Welcome & Introductions

Lead Facilitator: Julie Eckert, HIFLD Sub-Committee Secretariat/Ardent MC
Support Facilitators: Tricia Lawson, NAPSG Foundation
Noah Goodman, Ardent MC

Session Overview:
This session will weave together a series of lightning briefings, providing a baseline on the current and future state of preparedness data, and breakout discussions to define high priority unmet needs and requirements in preparedness data nationwide.
Agenda

*Opening of Session*
9:00 – 9:05  Introductions and Welcome

*National Data Assets*
9:05 – 9:25  HIFLD (20 min)
9:25 – 9:45  Transportation Data: Cliff Allison, HERE (20 min)
9:45 – 10:00  Census Data for Disaster Planning: Jim Castagneri & Lacey Loftin, US Census Bureau (15 min)
10:00 – 10:30  Group Discussions (30 min)

10:30-10:45  Break (15 min)

*Hazard/Disaster Data, Coordination, and Dissemination*
10:45 -11:00  Maureen Kelly, National Risk Index, FEMA (15 min)
11:00 – 11:15  Disasters.GeoPlatform: Chris Vaughn (15 min)
11:15 – 11:30  MDWG: Siddharth Panday, Modeling & Data Working Group/Dewberry (15 min)
11:30 – 11:45  Geospatial Coordination: Rebecca Kollmeyer, New Light Technologies (15 min)
11:45 – 12:25  Group Discussions (40 min)

12:25 – 12:30  Wrap-Up Discussion on Next Steps and Key Actions
Transportation Data
Cliff Allison, HERE
HERE Technologies presentation to NAPSG

Cliff Allison – Sr. Account Executive, Public Sector Sales
Mobile: +1 703 217 9267
cliff.allison@here.com
Agenda

1. HERE Update
2. HERE Places
3. HERE LIDAR
4. HERE Data for HIFLD
5. State and Local Access
6. Summary
HERE in numbers

- 200 countries mapped
- 4 of 5 in-car navigation systems in Europe and North America use HERE maps
- 9,000+ employees in 56 countries
- 400+ HERE cars collecting data for maps
- 30+ years of experience transforming location technology
- 700,000 3D data points per second per car
- HD Live Map covering 600,000+ kilometers for autonomous driving
- 1,600 cities with transit routing in over 50 countries
- 15,000 venues mapped globally
**HERE USA public sector customers**

**Government & enterprise**

### Federal
- Department of Homeland Security (DHS)
- Federal Emergency Management Agency (FEMA)
- National Geospatial Intelligence Agency (NGA)
- FBI
- US Customs and Border Protection
- DEA
- USGS
- National Labs
- EPA
- HHS
- CDC
- Forest Service
- National Guard
- US Army Northern Command
- Census
- USGS
- US Army
- DoD

### State and local
- NYNJ Port Authority (includes all NY Metro Airports)
- Dept. of Homeland Security NYC
- NYC Emergency Management
- Alabama DOT
- Iowa DOT
- Kentucky Transportation Cabinet
- Missouri DOT
- Oklahoma DOT
- Utah DOT
- Virginia DOT
- DC DOT
- Tennessee DOT
- North Carolina DOT
- Georgia DOT
- Maryland DOT
- Oregon DOT
- Caltrans D3
- Caltrans D8
- Through Partners (IBI Group, Iteris, GIS Solutions and Transcom)
- Minnesota DOT
- Arizona DOT
- Wisconsin DOT
- Massachusetts DOT
- Louisiana DOT
- Florida DOT
- New York DOT
- Connecticut DOT
- South Carolina DOT
- Illinois DOT
Why the HERE Map?

The 4 dimensions of map differentiation

- **Richness**: Richest representation of the real world
- **Accuracy**: Highest attribute level accuracy
- **Coverage**: World’s greatest automotive & enterprise grade coverage
- **Freshness**: Freshest content with validated weekly releases
Map making process

4 » Publish
The database is updated every day and fuels various HERE services and solutions. Every year, HERE tests the map against reality to ensure the highest accuracy.

