Communicating Full Risk Insurance Rates in the Heartland

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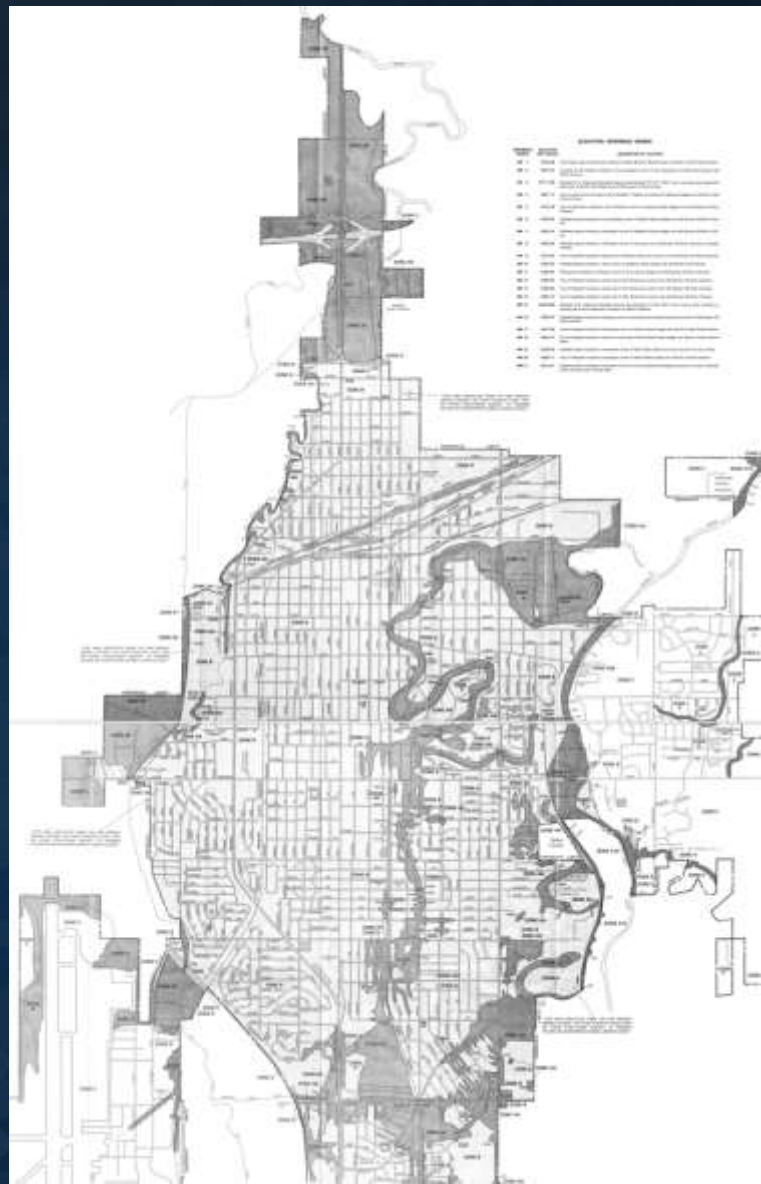
Flood Risk Communication

- Communicate “Full Risk Rate”
  - Subsidies will eventually expire
- Change the conversation
  - From “in/out” to “above/below”
  - From zones and elevations to depths and dollars
- Message varies depending on
  - Individual structure characteristics
  - Depth of flooding
  - Purchase requirements

Flood Insurance Rate Impacts

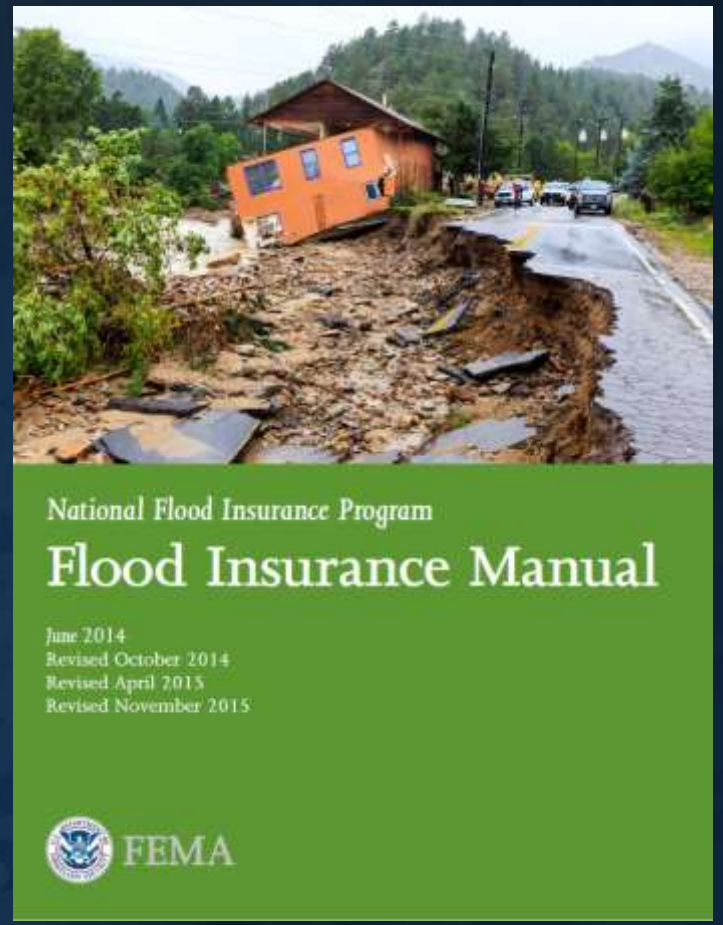
- Salina, Kansas (2015 pop. 47,700)
  - Effective study was from 1986
    - Un-modernized, Q3 product
  - New FIRM
    - SWMM model for interior drainage
    - Removed Zone A streams
  - Accredited levee **protects 40% of town**
  - Comparisons
    - Effective vs. proposed studies
    - With vs. without federal subsidy*

* FEMA Flood Insurance Manual – November 2015



Salina Study Statistics

- 1009 structures in effective SFHA
  - 699 pre-FIRM (i.e. built before 1976)
  - 1,871 LOMAs
- 418 structures in proposed SFHA
  - 112 new structures added
  - 703 structures removed (50% would be impacted by a levee failure)
  - 306 structures “no change”



