

Local Employment Dynamics (LED)

Online Tools

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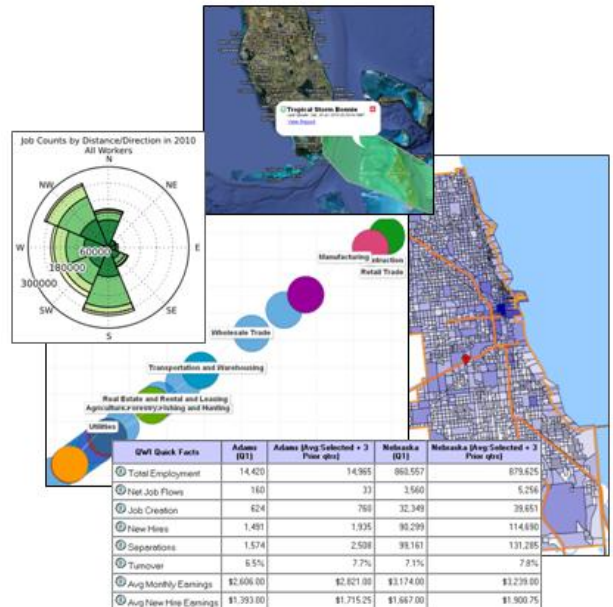
LED New Data from the States and the U.S. Census Bureau

Local Employment Dynamics

New time series data created under the federal-state Local Employment Dynamics (LED) Partnership provide unprecedented details about America's jobs, workers, and local economies and communities. LED creatively integrates existing data from state-supplied administrative records on workers and employers with existing censuses, surveys, and other administrative records to create a longitudinal data system on U.S. employment. State-of-the-art methods to protect the confidentiality of the original respondents allow LED to release valid data for local or regional areas beyond traditional boundaries for public use on the Internet.

The LED flagship product, Quarterly Workforce Indicators (QWI), provides information about trends in employment, hiring, job creation and destruction, and earnings, with unprecedented details of geography, age, gender, and industry going as far back as 1990. Industry Focus identifies hot industries by selected criterion for worker groups in a local economy.

OnTheMap is a mapping and reporting tool showing employment and home locations of workers with companion reports for user-defined areas. It is the first synthetic data product released by the Census Bureau. OnTheMap has been selected as a representative U.S. statistical innovation for the United Nations in 2009, and received the U.S. Department of Commerce Gold Medal, its highest recognition for scientific achievement, in 2010.



LED is an integral part of the U.S. Department of Commerce Open Government Plan to unlock public access to high-value government data. In addition to the custom development of OnTheMap, LED has partnered with Google and IBM to apply their data visualization tools for QWI.

Online Tool	Data Update/ Currency	Description
QWI Online	Quarterly 1990-2011	Accesses 8 QWIs covering employment, new hires, job creation and destruction, and earnings.
Industry Focus	Quarterly 1990-2011	Identifies hot industries by selected criterion for worker groups in a local economy.
OnTheMap	Annually 2002-2010	Maps, charts, and reports on demographic characteristics and commute patterns of workers/jobs covering 49 states.
OnTheMap for Emergency Management	Annually 2010	Shows potential impact on jobs/workers and population for hurricanes, tropical storms, fires, floods, snow and freezing rain probability and disaster declaration areas. Real-time geographic data of disaster events.
Google Public Data	1990-2010	Visualization of 24 QWIs for 2 pilot states using line charts, bar charts, and motion charts.
IBM Many Eyes	1990-2010	Visualization of Beginning of Quarter Employment by worker gender, age, and up to 3-digit industrial classification for 48 states.

