Katrina
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Repaired?
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Blight ID
Points
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ArcServer
Katrina +4
Error
KDHNYR
Conclusion

Mapping Katrina-Damaged Homes Not Yet Rebuilt in Southern Mississippi

2010

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Hurricane Katrina

- August 29, 2005
- Category 3 Hurricane
- 30+ foot storm surge recorded
- ~$120 Billion of damage recorded ($9 billion MS)
- ~220,000 properties damaged
- ~158,000 residential properties damaged (~60,000 homes MS)

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Hurricane Katrina

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Hurricane Katrina

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Katrina Path

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Long Beach, MS

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Pre-Katrina

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Post-Katrina

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Gulfport, MS

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Gulfport, MS

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Google
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Damaged Parcels

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Blighted Parcels

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Blight (KDHNYR)

- Issues with *Blight* and Eminent Domain
- *Blight* is a "four-letter word"
  - Idea is to follow the lead of FDR – buy homes that are Blight or Foreclosed and have the government turn them into rentals until they can be re-purchased.
- NEW TERM: Katrina Damaged Homes Not Yet Repaired

Katrina Landfall Damage
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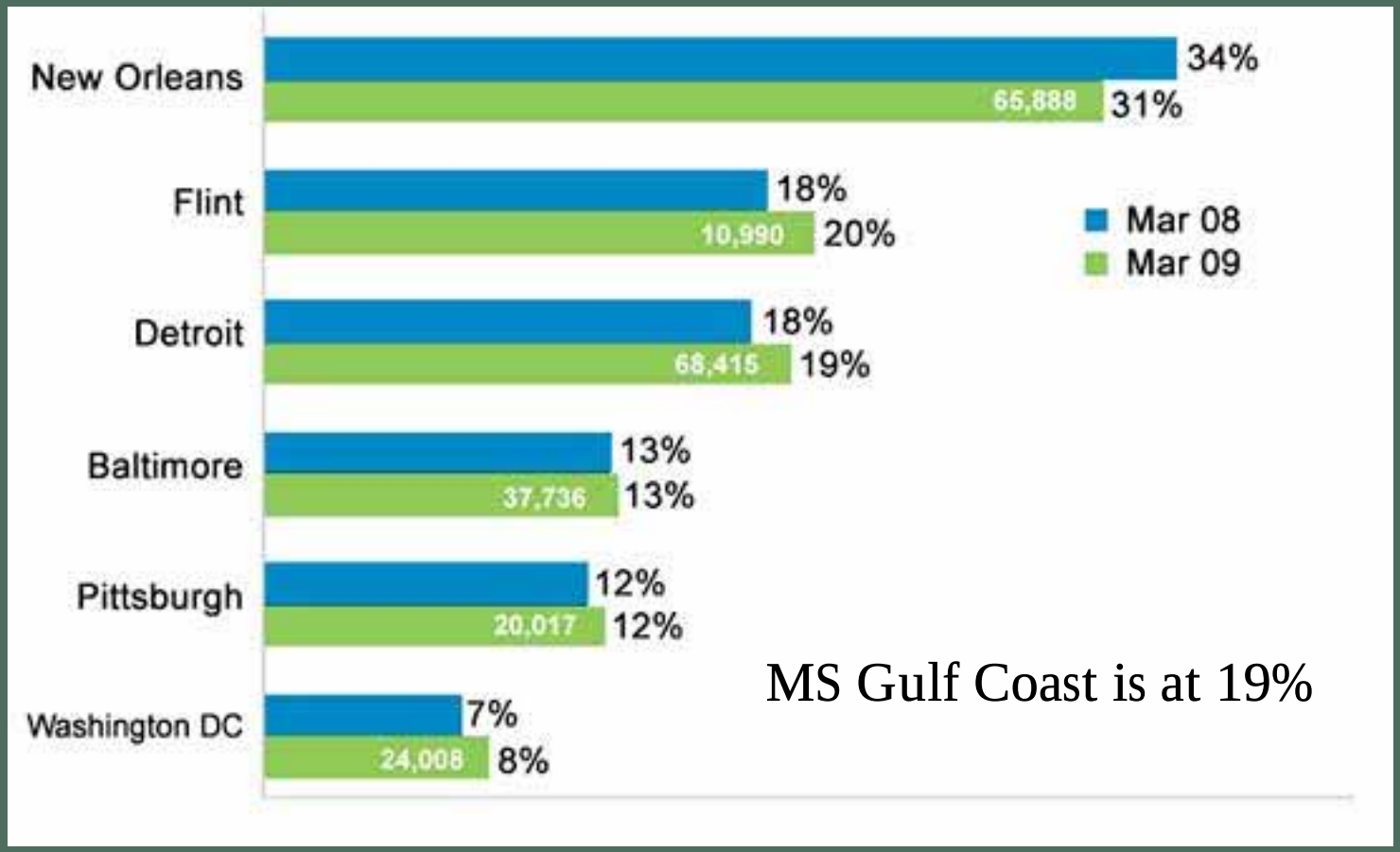
May 13, 2009 Blight Properties



