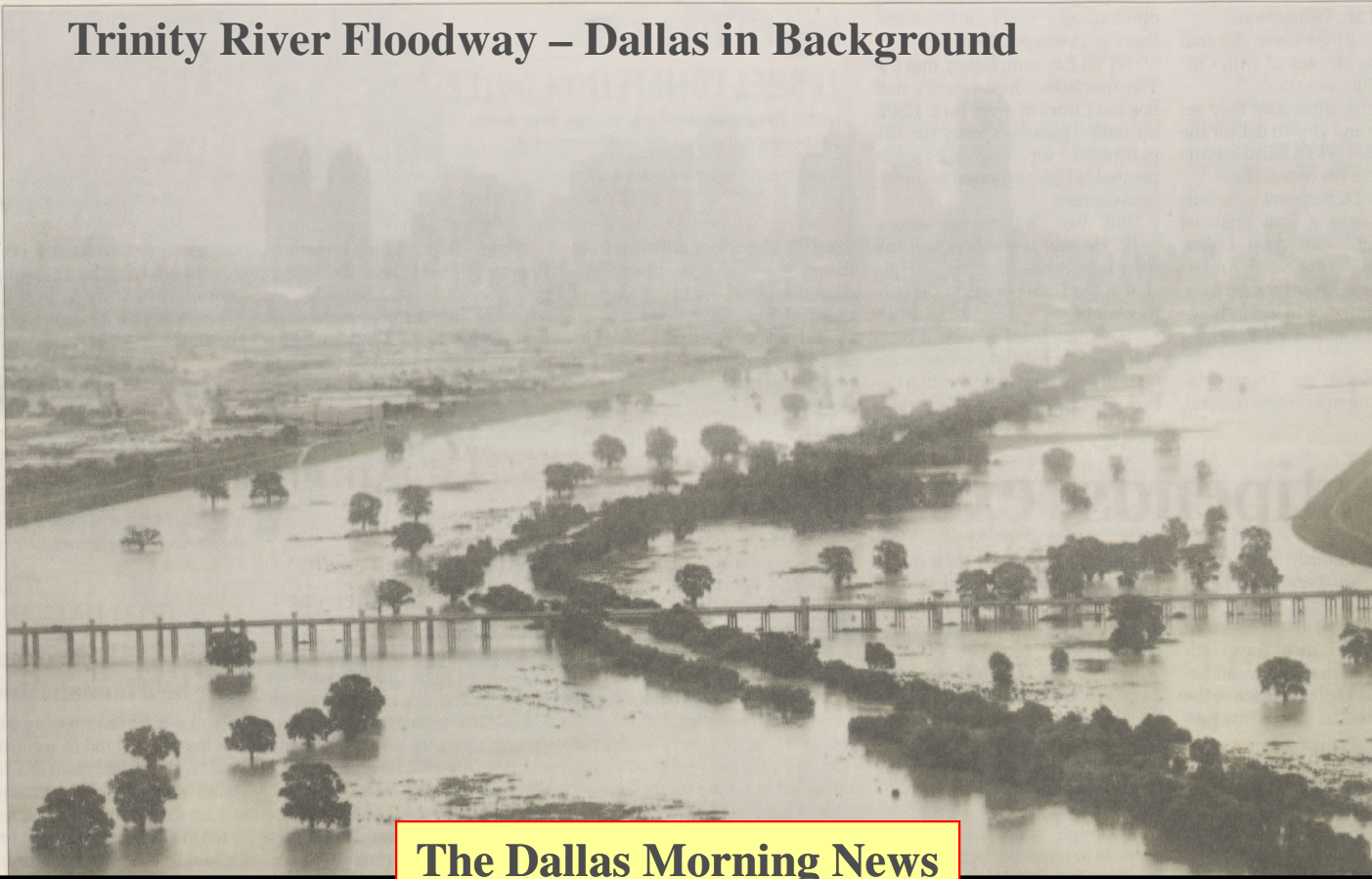
G. J. McCarthy / DMN Photo Staff

**The Dallas Morning News**  
**June 28, 2007**

# June 29, 2007 – North Texas

The water log: 10.97 inches in June

Trinity River Floodway – Dallas in Background



**The Dallas Morning News**  
**June 29, 2007**

# July 2-4, 2007 – Tarrant County



**The Star Telegram  
Photos by Paul Moseley**

July 5, 2007 –  
North Richland Hills, Whites Branch/Big Fossil Creek at  
Interstate Highway Loop 820