- Everyday updates
- 900+ attributes
- 200 countries

50+ product & components

Use cases
- Automotive
- Transport & Logistics
- Public Sector
- Internet & Media
- Telco

Validation

3 » Process
Data is ingested and processed through a combination of automated and manual methods. Before publishing, the map edits run through >2000 validations to ensure consistency of the database.

- Data inputs are normalized and extracted into map and product features, e.g., building shapes, road signs

2 » Extract

1 » DETECT & CAPTURE
Continuous investments in map making for an ever changing world
- HERE True drives provide the highest spatial accuracy
- Probe, sensor data and social media provide near real-time updates
- 3rd party data is key to capture change before it happens
Ingest the highest number of sources coupled with our geo-location expertise

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Richness
Significant attribute expansion

58.7M KM +4%
total road network

300 launches and expansions
globally **

3 New To World
Places Footprints
Cellular Signals
Postal Addressing***

2 Product re-engineering:
Maneuver Assist
Satellite Imagery

EV Charge Points Static
75.8K locations +52%

Extended Lanes & Lanes Markings
3M KM +42%

3D Buildings
100.7K +64%

Places
144M +60%

2D footprints**
284.9M +52%

3D Landmarks
43.3K +3%

Point Addressing
402.7M points +6%

3D Buildings
284.9M +52%

Signs, Signals & Warnings
6M KM +51%

Road Elevation
6M KM +11%

Trucks
8.1 KM +26%

3D Buildings
284.9M +52%

Signs, Signals & Warnings
6M KM +51%
HERE Places in the US

Extensive coverage and richness

Comprehensive
61.1M Places in the US
(3M in Core POI)

Flexible
Customizable extracts

Rich
400+ Categories
260+ Attributes

Fresh
Freshest content continuously
updated from multiple sources
Places Extract

How HERE is building the most comprehensive database of Places in the world

Sourcing
Millions of records of place data are gathered from thousands of sources daily

Big Data Processing
Machine learning technology continually sorts and contextualizes the data

Delivery
Resulting in the most reliable database of Places in the world

1. Geocode accurately located on the HERE map
2. Clean standardized for global consistency
3. Match carefully organized to eliminate duplicates
4. Blend multiple sources merged into one hybrid place
5. Score classified to indicate accuracy

HERE
- 126M venues
- 400+ categories
- 260+ attributes
- 194 countries
Street level capture capabilities

Discovery and verification

LiDAR, too!

Imagery
Introducing HERE LiDAR

How is it collected and what does the LiDAR look like

Velodyne LiDAR*
MARS Camera
D-GPS and IMU

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HERE validation and change detection

Automated probe detection

Massive amounts of anonymized probe data to detect map changes

8 features supported by probes:
Turn Restriction, Direction of Travel (DOT), Lane Count, New Geometry, Missing Roundabout, Speed Limit/Category change, Traffic Signal/Stop Sign, Access Characteristics
HERE automation

Automation of building footprints from satellite imagery

**Fully automated**
detection, extraction, shaping and enhancement of buildings from satellite imagery

**85% of precision**
through machine learning and improving continuously
HERE validation and change detection

Community edits

Q4-2018: 11.2M edits +97% YoY

Please check out the Map Making story deck for more information.
Call to Action!

1) Request Fully Fund: HERE 2019 Release: State and Local / Tribal — Data Release
   - NGA / DHS Requests NAPSG USER Community Feedback (i.e. Request) to Prioritize Budget and Allocate Funding.
   - Why? If not funded some NAPSG users will use 2018 release and some will use 2019 release which will generate confusion and inconsistent response!

2) Request HERE Places is added to solution; Provides significant increase in Places / POI information!
Enabling an autonomous world for everyone
Thank you
Census Data for Disaster Planning

Jim Castagneri & Lacey Loftin, US Census Bureau
Census Data and Tools for Emergency Management

NAPSG Conference
Galveston, TX
Thursday
November 14, 2019
About the Census Bureau

• The U.S. Census Bureau is the federal government’s largest statistical agency.

