

# The New Era of Hazards Communication: A Review of Emergency Manager's Use of Social Media During Superstorm Sandy



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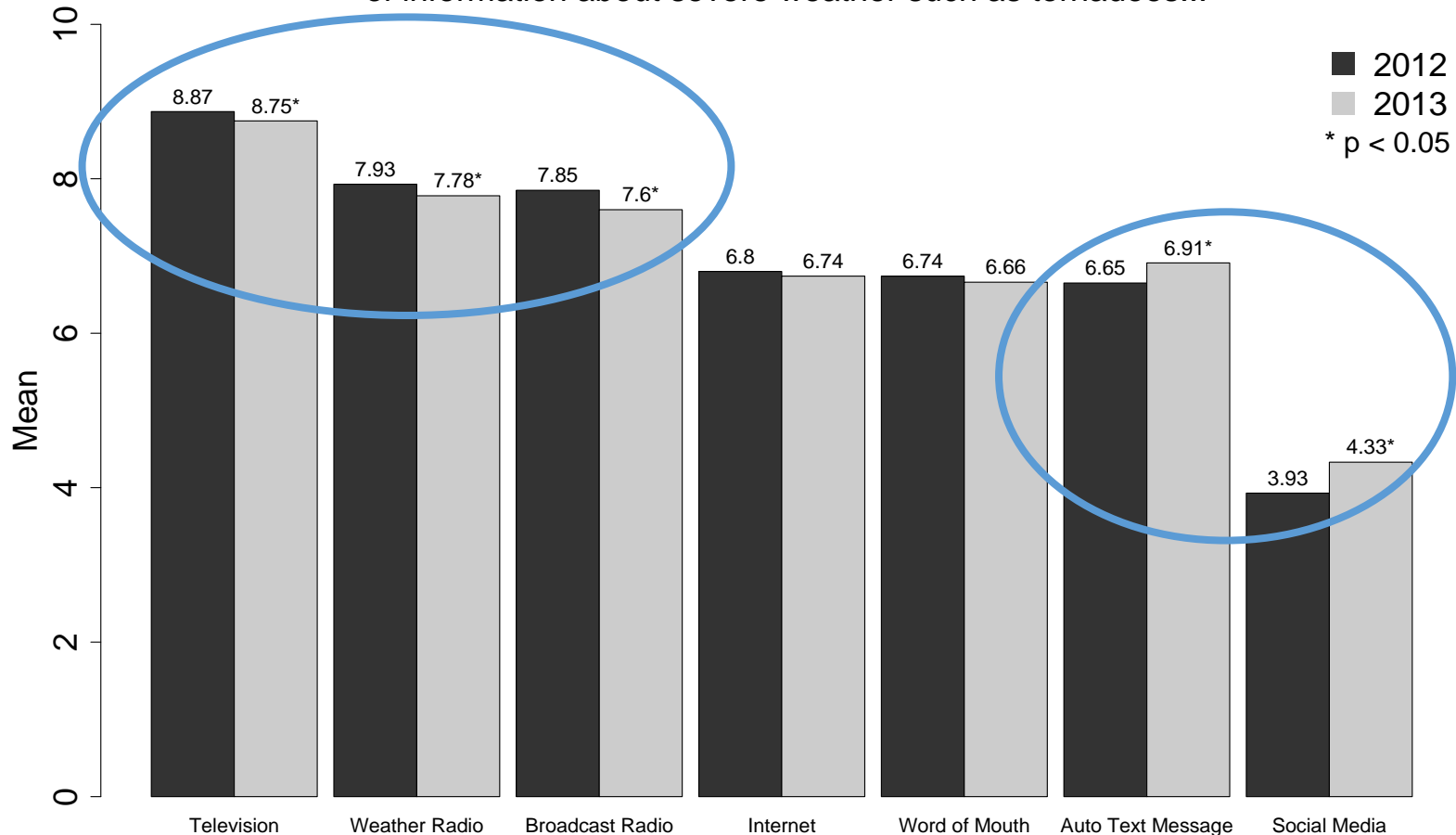
# A New Weather Delivery System

- Two way communication
- Highly tailored messages



- Instant notification
- New outlet for warning information

On a scale from zero to ten, where zero means not at all important, and ten means extremely important, please indicate the importance to you, personally, of each of the following sources of information about severe weather such as tornadoes...



