Hurricane Category Establishment Identification Project (HCat)

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QCEW and Mapping

1. **QCEW Basics – What We Have**

2. **Past: 9/11, Katrina, Sandy – Reactive Mapping**

3. **Present: HCat – A Proactive Solution**

4. **Future: What's Next for HCat**

QCEW Basics:

- **BLS/State cooperative program**

- **Quarterly census of employers:** 9.2 million establishments.

- **Publication:** Industry by county, 6 months after quarter.

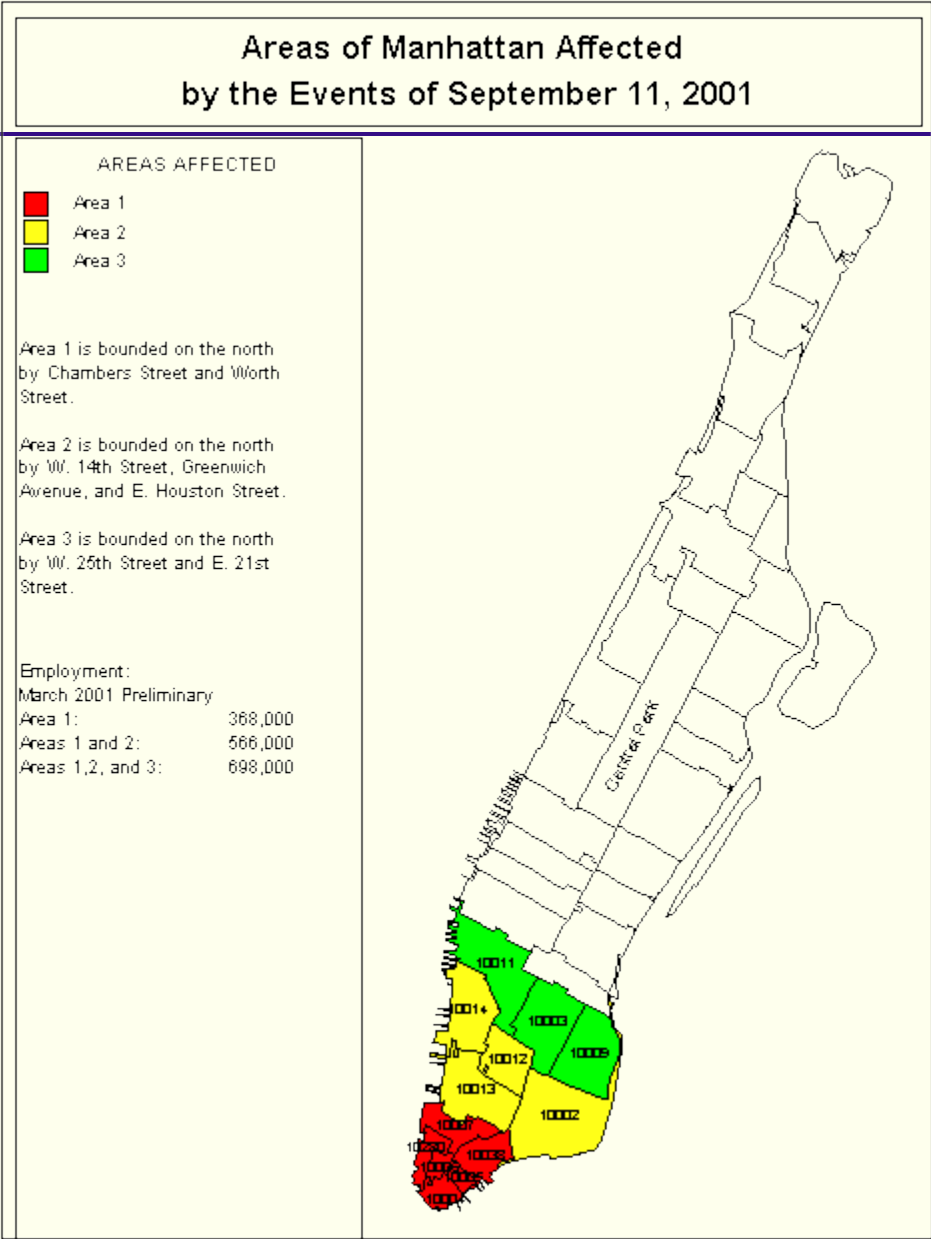- **Sample frame:** For all BLS business surveys.

