

Disasters and Data Analytics

Chris Currie
November 3, 2016

U.S. Disaster Trends and Spending



Source: IRENE: Reflections on Weathering the Storm, Vermont Irene Recovery Office

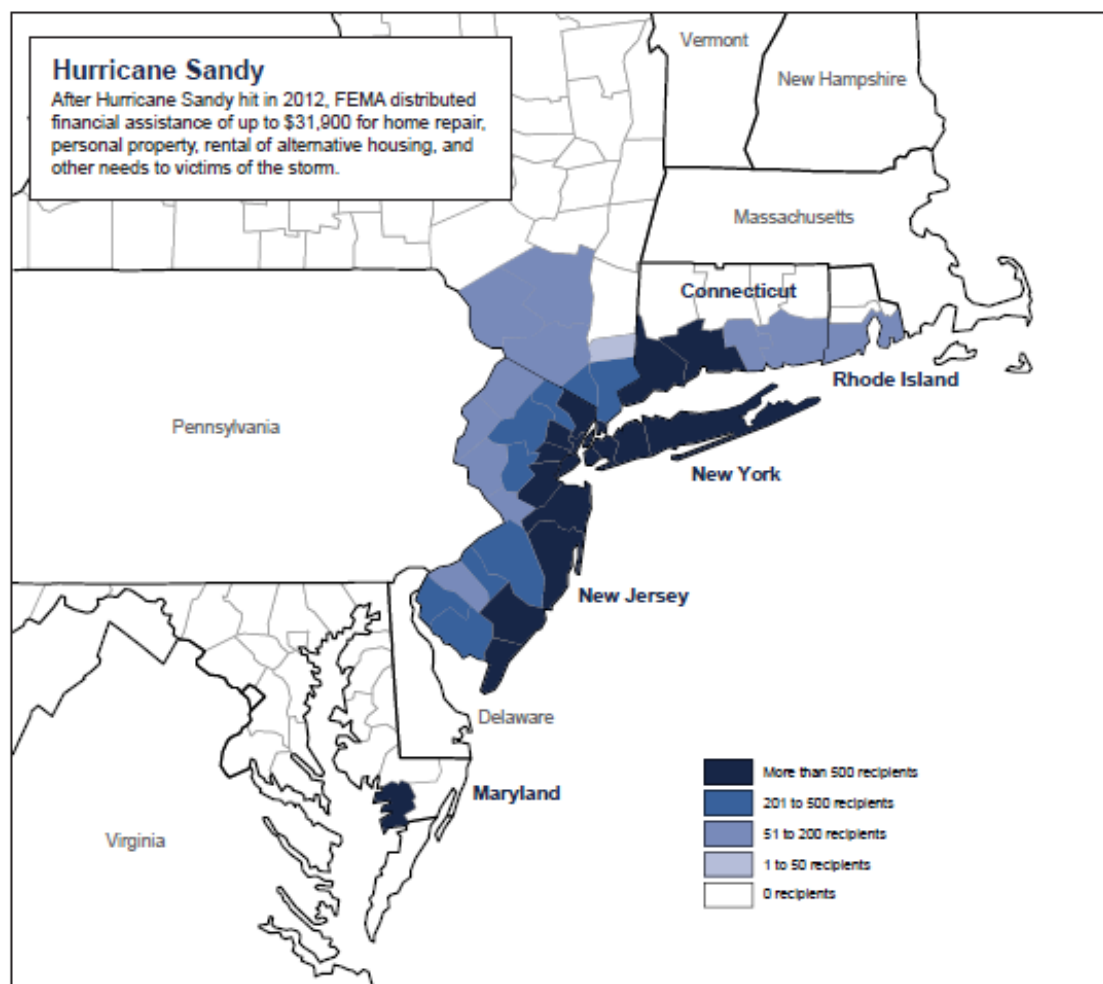
U.S. Disaster Trends and Spending

- Federal role and costs for disaster response and recovery.
 - State and local costs and implications.
 - Are disasters getting worse and more frequent?
 - What we do about it and the role of resilience.
-

