



Atlas 14


UNDERSTANDING AUSTIN'S FLOOD RISK

Environmental Commission

July 18, 2018

Overview

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- ▶ Rainfall Data Changes
 - ▶ Solution Options
 - ▶ Recommended Code Amendments
 - ▶ Impacts to Residents
 - ▶ Next Steps
- 

NOAA Atlas 14 - Background

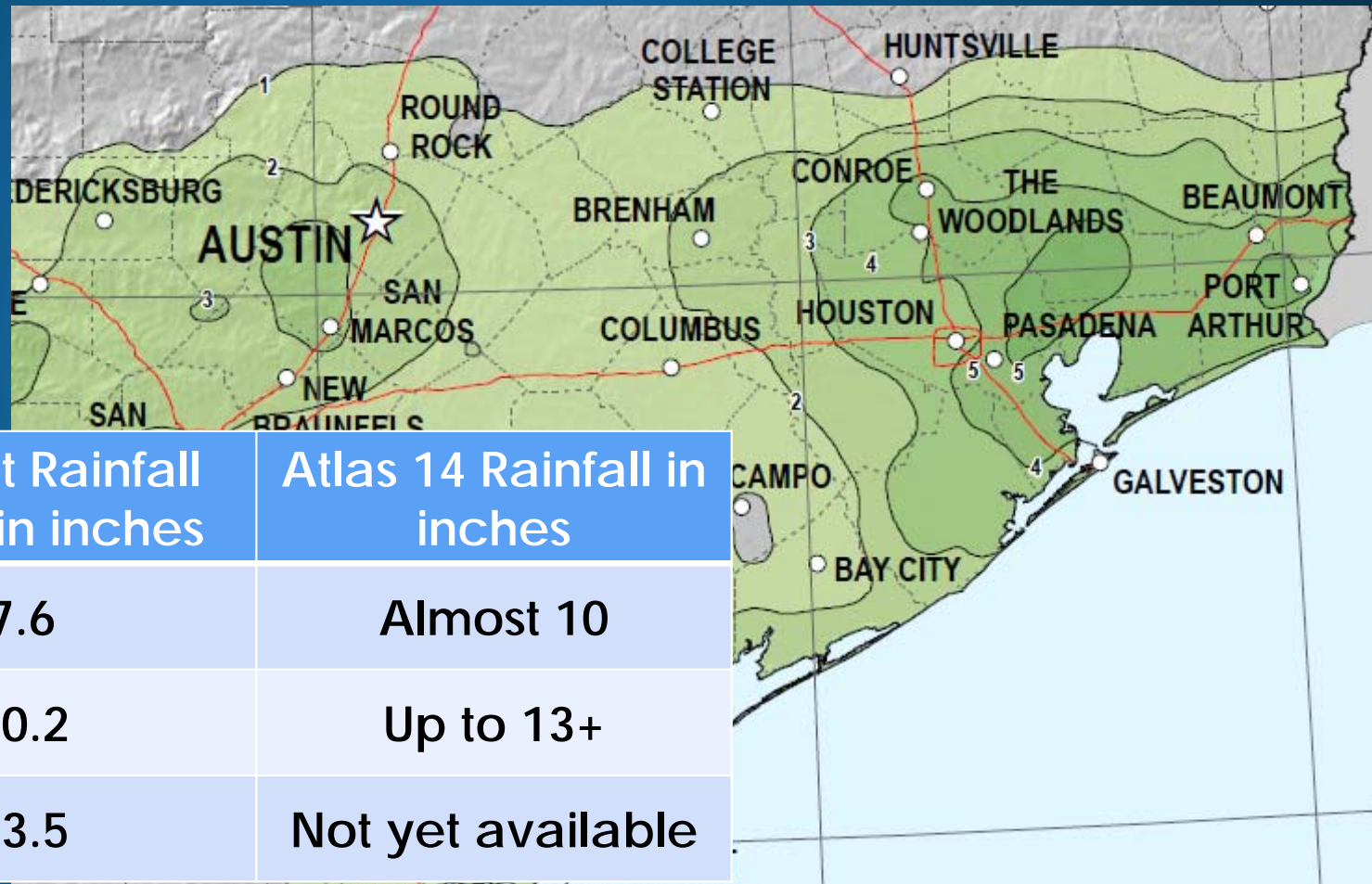
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- ▶ Nationwide study of rainfall intensities
- ▶ Partners:
 - ▶ **Federal:** National Weather Service, U. S. Army Corps of Engineers, Federal Highway Administration
 - ▶ **State/Local:** TxDOT, Harris County Flood Control District, City of Austin, et al.



Rainfall Depth Changes (Preliminary)

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Recurrence Interval	Current Rainfall Depth in inches	Atlas 14 Rainfall in inches
25-year	7.6	Almost 10
100-year	10.2	Up to 13+
500-year	13.5	Not yet available

City-wide Atlas 14 Impacts

- ▶ Approximate **number of buildings in floodplain** (excluding Colorado River floodplain)

Area	Current 100-Year	Current 500-Year	Difference	% Increase
City Limits	3,702	6,533	2,831	76%

- ▶ Approximate **percent of area in the floodplain** (excluding Colorado River floodplain)

Area	Current 100-Year	Current 500-Year	% Larger
City Limits	7%	9%	26%

Regulation Revision Options

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▶ Do Nothing

- ▶ Disregard Atlas 14 and maintain current regs
- ▶ Doesn't protect residents from flood hazards based on new understanding of flood risks

Regulation Revision Options

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- ▶ Wait to change regs until floodplain studies are updated
 - ▶ Updating floodplain studies will take a minimum of two years
 - ▶ Life/safety implications are too significant to delay
 - ▶ WPD will initiate floodplain study updates immediately


Act Now to Revise Regulations

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- ▶ Update regs using currently available data
 - ▶ Provides immediate protection and vital information to residents
 - ▶ Uses readily available, valid data

Proposed Code Amendment

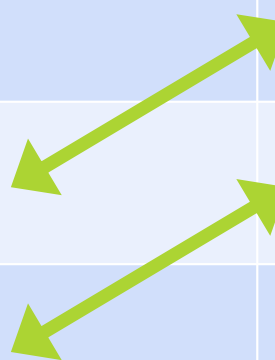
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- ▶ Revise floodplain definitions
 - ▶ Redevelopment exception
 - ▶ Colorado River exception
 - ▶ Change minimum freeboard to 2 feet
- 