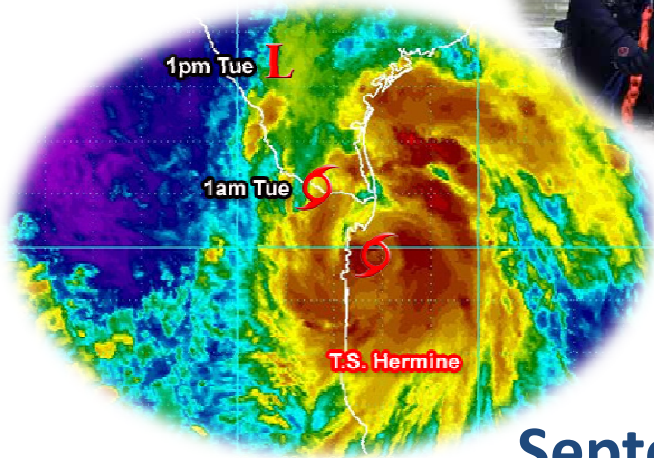
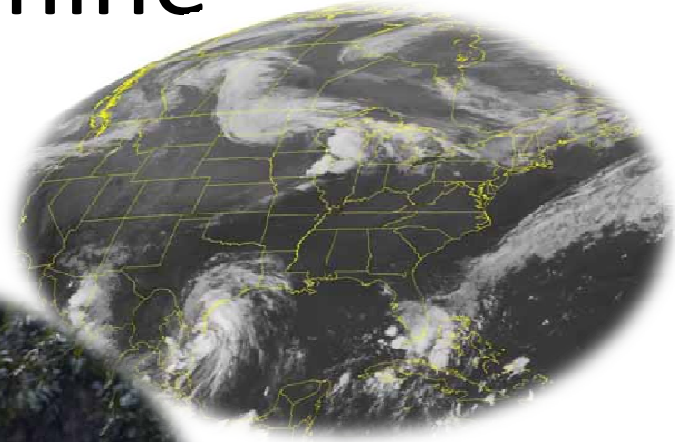