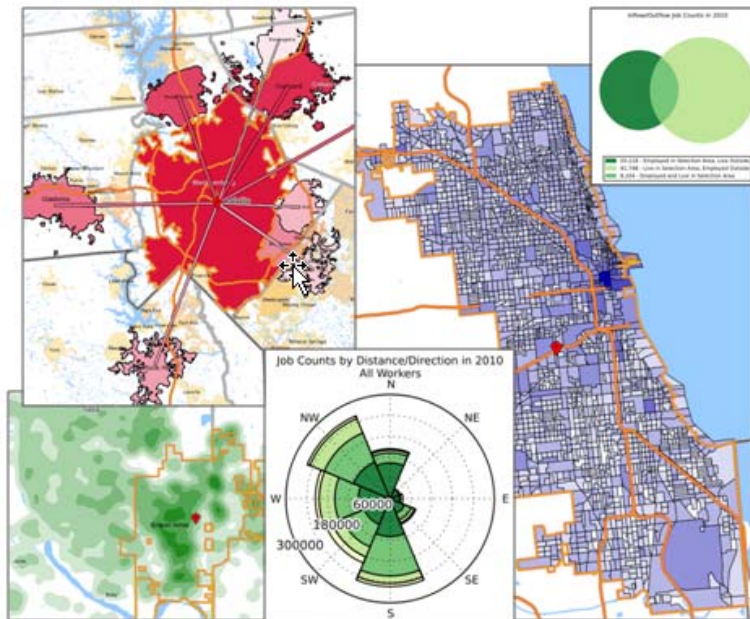
Go to www.census.gov, click on “Local Employment Dynamics” under “Business” to visit. For more information, contact CES.local.employment.dynamics@census.gov.

OnTheMap

Local Employment Dynamics

OnTheMap is an online mapping and reporting application located at <http://onthemap.ces.census.gov/> that shows where people work and where workers live. OnTheMap was developed through a unique partnership between the U.S. Census Bureau and its Local Employment Dynamics (LED) partner states.

OnTheMap provides an easy-to-use interface for creating, viewing, printing, and downloading workforce related maps, profiles, and underlying data. An interactive map viewer displays workplace and residential distributions by user-defined geographies at census block-level detail. The application also provides companion reports on worker and firm characteristics, employment and residential area comparisons, worker flows, and commuting patterns. In OnTheMap, statistics can be generated for specific segments of the workforce, including ages, earnings, or industry groupings.



OnTheMap Highlights

- **Comprehensive Coverage** – Census block-level coverage for home and work areas in 50 partner states/territories with consecutive years of data from 2002 to 2011. Available characteristics include worker age, earnings, industry sector, worker race, worker ethnicity, worker educational attainment, worker sex, firm age and firm size.
- **Powerful Analysis Tools** – Six different analysis types are available for users to analyze, compare, and summarize a vast amount of labor force data for user-defined or Census-standard areas. Each set of results are presented through interactive maps, charts, and reports.
- **Versatile Outputs** – Results can be exported to a report (PDF, HTML, XLS), to a map (KML or Shapefile), or to other forms (PNG images or composite PDF). Users can also save their analysis settings for future use in OnTheMap.
- **Easy-To-Use Documentation** – Online documentation, including tutorials and walkthroughs, is available at <http://lehd.ces.census.gov/applications/help/onthemap.html>.

Contact: CES.OnTheMap.Feedback@census.gov

OnTheMap for Emergency Management: Overview

Local Employment Dynamics

OnTheMap for Emergency Management is a public data tool that provides an intuitive web-based interface for accessing U.S. population and workforce statistics, in real time, for areas being affected by natural disasters. Users can easily retrieve reports containing detailed workforce, population, and housing characteristics for hurricanes, floods, wildfires, winter storms, and federal disaster declaration areas.

To provide users this information for rapidly changing hazard event areas, OnTheMap for Emergency Management automatically incorporates real time data updates from the National Weather Service's (NWS) National Hurricane Center, Department of Interior (DOI), Department of Agriculture (DOA), and the Federal Emergency Management Agency (FEMA).

Version 3 offers a number of new features to improve access to and utility of Census workforce and demographic data for emergency preparedness, response, and recovery activities including incorporating Federal Disaster Areas, Snowfall Forecasts, and 2010 Census demographic and housing characteristics.



Screenshot of OnTheMap for Emergency Management Version 3.