Past: Early Efforts in QCEW Mapping

- QCEW local data (County, MSA) = detailed, descriptive maps.

- Allows visualization of disasters and other anomalies.

- Many improvements have increased quality of maps.
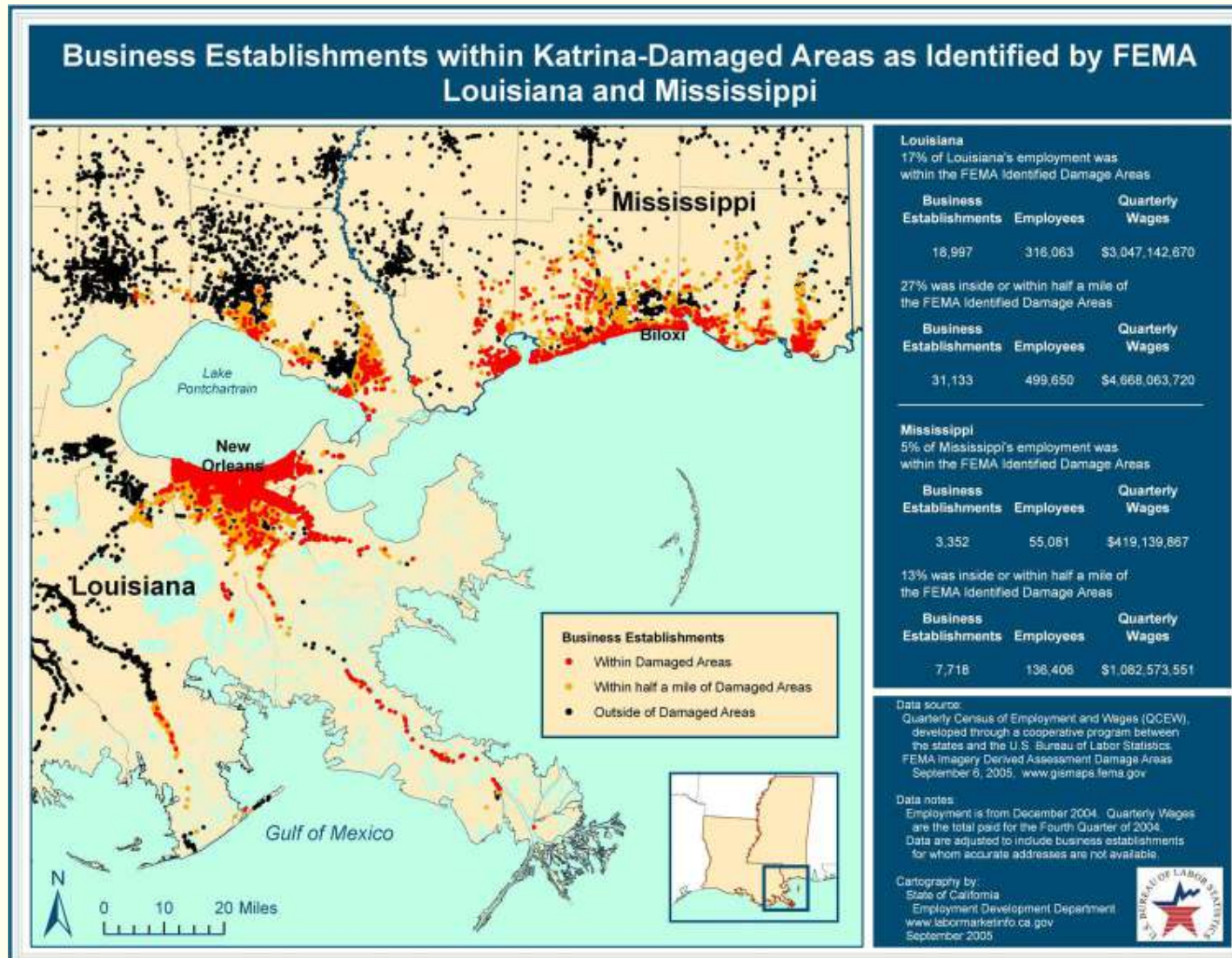
9/11/2001: Zip-based

- **First mapping attempt:** Employment in lower Manhattan.

- **Geocoding:** Zip code was most local available.

- **Mapping:** Zip map was manually colored.