• We conduct more than 100 censuses and surveys each year, including
  - **The Decennial Census** – the once-a-decade population and housing count of all 50 states and U.S. territories
  - **The American Community Survey** – the ongoing annual survey of the nation’s population
  - **The Economic Census** – the official five-year measure of American businesses

Census Bureau Economic Surveys are a key source for official statistics companies can use:

– Monthly and Quarterly are small sample surveys that provide the most **TIMELY** data available
– Annual surveys have larger samples and provide the most up-to-date **TREND** data available
– Every 5 years, the Economic Census measures all businesses and provides the most **COMPREHENSIVE** data available

These surveys set the standard for U.S. economic statistics, and are fueled by the data provided by individual businesses.
The Decennial Census

Purpose:
To conduct a census of population and housing and disseminate the results to the President, the States, and the American People

Apportion representation among states as mandated by Article 1, Section 2 of the U.S. Constitution:
“The actual Enumeration shall be made within three Years after the first Meeting of the Congress of the United States, and within every subsequent Term of ten years, in such Manner as they shall by Law direct”.

Primary Uses of Decennial Census Data:
• Apportion representation among states as mandated by Article 1, Section 2 of the U.S. Constitution
• Draw congressional and state legislative districts, school districts, and voting precincts
• Distribute more than $675 billion federal dollars annually to states
Census Data for Preparedness, Response, and Recovery

• Preparedness
  • Identifying vulnerable communities
  • Doing “What If” analysis

• Response
  • Prioritizing response efforts to most vulnerable communities
  • Identifying materials and services needed for potentially affected areas

• Recovery
  • Prioritizing recovery efforts to most affected and vulnerable communities
  • Identifying materials and services needed for potentially affected areas
  • Measuring impact of event
Emergency Planning with the American Community Survey

The American Community Survey (ACS)

- The nation’s most current, reliable, and accessible data source for local statistics on critical planning topics such as age, children, veterans, commuting, education, income, and employment
- Surveys 3.5 million addresses and informs over $675 billion of Federal government spending each year
- Covers 40+ topics, supports over 300 evidence-based Federal government uses, and produces 11 billion estimates each year
- Three key annual data releases:
  - 1-year Estimates (for geographies with populations 65,000+)
  - 1-year Supplemental Estimates (for geographies with populations 20,000+)
  - 5-year Estimates (for all available levels of geography)

Key Estimates from the ACS for Emergency Management:

Social
Civilian noninstitutionalized population with a disability: 12.6%

Demographic:
Population age 65+ living alone: 12,510,531

Economic
Households receiving food stamps: 15,029,498

Housing:
Median year structure built: 1977

(Source: 2013-2017 ACS 5-Year Estimates)
The American Community Survey
Content Overview

<table>
<thead>
<tr>
<th>POPULATION</th>
<th>HOUSING</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SOCIAL</strong></td>
<td></td>
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<tr>
<td>Ancestry</td>
<td>Computer &amp; Internet Use</td>
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<tr>
<td>Citizenship</td>
<td>Costs (Mortgage, Rent, Taxes, Insurance)</td>
</tr>
<tr>
<td>Disability</td>
<td>Heating Fuel</td>
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<tr>
<td>Educational Attainment</td>
<td>Home Value</td>
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<td>Fertility</td>
<td>Occupancy</td>
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<td>Grandparents</td>
<td>Plumbing/Kitchen Facilities</td>
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<td>Language</td>
<td>Structure</td>
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<tr>
<td>Marital Status</td>
<td>Tenure (Own/Rent)</td>
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<tr>
<td>Migration</td>
<td>Utilities</td>
</tr>
<tr>
<td>School Enrollment</td>
<td>Vehicles</td>
</tr>
<tr>
<td>Veterans</td>
<td>Year Built/ Year Moved In</td>
</tr>
</tbody>
</table>

| **DEMOGRAPHIC**             |                                                                          |
| Age                         |                                                                          |
| Hispanic Origin             |                                                                          |
| Race                        |                                                                          |
| Relationship                |                                                                          |
| Sex                         |                                                                          |

| **ECONOMIC**                |                                                                          |
| Class of Worker             |                                                                          |
| Commuting                   |                                                                          |
| Employment Status           |                                                                          |
| Food Stamps (SNAP)          |                                                                          |
| Health Insurance            |                                                                          |
| Hours/Week, Weeks/Year      |                                                                          |
| Income                      |                                                                          |
| Industry & Occupation       |                                                                          |
OnTheMap for Emergency Management

