

# Geospatial support for disasters - the Ohio Incident Management Team and the International Charter

2011 Northern Midwest Public Safety GIS  
Workshop  
October 14, 2011  
Glenview, IL

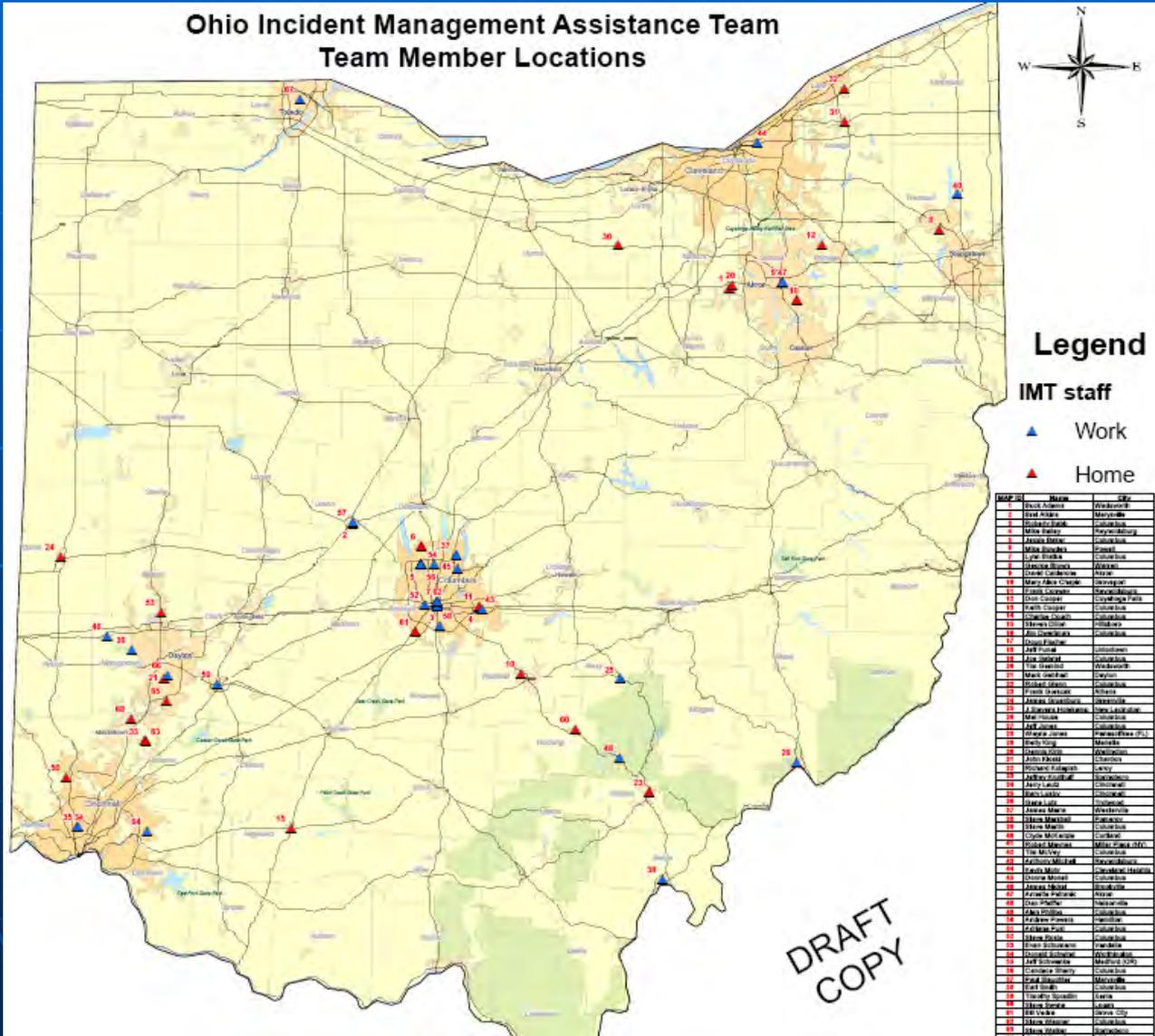
Richard Kotapish, GISP  
GIS Director, Lake County  
Ohio All-hazards IMT  
International Charter  
GISCorps

# Overview

- Lake County Geospatial Emergency Management
- Regional COP website
- Public ESZ Status Notification
- Regional USNG map books
- Ohio All Hazards Incident Management Team
- International Charter
- GISCorps and Crisis Mappers.net partnering

# Ohio All Hazards IMT

Ohio Incident Management Assistance Team  
Team Member Locations



DRAFT COPY

# Ohio All Hazards IMT

## Deployments

New Orleans, LA - Hurricane Katrina

Findley, Ohio - Flood

Ottawa, Ohio - Flood

Painesville, Ohio - CSX Train Derailment

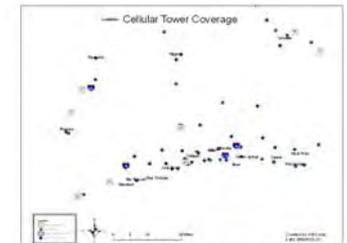
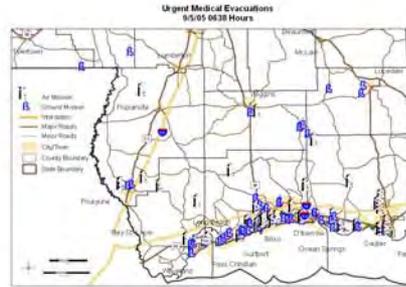
Suffolk County, NY – Hurricane Irene

Windham, NY – Hurricane Irene

# Ohio All Hazards IMT

New Orleans. LA - Hurricane Katrina

Pre-dated my joining Ohio IMT



# Ohio All Hazards IMT

## Ottawa, Ohio - Flood

Before



After



# OTTAWA FLOOD 07



## Incident Action Plan

August 26, 2000 Hrs. - August 27, 0800 Hrs.

Chief Ron Brinkman, Incident Commander



## OTTAWA FLOOD

07 24:00



### Legend

-  EOC & EMS
-  ICP
-  Fire Stations
-  St Ritas Medical Cntr
-  Red Cross
-  County Highway Dept.
-  sheriff
-  Shelter
-  Shelter Registration
-  Water\_Treatment\_Plant
-  Waste\_Water
-  Putnam Co Ambulance Svc
-  Sinkhole

# OPERATIONAL PLANNING WORK SHEET

1. INCIDENT NAME  
Ottawa Flood

2. DATE PREPARED  
8/7/07  
TIME PREPARED  
0145

3. OPERATIONAL PERIOD (DATE/TIME)  
8/27/07 0800-2000

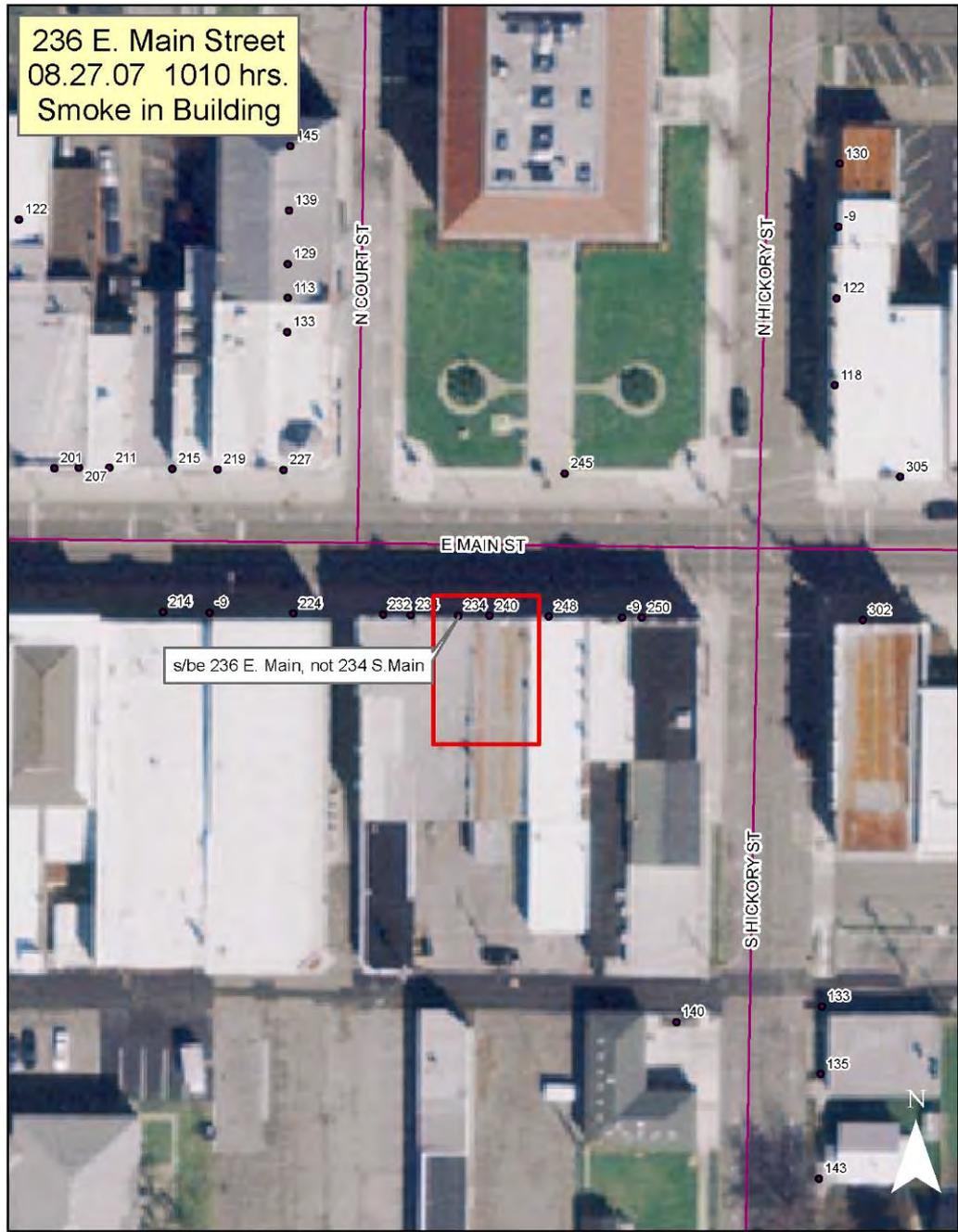
4. DIVISION/GROUP OR OTHER LOCATION	5. WORK ASSIGNMENTS	6. RESOURCES BY TYPE (SHOW STRIKE TEAM AS ST)						7. REPORTING LOCATION	8. REQUESTED ARRIVAL TIME
		RESOURCE TYPE	Eng. NC		HM/Rescue TF				
Emergency	Specialize Calls, Investigations, Alarms, and Evac at all levels	REQ	5				E-1, E-6, E-7B + Ottawa - Springfield - Montclair	Ottawa Station 100 Ottawa Station 101 Ottawa Station 102	0800 0830 0830
		HAVE	2						
		NEED	3						
Hazard Unit	Hazard Unit for Service and for as requested by Ottawa D.S.C. through 1200	REQ			1			Ottawa Station 100	0800
		HAVE			1				
		NEED			0				
		REQ							
		HAVE							
		NEED							
		REQ							
		HAVE							
		NEED							
		REQ							
		HAVE							
		NEED							
		REQ							
		HAVE							
		NEED							
		REQ							
		HAVE							
		NEED							
		TOTAL RESOURCES REQUIRED	5		1				
		TOTAL RESOURCES ON HAND	2		1				
		TOTAL RESOURCES NEEDED	3 Ordered - Expected ETA 0800		0				

*(A small document with illegible text is attached to the bottom right of the worksheet.)*

10. PREPARED BY (NAME AND POSITION)  
J. Funai  
RLL

ICS 215 IWS (8/86)  
NFES 1374

236 E. Main Street  
08.27.07 1010 hrs.  
Smoke in Building



s/be 236 E. Main, not 234 S. Main



STATIC WATER SOURCE

EASTLAND

AGNER

PLEASANT

OLDUS 224

0 125 250 500 Feet





# Ohio All Hazards IMT

## Ottawa, Ohio - Flood



# Ohio All Hazards IMT

Ottawa, Ohio - Flood



# Ohio All Hazards IMT

Painesville, Ohio – CSX Train Derailment





October 10, 2007 CSX Train Derailment

# EMERGENCY RESPONSE



October 10, 2007 CSX Train Derailment

# Ohio All Hazards IMT

Painesville, Ohio – CSX Train Derailment

The screenshot displays the Lake Navigator web application interface. The browser address bar shows the URL <http://www.lakegis.org/lakenavigator/viewer.htm>. The application title is "Lake Navigator". The left sidebar contains a "LAYERS" panel with various map layers, including "Transportation", "Geodetic Control", "Cadastral", "Parcels", "Utilities", "Governmental", "Environmental", "Emergency Oper.", "Structures", and "Aerial Photography". The "Parcels" layer is expanded, showing "Parcel Labels", "Old Parcel Lines", "Tracts", "Subdivisions", "Sublot Numbers", and "Lot Dimensions". The "Train Derailment Location" layer is checked. The main map area shows a street map of Painesville, Ohio, with a red shaded area representing the evacuation zone and a yellow circle indicating the derailed train location. The map includes labels for "Grand River Fairport Harbor", "Painesville City", "Mentor", "Painesville Twp.", and "Concord". The bottom of the map area has a "ZOOM IN" button, "SCANNED DOCUMENT VIEWERS PLATS TAX MAPS", and a scale indicator "Zoom to Scale - 1 inch = 4912 ft. Go". A "Refresh Map" button and "Auto Refresh" checkbox are also visible. The status bar at the bottom shows coordinates: "DD: -81.33994518, 41.74562527 - DMS: -81 20 23.8026, 41 44 44.251 - SPM".

