Courting Disaster:

An Analysis of Federal Government Twitter Usage during Hurricane Sandy

Resulting in a Suggested Model for Future Disaster Response

by

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ABSTRACT

This dissertation examined how seven federal agencies utilized Twitter during a major natural disaster, Hurricane Sandy. Data collected included tweets between October 26-31, 2012 via TweetTracker, as well as federal social media policy doctrines and elite interviews, to discern patterns in the guidance provided to federal public information officers (PIOs). While scholarly research cites successful local and state government efforts utilizing social media to improve response efforts in a two-way communications interaction, no substantive research addresses social media's role in crisis response capabilities at the federal level.

This study contributes to the literature in three ways: it focuses solely on the use of social media by federal agencies in a crisis setting; it illuminates policy directives that often hamper federal crisis communication response efforts; and it suggests a proposed model that channels the flow of social media content for PIOs. This is especially important to the safety of the nation moving forward, since crises have increased. Additionally, Twitter was adopted only recently as an official communications tool in 2013. Prior to 2013, social media was applied informally and inconsistently.

The findings of this study reveal a reliance upon a one-way, passive communication approach in social media federal policy directives, as well as vague guidelines in existing crisis communications models. Both dimensions are counter to risk management and crisis communication research, which embrace two-way interactivity with audiences and specific messaging that bolsters community engagement, which are vital to the role of the PIO. The resulting model enables the PIO to provide relevant information to key internal agencies and external audiences in response to a future crisis.

DEDICATION

"The moonlight on the bayou a creole tune that fills the air
I dream about magnolias in bloom and I'm wishin' I was there..." Louis Armstrong.
Do You Know What It Means To Miss New Orleans

It has been life-threatening and life-changing experiences that amplified the critical role that public relations and communications play in the lives of families and communities in our country. In this spirit, this research study is dedicated to my parents, Cynthia Slater Quiett and Jesse Quiett; relatives Janice Paul, Jerry Burke, Latiticia Thompson; and other relatives and friends who, after Hurricanes Katrina and Rita, did not return home to New Orleans, Louisiana. This study is also dedicated to the lives and memories of: Doris H. Williams, Gloria Burke (Aunt Gloria), Austin "Uncle Austin" Leslie, Yvonne Sarrizan (MeMe), and Adele Eugene who endured horrific and miraculous rescues from the rising waters of Hurricane Katrina. And five years later, the fishermen and oystermen along the Gulf Coast of Louisiana and Alabama whose lives and livelihoods have been forever altered by the Deep Horizon Oil Spill off the shores of Louisiana, you continue to illustrate the resilience of our nation.

This research study is also dedicated to the PIOs (my first heroic team: James Ross, Lesley Eugene, Malana Joseph, Ondina Canales, David Robinson, Julie Plonk, Frank Davis, IV, and Sarah Broom)—first responders, external communications professionals who work tirelessly, at all levels of government, and respond to risks and crises with compassion and conviction to protect our nation's families and communities.

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Chapter 1

Introduction

According to a 2011 Congressional Research Service (CRS) report, major

national disasters will continue to increase in the United States. Between 2000 and 2009,

an average of 64 national disaster declarations were issued in the United States compared

to 46 the previous decade (Congressional Research Service Report, *Stafford Act*

Declarations 1953-2011: Trends and Analyses, and Implications for Congress, August

13, 2010, p. 1). As the nation continues to face an uptick in crises and disasters, there has

also been a surge in the public's use of technology, specifically social media, to seek and

share information about these events (Lantonero & Shklovski, 2001; Spence et al., 2015).

National emergencies such as terrorist threats, environmental hazards, chemical

spills, mass shootings, and manmade and natural disasters trigger action by the federal

government as legislated by the United States Congress. Congress plays a critical role in

responding to as well as preventing, preparing, and mitigating damages these events

cause. The federal government has been granted authority in such matters through the

Robert T. Stafford Disaster Relief and Emergency Act (amended in 2013), which outlines

the government's role and responsibilities in the act's opening declaration:

> The Congress hereby finds and declares that
>
> (1) because disasters often cause loss of life, human suffering, loss of income, and property loss and damage; and
>
> (2) because disasters often disrupt the normal functioning of governments and communities, and adversely affect individuals and families with great severity; special measures, designed to assist the efforts of the affected States in expediting the rendering of aid, assistance, and emergency services, and the reconstruction and rehabilitation of devastated areas, are necessary

(3) it is the intent of the Congress, by this Act, to provide an orderly and continuing means of assistance by the Federal Government to State and local governments in carrying out their responsibilities to alleviate the suffering and damage which result from such disasters. (Sec. 101)

This legislation has provided direction to federal agencies and supplied the legislative intent to support policy directives for the Department of Homeland Security (DHS) and the Federal Emergency Management Agency (FEMA). Examples of relevant policy directives that reflect the organization and systems of the U.S. response efforts are the National Incident Management System (NIMS), Incident Command System (ICS), National Response Framework (NRF); and the positions that officials hold to enact this network are titled under names such as Emergency Support Function (ESF), Emergency Manager (EM) and Incident Command Officer (IC). Although this network has been designed for incidents that require a federal government response, this network is also reflected and integrated into the organization of state and local emergency management units. Therefore, when federal government response support is necessary, officials at all levels of government are able to respond in a unified manner, termed "unity of effort." The policy directives that guide this network have been applied to and revised as a result of recent incidents, including Hurricane Katrina, the Joplin, Missouri tornadoes, BP *Deepwater Horizon* oil spill, and the Boston Marathon bombings.

Given the breadth and depth of authority of the federal government as declared by the U.S. Congress via the Stafford Act, it is relevant to investigate the crisis communication response strategies and specific forms of social media that the public relies upon during a crisis as established in research studies. In addition, research incorporating federal policy directives addressing social media is equally relevant in

regards to future scholarly research and execution by government crisis communication professionals.

Chapter 1 introduces and summarizes key scholarly and professional contributions to crisis communication research in the areas of organizational use of social media during a crisis, government use of social media during a crisis, government social media policy directives, and crisis communication models that attempt to aid communication professionals in understanding the flow of information during a crisis event.

Use of Social Media during Crisis: Private and Nonprofit Organizations

Scholars assert that Twitter is most often integrated into crisis plans for organizations by crisis communication professionals (Waters & Williams, 2011). Advances in technology have transformed how crisis communication professionals and researchers view, construct, and disseminate information to affected communities during crisis events (Veil, Buehner & Palenchar, 2011). Specifically, microblogs have received increased attention in the field of crisis and communication primarily due to the real-time capabilities of the platforms (Sreenivasan, Lee & Goh, 2011).

Waters and Jamal (2011) explored private and nonprofit organizations' use of Twitter during crisis events in the context of the four models of public relations: press agentry, public information, two-way asymmetrical, and two-way symmetrical, as detailed by Grunig and Hunt (1984) and expanded upon in Grunig and Grunig's (1994) proposed Excellence Theory of public relations. The authors, and other crisis scholars discussed in Chapter 2, found that private and nonprofit organizations alike use Twitter as defined by the one-way asymmetrical model of public relations, which is identified when

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the balance of communication is tipped toward one party or a monologue or dissemination of information (Grunig & Grunig, 1994).

Use of Social Media during Crisis: Government Organizations

Audience usage of social media during a crisis event has been a prevalent topic in crisis communications research studies, even those that included investigations of government use of social media primarily focused on how the public used social media messages (Alexander, 2014; Chatfield, Scholl & Brajawidagda, 2014; Hughes & Palen, 2009; Sutton et al., 2014). Emerging research studies have examined how government EMs and Public Information Officers (PIOs) used social media during a crisis event at the local or state level of government, and have documented the challenges encountered in attempts to integrate social media into the crisis communication portion of response plans. These challenges include lack of training and clearly defined social media guidelines (Alexander, 2014; Houston et al., 2014; Laterno & Shlovski, 2011; Liu, 2009; St. Denis, Palen & Anderson, 2014; Sutton et al., 2014). In a study of local government emergency responders in Colorado, St. Denis et al. (2014) found that "technical skill and PIO experience" are critical in "crafting emergency tweet text" (p. 741) and that the team of Colorado emergency responders are in the "minority" (p. 745) in the emergency response community charged with integrating social media into local response efforts.

Other studies of government use of social media during a crisis have broadly applied the term "government" and collapsed all levels of government into one category to conduct a generic analysis of social media data. In *FEMA and the Rhetoric of Redemption: New Directions in Crisis Communication Models for Government Agencies*, Avery and Lariscy (2012) cited FEMA as a federal government organization that "*is*

crisis" (p. 330). However, the authors failed to elaborate on any government policies or directives pertaining to this organization, nor did the study outline FEMA's role in shaping crisis communication strategies and response efforts.

In the wake of emerging research studies about government use of social media during crisis events, there appears a "rare" (Lantonero & Shklovski, 2001, p. 3) discussion about the specific use of Twitter by government organizations during crises. Equally lacking is a study of the content of disaster communication messages (Waters & Jamal, 2011).

A Case for Investigation: Hurricane Sandy

On October 30, 2012, Hurricane Sandy was officially declared a major disaster in Connecticut. Emergency and major disaster declarations are made at the discretion of the President of the United States at the request of the Governor (The Stafford Act, 42 U.S.C. §§ 5121-5207 §401). This was the first of 11 state Hurricane Sandy declarations made on that day across the eastern portion of the United States.

Hurricane Sandy was the second-largest Atlantic storm on record that affected the East Coast of the United States from Florida to Maine, as well as inland areas as far as West Virginia, Ohio, and Indiana (FEMA, Hurricane Sandy After-Action Report, p. 3). Hurricane Sandy made landfall on October 29 bringing heavy rainfall, strong winds, and storm surges. As a result, federal disaster declarations were made in 24 U.S. states. The death toll exceeded 100, and storm-related damages exceeded $50 billion (Gupta, Lamba, Kumaraguru & Joshi, 2013). IHS Global Insight, an economic forecasting firm serving government and nongovernment organizations, documented that Hurricane Sandy was one of the costliest natural disasters on record in the United States. FEMA coordinated

the agency's largest personnel deployment in history (FEMA, Hurricane Sandy After-Action Report, p. 3).

A media summary of Hurricane Sandy outlined in the DHS 2013 revised policy directives for ESF 15 stated that 15 staff members were supporting the social media operation. The mission of the ESF 15 was to support various units in order to provide "accurate, coordinated, and timely information to affected audiences, including governments, media, the private sector, and the local populace" (DHS ESF SOP 15, 2013, p. 8). One of the key components of the ESF 15 is the Public Affairs/Joint Information Center (JIC). The JIC ensures the "coordination and timely release of incident-related prevention, preparedness, response, recovery, and mitigation information to the public" (DHS ESF 15 SOP, 2013, p. 9).

Federal Government Social Media Policy Directives

In 2011, a CRS report documented that the use of social media in emergency and disaster efforts coordinated at state and local levels of government "spurred the interest of Congress" (Lindsay, 2011, p. 1) to discuss how social media may be used to improve federal response communication capabilities. According to public policy scholars, "shocks" (Pump, 2011, p. 2) outside of an organizational system can lead organizations into a policy making "frenzy" to implement policy changes that "catch up" (May, Jochim & Sapotichne, 2011, p. 286) to the new demands. In *Beyond Metaphors: New Research on Agendas in the Policy Process*, Barry Pump (2011) cited Hurricane Katrina as one example of a disrupting event that led to policy changes. United States Homeland Security Presidential Declarations represent legislative triggers that initiate policy changes in federal government agencies such as the DHS and the FEMA. These federal

disaster policy directives were revised in response to September 11, 2001 as well as other

major incidents between 2005 and 2012, such as Hurricane Katrina and the BP

Deepwater Horizon oil spill. These disaster policies include, but are not limited to, the

National Preparedness Goal, the National Disaster Recovery Framework, the Whole

Community Approach, and the DHS Standard Operating Procedures for Emergency

Support Function 15 (DHS ESF 15). In summary:

> Complex 21st century threats, exemplified by the horrific events of September
> 11th, 2001, demand that all Americans share responsibility for homeland security.
> All levels of government, the private sector, and non-governmental agencies must
> be prepared to prevent, protect against, respond to, and recover from a wide
> spectrum of major events that exceed the capabilities of any single entity. These
> hazards require a unified and coordinated national approach to planning and to
> domestic incident management. To address this need, Homeland Security
> Presidential Directive 5: Management of Domestic Incidents (HSPD-5) and
> Homeland Security Presidential Directive 8: National Preparedness (HSPD-8)
> establish national initiatives that develop a common approach to preparedness and
> response. The initiatives are the National Incident Management System (NIMS),
> the National Response Plan (NRP), and the National Preparedness Goal (the
> Goal). (DHS Fact Sheet, HSPD-8, 2013)

For purposes of this study, the DHS Standard Operating Procedure for ESF 15,

specifically, the social media annex, was used because it outlined the internal and

external crisis communications roles and responsibilities that include the Joint

Information Center (JIC). Overall, this specialized crisis communications unit is

responsible for activating, coordinating, and implementing all strategic communications

planning, including social media, for a crisis incident. The training module for ESF 15

emphasizes that these policies and guidelines apply at all local, state, and federal

government levels. The guiding principle of the ESF 15 is "maximum disclosure with

minimum delay" (DHS ESF 15 SOP, 2013, p. 8).

In essence, the ESF 15, under the direction of the DHS Assistant Secretary of External Affairs, works in coordination with all positions in leadership during a crisis to coordinate internal and external communications:

> Upon activation of ESF #15 by the Department of Homeland Security (DHS) Assistant Secretary for Public Affairs, Federal external affairs resources will be employed to conduct sustained operations in support of the Federal Coordinating Officer (FCO), and Unified Coordination Group (UCG) during an incident requiring a coordinated Federal response in order to provide accurate, coordinated, and timely information to affected audiences, including governments, media, the private sector, and the local populace. (DHS, SOP, 2013, pp. 8-9).

Alexander (2014) urged that social media should be fully integrated into the "pre-existing system of emergency management" (p. 730), such as the ESF 15 structure described in this section. He predicted that the rapid changes in social media make social media integration into the government system "inevitable" (Alexander, 2014, p. 730).

This section outlined the federal government communication entities and systems utilized for crisis response. It also highlighted gaps in the scholarly literature on crisis communication and social media that have investigated the federal government's use of the platform, but remains silent on the actual policy directives that guide social media use. Instead, studies focused on audience use or created a broad catch-all category for government that did not differentiate the agencies within the federal government—the highest level and potentially the government's most potent use of social media in a crisis.

However, a growing number of research studies have emerged around the use of social media by local and state emergency response units. All have recommended crisis communication frameworks (Coombs, 1995; Hughes & Palen, 2012; Jin & Liu, 2010). Many of these studies call for a full-government approach and integration of social media

into response efforts beginning at the highest level: the federal government (Chatfield et al., 2014; Houston et al., 2014; Merchant, Elmer & Lurie, 2011; St. Denis et al., 2014).