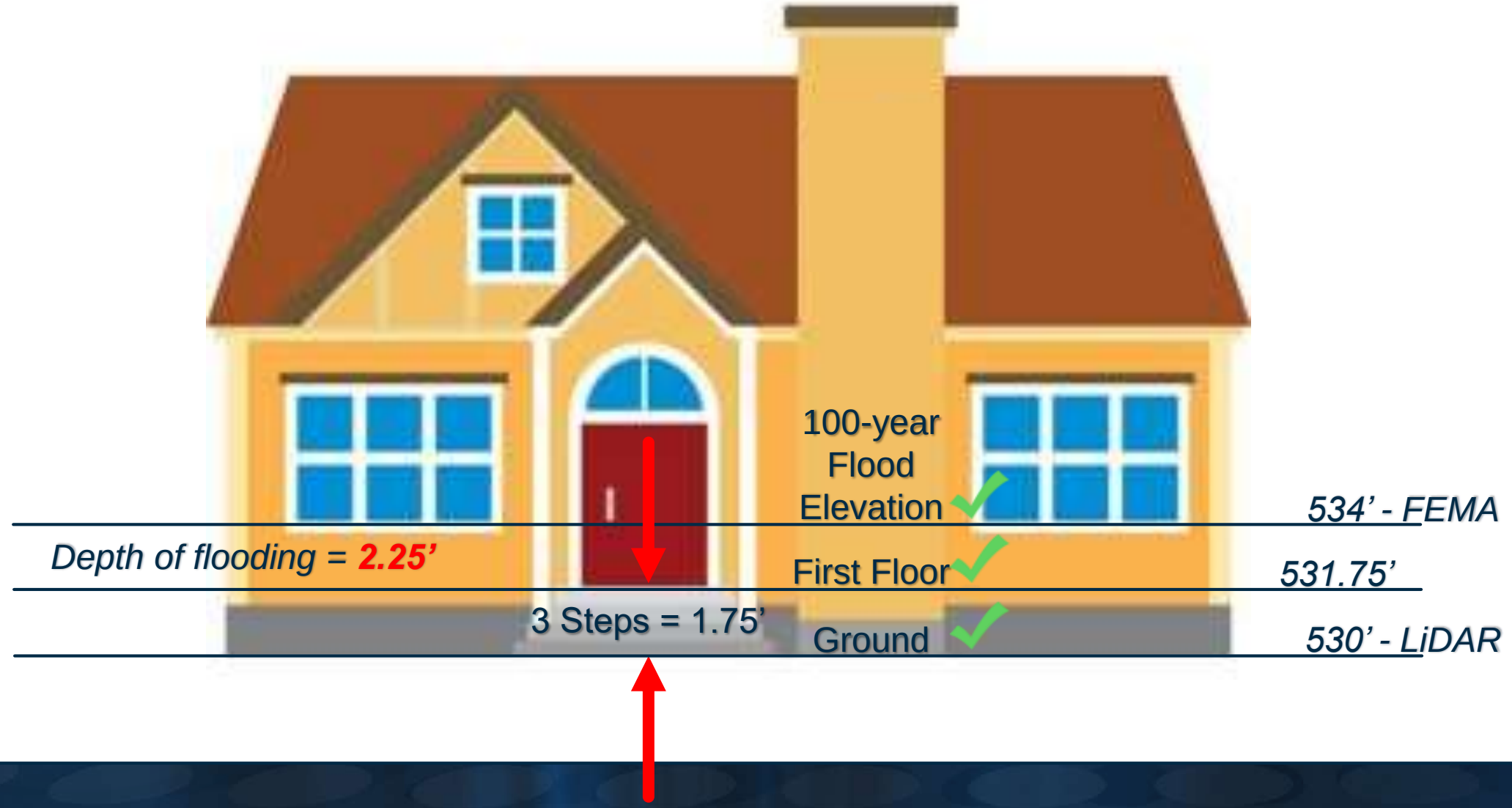
Structure-Based Risk Assessments

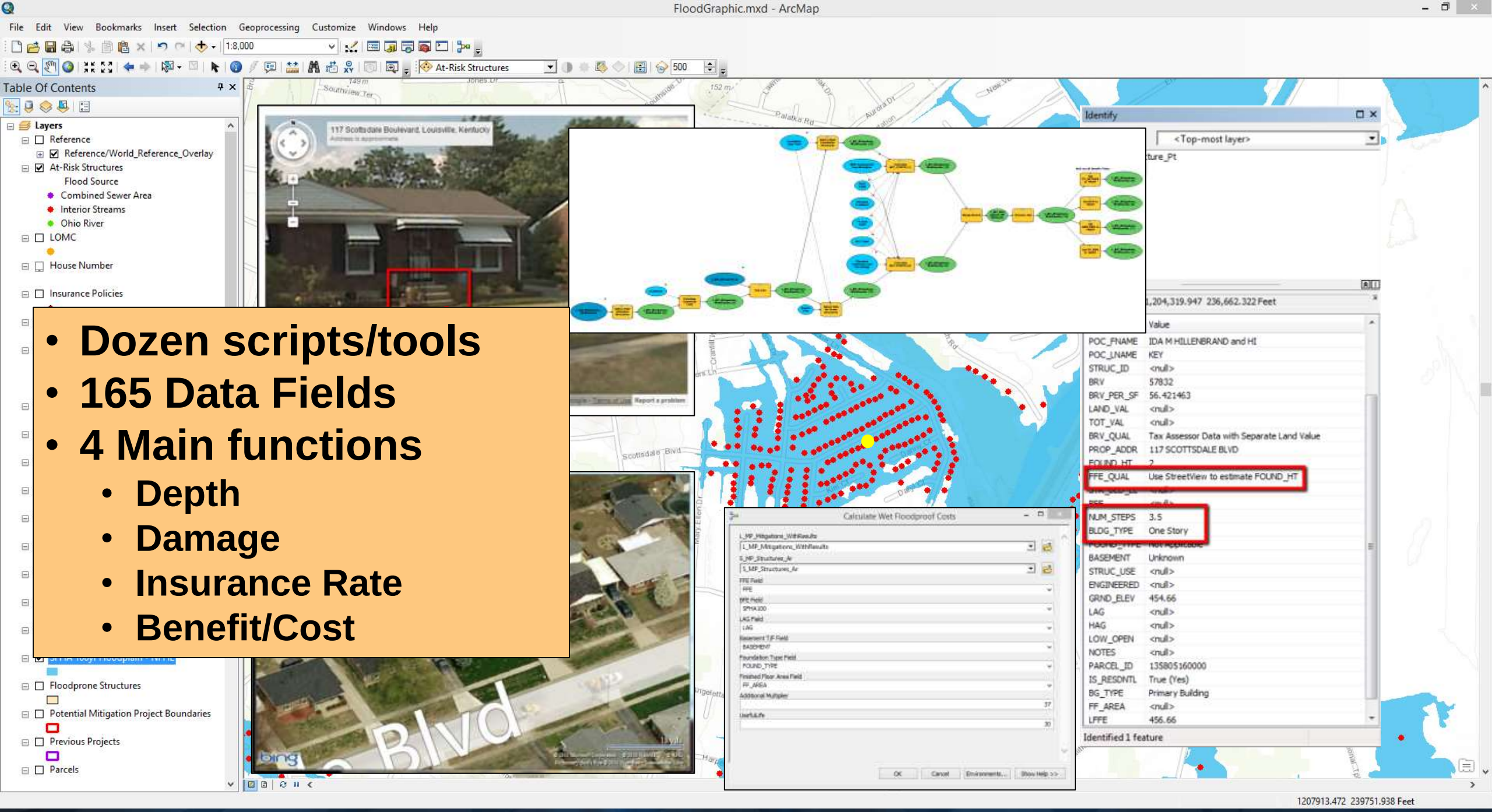
- Latest NFIP Reform
  - BW-12
  - HFIAA
- Benefits
  - Accurate
  - Affordable
  - Available