Version 3 Highlights:

- **New Emergency Event Data-** Addition of FEMA Disaster Declaration Areas & NWS Snowfall Probability Forecasts
- **More Complete Hurricane Archives-** Capture & Archiving of all Daily NHC Storm Updates
- **Expanded Report Content-** Addition of Decennial 2010 Population & Housing Characteristics; 2010 Jobs & Worker Sex Data
- **New Analyses & Visualizations-** New Reports with Charting & Thematic Map Overlays Showing Population & Worker Distributions
- **New Interoperability-** New Tool for Exporting Event Areas to use in OnTheMap or Other GIS Applications
- **Updated Interface & Help Documentation-** Improved User Interface Speed and Navigability; Improved Event Searching; Newly Updated Help Documentation

OnTheMap for Emergency Management is supported by the state Labor Market Information agencies under the Local Employment Dynamics (LED) partnership with the Census Bureau. Data for MA, PR, and VI are not available at this time.

OnTheMap for Emergency Management can be accessed directly at <http://onthemap.ces.census.gov/em.html>.

For questions or comments contact: CES.OnTheMap.Feedback@census.gov

OnTheMap for Emergency Management: Technical Overview

Local Employment Dynamics

OnTheMap for Emergency Management is a public data tool that provides an intuitive web-based interface for accessing U.S. population and workforce statistics, in real time, for areas being affected by natural disasters. Users can easily retrieve reports containing detailed U.S. Census block-level workforce, population, and housing characteristics for hurricanes, floods, wildfires, winter storms, and federal disaster declaration areas.

Automated data integration technologies incorporate real time updates for rapidly changing hazard event areas from the National Weather Service's (NWS) National Hurricane Center, Department of Interior (DOI), Department of Agriculture (DOA), and the Federal Emergency Management Agency (FEMA).

OnTheMap for Emergency Management has been designed as an extension of the OnTheMap application- the Census Bureau's award winning web-based workforce analytics tool- from which it integrates recent data about where workers are employed and live.

Technical Highlights:

- **Real Time Data Updates-** Hurricanes, Floods, Wildfires, & Snowfall areas.
- **U.S. Census Block-level Data-** Workforce & Population characteristics reported at the U.S. Census Block level.
- **Workforce Data-** Number and location of jobs; Industry type; Worker age, earnings, race, ethnicity, educational attainment, and sex.
- **Population & Housing Data-** Total population; Pop by age, race, ethnicity, sex; Total housing, Occupied/Vacant housing, Pop by housing.
- **Analyses & Visualizations-** Charting, Worker & Population Distribution Thematic Map Overlays, Worker Flow Analyses.
- **Interoperability-** Export Emergency Event Areas to KML for use in Other GIS Applications.
- **Interactive Features-** User controls for turning On/Off Layers and changing base maps; Search by Date Range or Hazard Type.