Federal Government Crisis Communication Frameworks

Scholarly research confirms that existing public relations and communication models fail to capture adequately the importance of government communication (Garnett, 1992; Garnett & Kouzmin, 1997; Graber, 2003; Houston et al., 2014). In terms of federal government crisis communication, the gap widens. Although scholars assert that a greater understanding of existing federal government communications systems would allow for improved accuracy in developing and proposing a framework for government communication (Alexander, 2014; Liu & Horsley, 2007), research conducted by Liu and Horsley (2007) does not include crisis communication in their study of government communication.

There are theories specific to crisis communication. For instance, Coombs (1995) developed the Situational Crisis Communication Theory (SCCT), and Jin and Liu (2010) created Social-Mediated Crisis Communication (SMCC). Unfortunately, while both are audience-based frameworks, they fail to address crisis communication from the organizational perspective.

In 2012, Hughes and Palen offered a crisis communication model designed with considerations for government and inclusions of references to the JIC and NIMS structure. However, the model positioned PIOs as separate from the media and the public. This model reinforced the concept that the public, enabled by technology, has the ability to provide information to both the traditional media and PIOs, placing it squarely among the audience-based models. Although this research study is among one of the first to

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acknowledge the current system of emergency management, the National Incident

Management System (NIMS) and the Joint Information Center (JIC) that PIOs operate

within, the framework fails to offer direction for the development of crisis messaging.

Furthermore, it does not capture the formality of the government system and its policies

that influence crisis communication.

Methodological Approach

The primary research questions of this dissertation fall within the context of

qualitative research and focus on the use of social media during disasters by federal

officials through the lens of Hurricane Sandy. "Qualitative implies an emphasis on the

qualities of entities and on processes and meanings that are not experimentally examined

or measured (if measured at all) in terms of quantity, amount, intensity or frequency"

(Denzin & Lincoln, 2000, p. 8).

The methodology embraces grounded theory and, due to the nature of this

approach, its emergent processes in which the researcher uses the patterns, themes, and

tones obtained from the data for developing and finding a theory in the process of the

research (Leedy & Ormrod, 2005). Grounded theory has a particular purpose; which is to

"move beyond description" (Creswell, 2007, p. 62) so that the researcher can "generate"

and "discover" a theory inductively. This dissertation also employed triangulation to

examine multiple sources of data (Farmer, Robinson, Elliott & Eyles, 2006), which

comprised the data under study for the bases of theory development. This study was

designed to discern patterns that emerged from an examination of three data points: crisis

tweet data, federal government crisis social media policy documents, and elite interviews

in order to construct a model intended to generate an understanding of federal government policies and their impact on PIOs during major crises.

Research Questions

According to Wimmer and Dominick (1987), research questions are utilized in a study when the researcher is gathering preliminary information "in areas that have been studied only marginally or not at all" (p. 246). Research has established that Twitter usage by officials during a crisis remains a "rare" discussion in crisis communication research. The following questions act as the foundation for an examination of federal agency postings:

RQ 1: What is the overall theme of the Twitter postings between October 26-October 31 (Hurricane Sandy)?

RQ 2: What is the overall tone of the Twitter postings between October 26-October 31 (Hurricane Sandy)?

RQ 3: Do the Twitter postings during October 26-October 31 (Hurricane Sandy) contain risk communication messages (impending threats to health or environment)?

RQ 4: Do the Twitter postings during October 26-October 31 (Hurricane Sandy) contain crisis communication messages (updates and information about the specific event)?

RQ 5: Are the Twitter postings during October 26-October 31 (Hurricane Sandy) reflective of a one-way asymmetrical communication model or two-way communication model?

RQ 6: Are the Twitter postings during October 26-October 31 (Hurricane Sandy) consistent with the social media policy directives delineated by the U.S. Department of Homeland Security (DHS)?

Significance of the Study

This study supports Alexander (2008) and Sutton (2008), who claimed that an investigation into the federal directives can lead to a better understanding of the existing systems of crisis and disaster communication, strategies, and deployment methods. This study contributes to crisis communication scholarly literature by investigating the federal government's ESF 15 social media policy directives during a crisis and proposes a new model to guide PIO actions so that federal agencies can effectively interact with each other as well as the public during any emergency or crisis.

Chapter 2

Literature Review

Social media usage by the public sector during crisis events has been documented by researchers as inconsistent, with less than comprehensive integration across the levels of government (Houston et al., 2014; Lindsay, 2011; St. Denis, Palen & Anderson, 2014). The public's adoption of social media has prompted the emergence of crisis communication studies concerning how both the public and government use social media during a crisis. For example, crisis scholars Hughes and Palen (2009) investigated audience usage of Twitter during Hurricanes Ike and Gustav. Yang et al. (2013) and Imran, Diaz, Elbassuoni, Castillo & Meier (2013) proposed models of social media data extraction based on an investigation of audience-generated tweets used during Hurricane Issac, the Joplin, Missouri tornadoes, and Hurricane Sandy. Hughes and Palen (2012) also examined the impact of social media on the role of PIOs as positioned in the federal government's crisis organizational structure of the National Incident Management System (NIMS). They found that PIOs struggle to integrate social media into crisis response efforts due to a lack resources, training and inconsistent guidelines. Other studies have also focused on local and state government usage of social media response efforts omitting the possible influence of federal social media response policies on local and state crisis communication strategies and plans (Herverin & Zach, 2010b; St. Denis et al., 2014; Sutton et al., 2014).

Similar to this study, Chatfield, Scholl, and Brajawidaga (2014) examined crisis tweet data created and shared by federal government agencies. However, unlike this dissertation, Chatfield et al. (2014) collapsed all government agencies into one generic

"government" category that focused on the social media data analysis generated by the New York Fire Department and the social media accounts of the mayor and the governor.

Alexander (2014) offered an in-depth analysis of the benefits and challenges of social media integration into the U.S. emergency management system. Alexander stated this integration is inevitable due to the scale and degree of public usage. However, while studies of social media usage during major national disasters such as Hurricane Sandy continue to emerge, scholarly research on the federal government's use of the medium through the lens of the policy directives that influence them is absent.

This study introduces the federal government's use of social media through the lens of Hurricane Sandy and the policy directives that guided the actions of federal government crisis communicators. The ESF 15 policy directive conceptualizes and outlines implementation strategies to be used in crisis communication plans, message development, materials designed for the public, media outlets, and internal and external organizations involved with response efforts. Specifically, the 2009 and 2013 ESF 15 policy directives outline how social media should be used in a crisis.

This study also reviews the theoretical underpinnings of public relations and its practice of crisis communication; examines governmental and nongovernmental use of social media during a crisis; and analyzes the overall organizational use of social media during crisis events. Further, this chapter explores scholarly literature related to the federal government policy directive DHS ESF 15 on social media and examines the global structure of the federal government crisis communication system. Current crisis communication models are examined and their gaps highlighted. These omissions support the construction of a new crisis communication model presented in Chapter 5.

Public Relations and Crisis Communication: Theoretical Overview

Edward Bernays launched his career as a public relations practitioner in 1913. His writings disassociated public relations from gimmicks designed to capture the attention of the press, a practice called press agentry (Grunig & Hunt, 1984). The nephew of psychoanalyst Sigmund Freud, Bernays focused on public consent and public opinion from a scholarly perspective. His writings, such as the seminal *work Crystallizing Public Opinion* (1923), were the first on public relations (Cutlip, Center & Broom, 2006). Bernays' approach coincided with social scientists' writings about public opinion, consent, and media effects, such as Walter Lippman's seminal work *Public Opinion* in 1922, which addressed the impact of social perceptions on human behavior and later works by Maxwell McCombs and Donald Shaw (1972), who studied media effects on individual decision making. Bernays, regarded as the "father" of public relations, marked a turn from simply disseminating information without feedback or information from an organization's audience towards a perspective and practice that sought to understand its audiences. However, this was not an era in public relations in which feedback was completely embraced. Bernays focused on the use of information for the purpose of influencing or persuading audiences to meet goals/needs of the organization. This practice of public relations as a one-way persuasive form of communication was a dominant form at the time among public relations practitioners.

The period coincided with early communication models that were influenced by Shannon and Weaver's (1940) one-way construct of communication: source, message, channel, and receiver. The effects of communication and media widely studied during this time revolved around a theory of the "hypodermic needle." This approach asserts that

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the media has a direct impact or "one-shot" of information directed towards audiences without a vehicle for audience input or feedback.

In an attempt to categorize the types of public relations practiced historically, Grunig and Hunt (1984) identified four models of public relations: press agentry, public information, two-way asymmetrical, and two-way symmetrical. The four models suggest the level of effort to engage audiences and balance the organization's needs/perspective with its audience/environment. Grunig and Hunt (1984) categorized press agentry and public information models as one-way asymmetrical approaches to public relations that emphasize disseminating information and the two-way asymmetrical models of public relations are those that utilized feedback from the public (e.g., focus groups, interviews, surveys). However, these efforts only involved practitioners giving and seeking information from publics to utilize this information in a persuasive manner. In 1995, the publication of *Manager's Guide to Excellence in Public Relations and Communications Management* by David Dozier, Larissa Grunig, and James Grunig (1995) established that the two-way symmetrical model is one that utilized research and dialogue to manage organizational and environmental issues in an effort to improve understanding and build relationships. Further, the two-way symmetrical model of public relations was also a key element of "excellence in public relations and communications management" (p. 320).

Cutlip et al. (2006) defined public relations as a management function that establishes and maintains mutually beneficial relationships between an organization and its publics. An organization's relationships with its internal and external environment have been established as essential elements in the practice and study of public relations. Two public relations theories, systems and situational, describe relationships that are

important to the organization-public discussion in public relations, especially in the area of crisis communications.

Public relations categorizes the relationships that an organization has with its audiences as stakeholders (Grunig & Repper, 1992). These stakeholders can be customers, community members, government, or media. These groups are called stakeholders because the groups and the organization can have consequences in their relation to each other (Latimore, Baskin Heiman & Toth, 2011). Publics refers to a subset of the stakeholders, which represent those within a stakeholder group that may be more or less active or inclined to act in their communication behavior (Latimore et al., 2011).

Public relations scholars and practitioners consider feedback between an organization and its stakeholders as critical for an organization's success. The relationship between an organization and its stakeholders is central to public relations and is further delineated in the "theories of relationships" (Latimore et al., 2011, p. 52) later described in this chapter.

McCombs and Shaw's (1972) seminal research on media effects reformulated earlier approaches that assumed the media's influence in setting an audience's priorities, the "hypodermic needle" approach. This approach posits that media can set the agenda for "what people think about but not what people actually think" (Latimore et al., 2011, p. 60). A study of the 1968 Presidential campaign found that the media, in its practice of news placement, can influence what people think about and how they think about it. Critically, this study found that people also utilized their own sets of social, economic, and cultural parameters that contributed to their decision-making.

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These findings were also in line with the contemporary approach to public relations that was no longer focused on the mass media to "tell the story" as in the practice of press agentry or public information models, but focused on a direct relationship with its stakeholders. This approach requires an understanding of audience feedback as a key element of the discipline and practice. Elements such as audience orientation and coorientation, and situational and systems theories became emerging features of public relations. The practice began to move away from a one-way communications approach that implies an imbalance in communication towards a symmetrical or balanced approach.

Symmetrical communication advances a balanced flow of information among all parties seeking to maintain relationships based on mutual undertaking and needs (Cutlip et al., 2006). The two-way symmetrical model of public relations developed by Grunig and Hunt (1984) presents public relations orientation as a model where organizations and their publics adjust to each other. This approach focuses on the use of social science research methods to achieve collaboration and mutual understanding (Cutlip et al., 2006).

However, according to some scholars, symmetry also requires some aspect of asymmetry to achieve the goal of mutuality and moving the organization forward in some instances. For example, Stacks and Watson (2007) cited the components involved in surviving a crisis as an example of the dualism of symmetrical and asymmetrical public relations models. However, other scholars like Waters and Williams (2011) claimed that one-way communication is preferred rather than the use of symmetrical communication in crisis situations where the safety of the public is at risk.

Systems theory. In 1952, an ecological approach to public relations theory borrowing from the life sciences posits that the study of public relations should focus on interdependent relationships between organizations and the environment. This approach broadened the study and practice of public relations as a critical element in helping organizations manage ever-evolving environmental issues, attitudes, and opinions.

This theoretical approach led the way for an open- and close- systems perspective of public relations. Understanding systems as interacting units that respond and adjust to pressures from the environment to maintain goal states, open and closed systems illustrate the extent to which the boundaries of the system receive and exchange information (Cutlip et al., 2006). The systems are dynamic and continue to adjust and evolve over time.

The systems theory of public relations views an organization as consisting of several interrelated parts that adapt and adjust to changes in its environment (Cutlip et al., 2000). This perspective underscores the nature of the interdependence that exists between an organization and its environment. Systems theorists contend that open-system organizations utilize public relations to help an organization adjust to the changes through mutual understanding and two-way symmetrical communication and that this strategy is critical to the organization's survival (Reitz, 2012). From this perspective, public relations underscores the theory that the organization understands and adjusts to its environment through its publics (Reitz, 2012). This practice of public relations emphasizes the organization-stakeholder relationship that is oriented towards better understanding, collaborating and engaging with the communities, consumers,

stakeholders, and audiences—a dialogic approach to public relations (Kent & Taylor, 2002).

Situational theory. The situational theory of public relations identifies three variables—level of involvement, constraint recognition, and problem recognition—that can predict when publics will seek and process information about an organization or an issue based upon their level of involvement with the issue (Level of Involvement); the degree to which publics perceive that obstacles stand in the way of a solution and the level of influence they have on the issue (Constraint Recognition) and simply, the level at which people recognize or are aware that a problem exists (Problem Recognition). Grunig and Hunt (1984) advanced the situational theory of publics as a model that provides public relations practitioners specific information about their publics' communications behaviors and needs (Kent & Taylor, 2002). The situational theory keeps public relations practitioners focused on the communication needs of its publics and guides strategic public relations and communication plans.

Issues management. Issues management is a strategic practice of public relations that enables practitioners to utilize research and strategic planning to guide organizations in stakeholder management, especially in crisis situations. Cutlip, Center and Broom (1994) defined issues management as the "proactive process of anticipating, identifying, evaluating and responding to public policy issues that impact organizations and their publics" (p. 16). Issues management is especially important in early response efforts identified through early detection and mitigation of crisis issues (Reitz, 2012).

Crisis communication. Historically, an emphasis on the necessity for public relations in crisis communication was born from private, nongovernment, crisis events

such as those experienced by Johnson & Johnson and Exxon in the 1980s (Mehta &

Xavier, 2012). Crisis incidents in the private sector established crisis communication as

an "essential function of public relations management and decision-making" (Mehta &

Xavier, 2012, p. 376). Crisis communication was believed to primarily be part of the

process of organizational reputation recovery (Gottschalk, 1993), an approach that was

largely applied in nongovernment organizations (Bergman, 1994; Carey & Jorden, 1993;

Loewendick, 1993). For example, the public relations case studies following the 1982

Johnson & Johnson cyanide poisoning incident focused on reputation management and

image restoration, as evidenced by the following comments from practitioners:

> The Tylenol crisis is without a doubt the most exemplary case ever known in the
> history of crisis communications. Any business executive, who has ever stumbled
> into a public relations ambush, ought to appreciate the way Johnson & Johnson
> responded to the Tylenol poisonings. They have effectively demonstrated how
> major business has to handle a disaster." The PR industry has an important role to
> play in helping companies identify and manage risks that could damage their
> reputation (p. 19, 1990).