# July, 2007 – Erosion on Big Fossil Creek



**The Star Telegram  
Photos by Tom Pennington &  
Stewart House**

# TS Hermine



September 3-9, 2010

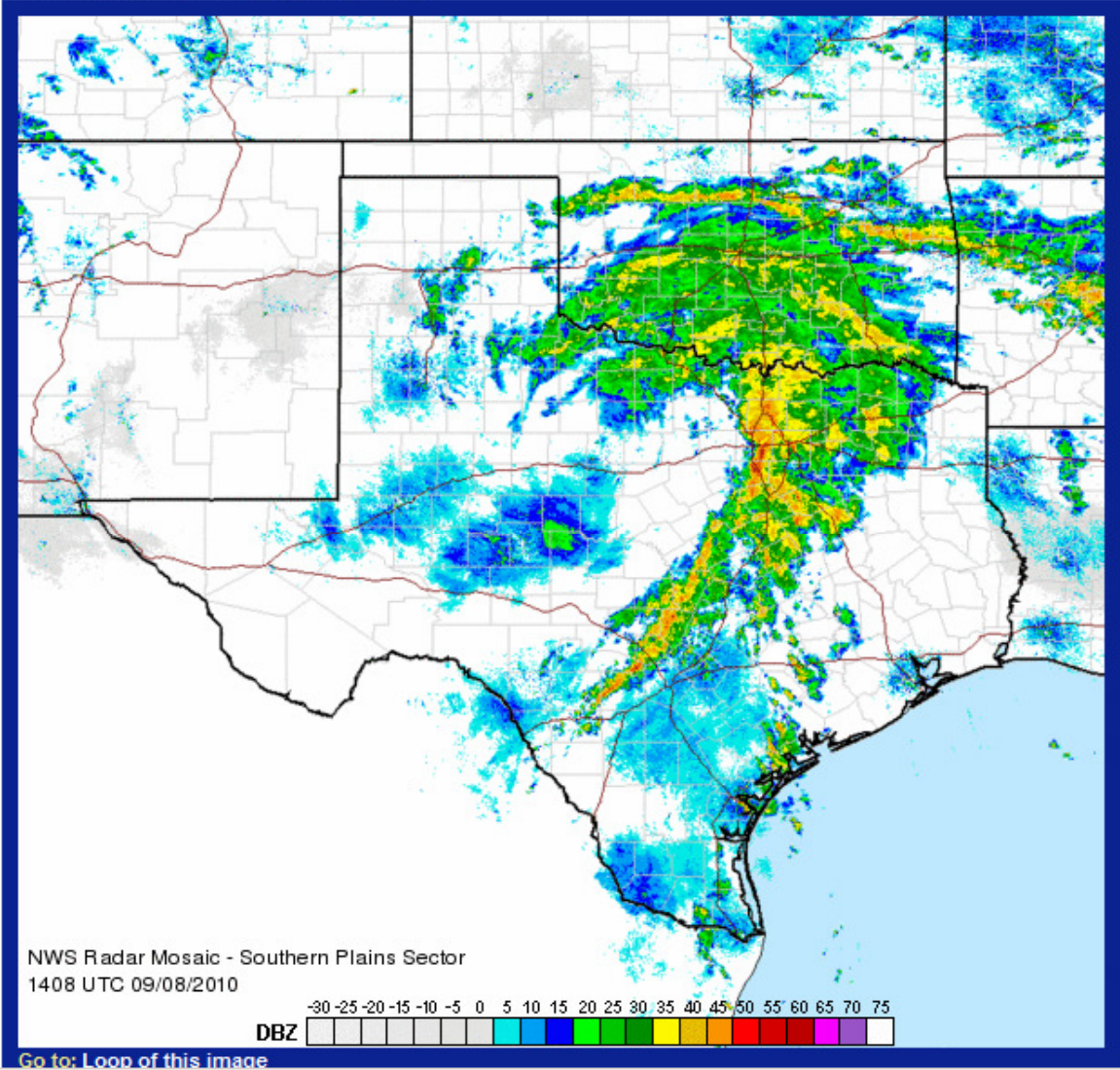
# Archived Flood Articles (2010)