- **Reactive:** Developed after event.

Areas of Manhattan Affected
by the Events of September 11, 2001

AREAS AFFECTED

- Area 1
- Area 2
- Area 3

Area 1 is bounded on the north by Chambers Street and Worth Street.

Area 2 is bounded on the north by W. 14th Street, Greenwich Avenue, and E. Houston Street.

Area 3 is bounded on the north by W. 25th Street and E. 21st Street.

Employment:
March 2001 Preliminary

Area 1:	368,000
Areas 1 and 2:	566,000
Areas 1,2, and 3:	698,000

Katrina 2005: Geocode-based

- **Numerous products:** Maps, tables, affected sample members.

- **Geocoding:** Geocoded data were available by this time.

- **Mapping:** GIS based, created by California and Missouri LMI.

- **Reactive:** Developed after event.

Business Establishments within Katrina-Damaged Areas as Identified by FEMA
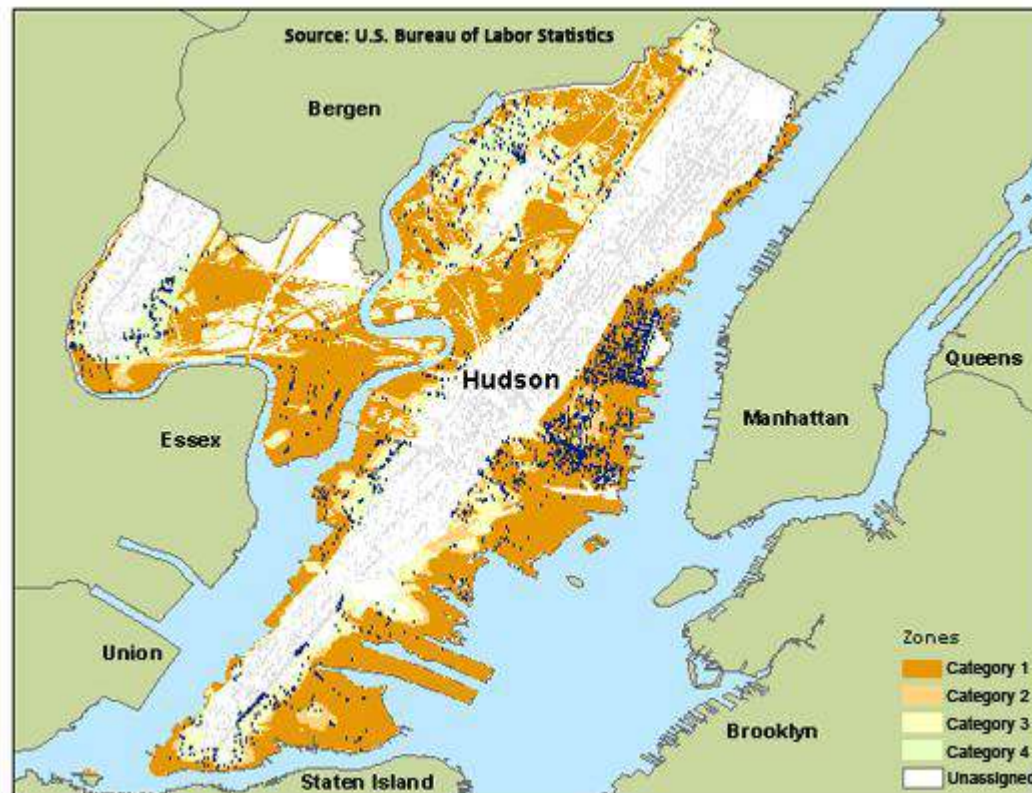Louisiana and Mississippi

Sandy 2012: Hurricane Categories

- **Hurricane Category Shapefiles:** Produced by US Army Corps of Engineers, using Saffir-Simpson scale as standard.

- **Geocoding:** Shape files matched to geocoded data.

- **Mapping:** GIS based, produced by QCEW staff.

- **Reactive:**   Developed after event.