OnTheMap for Emergency Management is a free online tool that

• Provides access to U.S. population and workforce statistics for areas being affected by natural disasters to support local area response and recovery

• Includes American Community Survey (ACS), Longitudinal Employer-Household Dynamics Origin-Destination Employment Statistics (LODES), and 2010 Census data to help identify potential physical, economic, and social vulnerabilities of areas affected by a disaster

These reports allow you to analyze the affected area’s potential:

• Physical vulnerabilities – year structure built, mobile homes, etc.
• Economic vulnerabilities – total workers, industry sectors, earnings, etc.
• Social vulnerabilities – disability status, age, vehicle access, etc.
OnTheMap for Emergency Management
Overview and Data Sources

- Hurricanes, Floods, Winter Storms
- Disaster Areas
- Wildfires
- Demographic and Economic Data

- Comprehensive reports
- Real-time data updates
- Interactive mapping interface
- Historical event archive
- Flexible analyses and visualizations
Datasets

- 2010 Decennial Census (2020 data in 2021)
- American Community Survey (ACS)
- Local Update of Census Addresses Count List
OnTheMap for Emergency Management
Worker, Population and Housing Impacts

• Worker impacts
  • Number and location of affected workers
  • Workforce demographics
  • Affected industries
  • Where affected workers live

• Population and Housing impacts
  • Number and location of affected residents
  • Population demographics of affected areas
  • Identify vulnerable population groups
  • Housing characteristics of affected areas
OnTheMap for Emergency Management
Real-Time Data Updates

onthe.map.ces.census.gov/em/
OnTheMap for Emergency Management

Historical Event Archive

[i Image of a map showing Hurricane Michael with data analysis and statistics related to the event.]

U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU
census.gov

onthemap.ces.census.gov/em/
# Business Comparison

Includes key statistics for businesses with 1 or more paid employees (Employers) from the 2016 County Business Patterns and ZIP Code Business Patterns, the 2016 Nonemployer Statistics program, and the 2012 Economic Census. (These variables are related to the Industry selected)

<table>
<thead>
<tr>
<th>NACS Sector</th>
<th>Employer establishments</th>
<th>Total employment of employers</th>
<th>Total annual payed of employers ($1,000)</th>
<th>Total revenue of employers ($1,000)</th>
<th>Nonemployer firms</th>
<th>Revenue of nonemployer ($1,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>00: All Sectors</td>
<td>159,621</td>
<td>1,822,572</td>
<td>$54,630,335</td>
<td>n/a</td>
<td>772,594</td>
<td>$31,027,810</td>
</tr>
<tr>
<td>72: Accommodation and Food Services</td>
<td>10,841</td>
<td>247,976</td>
<td>$5,490,786</td>
<td>$15,235,610</td>
<td>13,425</td>
<td>$478,818</td>
</tr>
<tr>
<td>56: Administrative and Support and Wastra Management and Remediation Services</td>
<td>9,273</td>
<td>140,270</td>
<td>$4,891,475</td>
<td>$25,967,750</td>
<td>90,599</td>
<td>$1,798,447</td>
</tr>
<tr>
<td>11: Agriculture, Forestry, Fishing, and Hunting</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>71: Arts, Entertainment, and Recreation</td>
<td>2,525</td>
<td>38,664</td>
<td>$1,647,362</td>
<td>$4,154,520</td>
<td>24,683</td>
<td>$840,033</td>
</tr>
<tr>
<td>23: Construction</td>
<td>11,240</td>
<td>89,295</td>
<td>$4,352,504</td>
<td>n/a</td>
<td>69,363</td>
<td>$2,743,671</td>
</tr>
<tr>
<td>61: Educational Services</td>
<td>2,957</td>
<td>61,824</td>
<td>$2,626,683</td>
<td>$1,094,081</td>
<td>14,126</td>
<td>$217,643</td>
</tr>
</tbody>
</table>
Key Links to Data and Tools

• Emergency Prepared Page: https://www.census.gov/topics/preparedness.html

• Census Business Builder Regional Analyst: https://www.census.gov/data/data-tools/cbb.html

• OnTheMap for Emergency Management: https://onthemap.ces.census.gov/em/

• Local Update of Census Addresses Count List: https://www2.census.gov/geo/docs/partnerships/luca/address_countlist/
Thank You!

