



July 31, 2017 NFIP Flood Map Open House

Flood Maps 101

Flood Mapping acronyms

History of the NFIP

Flood Mapping Updates

Flood Insurance

Fairhope, Alabama Flood Maps

Fairhope Permitting Jurisdiction

Coastal Map Changes

Inland Map Changes

Public review and comment period

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Questions?





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Flood Maps 101

Flood Zone terminology and acronyms

NFIP- National Flood Insurance Program

BFE- Base Flood Elevation is anticipated flood elevation measured in feet above Mean Sea Level.

CAV- Community Assistance Visit

FIRM- Flood Insurance Rate Map

SFHA- Special Flood Hazard Areas are commonly referred to as flood zones (AE, VE, Floodway, Etc)

Floodway- riverine channel or watercourse that carries high velocity flood waters

AE Zone- area determined to be in the 100 year floodplain with potential flooding caused by rising water.

VE Zone- area determined to be in the 100 year floodplain with potential flooding caused by rising water and subject to wave action.

X Zone- area determined to be outside the 500 year floodplain.

Shaded X Zone- area determined to be outside the 100 year floodplain but within the 500 year floodplain with rising water generally 1' or less.

LOMA/ LOMR- Letter of Map Amendment or Letter of Map Revision

Freeboard- additional clearance above the BFE required by local ordinance.

History of the National Flood Insurance Program (NFIP)

- **Created by Congress in 1968 by the National Flood Insurance Act**
 - Purpose was to address specific flood hazards in communities throughout the country by creating regulations for construction and building elevation in known flood hazard areas.
- **Specific requirements for flood insurance program and construction standards are in 44 CFR (Code of Federal Regulations), Section 60.3**
- **NFIP participation “voluntary”**
 - Community must adopt a Flood Damage Prevention Ordinance meeting at least the minimum requirements in 44 CFR and enforce construction and elevation requirements.
- **Insurance Discounts are available by enforcing requirements above the minimums listed in 44 CFR, Section 60.3**
 - Communities are rated based on an Audit (Community Assistance Visit)
 - Community Insurance Rates based on score determined by CAV
 - Individuals cannot “opt-out” of NFIP construction requirements

Flood Mapping Updates

- At various intervals, FEMA provides funding for flood studies and mapping updates to reflect current flood hazards within a community

- FEMA's Mapping, Assessment, and Planning (MAP) Program (goals)

Implement watershed-based studies that create a more accurate, holistic picture of risk.

Ensure 80% of nation's flood hazards are current

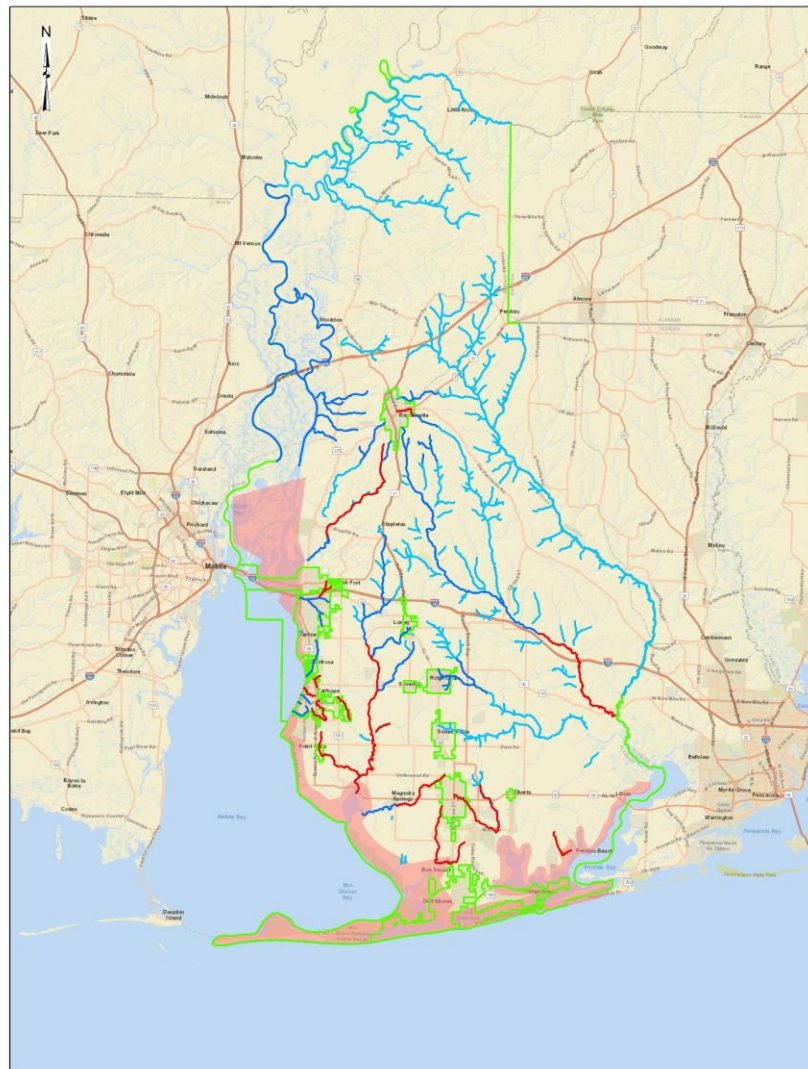
Maximize the number of communities that use Risk MAP data to develop, implement, or update their hazard mitigation plans

Deliver accurate flood data that leads to actions that reduce risk to life and property.

- Current Effective maps dated July 7, 2007
- FEMA/ Alabama Office of Water Resources coordinating agencies
- AMEC Foster Wheeler coordinating engineering consultant
- Coordination with Northwest Florida Water Management District

Flood Mapping Updates

- Detailed Studies – Zone AE
- Zone AE – 214 miles of studies
- Zone VE – 111 miles of studies
- Approximate Studies – Zone A
 - 494 miles of studies



Baldwin County Riverine and Coastal Study Areas

- New Detailed Study (Zone AE) Streams
- Existing Zone AE Stream
- Existing Approximate Study (Zone A) Streams
- New Coastal Study Area
- Baldwin County Political Boundaries

Flood Mapping Updates

Data Collection

Aerial imagery

LiDAR ground surface elevation data

Field survey data

Effective FEMA studies and existing engineering studies

Develop Riverine Hydrology

USGS Regression Equations

USGS Gage Data

Rainfall-Runoff Model

Effective Flows

SKETCH FORM

I. GENERAL INFORMATION	
Team: JMP, DJD, TDM	Date: 2-5-14
County: Limestone	State: AL
Water Crossing: Swan Creek	

CROSS SECTION NUMBER				
01083	SW	110	RP	
State FIPS	County FIPS	Stream ID	Cross Section Number	Type XS (RP)

II. OVERHEAD SKETCH

II. PROFILE SKETCH

FORM_SurveyDCS_Sketch_pg_071007.doc Sketch Form Revised 7/10/2007

Flood Mapping Updates

Riverine Hydraulic Modeling

Cross section geometry developed from LiDAR, field survey, and leverage model geometry

