

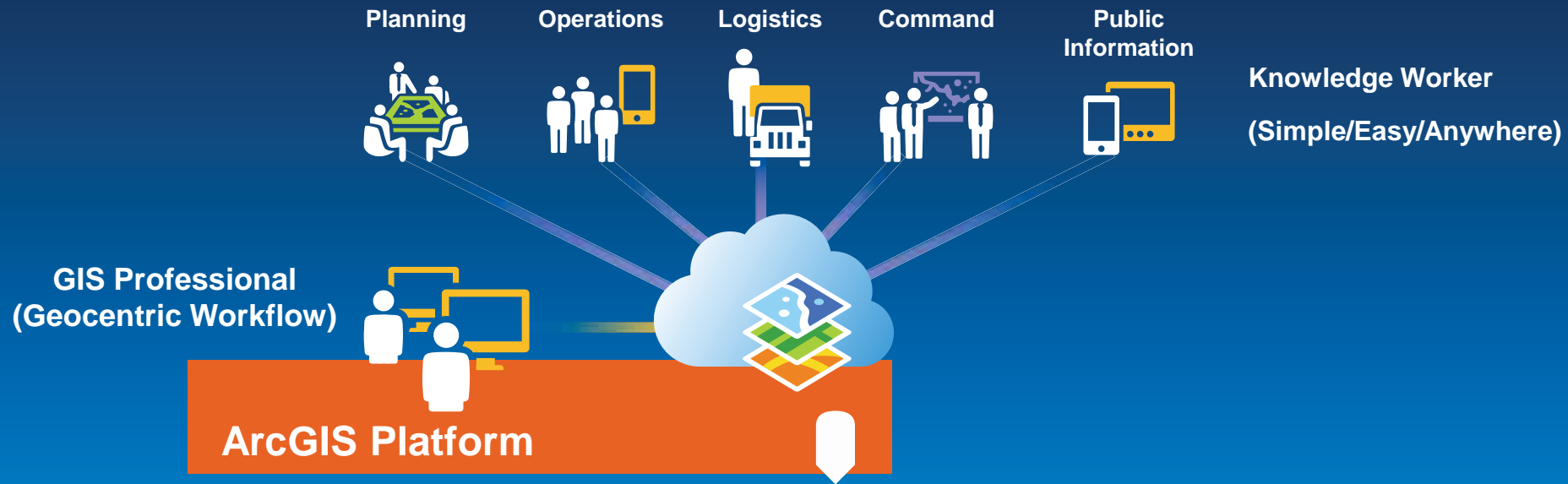
**Esri National Security Summit**

July 12–15, 2014 | San Diego, CA



# Esri Disaster Response Program Operations

*Ryan Lanclos and Paul Doherty, Esri*



## GIS Platform for Emergency Management

Supporting Common Workflows

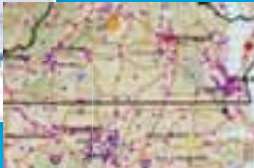
# Planning for and Managing Emergencies

## Asia-Pacific Natural Disasters



Asia Pacific Region

## Hazard Map



VDEM

## Interior Geospatial Emergency Management



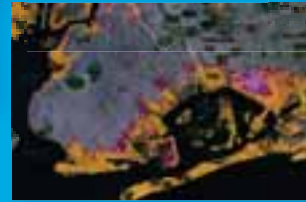
U.S. Department of the Interior/  
USGS

## Documenting Storm Damage



U.S. Department of the Interior /Urban  
Forestry Administration, Washington, DC

## Risks from Sea Level Rise



New York City, Jersey City

## Flood Planning



FEMA

## Posted Warnings



National Weather Service

## Typhoon Damage Assessment



Standby Task Force/GIS Corps

## Typhoon Response



Haiyan/Yolanda

## Storm Threat to Energy Infrastructure



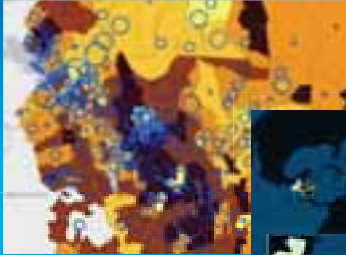
U.S. Energy  
Information  
Administration