Proposed Code Amendment

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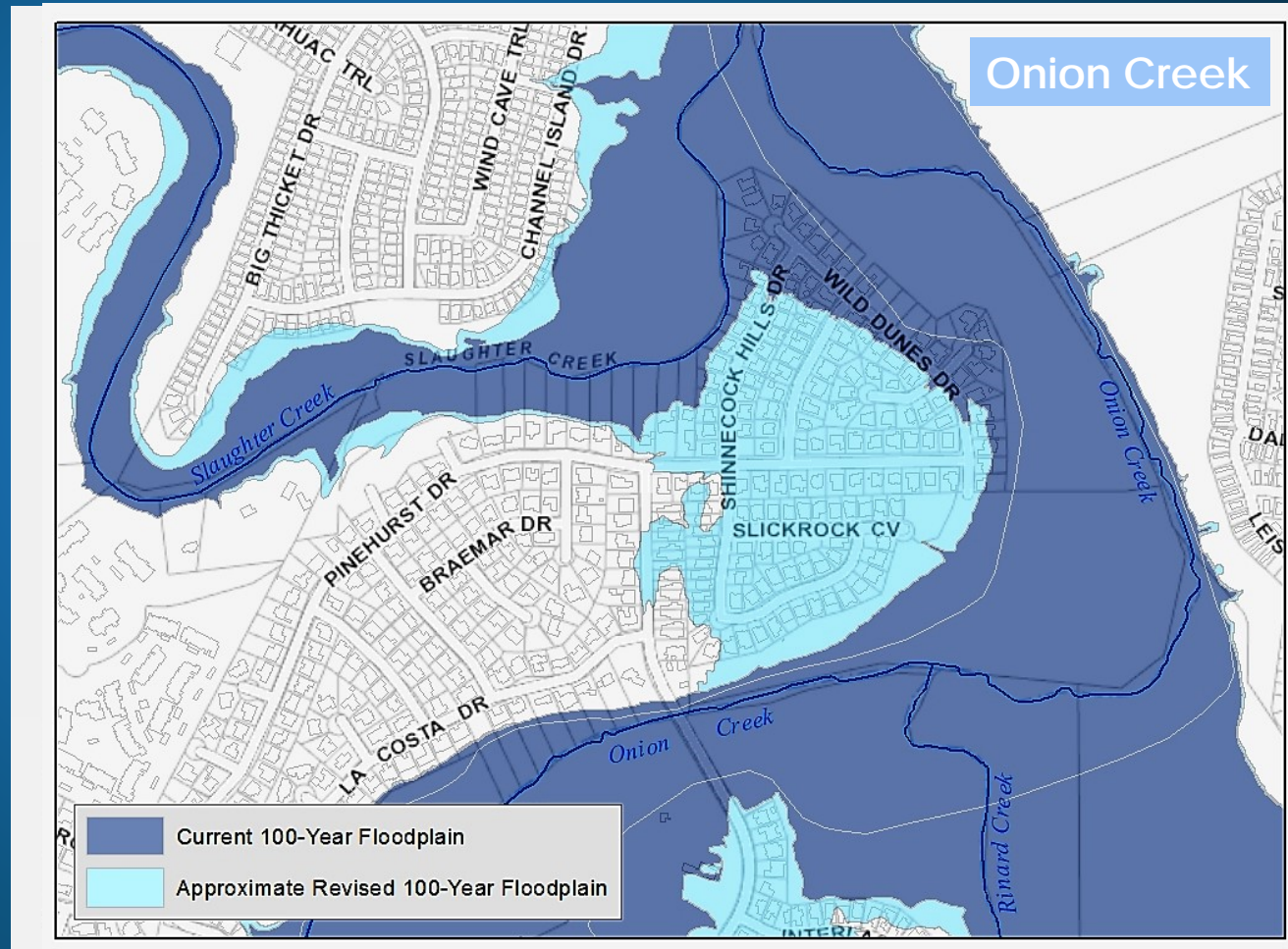
Recurrence Interval	Current Rainfall Depth in inches	Atlas 14
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The table shows a comparison between current rainfall depths and Atlas 14 values for three recurrence intervals: 25-year, 100-year, and 500-year. Green arrows point from the Atlas 14 values to the current rainfall depths, indicating a decrease in depth for each interval.

Revise floodplain definitions

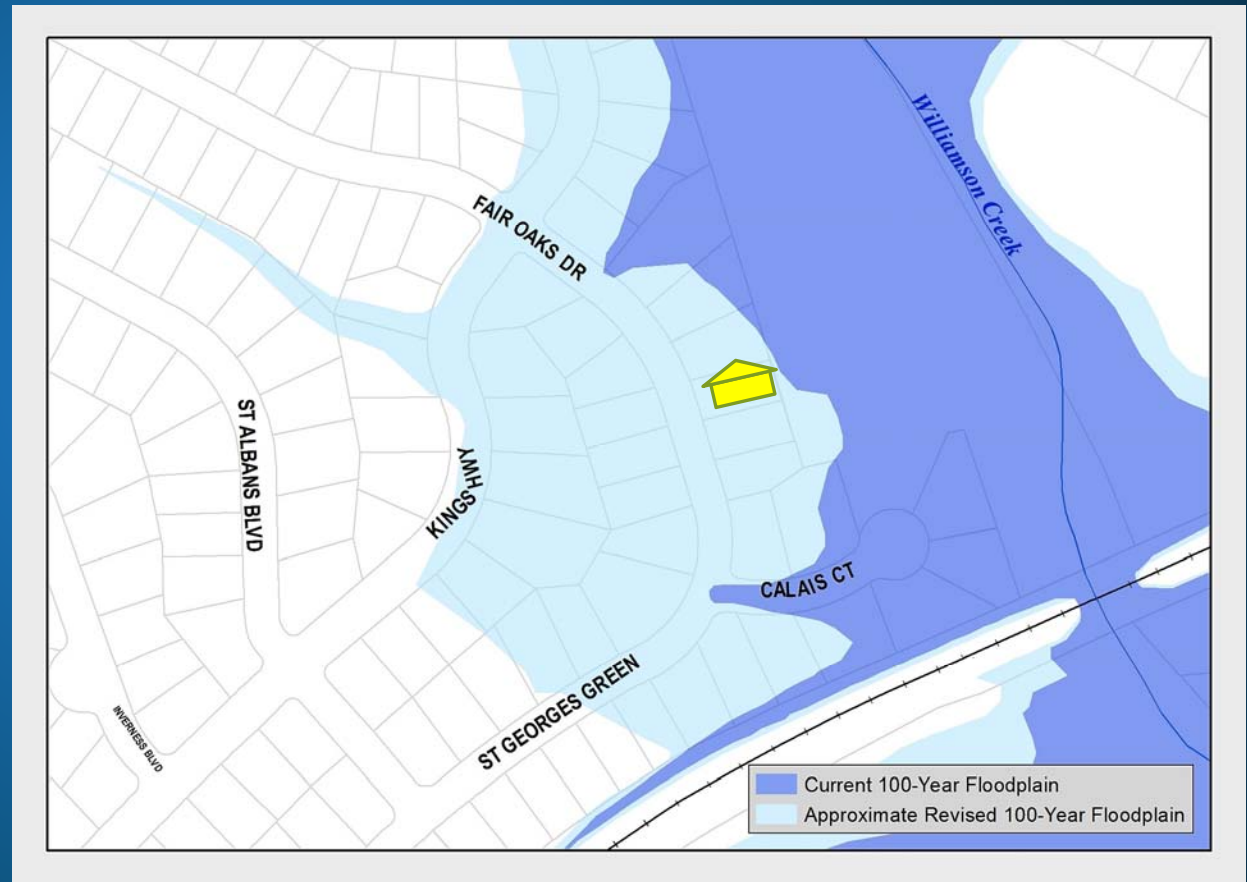
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- ▶ 100-year =
Atlas 14 100-year
or FEMA 500-year
- ▶ 25-year =
Atlas 14 25-year or
fully developed
100-year