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Hurricane Storm Surge Zones, Hudson, New Jersey

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Aggregates by Hurricane Category Zones: Hudson, NJ

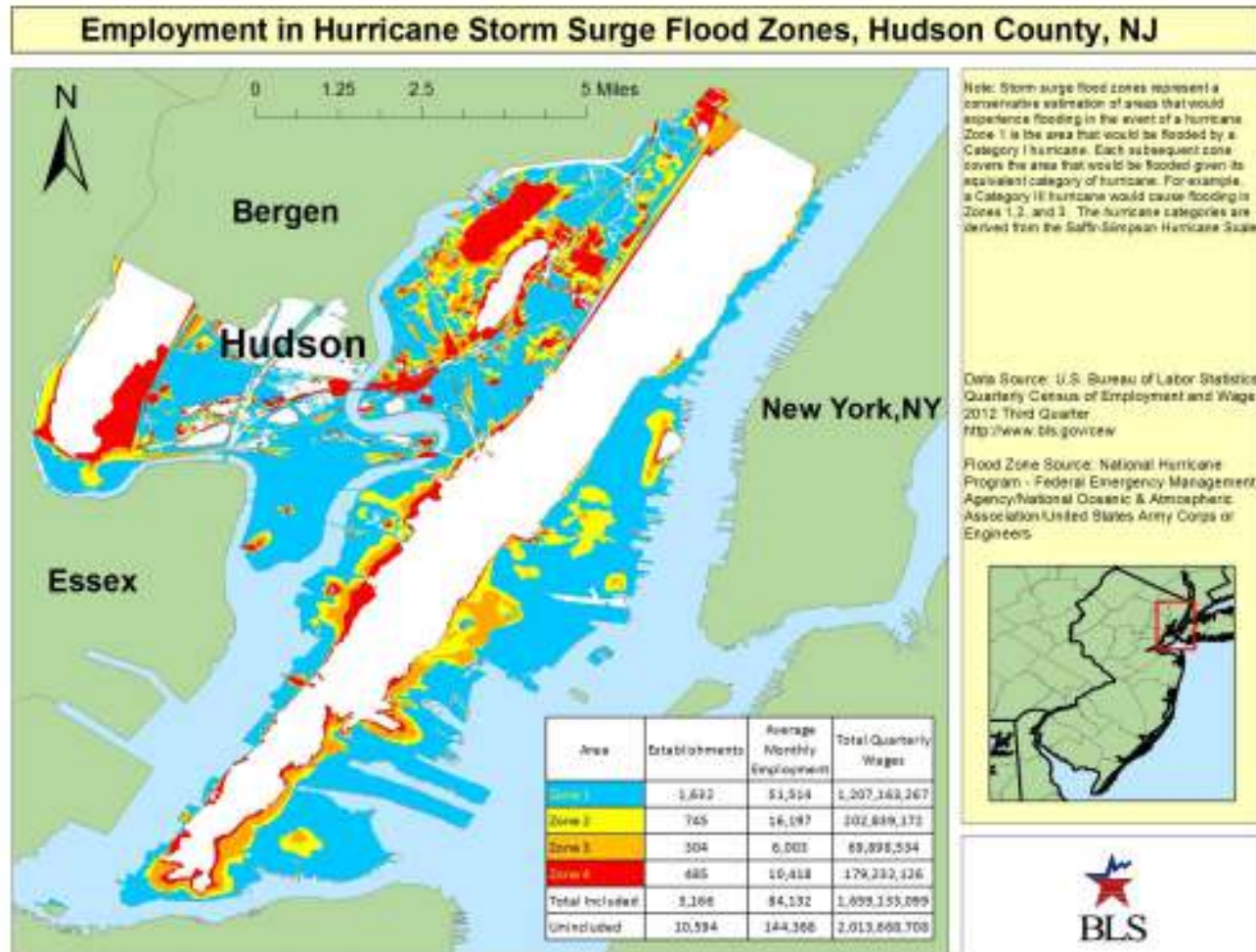| Hurricane Category	Fourth Quarter 2011 Establishments	October 2011 Employment
1	3,309	92,212
2	1,363	24,650
3	589	10,864
4	798	14,878
Outside of Zones	7,838	88,649

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HCat: a systematic, proactive approach

- **Hurricane Category Shapefiles for Atlantic and Gulf Coast Counties** : Worked with US Army Corps of Engineers and State Emergency Management Agencies. All shape files based on National Weather Service SLOSH model.

- **Inputs:** Shapefiles are joined with geocoded QCEW establishment files. Scope includes 18 states and the District of Columbia. Counties are limited to those for which shape files exist.

- **Output:** Maps, unique new datasets. Datasets include a new column for hurricane category, which allows us to sort and aggregate establishments by their vulnerability to particular storms.