Floodprone Inventory

Estimating Flood Depths

Estimating Flood Depths





- **Dozen scripts/tools**
- **165 Data Fields**
- **4 Main functions**
  - **Depth**
  - **Damage**
  - **Insurance Rate**
  - **Benefit/Cost**

How Close is Close Enough?

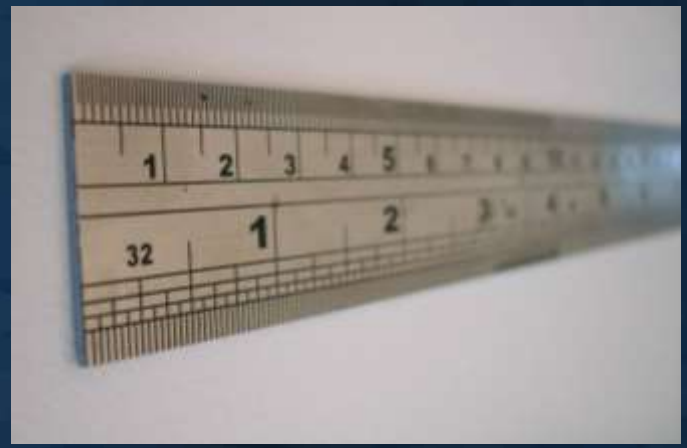
- First Floor Elevations
  - Approximately 250 surveyed elevations
  - Calculated elevations
  - Average difference = 2 inches
- Flood Depths
  - Homeowner reported depths (approx. 50)
  - Surveyed high water marks
  - Calculated depths
  - Average difference = 1 inch

Alternative Approaches

- Elevation Certificates
- Mobile LiDAR
  - Line of sight issues
  - Data intensive
  - Cost considerations
- Field Survey
  - Labor intensive
  - Safety concerns
  - Management & coordination

Benefits

- Accurate
  - Within 2 inches (average) of surveyed elevations
  - Within 1 inch (average) of homeowner-reported flood depths
- Affordable
  - 20 times more cost-effective than traditional survey
  - Half the cost of mobile LiDAR collection
- Available
  - Dataset can be created in a few weeks

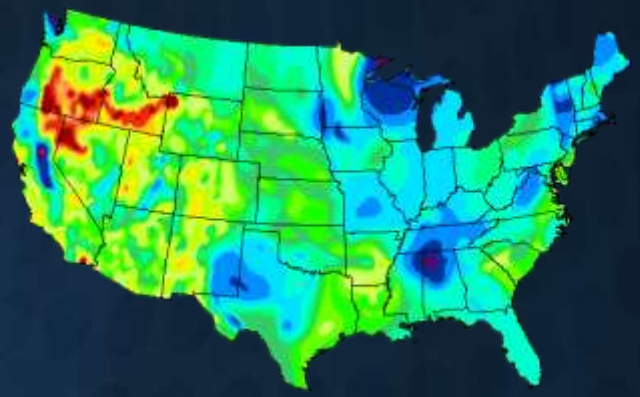


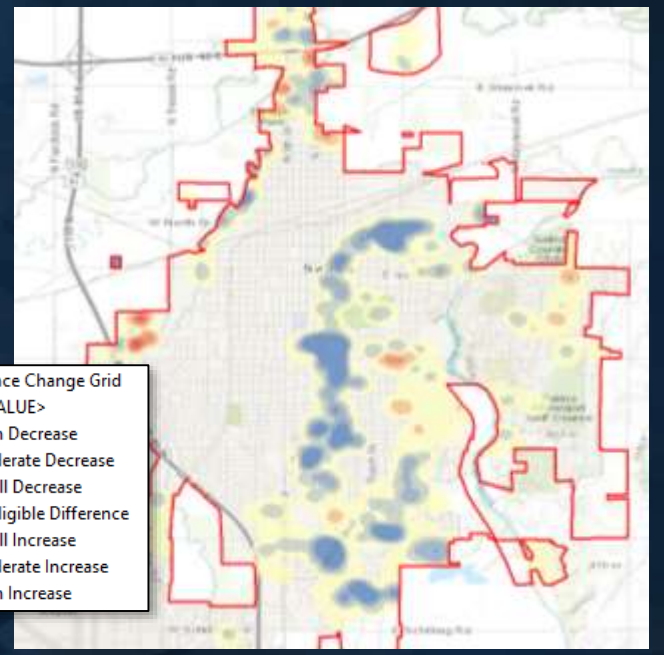
OK …..so now what?