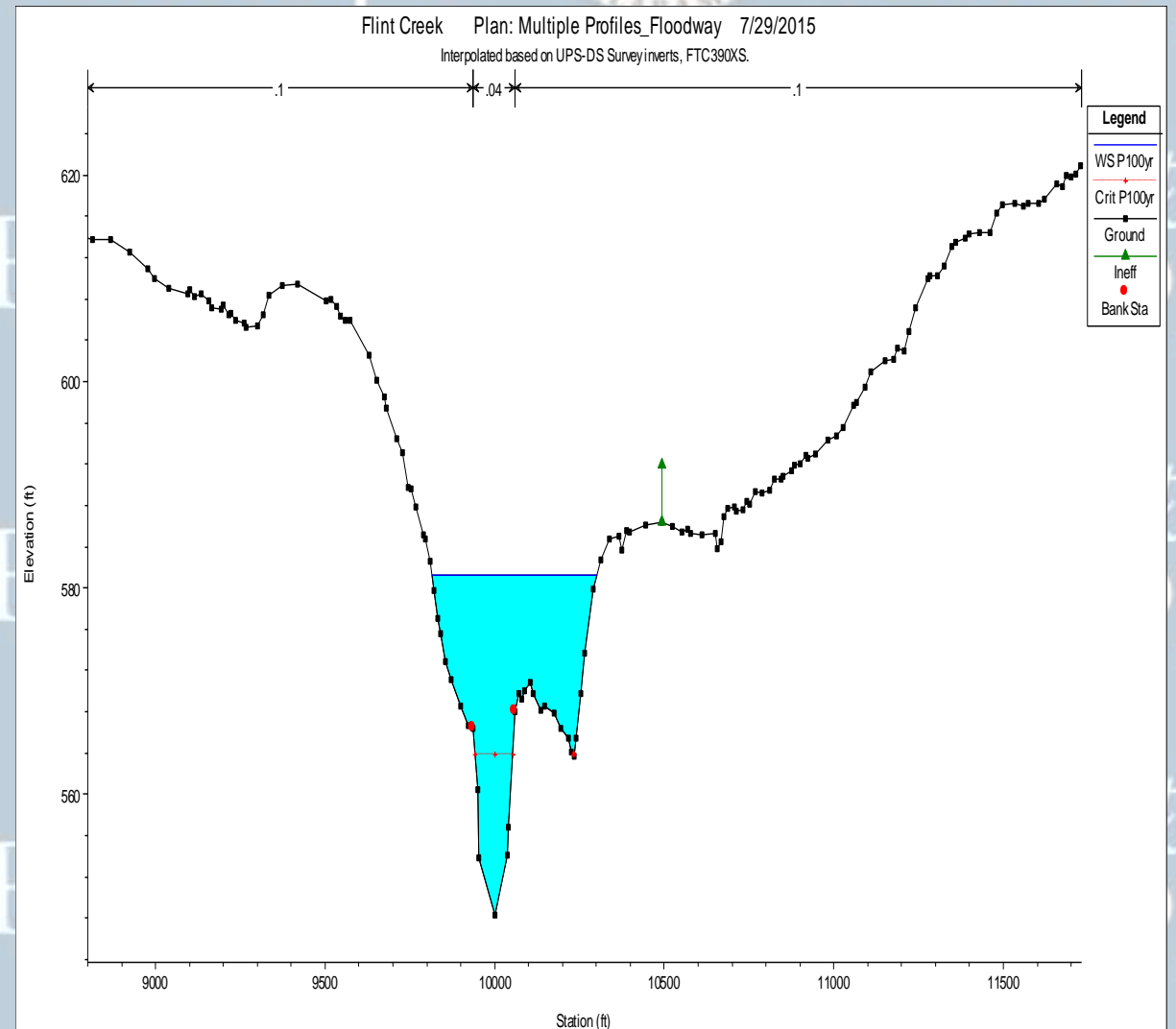
Hydraulic structure data developed from field survey

Manning's n roughness coefficients developed from review of field investigation and aerial imagery

Ineffective flow areas and expansion/contraction coefficients based on topography (Floodplain geometry)






Flows from hydrologic studies

Water surface profiles are computed



Flood Insurance

- Flood Insurance is a federally backed insurance program that is part of the National Flood Insurance Program providing insurance coverage from flood damage to homes and businesses.
- You do not have to live in a flood zone to purchase flood insurance.
- Flood damage is typically not covered by a standard homeowners insurance policy.
- Flood Insurance can cover up to \$250,000 for structural and \$100,000 in contents for residential policy holders. Coverages for businesses are up to \$500,000 for both structure and contents.
- The terms “Flood” and “Water Damage” refer to separate things on most insurance policies.
- Buildings and insurance rates are rated as Pre-FIRM and Post-FIRM.
- Flood Insurance is significantly different from Disaster Assistance
- Between 60-80% of flood losses occur outside SFHA



By The Numbers: Top 10 Rainiest Cities in the U.S.

Note: A "Rainy Day" is defined as a day (midnight-to-midnight) with greater than 0.25 inches of rain

#1 Mobile, Alabama

Average Annual Rainfall: 67 inches

Average Annual Rainy Days: 59 days

Sweet Home Alabama is home to the rainiest US city in the lower 48: Mobile. The rain, however, didn't put a damper on plans by German industrial titan ThyssenKrupp to build a new \$3.7 billion state-of-the-art steel and stainless steel processing facility in the Azalea City. The new plant, scheduled to begin operations in 2010, is expected to be one of the largest private industrial development projects in the US. Thyssen and the thousands of construction firms it will supply with steel will be at the mercy of the elements to complete construction projects. Protecting against weather risk is one way to make sure the skies over Mobile stay so blue, at least financially speaking.

#2 Pensacola, Florida

Average Annual Rainfall: 65 inches

Average Annual Rainy Days: 56 days

Located off the Gulf of Mexico, Pensacola is no stranger to extreme weather events. On May 9th forecasters announced the first named storm of the 2007 season had formed just off Florida's coast, more than three weeks before the official start of the Atlantic hurricane season. Pensacola was far enough away that Subtropical Storm Andrea didn't do much damage but the Atlantic basin has been an active hurricane zone since 1995. Pensacola has seen its share of storms. Some forecasters say the increased activity is part of a natural climate cycle however the Intergovernmental Panel on Climate Change says human-caused global warming has led to an increase in stronger hurricanes. Either way, businesses need to protect their revenue from potential weather risks.

