Onion Creek Neighborhoods

February 9, 2017

Study Purpose

Travis County is conducting a comprehensive study of recent flood events to:

- Better understand what happened
- Plan for the future
- Explore flood mitigation options

How is the study conducted?

Gather Technical Data

(topography, rainfalls, flow rates)

→

Gather Resident Data

(high water marks, testimony)

→

Develop Model of Flood Event

→

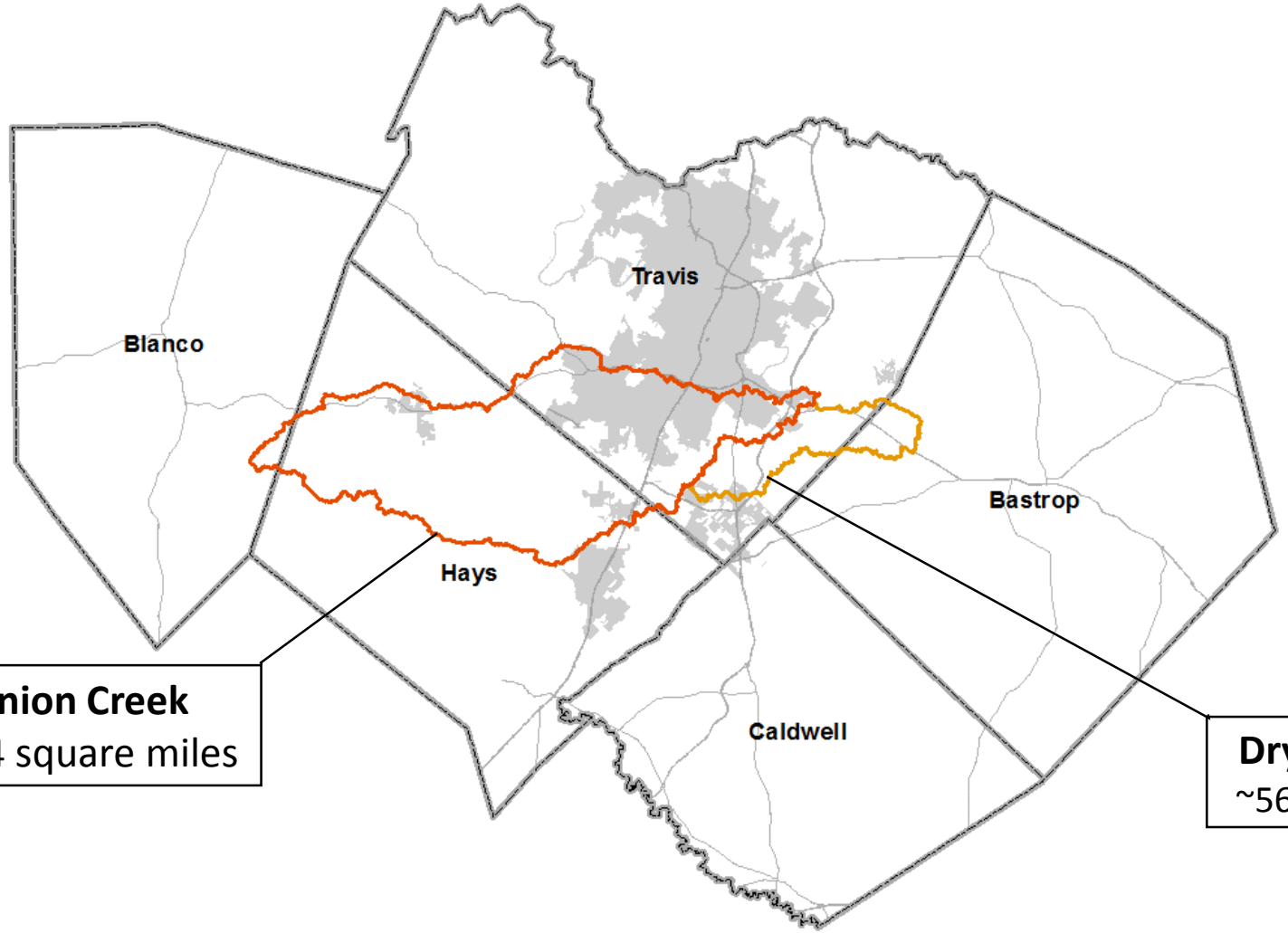
Evaluate Options to Reduce Flooding

Reason for Tonight's Meeting

- Introduce the study
- Explain the process
- Hear your concerns
- Collect information

Project Limits – Study Areas

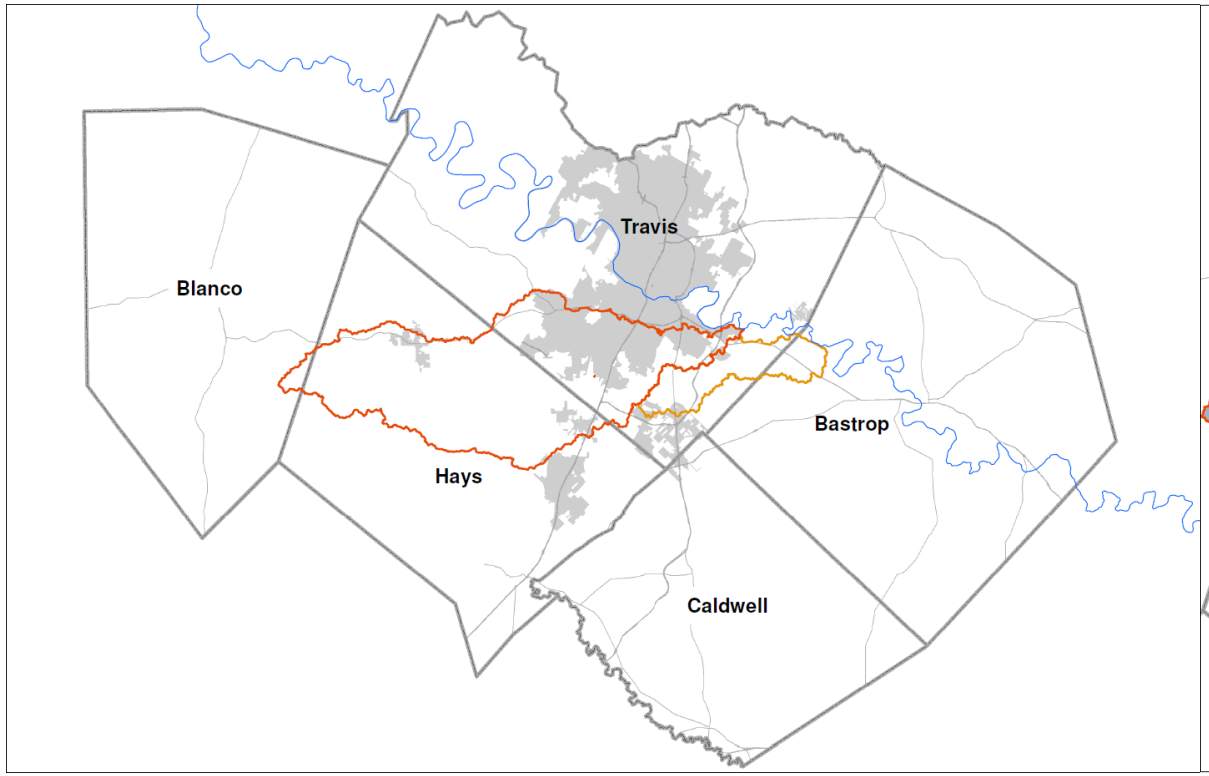
Watersheds:

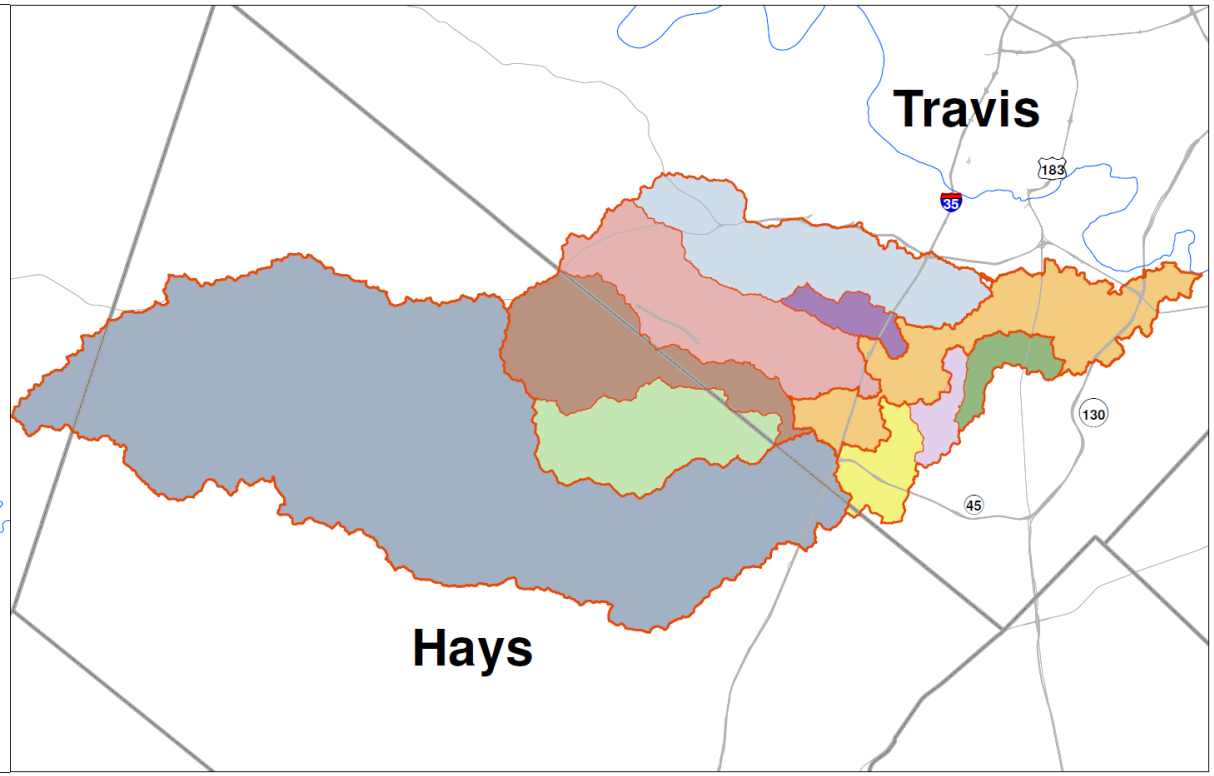


Onion Creek
~344 square miles

Dry Creek East
~56 square miles

Watershed or Sub-watershed?