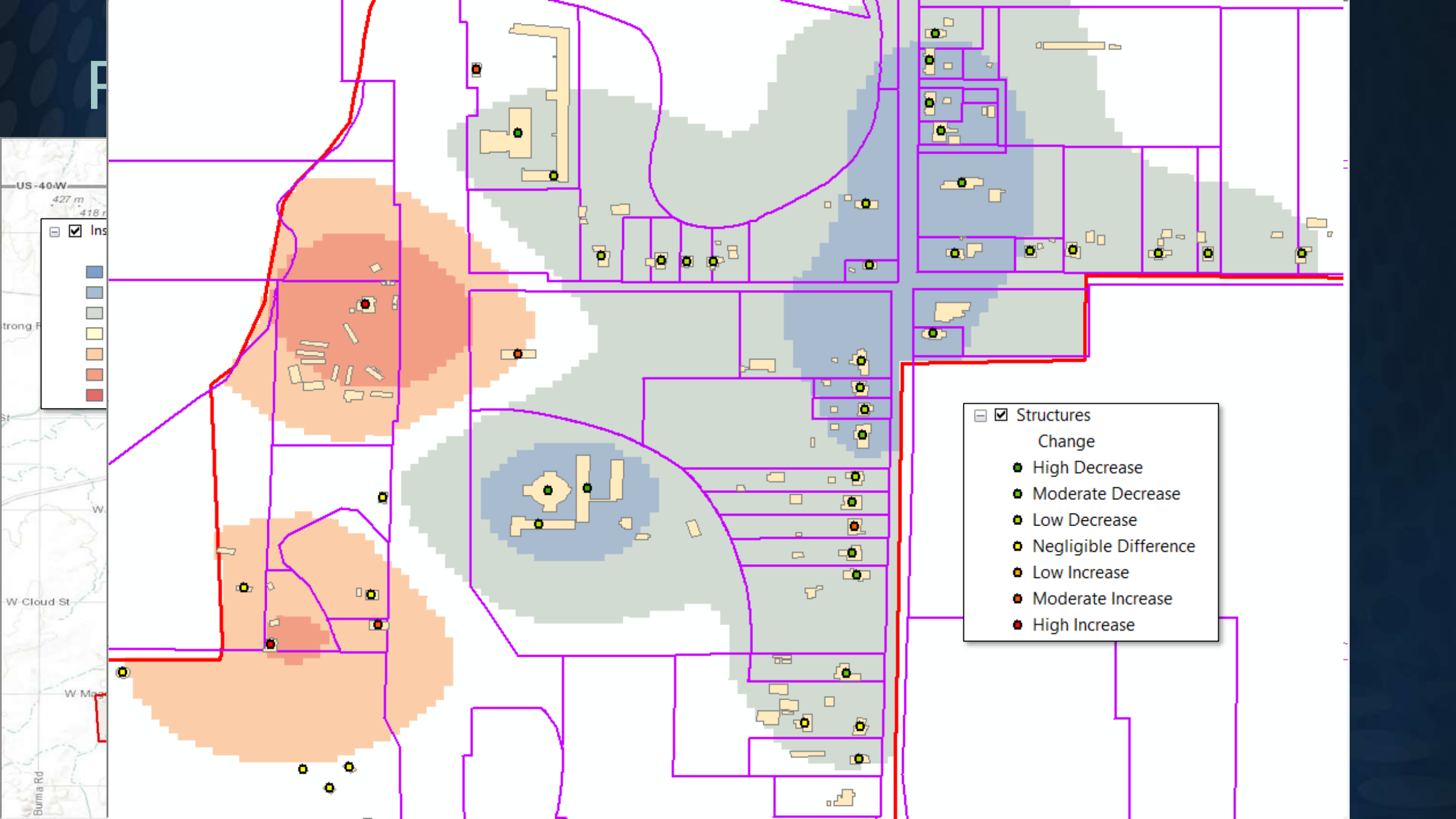
- Decision Support
  - Categorize risk (high/moderate/low)
  - Calculate damages
- Risk Communication
  - Calculate insurance rates
  - Develop tailored messaging
- Develop Mitigation Alternatives