**EVACUATION ZONE, DETOURS, HOT ZONE, DERAILMENT LOCATION ON WEB**

# Incident Action Plan Map

CSX TRAIN DERAILMENT



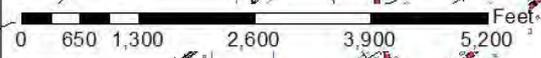
MOBILIZATION SITE  
MENTOR CITY STATION 5

ATLAS CINEMA  
STAGING AREA

HOME DEPOT  
STAGING AREA

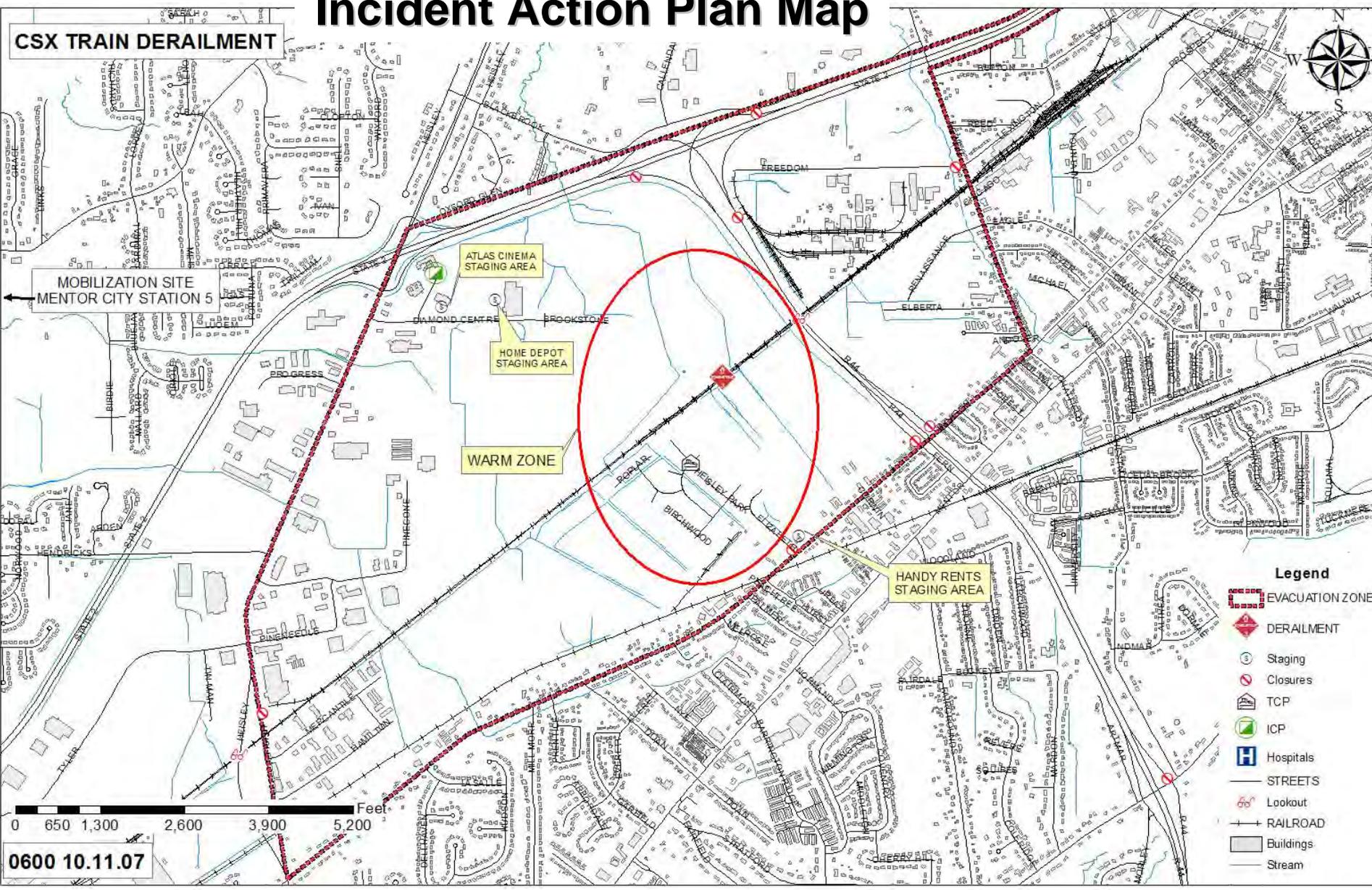
WARM ZONE

HANDY RENTS  
STAGING AREA

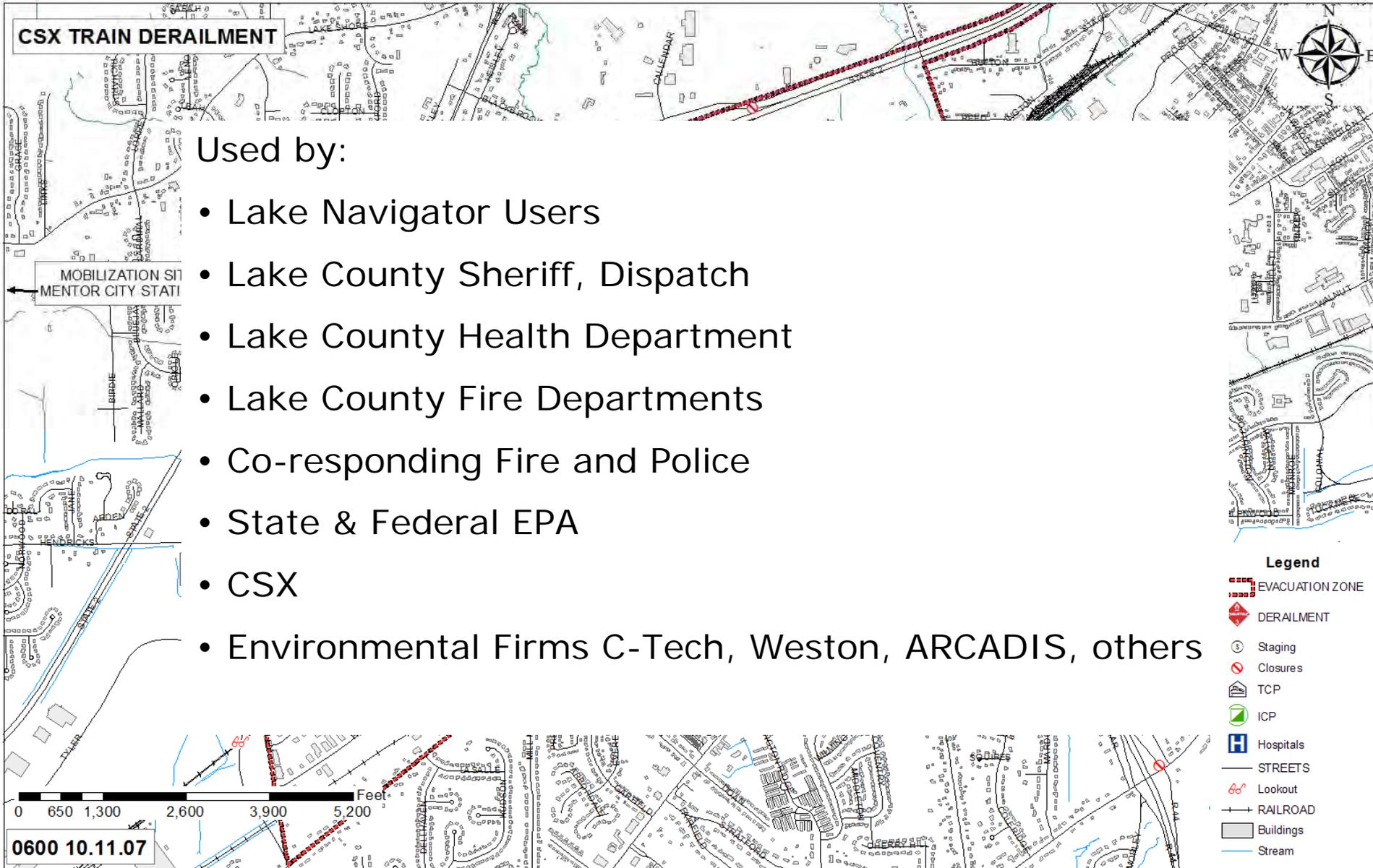


0600 10.11.07

- Legend**
- EVACUATION ZONE
  - DERAILMENT
  - Staging
  - Closures
  - TCP
  - ICP
  - Hospitals
  - STREETS
  - Lookout
  - RAILROAD
  - Buildings
  - Stream



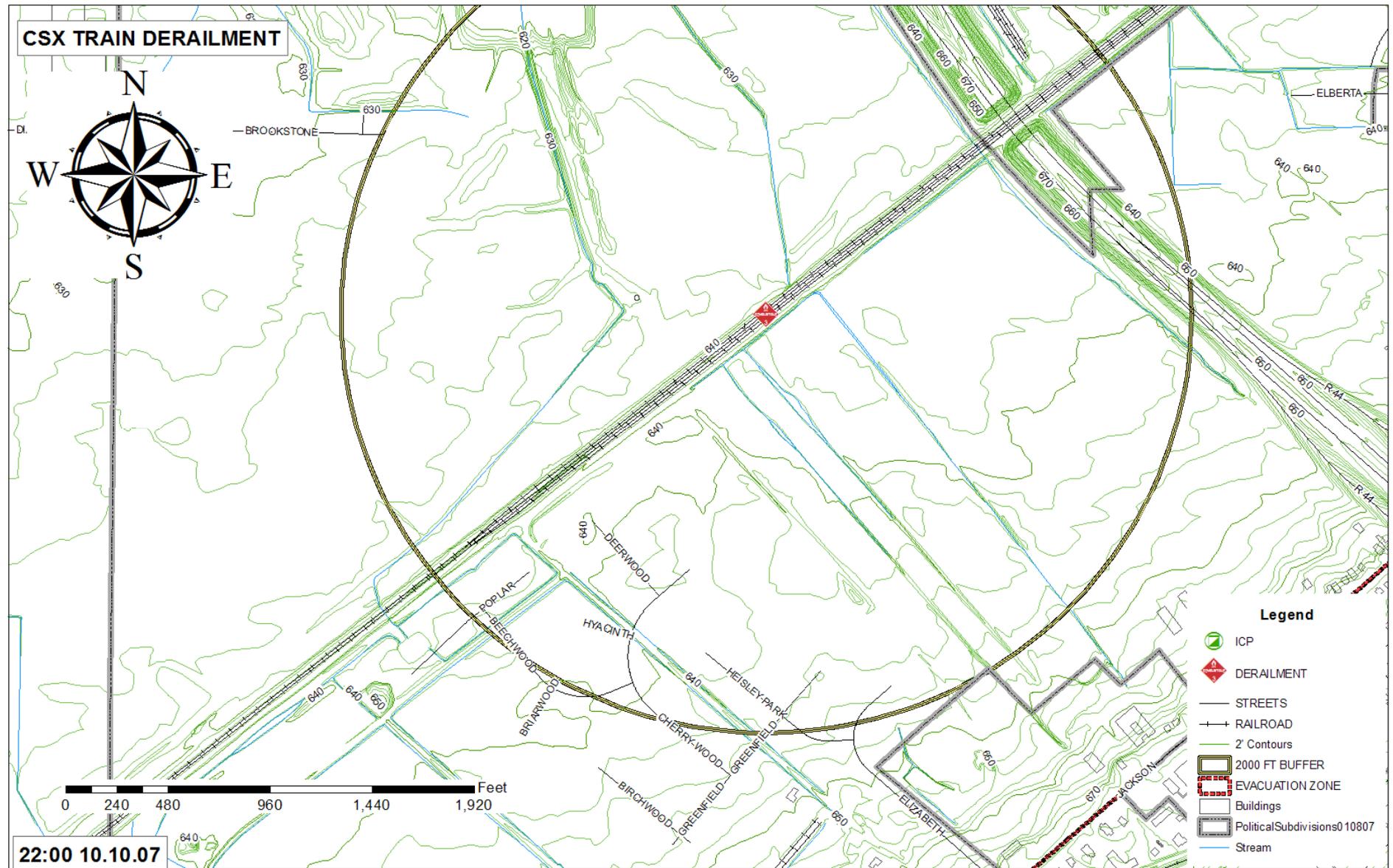
# Painesville, Ohio – CSX Train Derailment



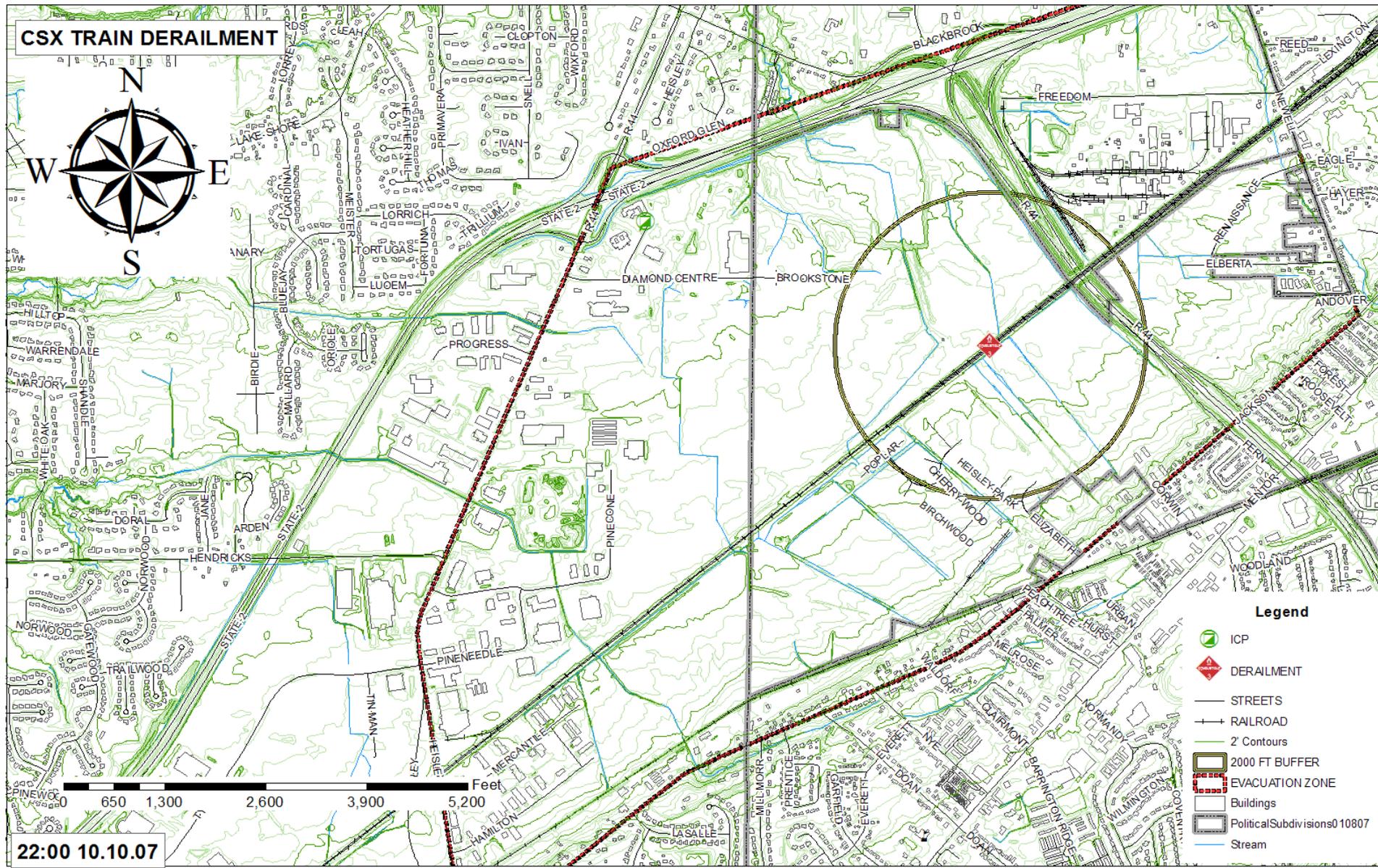
Used by:

- Lake Navigator Users
- Lake County Sheriff, Dispatch
- Lake County Health Department
- Lake County Fire Departments
- Co-responding Fire and Police
- State & Federal EPA
- CSX
- Environmental Firms C-Tech, Weston, ARCADIS, others

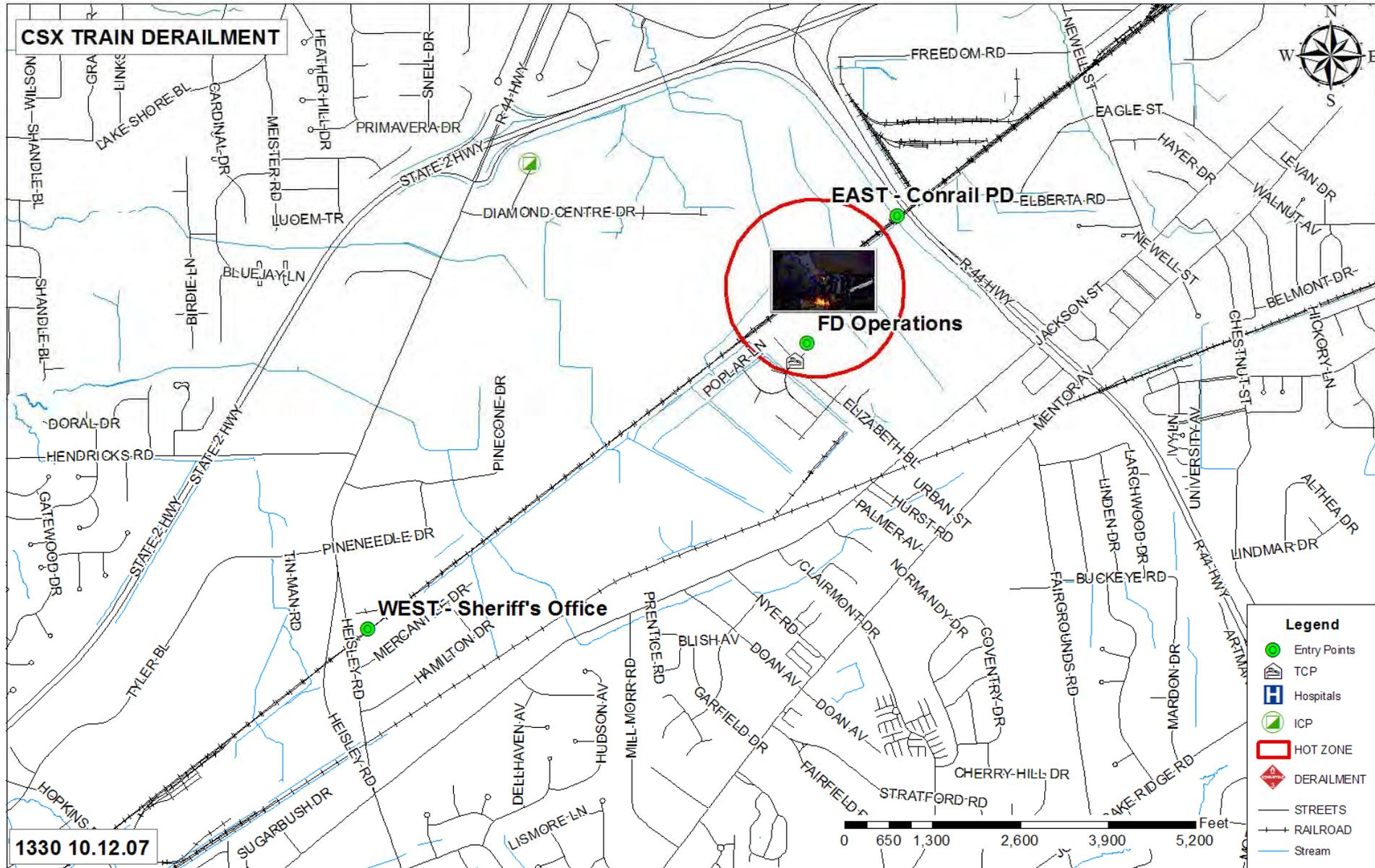
# Painesville, Ohio – CSX Train Derailment



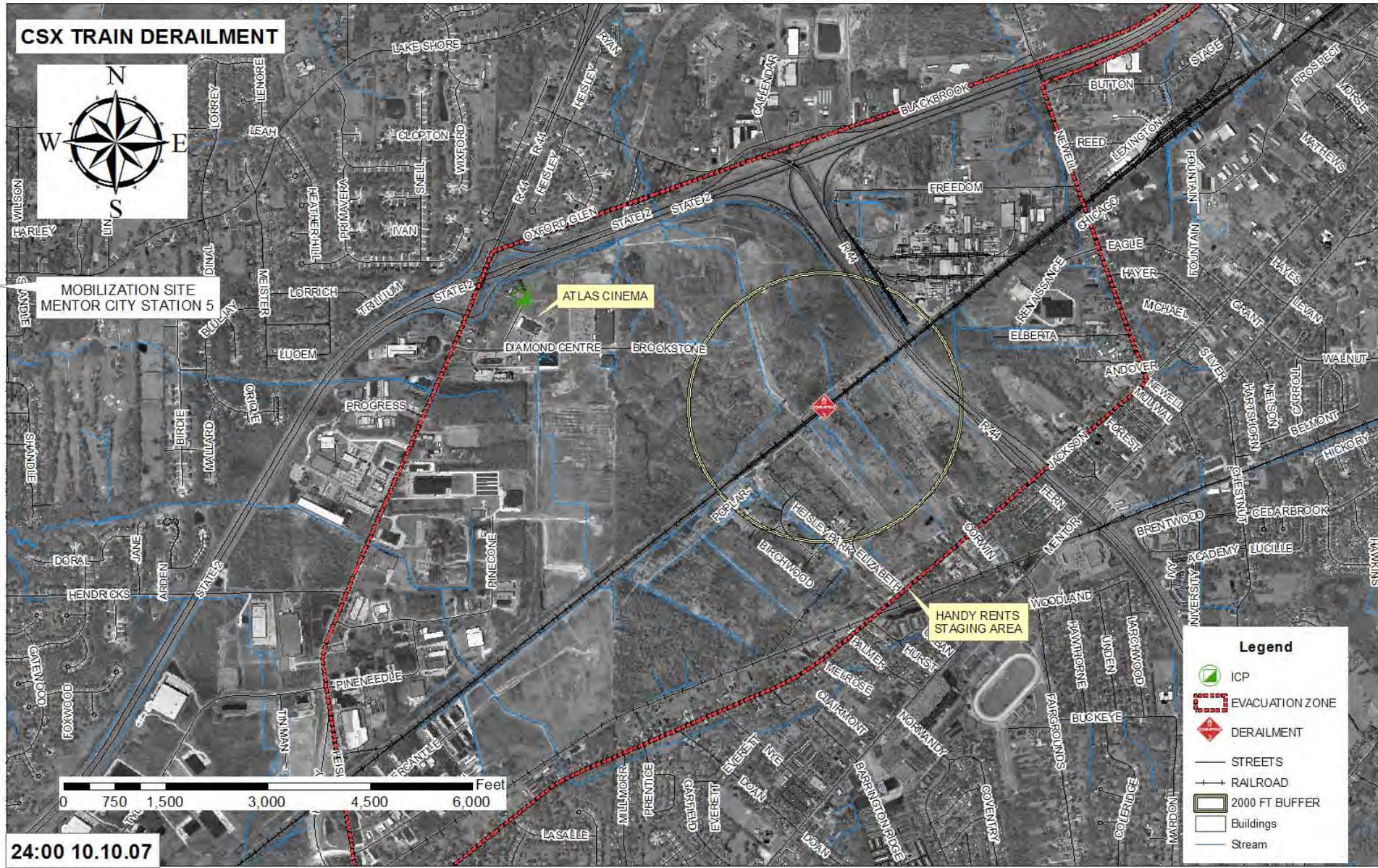
# Painesville, Ohio – CSX Train Derailment