The Tylenol case became the basis of many crisis communication mechanisms.

Berg's suffering strategy (2000) and Benoit's rectification strategy (1997) were

developed from case studies of how Johnson & Johnson handled the Tylenol crisis

(Coombs, 1995). As a result, research on crisis communication developed in two

directions, one of which encompassed theoretical models on corporate apologia and

impression management. The aim of this approach was image restoration to improve an

organization's brand after a crisis has occurred (Benoit, 1997; Hearit, 1995). This

approach, scholars would argue, demonstrates two-way asymmetrical public relations

practices that seek to acquire and disseminate information for environmental control

(Grunig, 1994).

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The other direction of crisis communication looks beyond postcrisis by focusing on issues management and risk communication more aligned with two-way symmetrical communication. This direction seeks information from its environment and utilizes it to proactively create a collaborative, reciprocal communications environment between organizations and stakeholders, and *not* control (Grunig & Repper, 1992; Reitz, 2012). This dialogic approach to public relations also aligns with an open-systems approach. Public relations researchers contend it is enhanced with the application and integration of social media in organizations' communications strategies (Mersham, Theunissen & Peart, 2009).

A crisis can also be viewed as a type of relationship between an organization and its environment. A crisis can impact the way publics and stakeholders interact with and perceive the organization (Benoit, 2004; Coombs, 1999/2007; Coombs & Holladay, 2001). Crisis can impact an organization's future financial growth, market share, image, and possibly, its survival (Coombs, 2008). This is where public relations, utilizing issues of management theory, can demonstrate its "worth" (Ihlen, 2010, p. 98) by guiding an organization through a crisis, if not detecting the warning signs of a crisis before the threat occurs. According to Oyvind Ihlen (2010) in *Love in Tough Times: Crisis Communication and Public Relations,* by utilizing this strategic approach, public relations should be perfectly poised to "take on" (p. 98) crisis communication.

The influence of crisis communication on public relations research has been ongoing and consistently evolving (Avery et al., 2010; Kim & Avery et al., 2009). The disciplinary anchor of crisis communication research is public relations, which has been

accepted as a management function among scholars (Cutlip et al., 2006; Mehta & Xavier, 2012).

In *The Handbook of Crisis Communication*, Timothy Coombs (2012) defined crisis communication as the collection, processing, and dissemination of information required to address a crisis situation. Although this broad definition is reflective of the dissemination approach of public information models, a one-way asymmetrical model, Coombs advocated for precrisis and postcrisis phases of crisis communication that involve proactive communication with stakeholders and the public. However, despite the definitions of crisis communication, the field of study and practice has grown dramatically over the past ten years (Coombs, 2012).

Crisis events create the need for information, and the management of this information is critical throughout every phase of the crisis, beginning with prewarning to the recovery and assessment stages (Coombs, 2012). Investigations into the phases of a crisis have also explored how audiences receive warning messages, how warning messages are composed, and how technology impacts the government's use of social media during a crisis (Alexander, 2014; Chyi & McCombs, 2004; Houston, Pfefferbaum & Rosenholtz, 2012; Houston et al., 2014; Hughes & Palen, 2009; Liu, 2009; Mills, Chen, Lee & Rao, 2009). Public relations practitioners have echoed this expansive view of crisis communication by including it in research and analysis of crisis planning, development of contingencies, risk identification, and crisis avoidance (Coombs, 2012).

Research studies focused on a symmetrical approach to public relations in managing and responding to crisis, specifically in the arena of crisis messaging, found that, in the changing environment of technology, people rely more on social media for

crisis and disaster information. In some cases, they believe that social media is more trustworthy than mainstream media (Houston et al., 2014; Veil, Buehner & Palenchar, 2011). Contemporary technology, specifically social media, provides an additional source for people to receive information about emergencies and disaster events beyond traditional media sources (St. Denis et al., 2014). People collect emergency information and pass it on to others in their communities, families, social or professional circles. In addition, when emergency response groups establish social media accounts, members of the public pass on official posts to others and engage directly with emergency management officials (Imran et al., 2013; St. Denis et al., 2014).

Public engagement. This section examines the various definitions of public engagement and the lessons learned and best practices from the government and nongovernment organizations toward improving engagement by leveraging social media. Public engagement, also stakeholder engagement, is accepted as crucial to an organization's success (Edelman, 2008) and a core tenet of public relations. Over the years, public engagement has come to represent a variety of interactions with a multitude of audiences. As a concept, stakeholder engagement comes from stakeholder theory that can be traced back to the early work of Bernays, who identified that a company must address the interests of its stakeholders, that is, groups and individuals that can affect or have been affected by the organization.

Public relations professionals have embraced public engagement due in part to what Richard Edelman, president of Edelman Worldwide, has assessed as the public's growing lack of trust in government and corporations. Edelman (2008) advanced that public relations practitioners, by theory and practice experts in stakeholder and issues

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management, have an opportunity through public engagement to guide organizations and corporations to establish higher levels of trust and collaboration between themselves and their respective environments.

The construct of public engagement and the organization-public relationship has always been central to the discipline of public relations (Waters & Williams, 2011). Scholarship on engagement is more frequent as the public relations profession has aimed to navigate in the rapidly changing communications environment (Waters & Williams, 2011). Specifically, Porter (2010) encouraged government public relations practitioners to adapt more symmetrical communication behaviors.

A recent initiative by FEMA suggests that the federal government has embraced engagement and thus, symmetrical communication practices. In 2013, DHS and FEMA adopted the Whole Community Approach that cited the effects of major crises such as Hurricanes Katrina and Rita in 2005, the BP oil spill in 2010, and the Joplin, Missouri and Birmingham, Alabama tornadoes in 2011 that challenged and overwhelmed the agency's responsibilities. FEMA adopted the integrated approach to emergency and disaster management that included government and nongovernment organizations (FEMA, The Whole Community Approach, 2013).

The Whole Community is now incorporated into all FEMA and DHS crisis directives and policies. FEMA has sought to initiate exploration into community engagement strategies to promote further discussion on approaches that position local residents for leadership roles in planning, organizing, and sharing accountability for the success of local disaster management efforts, thereby enhancing national security and resilience. The themes of the Whole Community strategy are to:

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- Understand community complexity

- Recognize community capabilities and needs

- Foster relationships with community leaders

- Build and maintain partnerships

- Empower local action

- Leverage and strengthen social infrastructure, networks and assets

Veil et al. (2011) compiled a list of best practices for crisis communication in both government and nongovernment organizations through a project with the National Center for Food Protection and Defense, Centers of Excellence, and U.S. government and nongovernment agencies. Among the best practices, the third practice listed is *partner with the public* to provide information and recognize that the public can offer valuable information to assist in and mitigate a crisis. Number four on the best practices list was to *listen to the public's concerns and understand the audience*. This practice, as demonstrated in the Whole Community Approach, involves both listening to the public and acting on the public's concerns regarding risk and crisis (FEMA, The Whole Community Approach, 2013).

As demonstrated in this section, interactive and collaborative public relations and communication strategies are recognized as symmetrical, open-systems approaches that enhance an organization's relationships with its stakeholders and environment. Moreover, crisis communication researchers contend organizations that utilize social media have the advantage in building and sustaining symmetrical organization-stakeholder relationships. Further, this section has introduced public engagement, a contemporary strategic public relations initiative embraced by practitioners and scholars, as the approach to create two-

way symmetrical communication during a crisis. The federal government has also adopted the public engagement strategy to realign relationships with federal government stakeholders after crisis events. In *Predicting Digital and Social Media Adoption Based on Organizational and Practitioner Characteristics*, Thorson, Tendrich, and Sterling (2012) suggested that social media can help organizations, such as FEMA, "make sense of relationships with various stakeholders" (p. 4).

Organizational Use of Social Media during Crisis

Nongovernment. An examination of nonprofit organizations revealed that despite technology's capacity for interactivity, the public relations model of one-way communication is typically utilized instead of two-way symmetrical public relations. In *Hope for Haiti: An analysis of Facebook and Twitter Usage during the Earthquake Relief Efforts,* Muralidharan, Rasmussen, Patterson, and Shin (2011) found that nonprofit organizations used social media such as Facebook and Twitter during crises as a one-way asymmetrical communication tool that involved disseminating information, rather than engaging in interactive communication with its publics. Overall, the authors asserted that despite the increased popularity of social media and its use by nonprofit, government, corporate and the news media to disseminate information and advance organizational goals, the core social media elements of feedback and interactivity that dramatically affect the practice of public relations *have not* been leveraged (Muralidharan et al., 2011). Concurring, Waters and Jamal (2011) found in a study of 30 nonprofit organizations that Twitter feeds are primarily used as a broadcasting tool, fitting into the one-way asymmetrical model while neglecting to utilize the interactive elements of social media.

Wigley and Zhang (2011) examined public relations professionals' inclusion of social media into crisis planning during interviews with 283 practitioners who were members of the Public Relations Society of America (PRSA). The researchers found that among the 283 practitioners surveyed, 82 percent of the respondents stated that their organization used social media to achieve organizational goals. However, 48 percent claimed that social media was included in the organization's crisis plans. The study found that a further review of the practitioners' organization websites that were involved in product recalls, "failed to fully integrate social media" (Wigley & Zhang, 2011, p. 4) into the organization's plans.

In a study of social media use by the American Red Cross, Briones, Kuch, Liu, and Yan (2011) found that the organization discovered the importance of social media as a tool to build relationships with its stakeholders. Briones et al. (2011) found this organization had developed tools and tactics utilizing social media that had positively influenced its customer service and that, in a true two-way symmetrical engagement of collaboration, the organization boasted positive feedback from the stakeholders but also negative feedback used to make organizational improvements. The researchers also revealed that the Red Cross used social media to provide updates on disaster preparedness and response. Curiously, this study did not focus on social media use during crisis. This is unfortunate because the American Red Cross has had a federal charter since 1900 that positions the organization as an arm of the government playing a significant role in the nation's system for disaster relief (U.S. Government Accountability Office, September, 2015). Although this study found a two-way use of social media in noncrisis situations, two-way applications during a crisis by an entity such as the American Red

Cross were absent, which would have been a valuable contribution to crisis communication research.

As demonstrated in this section, despite crisis communication scholars' recommendations that social media has potential to enhance strategic, two-way communication between an organization and its stakeholders, evidence shows that one-way, asymmetrical communication remains the norm.

Government. An overview of the beginnings of the practice of public relations revealed that it has a long history connected to the government and crisis response. In 1887, the term "public relations" began to appear in railroad literature and in the speeches of the corporate tycoons during the Industrial Era. Corporations hired public relations professionals to manage the issues between business and government (Cutlip et al., 2006).

In the late 1800s, just as the Industrial Revolution was beginning, a transformative period emerged in the United States between business and government that affected the practice and discipline of public relations. President Theodore Roosevelt's close relationships with journalists, including Ida Tarbell, were juxtaposed against the big businesses of the emerging railroad, electricity, and steel industries. These forces dominated this era, and garnering public opinion was the aim of both business and government.

President Roosevelt's aim was to rein in big business to comply with new government policies to create fair and equitable conditions for American workers. Corporate business owners sought to continue to conduct business on their own terms and not the terms of government. In an effort to address these issues, corporations began to

realize the importance of courting public favor and that the expert in public relations was essential (Cutlip et al., 2006).

Westinghouse established the first corporate public relations department in 1889. In 1902, William W. Smith founded the first publicity-lobbying firm in Washington, D.C. (Cutlip et al., 2006). This era also marked a time when journalists were entering public relations and forming the early organization of the practice. This practice of public relations progressed from the antics of the press agentry period of P.T. Barnum to the focus of distributing information to sway public opinion, captured in Grunig's (1984) public information model.

In April 1917, during World War I, U.S. President Woodrow Wilson created the United States Committee on Public Information, also known as the Creel Committee, an agency led by journalist George Creel. The committee directed the government's efforts to gain public support for the war through prowar films, publications, and speakers. One of Creel's most notable efforts was the creation of the Four Minutemen, a network of 75,000 civic leaders across the nation (volunteers), who, upon receipt of a telegram from Washington, D.C., would disseminate the information to schools, churches, and communities. By the end of the war, Creel's Four Minutemen had grown to 800,000 (Cutlip et al., 2006).

Public information captured the propaganda techniques of government demonstrated by the Creel Commission and the emerging corporate public relations efforts of the railroad, steel, and electric companies of the Industrial period. Dominant tools by which organizations communicated were media releases, press conferences, or other vehicles that allowed the government to provide information to media gatekeepers,

who then distributed the news to mass audiences. Grunig and Hunt (1984) categorized press agentry as one-way asymmetrical and the corporation/government public information practice as two-way asymmetrical. Grunig and Repper (1992) asserted that although efforts were made to gather information from the environment and audience, a two-way communication approach, the selective use of information to promote the "good" or only the objectives of the organization, still categorizes these efforts as asymmetrical, one-way communication flows. This practice supported early theorists of mass communication, who positioned the media as a lens between the actual events and audience perceptions. Therefore, the public relations practitioner used tools designed to tell a credible and good story of an organization, event, or person (Cutlip et al., 2006).

Scholars and practitioners have recommended techniques to "increase the chances" (Cutlip et al., 2006, p. 345) of attracting the attention of media gatekeepers such as materials that reflect the news values of impact, proximity, timeliness, prominence, novelty, and conflict. In addition, media releases reflected the journalists' style of capturing the Four Ws (who, what, when, why) and H (how) in the lead of the media release, as well as attention to newsworthiness and alignment with news style (Cutlip et al., 2006).

These tools and the media as the primary audience for public relations practitioners have continued in contemporary practice. Crisis as defined for public relations practitioners is a "disorganized combination of special events and news conferences" (Newsom & Haynes, 2014, p. 205) and occupies a minor mention under announcements and special events in a public relations textbook used in colleges and universities (Newsom & Haynes, 2014, p. 205). The textbook advises that the role of

public relations practitioners in implementing crisis communications is to "get and supply" (Newsom & Haynes, 2014, p. 205) information, thus continuing to reinforce the public information model among today's up and coming communications students and professionals.

In the area of social media use for crisis communications strategies and plans, Newsom and Haynes (2014) advised public relations practitioners to "think in terms of tweets in coverage and offer your own" (p. 205). However, examples of tweets were not provided, a trend that was identified in the DHS federal policy directives for crisis communication messaging analyzed in this dissertation.