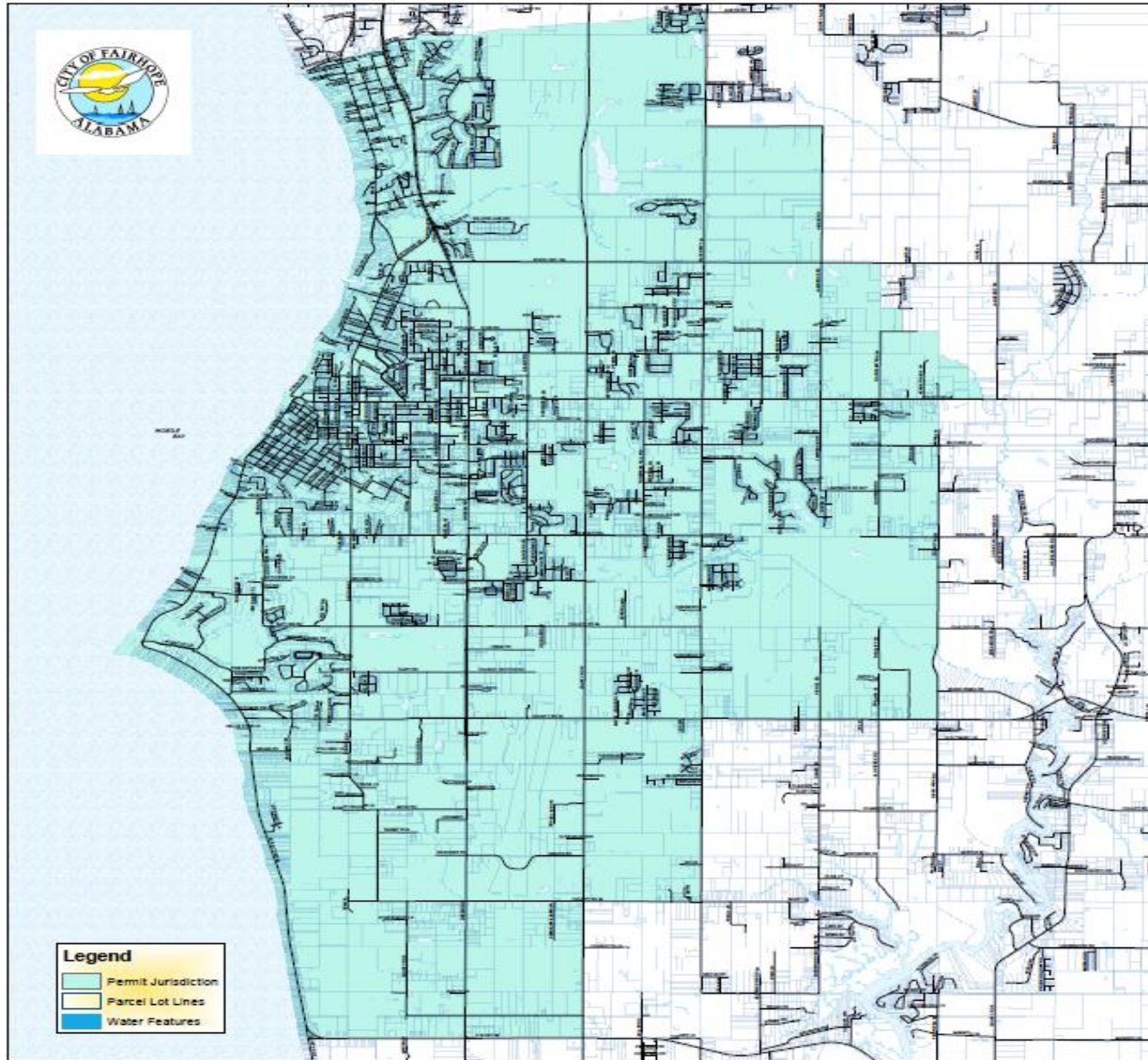
#3 New Orleans, Louisiana

Average Annual Rainfall: 64 inches

Average Annual Rainy Days: 56 days

Severe weather can happen in just about every major US city. New Orleans knows this all too well. As the Crescent City makes a slow recovery from Hurricanes Katrina and Rita industries are working hard to find new ways to weatherproof their revenue. As the global climate changes, and weather becomes increasingly difficult to predict, New Orleans' recovery is something every major city should pay close attention to. Since 2005's devastating hurricanes, business experts say financial and manufacturing industries are staying outside of the Gulf Coast to reduce risk. WeatherBill provides bottom line protection that takes the risk out of revenue, helping clear the way for increased growth.

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Permit Jurisdiction



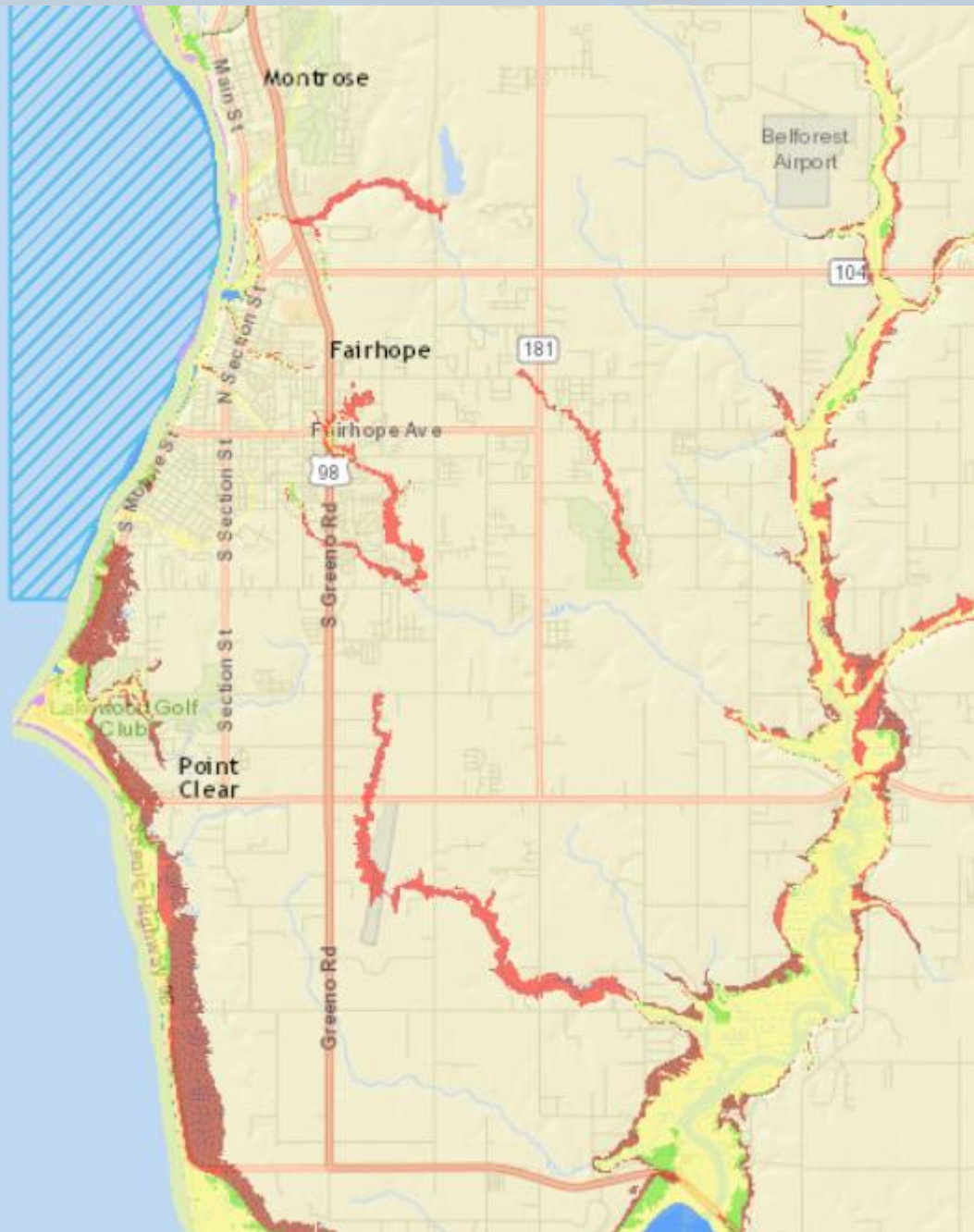
Legend	
	Permit Jurisdiction
	Parcel Lot Lines
	Water Features

Source:
The City of Fairhope makes no warranty as to the quality of the data presented on this map. It is the responsibility of the user to verify the accuracy of the data. The City of Fairhope is not responsible for any errors or omissions on this map. The City of Fairhope is not responsible for any damages or losses resulting from the use of this map. The City of Fairhope is not responsible for any claims or liabilities arising from the use of this map. The City of Fairhope is not responsible for any claims or liabilities arising from the use of this map.