Data Analytics and Recent GAO Examples

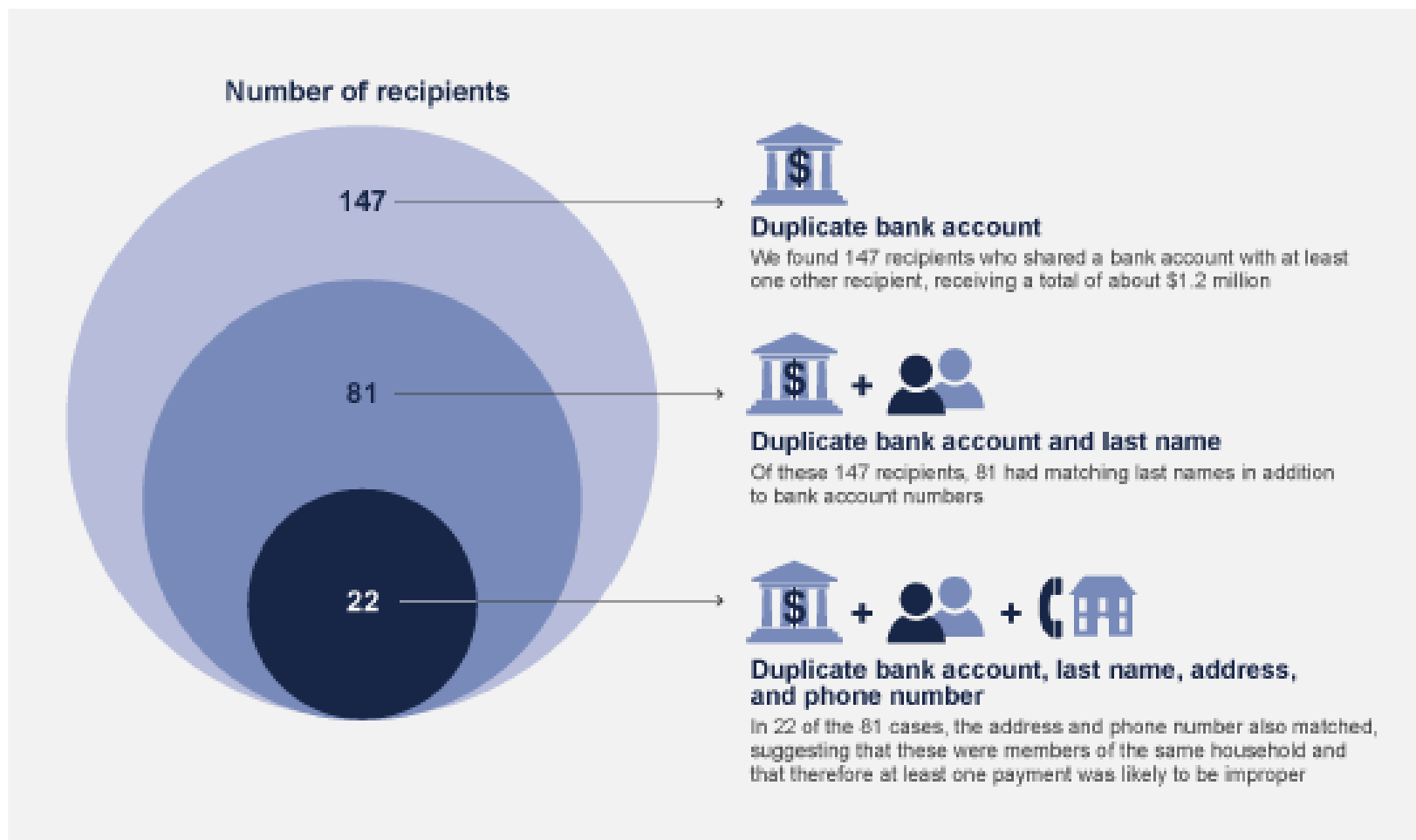
- Hurricane Sandy: FEMA Has Improved Disaster Aid Verification but Could Act to Further Limit Improper Assistance, GAO-15-15: Published: Dec 12, 2014
- Earthquakes: Additional Actions Needed to Identify and Mitigate Risks to Federal Buildings and Implement an Early Warning System, GAO-16-680: Published: Aug 31, 2016

Hurricane Sandy Individuals and Households Program (IHP) Recipients by County



Source: GAO analysis of Federal Emergency Management Agency data (data); Map Resources (map). | GAO-15-15

Individuals and Households Program (IHP) Recipients Using Duplicate Bank Accounts