\*\*Graph provided by Silva et al. (2014) from the University of Oklahoma's Center for Risk and Crisis Management

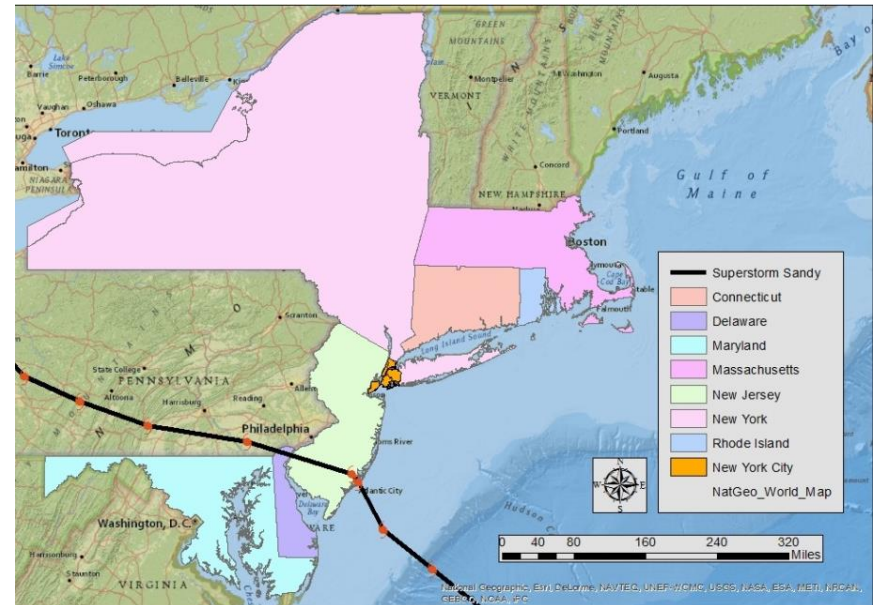
# Research Questions

1. How was social media used during Superstorm Sandy by official emergency management agencies?
2. Is the public seeking information from emergency managers on social media?
3. What types of messages generate the most response from the public?



# Data

- Event: Superstorm Sandy
- Area: Northeast Region
  - 6 EM agencies
- Timeframe: 23 October – 1 November 2012
- Medium: Facebook and Twitter