0 4,300 8,600 17,200 Feet



COF GIS
Planning Dept.
Original Map: 02 / 2015
East Boundary Line Re-Drawn: 06 / 2015
This Printing: 6 / 2015
4p



SFHA Changes

- 1% Annual Chance Floodplain Increase
- 1% Annual Chance Floodplain Decrease
- 0.2% Annual Chance Floodplain Increase
- 0.2% Annual Chance Floodplain Decrease
- No SFHA Change
- High-Risk SFHA Increase
- High-Risk SFHA Decrease
- Open Water Increase

Coastal Map Changes

- **Generally, most Coastal High Hazard zones (VE Zones) pushed further out to water and often changed to AE Zones on land (Point Clear, Montrose, Bayfront areas)**
- **Most Bayfront flood zones North of Bailey's Creek had decreases in BFE or remained same as 2007 maps**
- **Increases in BFE generally start at Bailey's Creek and carry South to County Road 1**
- **Shaded Zone X created along East side of Scenic Hwy 98**



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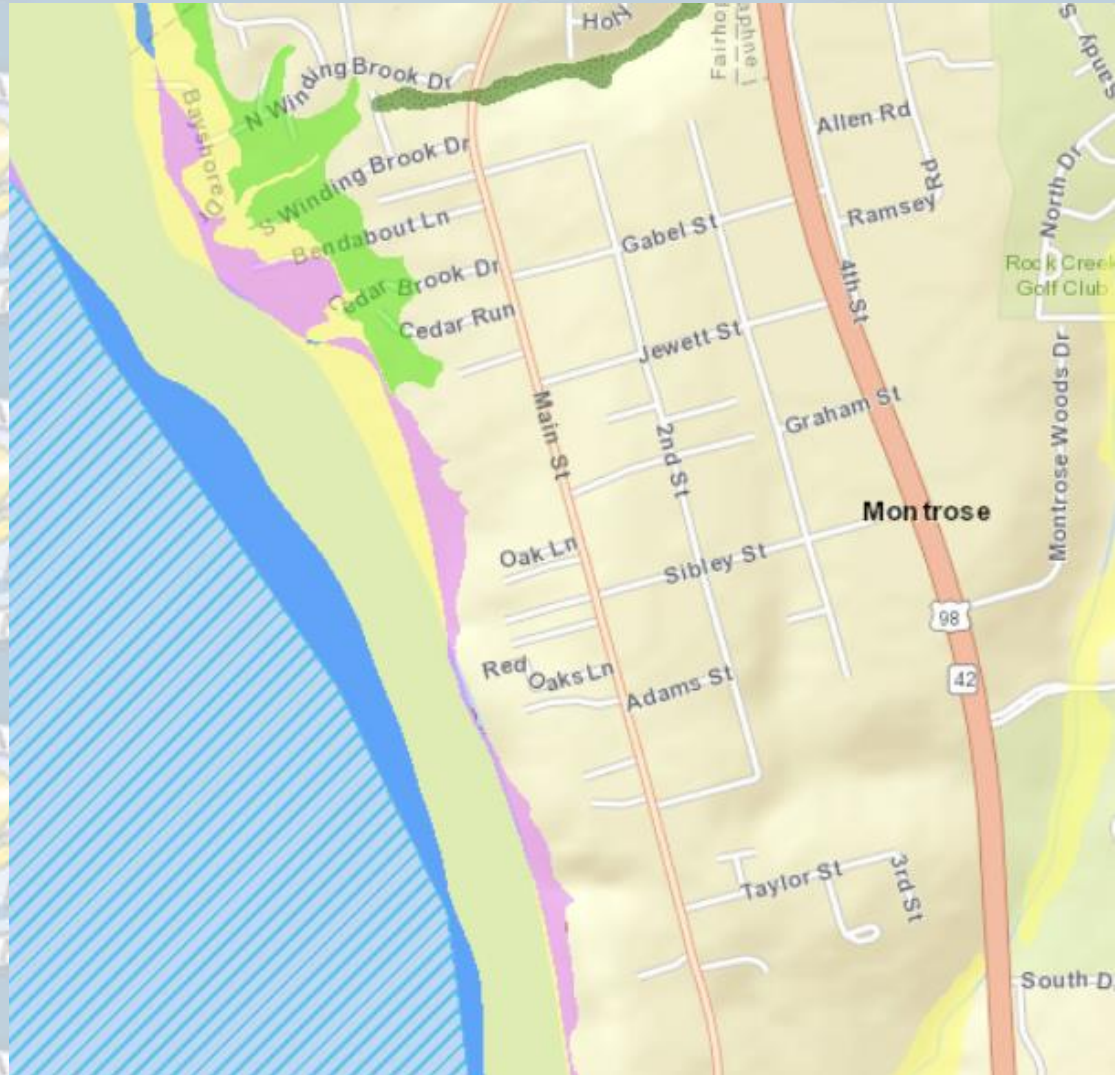


Montrose









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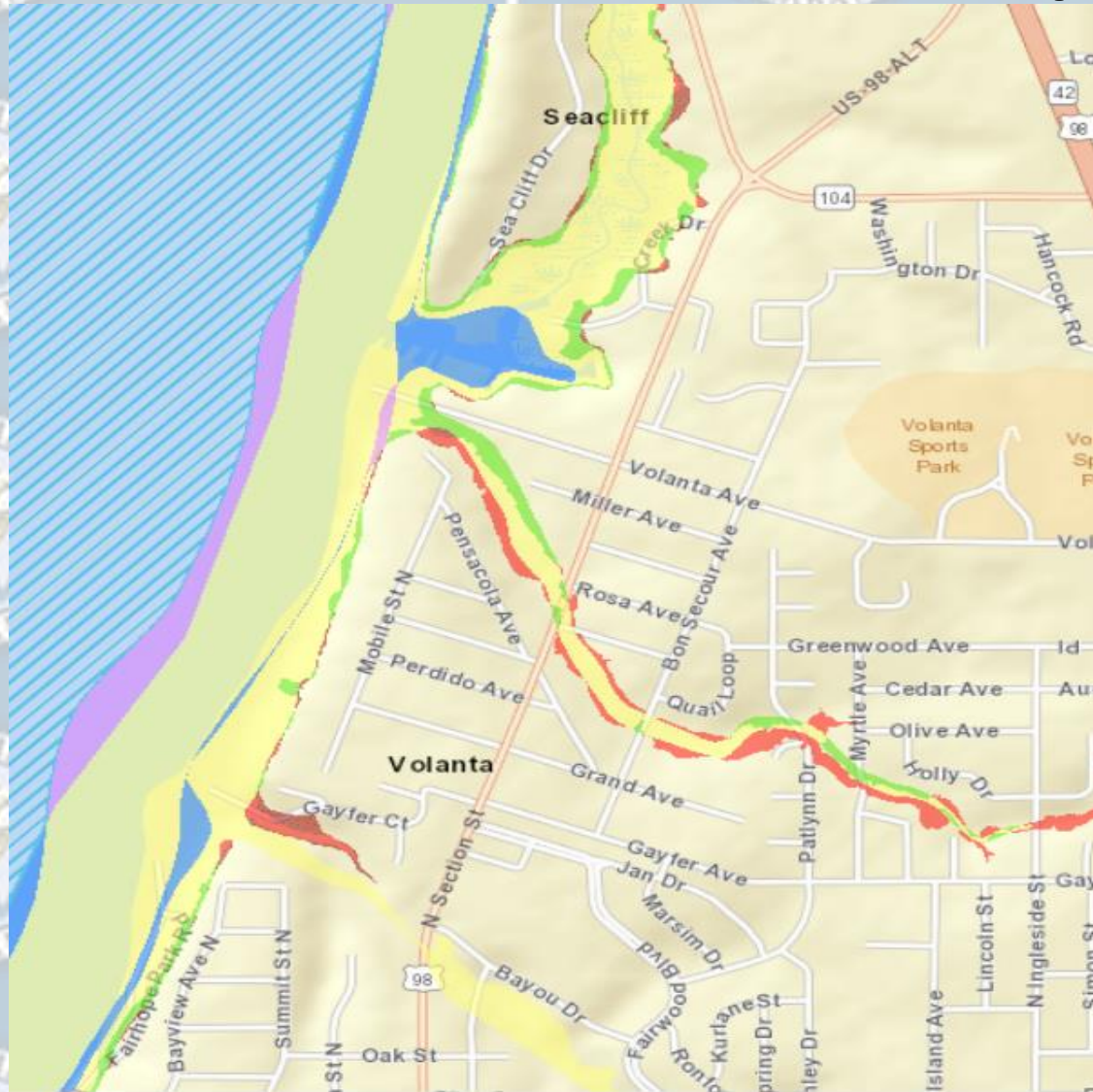
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