Implications: Models of Public Relations

The public information model asymmetrical communications approach that involved the traditional media as the primary target audience was also reflected in FEMA's *Basic Guidelines for Public Information Officers* (PIOS), published in 2007. For example, the section "Media Relations" is a brief two-paragraph statement that reinforces the importance of media relationships during a crisis. PIOs are instructed to "invite local media" (FEMA, 2007, p. 6) to the JIC and Command areas prior to an incident to "answer questions on how information will be disseminated during an incident or planned event" (FEMA, 2007, p. 6), reinforcing that in the planning stage the information flow during a crisis would be one-way asymmetrical. The guidelines mention websites and social media, specifically blogs. However, the websites and social media are positioned in the following manner:

> Web logs or blogs are also important. Blogs are periodically updated journals, providing online commentary with minimal or no external editing. Media institutions have adopted this format, with many television networks,

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newspapers, and opinion journals now hosting blogs on their websites. PIOs should be aware that blogs are a part of media reporting virtually 24/7 throughout their area of responsibility. (FEMA, 2007, p. 7)

Positioned with a greater importance is a bulleted list of what emergency preparedness information should include: "press releases, situation reports, maps, and other emergency information" (FEMA, 2007, p. 7). Information dissemination in this crisis communication guide includes four points: (a) Briefing/Special Events (news conferences, tours for officials); (b) Media Relations (identifying the News Desk as the primary point of contact and the role of the spokesperson who conducts news briefings); (c) Web Support (instructing that web pages be created providing information about the incident for media and public use); and (d) Public Inquiries (outlining the PIO's duty to respond to questions and inquiries and the importance of creating a log) (FEMA, 2007).

Message content guidance for media releases or web/blog support delineated that emergency information, including recovery information, should include the following:

- Actions the public should take

- A summary of the incident

- The impact of the incident or planned event

- Actions the response agencies are taking

- Actions the public, businesses, and industries may take (FEMA, 2007, p. 21).

The FEMA (2007) PIO guidelines identified four, passive steps in the "ongoing cycle" of informing the public and key audiences about a crisis event:

1. Gather information

2. Verify information

3. Coordination of information (includes messaging and information sharing internally)

4. Dissemination of information (external) (pp.11-12).

The 2013 DHS ESF 15 policy directive outlined crisis communication strategies and implementation of the same themes that reinforce the asymmetrical (one-way) flow of communication. The policy directives under Messaging and Distribution (see Appendix A) noted: Posting important, accurate, and timely content is "the most important component of any Web and social media operation" (Annex R, 2009) and suggests that when it comes to digital communication channels, agencies should follow these guidelines for the best way to support the response and recovery efforts and engage audiences:

- As with all messaging during a Federal response, content should be actionable information to promote public safety and should include "asks" to the public to rebroadcast the content and share it with others who they know may be affected by the incident.

- The preferred content on social media sites are updates that are easy to read and comprehend in an easily digestible format, preferably with actionable public safety information.

Federal Government Social Media Policy Directives

In the 1970s, the U.S. government developed an Incident Command System (ICS) that is a standardized on-scene incident management system. The role of the Information Officer (IO), referred to as the Public Information Officer (PIO), is one of the four direct reports to the Incident Commander (IC). The role of the PIO is to develop and release

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information about the incident to the news media, incident personnel and other appropriate agencies and organizations. The PIO manages the Joint Information Center (JIC) that is designed to develop crisis and disaster communication strategies during emergency responses and other situations in which multiple organizations may need to collaborate to provide timely, useful and accurate information to the public and other stakeholders (National Response Team [NRT], Joint Information Center Model, January 2000).

The revised 2011 NIMS directive emphasized the system's focus on standardized response efforts across all levels of government and its applicability to all crisis types. Although these directives focused on the federal government response, such as Hurricanes Katrina and Rita, BP *Deepwater Horizon* Gulf oil spill, and the 2013 Colorado floods, emergency plans at all levels of government reflect ICS and NIMS. Most importantly, and for purposes of this study, the outline of the 2011 NIMS directive stresses the importance of crisis communication and coordination stating, "public information functions must be coordinated and integrated across all jurisdictions and across functional agencies" (National Integration Center, 2011 NIMS Overview, p. 6). Therefore, when analyzing crisis communication response efforts, a review and analysis of the federal government's policy disaster directives are critical as these directives are applicable at all levels of government.

In 2011, FEMA's updated NIMS outlined a crisis management framework built on five key elements: (a) preparedness, (b) communication and information management, (c) resource management, (d) command management, and (e) ongoing management. It is

important to note that across the five mission areas of protection, planning is the first mandate and *public information and warnings* is the second priority.

Important is the JIC model, which is applicable for natural disasters, oil and hazardous substance pollution, radiation emergencies, terrorist incidents, and remediation efforts. The NIMS Public Information Course Summary notes that the JIC should accommodate all disaster event communication requirements for participating organizations as well as address the range of crisis communication elements such as media relations, public affairs, rumor control. Therefore, analyzing public sector crisis communication, the JIC is a crucial element.

In one of the few research studies that integrated the current public sector structure of crisis communication into public relations crisis communication literature, Hughes and Palen (2012) examined the role of the PIO in the changing media environment and identified the JIC as a vital structure during larger disaster events that need coordination. It is important to note that although Hughes and Palen (2012) did not explore a major national disaster in the study, like Hurricane Sandy, the JIC operates at *all* levels of government as a central location to facilitate the operations of the Joint Information System (JIS). However, according to the NIMS Public Information Course Summary (2004) used for PIO instruction, the "public information component described in the National Incident Management System (NIMS) is designed to effectively manage public information at an incident, regardless of the size and complexity of the situation or the number of entities involved in the response" (p. 1). Further, under NIMS, the PIO as lead of the JIC/JIS is a "critical member of the command staff" that advises the Incident Commander. For purposes of this dissertation, state and local PIO efforts are not

addressed, since they lack relevance to the federal role. However, the PIO in general

cannot be separated from the JIC nor the JIS. The PIO, with approval of the IC,

determines if and the type of JIC needed depending on the agencies or stakeholders that

are involved in the incident. The incident response can be large or small, not just major

events as Hughes and Palen (2012) indicated. This determination is based on

stakeholders' participation and not size of incident. This is because stakeholder

participation translates to the various messaging types that the PIO need to consider,

create, and implement.

Further, the PIO operates within the JIS system, a system that is centered around

the information created and disseminated by the PIO and others in the JIC, that integrates

incident information with public affairs to coordinate "cohesive, timely and accurate

messages during crisis and disaster incidents" (FEMA, 2007). Separating the PIO from

the JIC and the JIS does not paint an accurate picture of the complexities of the PIO in

managing content during crisis events.

The JIC is designed to accommodate the diverse range of responses likely to be

performed by the ESF 15 team, ranging from a large multiple agency all-hazards

response to a small single agency single-hazard response. The JIC structure is equally

scalable and flexible for use in any incident. The structure can grow or shrink, depending

upon the unique requirements of a specific response (DHS, SOP, 2013).

This JIC is described in the DHS ESF 15 policy directive as the central location

for coordination and dissemination of public information related to an incident, and the

terms "dissemination," "support," "collect" and "monitor" used frequently throughout

this section are reflective of the traditional public information, one-way asymmetrical

model of public relations (DHS ESF 15 SOP, 2013, section C). In the ESF 15 Quick

Summary section of the JIC duties, social media content development and execution is

not mentioned (DHS ESF 15 SOP, 2013, section B). Unfortunately, the policy directives

reinforced a Congressional 2011 analysis of public sector social media use described as

passive (Lindsay, 2011).

The National Response Framework (NRF) created ESF 15 to ensure that

sufficient federal external affairs resources are assigned during an incident requiring a

coordinated federal response in order to provide accurate, "coordinated, and timely

information to affected communities including governments, media, private sector and

local citizens" (DHS, section 2.0). This ESF 15 unit is a structure and function that

brings all external affairs efforts under one unit. ESF 15 supports local, state and trial

efforts as well as coordinates all federal external affairs efforts that can be applied at any

level of government and to any sized crisis incident (DHS, SOP, 2013; External Affairs

Participant Guide, IS-250, 2007).

2009/2013 social media policy directives. For purposes of this study, it is

important that the most current policy directives are used to analyze social media usage

during a major national disaster requiring a federal response. The 2009 and 2013 DHS

ESF 15 policy directives informed this study as they represent the federal government's

plans during a crisis. It is important to note Hughes and Palen (2012) found that the 2008

guidelines did contain a brief section describing the use of Internet technology and tools,

but did not offer directions to PIOs how to use them.

Revised in 2009, the DHS ESF 15 policy directive on social media included

definitions of social media and platforms such as podcasts, text messaging, Twitter, and

microblogging. In terms of content guidelines for social media, the instructions read as follows: "Posting important, accurate and timely content is the most important component of any web and social media operation" (DHS ESF 15 SOP, 2009, p. R-1).

The 2013 revised policy directives for the ESF 15, which included new positions such as the social media function titled *EA Digital Communications*, was placed in the JIC organizational chart as a direct report to the Media Relations Assistant Manager. However, the DHS Assistant External Affairs Officer serves as the final authority. Other positions with roles in communications and content strategy were also identified, such as a Digital Communications Specialist, who is part of the Media Relations unit of the JIC, and an Operations Director, who serves as the lead for federal government digital communications channels, such as *USA.gov*. All social media content and messages, the document directs, must be in "alignment" with Products and Planning and the JIC (DHS SOP, 2013, Annex R 1-2).

In regards to social media guidelines, specifically content and messaging, the DHS ESF 15 guidelines for social media messaging and content development use are:

- Content and messaging should be coordinated with Products and Planning and Joint Information Center.
- Content should be actionable information to promote public safety and should include "asks" to the public to rebroadcast the content and share it with others who they know may be affected; content should encourage others to share the content through both social media channels and non-social media channels.
- The preferred content on social media sites are updates that are easy to read and comprehend in an easily digestible format, preferably with actionable public safety information.
- All Federal, State, Tribal, and local partners should amplify messaging on their accounts as appropriate. All private sector entities, including but not limited to, associations, businesses, nonprofits, and educational institutions, should also amplify messages through their channels, as they may have followers that are impacted by the incident. (DHS SOP, 2013 Annex R-3).

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The DHS ESF 15 policy directive positioned social media monitoring and reporting as a key use of social media. The policy directive claimed that social media helped the ESF 15 to address rumors during Hurricane Sandy and positioned this effort as a "case study" that reinforced its importance as a best practice. The social media response team "created a Rumor Control Initiative that rapidly tracked, corrected and disseminated the corrected content to other ESF 15 units and FEMA response officials" (DHS SOP, 2013, R-5).

In regards to reporting, social media was also used to contribute to situational awareness reporting that included information about social media discussions on power outages, the level of the response efforts and other discussions, however, it is noted that this information was only used internally (DHS SOP, 2013, R-4). The opportunity to leverage the interactive capabilities of social media by engaging with affected publics and stakeholders was missed.

As demonstrated above, the DHS ESF 15 social media policy directive reflected one-way asymmetrical communication approaches and the strategies. In addition, the policy directives were broad and vague. Hughes and Palen (2012) found in an examination of the 2008 NIMS social media policy directive that the guidelines are "ambiguous" and do not "offer clear direction" (p. 3). Therefore, a federal government crisis communication social media framework that is applicable at all levels of government is necessary.

Government Use of Social Media during Crisis

Crisis warning message characteristics, such as consistency and repetition, specificity, and legitimacy of the source, have all been recognized as critical factors in the

effort to alert citizens (Quarantelli, 1989). However, as documented in the previous section, specific and clear social media guidelines as to how to develop crisis message construction for social media are absent. The following section outlines how the public sector currently utilizes social media during crisis events.

Chatfield et al. (2014) noted that during extreme disaster events, such as Hurricane Sandy, communication flow can be challenging. However, the authors found that social media can aid governments and coordinating agencies by utilizing the multidirectional and interactive flow of social media.

Unfortunately, the public's use of social media outpaced emergency management's capacity to adapt to it. A study of online communication practices of first responder units within a 100-mile radius of Hurricane Sandy's landfall revealed a dismal 37 percent of local first responder units possessed a social media account (St. Denis et al., 2014). The low usage of social media by government was due to the failure of official authority to use social media, lack of resources, or the current structure of government crisis response of centralized control made the use and application of social media by emergency managers impractical (Hughes & Palen, 2012; Palen & Liu, 2007).

Huang, Chan, and Hyder (2010) asserted that emergency disaster response, especially during a major disaster, has always been a challenge due to the size and impact of the devastation. The authors asserted that information technologies have the potential to provide "higher capacity and effective communication mechanisms that can reach citizens and government officials simultaneously" (p. 1).

Several examples in scholarly literature have cited local or state emergency response departments' use of social media during a crisis. These studies highlighted the

procedures that the agencies' PIOs created due to the lack of a comprehensive public

sector policy guide on social media (Hughes & Palen, 2012; Lantonero & Shklovski,

2001; St. Denis et al., 2014). Hughes and Palen (2012) found that in interviews of 25

PIOs, 20 claimed that they used social media in emergency communications but admitted

that a formalized use was "rocky" (p. 8).

Lantonero and Shklovski (2001) presented a case study of PIOs from the Los

Angeles Fire Department, detailing the challenges that the department faced in using

social media, such as self-instruction of use of technology, lack of total dedication to

social media activities due to workload, limited staffing, and lack of support from

organizational leaders. However, Lantonero and Shklovski (2001) did find that for all the

challenges, this public sector agency was forging ahead and utilizing Twitter as a tool for

"one-way messages" (p. 13). In addition, the department under the leadership of one

social media evangelist was finding ways to create two-way communication channels by

responding to Twitter posts and "actively" (Lantonero & Shklovski, 2001, p. 13) listening

to stakeholders.

St. Denis et al. (2014) highlighted the use of social media by a local government

response unit. Consistent with prior research, this study found that the local government

unit was "in the minority of groups in the emergency response community developing

and implementing a wide-berth strategy for integrating social media into their practices"

(p. 745).

As this chapter has underscored, scholars have found that government response

units should leverage the interactive components of social media for maximum

effectiveness. However, despite scholars and practitioners' claims that social media

enables interactive, two-way communication and supports the use of two-way symmetrical models of public relations, the dominant use of social media by government and nongovernment organizations during crisis remains the posting and collection of information indicative of one-way asymmetrical model of public relations. It continues to lack interactivity with stakeholders and publics (Muralidharan et al., 2011; Waters & Williams, 2011).

Although not a crisis communication study, Waters and Jamal (2011) examined nonprofit organizations' use of Twitter and reported that overall, "the discipline's continued findings are that all organization—corporations, nonprofits and government agencies—fail to capitalize on the interactive nature of the web" (p. 322).

Social Media and Crisis

Since the mid-1990s, Internet applications known as "social media" have enabled users to interact, collaborate and share information rapidly through media that were nonexistent 15 years ago (Lindsay, 2011). Studies on crisis and disaster response efforts revealed that the immediate exchange of information about a situation, using social media as a source of information, can be life-saving (Lindsay, 2011; St. Denis et al., 2014; Sutton, 2008; Tierney, Lindell & Perry, 2001).

The increasing use of social media by the public has demonstrated that people utilized social media to supplement traditional media (Liu, 2009). When emergency responders followed the conventional one-way asymmetrical model of public relations via traditional media, people used social media to fill in the gaps of information (Sutton et al., 2014). In a 2009 survey, 92 percent of crisis communicators stated that they believed social media influences traditional media (Solis, 2009).