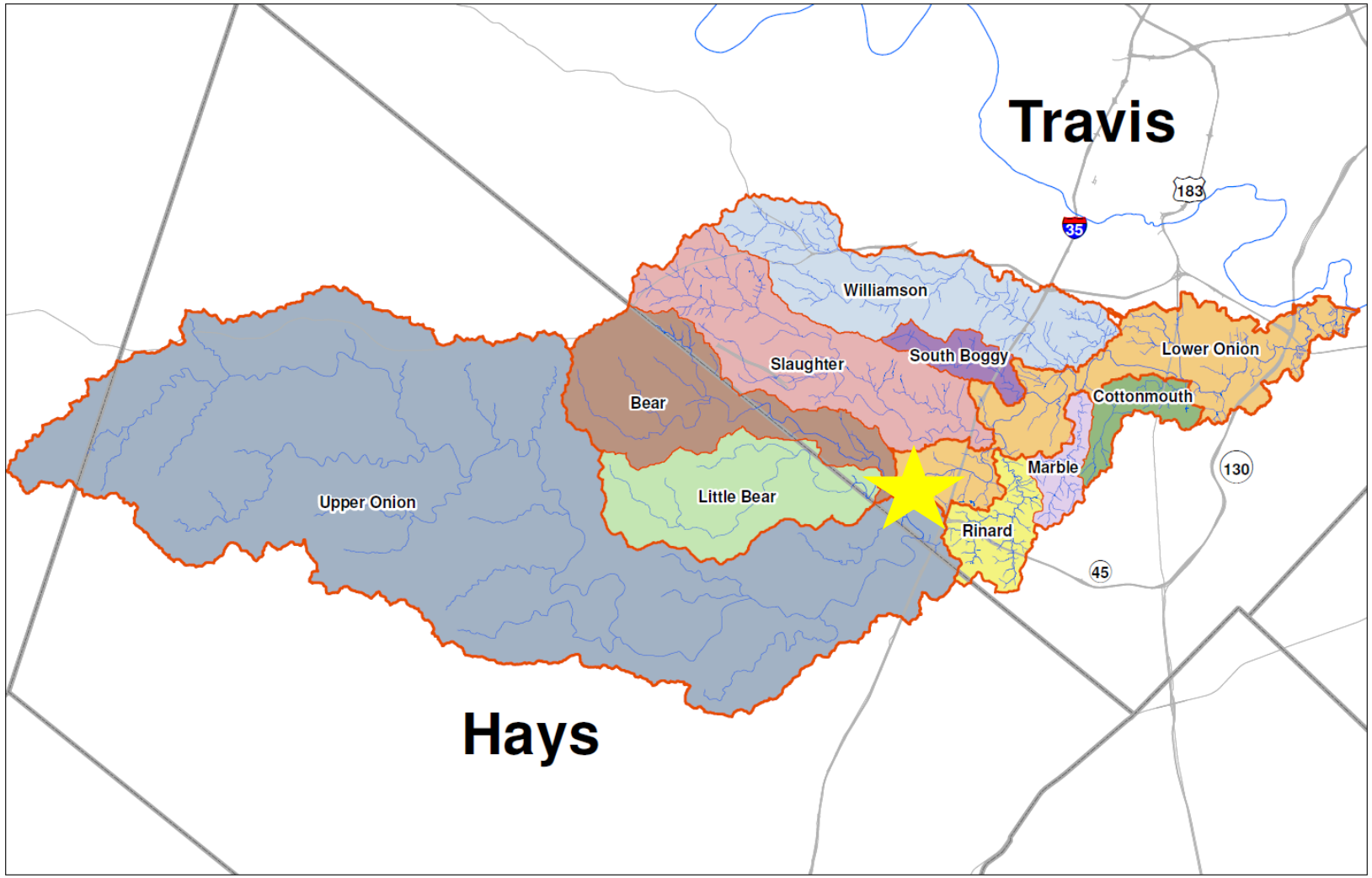




Watershed: An area of land that drains to a common location

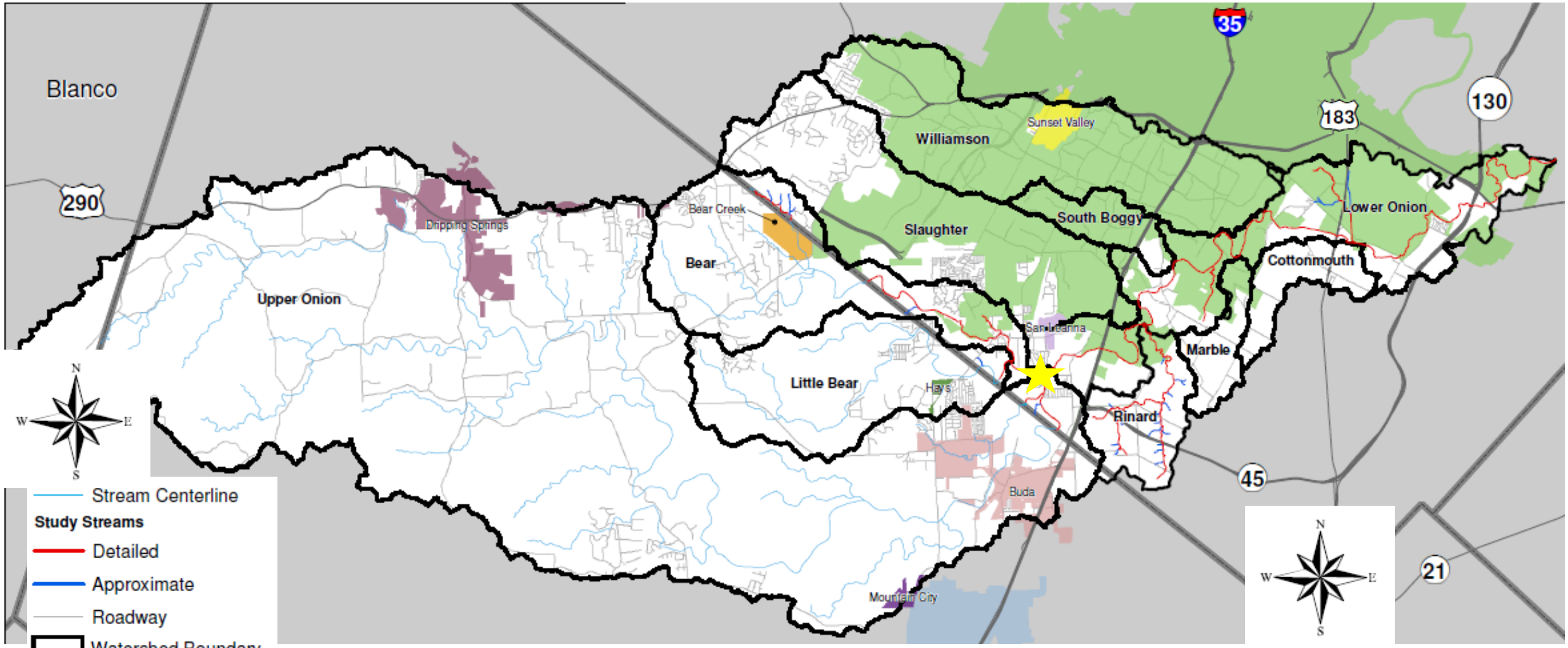
Subwatershed: smaller portion of a larger watershed

Onion Creek Subwatersheds

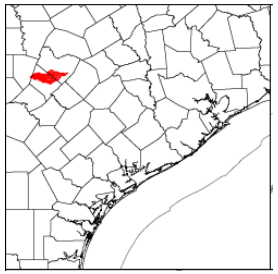


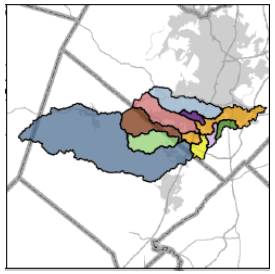
1. Upper Onion
2. Bear
3. Little Bear
4. Slaughter
5. South Boggy
6. Rinard
7. Marble
8. Cottonmouth
9. Lower Onion