SFHA Changes

-  1% Annual Chance Floodplain Increase
-  1% Annual Chance Floodplain Decrease
-  0.2% Annual Chance Floodplain Increase
-  0.2% Annual Chance Floodplain Decrease
-  No SFHA Change
-  High-Risk SFHA Increase
-  High-Risk SFHA Decrease
-  Open Water Increase

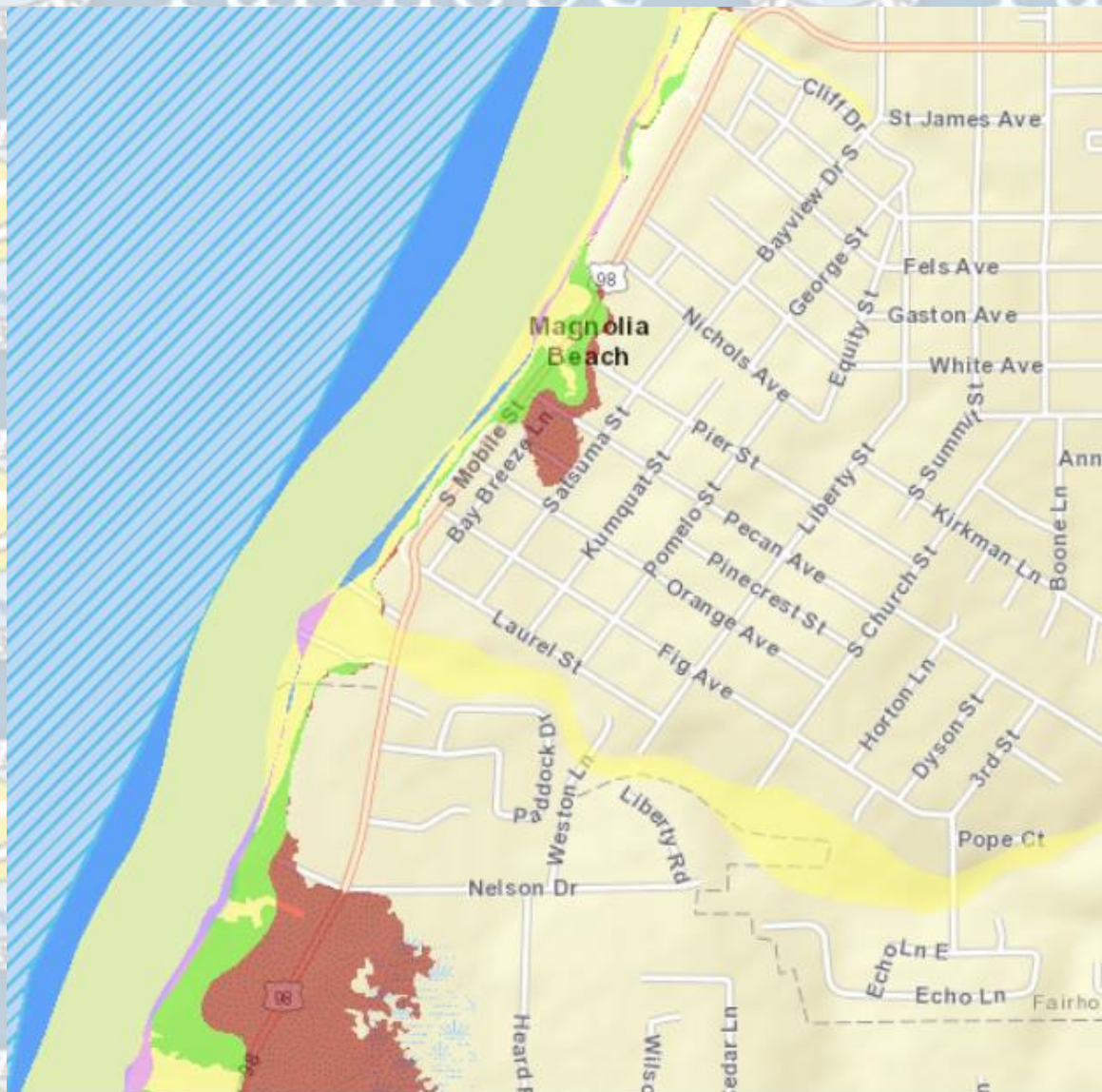
North Fairhope- Bluff area











✓ SFHA Changes

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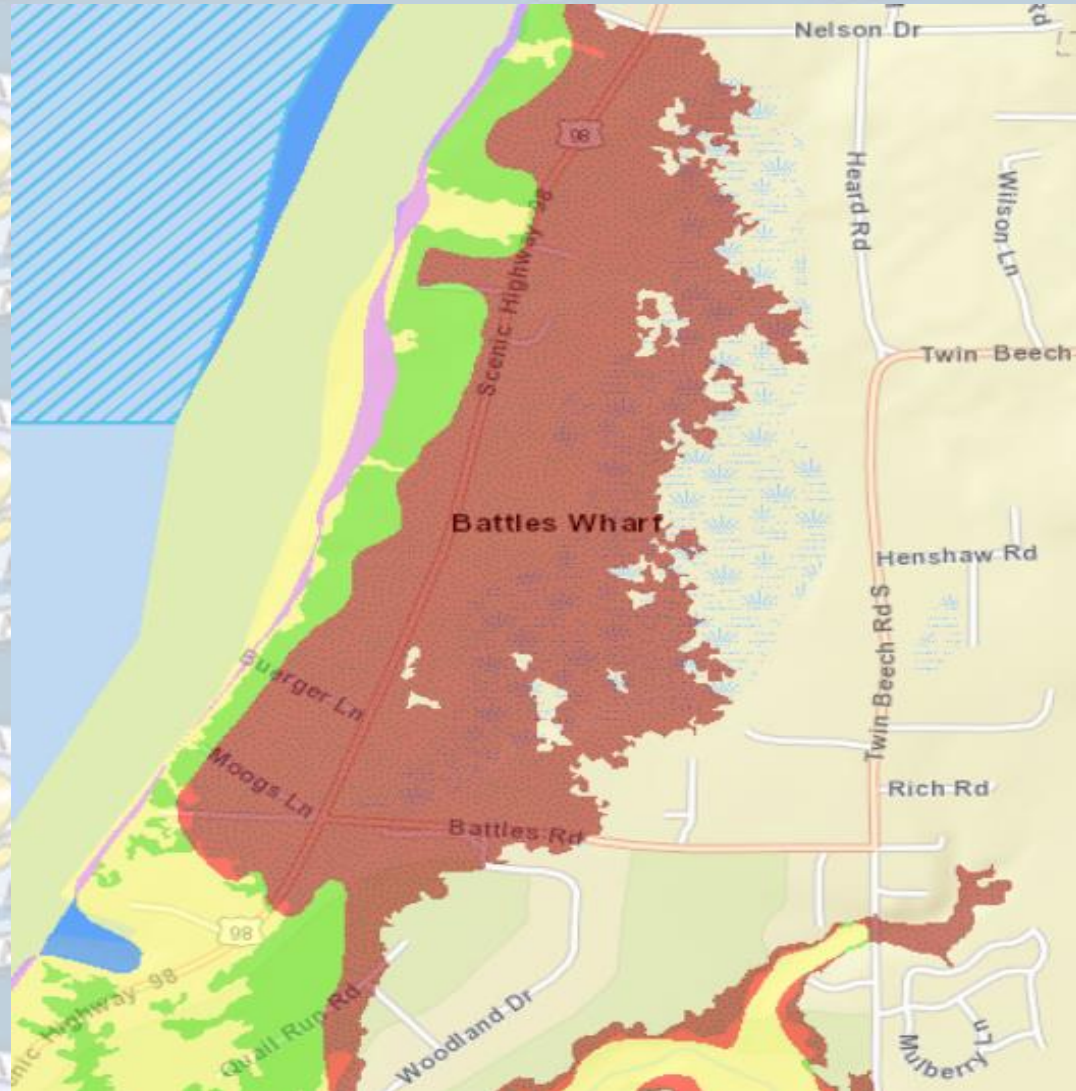
Fairhope- Fruit and Nut area