Crisis communication researchers have studied Microblogs, such as Twitter, due to the platform's ability to communicate rapidly, including cross-platforms (Sreenivasan, Lee & Goh, 2011). Microblogging is a social networking tool that allows users to send brief text updates as well as video clips, photos, or audio clips, viewable by anyone or a specific group chosen by the user (Huang et al., 2010). A 2010 Pew Internet study found that 31 percent of online adults are using platforms such as blogs, social networking sites, and text messaging (Veil et al., 2011). Microblogs create a two-way communication platform where dissemination of information is rapid and timely. Research suggests that these platforms have the power and potential in a scientific context for exchanging ideas, interests, and information for a specific community (Huang et al., 2010).

Twitter, a real-time network that allows users to share information organized by date and time on a user's account, is limited to 140 characters. This character limitation allowed users to send tweets rapidly to phones or other mobile devise as text (Waters & Williams, 2011). Kumar, Morstatter, and Liu (2013) described the microblog as "tuned towards fast communication" (p. 1). Kumar et al. (2013) estimated that more than 100 million active users post or publish over 400-million, 140-character tweets each day on Twitter. A 2016 Pew study predicts that by the end of the fourth quarter of 2016, Twitter will report more than 320 million active daily users.

Serial transmission, a critical element of microblogs like Twitter, has allowed social media account holders to pass or share information with others. These retransmitted messages have the potential to be seen by millions of people instantaneously. In addition, they were more than likely received from a credible or trusted source (Sutton et al., 2014).

This transmission of messages has become a focus in the study of crisis communications (Sutton et al., 2014; Waters & Williams, 2011). Twitter has presented an opportunity for social interaction and information exchange before, during, and after a crisis event. Research on response efforts cites that the rapid exchange of up-to-date information is a vital resource that can impact safety (Tierney et al., 2001).

Models: Crisis and Risk Communication

Whereas crisis communication is rooted in public relations, risk communication is associated with public health and education, and messages are often framed by health professionals regarding matters that may negatively impact public health (Covello, 1992; Heath, 1994; Reynolds & Seeger, 2005). In contrast to crisis communication that specifically focuses on a definitive crisis event, risk communication involves ongoing and interactive communication with vulnerable communities about prevention, education, and methods to mitigate damage.

Scholars have identified risk communication as a persuasive and problem-solution message structure (Witte, Meyer & Martel, 2000). In contrast, crisis communication tended to focus on a specific event, which can have a specific timeframe. Crisis communication messages are primarily in the structure and form of updates and providing event information (Reynolds & Seeger, 2005).

However, recent events such as the anthrax scare and the 9/11 World Trade Center crisis have triggered pressure on the public health community to communicate with emergency managers during a crises. They must also address possible ongoing public health issues related to an immediate crisis (Barton, 2001; Coombs, 1995; Reynolds & Seeger, 2005; Seeger, Sellnow & Ulmer, 2003). This convergence of issues

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has created a heightened awareness of the commonalities of crisis and risk

communication in key areas. Both forms of communication involve the development of

public messages; both are mediated through mass communication channels; both seek to

prevent, mitigate, and reduce harm; and each relies upon credibility as a persuasive

attribute (Reynolds & Seeger, 2005).

An example of the distinctions between risk and crisis communication messages

has been offered by Reynold and Seeger (2005) and informs this study (see *Figure 1*).

Risk Communication	Crisis Communication
• Messages regarding known probabilities of negative consequences and how they may be reduced; addressing technical understandings (hazards) and cultural beliefs (outrage)	• Messages regarding current state or conditions regarding a specific event; magnitude, immediacy duration and control/remediation; cause, blame, consequences
• Principally persuasive, i.e., advertising and public education campaigns	• Principally informative, i.e., news disseminated through media or broadcast through warning system
• Frequent/routine	• Infrequent/nonroutine
• Sender/message centered. Based on what is currently known, i.e., scientific projections	• Receiver/situation centered. Based on what is known and what is not known.
• Long-term (precrisis) Message preparation, i.e., campaign Technical expert, scientist	• Short-term (crisis) Less preparation, i.e., responsive, authority figures/emergency manager, technical experts
• Personal scope	• Personal, community, or regional scope
• Mediated; commercials, ads, brochures, pamphlets	• Mediated; press conferences, press releases, speeches, websites
•Controlled and structured	•Spontaneous and reactive

Figure 1. Distinguishing features of risk and crisis communication. Adapted with
permission from "Crisis and Emergency Risk Communication as an Integrative Model,"
by B. Reynolds and M. W. Seeger, 2005, *Journal of Health Communication, 10*, p. 48.
Copyright 2005 by Routledge Taylor, & Francis Group.

Scholars have approached an integration of crisis and risk communication message strategies by the development of crisis modeling stages that begin with risk identification/warning and proceed to the termination or recovery stages. For example, Reynolds and Seeger's (2005) study integrating risk and crisis communication messages for public health incidents proposed integrating crisis and risk communication into one framework by applying a five-stage approach that identified risk and crisis messaging along the crisis cycle. The five stages included Pre-crisis (risk messages; warning); Initial Event (uncertainty reduction); Maintenance (ongoing uncertainty; reassurance); Resolution (updates; discussions about risks/new risks messages); and Evaluation (discussion of adequacy of response) (see Table 1).

Table 1

Crisis Emergency Risk Communication (CERC) Model

I. Pre-crisis (Risk Messages; Warnings; Preparations)
Communication and education campaigns targeted to both the public and the response community to facilitate:
.   Monitoring and recognition of emerging risks
.   General public understanding of risk
.   Public preparation for the possibility of an adverse event
.   Changes in behavior to reduce the likelihood of harm (self-efficacy)
.   Specific warning messages regarding some eminent threat
.   Alliances and cooperation with agencies, organizations, and groups
.   Development of consensual recommendations by experts and first responders
.   Message development and testing for subsequent stages

II. Initial Event (Uncertainty Reduction; Self-efficacy; Reassurance)
   Rapid communication to the general public and to affected groups seeking to establish:
.   Empathy, reassurance, and reduction in emotional turmoil
.   Designated crisis agency spokespersons and formal channels and methods of communication
.   General and broad-based understanding of the crisis circumstances, consequences, and anticipated outcomes based on available information
.   Reduction of crisis-related uncertainty
.   Specific understanding of emergency management and medical community responses
.   Understanding of self-efficacy and personal response activities (how/where to get more information)

III. Maintenance (Ongoing Uncertainty Reduction; Self-efficacy; Reassurance)
   Communication to the general public and to affected groups seeking to facilitate:
.   More accurate public understandings of ongoing risks
.   Understanding of background factors and issues
.   Broad-based support and cooperation with response and recovery efforts
.   Feedback from affected publics and correction of any misunderstandings, rumors
.   Ongoing explanation and reiteration of self-efficacy and personal response activities (how where to get more information) begun in Stage II.
.   Informed decision making by the public based on understanding of risks/benefits.

IV. Resolution (Updates Regarding Resolution; Discussions about Cause and New Risks/New Understandings of Risk)
Public communication and campaigns directed toward the general public and affected groups seeking to:
.   Inform and persuade about ongoing clean-up, remediation, recovery, and rebuilding efforts
.   Facilitate broad-based, honest, and open discussion and resolution of issues regarding cause, blame, responsibility, and adequacy of response
.   Improve=create public understanding of new risks and new understandings of risk as well as new risk avoidance behaviors and response procedures
.   Promote the activities and capabilities of agencies and organizations to reinforce positive corporate identity and image

V. Evaluation (Discussions of Adequacy of Response; Consensus about Lessons and New Understandings of Risks)
Communication directed toward agencies and the response community to:
.   Evaluate and assess responses, including communication effectiveness
.   Document, formalize, and communicate lessons learned
.   Determine specific actions to improve crisis communication and crisis response capability
.   Create linkages to pre-crisis activities (Stage I)

Note. Adapted with permission from "Crisis Emergency Risk Communication: 2012 Edition," by B. Reynolds and M. Seeger, 2012, Copyright 2012 by U.S. Department of Health and Human Services, Center for Disease Control and Prevention.

The Crisis Emergency Risk Communications (CERC) Model displayed in Table 1 suggested that risk and crisis communication messages must be considered for each phase of a crisis as determined by Reynolds and Seeger (2012). The model was designed to provide broad instructional guidance to risk and crisis communicators to support the overall mission of the response (Reynolds, 2006). However, the model leaned more toward risk communication aims to prewarn people of impending dangers or threats, and it did not clearly illustrate where crisis messages should be incorporated or, if in some phases, a dual approach of risk and crisis message strategy was recommended. Finally, the CERC Model does not clearly identify the entity or position that develops the risk and crisis communication strategy and messaging. In the proposed model designed from this dissertation research, the PIO is identified in accordance with the DHS ESF 15 policy directive to develop the social media message content for the range of stakeholders.

Coombs (1995) developed the Situational Crisis Communication Theory (SCCT), an audience-based crisis model that demonstrated how people perceived and responded to crises, as well as how they responded to the organizations involved in the crises (see *Figure 2*). This model integrated crisis communication with public relations theories of reputation, situational theory of publics, contingency, and reputation management (Coombs & Holladay, 2009; Mehta & Xavier, 2012).
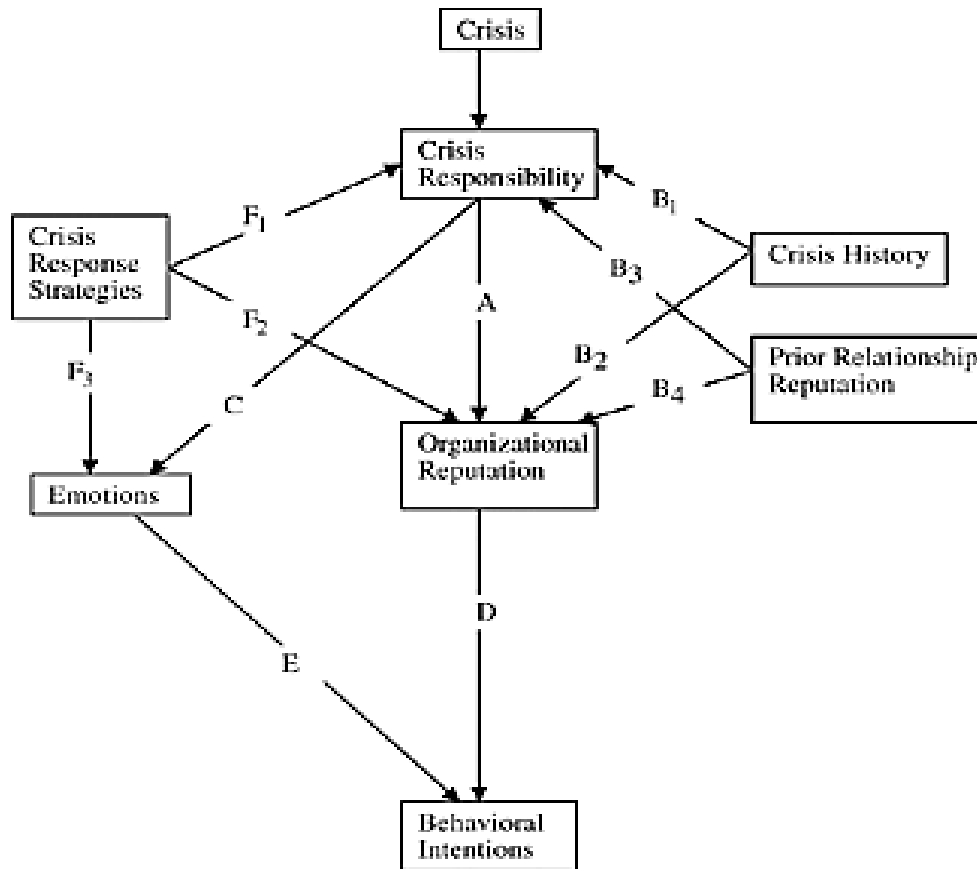
Figure 2. Situational Crisis Communication Theory (SCCT) Model. Adapted with permission from "Protecting Organization Reputations during a Crisis: The Development and Application of Situational Crisis Communication Theory," by W. T. Coombs, 1995, *Corporate Reputation Review, 10*(3) p. 166. Copyright 2007 by Palgrave McMillan Ltd.

The Social-Mediated Crisis Communication Model (SMCC) (Jin & Liu, 2010) described the interaction between organizations experiencing crisis and the types of publics that would produce and disseminate crisis information via social media, traditional media, or word-of-mouth (see *Figure 3*).
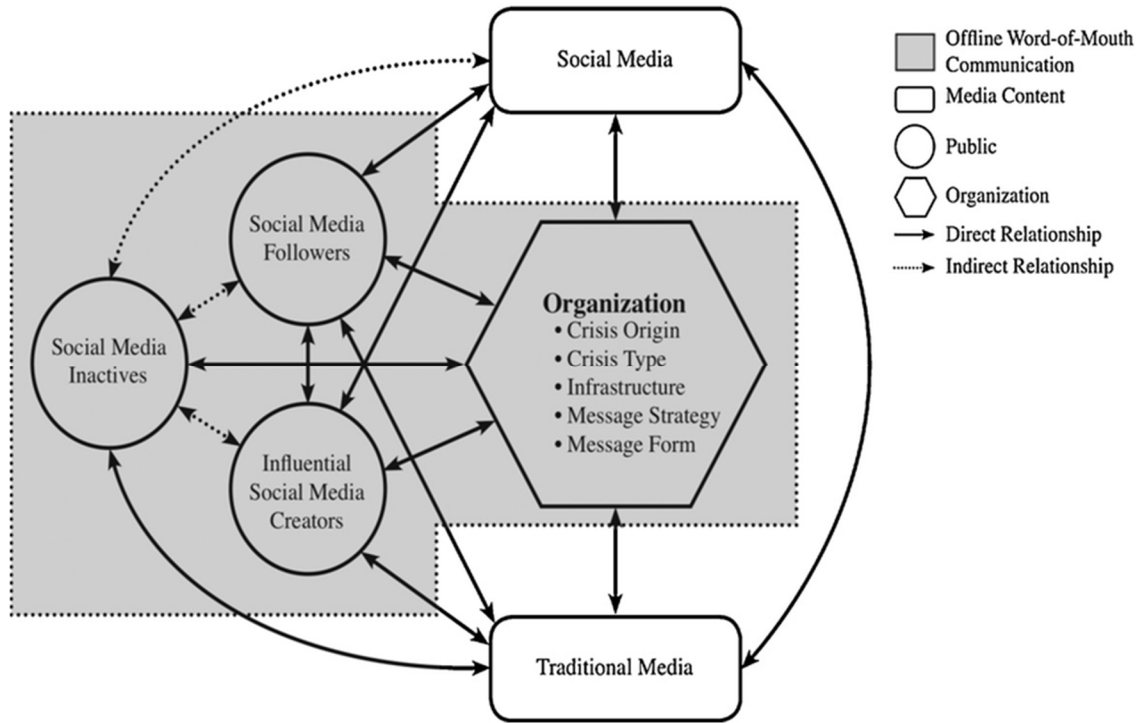
Figure 3. Social-Mediated Crisis Communication Model. Adapted with permission from "How Publics Respond to Crisis Communication Strategies: The Interplay of Information Form and Source," by Y. Jin, B. F. Lui, and L. Austin, 1995, *Fuel and Energy Abstracts, 37*(4), p. 347. Copyright 1995 by Elsevier B. V.