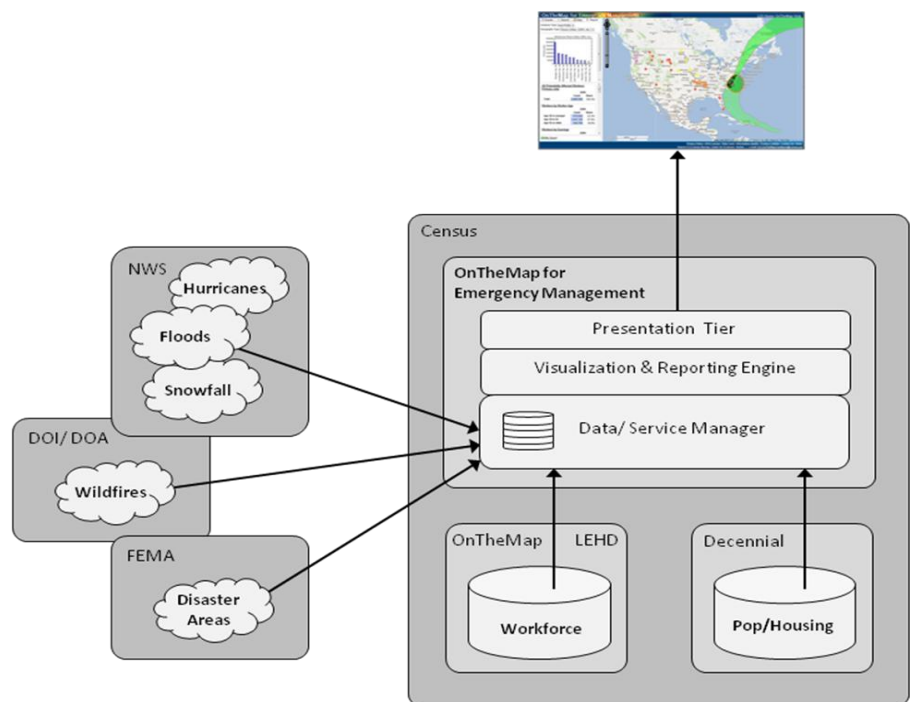


Diagram depicts a conceptual overview of OnTheMap for Emergency Management's application and data architecture. The system utilizes Services Oriented Architectures (SOA) and approaches to achieving data integration and scalability requirements. The application and environment rely on a combination of COTS Open Source software technologies including Linux, PostGres, PostGIS, and MapServer.

OnTheMap for Emergency Management is supported by state Labor Market Information agencies under the Local Employment Dynamics (LED) partnership with the Census Bureau. Data for MA, PR, and VI are currently not available.

OnTheMap for Emergency Management can be accessed directly at <http://onthemap.ces.census.gov/em.html>.

For questions or comments contact: CES.OnTheMap.Feedback@census.gov

OnTheMap for Emergency Management: Data Sources

Local Employment Dynamics

Hurricanes and Tropical Storms

The hurricane data used in OnTheMap for Emergency Management is supplied by feeds from the [National Hurricane Center \(NHC\)](#) and include several detailed GIS formatted geographic representations of the storm area including: the current wind radii as well as the historical wind area (cumulative wind swath) and forecast area (uncertainty cone).

Current Wind Radii - Represents the forecasters' best estimates of the current location, intensity, and size of a tropical cyclone while the cyclone is ongoing. OnTheMap for Emergency Management displays both Hurricane and Tropical Storm Force wind areas (>60kn and >34kn). For additional details see <http://www.nhc.noaa.gov/aboutnhcgraphics.shtml#INITIALWIND>.

Forecast Area (Cone of Uncertainty) - Represents the probable track of the center of a tropical cyclone. For additional details see <http://www.nhc.noaa.gov/aboutnhcgraphics.shtml#WATCHWARN>.

Wind History (Cumulative Wind Swath) - Area representing how the size of the storm has changed and the areas potentially affected so far. OnTheMap for Emergency Management displays both Hurricane and Tropical Storm Force wind areas (>60kn and >34kn). For additional details see <http://www.nhc.noaa.gov/aboutnhcgraphics.shtml#CWIND>.

Details about these and other data sets available for hurricanes and tropical storms can be found at <http://www.nhc.noaa.gov/gis>.

The feeds that deliver the hurricane data are provided in Really Simple Syndication (RSS) format and are updated by the NHC every 4-6 hours. OnTheMap for Emergency Management automatically reads and incorporates updates from these feeds every 2 hours. Further details about the contents and access to the RSS feeds are available at <http://www.nhc.noaa.gov/aboutrss.shtml>.

Flood Outlook Areas

The flood data used in OnTheMap for Emergency Management includes Significant River Flood Outlook areas which are supplied daily by the [Hydrometeorological Prediction Center \(HPC\)](#) at the [National Weather Service](#). The data, provided in GIS format, includes representations for areas of active (Occurring or Imminent) or likely flooding in the forecast period. For additional details about data contents and access see <http://www.hpc.ncep.noaa.gov/nationalfloodoutlook/>.