Revise floodplain definitions

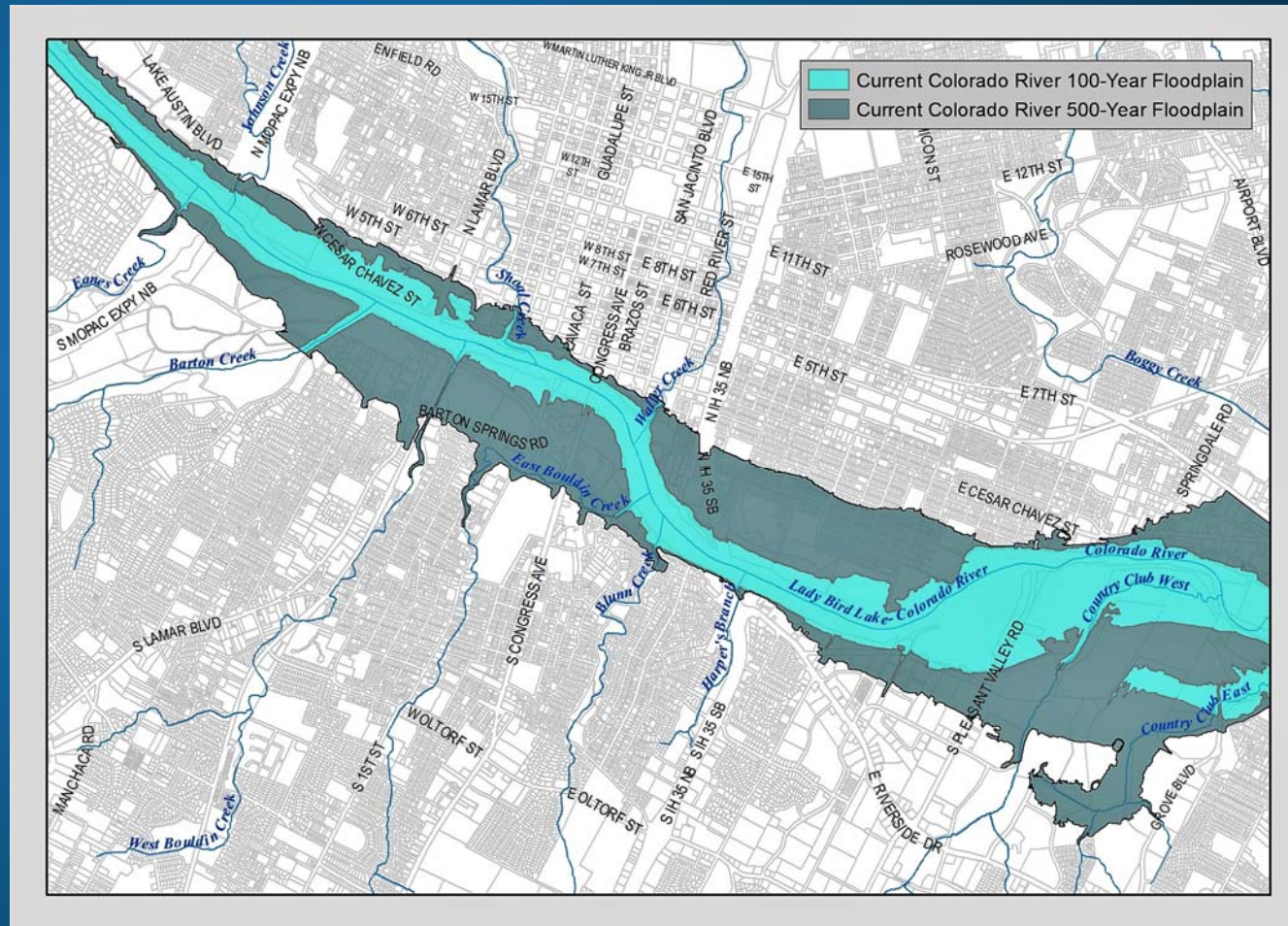
- ▶ Encroachment
 - ▶ Must satisfy floodplain rules
- ▶ Safe access
 - ▶ Access path min. 1-ft above
- ▶ Freeboard
 - ▶ Min. 2-ft above



Colorado River Floodplain

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- ▶ Maintain current 100-year floodplain along Colorado River



Revise floodplain definitions – Why?