Jim Castagneri
James.d.Castagneri@census.gov

Lacey Loftin
Lacey.e.Loftin@census.gov
Group Discussion

10:00am – 10:30am
Group Discussions

• How are you currently using HIFLD data? Open vs. Secure?

• What additional and priority national data do you need? For what use cases?

• How are you using any of the above datasets to support your planning process?
  • THIRA process
  • Hazard Mitigation Planning
  • Operations Planning
  • Exercise Design, Development, and Conduct
  • Disaster Response Operations

• How does this data support decision making in response operations?

• How does this data support decision making during recovery operations?

• Is the data easily searchable and/or discoverable? If not, how could this be improved?

• Is the timing of available data useful to your processes? If not, how could the timing be adjusted to be more useful?
Break
10:30am – 10:45am
National Risk Index

Maureen Kelly, FEMA
The National Risk Index
Discover the landscape of natural hazard risk

Maureen Kelly
Geospatial Risk Analyst
FEMA Natural Hazards Risk Assessment Program

FEMA
FEMA Region VIII developed Vulnerability Index to identify and prioritize new mitigation projects based on data.

2008

2016

Paul H. and Scott M. fund update of RVIII Index nationally under PTS SO2 Risk Assessment.

2017

Jesse/Casey take over NRI, led SME working groups, and take initial delivery of application.

2018

Update Risk Equation based on RMD and Mitigation leadership review and update backend database.

2019

Delivery of final test application with updated data and NRI ready for production deployment in CDS.
• Reviewed the 50 State Hazard Mitigation Plans
  • Initial list developed from rate of occurrence in each state plan

• Natural hazards only
  • Man-made hazards or hazards related to anthropogenic activities not included

NOTES:
• Coastal Flood and Sea Level Risk Hazards were combined
• Extreme Temperature is both Hot and Cold
• Severe Summer Weather is covered by Wind, Hail, Tornado, and Lightning
• Winter Weather is both Snow and Ice
Social Vulnerability Index: SoVI 2010-2014

• Developed by the University of South Carolina’s HVRI
• Grouped into 7 components with 29 variables (SoVI 2010):
  1. Race and class (7 variables)
  2. Wealth (5 variables)
  3. Elderly residents (6 variables)
  4. Hispanic ethnicity (5 variables)
  5. Special needs individuals (2 variables)
  6. Native American ethnicity (1 variables)
  7. Service industry employment (2 variables)
• Comparative index at the county or subcounty level
• Positive and negative component loading

Baseline Resilience Indicators for Communities: BRIC 2010-2014

• Developed by the University of South Carolina’s HVRI
• 6 resilience category scores, plus total score
  1. Social
  2. Economic
  3. Community capital
  4. Institutional
  5. Infrastructural
  6. Environmental
• Comparative indicators at the county level
• Indicators analyze the relationship between resilience, vulnerability, and the relative impact of disasters on rural and urban places
Determining Risk

\[
\text{National Risk Index} = \frac{\text{Expected Annual Loss} \times \text{Social Vulnerability}}{\text{Community Resilience}}
\]

\[
\text{Expected Annual Loss} = \text{Natural Hazard Exposure} \times \text{Natural Hazard Frequency} \times \text{Historical Loss}
\]

- Risk is defined as the potential for negative impacts as a result of a natural hazard
- Considers the probabilities or frequencies of 18 natural hazards, and the population, property value, and crop value exposed within hazard extents
- Expected Annual Loss is calculated separately for each natural hazard, then summed to generate a composite score for all 18 natural hazards
- Equation supports traditional hazards risk approach of risk being defined as the product of Hazard, Vulnerability, and Exposure
Risk Calculation

Risk = Expected Annual Loss \times Social Vulnerability \div Community Resilience

where Expected Annual Loss (EAL) =

Annual Frequency
- Rate of occurrence
  - How likely is hazard to occur?

