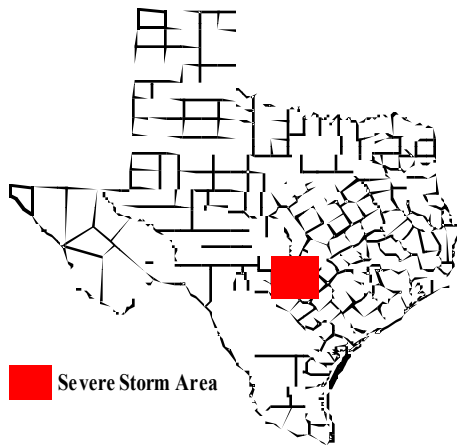


Storm Report Oct. 17-18, 1998 Central Texas Flood



THE SITUATION: STORMS PRODUCING RECORD RAINFALLS RESULTS IN DAMAGING FLOODS ACROSS THE HILL COUNTRY AND SOUTHERN PORTIONS OF CENTRAL TEXAS

On October 17-18, 1998, a band of severe thunderstorms swept along the Interstate Highway 35 corridor. Especially hard hit was the area from San Antonio, northward through New Braunfels and into the Austin area. The heaviest rainfall fell in Bexar, Hays, Comal, Guadalupe, and Caldwell Counties. Rainfall in these areas totaled between 18-31 inches with rain falling at a rate of 2-3 inches per hour for prolonged periods. This was the most rainfall recorded since recordkeeping began in 1885. As a result, severe flooding of streams resulted in the evacuation of both residential and commercial buildings and required numerous swift-water rescues as residents became stranded in rapidly rising waters. The good news is, NRCS constructed floodwater retarding structures reduced the loss of life and property. In the San Antonio vicinity, Salado Creek, Calaveras Creek, and Martinez Creek Watersheds performed as anticipated. SARA, Bexar County, the City of Converse, and the City of San Antonio expressed deep appreciation for the watershed projects.



The storm of October 17-18, 1998, was most intense in the New Braunfels and San Marcos areas. NEXRAD weather service radar indicated a large area of rainfall exceeding 18 inches. Rain gauge measurements confirmed these totals, but also revealed many isolated areas recording over 25 inches.



This home located along the Guadalupe River in New Braunfels is still standing although the roofing has been stripped away by floodwaters. Across the street, 10 brick homes were destroyed after being swept clean from the concrete slabs by floodwaters. Flood depths in this area were estimated to be 25 feet above normal flow--greater than 500-year event levels.

STORM DAMAGES

- ◆ Total floodwater damage estimated near \$1 billion
- ◆ 31 lives lost, more than 10,000 people displaced
- ◆ Most intense portion of storm exceeded the 500-year event
- ◆ 20,000 square miles affected from the Balcones Escarpment in the Hill Country to Matagorda Bay and Corpus Christi along the Texas Gulf Coast

WATERSHED PROJECT BENEFITS

The floodwater retarding structures were designed to provide protection from the 50-year to 100-year frequency events. Even though the storms of October 1998 exceeded the design storm, property damage was greatly reduced due to the implementation of the many watershed projects in the area. Estimated overall benefits exceeded \$55 million.

Example - Upper San Marcos River Watershed

- ◆ Estimated \$20 million benefits
- ◆ Reduced flooding depths by 6-8 feet in the City of San Marcos
- ◆ Prevented loss of human life
- ◆ Saved the City of San Marcos from a catastrophic event

REPAIRS NEEDED

Millions of dollars are being used to protect watersheds impaired by the storms. Included will be the repair of floodwater retarding structures and debris and sediment removal. This will ensure that flood protection will be provided from future storm events. A complete assessment of the performance of each watershed was made. This assessment will ensure that needed improvements to the watershed structures will be made.

- \$1 million damages to watershed structures
- Over \$4 million Emergency Watershed Protection (EWP) funds will be used for emergency measures such as debris and sediment removal



This home was flooded to the rooftop by Blieders Creek, Comal River Watershed, during the severe 1972 flood. Floodwater retarding structures, built in the late 1970's, reduced the October 1998 flood levels to the front lawn. The 1998 storm was a more intense storm.



Principal spillway flow of Plum Creek floodwater retarding structure. Flows will continue for up to 10 days after the rainfall ceases. This slow release of the captured storm runoff prevents or greatly reduces downstream flooding.

FUTURE WATERSHED NEEDS

Many personnel hours will be required to see that the repairs to the watershed sites are completed. Contracts will be let and construction inspections carried out. The NRCS has implemented a team effort to complete these projects in a timely manner. A project coordinator will lead this team. Field office personnel within the storm-damaged area will fulfill many of these roles. In some cases, other staff may be detailed to assist in this effort. Technical staff will assist the team to complete repairs.

Watershed projects can provide benefits for many years past their evaluated life expectancy. Proper repairs and maintenance ensure the life of these projects.

SUMMARY OF WATERSHED PERFORMANCE

Watershed	County Located	Rainfall	Floodwater Retarding Structures constructed	Structures that had emergency spillway flow	Structures that had emergency spillway flow depth > 3 feet	Damage description
Calaveras Creek	Bexar	16 inches	7	3		
Comal River	Comal	22 inches	5	5	3	
Lower Plum Creek	Caldwell	20 inches	10	9		
Martinez Creek	Bexar	18 inches	6	6	2	
Plum Creek	Hays, Caldwell	17 inches	18	15		Back slope slide
Salado Creek	Bexar	18 inches	13	6		
Upper San Marcos River	Hays	19 inches	5	5	2	
York Creek	Comal, Hays, Guadalupe	22 inches	16	16	7	Back slope slide
Totals			80	65	14	1/

^{1/} Eight sites with significant erosion or slope slides. Eleven additional sites with minor spillway damage.

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