



SECTION 4. RISK ASSESSMENT

4.1 Identification of Hazards of Concern

To provide a strong foundation for mitigation actions considered in Section 6 (Mitigation Strategy), the Planning Team focused on considering a full range of hazards that could impact the area and then identified and ranked those hazards that presented the greatest concern. The hazard of concern identification process incorporated input from the Planning Team; review of the State of Texas Hazard Mitigation Plan (HMP) (2019); review of the 2018 Fort Bend HMP; research and local, state, and federal information on the frequency, magnitude, and costs associated with the various hazards that have previously, or could feasibly, impact the region; and qualitative or anecdotal information regarding natural (not man-made) hazards and the perceived vulnerability of the study area's assets to them.

Table 4.1-1 documents the process of identifying the natural hazards of concern for further profiling and evaluation. Specific hazards not identified as a hazard of concern for Fort Bend County will not be further discussed in detail.

4.1.1 Changes to the Hazards of Concern

Since the 2018 HMP was developed, Fort Bend County has experienced hazards and disasters that were not addressed in plan. Stakeholders identified these hazards as areas to be addressed in the 2023 Fort Bend County HMP update. The hazards of concern for Fort Bend County now include two additional hazards and exclude two that were previously listed. Additionally, certain hazards were given new names, and some were separated from combined sections into their own distinct sections.

The 2023 HMP includes the following changes to the hazards of concern:

- The 2018 HMP did not address Pandemic/Disease Outbreak. Beginning in March 2020, Fort Bend County was affected by the COVID-19 pandemic along with the rest of the world. The 2023 HMP includes Pandemic/Disease Outbreak as a hazard of concern.
- The 2018 HMP only addressed Extreme Heat in combination with the Drought hazard of concern. The 2023 HMP update addresses Extreme Temperatures in a separate hazard of concern that includes Extreme Heat and Extreme Cold.
- The 2018 HMP addressed Windstorms as a hazard of concern. The Planning Team agreed to address Windstorms under the Severe Weather hazard of concern.
- Erosion is a newly identified hazard for Fort Bend and was included with Expansive Soils under the Geologic Hazards hazard of concern.
- The 2023 HMP includes the best available data throughout the plan to present an updated understanding of Fort Bend County's risk.

4.1.2 Hazard Groupings

As per the 2018 HMP, the Planning Team maintained the grouping of hazards based on the similarity of hazard events, typical concurrence or impacts, consideration of how hazards have been grouped in Federal Emergency



Management Agency (FEMA) guidance documents (*FEMA 386-2 Understanding Your Risks, Identifying Hazards and Estimating Losses; Multi-Hazard Identification and Risk Assessment – The Cornerstone of the National Mitigation Strategy; Local Mitigation Planning Handbook*), and consideration of hazard grouping in the State of Texas HMP.



The *Dam/Levee Failure* profile addresses dam/levee failures that may impact Fort Bend County.



The *Drought* hazard profile specifically addresses drought events that may occur in Fort Bend County.



The *Extreme Temperature* hazard profile specifically addresses periods of extreme heat and cold that may occur in Fort Bend County.



The *Flood* hazard includes riverine, flash flooding, coastal, and stormwater flooding. Inclusion of the various forms of flooding is consistent with that used in FEMA's *Multi-Hazard Identification and Risk Assessment* guidance.



The *Geologic Hazards* profile includes erosion and expansive soils that may occur in Fort Bend County.



The *Hurricane and Tropical Storm* profile addresses hurricanes and tropical storms that may occur in or impact Fort Bend County.



The *Pandemic/Disease Outbreak* hazard profile addresses diseases with the potential to impact Fort Bend County, including the novel coronavirus (COVID-19), West Nile virus, and influenza.



The *Severe Weather* hazard includes lightning, hail, wind, and derecho events that may occur in Fort Bend County.



The *Tornado* hazard profile specifically addresses tornado events that may occur in Fort Bend County.



The *Wildfire* profile addresses wildfire events that may impact Fort Bend County.



The *Winter Weather* profile includes heavy snow, blizzards, and ice storms. This grouping is consistent with the State of Texas HMP.