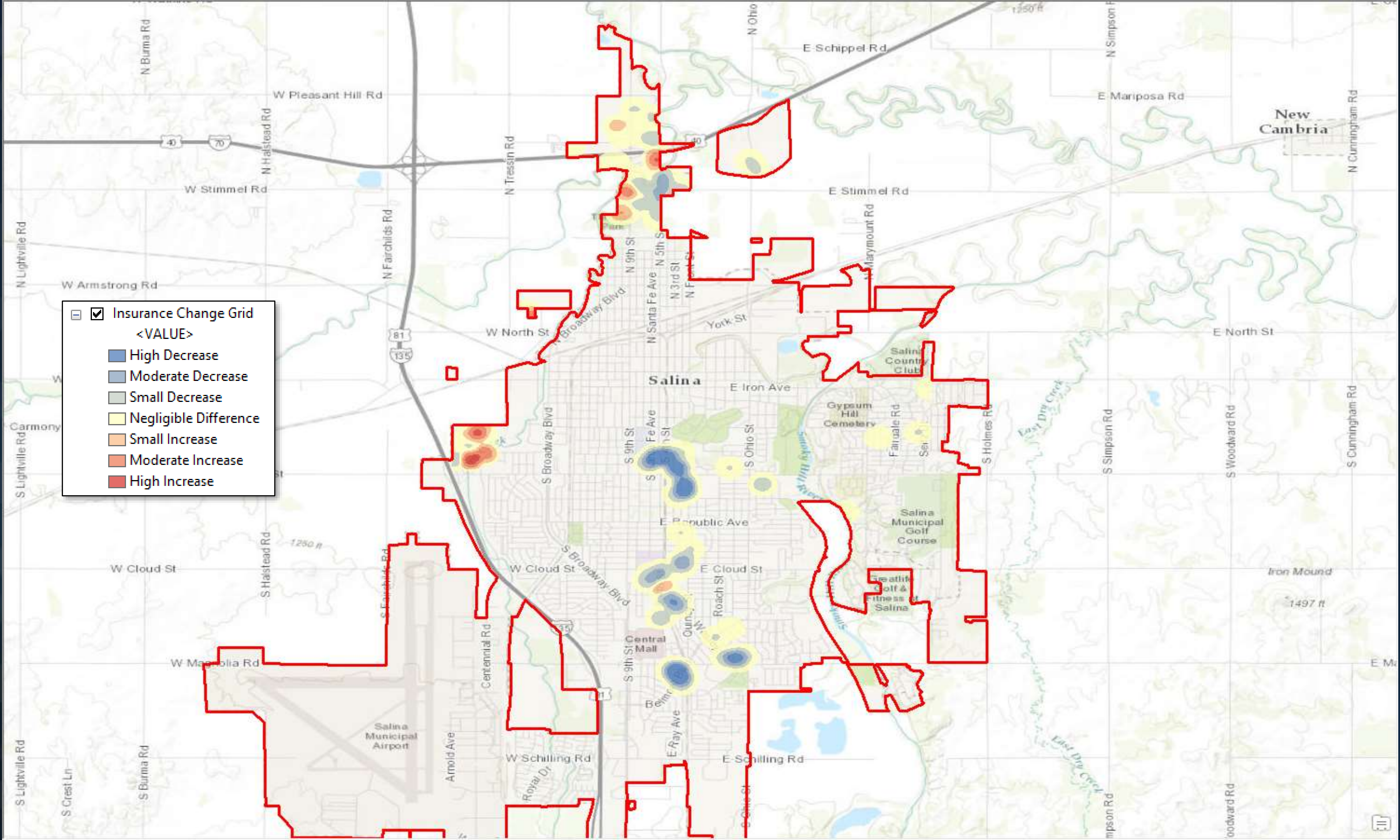
Impact Hot Spots

- Changes Since Last FIRM – only better!
- Areas of significant rate change
  - Calculations are performed for each structure
  - Impacts are aggregated
  - No individual rates or premiums are shown
- How to use this for outreach?
  - Structures newly mapped into SFHA
  - Structures removed from SFHA
  - Structures with “no change”

