

Watershed Protection Department Water and Wastewater Commission | August 14, 2019



Atlas 14 Background

- Nationwide study of historic rainfall frequency estimates (how much rain to expect)
- Temporal distribution of rainfall (rainfall patterns)
- Examines the effects of climate change as trends (will future rainfall be different?)



Atlas 14 Rainfall Changes

- Adds data from 1961 2017
- No significant change in the Colorado River Basin west of the Highland Lakes



Atlas 14 Rainfall Changes

- Point rainfall depths increase for a variety of return periods and durations
- Rainfall data suggests revising the rainfall pattern used for floodplain studies and drainage infrastructure design
 - Benchmark testing indicates varied impacts to peak flow and detention volume
- "Because [statistical] tests...indicated no statistically significant trends in the data, the assumption
 of stationary [rainfall] was accepted for this project area and no adjustment to...the data was
 recommended."
- "[NOAA] developed a modeling framework that allows non-stationary climate effects to be integrated into the NOAA Atlas 14 process and [NOAA is] testing the feasibility of incorporating future climate projections into precipitation frequency analysis.

Key impacts of Atlas 14 updated rainfall data

Measure	Current	Updated	Percent Increase
100-year rainfall (24-hour)	10.2 inches	Up to 13+ inches	30%
Buildings in 100- year floodplain	4,000	7,200*	80%

*Excludes Colorado River floodplain and associated lakes



Using FloodPro

- Go to ATXfloodpro.com
- Click "I want to..."
- Click "Explore Atlas 14 Changes"
- Enter an address to search

Overview of Flood Prevention Strategies

How do we ensure that **new** development minimizes its flood risk and the risk to others?

- Floodplain regulations
- Drainage regulations and criteria



Recommended Response

Step 1

Land Development Code amendments

Step 2

Drainage Criteria Manual revisions

Step 3 Floodplain Study and Mapping Updates





Step 1 Land Development Code amendments

FLOOD SAFETY

ATX

- Revise floodplain definitions
- Create a redevelopment exception
- Expand the Colorado River exception
- Increase the freeboard requirement

Step 2 Drainage Criteria Manual revisions

- Atlas 14 updates rainfall rates that are used to determine:
 - Floodplain location
 - Size of storm drain pipes, inlets, and ditches
 - Detention pond size





Step 3 Floodplain Study and Mapping Updates

- Utilize consultants from rotation list to complete studies
- Process to take 2 3 years
- Once complete, will provide data to FEMA to update flood insurance maps

Next Steps

- August 21 Codes and Ordinances Joint Committee
- August and September Public Hearings at Boards and Commissions
- October City Council
- August November Drainage Criteria Manual updates (rules change process that includes stakeholder input)
- 2019 to 2021 Re-mapping of Austin floodplains
- 2022 FEMA map updates

Follow our progress AustinTexas.gov/atlas14

View floodplains ATXFloodPro.com