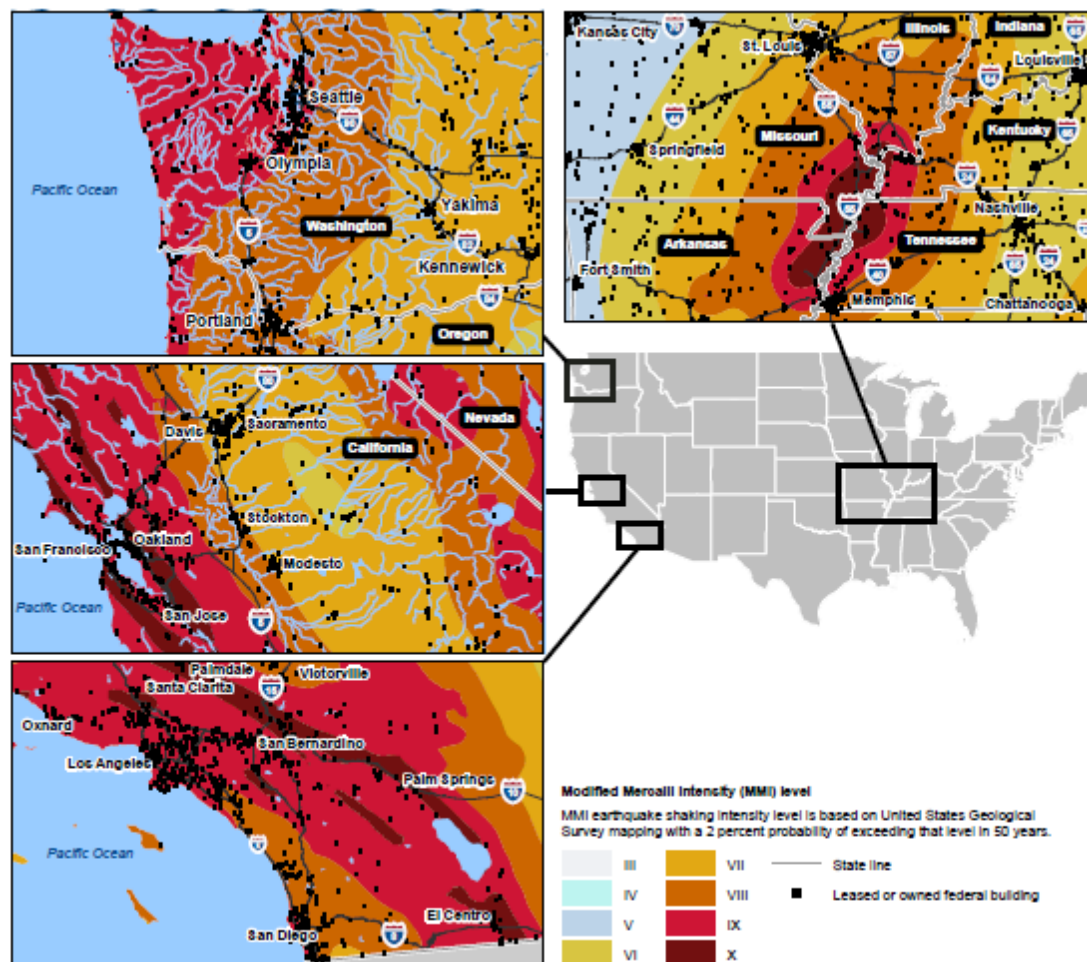


Source: GAO analysis of FEMA data. | GAO-15-15

Data Matching Methodology

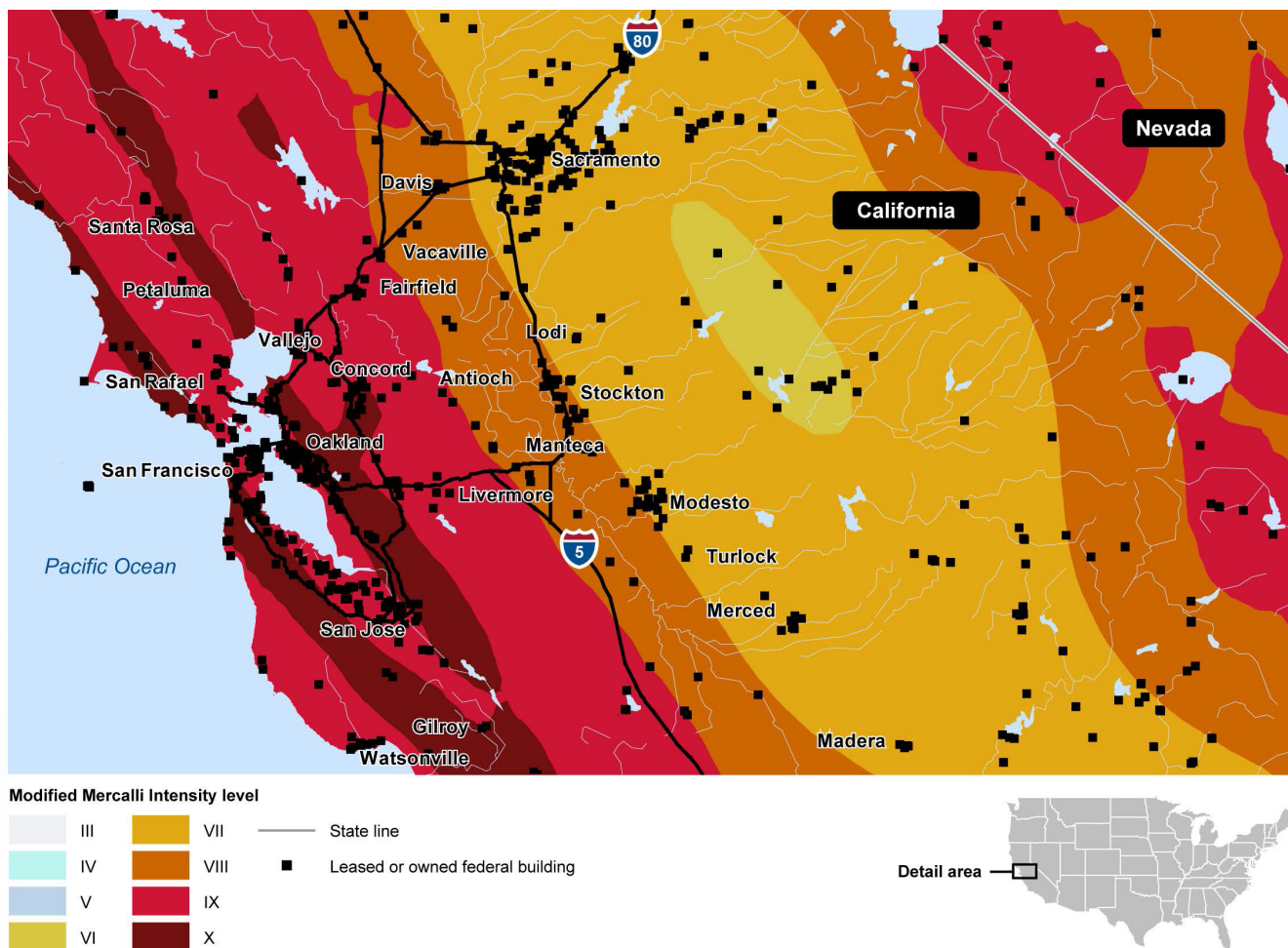
- Reviewed FEMA's improper payment controls using data from:
 - FEMA's IHP records;
 - Social Security Administration's (SSA) Enumeration Verification System (EVS) for valid SSNs;
 - SSA's death file by SSN;
 - State department of corrections prisoner databases from New York, New Jersey, and Connecticut; and
 - Federal National Mortgage Association (Fannie Mae), and the Federal Home Loan Mortgage Corporation (Freddie Mac) loan records.

Federal Buildings and Earthquakes



Source: GAO analysis of Department of Defense data, General Services Administration data, and U.S. Geological Survey mapping; MapInfo (map). | GAO-15-880

Federal Buildings In Greater San Francisco



Data Matching Methodology

- Combined multiple data sources to assess and illustrate geographic risk to federal buildings:
 - Federal Real Property Profile (FRPP) building data;
 - Office of Personnel Management's Enterprise Human Resources Integration (EHRI) database of federal employee official worksites
 - USGS earthquake shaking mapping;
 - SAS analytics software to geocode each building's location.



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Katherine Siggerud, Managing Director, siggerudk@gao.gov
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(202) 512-4800, U.S. Government Accountability Office
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Strategic Planning and External Liaison

James-Christian Blockwood, Managing Director, spel@gao.gov
(202) 512-4707, U.S. Government Accountability Office,
441 G Street NW, Room 7814, Washington, DC 20548

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