Exposure
- Property Value
- People
- Crop
  - How many people & how much property and crops are potentially at risk?

Historic Loss Ratio
- Percentage of property/people/crop losses
  - What percent of property/people have historically been lost from hazard in a given area?
Questions?

Maureen Kelly
Geospatial Risk Analyst - FEMA NHRAP
Maureen.Kelly@fema.dhs.gov

Casey Zuzak, GISP
Senior Risk Analyst - FEMA NHRAP
Casey.Zuzak@fema.dhs.gov

http://nationalriskindex-test.fema.gov

This is very much a work in progress website, loaded with basic datasets that may not represent the final product.
Disaster Data

Chris Vaughan, FEMA
Current and Future State of the Union on Preparedness Data

InSPIRE 2019
Community Lifelines

A CONSTRUCT FOR OBJECTIVES-BASED STABILIZATION EFFORTS

A lifeline enables the continuous operation of critical government and business functions and is essential to human health and safety or economic security.

- Lifelines are the most fundamental services in the community that when stabilized enable all other aspects of society.
- Lifelines exist during steady-state and are normally provided by sources organic to the community.
- When disrupted, decisive intervention (e.g., rapid service re-establishment or employment of contingency response solutions) is required.
### Demographic, Social Vulnerability, and Insurance Coverage
- Population
- Housing Units
- Total Households
- Average Household Size
- Population under Age 5
- Population over Age 65
- Population under 18
- Percent Disabled
- Household with one disable person

### Economic Indicators
- Manufacturing
- Distribution Centers
- County GDP per Capita
- Below Poverty Rate (%)
- Persistent Poverty Total (Yes/No)
- Persistent Poverty Child (Yes/No)
- Unemployment Rate
- Median Household Income
- Median Home Price
- Historic IA Registration Total
- Retail
- State & Local Gov’t Finances