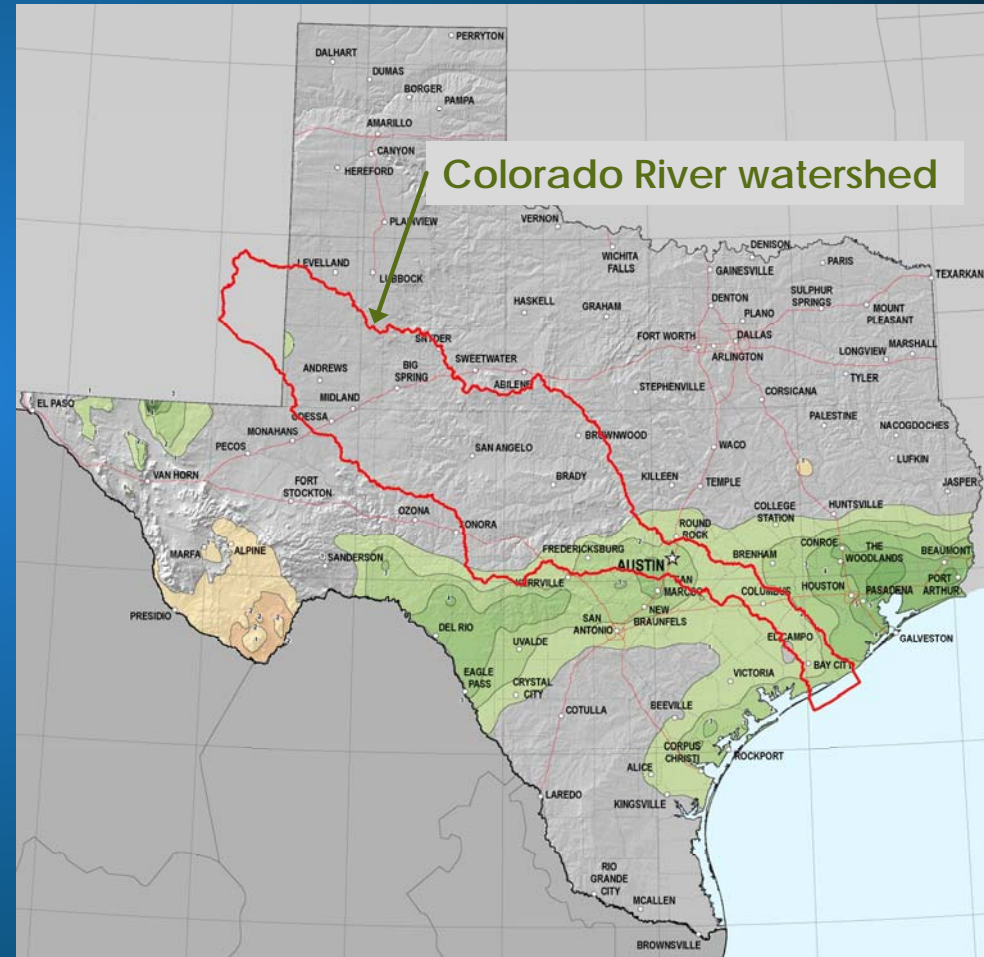
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- ▶ Inform public of current understanding of flood risk
- ▶ Current, valid 500-year is approximate new 100-year

Revise floodplain definitions – Why?

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- ▶ Atlas 14 changes not expected to significantly affect Colorado River watershed upstream of Austin



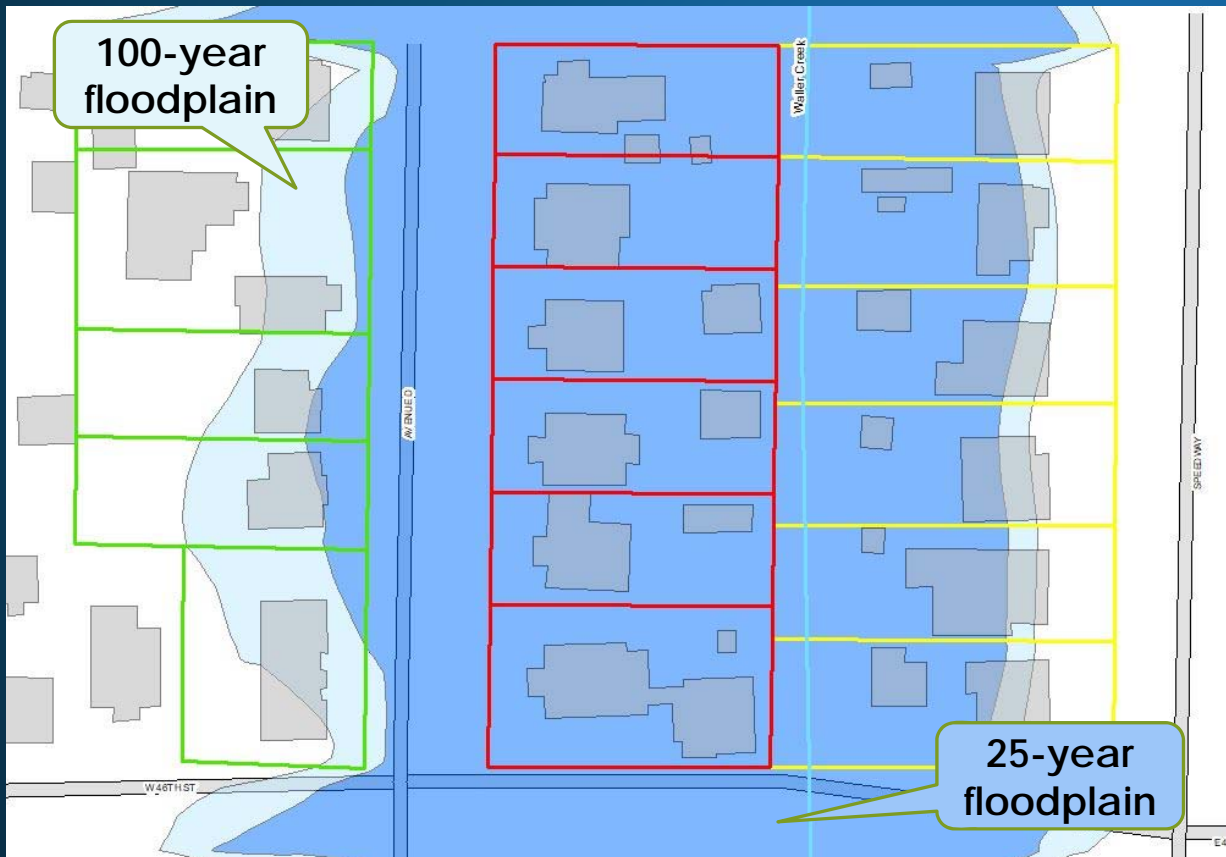
Redevelopment exception

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- ▶ A residential building in the 25- or 100-year floodplain can be redeveloped as long as:
 - ▶ Above 100-year floodplain by 2 feet
 - ▶ A maximum gross floor area that is the larger of existing or 2,200 square feet
 - ▶ Does not increase number of dwelling units