Onion Creek Study Types



Onion Creek Neighborhoods

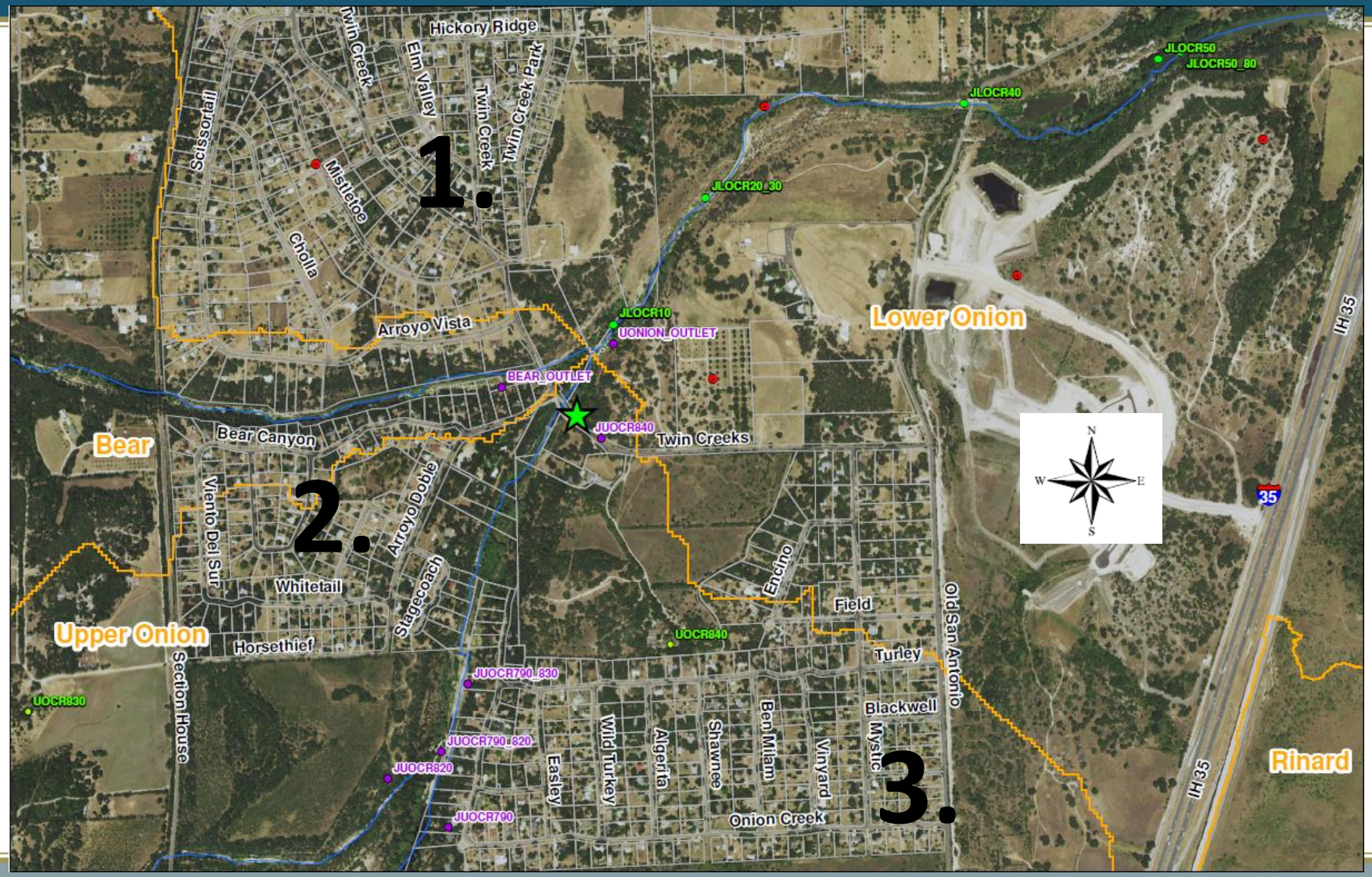




1. Twin Creeks
2. Arroyo Doble
3. Onion Creek Meadows

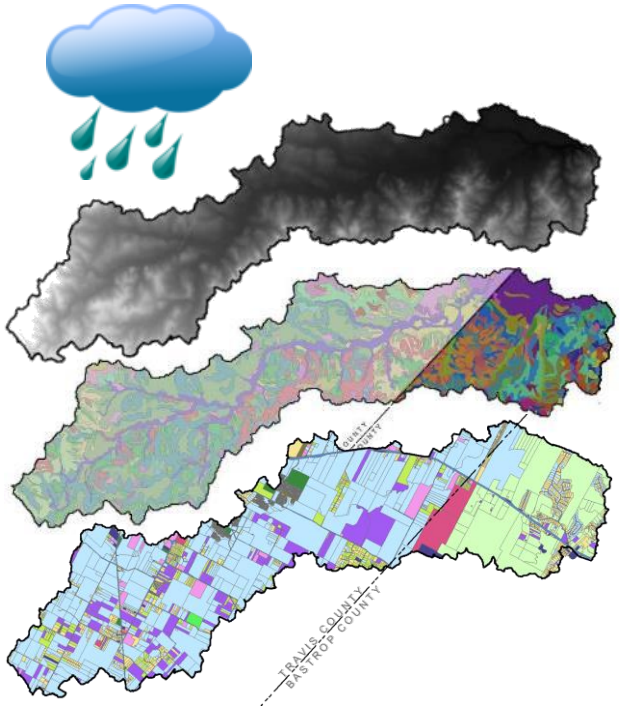
Legend

- USGS_Gages_OnionBasin
- Lower Onion Junctions
- Upper Onion & Bear Junctions

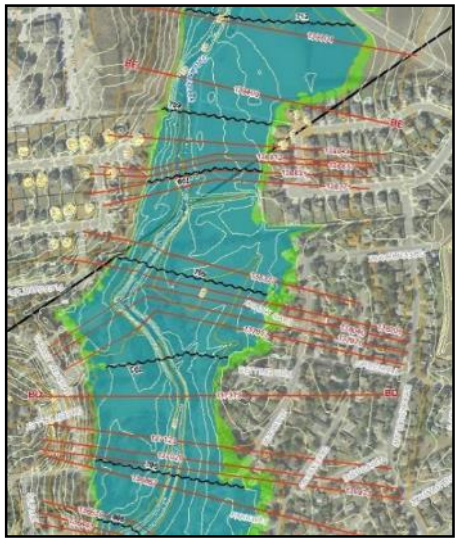


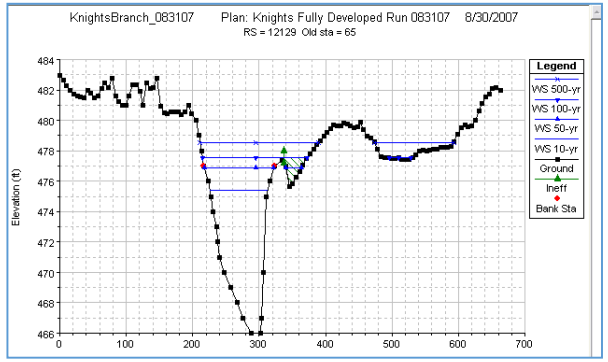
Floodplain Management Overview

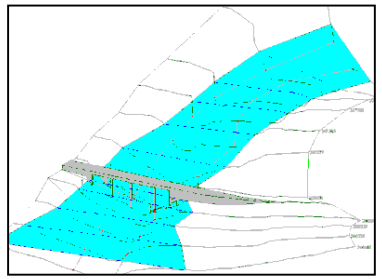
- **Hydrology** – Water movement to creek
  - Rainfall
  - Topography
  - Soils
  - Land Use



