

# EXTENT OF FLOOD DAMAGE

## COBB COUNTY, GEORGIA, SEPTEMBER 2009

### Project Overview

Cobb county experienced torrential rains during September 20th and 21st, 2009 which resulted in excessive run-off and flooding. The areas that were heavily affected are those around the banks of Sweet water creek, Chattahoochee, Noses Creek, Powder Springs Creek and Nickajack Creek. Hundreds of houses and families in the south and south-east Cobb County were affected.

Preliminary estimates in Cobb County shows about \$14.2 million and \$2.8 million loss in repairs of public property and roads respectively. These numbers do not include damage to schools, homes, private property and businesses.

To provide immediate assistance with the flood disaster, identification of the flood affected properties were important. Flood analysis carried out by the GIS group and Tax Assessor office benefited different departments to provide a fast and effective response and mitigation after the event. The flood inundation analysis was carried out with the available spatial data and stream gauge measurements from USGS.

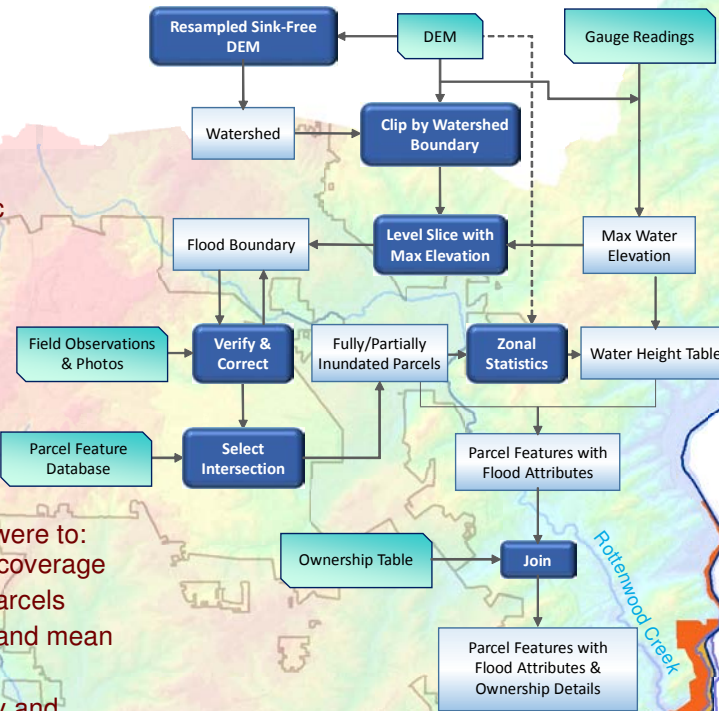
### Objectives

- The main objectives of the exercise were to:
- identify the extent of flood water coverage
  - identify and locate the affected parcels
  - find out the minimum, maximum and mean water heights in the parcels, and
  - identify and document completely and partially flooded properties

### Project Utilization

- Provided a general overview of areas affected by the flood.
- The flood depth estimates served as a guide for building inspectors, and residential and commercial appraisers to prioritize the areas to visit.
- The data provided could be used to generate a rough estimate of the cost of damages/loss.
- The methodology could serve as a basis for modeling different scenarios to assist with emergency response planning for future flood events.

### Methodology



### Stream Gauge Location & Reading

ID	Latitude (deg N)	Longitude (deg W)	Stream	Max Stage (ft)
1	33.827	84.720	Sweetwater	21
2	33.803	84.521	Nickajack	20
3	33.859	84.653	Noses	21
4	33.817	84.480	Chattahoochee	31
5	33.868	84.454	Chattahoochee	29
6	33.859	84.455	Chattahoochee	28

### Project Output

#### Overall Flood Parcel Statistics

Category	All Parcels	Parcels w Bldg	Vacant Lots
Fully Flooded	1409	973	436
Partially Flooded	2385	1813	572
Total Parcels Affected	3794	2786	1008
Water Height (ft.)			
0-4	2172	1742	430
4-10	752	547	205
10-15	395	243	152
15-25	319	197	122
25-47	156	57	99

#### Residential Property Flood Statistics

Category	All Parcels	Parcels w Bldg	Vacant Lots
Fully Flooded	1229	918	311
Partially Flooded	1961	1621	340
Total Parcels Affected	3190	2539	651
Water Height (ft.)			
0-4	1861	1582	279
4-10	646	516	130
10-15	332	228	104
15-25	249	171	78
25-47	102	42	60

#### Commercial Property Flood Statistics

Category	All Parcels	Parcels w Bldg	Vacant Lots
Fully Flooded	70	38	32
Partially Flooded	164	118	46
Total Parcels Affected	234	156	78
Water Height (ft.)			
0-4	136	104	32
4-10	34	20	14
10-15	18	10	8
15-25	22	11	11
25-47	24	11	13

#### Public Property Flood Statistics

Category	All Parcels	Parcels w Bldg	Vacant Lots
Fully Flooded	83	7	76
Partially Flooded	131	18	113
Total Parcels Affected	214	25	189
Water Height (ft.)			
0-4	81	12	69
4-10	54	4	50
10-15	28	2	26
15-25	31	6	25
25-47	20	1	19

#### Industrial Property Flood Statistics

Category	All Parcels	Parcels w Bldg	Vacant Lots
Fully Flooded	16	5	11
Partially Flooded	39	12	27
Total Parcels Affected	55	17	38
Water Height (ft.)			
0-4	25	7	18
4-10	8	5	3
10-15	6	0	6
15-25	10	4	6
25-47	6	1	5

#### Conservation Property Flood Statistics

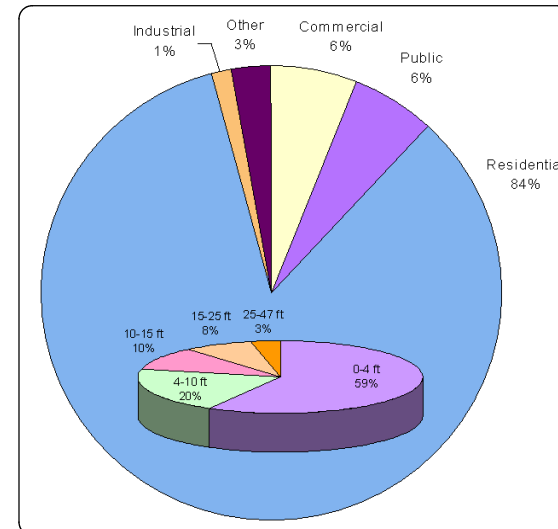
Category	All Parcels	Parcels w Bldg	Vacant Lots
Fully Flooded	7	3	4
Partially Flooded	37	27	10
Total Parcels Affected	44	30	14
Water Height (ft.)			
0-4	25	21	4
4-10	4	1	3
10-15	6	2	4
15-25	6	4	2
25-47	3	2	1

### Legend

Mean Flood Height (ft)	Elevation	Other
0 - 4	High	City Boundary
4 - 10	Low	Stream Gauges
10 - 15		Other Streams
15 - 25		
25 - 47		
		Flood Boundary
		Flooded Streams

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### Flood Statistics Chart



Properties affected by flood (% out of the 3794 total). Inset shows the percentage of residential properties under different flood water levels

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