Table 4.1-1. Identification of Hazards of Concern for Fort Bend County

Hazard	Description
Dam Failure	<ul style="list-style-type: none"> The 2018 State of Texas HMP includes dam/levee failure as a hazard of concern for the State. According to the National Inventory of Dams, there are 16 dams in Fort Bend County: 3 are classified as high hazard, 12 are classified as significant, and 1 is classified as low. There have been no reported dam or levee incidents in Fort Bend County. Dam and levee failure was identified as a hazard of concern for Fort Bend County.
Drought	<ul style="list-style-type: none"> Fort Bend County has had no FEMA drought declarations. Fort Bend County has experienced numerous droughts since 2018, according to the NCEI database, most recently one that lasted numerous months in 2022. Due to the history of occurrence and the impacts drought can have, drought was identified as a hazard of concern for Fort Bend County.
Extreme Temperature (Heat, Cold)	<ul style="list-style-type: none"> Extreme heat was identified as a hazard of concern in the 2018 State of Texas HMP. Fort Bend County was identified in one extreme temperature event in 2021, according to the NCEI database. Fort Bend County has experienced extreme hot and cold events and will continue to experience them in the future. Therefore, extreme temperatures are identified as a hazard of concern for Fort Bend County.
Flood	<ul style="list-style-type: none"> Riverine and coastal flooding are identified as hazards of concern in the 2018 State of Texas HMP; however, they were profiled individually. Eight flood events have been identified as occurring in Fort Bend County since 2018. The flood events have resulted in five FEMA disaster declarations. Based on the history of events and losses, flooding was identified as a hazard of concern for Fort Bend County.
Geologic (Erosion, Expansive Soil)	<ul style="list-style-type: none"> Erosion is common throughout Fort Bend County along the Brazos River by water and inland erosion caused by wind. Expansive soils are common throughout Texas because Texas has an abundance of soils with clay that have a high swelling potential and can move and change depending on water ground level. There is no FEMA-declared disaster; however, expanding soils have led to extensive damages that have destroyed building foundations. Geologic hazards is identified as a hazard of concern for Fort Bend County.
Hurricane & Tropical Storm	<ul style="list-style-type: none"> Hurricanes and tropical storms were identified as a hazard of concern in the 2018 State of Texas HMP. Fort Bend County has been included in 11 hurricane-related FEMA major disaster and emergency declarations since 1983. Based on the history of occurrences and losses, the hurricane and tropical storm hazard was identified as a hazard of concern for Fort Bend County.
Pandemic/Disease Outbreak	<ul style="list-style-type: none"> Fort Bend County has experienced two separate public health events since 2003. These include West Nile Virus and COVID-19. COVID-19 continues to impact public health both locally and globally. Pandemic/disease outbreak was identified as a hazard of concern.
Severe Weather (Lightning, Hail, Wind, Derechos)	<ul style="list-style-type: none"> Lightning was identified as a hazard of concern in the 2018 State of Texas HMP. Lightning occurs frequently in Fort Bend County and has been recorded 23 times by the NCEI database. Fort Bend has had two recorded hail events since 2018 that affected Fort Bend County. Fort Bend has not experienced any hailstorm-related major disaster/emergency declarations. Wind events encompass all occurrences that take place in various storms and weather. Nine wind events occurred in Fort Bend County, as recorded by the NCEI database since 2018. There have been no recorded occurrences of a derecho event in Fort Bend County since 2018. Severe weather was identified as hazards of concern for Fort Bend County.
Tornado	<ul style="list-style-type: none"> Tornado was identified as a hazard of concern in the 2018 State of Texas HMP. Fort Bend County has not been included in any tornado-specific FEMA disaster declarations but has had two incidents recorded in Fort Bend County since 2018. The tornado hazard was identified as a hazard of concern for Fort Bend County.
Wildfire	<ul style="list-style-type: none"> Wildfire was identified as a hazard of concern in the 2018 State of Texas HMP. Fort Bend has not experienced any fires that have been documented by FEMA or NOAA.



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Hazard	Description
Winter Weather	<ul style="list-style-type: none">• The wildfire hazard was identified as a hazard of concern for Fort Bend County.• Winter weather was identified as a hazard of concern in the 2018 State of Texas HMP.• Fort Bend County has been included in two winter weather-related FEMA major disasters and emergency declarations.• NCEI database has recorded seven winter weather events in Fort Bend County since 1997.• The hazard was identified as a hazard of concern for Fort Bend County.