Redevelopment exception

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Under current rules:

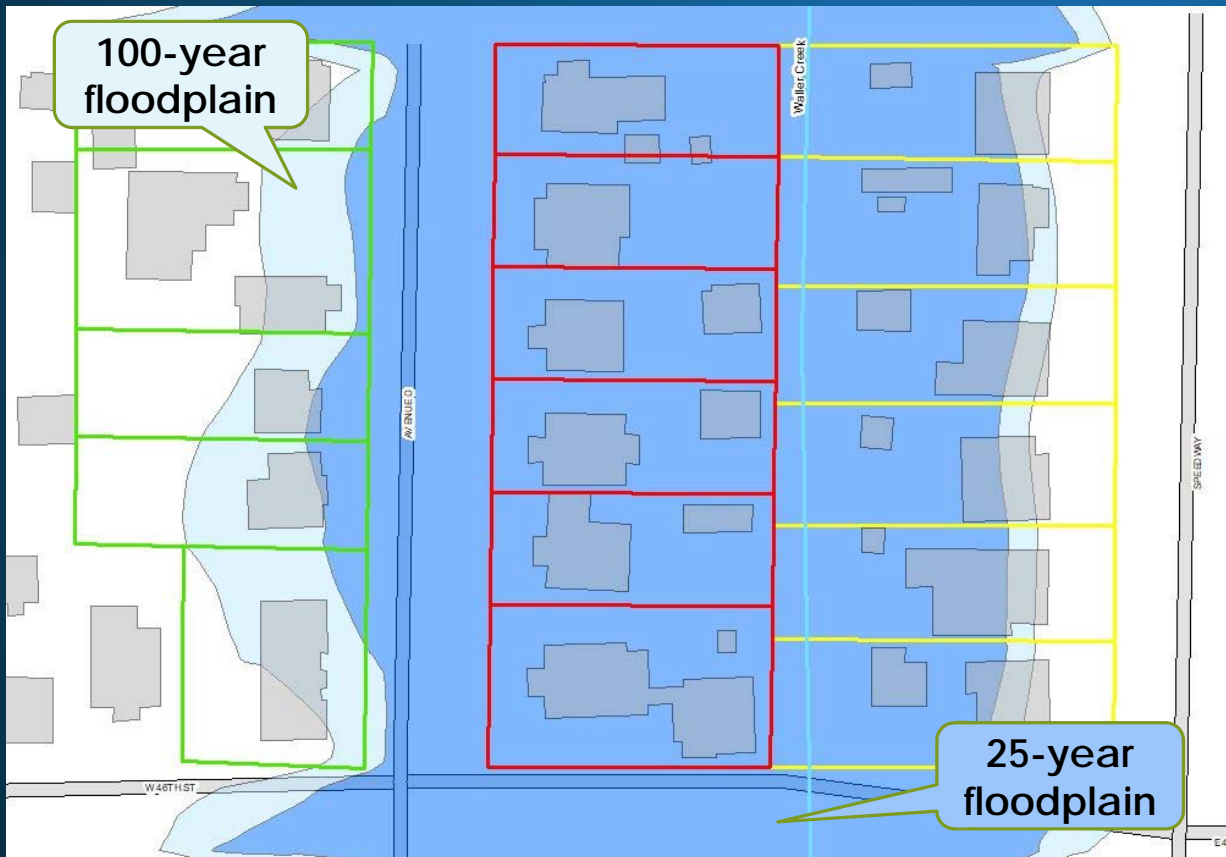
Properties in **green** likely to redevelop under the pre-1983 exception

Properties in **yellow** likely to redevelop with an administrative variance

Properties in **red** require a Council variance to redevelop

Redevelopment exception

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Under new rules:

All properties have same opportunity to redevelop with a size limitation and elevated finished floor under an exception

Flood risk will be reduced in all cases

Redevelopment exception – Why?

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- ▶ Incentivizes redevelopment while reducing flood risk
 - ▶ Over time reduces the number of buildings at risk of flooding
 - ▶ Simplify code
 - ▶ 2,200 sq. ft. is median single-family home size in Austin
- 

Colorado River exception

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- ▶ **Expand** 100-year encroachment exception to include Lake Austin and Lake Travis



Colorado River exception – Why?

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- ▶ Colorado River flooding is not expected to happen in a “flash”
- ▶ Still requires no adverse impact and freeboard – waives safe access



Minimum freeboard to 2 feet

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- ▶ Minimum height between building's lowest floor and 100-year floodplain
- ▶ More than 140 Texas communities have freeboard of 2 feet or higher



Minimum freeboard to 2 feet – Why?