World Vision

# Supporting Humanitarian Missions

## Projects and Extreme Poverty



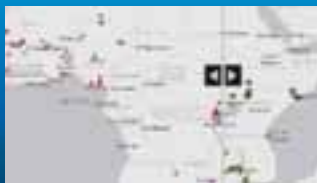
World Bank, Bolivia

## Famine Early Warning System



USAID

## Economic Development Projects



U.S. African Development Foundation

## Relief Activities



ICRC



Somalia

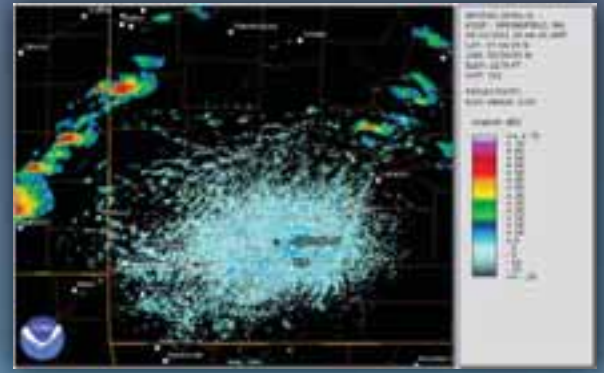
## Refugee Management



UN OCHA, Africa

# Joplin, Missouri Tornado

May 22, 2011





# Rim Fire: Perspectives Map



# Colorado Flooding: Map Tour

**Longmont, Colorado Flood Tour**

During the week of September 9, 2012, the Front Range was overwhelmed by rain that resulted in 25 inches in parts of Boulder County. The city issued several flooding advisories. The map tour below shows flooding of the N. 17th St. and Lost Hill Road in Longmont.

**Sunset Street Bridge**  
Bridge end at Sunset St. North of Boulder Ave. West of Lake Watson Park

Map Tour Navigation: 12 thumbnails, 1 selected

# Colorado Flooding: Imagery Support

West County 2013 Flood Map

West County Flood Info

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West County has purchased aerial imagery and produced this map as a public service to residents impacted by the 2013 Colorado floods. The imagery on the left side of this map was collected by Terra Globe Satellites during and after the peak flooding events in West County. Because this imagery was collected from space, there may be clouds in some of the scenes. Where possible, we will try to show scenes that have less cloud cover.

To use the map:

- Pull the (+) and (-) buttons to zoom in and out.
- Click and drag on the map to change view location.
- Click and drag the vertical bar in the corner of the screen to see before and after imagery.
- If you zoom out too far, the flood imagery may disappear (greenish brown white). Scroll to closer (-) to see the imagery again.





# Colorado Flooding: Civil Air Patrol Photos



# Typhoon Haiyan/Yolanda: UNOCHA Logistics



# Oso, Washington Slide: Imagery Support



# Oso, Washington Slide: Map Tour

**Washington State Slide Photo Tour**

This is a Map Tour that uses photos (and their approximate location) from social media including the Snohomish County Facebook Page. The slide area on the map is an approximation based on aerial photos and on the ground observations. For more detailed information see the Snohomish County Emergency Alert.

4.000000 122.000000

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The screenshot displays a map tour interface. On the left, a large photo shows a wide river with a large area of exposed, light-colored earth and debris, indicating a landslide. To the right of the photo is a map of the same area, with a blue hatched region representing the slide area. A red pin on the map is labeled 'An Aerial Overview'. Below the main photo and map is a horizontal strip of eight smaller thumbnail photos, each with a red number in the top left corner. The thumbnails are labeled: 1. The Earthquake Zone, 2. An Aerial Overview, 3. Lush View, 4. Mountainous Landscape of the Area, 5. World Maps for the Region, 6. Search and Rescue scene, 7. How Does Landslide Happen, and 8. Cleanup After Sliding. Navigation arrows are visible on the left and right sides of the photo and map sections.