The SMCC Model failed to identify the organization type, public, private, or nonprofit, but described as "an organization experiencing crisis" (Kumar et al., 2013, p. 54). It would have limited applicability as a public sector model, since most public sector organizations are intended for disaster response. Using an earlier model proposed by Liu (2009), the public sector is described as having a "greater responsibility" (p. 378) in disaster situations than the private sector. Similarly, Avery and Lariscy (2012) described FEMA as an agency whose primary responsibility is crisis response.

Hughes (2012) offered a model designed with considerations for PIOs, separating the media from members of the public, thereby reinforcing the focus of Hughes's (2012)

research that technology has empowered the public to share valuable information with both responders and the media (see *Figure 4*). This model also reflected the changing role of the PIO due to technology.
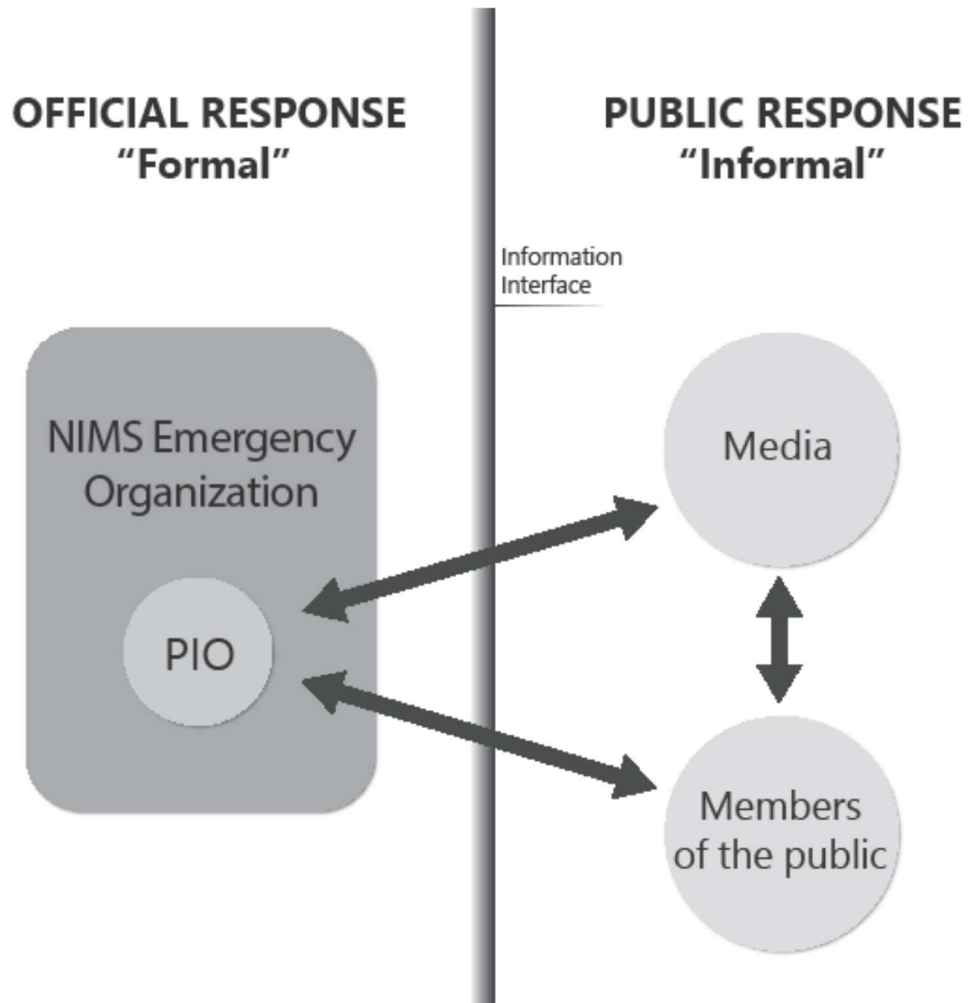
Figure 4. Public Information Officer (PIO) Communication Model. Adapted from "Supporting the Social Media Needs of Emergency Public Information Officers with Human-Centered Design and Development," by A. L. Hughes, 2012. Copyright 2012 by the University of Colorado.

Although this model is one of the first to acknowledge the current system of NIMS that PIOs operate within, the model reinforced the government's positioning of PIOs as information disseminators (one-way approach) and not proactive, strategic crisis communicators (two-way approach). Further, and for purposes of this study, this model does not provide direction to PIOs on development of crisis and disaster messaging, nor does this model, outside of a NIMS identification, reflect the other stakeholders with which PIOs engage: the internal response community.

In an effort to address the absence of comprehensive social media guidelines for PIOs, unfortunately, the models offered by crisis communication scholars have demonstrated a similar struggle in proposing models that provide guidance on social media usage during crisis. In addition, with a slight exception to Hughes (2012), the models are not informed by the federal government's social media policy doctrines.

In summary, this chapter outlined a review of the literature in public relations, crisis communication, and social media, as well as a professional document review of the federal policy directives on crisis communication response. Specifically, and for purposes of this study, social mediums such as Twitter have the potential to change aspects of public relations and to underscore the importance of two-way symmetrical communication (Briones et al., 2010; Muralidharan et al., 2011). This chapter demonstrated that actions focused on engagement in the organization-public relationship revealed social media's ability to support symmetrical communication (Waters & Williams, 2011). However, this chapter also established that scholars contend that, despite research recommendations to utilize social media to advance two-way communication, organizations and practitioners have been reluctant in developing

symmetrical strategies for social media use. Furthermore, it is only in times of crisis that organizations—public, nonprofit, or private—have attempted to utilize new technology (Coombs, 1999/2007; Waters & Williams, 2011). Moreover, in a review of existing crisis communication models, this chapter highlighted the insufficiencies of those models as well as in the actual federal government social media policy doctrines found in the 2009 and 2013 DHS ESF 15 policy manuals. Consequently, an examination of the research reinforces the purpose of this study to contribute to the scholarly literature by providing a social media crisis communication model that reflects a two-way symmetrical communication approach informed by federal policy guidelines.

Most important to this study is that the research design utilizes the grounded theory approach and emergent processes of triangulation, which included the analysis of various sources (crisis tweet data, elite interviews, and federal government policy documents) to detect and identify emerging patterns, themes, and tones to develop the proposed model (Leedy & Ormrod, 2005). Grounded theory enabled the researcher to explore and develop theory inductively.

Chapter 3

Methodology

Qualitative

In order to investigate the research questions presented in Chapter 1 and uncover emerging patterns, a qualitative research approach was selected. In the last two decades, scholars noted a growth in the use of qualitative methods to explore and analyze relationships between policy and other text and forms of social behavior that can be attributed, in part, to the "requirement in social policy fields to understand complex behaviors, needs, systems and cultures" (Ritchie & Spencer, 2002, p. 305). Although government policy scholarship is outside of the scope of this study, it is important to note that in researching policies that impact or are impacted by societal issues and trends like new media, a qualitative research method is recognized as significant in contributing to explaining and providing insight and themes of these policy and social relationships (Farmer, Robinson, Elliott & Eyles, 2006; Ritchie & Spencer, 2002).

Grounded Theory

True to the essence of qualitative research design, grounded theory draws upon field-based data collection such as interviews, observations, and document and artifact review. Babbie (2011) positioned grounded theory as "an inductive approach to the study of social life that attempts to generate a theory from the constant comparing of unfolding observations" (p. 327) toward the goal of uncovering a systematic process. Grounded theory often "focuses on process—including people's actions and interactions—related to a particular topic, with the ultimate goal of developing a theory about that process" (Leedy & Ormrod, 2005, p. 140). The purpose of this study was multifold and as such, it

was important to explore the processes of social media crisis communication as outlined in federal government policy documents and implemented in federal government tweets; to learn from the experiences of federal government emergency responders; and to develop a social media crisis communication model to reflect the role of the PIO and federal government crisis social media messages.

Triangulation was employed in this research design due to multiple data sources: policy documents, elite interviews and tweet content. Triangulation, a qualitative method, is utilized when "multiple methods, sources and even investigators are used in a study" (Farmer et al., 2006, p. 377). The triangulation approach "contributes to the validity of the research results when the multiple methods, sources, investigators, such as those in this dissertation study are employed" (Farmer et al., 2006, p. 377).

In addition, data in a qualitative study are not always structured, as they may come in the forms of interview transcripts, reports, procedural manuals, observations, and other text-based information. The overall processes of qualitative research are detection and a process of defining, categorizing, theming, mapping. and exploring various forms of data (Ritchie & Spencer, 2002). The processes, which entailed sorting, resorting, and detecting themes, helped to form a structure to rework ideas. By documenting reoccurring themes and issues that aid in identifying a thematic framework within which to sort the data, the researcher organized the data in a process of developing a framework, as defined by Ritchie and Spencer (2002). Therefore, this research study is an emergent design where the researcher follows the patterns that emerge from the multiple data sources in order to detect and identify themes.

In order to help answer the research questions, the researcher employed a contextual analysis of the policy documents and crisis tweets to identify the form and nature of what actually existed in the crisis tweet texts (Glaser & Strauss, 1967; Ritchie & Spencer, 2002). The researcher extracted crisis tweets from Twitter data identified by the official Twitter names used by select federal government agencies and media outlets during Hurricane Sandy, October 26 to October 31, 2012. According to the Hurricane Sandy FEMA After-Action Report, the cyclone made landfall on October 29, 2012.

Twitter was chosen because during Hurricane Sandy, ESF 15 crisis communicators managed FEMA social media accounts that included "the newly established Facebook and Twitter accounts" (DHS, SOP ESF 15, R-4) to provide information about the response and recovery. Twitter has also been established in scholarly literature as increasing in use during crisis events more than other social media platforms due to its rapid ability to send messages to mobile devices and real-time updates contributing to accuracy, reducing rumor circulation and situational awareness reporting (Sreenivasan, Lee & Goh, 2011; Vieweg, Hughes, Starbird & Palen, 2010; Yang et al., 2013). Crisis communication research centered on Twitter has appeared in several studies, such as the 2010 floods in Pakistan (Murthy & Longwell, 2013), terror attacks in Mumbai, India (Stelter & Cohen, 2008), Wild Canyon forest fire in Colorado (Sutton et al., 2014), and research studies of Hurricane Sandy (Chatfield, Scholl & Brajawidagda, 2014; Imran, Diaz, Elbassuoni, Castillo & Meier, 2013). The growing interest in Twitter in crisis communication research studies, along with the increased use of Twitter overall during a crisis, are clearly worthy areas of investigation as evidenced in

this study. Results will contribute to the existing as well as the emerging body of crisis communication research.

A key aspect of Twitter applied to this study was the function of retweeting (RT) or sharing a message with others, a function that researchers identify as an "informal recommendation system" that has been found to be used to "propagate information" (Sutton et al., 2014, p. 767). Multiple exposures to a message happen in the process of retransmitting a message in which new and existing users are re-exposed to content. Research shows an increased confidence in the information being shared (Sutton et al., 2014). Retweeting (RT) has important implications for researchers in exploring the types of shared information, as well as the behavioral implications behind users' decisions to retweet (Herverin & Zach, 2010; Sutton et al., 2014). The RT function can also aid crisis communicators in learning more about the themes, styles, and formats of crisis data RTs in order to develop the best use of crisis social media text to relay prevention, mitigation, and recovery information to large audiences. Strategic messages can also be extracted to enhance internal operations such as situational reporting that can aid first-responders and other government agencies reacting to a crisis. Sutton et al. (2014) asserted that "a focus tweet exposure and how tweets might be amplified across a social network through serial transmission (i.e. reposting or retweeting) is missing from recent research" (p. 768).

Data Collection

Twitter. The researcher gathered 982 tweets, segmented by RT counts and dates: pre-, during, or post- event. The crisis tweets were analyzed for emerging themes and commonalities in content and style. The types of URLs found in each crisis tweet were segmented and analyzed. The crisis tweets analyzed for this study were posted by seven

agencies: FEMA (@FEMA); FEMA Region 1 (@femaregion1); FEMA Region 2 (@femaregion2); FEMA Region 3 (@femadregion3); Department of Homeland Security (@dhsgov); National Hurricane Center Atlantic (@nhc_atlantic); and National Oceanic Atmospheric Administration (@noaa). In addition to the federal agencies' Twitter messages, tweets from local and national news outlets were analyzed in an effort to explore and inform the creation of the revised PIO model proposed in this study. The media represented were national broadcast outlet ABC (@abc); national, elite print publication *The New York Times* (@nytimes); and local media outlets: ABC7 (@ABC7NY) and the New Jersey based *Star-Leger* newspaper (@starledger). A stratified sample of Twitter posts collected by Arizona State University's (ASU) TweetTracker Lab was used to collect the federal government and media tweet data. The search pulled Twitter data by user account (the seven federal government accounts and four media accounts listed above); content of the actual tweet text; date tweet posted; and retweet count; and inclusion of selected hashtags by user of the following hashtags: #Sandy, #Frankenstorm, #hurricanesandy, and #hurricane.

The purpose of the TweetTracker platform is to provide timely, accurate, and unbiased information about crisis events to dispatchers and first-responders, as well as researchers. The objective of this project is to empower first-responders with relevant, actionable local information gleaned from social media. ASU has successfully built and deployed systems such as ASU Coordination Tracker (ACT), BlogTrackers, CrisisTracker, and TweetTracker platforms to tackle large data issues. TweetTracker APIs, used for this study, is a vast collection of crisis-related tweets that, to date, have been shared and used by more than 70 organizations including, but not limited to, the

Pacific Disaster Center (PDC) and University of Arkansas at Little Rock. The TweetTracker platform, desktop versions, and TweetTracker data have been made available to multiple academic institutions, nonprofit organizations and government agencies, including the Naval Postgraduate School, Carnegie Mellon University, the United States Military Academy, Naval Postgraduate School, George Mason University, The Red Cross, and the Department of Housing and Urban Development (HUD). The application of TweetTracker reflects the vision of Lindsay (2011) in that social media use by the government should "move beyond information dissemination and be used systematically and strategically to move agencies, such as FEMA, to improve response and recovery capabilities" (p. 2).

Social media policy documents. The social media policy documents collected and reviewed were the 2009 and 2013 Department of Homeland Security (DHS) Standard Operating Procedures for Emergency Support Function 15 (ESF 15). These public documents are available on the DHS and FEMA websites and can also be found through a Google search under "FEMA Crisis Communication Policies." These policy directives integrate the public affairs and the Joint Information Center (JIC), Congressional Affairs, Intergovernmental Affairs and Planning and Products under the umbrella of External Affairs. The relevance of these documents in informing this study is that these specific federal policy directives outline the structure and flow of communication, including social media communication, during a crisis event that requires a federal response. The ESF 15 policy directives for crisis communications are applicable for all public emergencies including, but not limited to, acts of terrorism, shootings, natural and manmade disasters, and environmental hazards and threats.