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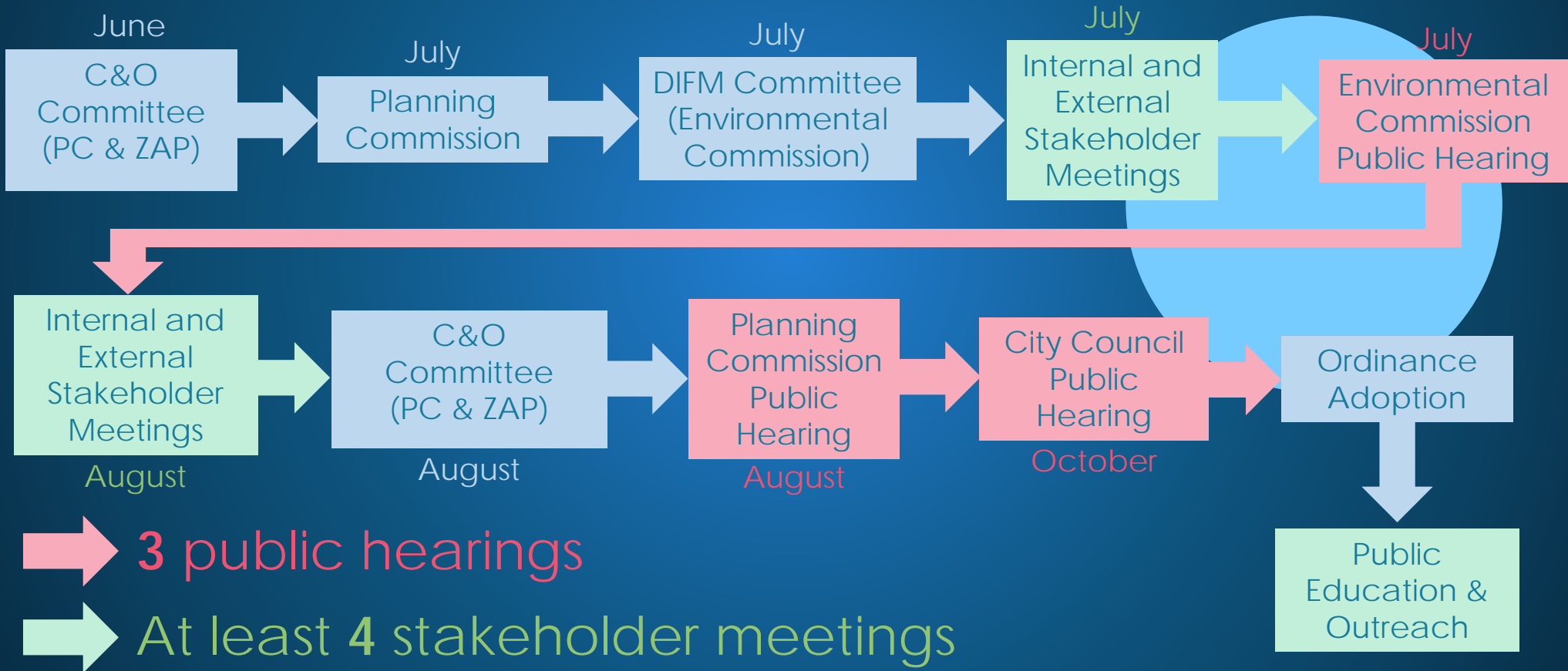
- ▶ Freeboard is the single-most effective means for reducing flood risk to a building in the floodplain
- ▶ Simplify code – current freeboard requirement for administrative floodplain variances and Central Business Area exception is 2 feet, elsewhere it's 1 foot
- ▶ Reduced flood insurance costs can offset increased construction cost

Atlas 14 Impact to homeowners

- ▶ New understanding of flood risk
- ▶ Property values
- ▶ Flood insurance changes at least 3 years away
 - ▶ Rates may go up
 - ▶ Insurance requirements may change
 - ▶ Talk to an insurance agent now
- ▶ See impacts at ATXfloodpro.com

Code Amendment Process and Timeline

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Next Steps

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- ▶ Public Hearings & Stakeholder Meetings
 - ▶ Check [AustinTexas.gov/atlas14](https://austintexas.gov/atlas14) for details
- ▶ Public Education & Outreach
 - ▶ Post cards to properties in 100/500-year floodplains
 - ▶ Geographically based public meetings
- ▶ WPD staff to determine application of rainfall values for Austin area (Oct-Dec 2018)
- ▶ Rules change process – DCM (Q2 or Q3 of FY 2019)
- ▶ Re-mapping of Austin floodplains (2019 – 2021)

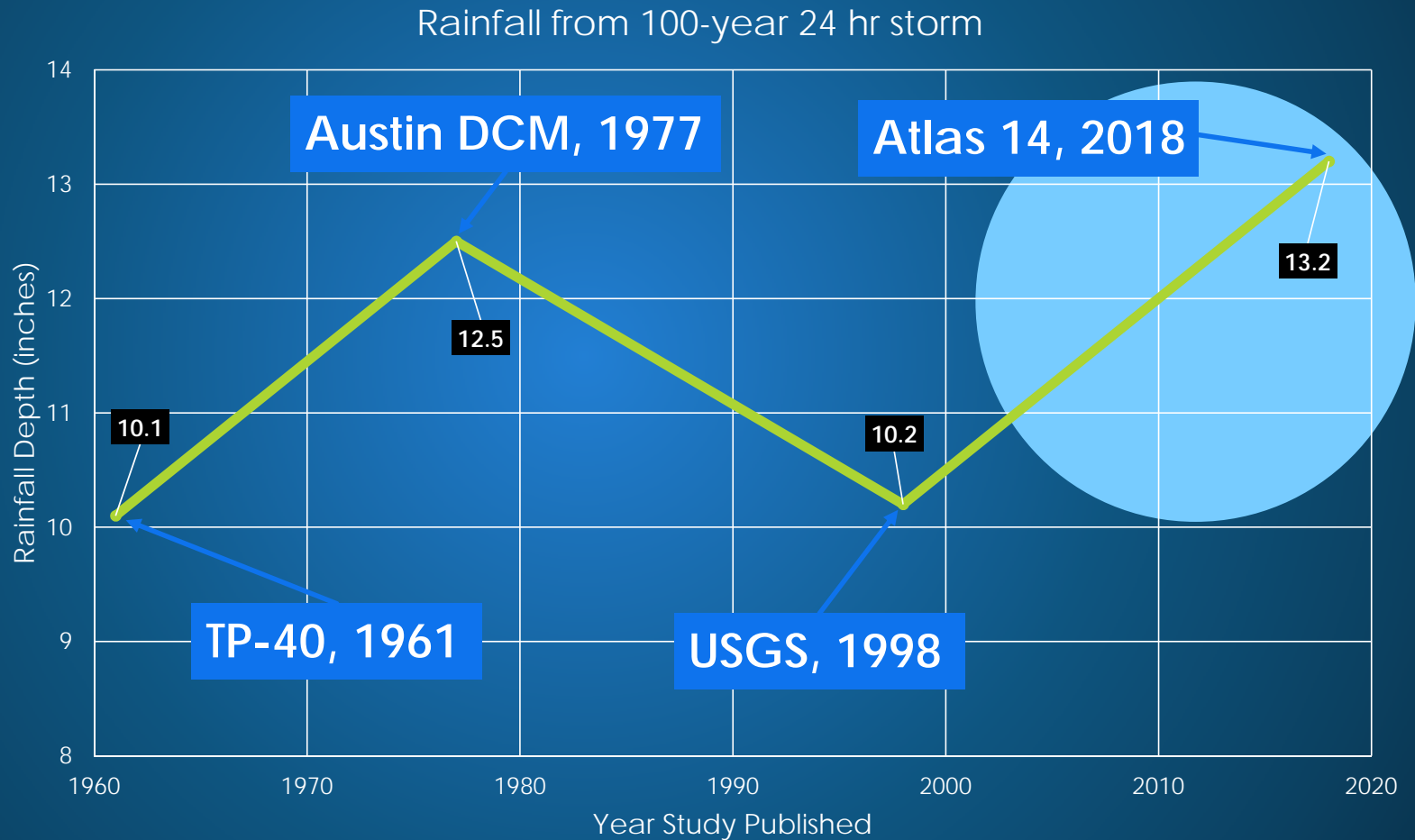
Follow our progress at:
AustinTexas.gov/atlas14

Contact us at:
Atlas14@AustinTexas.gov
Floodplain Hotline 512-974-2843

View floodplains at:
ATXfloodpro.com

History of Rainfall Intensity Studies for Austin

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Need for Action



Austin American-Statesman

Tuesday, May 26, 2015

EXPANDED COVERAGE CENTRAL TEXAS FLOODING

WAVES OF DISASTER

12 people, including holiday visitors, still missing as river sweeps away 72 homes.