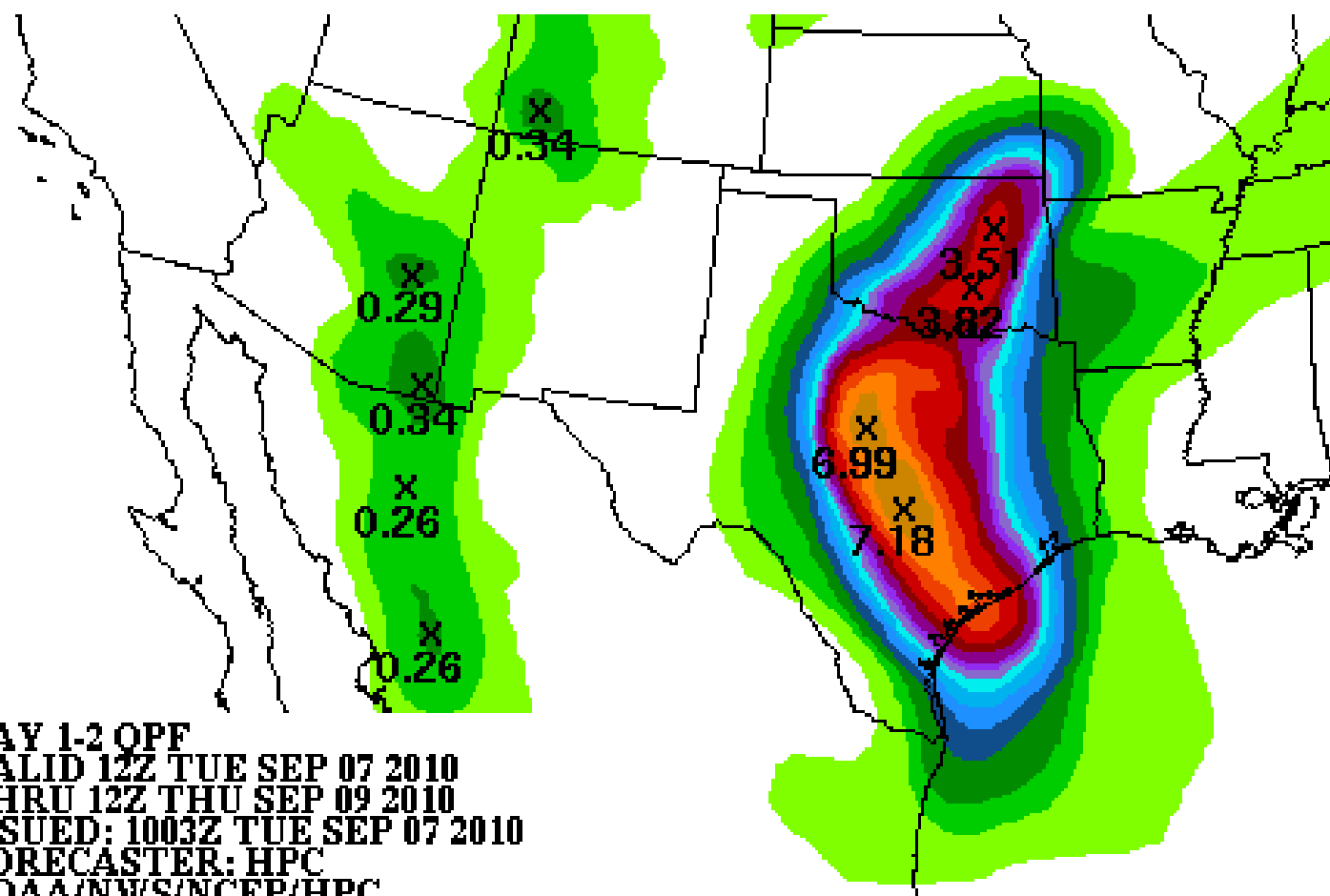
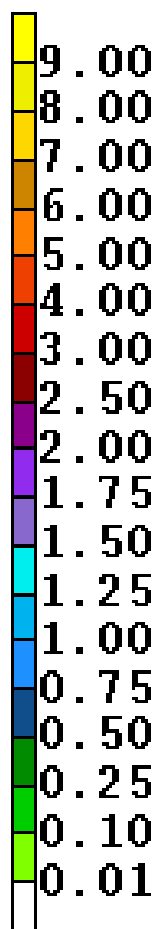


Note: Volume 2 of 2 For 2007 is Missing

# September 8, 2010

[Full resolution version \(3400x1700 pixels - 220k\)](#)