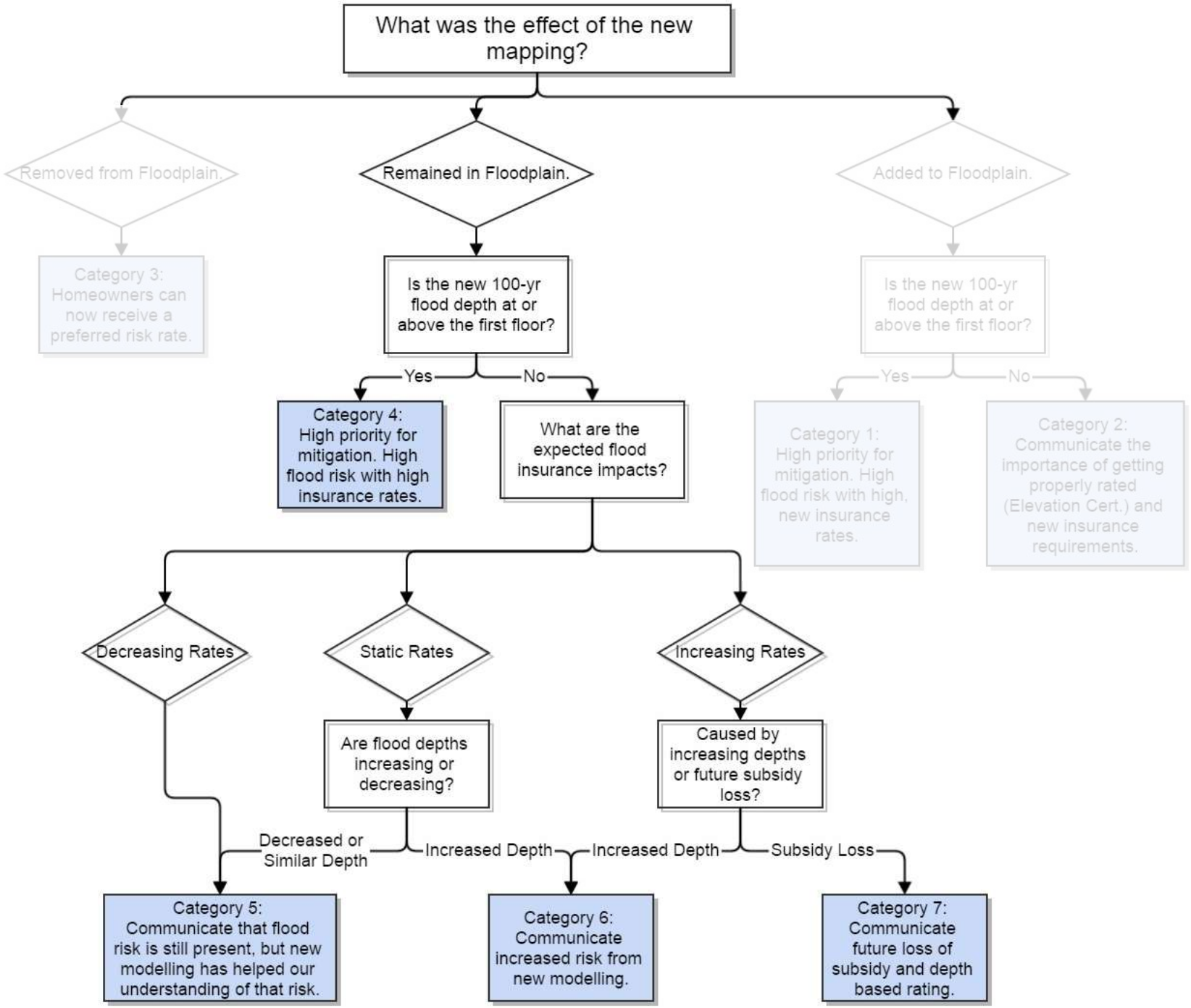


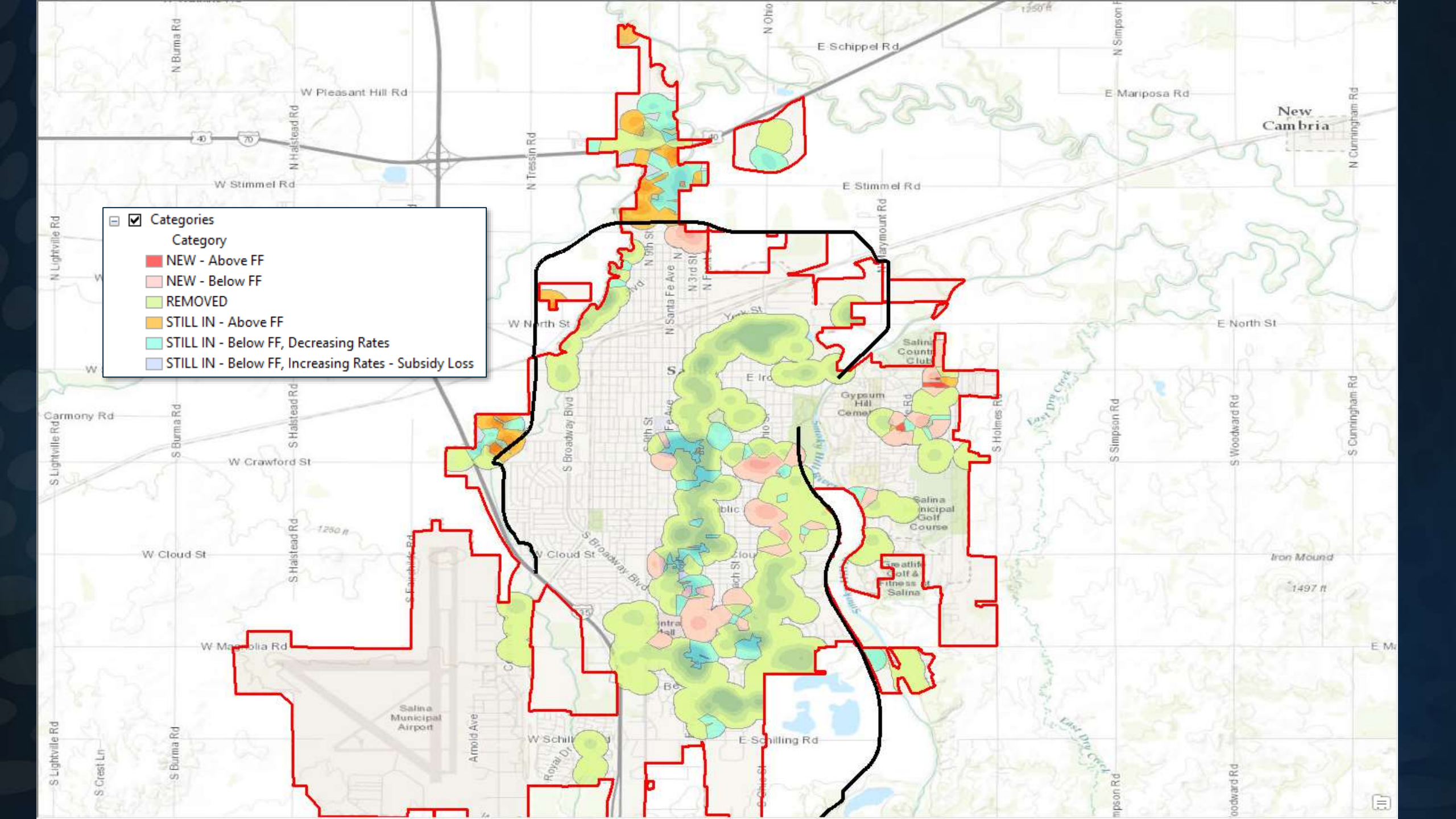



US-40-W
427 m
418 m
W Cloud St
Burma Rd
Structures
Change
High Decrease
Moderate Decrease
Low Decrease
Negligible Difference
Low Increase
Moderate Increase
High Increase



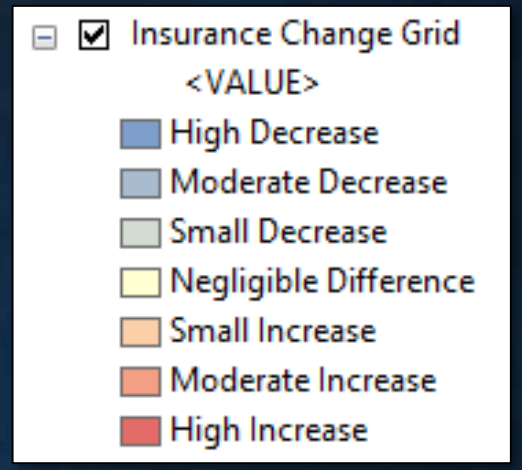
Insurance Change Grid
<VALUE>
High Decrease
Moderate Decrease
Small Decrease
Negligible Difference
Small Increase
Moderate Increase
High Increase
Salina
E Schippel Rd
W Pleasant Hill Rd
E Mariposa Rd
New Cambria
W Stimmel Rd
E Stimmel Rd
W Armstrong Rd
W North St
E North St
E Iron Ave
York St
Gypsum Hill Cemetery
Salina Municipal Golf Course
W Cloud St
E Cloud St
W Magnolia Rd
Central Mall
Salina Municipal Airport
W Schilling Rd
E Schilling Rd
Iron Mound


What was the effect of the new mapping?
Removed from Floodplain.
Remained in Floodplain.
Added to Floodplain.
Category 3: Homeowners can now receive a preferred risk rate.
Is the new 100-yr flood depth at or above the first floor?
Is the new 100-yr flood depth at or above the first floor?
Yes
No
Yes
No
Category 4: High priority for mitigation. High flood risk with high insurance rates.
What are the expected flood insurance impacts?
Category 1: High priority for mitigation. High flood risk with high, new insurance rates.
Category 2: Communicate the importance of getting properly rated (Elevation Cert.) and new insurance requirements.
Decreasing Rates
Static Rates
Increasing Rates
Are flood depths increasing or decreasing?
Caused by increasing depths or future subsidy loss?
Decreased or Similar Depth
Increased Depth
Increased Depth
Subsidy Loss
Category 5: Communicate that flood risk is still present, but new modelling has helped our understanding of that risk.
Category 6: Communicate increased risk from new modelling.
Category 7: Communicate future loss of subsidy and depth based rating.