Snow & Freezing Rain Probability Forecasts (Winter Storms)

The Snow and Freezing Rain probability forecasts data are supplied in GIS format daily by the [Hydrometeorological Prediction Center \(HPC\)](#) at the [National Weather Service](#). The snowfall data displayed in OnTheMap for Emergency Management represents areas with a moderate or high probability of receiving more than 4 inches of snow within the 24 hour forecast period. The freezing rain data displayed represents areas with a moderate or high probability of receiving more than .25 inches of freezing rain within the 24 hour forecast period.

For additional details about data contents and access see http://www.hpc.ncep.noaa.gov/wwd/winter_wx.shtml and <http://www.hpc.ncep.noaa.gov/wwd/about.shtml>.

Wildfires

The wildfire data in OnTheMap for Emergency Management includes active wild fire perimeters provided by the [Geospatial Multi-Agency Coordination Group \(GeoMAC\)](#), a group composed of technical and subject matter experts from the Department of Interior and Department of Agriculture. The data is updated regularly and provided in GIS format for public use.

For additional details about data contents and access methods see http://rmgsc.cr.usgs.gov/outgoing/GeoMAC/geomac_download_procedures.pdf.

Disaster Declaration Areas

The disaster declarations data displayed in OnTheMap for Emergency Management are defined and provided by the [Federal Emergency Management Agency \(FEMA\)](#). The declaration areas displayed include areas eligible for [Public Assistance](#) and [Individual Assistance](#). The data is updated as new declarations are made and provided in GIS format by means of RSS feeds.

For additional details about the data content and access methods see <http://gis.fema.gov/DataFeeds.html>.

For general details on the disaster declaration process, please see http://www.fema.gov/media/fact_sheets/declaration_process.shtm.

Base Map

The base maps displayed in OnTheMap for Emergency Management are provided by Google through the Google Maps Application Programming Interface (API). Details about Google Maps API are available at <http://code.google.com/apis/maps/documentation/javascript/reference.html>.

Workforce Data

The underlying workforce data displayed and reported in OnTheMap for Emergency Management are provided by the LEHD Origin-Destination Employment Statistics (LODES) database from [OnTheMap](#)- the Census Bureau's award winning web-based tool for performing workforce analytics based on where workers are employed and live. To learn more about this data please see the [OnTheMap Data Sources page](#) and [an Overview on the LEHD Origin-Destination Employment Statistics \(LODES\)](#).

The workforce data used in OnTheMap and OnTheMap for Emergency Management are a product of the [Local Employment Dynamics \(LED\) partnership](#), a unique partnership between States and the Census Bureau that integrates existing data on workers and employers from administrative records with demographic, business, and survey data. The result is cost-effective new public data products about local labor market characteristics at the Census block level.

Population Data

The Population and Housing data displayed and reported in OnTheMap for Emergency Management are based on the Decennial Summary File 1 (SF 1) which contains data compiled from 2010 Census questions asked of all people and about every housing unit. The data provides counts of the resident population of the United States. The U.S. resident population includes everyone whose usual place of residence was in the 50 states and the District of Columbia at the time of the 2010 Census.

Population items include sex, age, race, Hispanic or Latino origin, household relationship, household type, household size, family type, family size, and group quarters. Housing items include occupancy status, vacancy status, and tenure (whether a housing unit is owner-occupied or renter-occupied). The data items utilized in OnTheMap for Emergency Management are provided nationally at the U.S. Census block level and have been integrated directly into the application.

An overview of the Summary File 1 (SF1) data is available at <http://2010.census.gov/news/press-kits/summary-file-1.html>. Detailed technical documentation about the Summary File 1 can be found at <http://www.census.gov/prod/cen2010/doc/sf1.pdf>.

An overview of the 2010 Census is available at <http://2010.census.gov/2010census/data/index.php>.

Explore the 2010 Census data with one of the following interactive mapping tools:

<http://www.census.gov/geo/maps-data/maps/datamapper.html>

<http://2010.census.gov/2010census/popmap/>