SFHA Changes

-  1% Annual Chance Floodplain Increase
-  1% Annual Chance Floodplain Decrease
-  0.2% Annual Chance Floodplain Increase
-  0.2% Annual Chance Floodplain Decrease
-  No SFHA Change
-  High-Risk SFHA Increase
-  High-Risk SFHA Decrease
-  Open Water Increase

Point Clear- Battles Wharf area



SFHA Changes

-  1% Annual Chance Floodplain Increase
-  1% Annual Chance Floodplain Decrease
-  0.2% Annual Chance Floodplain Increase
-  0.2% Annual Chance Floodplain Decrease
-  No SFHA Change
-  High-Risk SFHA Increase
-  High-Risk SFHA Decrease
-  Open Water Increase

Point Clear- Grand Hotel area



✓ SFHA Changes

- 1% Annual Chance Floodplain Increase
- 1% Annual Chance Floodplain Decrease
- 0.2% Annual Chance Floodplain Increase
- 0.2% Annual Chance Floodplain Decrease
- No SFHA Change
- High-Risk SFHA Increase
- High-Risk SFHA Decrease
- Open Water Increase

Inland Map Changes

- **Cowpen Creek and several un-named creeks mapped for the first time**

West of Greeno Road- South of Middle St to Twin Beech Rd

Affects several existing subdivisions:

Spring Lake

River Oaks /D'Estrehan

Fairfield Place

Hawthorne Glen

Song Grove

- **Fly Creek outfall at Mobile Bay (Fly Creek Marina)**

Outfall at Fly Creek Marina changed from AE to VE Zone

Seacliff Drive

Woodlands

Plantation Pines

Inland Map Changes

- **Un-named creek at Quail Creek**

North Entrance to River Oaks
Bunker Loop
Portions of Falls Creek

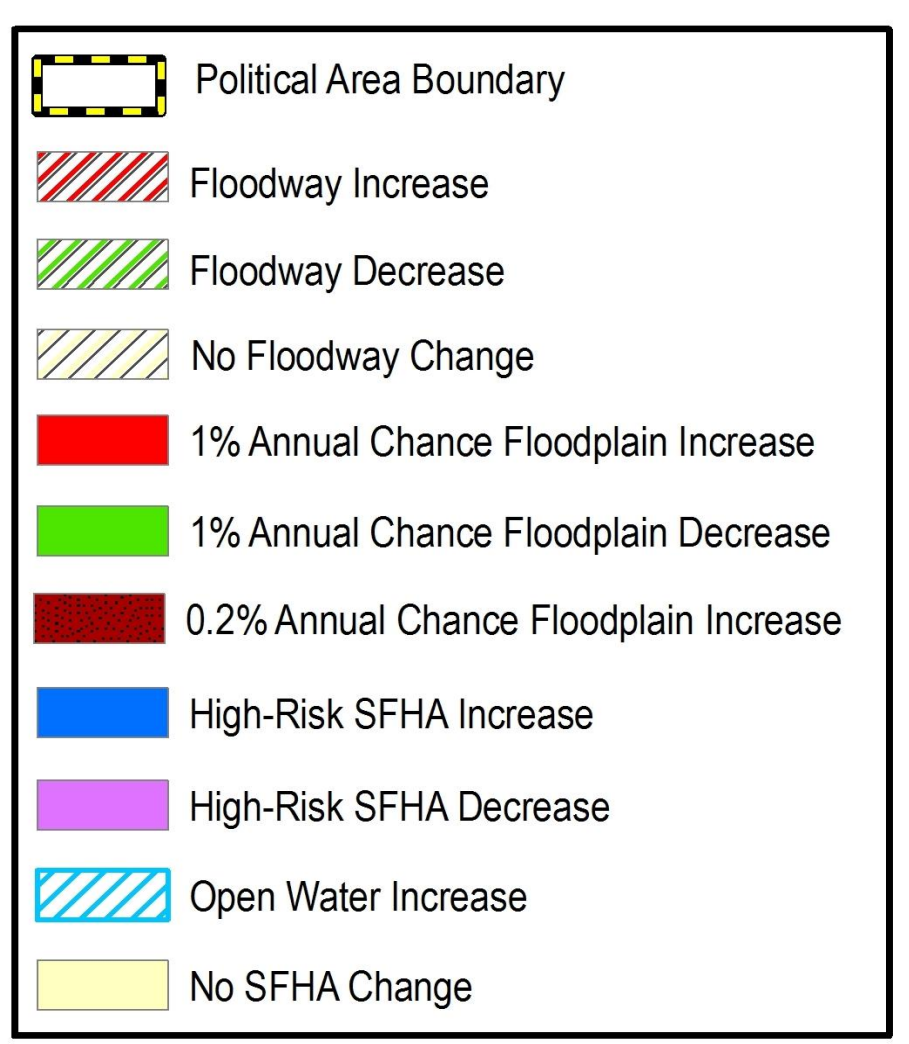
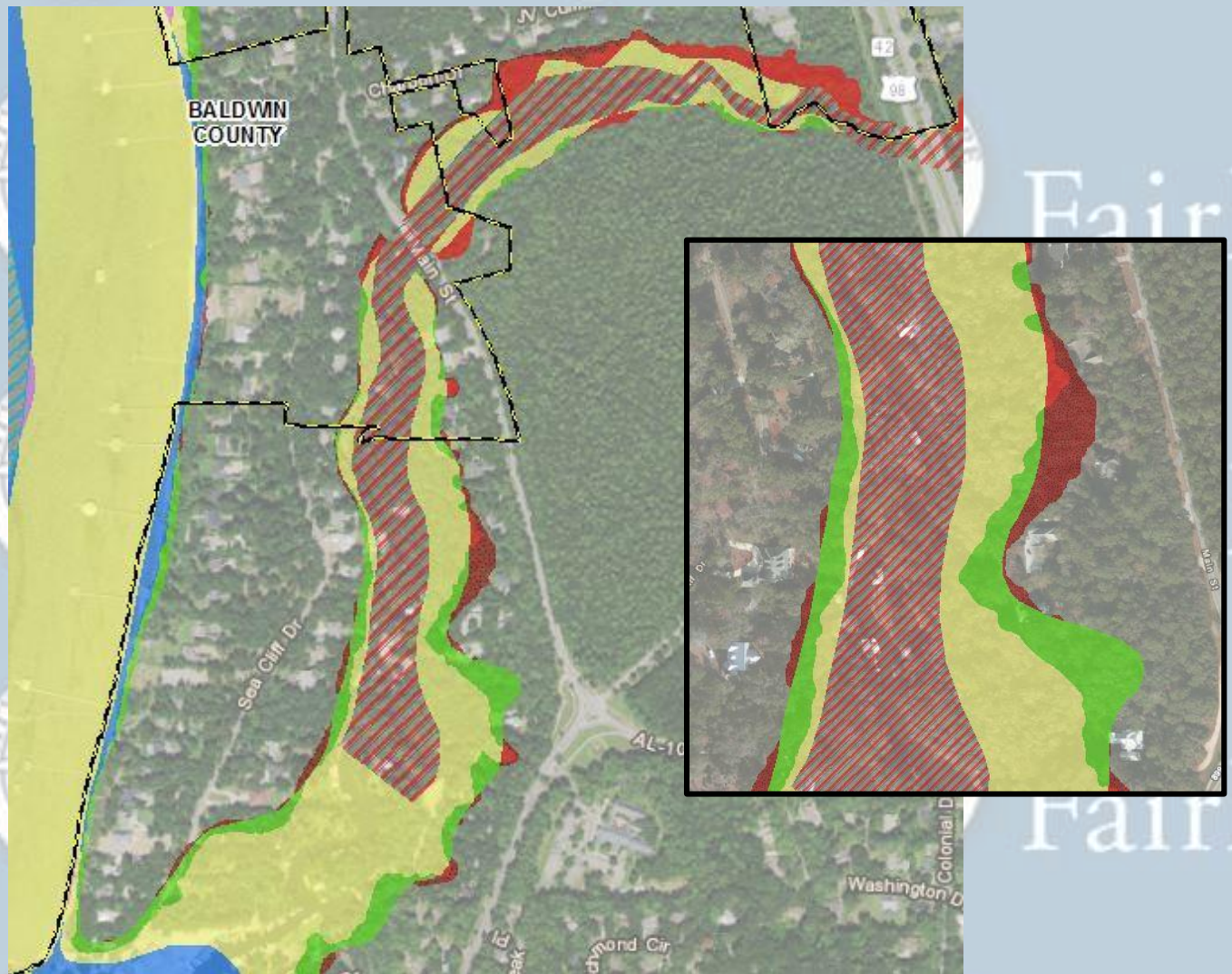
- **Waterhole Branch (Fairhope Airport)**