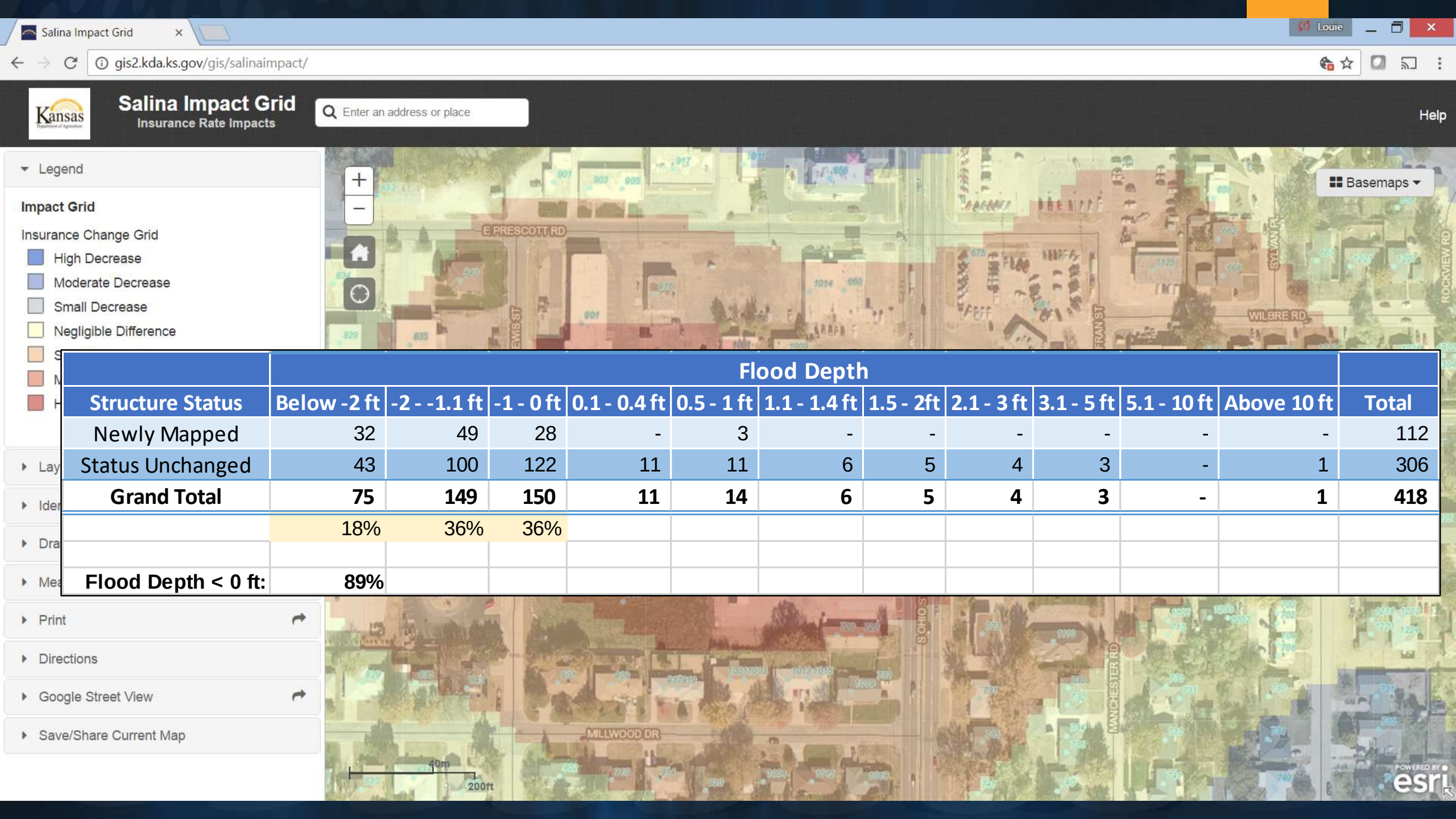

Categories
Category
NEW - Above FF
NEW - Below FF
REMOVED
STILL IN - Above FF
STILL IN - Below FF, Decreasing Rates
STILL IN - Below FF, Increasing Rates - Subsidy Loss
E Schippel Rd
W Pleasant Hill Rd
E Mariposa Rd
New Cambria
W Stimmel Rd
E Stimmel Rd
W North St
E North St
Carmony Rd
W Crawford St
W Cloud St
E Schilling Rd
Salina Municipal Airport
Salina Municipal Golf Course
Iron Mound
1497 ft
1250 ft
N Burma Rd
N Halstead Rd
N Tressin Rd
N Lightville Rd
S Lightville Rd
S Burma Rd
S Halstead Rd
S Broadway Blvd
N Santa Fe Ave
S Holmes Rd
S Simpson Rd
S Woodward Rd
S Cunningham Rd
N Cunningham Rd
Arnold Ave
S Crest Ln

Salina Results

- Outreach to local officials is ongoing
- Messaging is very different than before
  - Information is more substantive
  - Move the discussion towards mitigation
  - Outreach can be tailored to varied situations
    - People that no longer are required to carry a policy
    - People that are newly added
    - People that are still in, but rates are decreasing
    - People that are still in, but rates are increasing



	Flood Depth											
Structure Status	Below -2 ft	-2 - -1.1 ft	-1 - 0 ft	0.1 - 0.4 ft	0.5 - 1 ft	1.1 - 1.4 ft	1.5 - 2ft	2.1 - 3 ft	3.1 - 5 ft	5.1 - 10 ft	Above 10 ft	Total
Newly Mapped	32	49	28	-	3	-	-	-	-	-	-	112
Status Unchanged	43	100	122	11	11	6	5	4	3	-	1	306
Grand Total	**75**	**149**	**150**	**11**	**14**	**6**	**5**	**4**	**3**	**-**	**1**	**418**
	18%	36%	36%									
Flood Depth < 0 ft:	**89%**											