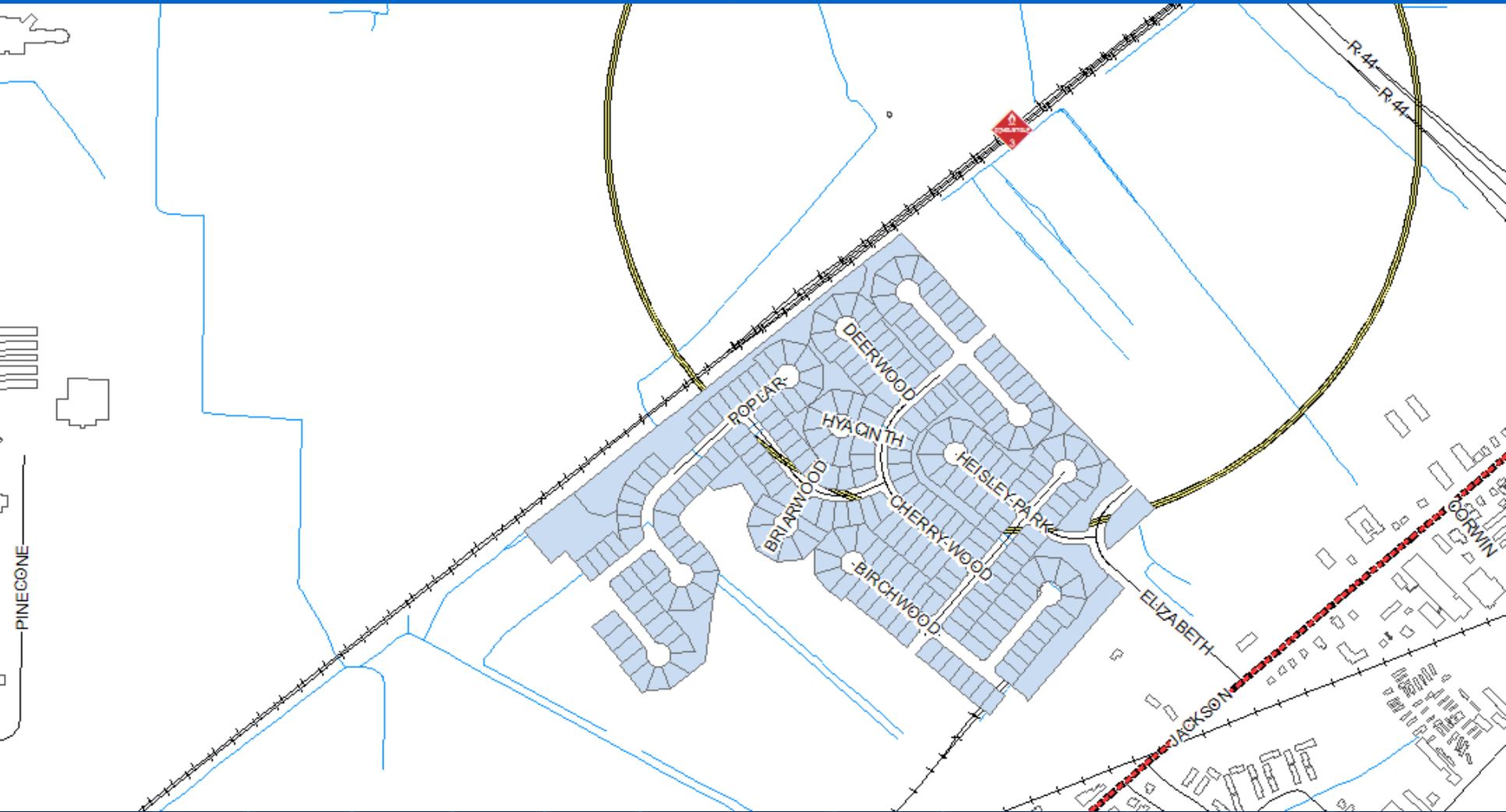
# Painesville, Ohio – CSX Train Derailment



# Painesville, Ohio – CSX Train Derailment



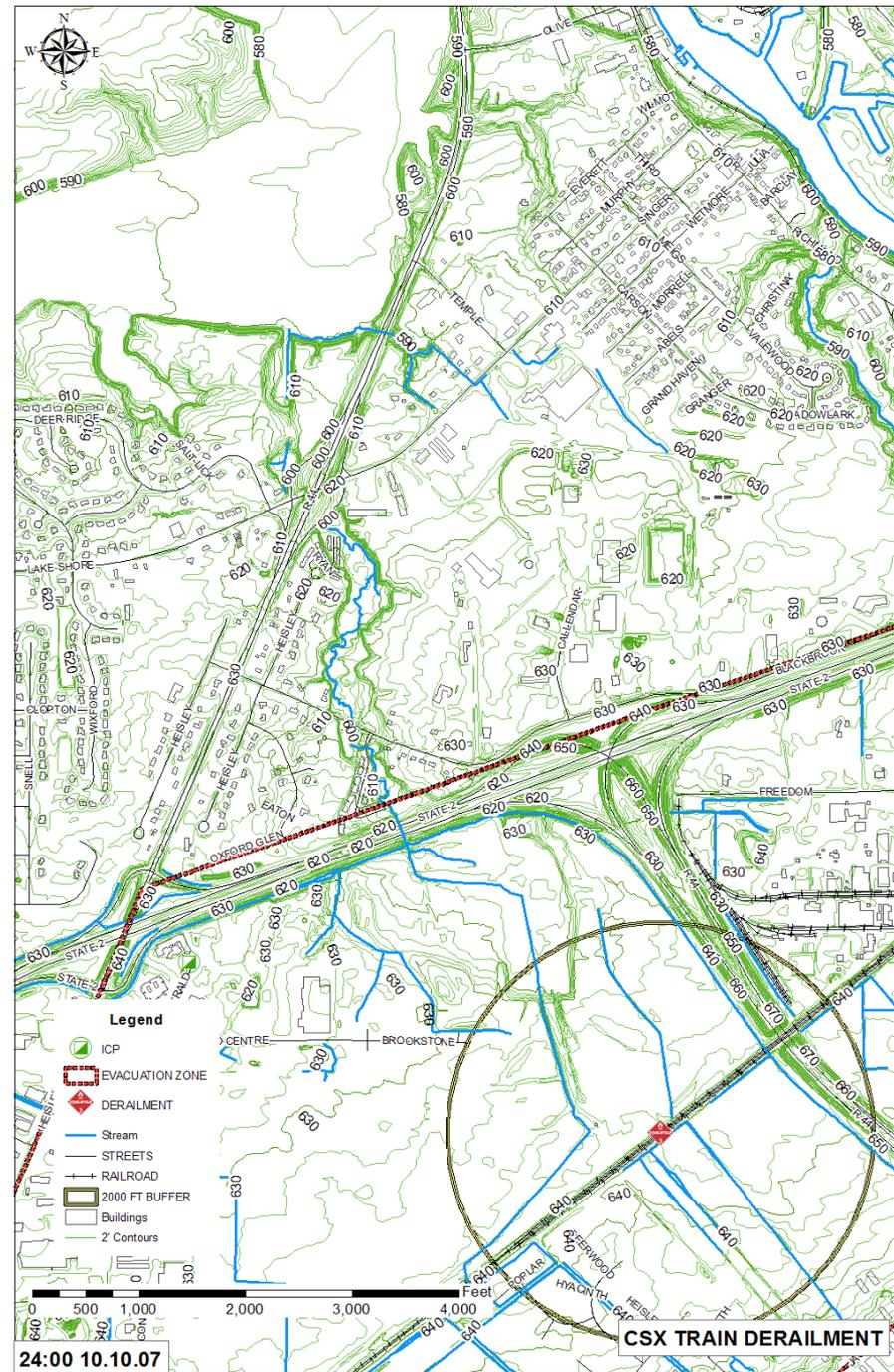
# Impacted Property Ownership Data Provided



# CSX Recovery Road Planning Map



# OEPA Water Sampling Tracking Map 10' x 4'



# Ohio All Hazards IMT

Painesville, Ohio – CSX Train Derailment

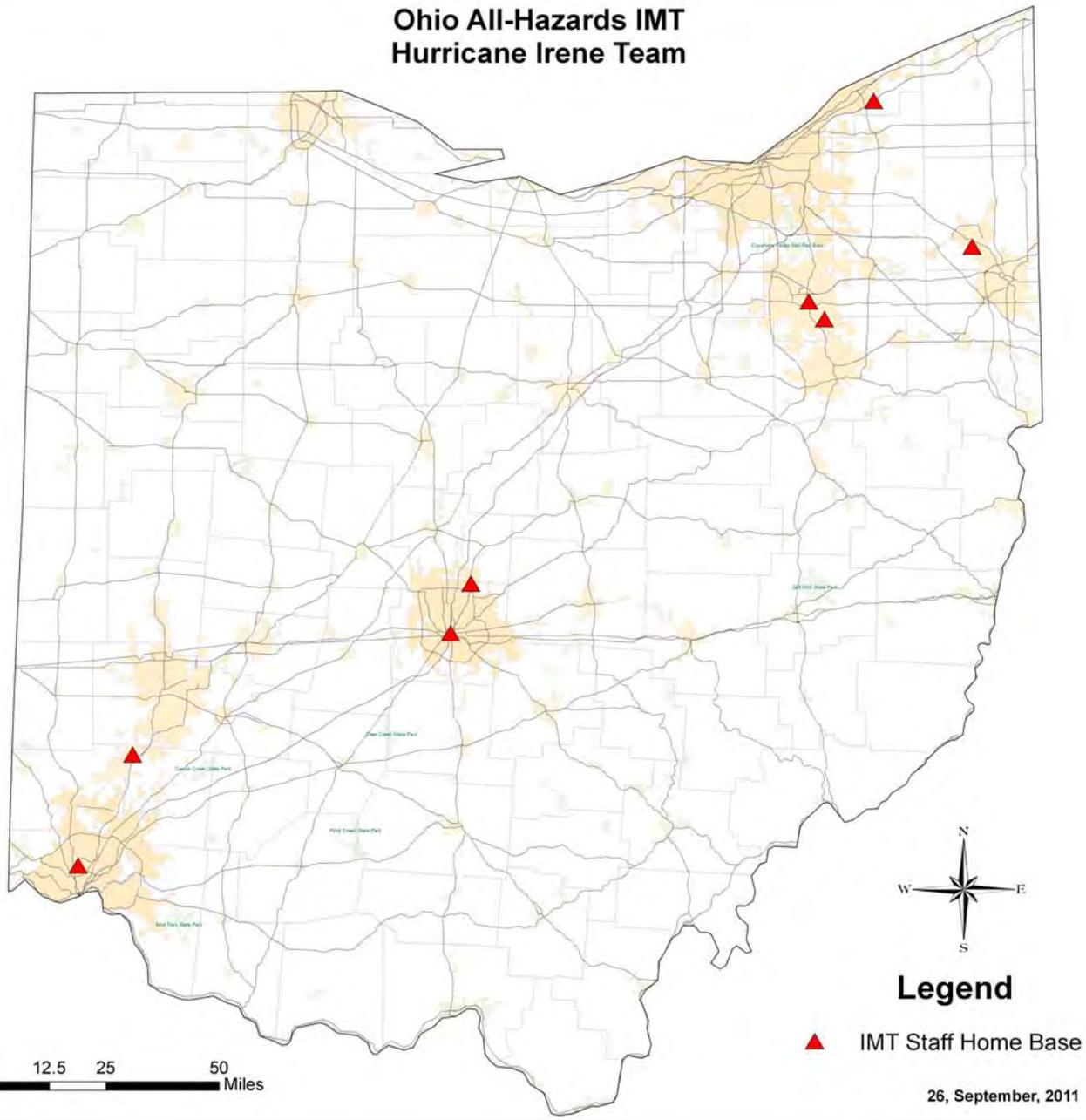


# Ohio All Hazards IMT

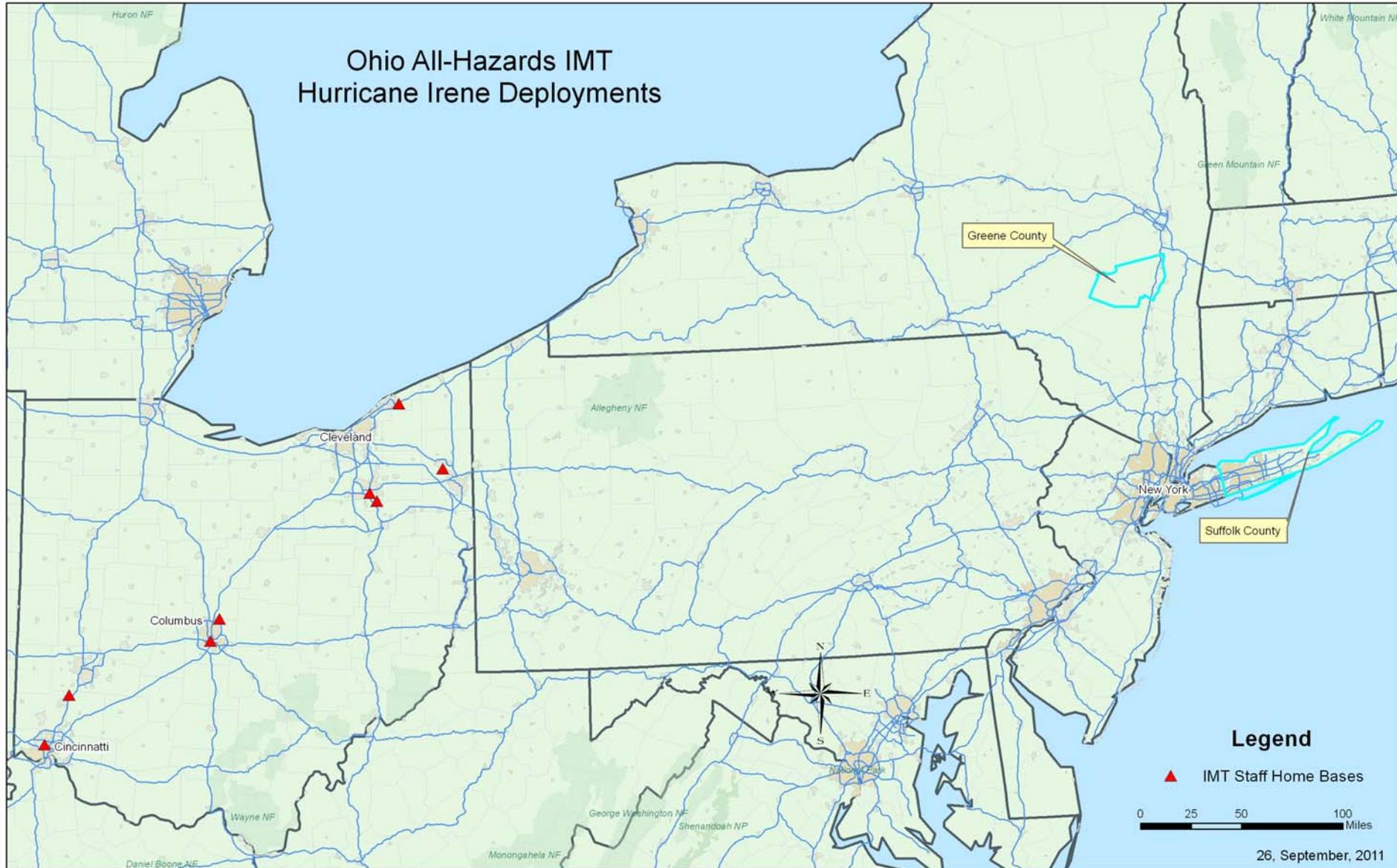
Suffolk County, NY - Hurricane Irene



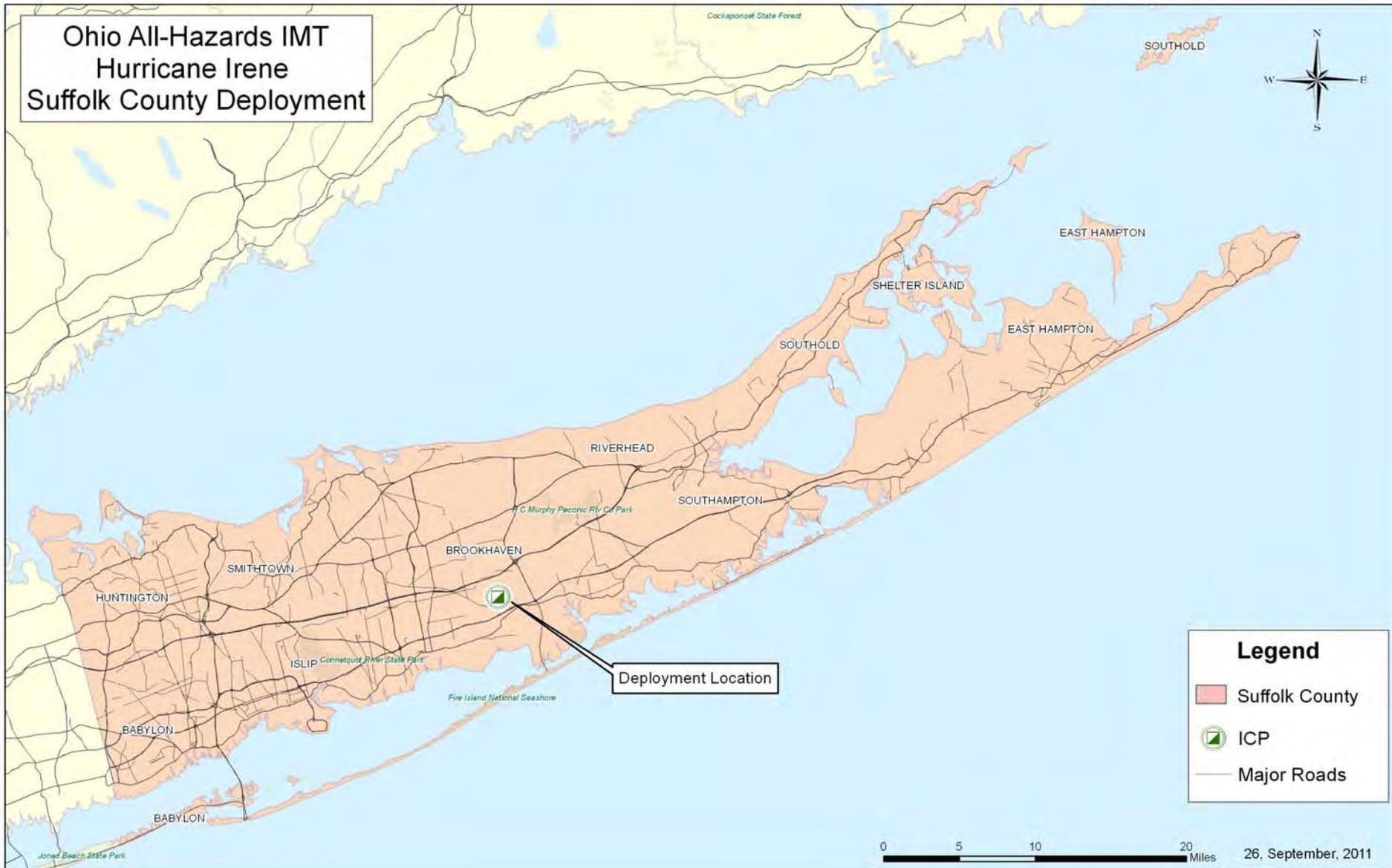
# Ohio All-Hazards IMT Hurricane Irene Team