Lamar Boulevard turns into a waterway itself as Shoal Creek spills over its banks.

Governor adds 24 counties to devastation list, warns of water's 'tsunami'-like power.



Rescue personnel grab the hand of a man stranded Monday at the northwest corner of Lamar Boulevard and 10th Street after Shoal Creek overflowed to banks, inundated Lamar with rushing water and covered the field at House Park. Several cars were stalled under and near the 10th Street bridge, where spectators gathered in disbelief, taking photographs. BY JESSIE MARTINEZ / FOR KAMERICAN-STATESMAN

Flood is highest in Texas history

Hays asks citizens to look for missing, rain to continue rest of week.

By Tony Plochinski
tplochinski@statesman.com

WIMBLEDLEY — On a day that brought a new round of fierce thunderstorms and torrential rains, authorities continued a grim search Monday for 12 people still missing after being swept from riverfront homes, and property owners returned to dramatic scenes of destruction.

San Marcos and Hays County officials moved toward the property damage wrought by the historic flood, saying 72 homes had been washed away. Texas Gov. Greg Abbott, who toured the scene, said the storms brought a punch that "you cannot candy-coat" and declared a disaster area in 24 additional counties, including Bastrop and Hays. Abbott said the flood in the Wimberley valley is "the highest flood we've ever recorded."

for Dodds' replacement



Celebrating the restaurants that have been doing it right for years

12 Years a Slave leads our movie reviews

Saturday: Sunny and cooler 75A-7
Sunday: Mostly sunny 75-74
Monday: Chance of showers 74-60
Tuesday: Chance of showers 74-64

Austin American-Statesman

Friday, November 1, 2013

CENTRAL TEXAS FLOODING 4 PAGES OF EXPANDED COVERAGE INSIDE

DELUGE TURNS DEADLY

2 DEAD IN STORM: Victims found in Onion Creek and in Caldwell County.

DAMAGE: Homes, roads, golf course inundated in hard-hit Southeast Austin.



Isabel Rodriguez and her children Christopher, 3, and Rubi, 9 months, are carried on a boat Thursday on Oakclawer Boulevard after their home on South Pleasant Valley Road was flooded. BY JESSIE MARTINEZ / FOR KAMERICAN-STATESMAN

By Dennis Haleman
dhaleman@statesman.com

As a second October deluge triggered a second round of flooding across Central Texas on Wednesday night early Thursday morning, rescuers and boats plied people from flooded homes and residents huddled in their rooms to escape rising water when storm-swept creeks swallowed neighborhoods.

Emergency workers in teams searched flooded areas Thursday, particularly in hard-hit Southeast Austin neighborhoods near Onion Creek, where more than 100 homes were evacuated. Officials didn't have an damage estimate or a how many homes had 09 people.

The flooding was hit for one death in Caldwell County; the body of a victim was discovered in Onion Creek in Austin. In Caldwell County, officials were a big for a 26-year-old Cal Lake man who reports into the swollen Guadalupe River around 1:30 a.m. day.

The storm erupted



Austin American-Statesman

tuesday morning

13 die as floods ravage city; losses estimated in millions



By BRUCE HIGHT
bhight@statesman.com

All told, 13 people, many swept from their cars and homes by the rising, swirling waters of Shoal Creek, drowned late Monday night as flash floods poured on communities across the city.

Another 10 people were reported still missing late Monday at the 10th St. A total of nine were presumed dead by police based on accounts of their disappearance by witnesses.

The search for bodies continued throughout the day as rescue workers dug through mud and debris several feet back to bring peace.

Less serious flood damage was reported along several low-lying creeks. Some flooding also occurred as far north as South East Austin and the Hill Country property owners from the storm had suffered damage and barely along Shoal Creek.

Dollar estimates on the extensive property damage to homes, businesses and other facilities were sketchy, but George Plochinski and Jessica Martinez said it was "in the millions."