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Flood Depth < 0 ft:	**89%**											

Salina Impact Grid

gis2.kda.ks.gov/gis/salinaimpact/

Salina Impact Grid

Insurance Rate Impacts

Enter an address or place

Help

Legend

Impact Grid

Insurance Change Grid

- High Decrease
- Moderate Decrease
- Small Decrease
- Negligible Difference
- Small Increase
- Moderate Increase
- High Increase

Layers (Click to Expand)

Identify (Specify if NG911 is on)

Draw

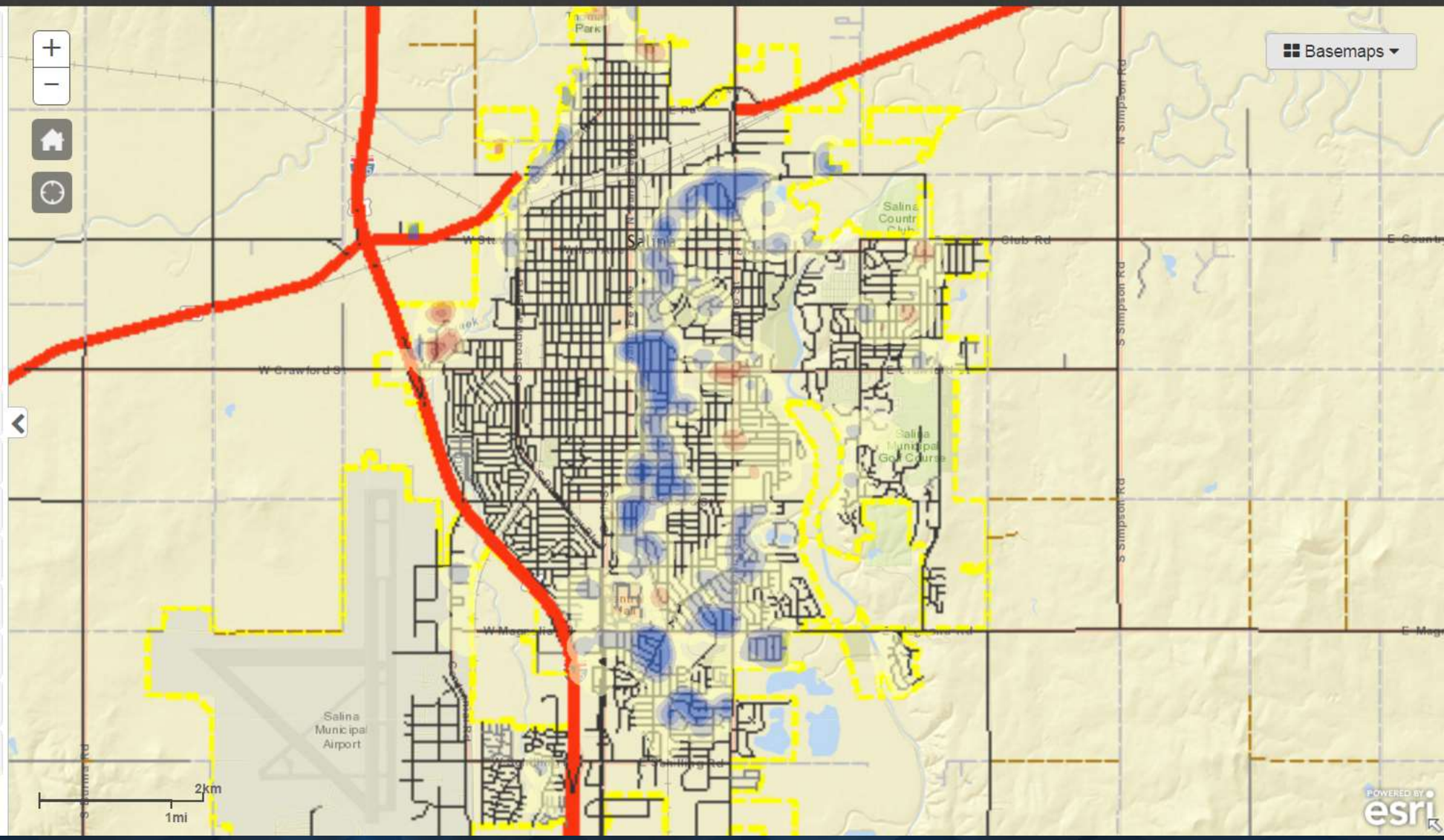
Measurement

Print

Directions

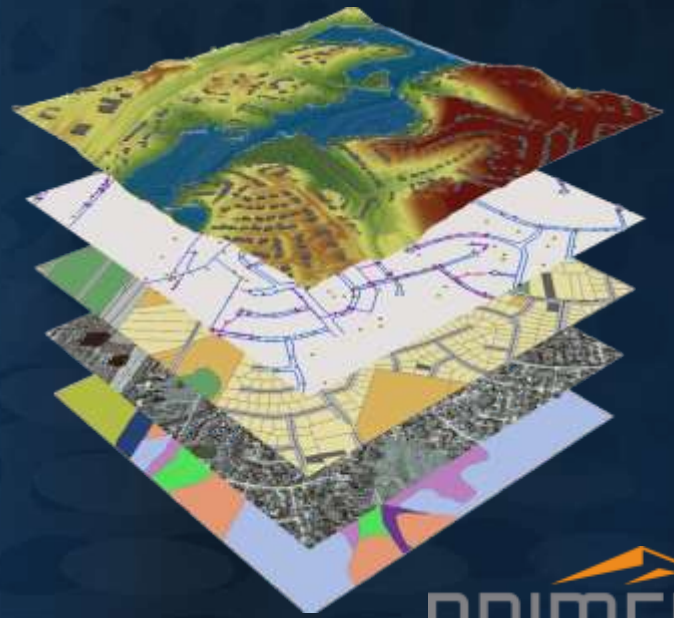
Google Street View

Save/Share Current Map



Better Risk Assessments

- Improved mitigation planning
- Improved communication
- Improved risk reduction



Questions……Thank You!

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