# Suffolk County, NY - Hurricane Irene



# Suffolk County, NY - Hurricane Irene

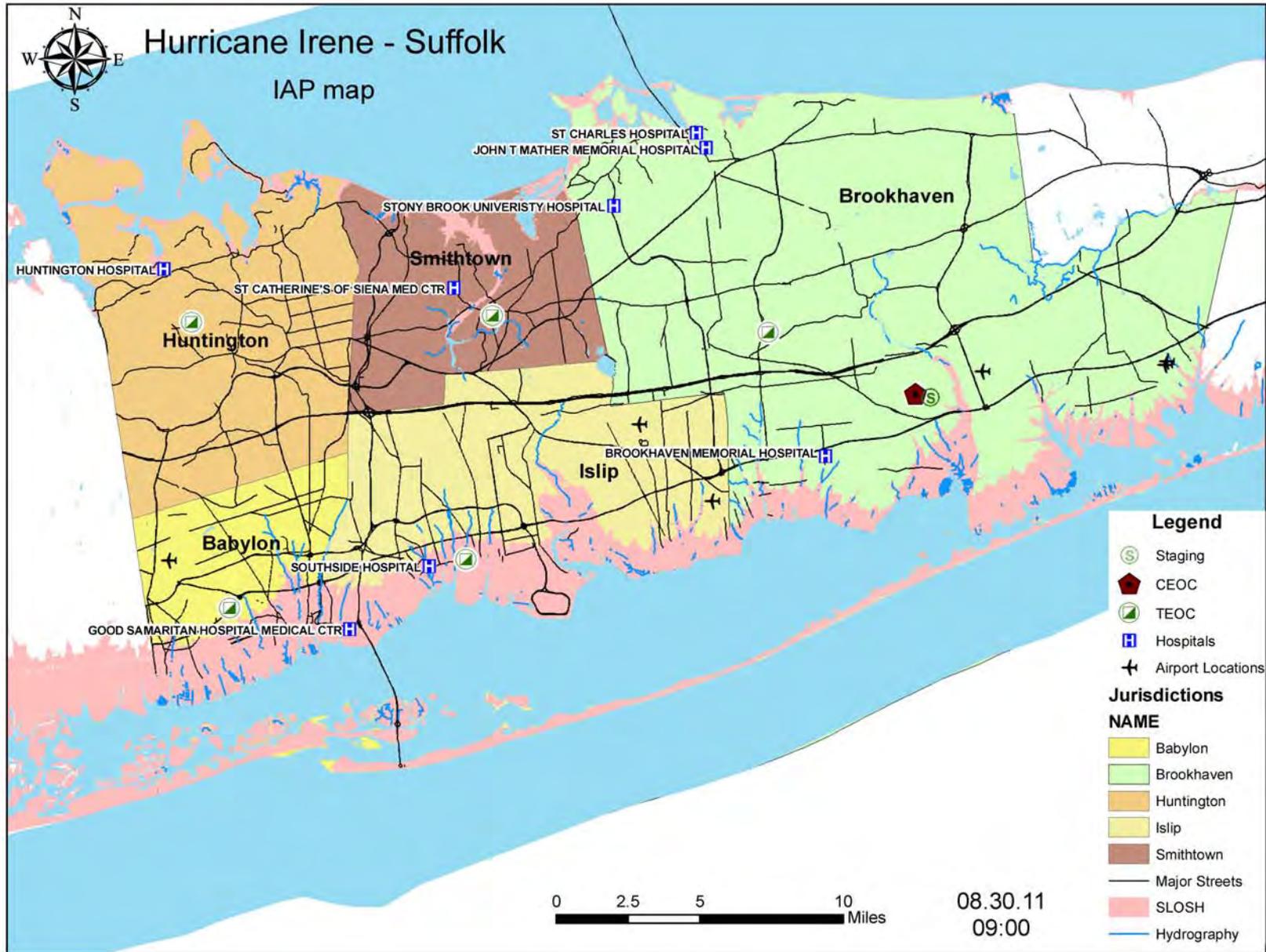


# Suffolk County, NY - Hurricane Irene

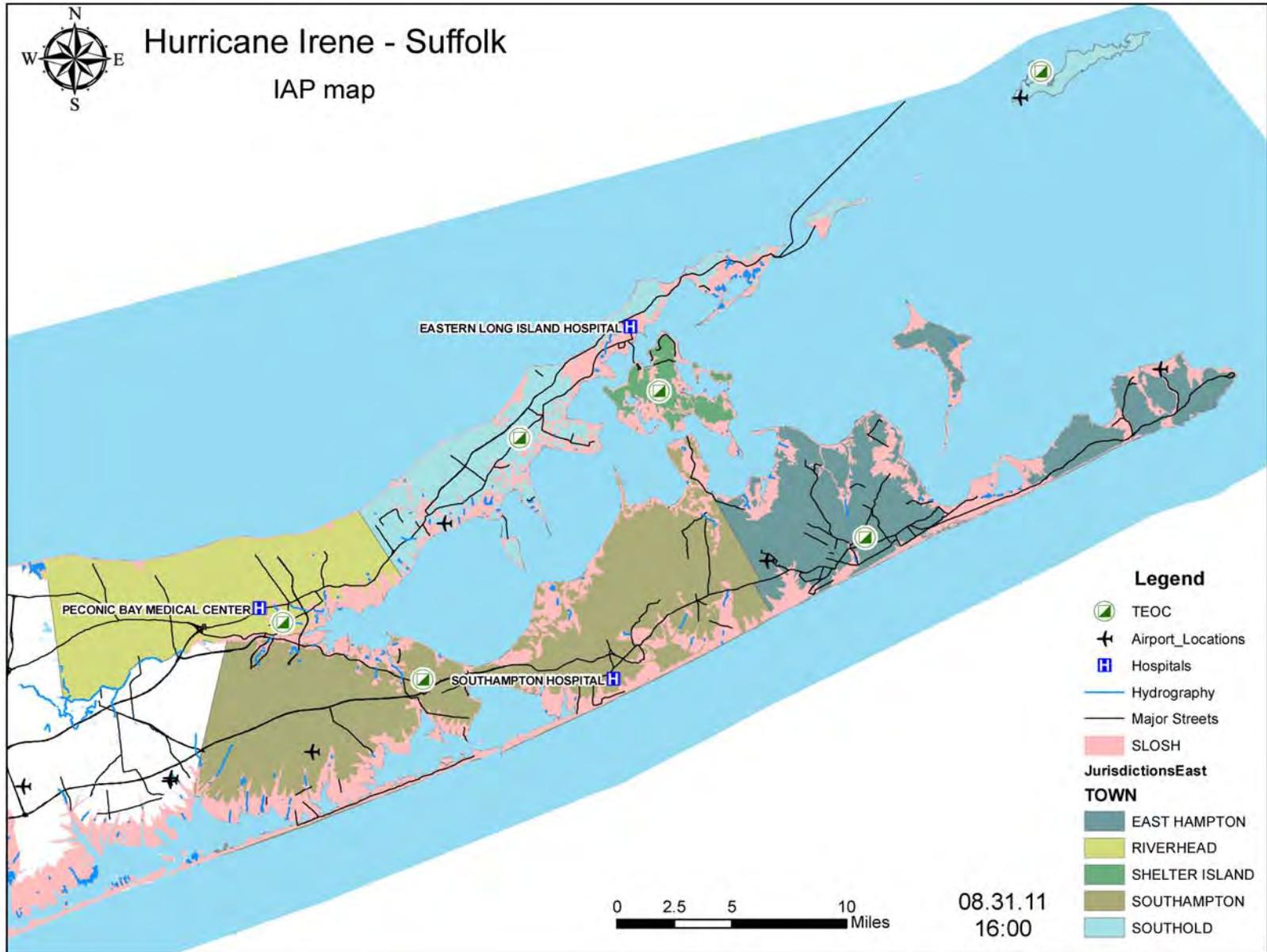


Acetate Overlay  
Items Here

# Suffolk County, NY - Hurricane Irene



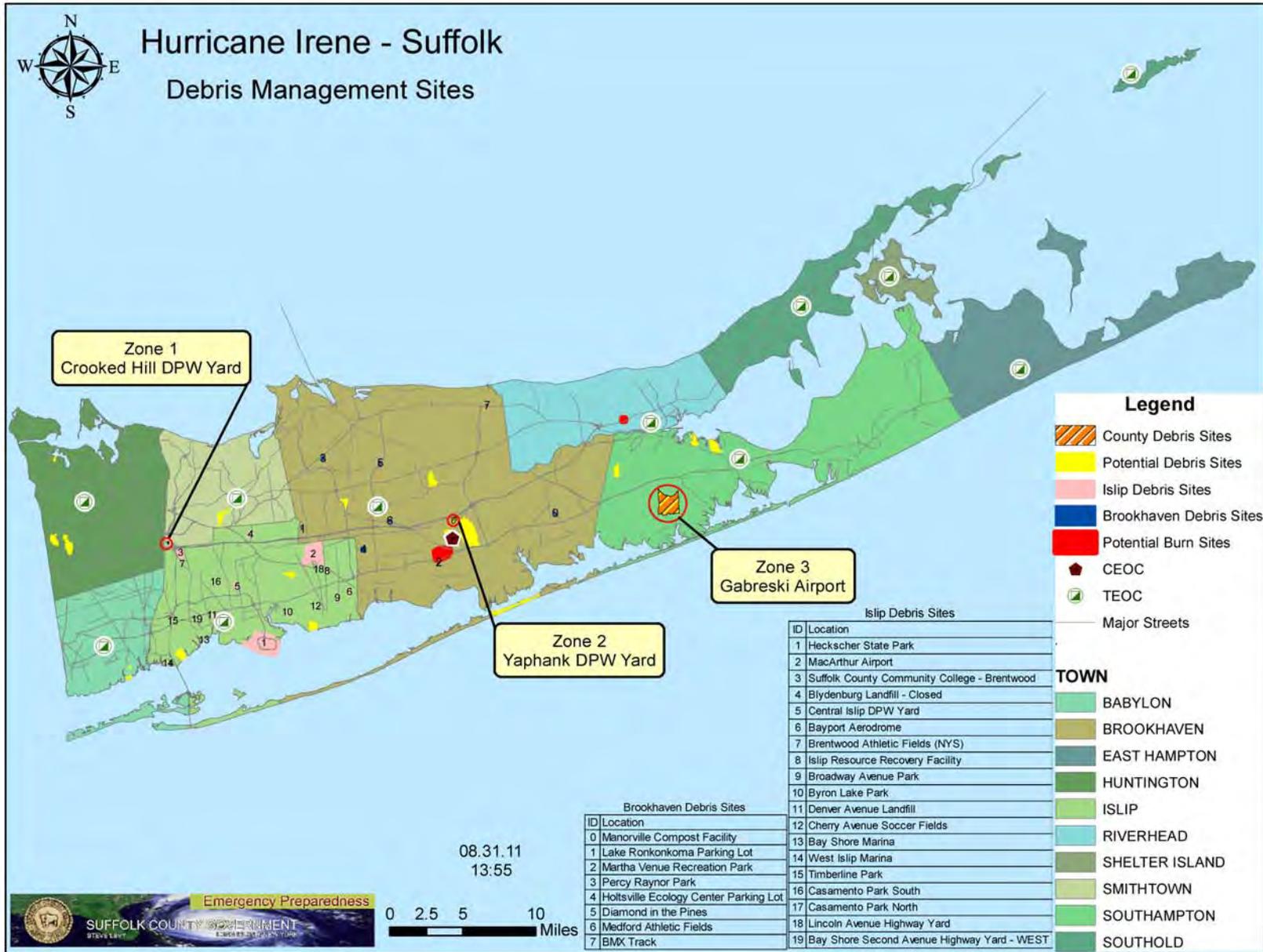
# Suffolk County, NY - Hurricane Irene



# Suffolk County, NY - Hurricane Irene

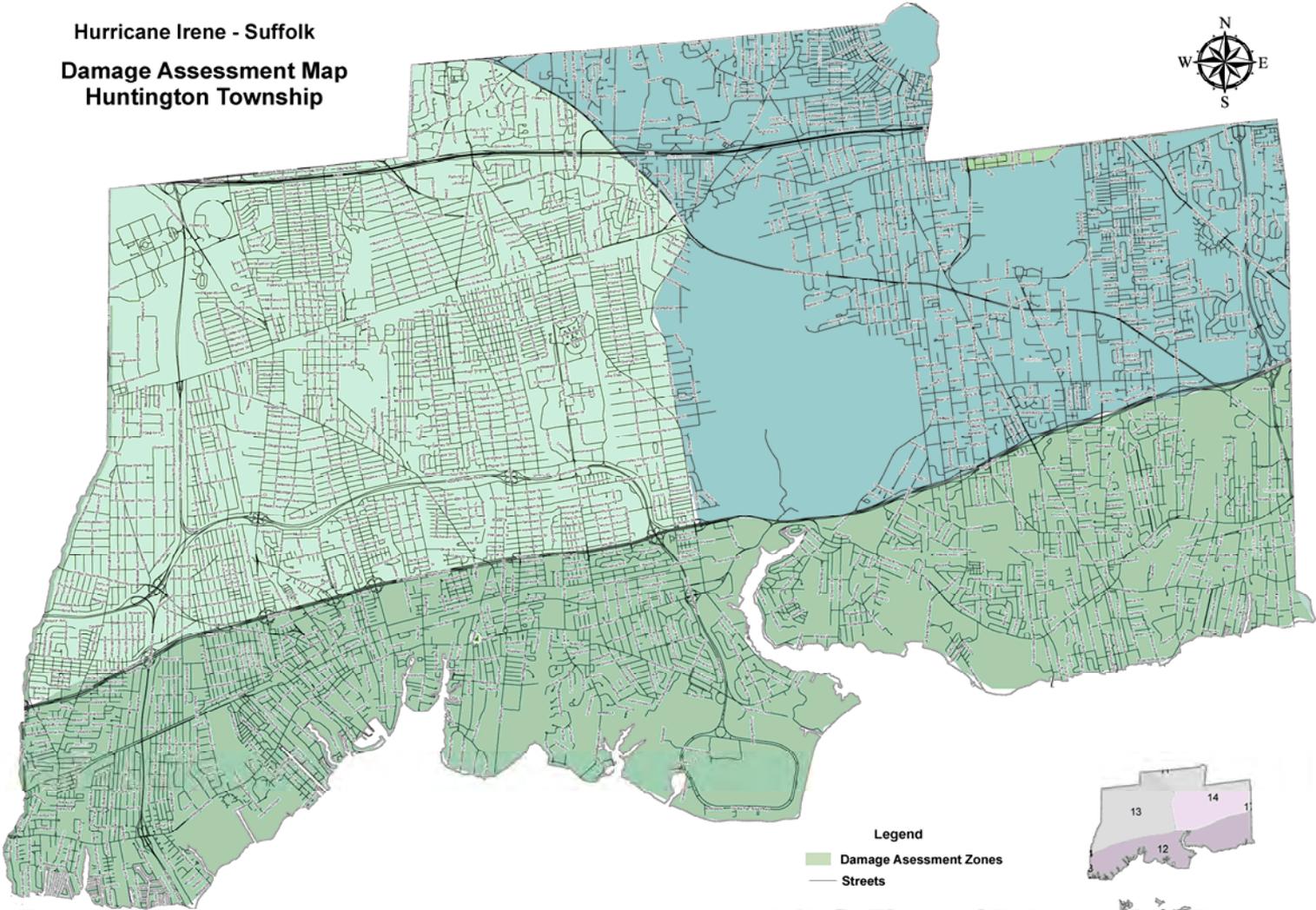


# Suffolk County, NY - Hurricane Irene



# Suffolk County, NY - Hurricane Irene

Hurricane Irene - Suffolk  
Damage Assessment Map  
Huntington Township



**Legend**

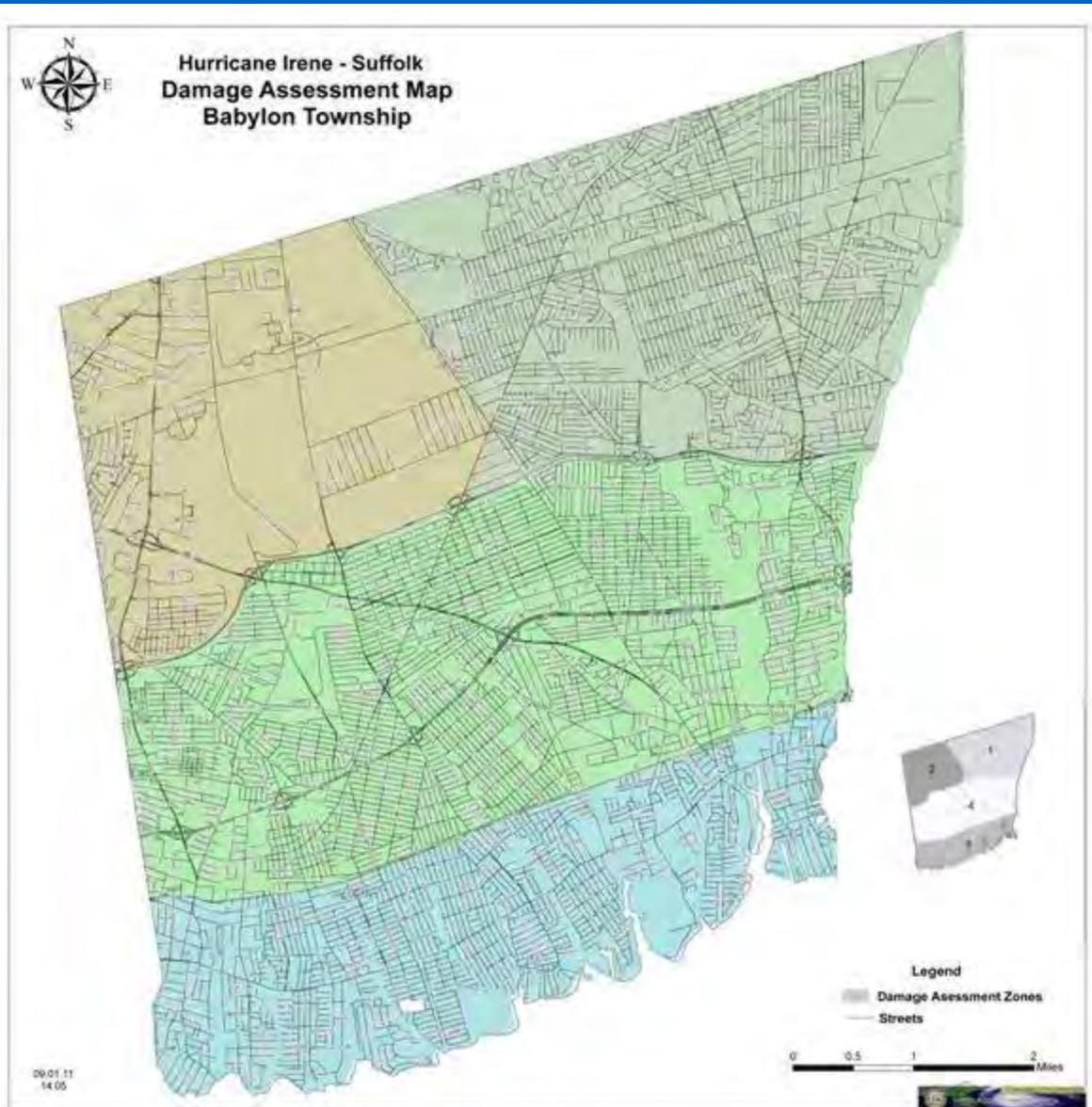
- Damage Assessment Zones
- Streets



09.01.11  
15.00



# Suffolk County, NY - Hurricane Irene





# Suffolk County, NY - Hurricane Irene

## Information Board

### What we know

### AIR CURTAINS ABOVE-GROUND

### What we need to know & FROM WHOM

#### OPERATING CONDITIONS

WEATHER - MAXIMUM 20 MPH WIND SPEED

- NO RAINY DAYS
- DAYLIGHT HOURS, PREFERABLY 10AM START (AVOIDING INVERSIONS)  
TO AVOID SHAKING OUT NEIGHBORS
- MONDAY THRU SATURDAYS, NO HOLIDAYS
- NO AIR QUALITY ALERT DAYS (shouldn't be issue with Fall weather)

#### MINIMUM DISTANCES:

TO HOMES - 500'  
TO TREELINE - 250'  
TO PILES NOT BEING BURNED - 200'

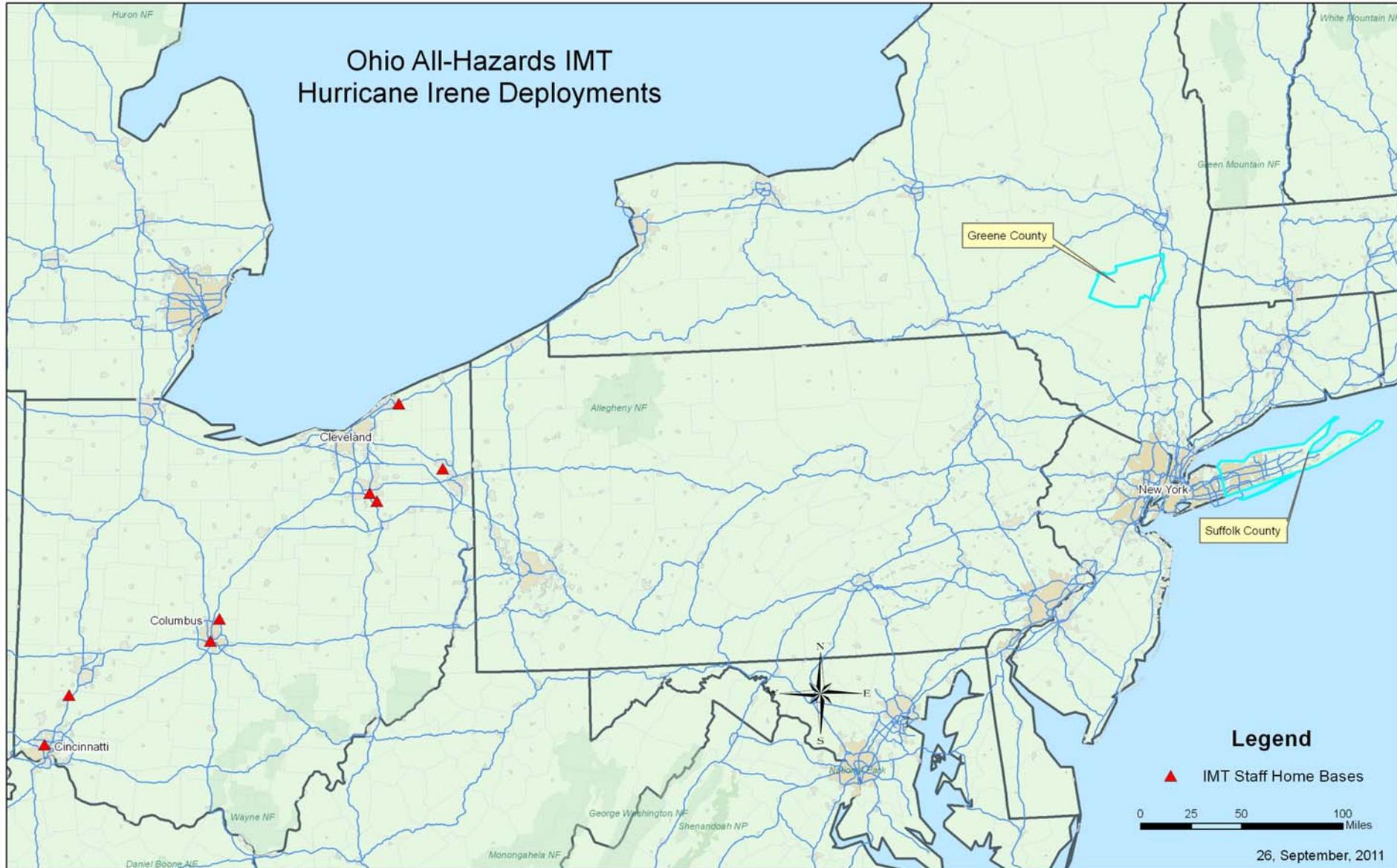
- HAVE A CURED PILE OF WOOD TO START FIRE AND KEEPING GOING IF TEMP. INSIDE BOX DROPS
- ADEQUATE FIRE PROTECTION EQUIP./PERSONNEL ON SITE
- COMPLETELY EXTINGUISHED FIRE BY SUNDOWN, NO RESIDUAL COALS
- LIMITED TO CLEAN WOOD DEBRIS, NO OTHER SOLID WASTES OR ADULTERATED WOOD
- AVOID AIR LEAKING FROM BOX i.e. Line bottom corners of box with dirt  
(will generate smoke)
- ADEQUATE SPACING BETWEEN MULTIPLE AIR CURTAIN BURNERS
- WE WOULD LIKE TYPE 1'S (6-10 TONS/HOUR)  
(IF AVAILABLE, WITH AUGER TO REMOVE ASH AS IT GOES)
- PAYLOADERS CAN BE USED TO BRING DEBRIS TO BURNING SITE,  
BUT BURNER SHOULD BE FED BY EXCAVATOR / GRABBER

- NEED SITE PLAN (TO SCALE) TOB
- EMISSIONS REPORTS FROM MANUFACTURER  
PARTICULARLY CO, NOX, CO<sub>2</sub>, OPACITY,  
DIOXINS, PM, PM<sub>2.5</sub> MANUFACTURER
- COST SCHEDULE FROM MANUFACTURER
- ARE UNITS AVAILABLE IN NORTHEAST?
- THROUGH PUT RATE IN TONS + CY/HOUR
- TOTAL QUANTITY TONS/CY TO BE BURNED TOB
- HOW MANY UNITS DO WE NEED? MANUFACT.
- GROUND SITE - PAVED OR DIRT? TOB
- WILL MANUFACTURER PROVIDE PERSONNEL TO FEED BURNER? TOB/MANU.
- WHAT IS ADEQUATE SPACING BETWEEN UNITS? MANUF.
- DEC PERMIT
- DOES IT MAKE SENSE TO CHIP THEN BURN TO ASSIST SMALL VILLAGES WITH TRANSPORTING TO BURN SITE? DEC MANUF.