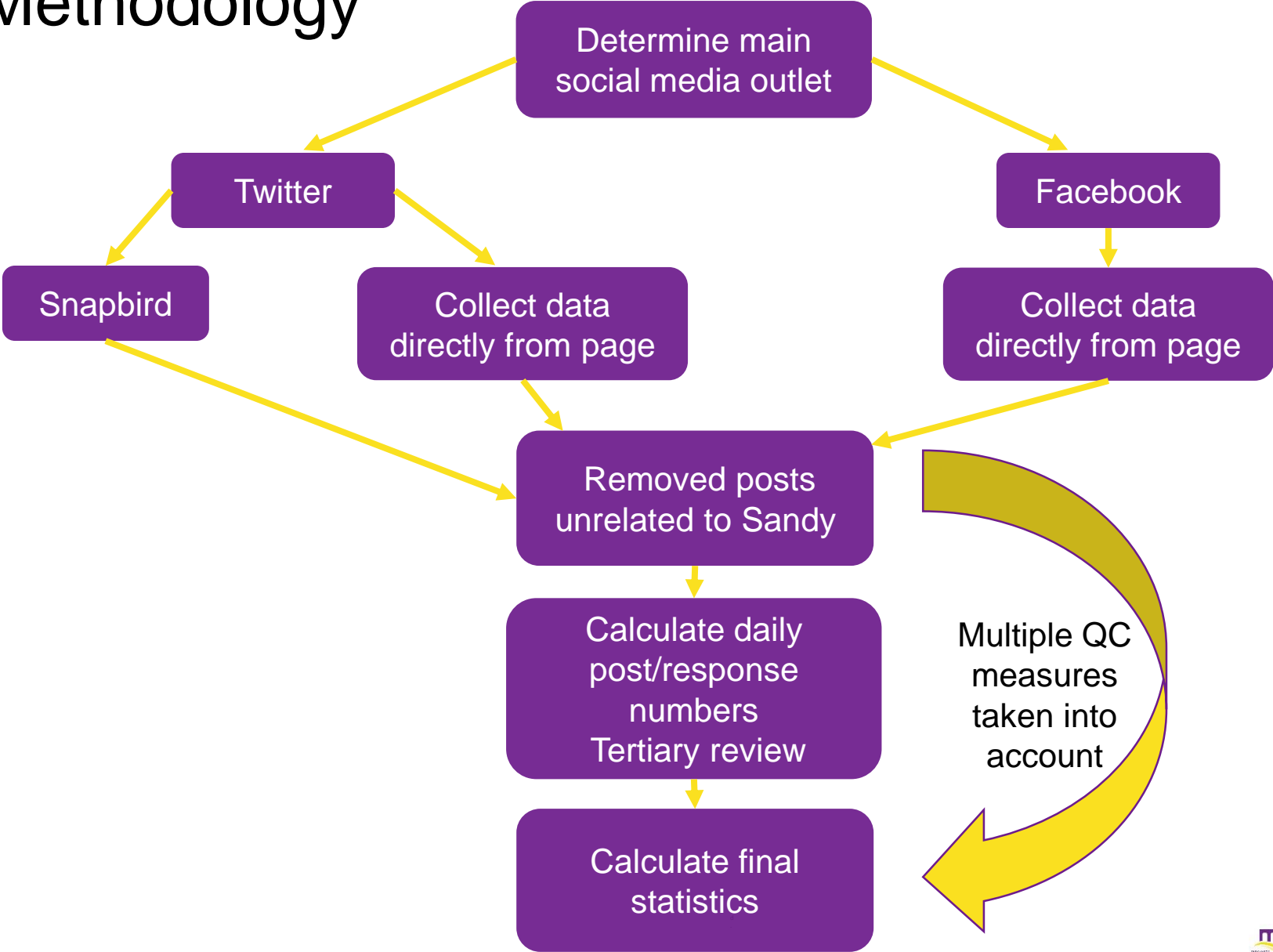


| State | Social Media | Name of Organization                      | Followers/Likes* | Followers/Likes** |
|-------|--------------|---|------------------|-------------------|
| MD    | Twitter      | @ MDMEMA                                  | 15195            | 16582             |
| DE    | Facebook     | Delaware Emergency Management Agency      | 8335             | 8873              |
| NJ    | Facebook     | New Jersey Office of Emergency Management | 46158            | 47330             |
| NY    | Facebook     | NYC Office of Emergency Management        | 22762            | 23666             |
| RI    | Twitter      | @ RhodeIslandEMA                          | 6071             | 6728              |
| MA    | Twitter      | @ MassEMA                                 | 26055            | 29694             |