The 2013 policy directive used is, as of the date of this study, the most recent

federal government crisis communications directive affecting social media use during a

crisis event. The 2009 document was included in this study because it was the most

recent federal government policy directive available to PIOs for Hurricane Sandy. The

ESF 15 was created to ensure that during a crisis incident information is accurate, timely

and reaches the intended targeted audiences – governments, media, private sector and the

"local populace" (DHS, SOP, 2013, pp. 5-6).

Elite interviews. For purposes of this study, a qualitative emergent design was

employed that used triangulation to capture information from multiple sources, including

elite interview subjects. Elite interviews are in-depth discussions with people with special

knowledge, chosen by the researcher because of who they are or what position they

occupy (Dexter, 1970; Hochschild, 2009). The researcher conducted elite interviews with

two FEMA officials who were familiar with federal government response policy

directives and who had been active in response positions during a major disaster.

Qualitative researchers use interviews to "elicit language forms" (Lindlof &

Taylor, 2011, p. 175) used by the participants. Interviews enable researchers to "gather

information about things or processes that cannot be observed effectively by other

means" (Lindlof & Taylor, 2011, p. 175). Interviews can also be used to inquire about

past events as well as to verify, validate, or comment on information obtained from other

sources.

This study applied a three-step responsive interviewing approach that included (a)

the researcher and the interview subject formed a relationship during the interview

process that results in ethical responsibilities for the researcher; (b) the goal of the study

focused on depth of understanding more then breadth; (c) the researcher maintained a flexible design throughout the study (Rubin & Rubin, 2005). The interview subjects were offered "special, non-standardized treatment," which included "stressing the interviewee's definition of the situation; encouraging the interviewer to structure the account of the situation; letting the interviewee introduce, to a considerable extent, notions of what the subject regards as relevant" (Dexter, 1970, p. 5).

The elite interview subjects were Colonel Terry Ebbert, United States Marine Corps (retired), founder of Ebbert & Associates, a firm that provides planning, training, and education in all aspects of emergency preparedness, public safety, disaster management, and security matters. Colonel Ebbert was the former Director of Homeland Security for the City of New Orleans. Other assignments included serving as the Military Secretary to the Commandant of the Marine Corps and Commanding Officer of The Basic School for Marine Officers. He was a recipient of the Navy Cross, the nation's second highest award for valor for leadership actions in the Republic of Vietnam. Colonel Ebbert currently served as a Distinguished Visiting Fellow to the Homeland Security Institute (HSI).

Kelly Hudson, an External Affairs Officer for FEMA, also participated as an elite interview subject. Hudson was an ESF 15 officer with 12 years of disaster and crisis experience at FEMA as a lead ESF 15 overseeing JIC operations. Her experience included such crises as the Joplin, Missouri tornados, Hurricane Katrina, and the BP Deepwater Horizon oil spill.

Dr. Huan Liu, Professor, Computer Science and Engineering in the School of Computing, Informatics, and Decision Systems Engineering; Ira A. Fulton Schools of

Engineering, Arizona State University and senior researcher; and Fred Morstatter, co-author of *Twitter Data Analytics* (2014), also served as elite interview participants.

Informed by Harvey (2011), the process for conducting and collecting data for the interviews was as follows:

- Each respondent was asked the same series of questions.

- The questions were created prior to the interview.

- There was generally little room for variation in responses and no open-ended questions were included.

- The interviewer played a neutral role and acted professional and friendly, but did not assert their opinion in the interview.

There are a range of ways to collect and record structured interview data. The data collections methods related to this study included:

- Telephone interviews where the participants' responses were recorded.

- In-person interviews during which participant responses were recorded via audio tape.

- Email response from Dr. Huan Liu, who was ill and away from his office.

- Colonel Ebbert interview based upon handwritten responses and audio recording.

The interview schedule and list of questions (see *Figure 5*) for federal government officials and TweetTracker representatives reflected variations that were dependent upon their knowledge base.
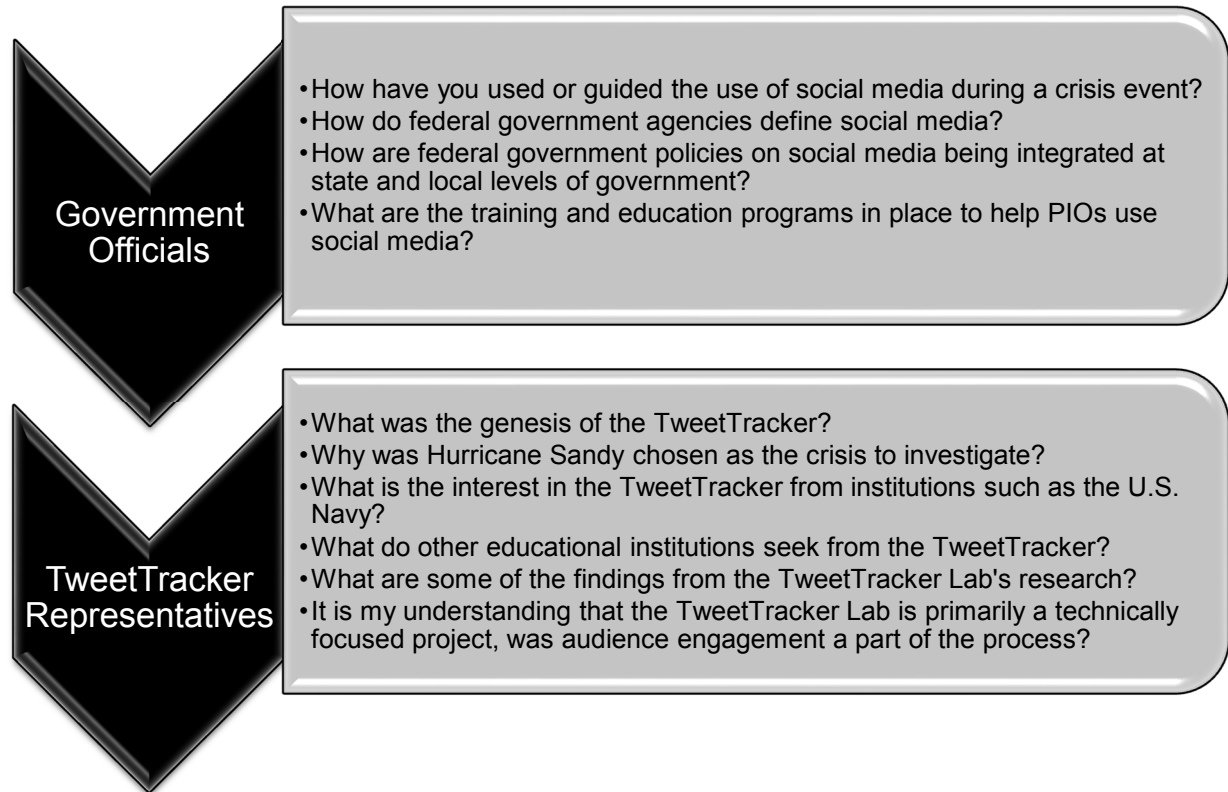
Government Officials
- How have you used or guided the use of social media during a crisis event?
- How do federal government agencies define social media?
- How are federal government policies on social media being integrated at state and local levels of government?
- What are the training and education programs in place to help PIOs use social media?

TweetTracker Representatives
- What was the genesis of the TweetTracker?
- Why was Hurricane Sandy chosen as the crisis to investigate?
- What is the interest in the TweetTracker from institutions such as the U.S. Navy?
- What do other educational institutions seek from the TweetTracker?
- What are some of the findings from the TweetTracker Lab's research?
- It is my understanding that the TweetTracker Lab is primarily a technically focused project, was audience engagement a part of the process?

Figure 5. Interview questions

Data Analysis

Twitter. In a study of Hurricane Sandy crisis tweet texts, Sutton et al. (2014) found that tweets that were "more on topic" (p. 778) were retweeted or shared more often than those that were not on topic. Since this study proposed a model to guide PIOs in creating crisis tweet content, the analysis of the data included discerning the characteristics of retweets in order to assess a pattern in crisis text themes and format based on sharing activity. The crisis tweet data collected by TweetTracker were resorted over a four-week time period and reorganized to include RT count. Several computer and manual reviews of the crisis tweet data for emerging themes and tones continued until

established themes and tones had been established. Each step benefitted from consultation with Dr. Liu to maintain accuracy.

Three groups of RT counts emerged based on several reviews of the crisis tweet data. The data revealed the majority of the RT counts ranged from single digits to as high as 100, with a minority of the RT's above 500 and even a smaller number of tweets with RTs exceeding 1,000. Therefore, the RT groups were RTs $\geq 100 \leq 99$; $\leq 99 \geq 49$ and $\leq 48 \geq 0$ (see Appendix B).

Each established numerical RT grouping reflected the content of the crisis tweets reviewed for emerging patterns in theme and tone. Hatch (2002) defines a pattern is defined as a repetitive, regular or consistent occurrence or action that appear more than twice (p. 5). For qualitative research, patterns are evidence of findings that demonstrate repetition or habits (p. 6). Hatch also offered that patterns can be characterized in different ways, meaning that patterns can be similarities, differences, evidence of frequency, sequence, causation or correspondence (p. 6). In this data analysis, patterns were characterized by frequency.

A review of crisis tweets revealed emerging patterns with crisis tweets that provided specific directions to vulnerable communities on actions such as evacuation routes and shelter locations at the greatest (above 50) frequency. These tweets included language such as "do," "don't do," "check," or some other related directive or instruction (directional/informational/how to). In addition, there were descriptions of the enormity of the hurricane and potential consequences, such as flooding or business closures due to the severity of the hurricane (update/impact). People were also made aware that the hurricane was approaching and given steps to take in advance to reduce harm

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(prewarning/safety/impact), as well as alerts regarding the severity and status of the hurricane (impact/update) and projections of an announcement or broadcast tone, such as announcing evacuations for certain areas or that the mayor had a press conference. However, these offered no further information, just the announcement of information (update/headline or announcement/impact).

These initial patterns were categorized as the following themes: Headline and Announcement, Informational, Directional, Impact, Prewarning, Safety, Update, and "How To." Themes and tones were organized based on themes and tones, and three themes and two tones were established: Directional (D), Prewarning (PW), Update (U), and tones were Headline/Announcement (HA) and Impact (I). These themes and tones were most often in the greater than 100, or above a 48 RT count category. Dominant themes combined with other themes produced dual-themed crisis tweet content. Another important note in this stage of the data analysis, addressed in the Discussion section, is that although the emerging themes and tones were consistent in both the media and federal government crisis tweet text, there was a difference in the RT count discovered based on the inclusion of a URL, hashtag, @mention from a federal government agency or a media outlet. Table 2 displays Hurricane Sandy theme and tone crisis definitions.

Table 2

Hurricane Sandy Theme and Tone Crisis Definitions

Themes	Description	FEMA Phase	Example
*Directional Theme (D)	Crisis tweets that provided specific instructions to public on how to manage the crisis response, recovery and other stages	All Phases	"Turn the refrigerator to its coldest setting and keep its doors closed. #Sandy http://go.usa.gov/Yp4H" - Public Sector, @DHSgov
Prewarning Theme (PW)	Crisis tweets that alerted the public of an impending crisis and recommended behavior adjustments to mitigate/prevent impacts	Preparedness	"As #Sandy moves up the coast, make sure your emergency kit is up to date and ready to go. Learn more here: http://go.usa.gov/Yp4H" – Public Sector, @FEMA
Update (U) Theme	Crisis tweets that provided specific information on the status of threat	Preparedness Response Recovery	"Hurricane #Sandy Intermediate advisory 28A issued. Sandy now moving north-northwestward and accelerating http://go.usa.gov/W3H"- Public Sector, @FEMA
*Headline/ Announcement Tone (HA)	Crisis tweets that had the tone of a broadcast or amplification of a message designed to grab attention	Preparedness Response Recovery	"10/28: President Obama received a #Sandy briefing" @fema HQ @femaregion1
Impact Tone (I)	Posts that state the expected or resulting damages from the crisis -- depth of expected or actual flooding, injuries/fatalities, power outages, etc.	Preparedness Response Recovery	"(Oct 29) #Sandy is bringing high winds & heavy rains. Avoid standing water & watch for downed limbs and power lines." - Public Sector, @DHSgov

Social media policy directives. The social media policy directives analyzed were the DHS ESF 15 federal government policies that provided guidelines on social media use during a crisis event. The primary policy documents authored by DHS highlighted social media usage in the agency's 2009 and 2013 ESF 15 Standard Operating Procedures manual. These specific guidelines were analyzed for emerging themes to assess compliance between the policy directives and the actual crisis tweet text.

A review of the 2009 policy document appears in Annex R titled "Emergency Support Function #15 External Affairs Social Media." The purpose states that the social media policy directives were designed to "outline the plan for Federal departments and agencies to use interactive communications (Web and Social Media)" (p. R-1). These guidelines focused on website and press newsroom operations. For example, the guidelines emphasized providing background information, announcements, and updates, which connote a reactionary communications practice and reflect the public information model approach of disseminating information through the mass media and controlled media without a vehicle for feedback—a broadcast not an engagement practice.

New technology is also positioned in policy directives as a "technique" that "may" be used to inform the public (DHS SOP ESF 15, 2009, R-2). Again, this is an announcement and update function, not a strategic nor an engagement communications approach. This section continued to list definitions of various web and social media tools, such as Wikipedia, Text Messaging, Twitter, and Widgets. Social Networks were described as "future" instruments that government may use to "connect" with the public. In this 2009 description, Facebook and MySpace were the two referenced social network examples. Twitter was positioned as an instrument that the federal government can use to

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"push" disaster messages to users that "broadcasts updates, press releases, preparedness massages and instructions." The last section of Annex R, "4.0 Content," is one-sentence that repeats guidelines to provide, broadcast, and disseminate information.

Much of the language and sections of the 2013 social media policy directives were consistent with the 2009 policy directives. Differences in the purpose and concept of operations sections are discussed in the Findings section. Similarly, the section for "Department and Agency Websites" guided PIOs to use social media to coordinate up-to-date information and added guidelines to "cross-link" and share information with other government agencies. The "Federal Newsroom" section was eliminated from the 2013 version and replaced with usa.gov as the website to serve as a coordinating source of information for agencies during a response.

A new section added to the 2013 social media policy directives was "Department and Agency Social Media Sites" and replaced the 2009 "Federal Newsroom" and "Social Media." This new section offered guidelines as to how federal agencies should manage existing government social media accounts. In this analysis, "amplify," "updates" and "dissemination" of information were emerging themes, reinforcing similar guidance themes in the 2009 policy directives that demonstrate nonstrategic, reactive, and one-directional, asymmetrical broadcast or announcement functions that do not offer or encourage feedback or interaction. Although, "crosslinking," "engagement," and "sharing" were terms in the 2013 social media policy directives, only one policy directive addressing engagement with the public was provided, and that was to "ask" users to RT and share information.