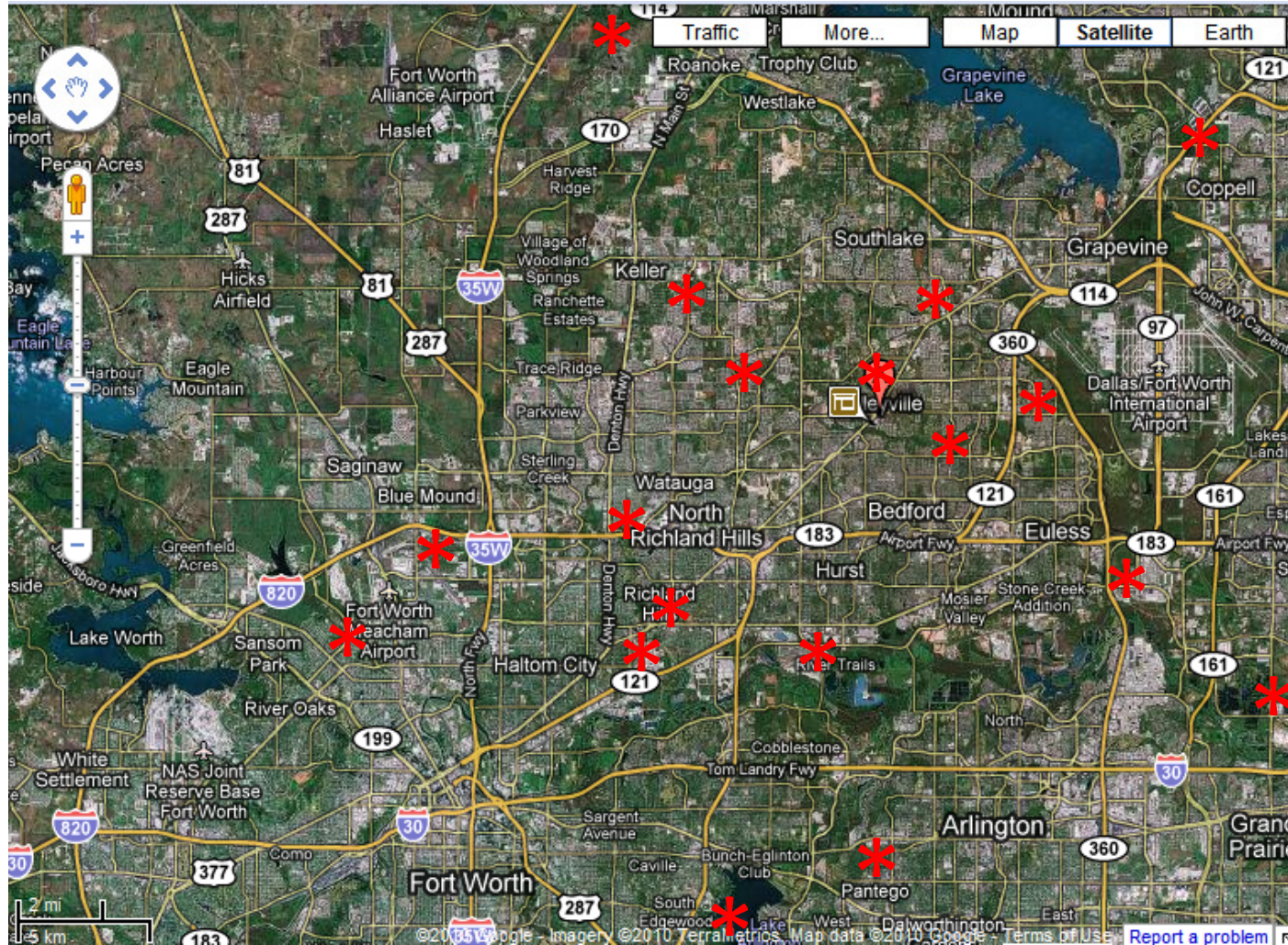




DAY 1-2 OPF  
 VALID 12Z TUE SEP 07 2010  
 THRU 12Z THU SEP 09 2010  
 ISSUED: 1003Z TUE SEP 07 2010  
 FORECASTER: HPC  
 NOAA/NWS/NCEP/HPC