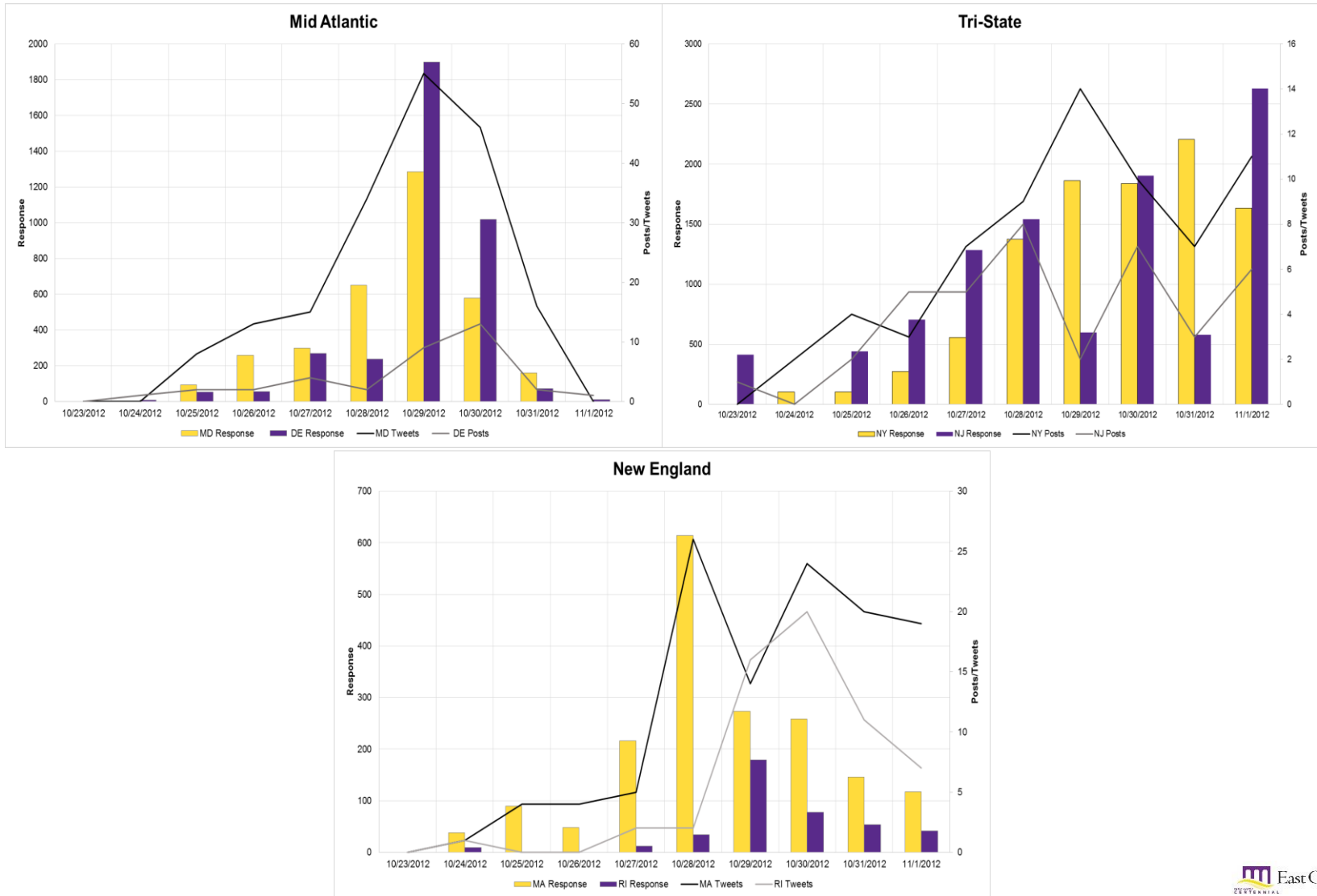
\*As of July 18, 2013

\*\*As of November 25, 2013

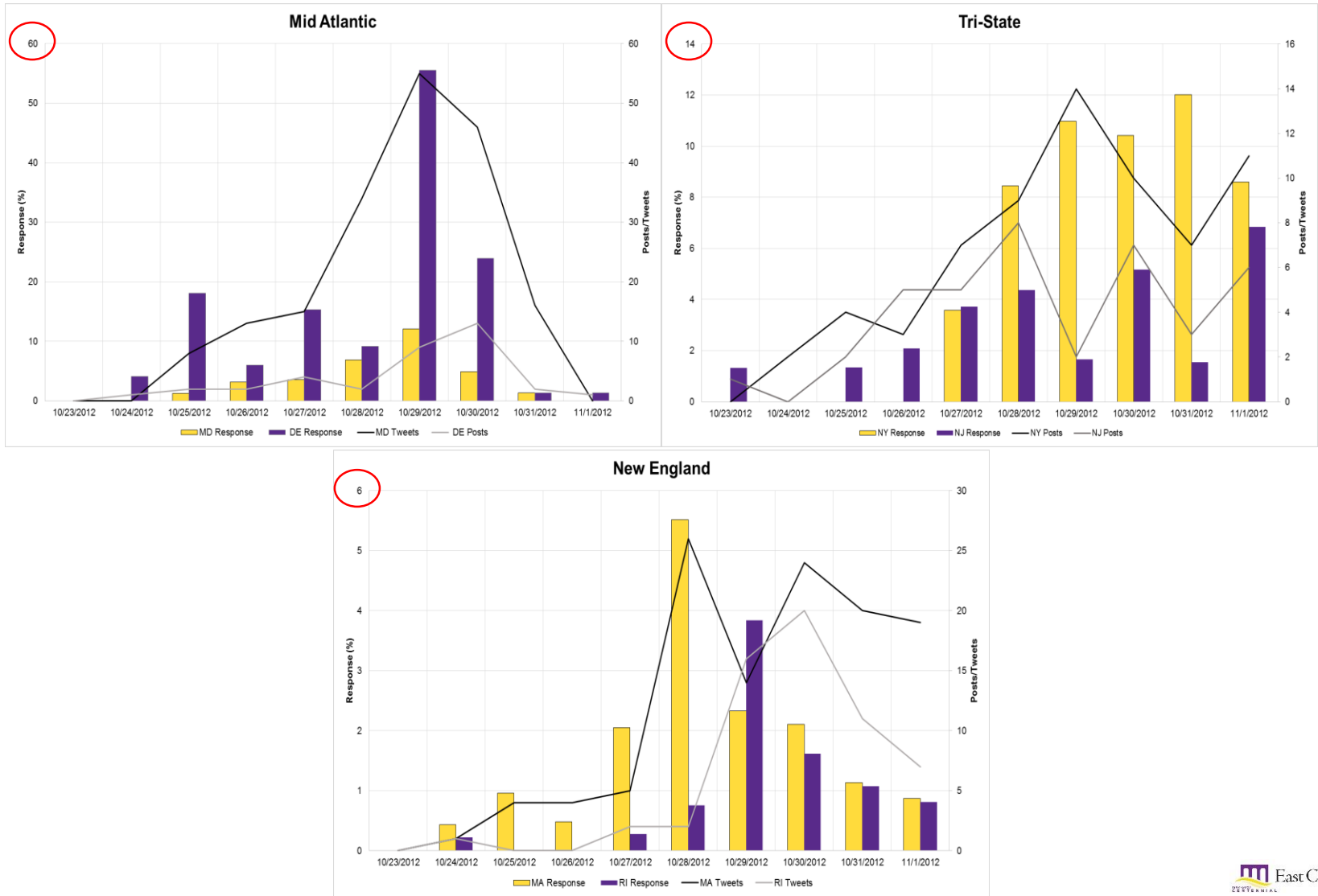
# Methodology



# Results: Total Activity



# Results: Percentage of Followers





# Maryland

 **MDMEMA** @MDMEMA Follow

State Power Outage Map:  
[ow.ly/eRUUK](http://ow.ly/eRUUK) #MDSandy

Reply Retweet Favorite More


RETWEETS 151 FAVORITES 20

7:16 PM - 29 Oct 2012

 **MDMEMA** @MDMEMA · 30 Oct 2012  
@britt\_ritko Please contact @MyBGE to report your outage  
Details Reply Retweet Favorite More

 **MDMEMA** @MDMEMA · 31 Oct 2012  
@queen\_naynay Have you reported your outage to your utility company?  
Details Reply Retweet Favorite More

 **Renee Hundt** @Queen\_NayNay · 31 Oct 2012  
@MDMEMA yes!!  
Details Reply Retweet Favorite More

 **MDMEMA** @MDMEMA Follow

Check with your neighbors, especially elderly or sick, to make sure they know of the coming storm or if they need any assistance  
#MDSandy

Reply Retweet Favorite More

RETWEETS 121 FAVORITES 7

5:21 PM - 27 Oct 2012

 **MDMEMA** @MDMEMA Follow

RT @governoromalley: Here's the main message: stay indoors and off the roads #MDSandy Please retweet.