# Southeast Europe Flooding: Impact Summary





# Our Purpose and Mission



Provide...

- Software
- Support
- Switchboard
- Partner Access

Online: [www.esri.com/disaster](http://www.esri.com/disaster)

Email: [disaster\\_help@esri.com](mailto:disaster_help@esri.com)

...when your **capacity** is exceeded

# General Strategy for Esri DRP

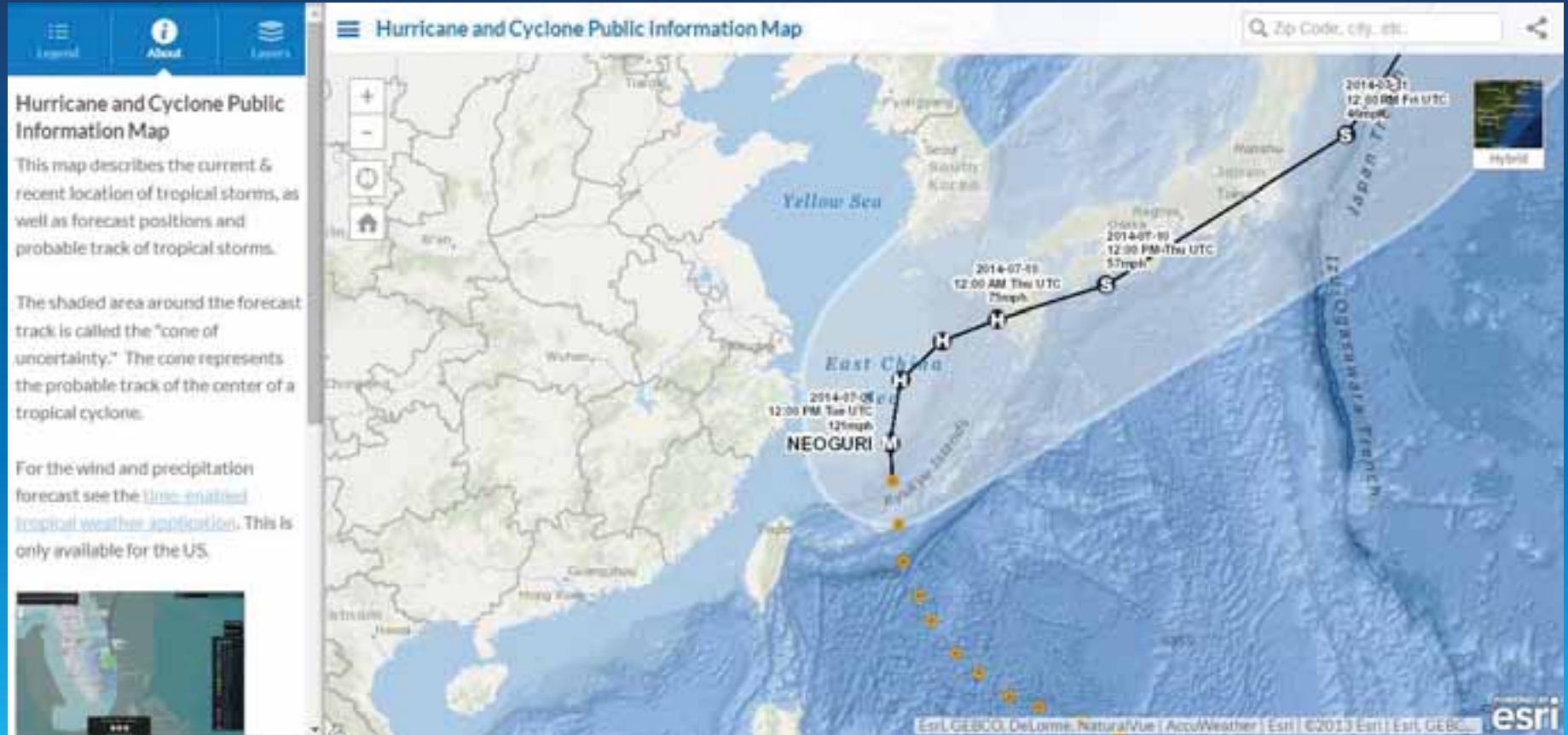
- Utilize our **Platform** to support **Common Workflows**
- Step in when a user's **capacity is exceeded**
- **Fill a gap** between GIS and Operators
- **Prototype** on the technical side
- Move prototypes to **core**
- Think **mobile** first, **responsive** design
- Help with external **communication**