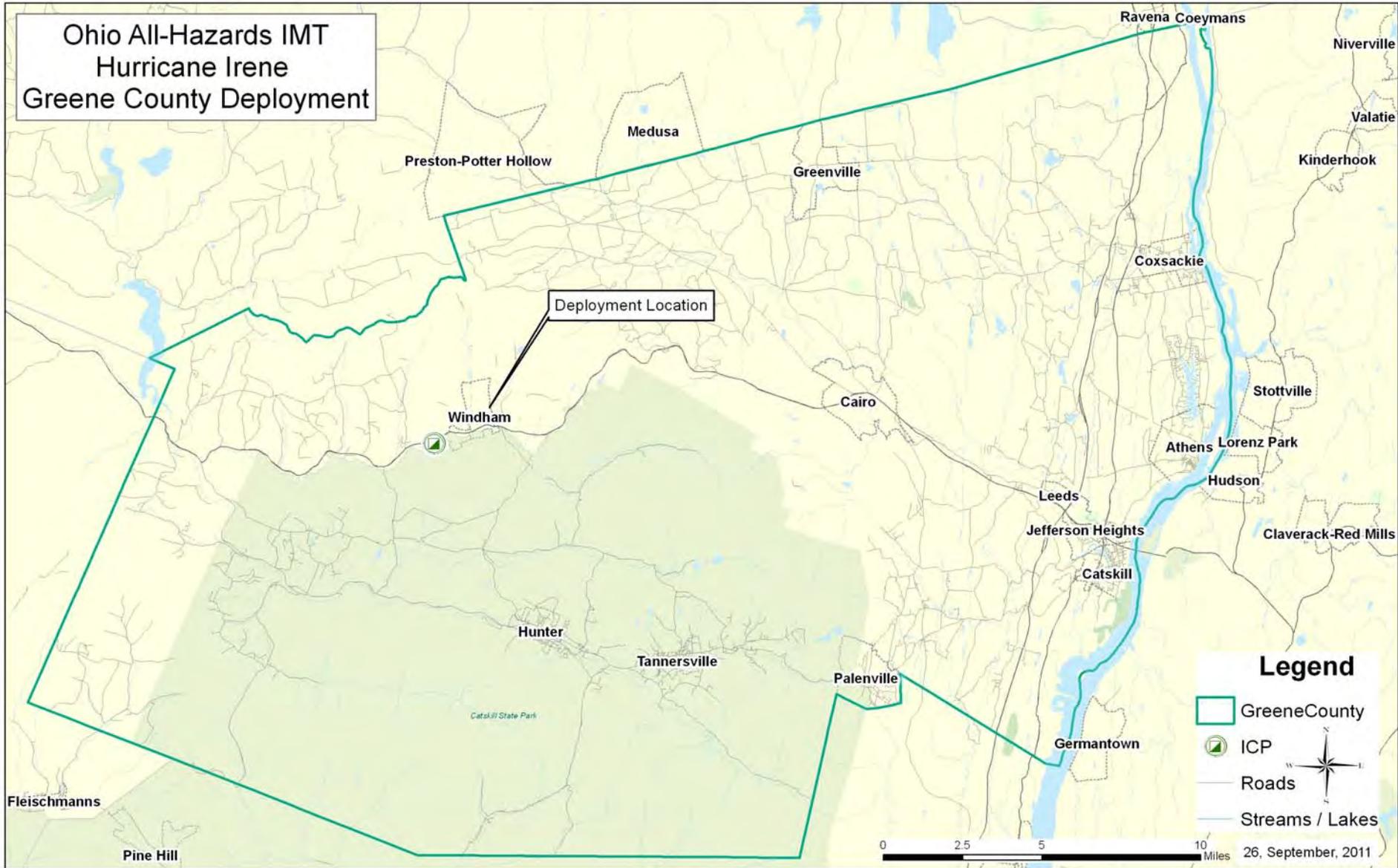
# Suffolk County, NY - Hurricane Irene



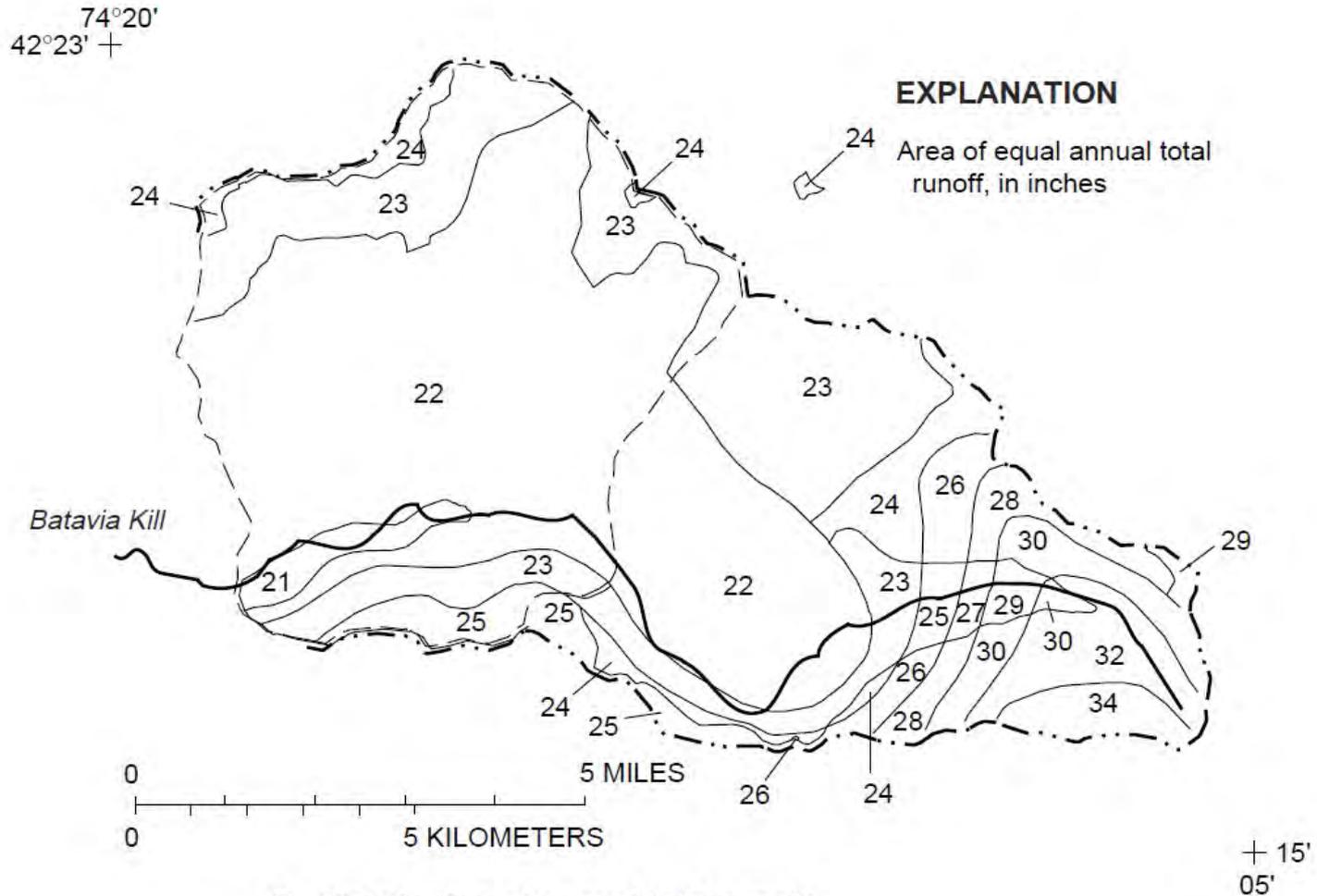
# Suffolk County, NY - Hurricane Irene



# Windham, NY - Hurricane Irene

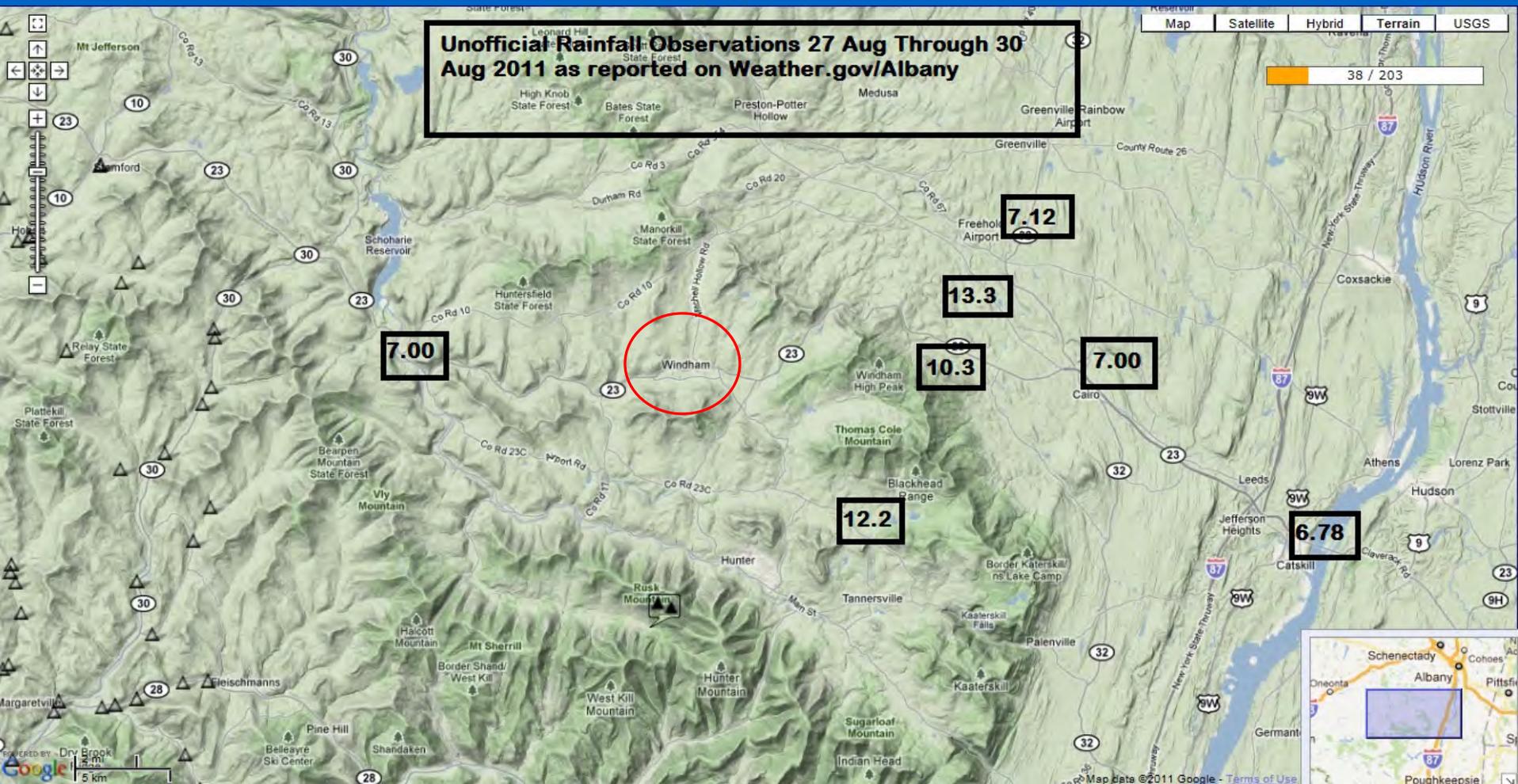


# Windham, NY - Hurricane Irene



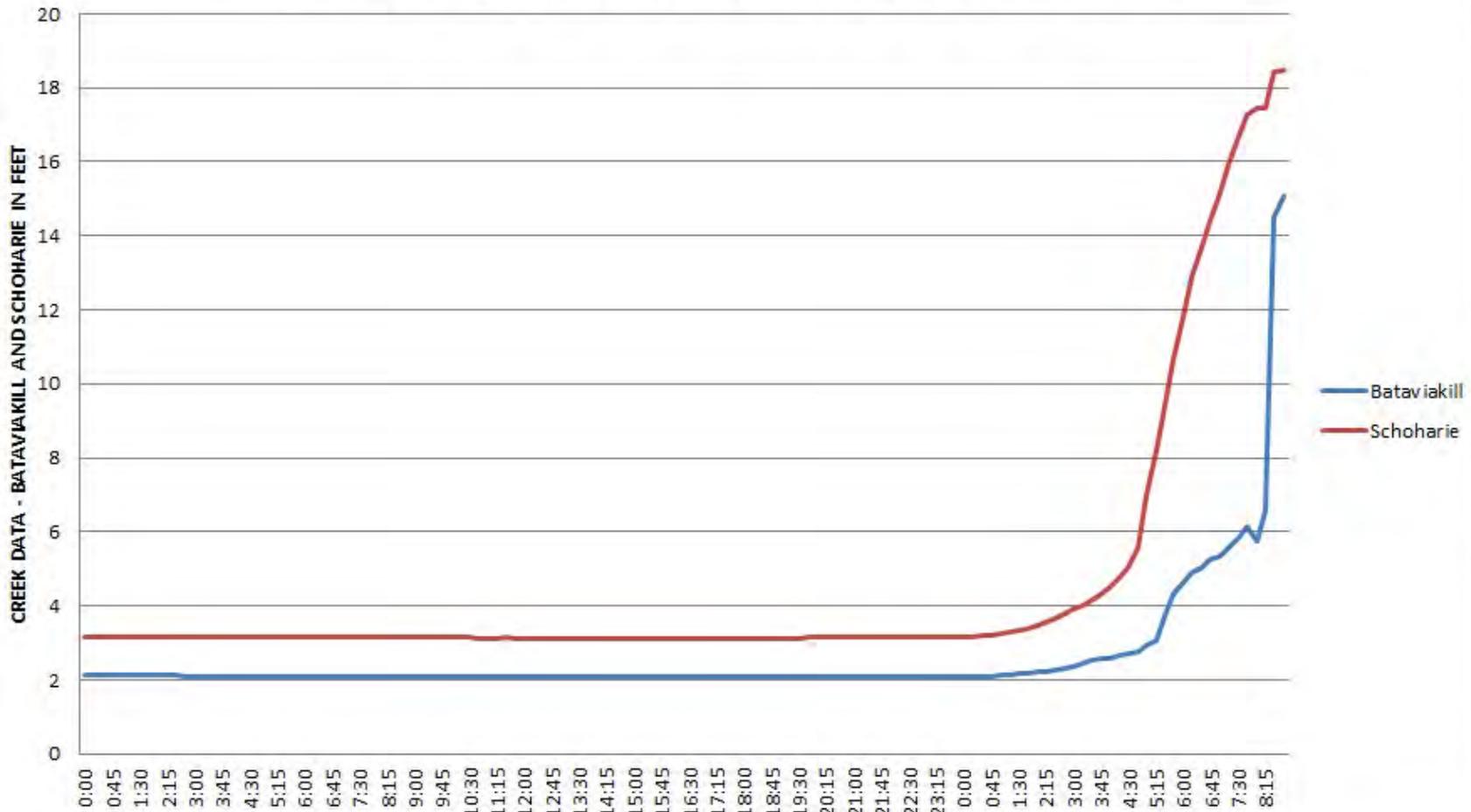
**B. Distribution of annual total runoff**

# Windham, NY - Hurricane Irene



# Windham, NY - Hurricane Irene

**Bataviakill and Schoharie Creeks 8/27 to 8/28/2011**  
**Creek Gauges Knocked Off Line at 8/28/2011 at 0945**



# Windham, NY - Hurricane Irene



Windham, NY - Hurricane Irene



# Windham, NY - Hurricane Irene



# Windham, NY - Hurricane Irene



# Windham, NY - Hurricane Irene

Bridget Pelham – EOC Manager

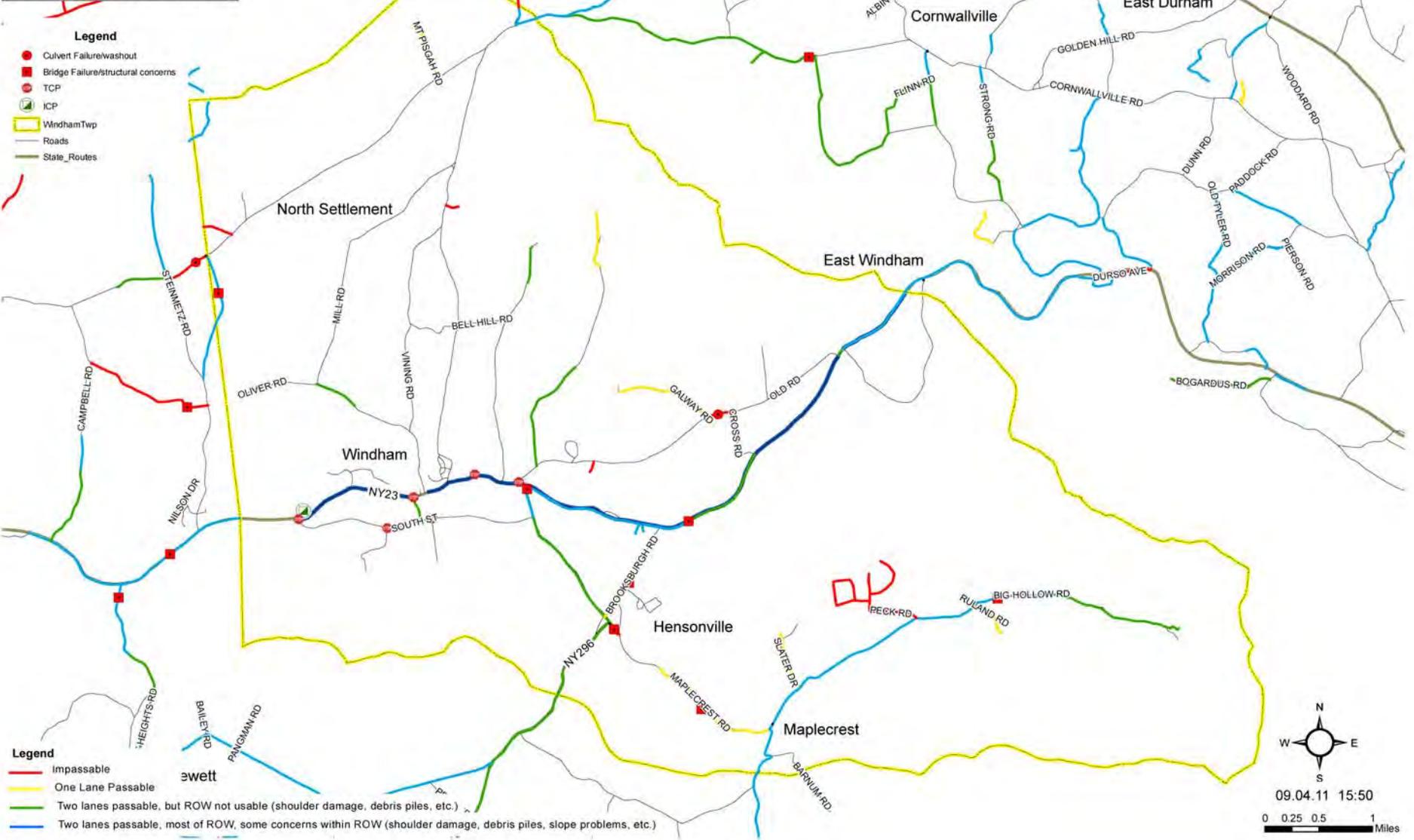


# Windham, NY - Hurricane Irene



# Windham, NY - Hurricane Irene

Windham Road Condition Map

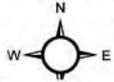