Reply Retweet Favorite More

RETWEETS 77 FAVORITES 2

7:20 AM - 29 Oct 2012

 **Danielle Deverell** @DCTrafficChick · 29 Oct 2012  
RT @MDMEMA RT @governoromalley: Here's the main message: stay indoors and off the roads #MDSandy Please retweet.  
Details Reply Retweet Favorite More

 **Tina Russ** @TinaRuss1 · 29 Oct 2012  
@MDMEMA @governoromalley The governor just said "stay off the roads". Please tell my why the Annapolis mall is open?  
Details Reply Retweet Favorite More

## Themes:

- Public safety
- Distribution of power information

# Delaware



## Delaware Emergency Management Agency

Like Page

#SandyDE Many people have expressed concerns about being forced to report to work. Please note: The law protects employees who do not report to work from adverse employment actions if there is a State of Emergency with a Level 3 driving ban or a Level 2 driving restriction. 20 Del C. 3116(a)(12).

The law does not apply to first responders and, in the case of level 2 driving restriction, it does not apply for some employers, such as those providing healthcare services or food and fuel deliveries, or those essential employees designated by employers with a waiver from DEMA. Contact your employer for information about how these driving restrictions affect you.

Complaints by employees that an employer took action against them would be handled by the Department of Labor's Office of Labor Law Enforcement, Wage and Hour section at 302-451-3404, once state agencies are open again

Like · Comment · Share · October 29, 2012 at 6:24am ·

383 people like this.

239 shares

View previous comments

50 of 61



Like Comment



## Delaware Emergency Management Agency

Here is a pretty vivid visual example of why you should not be venturing out on the roads in Delaware. Level 2 driving restrictions are in place, but this photo speaks volumes. Thanks to Jim Westhoff of DeIDOT for providing it.

Like · Comment · Share · October 29, 2012

100 people like this.

200 shares

Album: Timeline Photos

Shared with: Public

Open Photo Viewer

Download

Embed Post

Report



## Delaware Emergency Management Agency

Like Page

The message this morning is to take a day. While it may appear that conditions are normal outside, there is still danger. Trees, branches, and other debris still block some roadways. There are downed power lines across the state. Numerous roads are covered with water and a number of roads are flooded and impassable.

Give emergency crews time to work without having to work around people and vehicles. The Level 2 driving restriction is still in effect so unless you are classified as essential, you still should not be on the roads.

Take a day.

Like · Comment · Share · October 30, 2012 at 3:36am ·

387 people like this.

134 shares

View previous comments

49 of 58

## Themes:

- Public safety
- Strong emphasis on transportation
  - Visual examples
- Address worries of missing work


# NYC

 **NYC Office of Emergency Management**  
October 31, 2012

NYC Transit update: limited subway service restored starting at 2PM

- 1 trains will operate local between 242nd Street (Bronx) and Times Square-42nd Street.
- 2 trains will operate between 241st Street (Bronx) & Times Square-42nd St, with express service between 96th St and Times Square.
- 4 trains will operate in two sections, making all local stops between Woodlawn (Bronx) and 42nd St, between B... See More

Like · Comment · Share 287 63 358

 **NYC Office of Emergency Management**  
November 2, 2012

STATEMENT OF MAYOR MICHAEL R. BLOOMBERG AND NEW YORK ROAD RUNNERS ON NEW YORK CITY MARATHON:

"The Marathon has been an integral part of New York City's life for 40 years and is an event tens of thousands of New Yorkers participate in and millions more watch. While holding the race would not require diverting resources from the recovery effort, it is clear that it has become the source of contr... See More

Like · Comment · Share 364 79 82

Mayor Bloomberg signed an emergency order to establish an odd-even license plate system for gasoline and diesel purchases to reduce wait times and lines at gas stations in the five boroughs.

The temporary odd-even system will remain in effect until further notice, and will operate as follows:

- Vehicles with license plates ending in an even number or the number "0" can make purchases of motor fue... See More

Like · Comment · Share 213 118 600

## Themes:

- Distribution of information, especially about transportation services
- Power information
- Represents the busy characteristics of NYC

ConEdison has restored power to customers throughout NYC.