## September 7 - 9, 2010 Rainfall Totals

# DFW Metroplex – September 8, 2010 Flood Details from Various Sources





**Near school at IH 20 and Rush Creek, Arlington**



**Woodland Park neighborhood in Arlington. Rush Creek (Star-Telegram/Joyce Marshall)**



**Willows II  
Apartments  
Arlington, Rush  
Creek  
(Star-Telegram/Ian  
McVea)**





Arlington Fire Department and EMS crews rescued residents of the Willows II Apartments near Rush Creek (Star-Telegram/Ian McVea)





**Rush Creek Apartments (Star-Telegram/Joyce Marshall)**



**Rescue of Elderly Lady in Arlington, Rush  
Creek  
(Star-Telegram/Joyce Marshall)**



# Saving the Dogs In Arlington!

(Star-Telegram/Joyce Marshall)

Star Telegram - Northeast

September 14, 2010

# After flood, Arlington eyeing buyouts

▶ The city tells residents that it will seek federal aid to buy some homes damaged last week.

By Susan Schrock  
sschrock@star-telegram.com

ARLINGTON — The city will seek federal assistance to buy out some of the 120-plus homes that flooded last week after Tropical Depression Hermine blew through North Texas, officials told residents Monday.

Many of the homes are in west Arlington along Rush Creek, where flooding has worsened as the area has developed, officials said.

On Wednesday, heavy rain pushed

Rush Creek out of its banks, sending up to 6 feet of water into homes and apartments. At least 60 homes were seriously damaged and two were destroyed, according to Red Cross estimates.

While city officials continue to work on a long-term solution to Rush Creek flooding, Arlington will apply for money from the Federal Emergency Management Agency and the Army Corps of Engineers to buy out more flood-prone homes, Arlington Mayor Robert Cluck said. The city has already spent \$2 million in FEMA money to buy and demolish six houses.



Flooding in Arlington in the wake of Tropical Depression Hermine spurred rescues like Florence Dobrey's on Wednesday.

Star Telegram/Helen Marshall

\$1.00 Dallas, Texas, Thursday, September 9, 2010 dallasnews.com

## SEVERE WEATHER

# Tornadoes, flooding slam North Texas

Twister cuts swath of damage through Dallas



September 14, 2010

## City of Fort Worth/DeOtte Slides – Sep 8, 2010



**Village Creek at RR downstream of  
Salt Road (Mapsco 93X)  
Upstream of Kennedale, TX**

## City of Fort Worth Slides – Sep 8, 2010



**Walker Branch Near  
Precinct Line Road and  
Trinity Blvd. (67A)**



## **City of Fort Worth Slides – Sep 8, 2010**



**Valley View Branch at Trinity Blvd. (67C)**

## September 8, 2010 – Walker Branch and Lorean Branch Near Trinity Blvd.



11:35 a.m. Drillers and roughnecks on a gas well rescued by boat. - *Troy Bush from HD Chopper 8*







**9-8-10 Big Fossil Creek – US of Western Center Blvd – At Parking Garage Over Floodway @ 9:49 am**





**Big Fossil Creek at Glenview Drive, Haltom City, TX  
No one killed this time. Oct 15, 1973 person drowned (3 cars washed off)  
2007 – another drowning?**



**White Chapel Road at Bear Creek, Keller, TX  
Keller Citizen/Adrian McCandless**



**Near Bear Creek Intermediate School in Keller.  
Photo by Savannah Martinez**



**Note: New Beltline Road was designed for 100-Year Flood Protection  
Overflow from Bear Creek (Rt. Of photo) Inundated So. Bound Lane**

**Bear Creek Overflow at Beltline Road and Oakdale Road  
(Grand Prairie)**



## Bedford Rd @ Little Bear Creek (Colleyville)





**Bedford Rd @ Little Bear Creek (Colleyville)**



**Little Bear Creek @ Oak Knoll Rd**



# Little Bear Creek @ Oak Knoll Rd, Colleyville





Little Bear Creek @ Martin Parkway





Little Bear Creek @ Martin Parkway and at SH 121



Little Bear Creek @) SH 121  
(Looking east or downstream)