- **Significant map changes to inland creek beds**

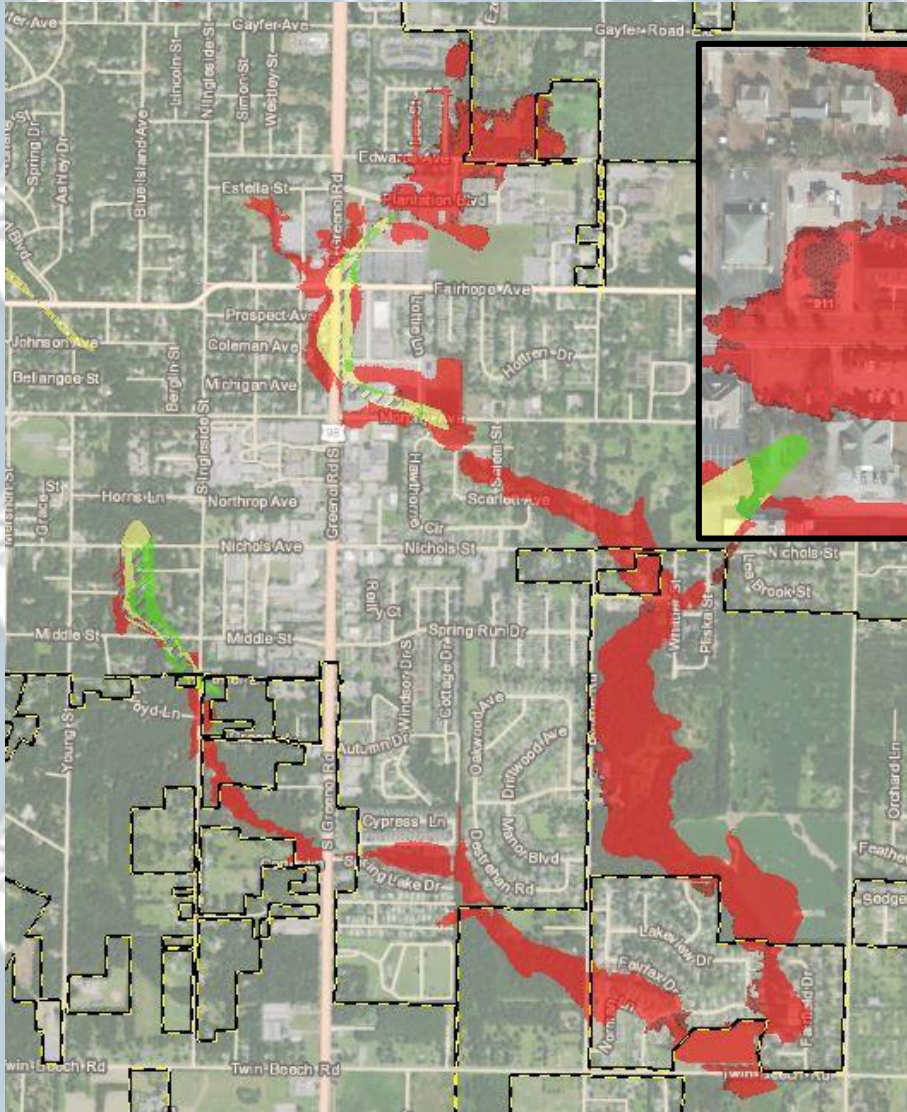
Have not historically been mapped, were included in 2017 riverine study














Fairhope- Fly Creek new riverine AE zone



Fairhope-Cowpen Creek and Tributaries



-  Political Area Boundary
-  Floodway Increase
-  Floodway Decrease
-  No Floodway Change
-  1% Annual Chance Floodplain Increase
-  1% Annual Chance Floodplain Decrease
-  0.2% Annual Chance Floodplain Increase
-  High-Risk SFHA Increase
-  High-Risk SFHA Decrease
-  Open Water Increase
-  No SFHA Change



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Public Comment and Review Period

Review Process

- Per Fairhope Flood Damage Prevention Ordinance, these maps are in effect as they are considered “best available data”
- Maps are considered “Preliminary” under FEMA adoption process.
- Review and Comment period will take approximately 12 months.
- During review period, anyone who disagrees with map determinations may undertake the LOMA/ LOMR process to amend the maps.
 - Burden of proof is on the individual challenging the map determination
- All existing LOMAs/ LOMRs are voided if map is more restrictive.
- Public meetings will be held at various locations and intervals.
 - Meeting dates and times will be announced at they are made known