### Primary Data Source
- HIFLD (Open & Secure)
- USDA
- Esri
- US EPA
- US Census
- HHS

- HIFLD data is the primary source used for the built environment. There are inherent currency and accuracy (Geospatial & Attribution) issues identified within this national foundational catalog. Please reference back to HIFLD metadata catalog for specific layer information.
- Variable list will expand as requirements change with lifeline maturity
<table>
<thead>
<tr>
<th>Category</th>
<th>Primary Source (Operational Reporting)</th>
<th>Alternate Source (Operational Reporting)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Outages</td>
<td>DOE’s Eagle-I</td>
<td>Powerroutage.us</td>
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<tr>
<td>Nuclear Plants</td>
<td></td>
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<tr>
<td>Power Plants</td>
<td>RSOE EDIS, US Nuclear Reg Com</td>
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<tr>
<td>Retail Gas Stations</td>
<td>GasBuddy</td>
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<tr>
<td>Crude production</td>
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<tr>
<td>Petroleum refineries</td>
<td>GasBuddy</td>
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<tr>
<td>Natural Gas facilities</td>
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<tr>
<td>Petroleum terminals</td>
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<tr>
<td>Residential Structures</td>
<td>Digital Map Products (HiFLD)</td>
<td>Humanitarian Open Street Map Team (Hot)</td>
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<tr>
<td>Shelters</td>
<td>National Shelter System</td>
<td>Crowd Emergency Disaster Response Digital Corps (CEDR), Code for America</td>
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<tr>
<td>Home Improvement Stores</td>
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<td>Grocery Stores</td>
<td>Master Card/Visa</td>
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<td>Hotels/Lodging</td>
<td>Master Card/Visa, Airbnb</td>
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<td>Distribution Facilities</td>
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<td>Crop &amp; Animal Production</td>
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<td>School/University</td>
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<td>Day Care</td>
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<td>Nursing Home</td>
<td>HHS</td>
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<td>Blood Banks</td>
<td>HHS</td>
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<td>Pharmacies</td>
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<td>Hospitals/Urgent Care</td>
<td>Health Care Ready/Rx Open</td>
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<td>EMS Stations</td>
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<td>Dialysis &amp; Burn Centers</td>
<td>RxOpen</td>
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<td>Wastewater Plant</td>
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<td>Water Treatment Plant</td>
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<td>Toxic Release Facility</td>
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<td>Biological Facility</td>
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<td>Chemical Facility</td>
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<td>Landfills / Superfund Sites</td>
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<tr>
<td>Police Station</td>
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<td>Fire Station</td>
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<td>DOD Facilities</td>
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<td>Government Buildings</td>
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<tr>
<td>Local EOC</td>
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<tr>
<td>State EOC</td>
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<tr>
<td>Prisons</td>
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<tr>
<td>Dam/Levees</td>
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<tr>
<td>Historic/Cultural Resources</td>
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<tr>
<td>Airports (Commercial &amp; Military)</td>
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<tr>
<td>Roads (Federal &amp; Local)</td>
<td>DOT</td>
<td>WAZE</td>
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<tr>
<td>Railway (Freight &amp; Passenger)</td>
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<td>Amtrak</td>
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<tr>
<td>Rail/Bus Transit Stations</td>
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<tr>
<td>Ports/Ferries/Waterways</td>
<td>USCG Homeport</td>
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<tr>
<td>Bridges (Highway &amp; Local)</td>
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<td>FCC/DIRS</td>
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<tr>
<td>Cellular Tower</td>
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<tr>
<td>AM &amp; FM Transmission Towers</td>
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<tr>
<td>Microwave Service Towers</td>
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<tr>
<td>Data Centers</td>
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<tr>
<td>Banks/ATMs</td>
<td>Master Card/Visa</td>
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<tr>
<td>Manufacturing</td>
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<tr>
<td>Manufacturing</td>
<td>Master Card/Visa, SABER</td>
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</tbody>
</table>
Overview:
• An interagency working group appointed by the Emergency Support Function Leaders Group (ESFLG) in 2012

Mission: Information Gathering & Sharing
• Assess the current state of modeling systems
• Identify consistent, reliable, and authoritative models and datasets to enable response planning and operational decision making for catastrophic events

Goals:
• Identify state-of-the-art capabilities to incorporated into response operations
• Maintain the Model and Data Inventory (MoDI)
• Identify and fill gaps in data inventory to improve health of each Lifeline
• Improve information sharing, outreach, and communication with the broader emergency management community

2019 Efforts:
• Monthly meetings (3rd Wednesday of every Month) aligned with the 7 FEMA Lifelines
• Encourage working group to begin/continue aligning their operations and data products under the Lifeline framework
DATA | Steady State & Operational Data integration

Steady-state “foundational” data via authoritative Bounded Crowd (FLSTT)

Transactionally (Event-based)
- Authoritative reporting (WebEOC)
- Volunteer Geographic Information
- Field Observations (mobile apps)

Back to “Foundational” Data

Requirements:
Building outlines with unique FID Unifying Schema
Modeling & Data Working Group

Siddharth Pandey, MDWG/Dewberry
Modeling and Data Working Group (MDWG)

An interagency working group appointed by the Emergency Support Function Leaders Group (ESFLG)

- **Mission**: Information Gathering & Sharing
  - Identify consistent, reliable, and authoritative models and datasets to enable response planning and operational decision making for catastrophic events

- **Goals**:
  - Maintain the Model and Data Inventory (MoDI)
  - Identify and fill gaps in data inventory to improve health of each Lifeline
  - Improve and encourage disaster information reporting by working with the emergency management community to align their data products and reporting with the lifeline construct

- **2019 Efforts**:
  - Monthly meetings (3rd Wednesday of every month) aligned with the 7 FEMA Lifelines
  - Familiarize working group with the Lifeline framework and solicit feedback on important reporting criteria and metrics
  - Conduct a pre- and post- Shaken Fury Exercise meeting to discuss the use of lifelines framework in response exercise