# Windham, NY - Hurricane Irene



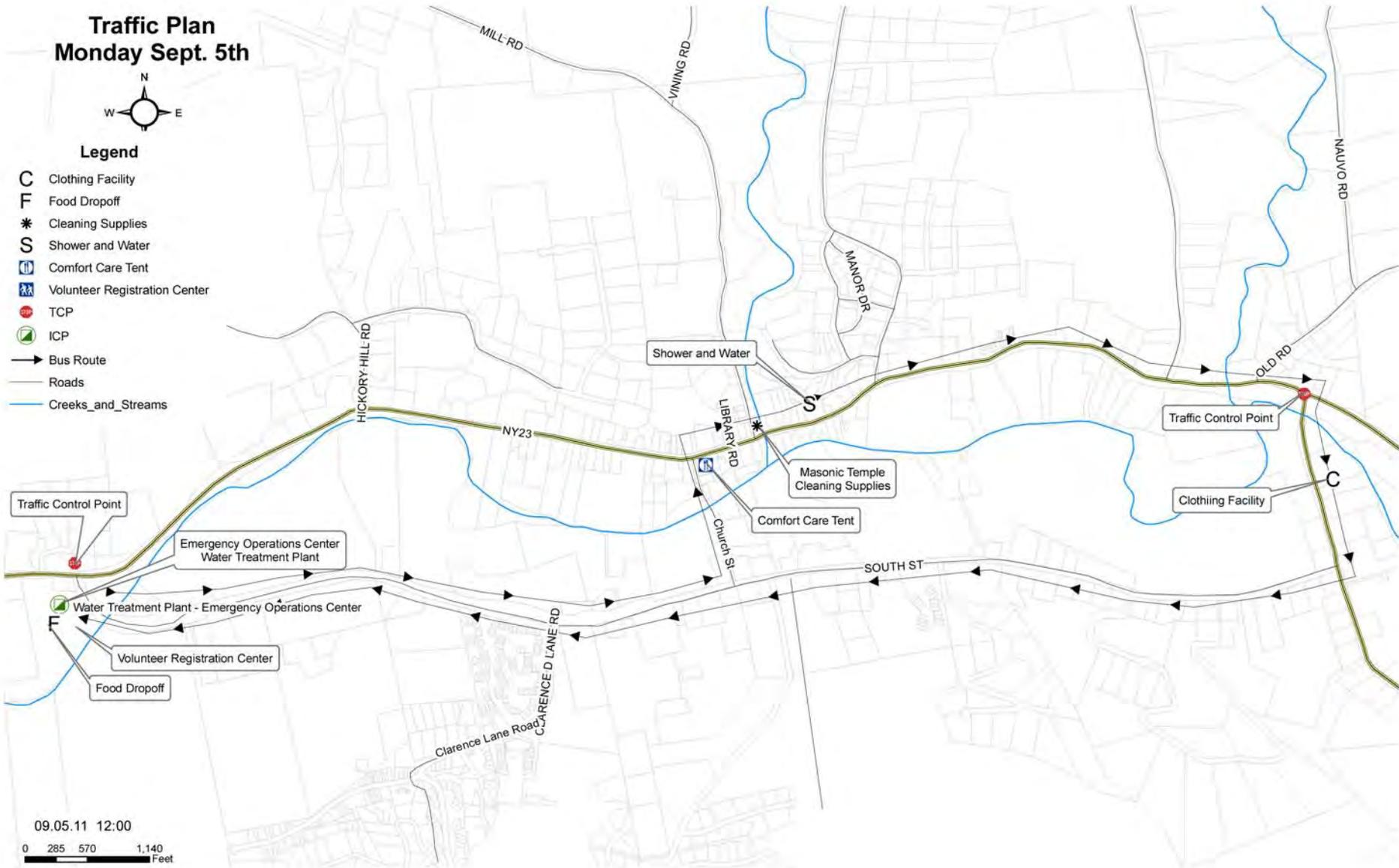
# Windham, NY - Hurricane Irene

## Traffic Plan Monday Sept. 5th



### Legend

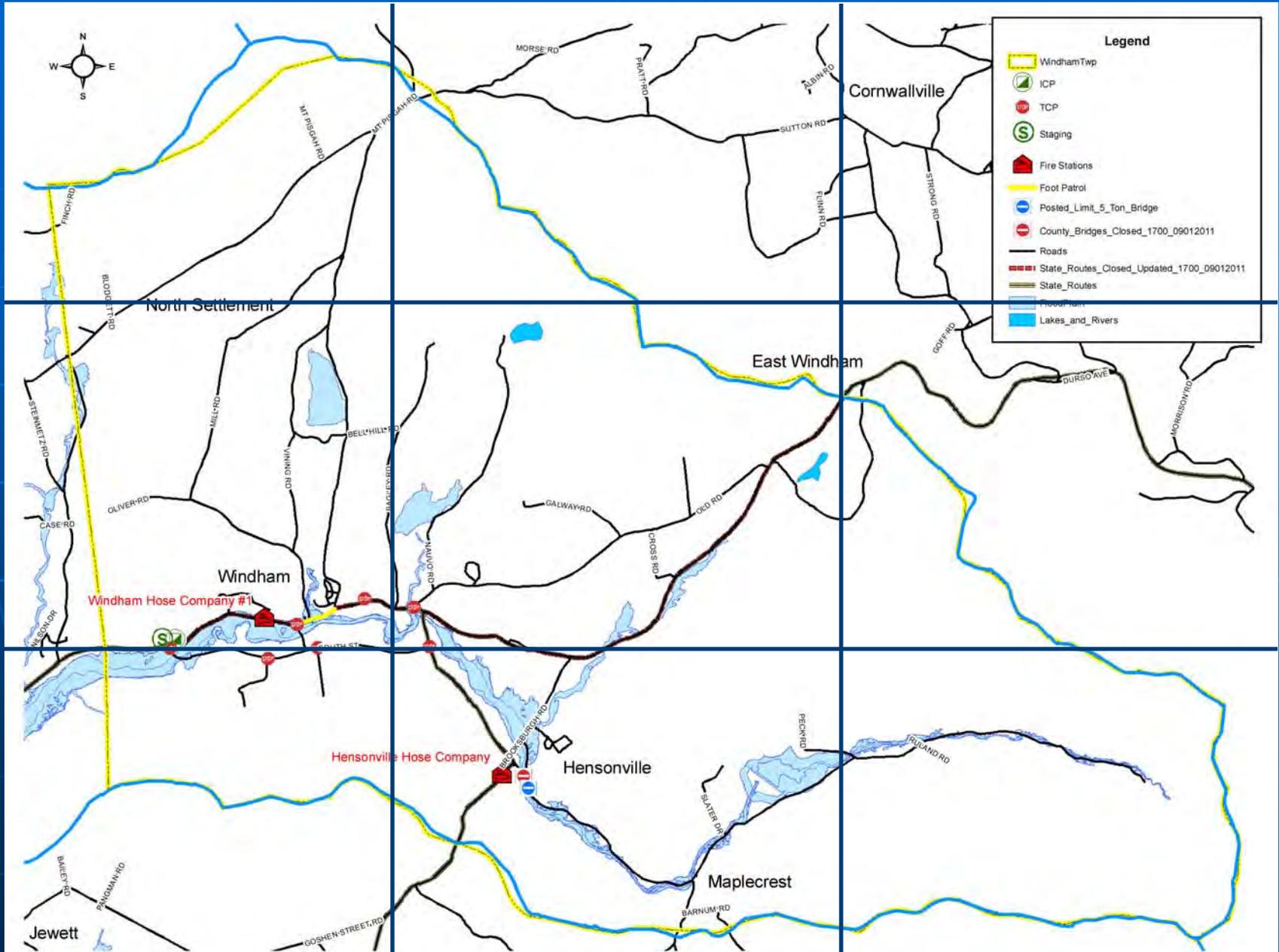
- C Clothing Facility
- F Food Dropoff
- \* Cleaning Supplies
- S Shower and Water
- ☒ Comfort Care Tent
- 👤 Volunteer Registration Center
- 🚚 TCP
- 🌿 ICP
- ➔ Bus Route
- Roads
- Creeks\_and\_Streams



09.05.11 12:00

0 285 570 1,140 Feet

# Windham, NY - Hurricane Irene



# Windham, NY - Hurricane Irene

**The New York Times**  
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MARTHA

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September 4, 2011

## Radio D.J. in the Catskills Offered a Lifeline During the Storm

By SUSANNE CRAIG

WINDHAM, N.Y. — In these days of smartphones and social media, a small-town radio D.J. like Big Jay Fink may seem like an improbable source of emergency information.