**Little Bear Creek, North Main in Euless.  
Star-Telegram/ Richard W. Rodriguez)**

# Slides From City of Grapevine

**Big Bear Creek at Pool Road**



**Hike and Bike Roadway  
Just D.S. of Pool Road**





**Not Much North Texas  
Flooding In 2011-12**

# FLOODS AUG 19-20, 2012

Two men swept away; one body found



1 of 6



**Creek rescue**

*Credit: John Pellizzari / WFAA*

A Dallas Fire-Rescue swift water team searched in vain for the missing man before sunset Saturday.

# FLOODS AUG 19-20, 2012



**Creek rescue**

*Credit: John Pellizzari / WFAA*

A Dallas Fire-Rescue swift water team searched in vain for the missing man before sunset Saturday.

# Conclusions/Hard Lessons Learned

- Much to be done to educate and inform the general public on the dangers/ hazards of low water or bridge crossings of streams
- Despite significant efforts, drivers continue to ignore warning signs and barricades



# Hard Lessons Learned

- Need to recognize the risk taken by first responders to perform swift water and other flood rescues



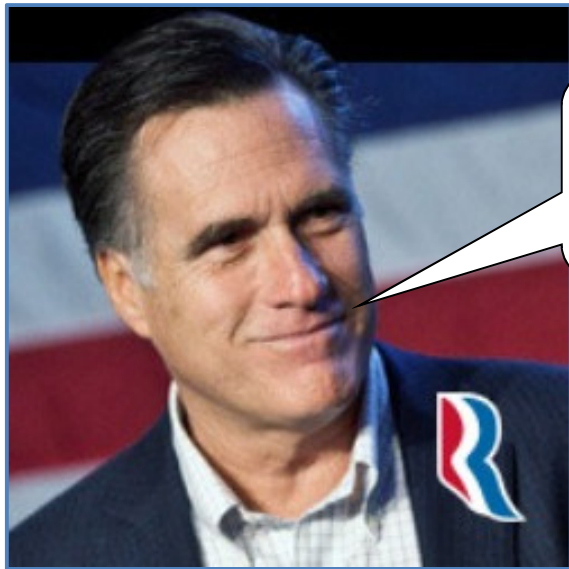
- Need to stop placing mobile homes and critical facilities such as nursing homes in floodplains

# Hard Lessons Learned

- Children are often the victims of uninformed and careless parents in flood-related deaths.
- Need to enforce laws regarding motorists who drive around barricades and put their own life and that of their family in grave danger.

Conclusions...

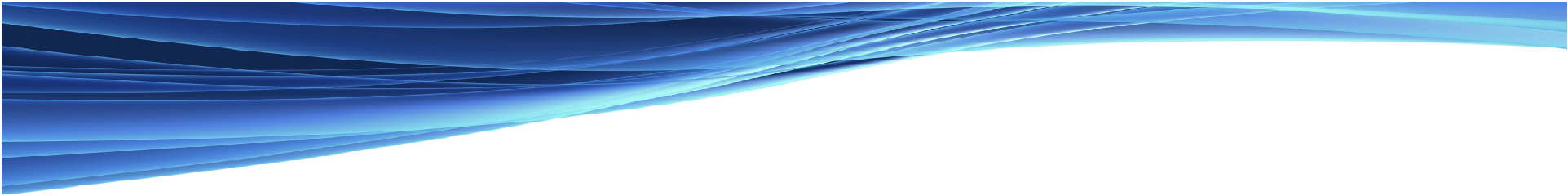
**Now a Final Word from our  
Next President, as both  
candidates agree on ONE  
THING:**



Turn Around  
Don't Drown!

Turn Around  
Don't Drown!





# QUESTIONS?