MS Gulf Coast is at 19%

Katrina
Land at
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Why are there still Blighted Properties?

- Insurance issues
- Rental homes
- Second homes
- Vacation homes
- Real Estate prospectors
- People are "fleeing" north

- Need to track people and see what damage remains

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Katrina
Landfall/a
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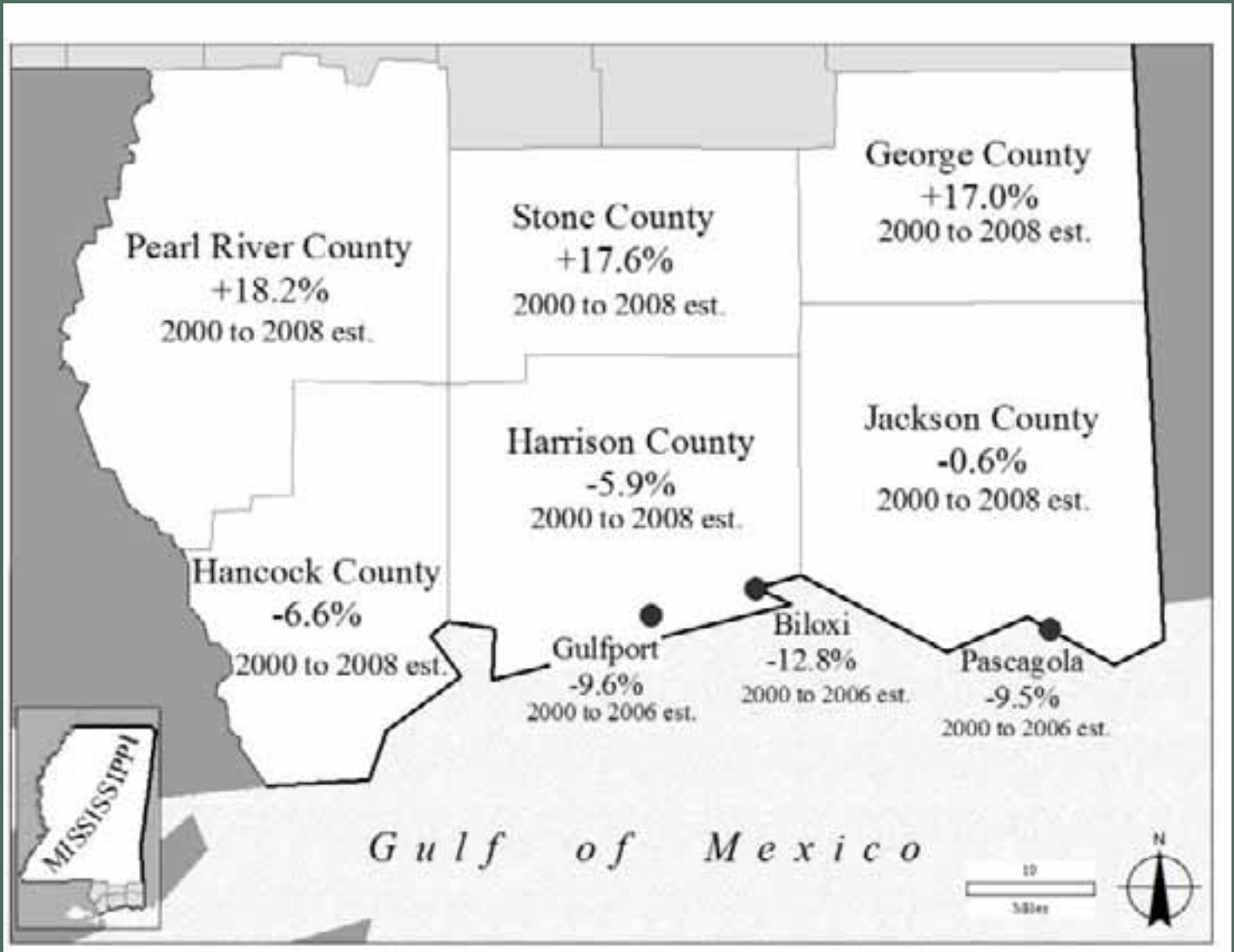
Where are People Now?

