Background

Emergencies Matter
- High number and variety of events across U.S.
- Increased impact
  - General population increase
  - Pop increase in vulnerable areas
  - Increase in wealth / assets

Interest in Economic Impacts
- Direct vs Indirect
- Losses to Business (inability to operate, revenue)
- Losses due to Infrastructure, Transportation
- Losses to Govt’s (assets, revenue)

Limitations of Current Tools/ Approaches
- No National Reporting System (multiple orgs, inconsistent coverage and focus)
- Inadequate Geographic Scale (need for sub-county level)
- Lack of Real-time Data
OnTheMap for Emergency Management Uses

- Assessment of Impact on Labor Market
  - How many affected workers and employers?
  - Are they living or working in the affected area?
  - How are workers/employers geographically distributed within affected area?
  - What are the affected industries?

- Emergency Preparedness & Response Planning
  - Where should response efforts concentrate?
  - What are the major commuting & evacuation patterns?
  - How do different emergency scenarios compare?
  - How do future scenarios compare to historical events and measured impacts?
Emergency Management Examples: Floods & Fires

2008 California Wildfires Economic Analysis

- Fire-Impacted Areas: 10/19/07 – 10/26/07
- 3,603 Census Blocks in 7 counties with 1 km of 3,713 active fires
- Resident Workers: About 31,000 workers live in the fire areas
- Employed Workers: About 60,000 workers work in the fire areas

2009 King County Washington Flood Impact Study

- Work Area Profile Map
  - Shows where workers are employed in the impact zone.
  - Projected path of Hanna based on NWS data.
  - Plume selection from 20 miles to 150 miles.
  - Approx. 3.9 million jobs in this selection for 2006.
Conceptual Application Overview

- Resides within existing architecture & technology environment
- Integrates compatible emergency management data
- Provides information in real time (or near real-time)
- Easy to understand and use
- Provides useful economic & demographic data for emergency management uses

**OnTheMap**

<table>
<thead>
<tr>
<th>Web Tier</th>
<th>Application Tier</th>
<th>Database Tier</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Emergency Management</td>
<td></td>
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</tbody>
</table>

**Natural Hazards**

- Hurricanes
- Floods
- Wildfires
- Tornadoes
- Earthquakes
- Tsunamis
- Weather
- Volcanoes
- Drought

**Human-made Hazards**

- Structural Collapse
- Terrorism
- Power Outage
- Accident
- Pollution
- Cyber Attack
- Contamination
- Water System Outage
- Crime
Version 1 Timeline

July 2010
1.0
- Hurricanes
- Real-time Updates
- Data Download
- Storm History Viewing

Sept. 2010
1.1
- Google Maps
- Improved Map Zoom
- Improved Storm List
- Text & Formatting Updates

Nov. 2010
1.2
- Updated Help Docs
- Text & Formatting Updates
Version 1 Review

OnTheMap for Emergency Management provides rapid access to labor market information for local areas, affected by emergency events such as hurricanes, tornadoes, floods, earthquakes, or fires. Currently, limited to hurricanes, the application provides an easy-to-use tool that provides a live feed from the National Hurricane Center. When a storm's leading winds make landfall, in the U.S., the application will allow users to view the characteristics of the local workforce, such as the affected industries, ages of workers, and workers' earnings with a simple click of the link.

Notes: OnTheMap for Emergency Management computes storms' impact on jobs from 2008 data for 48 states. The eligible states and territories not yet in the system are Connecticut (CT), the District of Columbia (DC), Puerto Rico (PR), the U.S. Virgin Islands (VI), Massachusetts (MA), and New Hampshire (NH). North Carolina (NC) is missing 2008 data and is not included in the jobs computation.

To start, select a storm from the list to the right. Jobs data will only be available when the leading winds have made landfall. Click on "Getting Started" to learn about using the application.

Map legend can be found here. Map and data provided by the National Weather Service. Details can be found at the National Hurricane Center.

U.S. Census Bureau
Helping You Make Informed Decisions

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Version 1 Review Cont’d

OnTheMap Hurricanes for Emergency Management

U.S. Jobs Within Hurricane Wind Swath

No Jobs data is reported for storms that have not made landfall.
Job numbers refer to Total Primary Jobs in 2006 within the hurricane wind swath by location or characteristic.
Job numbers reported by location correspond to those jobs within the portion of the state, county, or place that is also located within the hurricane wind swath. Job numbers for characteristics are reported for the total wind swath size allocations together.
Job numbers reported do not include states where LED does not have 2006 local employment data (CT, DC, MA, NH, PR, and VI).

Storm Information
Viewing Date/Time: 08/08/2010 02:35 (GMT)
Storm Name: Tropical Depression HERMINE
Storm Code: 102010

Storm Data Provided by the National Weather Service. The Hurricane Wind Swath is the area depicted by the orange outline in the map. This Job Density Overlay is represented by the blue color shaded areas within the cumulative wind swath in the map. Thicker areas represent higher concentrations of jobs per square mile.
Version 2 Enhancements

New Data
- Emergency Management Data
  - Floods – Flood Outlook areas
  - Fires – Fire perimeters
- Demographic Information
  - Expanded Characteristics - Race, Ethnicity, Education
- Improved Reports
  - Detailed Reporting by Emergency Event Categories

Improved Map
- Single Integrated Map
- New Basemap alternatives – Aerial, Streets, Terrain
- Layer Controls (On/Off, Identify, etc.)

New Tools
- Storm/Event History Animation
- Jump to OnTheMap

US CENSUS BUREAU
Version 2 Enhancements - New Data

Floods

Fires

Hurricanes
Version 2 Enhancements - Hurricanes

### U.S. Jobs within Hurricane Areas

<table>
<thead>
<tr>
<th>Hurricane Alex</th>
<th>Past</th>
<th>Current</th>
<th>Future</th>
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<tr>
<td></td>
<td>Tropical Storm Force Wind</td>
<td>Hurricane Force Wind</td>
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#### Jobs by State, County, Place

- **State**:
- **County**:
- **Place**:

#### Jobs by Characteristics

- **Age**
- **Earnings**
- **Industry**
- **Race**
- **Ethnicity**
- **Education**
Version 2 Enhancements - Flood Outlook Areas

Oct 11 2010
42.5N, -90.5W
Occurring/Imminent

Generate Report

U.S. Jobs within Flood Areas

<table>
<thead>
<tr>
<th>Jobs by</th>
<th>Total</th>
<th>Occurring</th>
<th>Likely</th>
<th>Possible</th>
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<td>Place</td>
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Jobs by Characteristics

- Age
- Earnings
- Industry
- Race
- Ethnicity
- Education
Version 2 Enhancements - Fire Perimeters

U.S. Jobs within Fire Areas

<table>
<thead>
<tr>
<th>Jobs by State, County, Place</th>
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<td>Ethnicity</td>
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<tr>
<td>Education</td>
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</tbody>
</table>

July 30 2010
34.5N, -118.5W
9700 Acres
Version 2 Enhancements - Google Maps

Satellite

Hybrid

Terrain

Road
What’s Next?

- Release of Version 2 Hurricanes for upcoming season
- If interested in getting involved, sharing experiences, or providing feedback…please contact:

  CES.Local.Employment.Dynamics@census.gov