- Over 122,000 customers in Brooklyn
- Over 100,000 customers in Manhattan
- Over 29,000 customers in Queens
- Over 85,000 customers in Staten Island
- Over 39,000 customers in the Bronx

Like · Comment · Share 499 45 75

# New Jersey



**New Jersey Office of Emergency Management**

November 1, 2012

The NJOEM is signing off of the FB page until tomorrow a.m. Today presented a lot of challenges, but also displays of bravery, determination, people helping each other out, and others coming from far and wide to help us. We began to figure out living life (temporarily) without power, getting back to work, and managing through new situations. The gas situation will improve as the power begins to get restored; and overall, power restoration is moving in the right direction. We'll see you in the morning.

Like · Comment · Share

888 102 40



**New Jersey Office of Emergency Management**

October 30, 2012

FEMA @fema

10/30: THANK YOU to the 1st responders - police/fire/EMS/hospital staff- working tirelessly to meet urgent needs of #Sandy survivors

Like · Comment · Share

965 17 32



**New Jersey Office of Emergency Management** shared a link.

November 2, 2012

Christie Administration Subpoenas 65 Businesses in Investigations Into Post-Hurricane Price Gouging

**New Jersey Office of Emergency Management - News Release**  
ready.nj.gov

Trenton, NJ— Governor Chris Christie, Attorney General Jeffrey S. Chiesa, and the New Jersey Division of Consumer Affairs today announced that the Division has issued subpoenas to 65 businesses across the State, intensifying its investigation into more than 500...

Like · Comment · Share

646 57 215

## Themes:

- Personal
  - Public appreciation
- Impacts on daily life

# Massachusetts

**MEMA** @MassEMA

With #MASandy approaching, widespread power outages are anticipated. MEMA power outage safety tips: [ow.ly/ePqQD](http://ow.ly/ePqQD)

58 RETWEETS 6 FAVORITES

10:20 AM - 28 Oct 12

**MEMA** @MassEMA

Gov Patrick declared a State of Emergency as of 12:45 PM today 10/26 to facilitate preparations for #MASandy. [ow.ly/eOOrK](http://ow.ly/eOOrK)

100 RETWEETS 17 FAVORITES

12:38 PM - 27 Oct 12

**MEMA** @MassEMA

RT @nationalgridus: If you experience an outage, call 1-800-465-1212 #MA & #RI or 1-800-867-5222 #NYC & #UNY to expedite restoration.

107 RETWEETS 32 FAVORITES

7:01 PM - 28 Oct 12

## Themes:

- Power outage information
- State of emergency announcement

# Rhode Island



**Rhode Island EMA** @RhodelslandEMA

Trees & wires down. Use extreme caution near wires. For your safety, treat them as live and deadly. #Sandy #RI [nationalgridus.com/masselectric/s...](http://nationalgridus.com/masselectric/s...)

18 RETWEETS

1:44 PM - 29 Oct 12



**Rhode Island EMA** @RhodelslandEMA

Please remember to bring in your political lawn signs to prevent them from becoming a projectile. #SandyRI

27 RETWEETS 2 FAVORITES

8:30 AM - 29 Oct 12



**Rhode Island EMA** @RhodelslandEMA

Bridges are OPEN in #RI. Still, please try to stay off roads for safety's sake. For road closure info, visit [511.dot.ri.gov](http://511.dot.ri.gov) #SandyRI

16 RETWEETS

11:38 AM - 29 Oct 12



**Rhode Island EMA** @RhodelslandEMA

Call 2-1-1 for non-emergency calls and shelter information. #SandyRI

14 RETWEETS

3:41 PM - 29 Oct 12

## Themes:

- General safety information
  - High wind projectiles
  - Power
  - Road conditions

# Conclusions

- People are turning to emergency managers on social media at an increasing rate.
- During hazardous events, social media activity on the emergency manager's pages increases.
- Impact information due to Sandy generated the greatest response rates.
  - People turn to emergency managers for information about inconveniences to daily life and how to mitigate those inconveniences.
- Emergency managers have the added responsibility of keeping up social media sites during high impact events.

# Questions? Comments?



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