- US Census – Decadal
  - BUT – census of 2000 came out in 2004-5
  - SO – census is old once it arrives
  - AND – Katrina hits in 2005
  - UNFORTUNATELY – next census 2010
  - REALLY – available in 2013-15.
  - SIGH
- So, these numbers have been inferred
- Many moving to new housing

US Census Data



Katrina
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New Housing: Harrison County

Katrina
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Boots on the ground

- Methods tried:
  - Remote Sensing – failed: poor returns
  - Electrical Data – failed: no cooperation
  - Building Permits – failed: too variable
  - Aerial Imagery – failed: poor interpretation/ false positives/ age
- Boots on the ground
  - Drive all residential areas, South of I-10
  - GPS locate all issues

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GIS Techs (16)

- Follow area by Map Grid
  - Teams of 2 (Driver and recorder)
- Record any visual blight
  - Photograph from street
  - GPS the parcel (Tremble XH2005)
  - Record data from Data Dictionary
  - Report grid completion
  - Compile data in a GIS

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GIS Managers (2)

- Record grids completed
- Compile GPS data in GIS (TerraSync)
- Print Map Grids for teams
- Match Photos as BLOBs
- Address issues with QA/QC
- Finalized GIS
- Build criteria for potential blight

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Sample Parcel Layer

Katrina
Land/Lot/Da
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Imagery Option

Katrina
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GPS Points Added

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GPS Points Added

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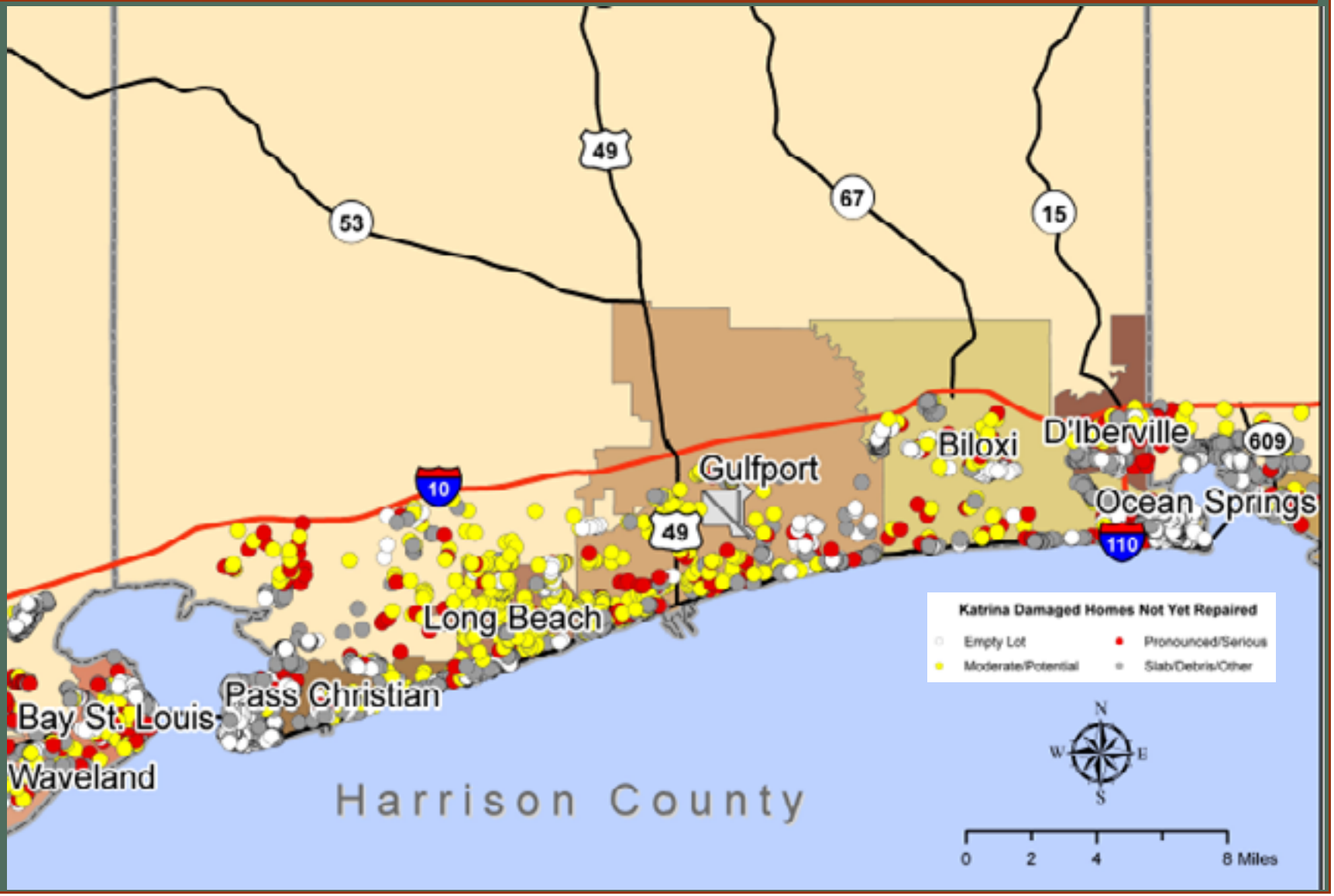
Point Data Illustrated