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Proactive Approach – HCat Products

- **External:** Maps and tables – will be hosted on the BLS web site. Media, researchers, emergency managers will have easy access to data anytime. Potential economic impacts available as storm approaches.

- **Internal:** HCat datasets – the establishments have hurricane codes added to the Longitudinal Data Base (LDB). Sample frame users (CES, PPI, JOLTS) can incorporate these codes to assist in explaining non-response rates and unusual shifts in their data.

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Employment in Hurricane Storm Surge Flood Zones, Hudson County, NJ
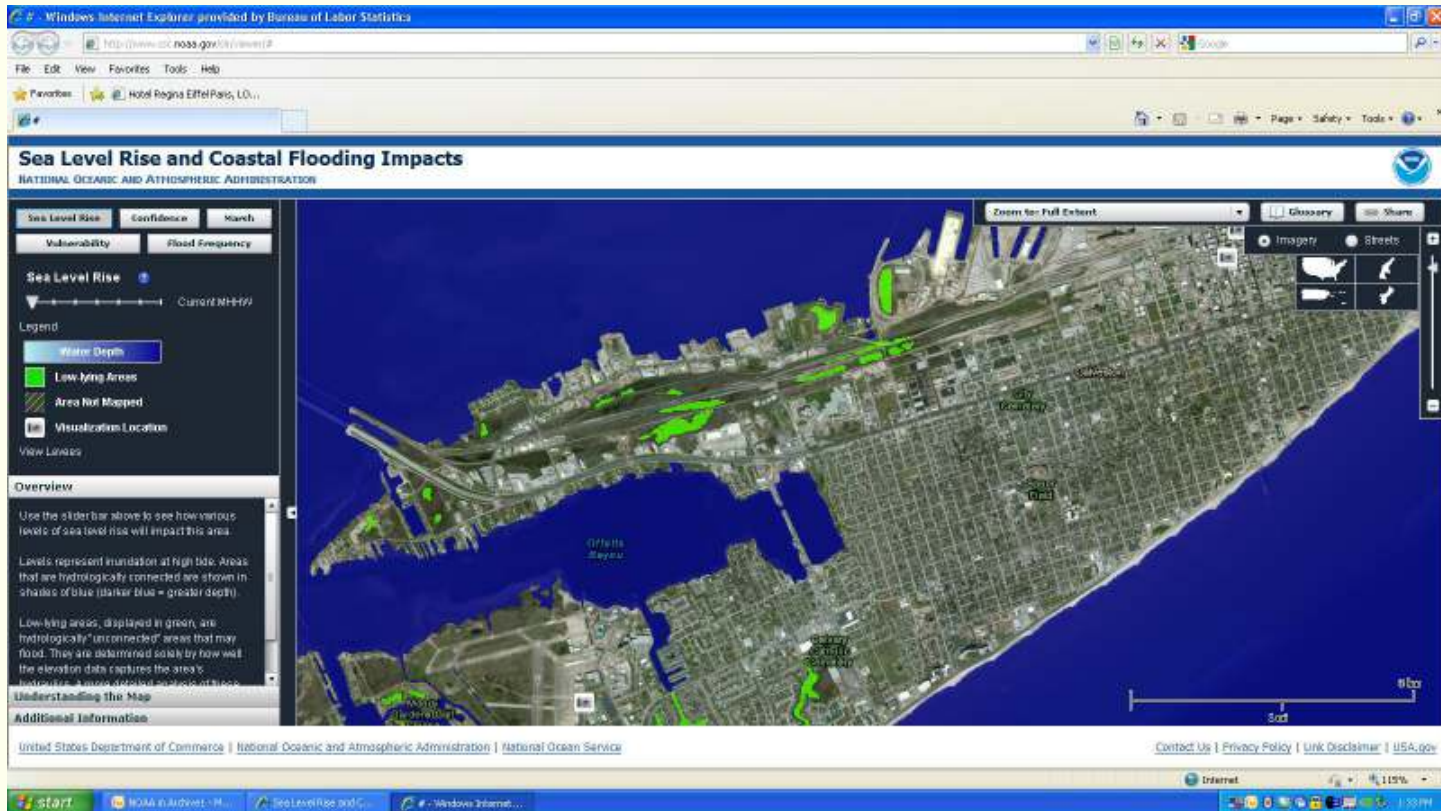
HCat Status
as of 11/5/13

- A dynamic project

- Microdata shared with sample frame users

- Maps and tables developed. Fact checking, web site publication ongoing.