<table>
<thead>
<tr>
<th>March 20th</th>
<th>April 17th</th>
<th>May 22nd</th>
<th>June 19th</th>
<th>July 17th</th>
<th>August 21st</th>
<th>October 16th</th>
<th>November 20th</th>
<th>December 18th</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Communications</td>
<td>- Hazardous Material</td>
<td>- Pre-Shaken Fury Exercise</td>
<td>- Post-Shaken Fury Exercise</td>
<td>- Food, Water, Sheltering</td>
<td>- Health and Medical</td>
<td>- Transportation</td>
<td>- Safety and Security</td>
<td>- Feedback Session</td>
</tr>
</tbody>
</table>
What?

- Conducted multiple meetings and conversations to build out lifeline spreadsheet
  - To identify authoritative datasets to use in the Lifeline Dashboards and gather data requirements/needs

<table>
<thead>
<tr>
<th>Community Lifeline</th>
<th>Component</th>
<th>Sub Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communications</td>
<td>Responder Communications</td>
<td>Land Mobile Radio Networks</td>
</tr>
</tbody>
</table>

- Identify various data attributes that relate to the Lifelines, Components and Sub-Components

- Develop/understand indicators for stability of the Lifeline (Red, Yellow, Green)
So What?

- Utilize static and real time geospatial data to display impacts to the community lifelines based on the lifeline components and sub-components
  - Piloted during this year’s National Level Exercise – Shaken Fury 2019
- Provide situational awareness for first responders and decision makers and aid in decision making process.
Now What?

- Continue determining interdependencies and cascading impacts/failures of critical infrastructure and their impacts to the lifelines to help determine response priorities
- Continue to determine data and reporting requirements of emergency response community
- Seeking engagement from emergency response GIS community to find and develop additional datasets to be utilized in response planning and operational decision making
  - What other data exists or is needed?
  - Can we pre-process data to be better prepared for future events?
  - What metrics are important?
- Interested in participating?
  - Contact us at FEMA-MDWG@FEMA.DHS.GOV
Geospatial Coordination

Rebecca Kollmeyer, New Light Technologies
GEOSPATIAL COORDINATION

Current & Future State of the Union on Preparedness Data Workshop

REBECCA KOLLMeyer
Contractor, FEMA Response Geospatial Office
OVERVIEW

**Steady State**
Monthly Geospatial Working Group Meeting (You are here!)

**Incident Response: Geospatial Coordination Calls**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Activation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:00 PM</td>
<td>Geospatial Call</td>
<td>NRCC Level 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Activation or</td>
</tr>
<tr>
<td></td>
<td></td>
<td>As Needed</td>
</tr>
<tr>
<td>2:30 PM</td>
<td>Remote Sensing Call</td>
<td>As Needed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>based on imagery</td>
</tr>
<tr>
<td></td>
<td></td>
<td>requirements</td>
</tr>
</tbody>
</table>
# COORDINATION CALLS DURING DISASTERS
## CURRENT PROCESS

### Who should call in?

<table>
<thead>
<tr>
<th>FEMA</th>
<th>Interagency Partners</th>
<th>State &amp; Local</th>
<th>GIS Disaster Response</th>
</tr>
</thead>
</table>

### How to call in?

- Email sent out to Gov Delivery distribution list
  - Geospatial Coordination Calls During Disasters
  - Remote Sensing Coordination Calls During Disasters
- FEMA Conferencing System Phone Number & PIN
- Storymap via Adobe Connect
NEW FOR 2019 SEASON

Each event has its own StoryMap

Barry: http://arcg.is/WD8Pz
Dorian: https://arcg.is/1CeT0C

Calendar Invite included in email

Imagery Services & Helpful Links URL

Admin PIN for speakers to manage background noise
Group Discussion

11:45 – 12:25
Group Discussions

• Is the current type and level of coordination effective? Does it meet your needs?
• What more is needed to support geospatial and data coordination for preparedness AND in response?
• Are you able to readily search, discover, and access relevant data using the Disaster.Geoplatform?
• How can data dissemination and access be improved?