Katrina
Landsat 7a
Image
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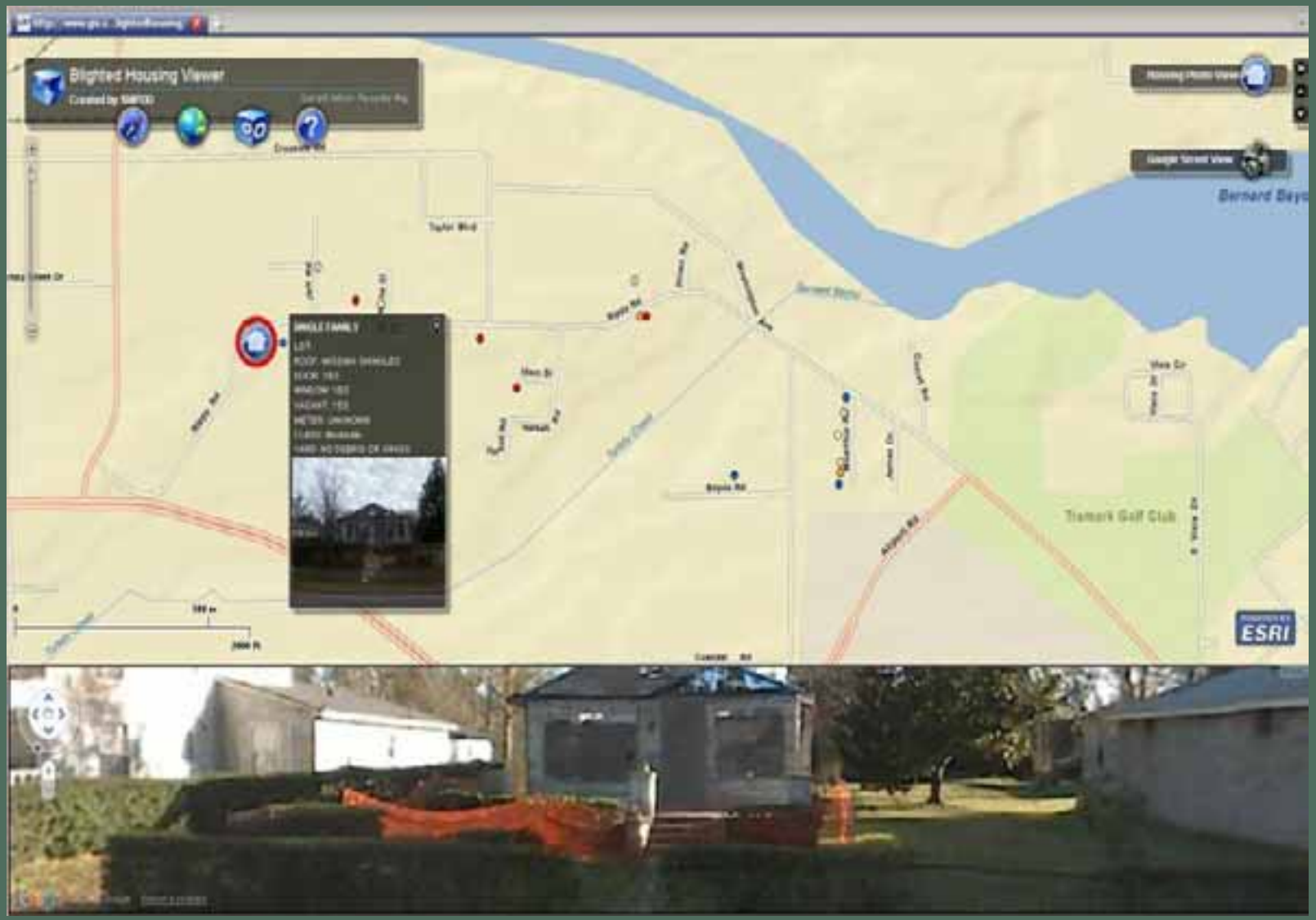
ArcServer (Flex API)