But as the banks gave way and the power went down across wide swaths of the Catskill Mountains during Tropical Storm Irene, Mr. Fink served as a lifeline for thousands of people who were cut off from just about all forms of communication and information.

As floodwaters rose on the morning of Aug. 28, Mr. Fink interrupted the regular Sunday programming on WRIP-FM (97.9); instead of a classic Casey Kasem countdown, listeners found Mr. Fink — beginning what would be a 13-hour on-air marathon. He calmly fielded calls from people trapped by the surging waters and doled out information on makeshift shelters.

For many of the 49,000 people spread out over the 650-odd square miles that make up Greene County, Mr. Fink became the voice of the storm.

"The worst of it was the calls from Prattsville; people saying, 'I am on the roof of my trailer,' and asking where their rescue was," he said.

Mr. Fink, 54, is an old-school radio guy who got his start at a university radio station. He was supposed to be on vacation when the storm hit; he could not afford to go anywhere, so he opted to just hang out at the radio station, which operates out of an old bowling alley not far from Windham's main street.

# Hurricane Irene

## Data Sources

USGS/International Charter Telecons

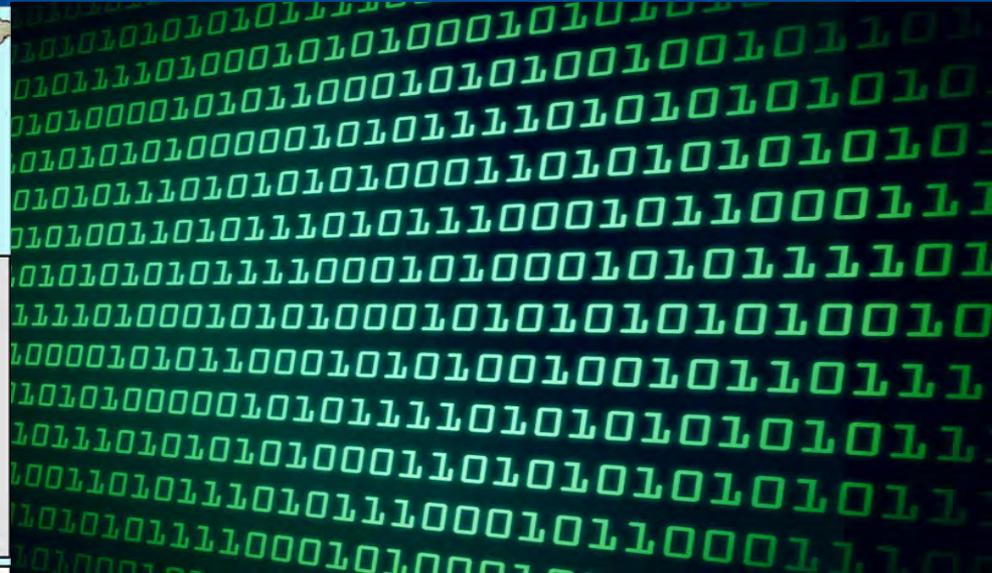
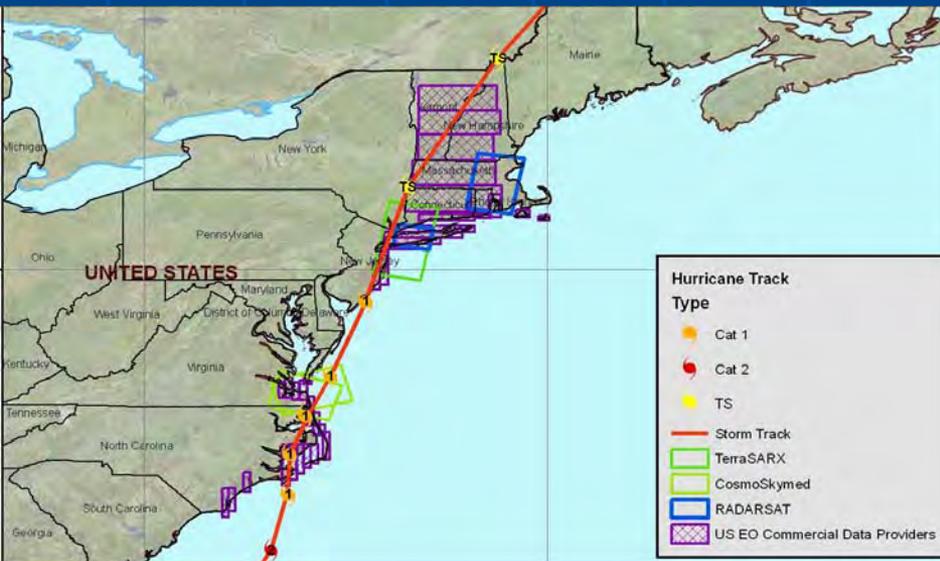
HHDS

Data sources web page

Delta State USNG Geo-PDF Download Viewer

New York State GIS Clearinghouse

Local GIS Departments



August 29, 2011

# Hurricane Irene

## Data Sources

## USGS/International Charter Telecons

1. 79 attendees from various Federal, State, and local agencies
2. Maryland – No aerial collection plans
3. New York – Have serious impacts upstate. Exploring aerial collection options with the CAP and RIT. Need specific AOIs for the flooded areas as the concerns have shifted from the coastal damage to inland flooding.
4. North Carolina – In the process of flying. The Outer Banks are accessible only by boat. Waiting for the imagery to be processed. NOAA will provide a link for historical Lidar data for the state.

<http://csc-s-maps-q.csc.noaa.gov/dataviewer/viewer.html>

We are serving historical lidar data of the Cape Hatteras area and Highway 12 from 1996, 97, 98, 99, 04, 05 and 08.

5. Rhode Island – Imagery is being collected through the Charter and CAP requests. They have 37 AOIs. EagleVision is collecting SPOT today.
6. Vermont – The primary GIS facility for the State is flooded. Most of the southern part of the state is affected. Will provide a list of primary areas needed for collections. Need to get Vermont added to the maps showing the affected state.
7. Connecticut – Will supply a list of AOIs needed for collection. Radarsat 1 collected yesterday covers Connecticut.
8. NOAA – King Air is flying today. Filling holes in the Lidar and DSS coverage and then flying north to Chesapeake Bay.
9. EagleVision – SPOT collections are posted on the servers. They will be doing coastal collections today and have also scheduled some Cartosat collections on the 31<sup>st</sup>, 1<sup>st</sup> and 2<sup>nd</sup>.
10. USACE – Waiting for HQs tasking. They have posted pre-event imagery for Long Island and coast from New Jersey to Maryland on HDDS. It should be up by Wed or Thurs. It is 30 cm imagery that goes 500-1000 meters in land. They are not flying up the Hudson.
11. NGA – Focusing on the New York and New Jersey areas working to capture the flash and standing flooding. Have completed assessments for NC and VA. Will be working on VT and MA.
12. NASA – ASTER will be collected from Myrtle Beach to Raleigh and from Moorehead City to Philadelphia. September 1 collect from Wilmington to Bangor. Need AOIs to schedule more collects. East New York and the Hudson Valley were suggested and the Connecticut River valley.





# Hurricane Irene

## Data Sources

## HHDS

Hazards Data Distribution System (HHDS) - Windows Internet Explorer

http://hdds.usgs.gov/hdds2/search-results

USGS science for a changing world

USGS Home Contact USGS Search USGS

### Hazards Data Distribution System (HHDS)

Home Item Basket (empty) Login Register RSS Feedback Help

Results per page: 50 100 250

« Redefine Search Criteria Export results

Event: 201108\_Hurricane\_Irene Show Additional Filters

#### Ingested Data

Results 1 - 50 of 135

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	<b>ID:</b> <a href="#">AM01N40_872423W072_859541201109030000000MS00</a> <b>Acquisition Date:</b> 2011-09-03 <b>Platform:</b> TERRA-1 <b>Sensor:</b> ASTER <b>Agency:</b> NASA <b>File Format:</b> GEOTIFF	<b>Footprint:</b> <input type="checkbox"/> <b>Browse:</b> <input type="checkbox"/> <b>Download:</b> 
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	<b>ID:</b> <a href="#">SP04N41_494356W072_866930201109020000000MS00</a> <b>Acquisition Date:</b> 2011-09-02 <b>Platform:</b> SPOT-4 <b>Sensor:</b> MSI <b>Agency:</b> DOD <b>File Format:</b> GEOTIFF	<b>Footprint:</b> <input type="checkbox"/> <b>Browse:</b> <input type="checkbox"/> <b>Download:</b> 

Map Satellite

Show Footprints Clear Footprints Show Browse Clear Browse

Accessibility FOIA Privacy Policies and Notices Google Maps API Disclaimer

U.S. Department of the Interior | U.S. Geological Survey  
URL: <http://hdds.usgs.gov/hdds2/search-results>  
Page Contact Information: [ecustserv@usgs.gov](mailto:ecustserv@usgs.gov)  
Page Last Modified: 2011-10-6

USA.gov TAKE PRIDE IN AMERICA

# Hurricane Irene

## Data Sources

### HDDS **RESTRICTED**

Access may be granted on a need to know basis. You will need to be officially involved in the disaster response to gain access to this site of restricted data.

This includes information such as Dr. Evil's cell phone number and the Kardashians plastic surgeons' tax returns.



# Hurricane Irene

## Data Sources

### HDDS **RESTRICTED**

To self register for HDDS Restricted go to <http://hdds.usgs.gov/hdds2>.

If you have not registered on either EarthExplorer or HDDS, click the register button in the top right corner of the screen and go thru the registration process. Once registered, you will have access to EarthExplorer and HDDS download capabilities.

To sign up for event access - go to <http://hdds.usgs.gov/hdds2>.

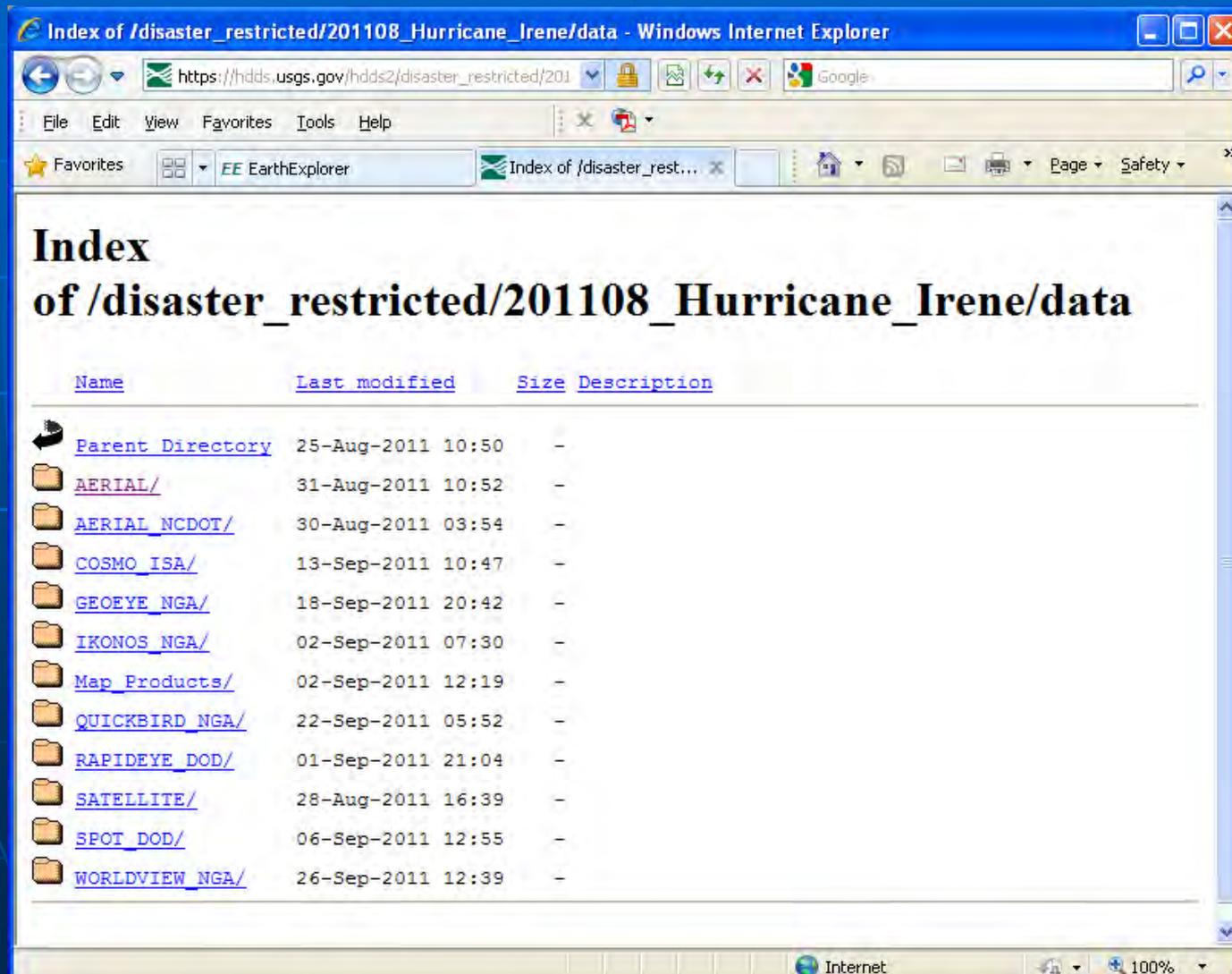
Go to the login button in the upper right corner of the screen and enter your usercode and password. Click on "fill out an access request form". Select 201108\_hurricane\_irene, fill in the comment box and submit.

Questions on HDDS Contact: Rynn Lamb [lamb@usgs.gov](mailto:lamb@usgs.gov) or Brenda Jones [bkjones@usgs.gov](mailto:bkjones@usgs.gov).

# Hurricane Irene

## Data Sources

HDDS **RESTRICTED**



The screenshot shows a Windows Internet Explorer browser window. The title bar reads "Index of /disaster\_restricted/201108\_Hurricane\_Irene/data - Windows Internet Explorer". The address bar shows the URL "https://hdds.usgs.gov/hdds2/disaster\_restricted/201108\_Hurricane\_Irene/data". The browser's menu bar includes "File", "Edit", "View", "Favorites", "Tools", and "Help". The Favorites bar shows "EE EarthExplorer" and "Index of /disaster\_restricted/201108\_Hurricane\_Irene/data". The main content area displays a directory index with the following table:

<u>Name</u>	<u>Last modified</u>	<u>Size</u>	<u>Description</u>
 <a href="#">Parent Directory</a>	25-Aug-2011 10:50	-	
 <a href="#">AERIAL/</a>	31-Aug-2011 10:52	-	
 <a href="#">AERIAL_NCDOT/</a>	30-Aug-2011 03:54	-	
 <a href="#">COSMO_ISA/</a>	13-Sep-2011 10:47	-	
 <a href="#">GEOEYE_NGA/</a>	18-Sep-2011 20:42	-	
 <a href="#">IKONOS_NGA/</a>	02-Sep-2011 07:30	-	
 <a href="#">Map_Products/</a>	02-Sep-2011 12:19	-	
 <a href="#">QUICKBIRD_NGA/</a>	22-Sep-2011 05:52	-	
 <a href="#">RAPIDEYE_DOD/</a>	01-Sep-2011 21:04	-	
 <a href="#">SATELLITE/</a>	28-Aug-2011 16:39	-	
 <a href="#">SPOT_DOD/</a>	06-Sep-2011 12:55	-	
 <a href="#">WORLDVIEW_NGA/</a>	26-Sep-2011 12:39	-	

The browser's status bar at the bottom shows "Internet" and "100%".

# Hurricane Irene

## Data Sources

[Data sources web page](#)

# Hurricane Irene

## Data Sources

Delta  
State  
USNG  
Geo-PDF  
Download  
Viewer

The screenshot shows a web browser window titled "ArcGIS Viewer for Flex - Windows Internet Explorer" displaying a map of the Northeast United States. The map features a grid overlay and several dialog boxes. The "MGRS Locator" dialog box is open, prompting the user to "Enter the address" and providing a text input field for "MGRS" coordinates, with "Locate" and "Clear" buttons below. The "US National Grid" dialog box is also open, showing a globe icon and options to "Show LatLon Grid" and "Show National Grid". It displays the following information: Latitude: 43°49.86', Northing: Longitude: -74°20.06', Easting: USNG: 18TWP5352353315. Below this, there are buttons for "Go To (USNG)" and "Enter USNG Coordinates", and a note: "Try 18SUJ23480647 for the Washington Monument." The map background shows state boundaries, major cities, and a grid of USNG coordinates. A scale bar at the bottom left indicates 200 km and 100 mi.

# Hurricane Irene

## Data Sources

## New York State GIS Clearinghouse



The screenshot shows the NYS GIS Clearinghouse website in a Windows Internet Explorer browser window. The address bar shows the URL <http://www.nysgis.state.ny.us/>. The website header includes "New York State" with a map icon, "State Agencies", and a search bar. The main title is "NYS GIS Clearinghouse" with the subtitle "Division of Homeland Security and Emergency Services". A navigation bar lists: "NYS OFFICE OF CYBER SECURITY", "GIS DATA", "COORDINATION PROGRAM", "ORTHOIMAGERY PROGRAM", and "OUTREACH". A news section titled "GIS IN THE NEWS:" features the article "Location Intelligence: We Need Smarter People, Not Smarter Locations". Two main content columns are visible: "Greene County Orthoimagery" and "Greene County Outreach".