- Updates expected to be annual

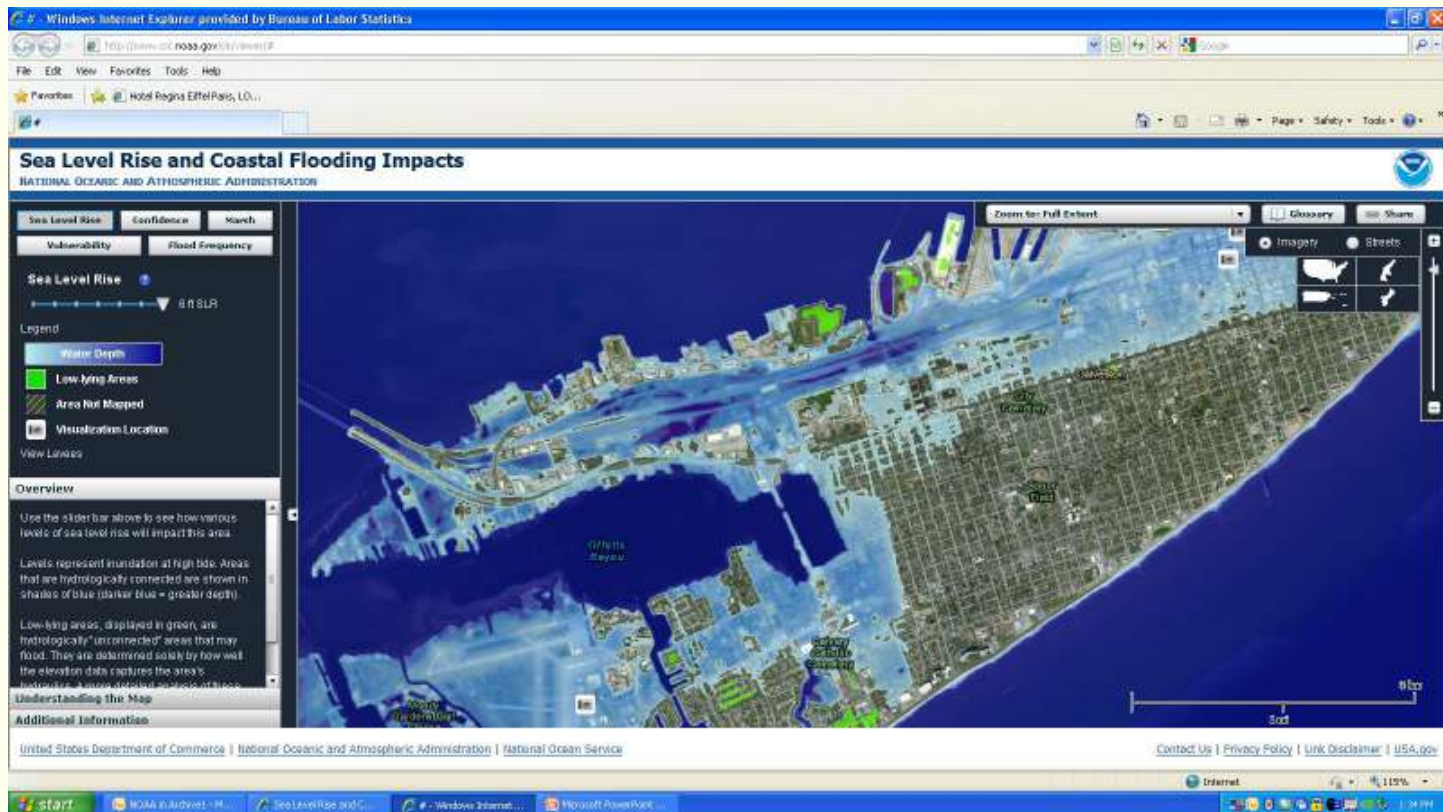- New sources of data: more precise, work in progress

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Elevation—the next frontier
Galveston at current high tide

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Elevation—the next frontier
Galveston with a 6 foot rise in sea level

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Questions?

- **BLS Quarterly Census of Employment and Wages**
  - http://www.bls.gov/cew/

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