Hydraulics – Water movement in creek
  - Hydrology
  - Topography
  - Cross-Sections
  - Creek Crossings

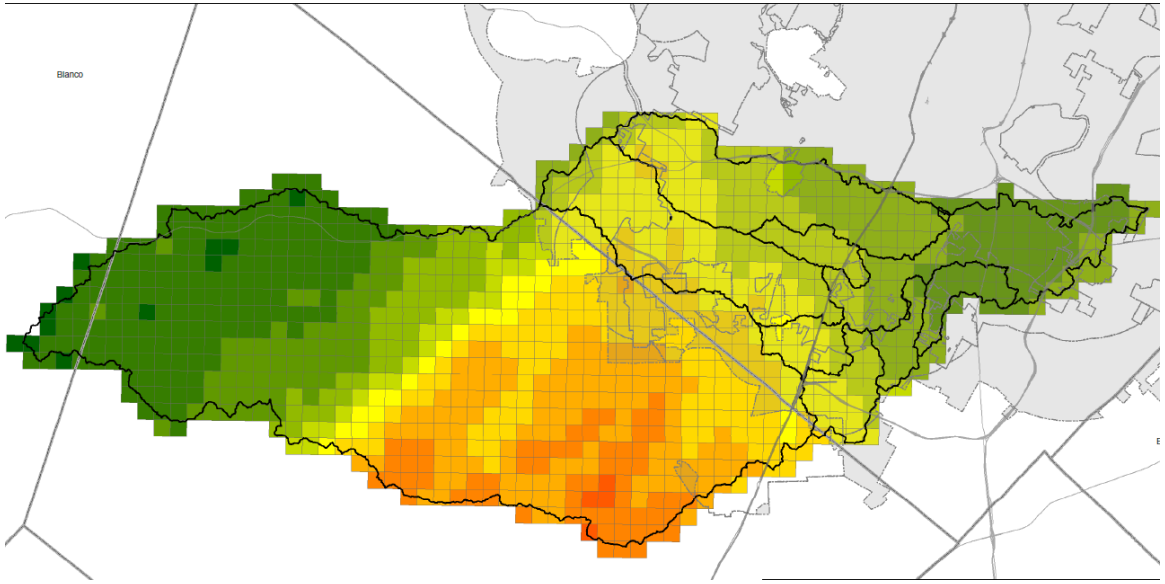


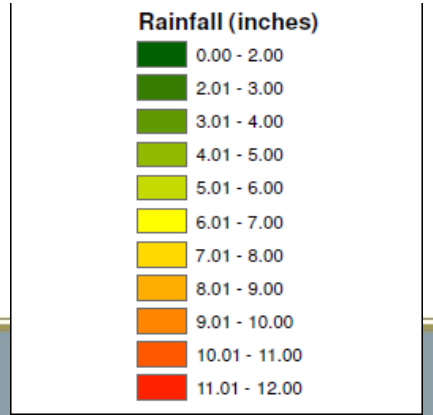




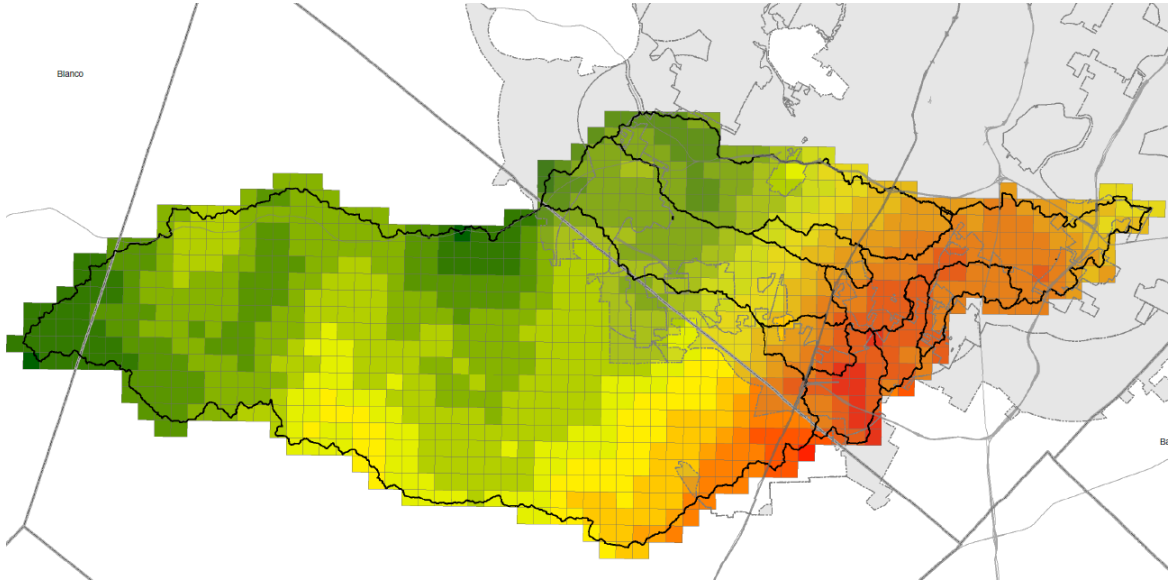
Onion Creek Rainfall

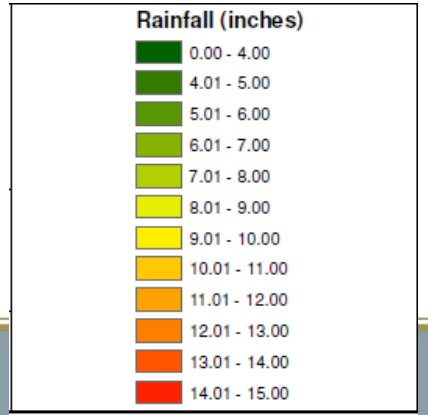
October 2013



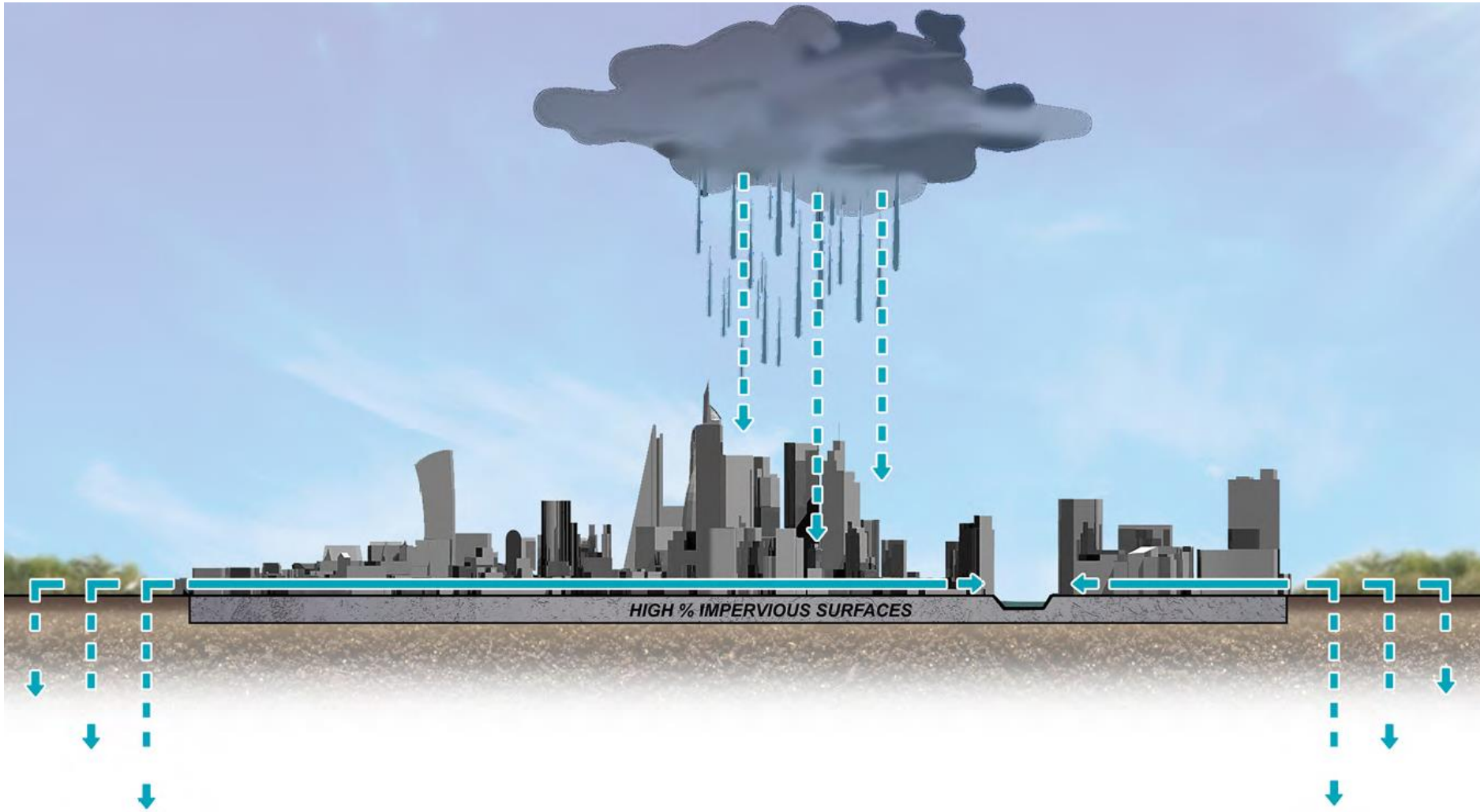


October 2015

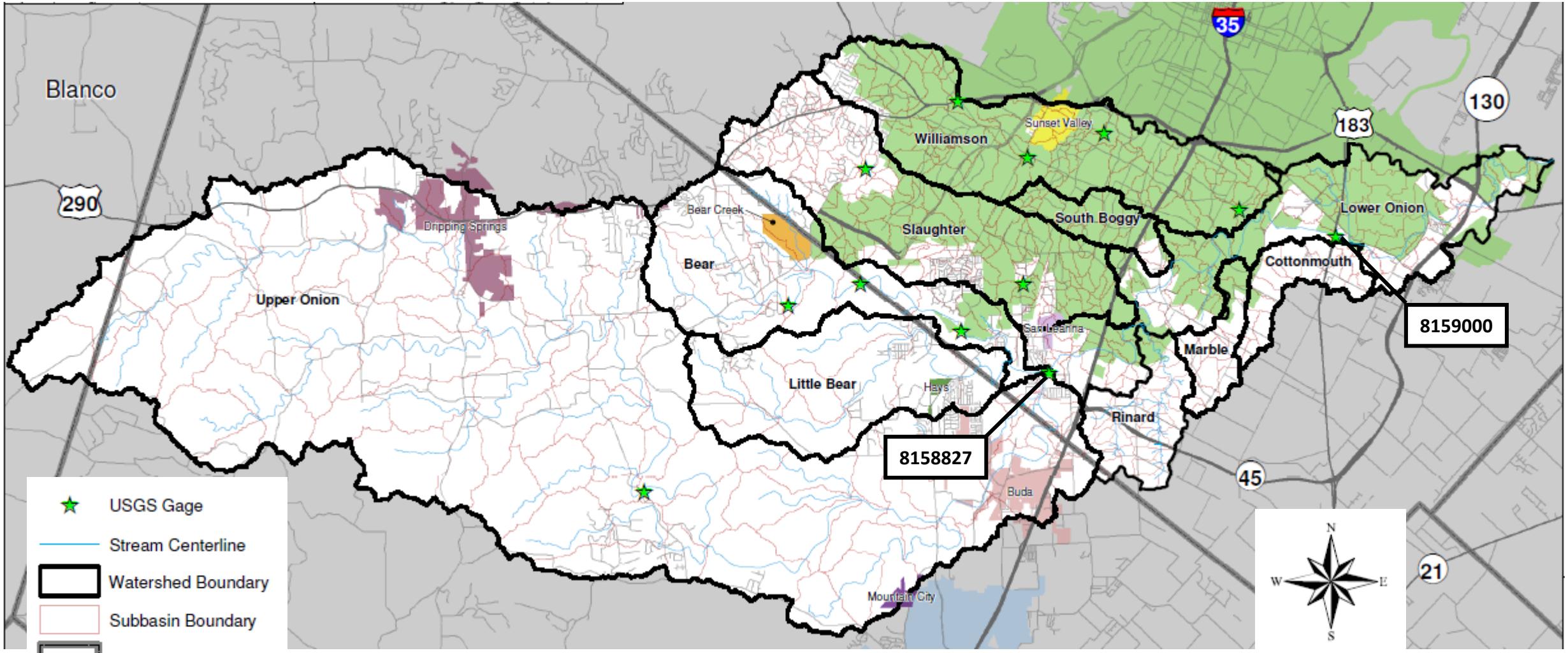




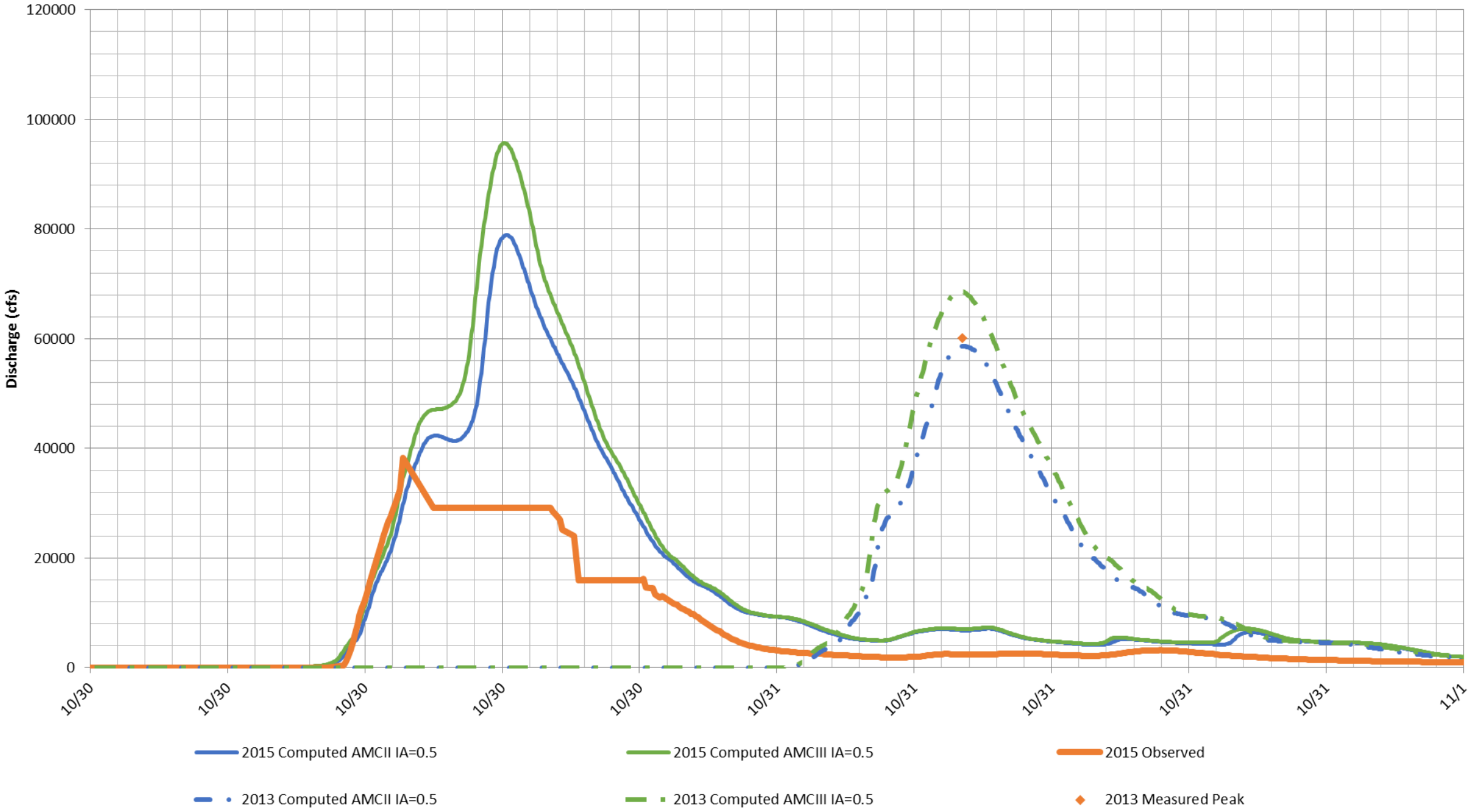