**Greene County Orthoimagery**

- [View Orthoimagery](#)
- [Download Orthoimagery](#)
- [Orthoimagery Program Status Information](#)

**Greene County Data Sets**

- [Data Sets in Greene County](#)
- [Search for Data in Greene County](#)
- [Greene County's Inventory List](#)

**Greene County Outreach**

- [GIS Whos Who in Greene County](#)
- [Cooperative Members in Greene County](#)
- [Visit the Greene County Website](#)
- [GIS Training and Education](#)
- [GIS Events](#)
- [GIS User Groups](#)

**Greene County**

Click on map to restore

RASTER MAPS   CALENDAR   GIS HELP DESK   CUGIR   ABOUT   SEARCH

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# Hurricane Irene

## Data Sources

### County GIS Departments



# Windham, NY - Hurricane Irene

## Incident Command System

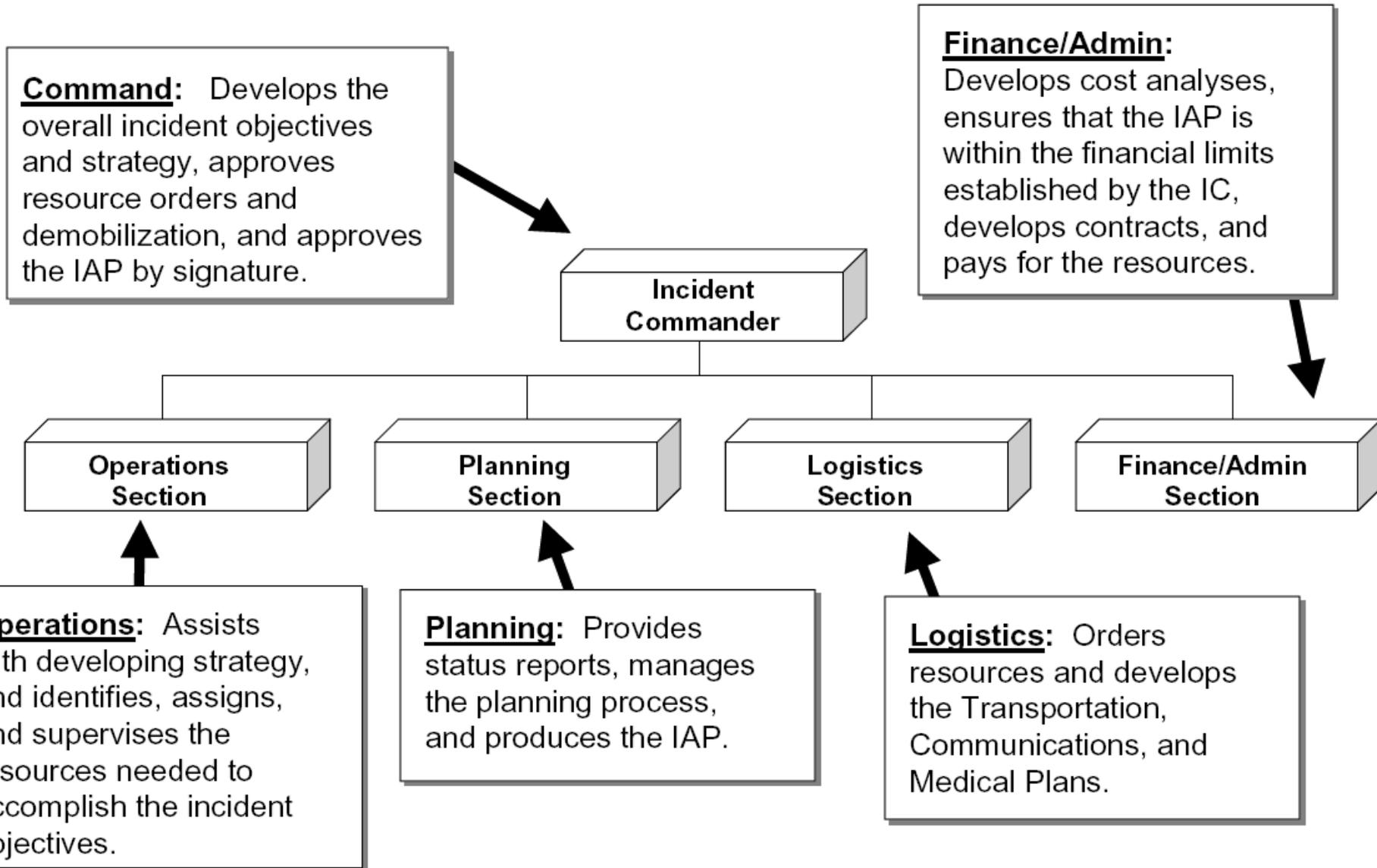
### 101

During the initial stages of incident management, planners must develop a simple plan that can be communicated through concise verbal briefings. Frequently, this plan must be developed very quickly and with incomplete situation information.

As the incident management effort evolves over time, additional lead time, staff, information systems, and technologies enable more detailed planning and cataloging of events and "lessons learned."

# Windham, NY - Hurricane Irene

## Incident Command System 101



# Windham, NY - Hurricane Irene

## The Planning P

Planning involves:

- Evaluating the situation.
- Developing incident objectives.
- Selecting a strategy.
- Deciding which resources should be used to achieve the objectives in the safest, most efficient and cost-effective manner



# International Charter

Disaster Charter - Homepage - Windows Internet Explorer

http://www.disasterscharter.org/home

File Edit View Favorites Tools Help

Disaster Charter - Homepage



INTERNATIONAL CHARTER  
SPACE AND MAJOR DISASTERS

Contact Us | English | Español | Français | Italiano



**The International Charter** The International Charter aims at providing a unified system of space data acquisition and delivery to those affected by natural or man-made disasters through Authorized Users. Each member agency has committed resources to support the provisions of the Charter and thus is helping to mitigate the effects of disasters on human life and property.

[More](#) [Charter Members](#) [Text of the Charter](#)

**Latest Charter Activation**



**Flood in El Bayadh (Algeria)**  
**Wednesday, October 5, 2011**  
Flooding in Algeria kills 13 people, many people are injured and hundreds of homes have been destroyed in el-Bayadh, south of the capital, Algiers. [Read more](#)

[RSS](#) [XML](#)

**Recent Activations**

- [Flood in El Bayadh \(Algeria\)](#)
- [Earthquake, Landslide, Sikkim - North East India](#)
- [Flood and landslide in Japan](#)
- [Flood in Nigeria](#)
- [Ocean Storm East Coast USA](#)
- [Activations Archive](#)

**Latest Charter News**

**Charter develops geographic tool**  
**Wednesday, August 31, 2011**

The French space agency (CNES) has developed a geographic tool for the Charter in order to display footprints and characteristics of satellite data provided in the frame of each activation. The purpose of the tool is to describe earth observation (EO) data used in the framework of Charter activations to help users identify and possibly order them; it does not provide the image files.

[Read more](#)

Copyright © 2000 - 2009 | Last Update: 26 July 2011

The International Charter aims at providing a unified system of space data acquisition and delivery to those affected by natural or man-made disasters through Authorized Users.

# Charter Member Agencies



# Charter Member Agencies

## Member



[European Space Agency](#) (ESA)



[Centre national d'études spatiales](#) (CNES)



[Spotimage](#)



[NSPO](#)



[Canadian Space Agency](#) (CSA)



[Indian Space Research Organisation](#) (ISRO)



[National Oceanic and Atmospheric Administration](#) (NOAA)



[Argentina's Comisión Nacional de Actividades Espaciales](#) (CONAE)



[Japan Aerospace Exploration Agency](#) (JAXA)



[United States Geological Survey](#) (USGS)



[Digital Globe](#)



[GeoEye](#)



[DMC International Imaging](#) (DMC)



[Centre National des Techniques Spatiales](#) (Algeria)



[National Space Research and Development](#) (Nigeria)



[Tubitak-BILTEN](#) (Turkey)



[UK Space Agency](#) (UK)



[China National Space Administration](#) (CNSA)



[German Aerospace Center](#) (DLR)



[Korea Aerospace Research Institute](#) (KARI)

## Space Resources

ERS, ENVISAT

SPOT

Formosat

RADARSAT

IRS

POES, GOES

SAC-C

ALOS

Landsat

Quickbird

GeoEye-1

ALSAT-1

NigeriaSat

BILSAT-1

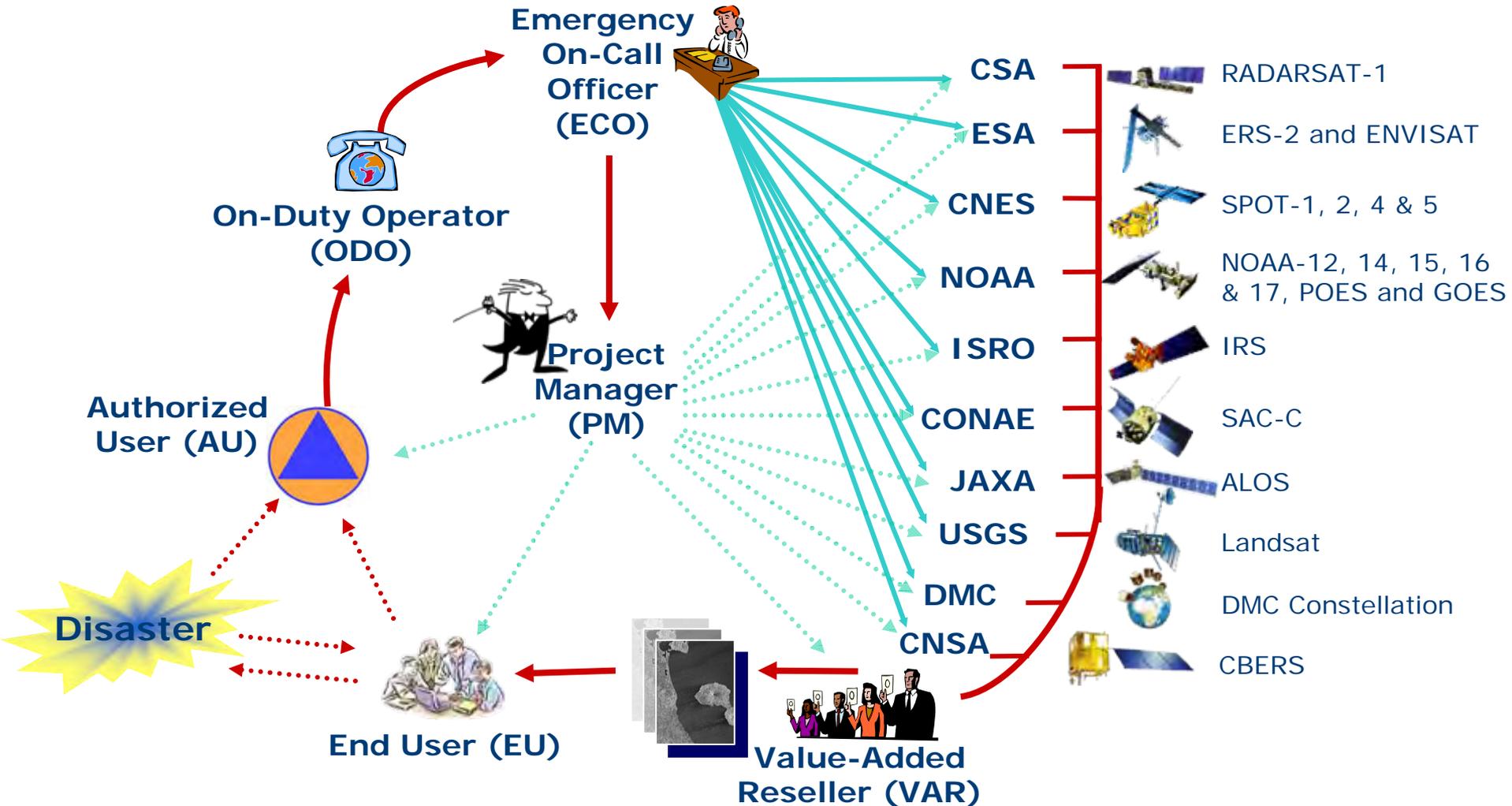
UK-DMC

FY, SJ, ZY satellite series

TerraSAR-X, TanDEM-X

Kompsat-2

# Charter Operational Loop



# Activation Distribution Map



## INTERNATIONAL CHARTER SPACE AND MAJOR DISASTERS

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Map navigation icons and a year selector set to 2011.

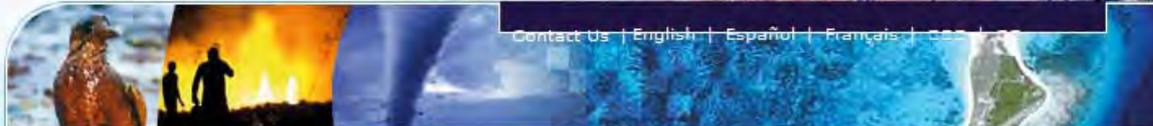
Activation	Date	Description
<a href="#">Flood in El Bayadh (Algeria)</a>	05 October 2011	Flooding in Algeria kills 13 people, many people are injured and hundreds of homes have been destroyed in el-Bayadh, south of the capital, Algiers.
<a href="#">Earthquake, Landslide, Sikkim - North East India</a>	18 September 2011	The epicentre of India's North-eastern state, Sikkim, was struck by an earthquake at a magnitude of 6.8 on Sunday. Shortly after the quake, two strong aftershocks followed also affecting Nepal and Tibet.
<a href="#">Flood and landslide in Japan</a>	04 September 2011	Typhoon Talas hit Kinki and Shikoku regions, Japan, on Saturday. The typhoon passed into the Sea of Japan on Sunday. At least 26 people have died and 55 people are missing after the storm.
<a href="#">Flood in Nigeria</a>	29 August 2011	A devastating flood which resulted from an over spill from Lake Eleyele swept over communities in Ibadan, Nigeria.
<a href="#">Ocean Storm East Coast USA</a>	27 August 2011	A North Atlantic tropical cyclone, Hurricane Irene, inflicted extensive damage on the Caribbean causing landfall in North Carolina and the East Coast of the United States. The cyclone passed through inland New York and Vermont causing devastating damage.
<a href="#">Flood in Niigata, Japan</a>	30 July 2011	Local governments in Niigata and Fukushima prefectures on Friday issued evacuation advisories to thousands of residents due to record rainfall in the two prefectures.

# Media Gallery



## INTERNATIONAL CHARTER SPACE AND MAJOR DISASTERS

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### Media Gallery

Showing 1 - 12 of 2,076 results.

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11 October 2011

#### Impact map - 02

Damage Assessment  
impact map (1:2500)  
of the situation West ...



11 October 2011

#### Impact map - 01

Damage Assessment  
impact map (1:2500)  
of the situation East ...



11 October 2011

#### Flood extent map - 01

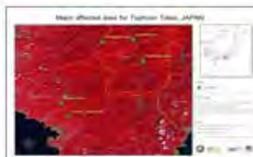
Flood extent map  
(1:5000) of the  
situation in El Bayadh  
as of ...



28 September 2011

#### Major affected area for Typhoon Talas, Japan

Major affected area for  
Typhoon Talas,  
Japan...



26 September 2011

#### Major affected area for Typhoon Talas, Japan

Major affected area for  
Typhoon Talas,  
Japan...



20 September 2011

#### Pre- and Post-disaster map

Korea, Seoul  
Central regions  
landslide / Flood  
hazard <...



20 September 2011

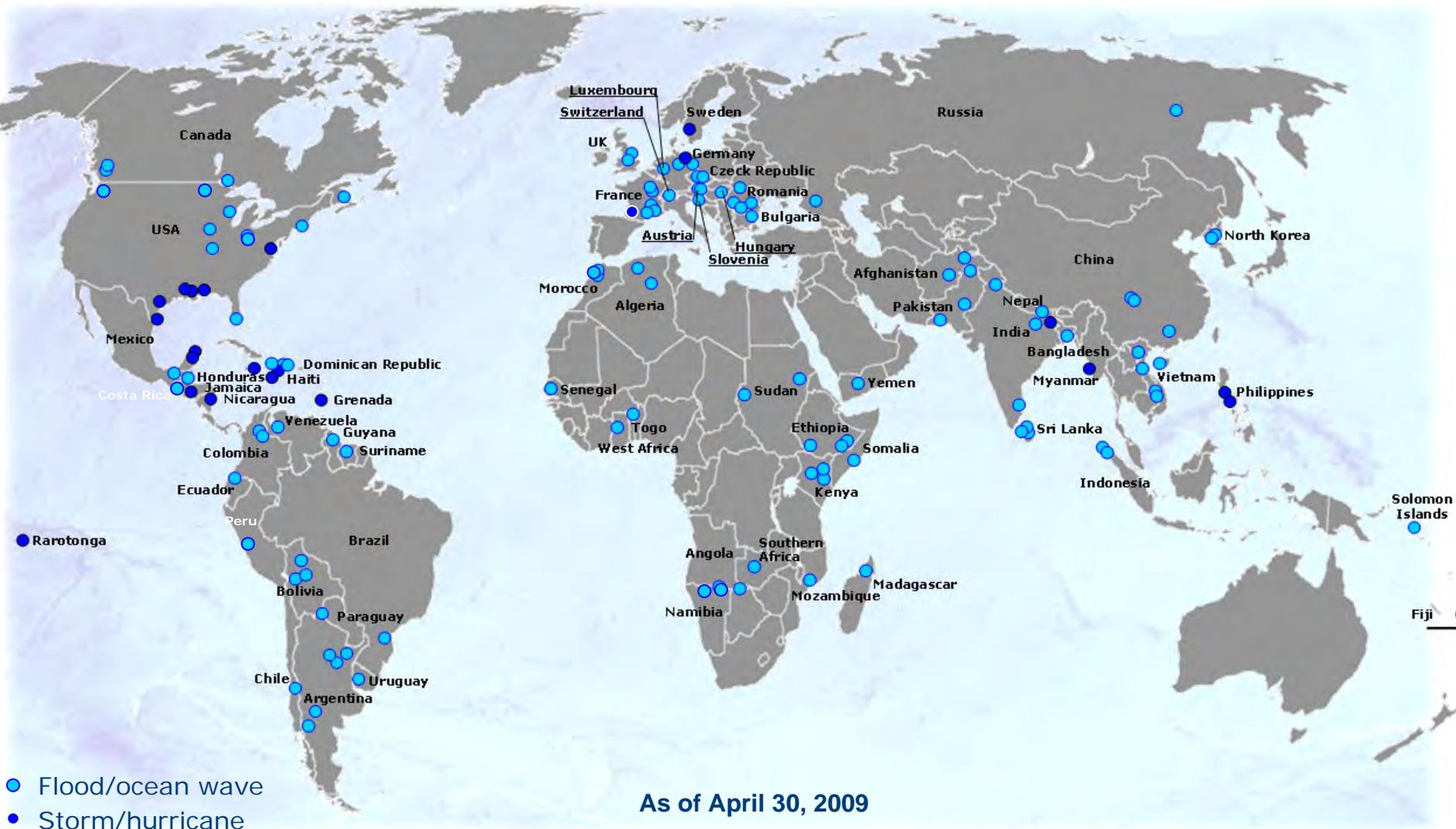
#### Landslide post-disaster

Korea - Seoul area  
Landslide post-  
disaster...



# Activation Distribution

## Floods and storms



The International Charter  
'Space and Major Disasters'  
website:

[www.disasterscharter.org](http://www.disasterscharter.org)