Fairhope Floodplain Enforcement

- Revision and update of Flood Damage Prevention Ordinance
- Fairhope to join the Community Ratings System (CRS) in 2018
 - Code-plus enforcement of floodplain regulations allows for across the board flood insurance discounts for all Fairhope residents
- Elevation Certificates required for all flood zone construction
 - Total of 3 certificates required for new construction
 - Fairhope Ordinance requires 1' freeboard for all flood zones
 - Measured to interior floor in AE zone
 - Measured to lowest structural member in VE zones



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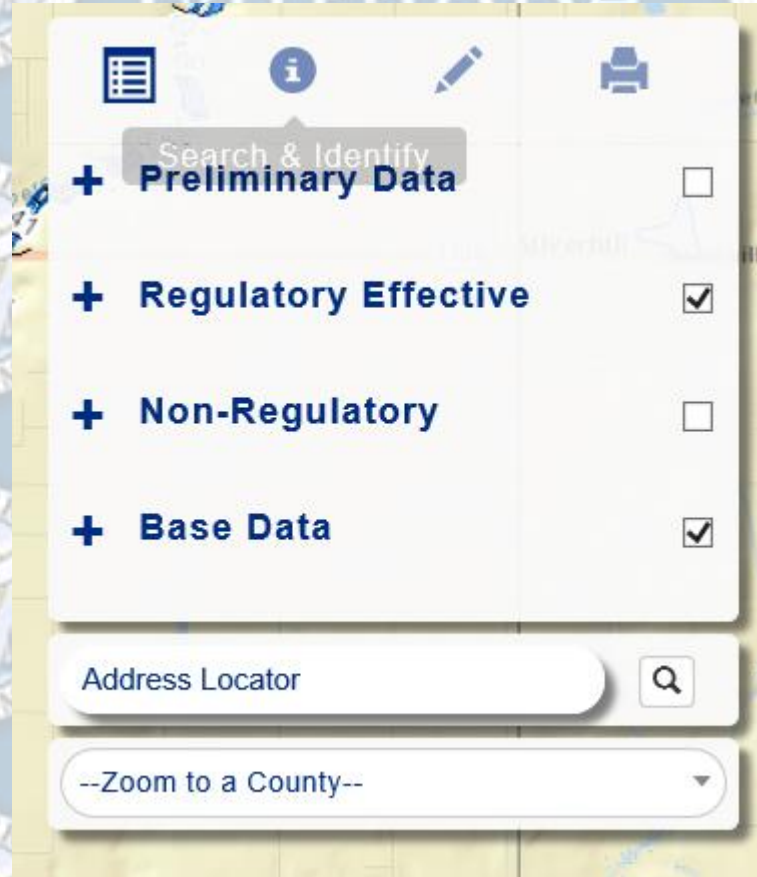
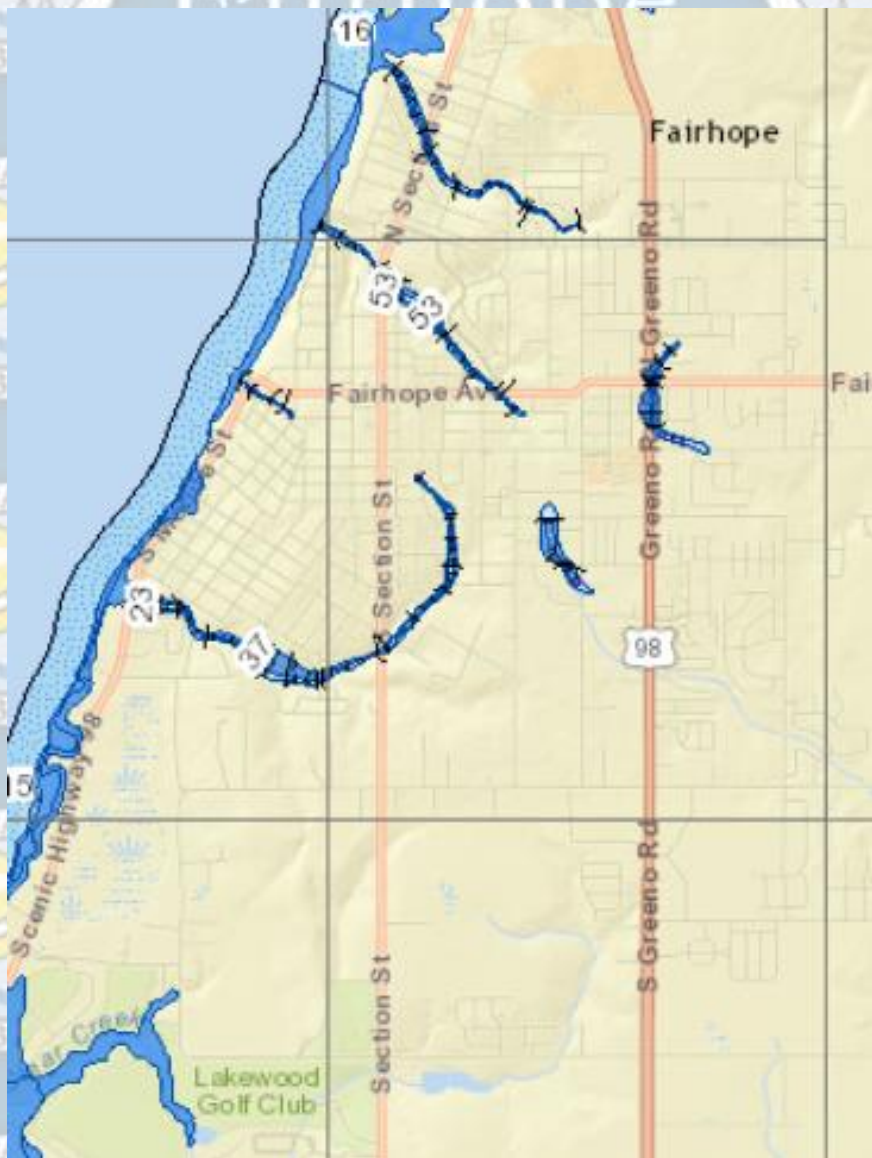
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Additional Information and Resources

Additional Resources and Information

- **Alabama Office of Water Resources (OWR) flood maps (preliminary map data dated 7/25/2017)**
- <https://alabamaflood.com/map>
- **FEMA flood maps online (current effective maps dated 7/7/2007)**
- <https://fema.maps.arcgis.com/home/webmap/viewer.html?webmap=cbe088e7c8704464aa0fc34eb99e7f30>
- **FEMA National Flood Insurance Program**
- <https://www.fema.gov/national-flood-insurance-program>
- **FEMA Letter of Map Amendment / Letter of Map Revision information**
- <https://www.fema.gov/letter-map-amendment-letter-map-revision-based-fill-process>
- **City of Fairhope Building Department (updates to begin September 18, 2017)**
- <http://www.cofairhope.com/departments/building/flood-map-updates>

Alabama Office of Water Resources Map



Tips for using OWR website:

Website address is www.alabamaflood.com

You can toggle and change the view from the current maps to the new, preliminary maps on the Legend on the right hand side.

Preliminary Data is the new mapping information dated July 2017

Regulatory Effective is the current map information dated July 2007

Contact Information

City of Fairhope Building Department

Erik Cortinas, CBO, LEED AP

Building Official

(251) 990-0141

erikc@fairhopeal.gov

buildingpermits@fairhopeal.gov