- Once complete – Spatial Join Points to Polygons
- Used ArcServer and mashups
  - Street data from ESRI
  - Imagery from Google Earth
  - Street View from Google Earth
    - From Bechtold 2009
  - Photos from Project
  - Blight Data from Project

Katrina Land/Data Image Blight Repaired? Census Blight ID Points Polygons ArcServer Katrina +4 Error KDHNYR Conclusion

Blight Project GUI



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Blight Project GUI

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Blight Evaluation

- Indicators of Blight:
  - Debris (none, debris, slab, slab and debris)
  - Yard (debris, grass over 6", both)
  - Meter (none, permanent, temporary)
  - Notices (Building permit, tax sale, condemnation, none)
  - Construction Activity (none, building materials, light repair, heavy repair, nearly complete)
  - Roof Damage (None, Tarp, Shingles missing)
  - Window Damage (yes, no)
  - Doors Damage (yes, no)
  - Occupied? (yes, no)
  - For sale sign (yes, no)

Introduction of Error

- Collectors overly subjective/ critical
- Grid overlap (redundancy cleaned)
- Cardinal Direction (field confusion)
- Commercial properties IDed (slabs)
- Missed Neighborhoods
- Doors damaged recorded as "no" if no door
- Photos – a few matching errors

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KDHNYR

- 19% of all Katrina damage has not been repaired as of Katrina +4
  - 7% has been razed and not rebuilt
  - 7% damaged and not rebuilt (still standing)
  - 5% have been reduced to slab

Katrina
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KDHNYR

- ~8,200 parcels
  - Hancock 1,561
  - Harrison 1,279
  - Jackson 906
- 89.3% of total are just slabs AND subject to ABFE requirements
  - Hancock 95.7%
  - Harrison 84.6%
  - Jackson 93%

Process of Recovery

- FEMA Housing
  - Peak ~37,000 Feb 2006
  - August 2009 – theoretically Zero
- Three Coastal Counties (FEMA)
  - % Population compared to pre
    - Sept 2005 – 80%
    - Mid 2009 – 95%

Process of Recovery

Process of Recovery

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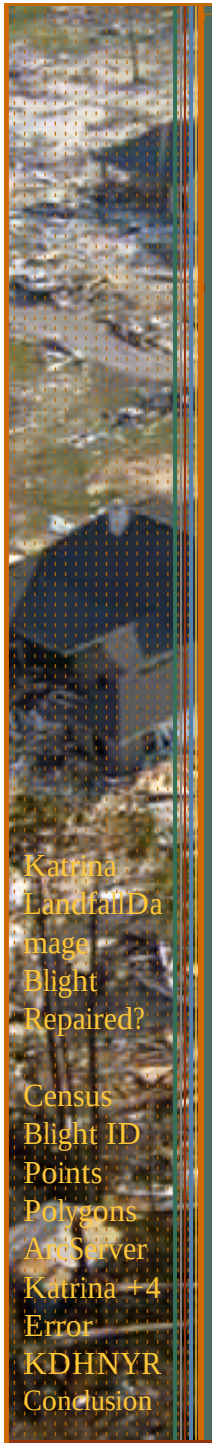
Conclusion

- Residential Recovery?
  - Return to same as before? Impossible
  - Return to a new target? What target?
  - Return to same culture? Improbable
  - Return to no visible damage? Years
  - Return to tax base? Several cities have
  - Return to population base? Only 5% off
  - Return to environmental base? Ever?

What can be recovered has been?



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