# Preparedness

- **Open Data**
- **Free Apps**
  - **Public Information Maps**
  - **Impact Summary Maps**
  - **Time Enabled Maps**
  - **GeoForm**
- **Access**
  - **NPO Program & Home Use**
    - **Desktop + ArcGIS Online + Content + Free Apps**



# Public Information Map Application





# Impact Summary Map Application

The screenshot shows a web application interface for a map of Mississippi. The title is "Mississippi Impact Map (04/28/2014)". The map displays several cyan-colored swaths representing tornado paths across the state. A summary table at the bottom right provides key statistics for the impacted area.

|                  |                  |                  |           |
|------------------|------------------|------------------|-----------|
| 123k             | 46k              | 7,402            | 1.7k      |
| Total Population | Total Households | Total Businesses | Sq. Miles |

The interface includes a sidebar on the left with navigation options: "About", "Legend", and "Layers". The sidebar text reads: "Mississippi Impact Map (04/28/2014). This is a preliminary impact map for the tornadoes impacting Mississippi on 04/28/2014. Click on map areas or the list below to look at the potential impact of each tornado. Modified 5/4/14 3:45 PM. Find out more". The sidebar also lists "Tornado swaths" with "Entire Area" selected, and other locations: Yazoo, Vicksburg, Utica, Tupelo, Rankin 1, and Decatur.



# GeoForm Application

## 1. Enter Information

Report Date/Time

Contact Name

Full Address

Cell Phone

Email

Habitable

Yes

No

Does it appear safe to stay here? If you need shelter call 202-690-0000.

Number of Occupants

How many people typically live here?

Extent of Damage

Primary Cause of Damage

Description of Damage

This template is currently in the ArcGIS Online [Early Adopter Program](#) - to provide feedback please [submit an issue](#).

No file chosen

## 3. Complete Form

Add this information to the map:

## 2. Select Location

Select a location for your submission using one of the following options or by clicking/tapping the map.



Latitude: 40.03803, Longitude: -74.04960

# Esri DRP Open Data



Esri Disaster Response Program: Open Data

Search for open data



SEARCH

SHARE



©2014 Esri & Stamen. Data from OSM and Natural Earth

MAP | SATELLITE

This is the Esri Disaster Response Program Open Data website. This is where we will make Live Feeds, Base Data, and Incident Data related to disaster response available.

When disaster strikes, Esri's Disaster Response Program (DRP) is there to support you around the clock, 24 x 7. [Request Assistance](#) now from the Esri experts, augment software, explore content, and monitor events online as part of our corporate citizenship. We're there when you need us most.

## Esri News Feed:

### [Urban Observatory Maps Comparisons Between Cities](#)

A new version of Urban Observatory will be unveiled at the 2014 Esri User Conference...

# Outreach

- User Workshops
- Developing Partners
- Training Guides
  - Blogs
  - SOPs
- Esri DRP Booth in Showcase
  - Tuesday - Thursday



Ushahidi



GISCorps & Standby Task Force



**Questions?**