Hydrologic Cycle: Rain to Flow



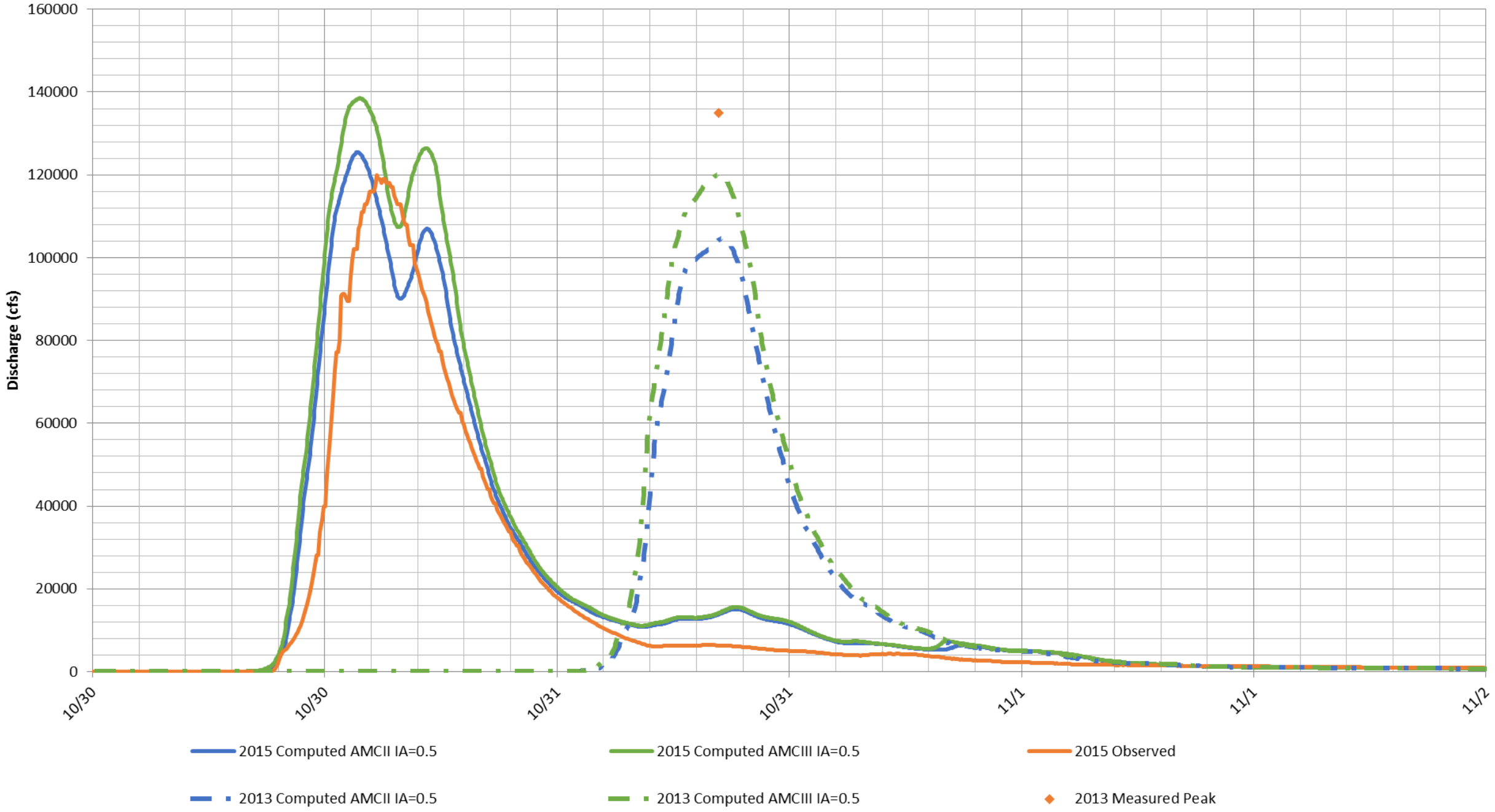
Onion Creek USGS Flow Gages



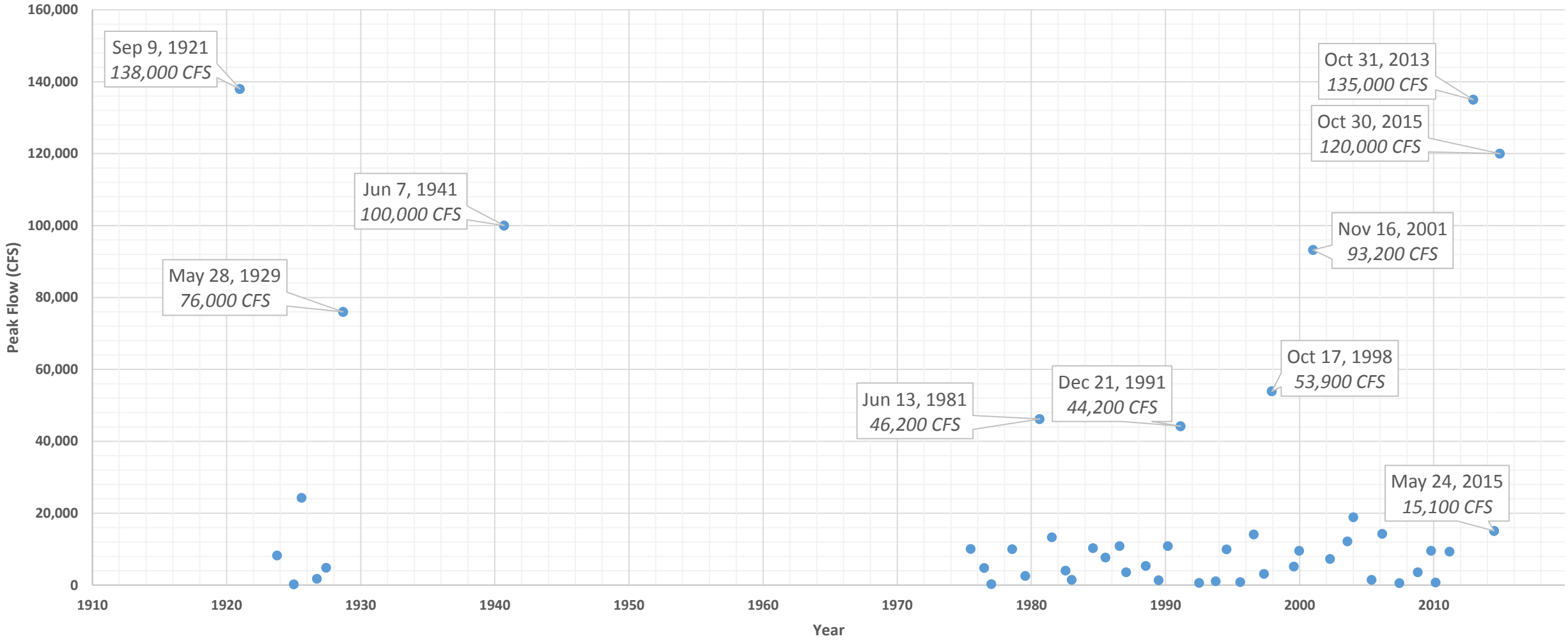
USGS 08158827 - Onion Ck at Twin Creeks Rd nr Manchaca, TX



USGS 08159000 - Onion Ck at US Hwy 183



USGS Gage 08159000 at US-183

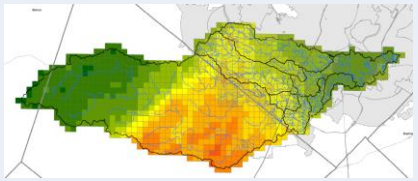
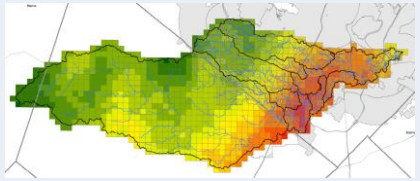


Probability of Flooding

Flood Events	Probability of Occurrence in ANY given year	Percent Chance of Occurrence in ANY given year
500 Year	1 in 500	0.2 %
100 Year	1 in 100	1 %
50 Year	1 in 50	2 %
10 Year	1 in 10	10 %

Onion Creek Weather Events

	Flow (cubic feet per second)			
	1% ACE	0.2% ACE	Oct 31, 2013	Oct 30, 2015
Onion Creek near confluence with Bear Creek	90,200 cfs	134,100 cfs	60,100 cfs*	78,900 cfs*
Onion Creek at US 183	121,900 cfs	179,500 cfs	135,000 cfs*	120,000 cfs*

	Rainfall (inches)			
	1% ACE	0.2% ACE	Oct 31, 2013	Oct 30, 2015
Onion Creek near confluence with Bear Creek	6.9 (6 hr)	9.5 (6 hr)	9-12 (6 hr) 	11-15 (6 hr) 

*Preliminary Data from City of Austin ongoing study

Share Your Input - High Water Marks

- Help us calibrate and validate our models
- How you can help:
  - Complete questionnaire
  - Tell your story
  - Draw on maps
  - Share photos/videos

Please fill out the Questionnaires!

10605 Ponder Lane HWM approx. 2 ft 8 in

Thank you for your time and input!