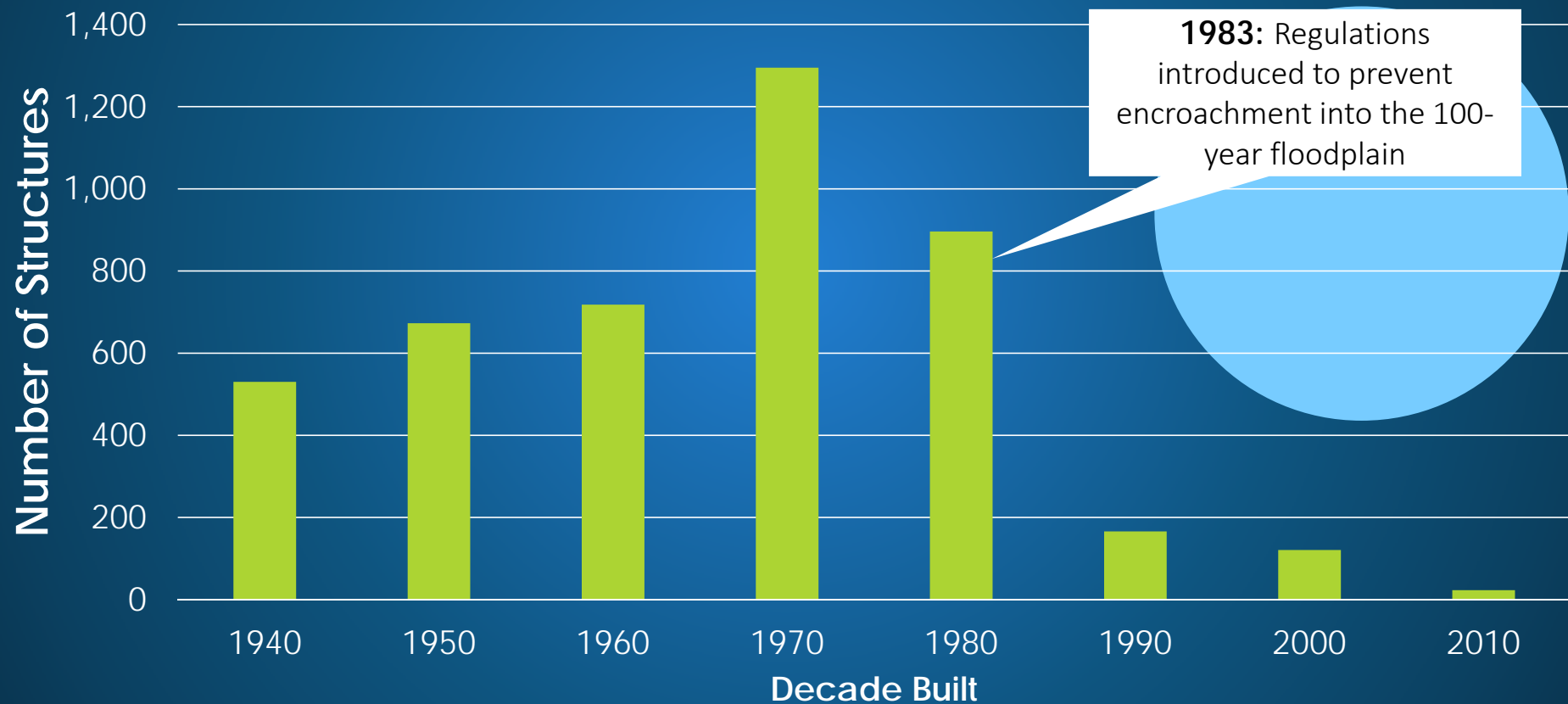
The 13 were apparently the most dead in all Austin since Walter Creek in

The aftermath



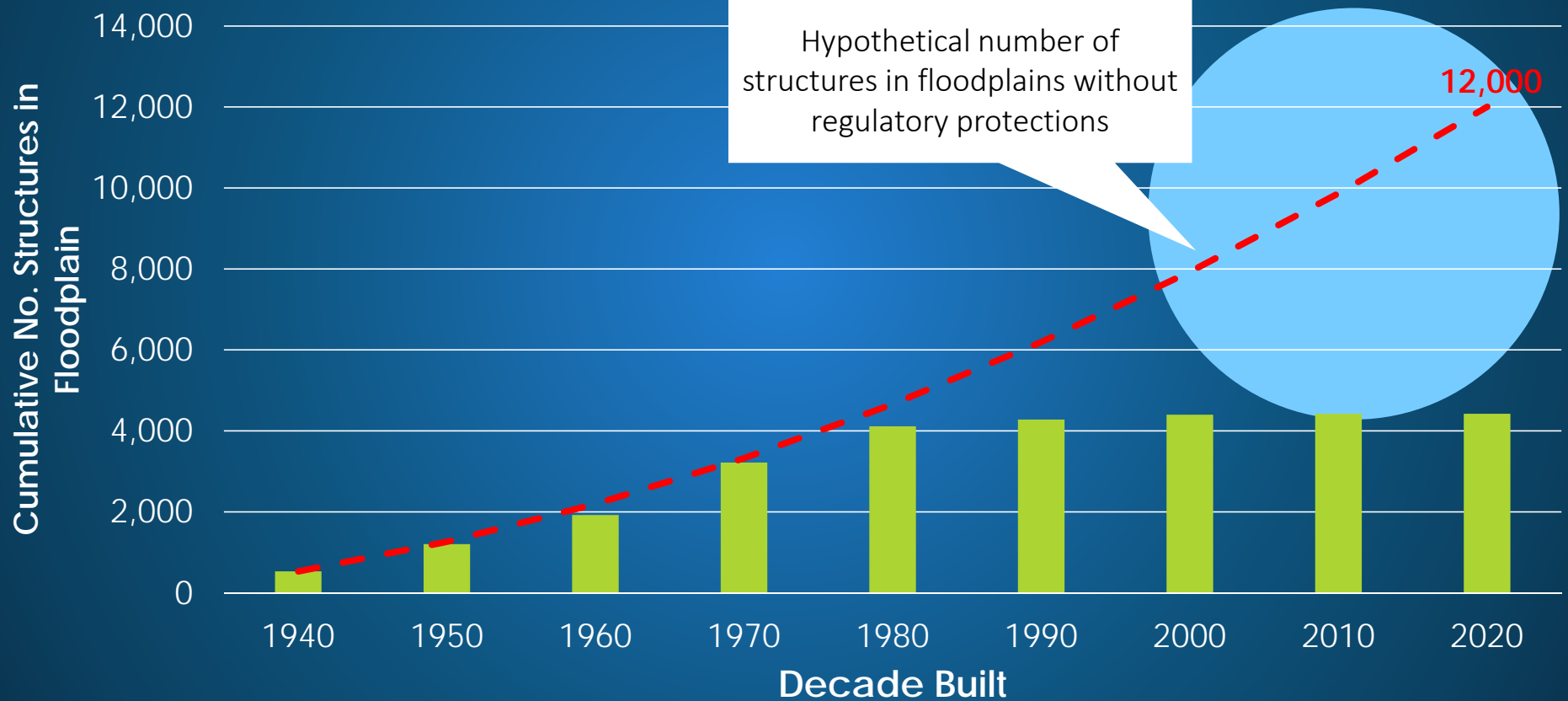
Ana Hernandez, 2, stands amid the destruction of her home as she waits for water to begin.

Watershed Regulations: Flood Mitigation



Count of structures in the current 100-year floodplain by decade


Watershed Regulations: Flood Mitigation



Count of structures in the current 100-year floodplain by decade

Regulation Revision Options

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- ▶ Do Nothing
 - ▶ Wait to change regs until floodplain studies are final
 - ▶ Update regs now using currently available data
- 

Redevelopment exception

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- ▶ How does this apply to additions?
 - ▶ If the home meets freeboard and the proposed total square footage doesn't exceed the size limitation, then it may be approved under this exception

Redevelopment exception

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- ▶ How does this apply to renovations?
 - ▶ If the renovation is not a substantial improvement, then it may be approved under the existing code
 - ▶ If the renovation is a substantial improvement and the home meets freeboard, then it may be approved under this exception