Section "4.0, Messaging and Distribution," offered more "preferred" directives regarding content and message development for social media. This section positioned social media as "the best way to support the response and recovery of efforts and engage audiences" (DHS ESF 15 SOP, 2013, p. R-3). The emerging themes among these "preferred" content and messaging guidelines for social media use were "updates," "amplifying," and "cross link" messages from other agencies. In addition, "monitoring" was also a theme regarding social media use in the policy directives. A special pull-out box titled, "Hurricane Sandy: Case Study" was highlighted in this section (see Appendix C), positioning social media monitoring as one of the successes during of Hurricane Sandy. Two of the points of social success during Hurricane Sandy were:

> The social media team worked across ESF #15 to develop and write social media content, and to manage the FEMA social media accounts – including the newly established Facebook and Twitter accounts that provided specific updates about Sandy response and recovery.

> Additionally, the team used social media for situational awareness including information about social media discussions on power outages, volunteering and donations, and sentiment about the response efforts, that was shared with Department, ESF #15, and interagency leadership, as well as the National Response Coordination Center, Joint Field Offices, and other important partners. (DHS ESF SOP, 2013, pp. R-4).

The overall emerging themes from the 2009 and 2013 Social Media sections of the DHS ESF 15 SOPs were that social media content should provide updates of the crisis event, disseminate information about resources, and amplify messages from other agencies and to crosslink or refer to other agencies. Appendix A outlines the specific social media policy directives analyzed:

This crisis tweet data and the federal government social media policy documents were organized on an Excel spreadsheet and sorted based on the definitions of themes

and tones identified by the researcher. The crisis tweet formed the rows of the Excel spreadsheet used to identify the contextual themes and tones outlined in the Data Analysis section (see Table 2). Columns were also added that captured RT count (see Appendix B).

Elite interviews. In providing context and addressing how federal government agencies define social media, Colonel Ebbert explained that the "capabilities of the technology have been beyond the people who run them." Colonel Ebbert stated that the U.S. government is "getting better" at "pushing information proactively," although Ebbert admitted that the government's capacity to respond to the public utilizing social media remains an issue that he described as "overwhelming."

When discussing education, Ebbert responded that there remains a need for "education" at all levels on social media. Specifically, he stated that there is a "need to build discipline in new media that is similar to the discipline that has been established in radio," and that there is a need to determine or "preplan." His reasoning was that "in the area of digital communications, there is a great need and room for improvement in many governments, not just the U.S.," because "digital communications impacts every area of the response."

When discussing training and education, Kelly Hudson revealed that social media at the federal government level was still in an "infancy" stage. In fact, she noted that although the Digital Communications Specialist was placed under the JIC Manager in the ESF 15 policy directives, when she had served as the ESF 15 lead, she had placed this specialist under Planning and Products for a more strategic use. Hudson stated that Planning and Products was where the messages were "produced" like the "news

releases." Hudson stated that news release creation and social media message creation work together. She reported that currently, FEMA views social media as an "operational tool." Echoing Ebbert's perspective, Hudson concurred that social media was used to "push" messages out to the public.

Another revealing comment by Hudson also reinforced the federal government social media policy directives that focused on the use of social media to seek out incorrect information about a crisis (rumors) and correct the information using social media and traditional media channels. This practice of seeking information from the public only for one purpose—to reveal rumors, and then to "push" out the corrected information—is reflective of the public information model practice as described by Grunig and Hunt (1984). Hudson stated:

> The digital communications specialist – is for analysis because they're out looking at all of the sites, the various forums, like Facebook, and Twitter, and they're analyzing what the community is saying about the recovery process or the response, and when they bring that information in, that becomes the source of rumor, rumor control. So, if folks are spreading the wrong piece of information around, or we see something that's trending with what might look like something that's fraudulent…then we go back to inform our Planning and Products where they are doing the strategic messaging and we begin to reshape how we can counter that information.

Hudson emphasized that the most trusted channel to tell the story is traditional media, ". . . if you go back to how we first began, news releases go out. The news releases still tell the story of programs that are coming to the field, what people should do, what dangers they should look out for . . . ."

Ebbert and Hudson's interviews reinforced that social media usage by the federal government was primarily a function of "pushing" out messages. It is also important to note that at the time of this research a revised edition was in the process of development

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and due to the ranking and status of the interview participants that were solicited, many of them had to have a clearance to participate. The clearance was not granted.

In response to how government agencies utilize TweetTracker, Fred Morstatter, a senior researcher in the Data Mining and Machine Learning (DMML) program that created the TweetTracker, stated that the social media platform initially designed as a tool for humanitarian and disaster relief assistance was now available to over 200 agencies, including federal government agencies and disaster relief organizations. Morstatter explained the genesis for TweetTracker: "Research shows that when something happens, people tweet about it before they call 9-1-1. So, we decided to develop a tool to collect this information. The Arab Spring was the first project for TweetTracker."

In terms of audience engagement, Morstatter commented that audience engagement had not been something they considered designing TweetTracker to analyze. However, he stated that the data from the TweetTracker were used by an organization to track tweet dialogue:

> The closest project to audience engagement, would be a project by Humanitarian Row that wanted to find out why people do not go to shelters during disasters. TweetTracker was used to examine public conversations about this issue and the organization learned that people with pets did not go to shelters because they did not know what to do with the pet. So, they adjusted their messages to educate people about this issue.

Assumptions and Limitations

According to Leedy and Ormrod (2005), "Assumptions are so basic that, without them, the research problem itself could not exist" (p. 62). Simon (2011) further asserted that qualitative researchers assume that research is context bound, meaning, as demonstrated in this qualitative emergent design triangulation that "patterns and theories

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can be explicated to develop a profound understanding of a situation or phenomenon" (p.

1). The key philosophical assumption of qualitative research, according to Merriam

(1998), is the view that individuals construct reality by interacting with their social

worlds. It is assumed that meaning is embedded in people's experiences, and in context of

this study, crisis events, that these meanings can be mediated through the investigator's

own perceptions. The key concern, according to Simon (2011) is to understand the

phenomenon of interest from the participants' perspectives, not the researcher's.

Limitations, however, are potential weaknesses in a study and are out of the researcher's

control (Simon, 2011).

The following are limitation in this study:

(a) Limited to the study of a federally declared major disaster, i.e., Hurricane

Sandy, that in compliance with the Stafford Act, requires a federal government

response. State and local crisis communication response efforts are not included

in this study.

(b) This study examines the time period of the disaster response phase October 26

- October 31, 2012 and not the entire phase of the recovery. FEMA chronicles the

incident period from October 26 - November 8, 2012.

(c) Interviews are directed to those disaster response officials willing to

participate and assigned to or with first-hand knowledge of the disaster

communication duties in the Joint Information Center (JIC).

Definition of Terms

Identifying the research process, procedure, and limitations helped define the scope

of the study and provided a basis for comparison with similar case studies (Lincoln &

Guba, 1985). Furthermore, precise, clear definitions aided the researcher in clarifying the meaning and method of the study, especially with terms that may be interpreted in a multitude of ways; therefore, key elements are defined both conceptually and operationally.

Conceptual definitions. Conceptual definitions describe the meaning of a word and specify the different aspects of a construct (Wimmer & Dominick, 2011). Through conceptual definitions, abstract concepts are "refined and specified" (Babbie, 2013, p. 147). The following conceptual definitions were applied to this research study.

Crisis: An event and/or a situation which endangers the established system, the health, life, and property of its members . . . the term "crisis" is treated as being separated from . . . other concepts based on the intensity and scope of influence. The terms *disaster, hazard, accident*, etc., refer to only one event and/or situation, while *crisis* includes the concepts of natural disasters, manmade/technological disasters, and social disasters (Kim & Lee, 2001, p. 502).

Disaster declaration: The Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. §§ 5121-5207 (the Stafford Act) §401 states in part:

> All requests for a declaration by the President that a major disaster exists shall be made by the Governor of the affected State. . . . Based on the Governor's request, the President may declare that a major disaster or emergency exists, thus activating an array of Federal programs to assist in the response and recovery effort (pp. 1-3).

Disaster phases: The National Governors' Association (NGA) in the late 1970s developed four phases to describe the steps and activities that encompass emergency

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management: Mitigation, Preparation, Response, and Recovery. In 2006, FEMA

established Prevention, as a fifth phase.

Disaster response: During the disaster response phase, a trigger event ignites a

disaster and organizations focus on mitigating harm and damage (Seeger et al., 2003).

Federal agency: "Any department, independent establishment, government

corporation, or other agency of the executive branch of the Federal government,

including the U.S. Postal Service, but not including the ARC" (FEMA, Mission

Assignment SOPs Draft, 2007, p. 51).

Risk: "A measure of the probability that damage to life, property, and/or the

environment will occur if a hazard manifests itself: this measure includes the severity of

anticipated consequences to people." (EPA, *Technical Guidance for Hazards* Analysis,

1987, p. A-7).

Social media: Social media refers to several web-based platforms that allow users

to develop personal or professional profiles, create or co-create content in a public or

semi-public space. Social media platforms also allow users to connect and share content

with other user profiles and/or content (Houston et al., 2014).

Operational definitions. Operationalization is the process of specifying the exact

operations involved in measuring a term to result in empirical observations of concepts in

a real-world setting commitment to a specific set of operations involved in measuring a

term (Babbie, 2011). Operational definitions describe the procedures used to observe or

measure the topics for the research questions and other key elements of the study (Rubin,

Rubin, Haridakis & Piele, 2010). The following operational definitions apply to this

study.

@reply or mention/Twitter handle means a Twitter update (a tweet) that is directed to another user in reply to their update. An @reply will be saved in the user's "Replies" tab. Replies are sent either by clicking the "reply" icon next to an update or typing @ username message (Beal, 2013). It is also known as a Twitter handle.

Crisis Tweet data were utilized for this study of Hurricane Sandy tweets during the timeframe of October 26-31, 2012.

Department of Homeland Security (DHS), created in 2003, incorporates many federal government agencies that are responsible for reacting to a wide-range of disasters and threats. A Cabinet-level agency, DHS's activities and functions range from border security to emergency response and cyber security (Rubin, 2012, DHS.gov).

Directional theme (D) refers to crisis tweets that provided specific instructions to public on how to manage the crisis response, recovery and other stages.

ESF 15 SOP, or Emergency Support Function 15 Standard Operating Procedures, is a set of procedures and protocols for the ESF 15 function to support federal domestic incident management during an incident requiring a coordinated federal response (DHS ESF 15 SOP, 2013, p. 6).

ESF 15 team develops and executes an external affairs strategy to support the incident action plan. This team utilizes the ESF15 SOP to guide all operations. A central feature of the ESF 15 is to bring unity of effort to all strategic communications planning and implementation. The components of ESF 15 are: Intergovernmental Affairs, Public Affairs/Joint Information Center, Congressional Affairs and Private Sector. The Planning and Products component of ESF 15 includes the development of all external and internal

communications strategies and products for the ESF 15 organization (DHS ESF 15 SOP, 2013, pp. 9-10).

Federal Emergency Management Agency (FEMA), created in 1979 under President Jimmy Carter, was designed to address all phases of emergency management: preparedness, mitigation, response, and recovery. To do this, FEMA works with agencies and organizations, including state and local emergency management agencies, other federal agencies that have statutory authority for emergency management, nonprofit and private sector organizations. On March 1, 2003, FEMA became part of the Department of Homeland Security (DHS) (Rubin, 2012).

FEMA Region 1 serves Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont. FEMA Region I works closely with state, local and tribal emergency management partners in New England to prepare for, protect against, respond to and recover from all hazards (FEMA.gov).

FEMA Region 2 is responsible for disaster response support and efforts in New York, New Jersey, Puerto Rico and the U.S. Virgin Islands (FEMA.gov).

FEMA Region 3 has a population that ranges from densely urban in Washington, D.C. and Philadelphia to sparsely rural in the hills and valleys of West Virginia (FEMA.gov).

Hashtags (#) are developed in emergencies to aid people in monitoring communications from multiple sources surrounding an incident (St. Denis, Palen & Anderson, 2014; Sutton, 2008).

Headline/Announcement tone (HA) refers to crisis tweets that had the tone of broadcast or amplification of a message designed to grab the reader's interest or attention.

Impact tone (I) refers to posts that state the expected or resulting damages from the crisis, such as depth of expected or actual flooding, injuries/fatalities, power outages.

Mitigation is a phase of Emergency Management designed to promote strategies and actions to reduce loss from future threats.

National Incident Management System (NIMS) is a comprehensive, national approach to incident management that provides a template for incident management, regardless of cause, size, location or complexity (FEMA NIMS Overview, 2011).

National Response Framework (NRF) is a guide as to how the nation responds to all types of disasters and emergencies. NRF provides guidance for the whole community—private sector, public sector, nongovernmental agencies, and the general public. NRF addresses the mission areas of prevention, protection, mitigation, response, and recovery. The NRF is always in effect, and elements of it can be implemented at any level at anytime (DHS ESF 15 SOP, 2013, pp. 6-7).

NHC Atlantic, or the National Hurricane Center, is a unit of the National Oceanic and Atmospheric Agency (NOAA) and a component of the National Centers for Environmental Prediction (NCEP) located at Florida International University in Miami, Florida. NHC's mission is to save lives, mitigate property loss, and improve economic efficiency by issuing the best watches, warnings, forecasts, and analyses of hazardous tropical weather and by increasing understanding of these hazards (NHC Atlantic.gov).

NOAA, or the National Oceanic and Atmospheric Agency, is a unit within the U.S. Department of Commerce. NOAA's mission is to understand and predict changes in climate, weather, oceans, and coasts; share that knowledge and information with others; and conserve and manage coastal and marine ecosystems and resources (NOAA.gov).

Preparedness is a phase of Emergency Management designed to communicate preparedness messages that encourage and educate the public in anticipation of an impending threat.

Prewarning theme (PW) refers to crisis tweets that alerted the public of an impending crisis and recommended behavior adjustments to mitigate or prevent negative impacts caused or could be caused by the impending crisis.

Public Affairs/Joint Information Center (JIC) activities ensure the coordinated and timely release of incident-related prevention, preparedness, response, recovery and mitigation information to the public. ESF 15 provides interagency coordination mechanisms and resource support for federal JIC activities (DHS SOP ESF 15, 2013).

Public Information Officer (PIO) advises and represents the Incident Command on all public information matters relating to the management of the incident. The Public Information Officer supports the Incident Command structure as a member of the Command Staff. PIOs are able to create coordinated and consistent incident-related public messages through appropriate channels, using the most effective means available (DHS, ESF 15 2013).

Recovery is a phase of Emergency Management designed to provide individuals and communities impacted by a threat with information on how to receive disaster relief (FEMA, Chapter 1, Introduction to Crisis, Disaster and Risk Management Concepts, p. 17).

Response is a phase of Emergency Management designed to provide to the public notification and specific information on an ongoing disaster or threat.

Retweet, abbreviated as RT, is used on the Twitter website to indicate that the user is tweeting content that has been posted by another user. The format is RT @username where username is the Twitter name of the user being retweeted.

Tweet describes a Twitter update using 140 characters or less. People tweet personal messages, random thoughts, post links or anything else that fits in the character requirements (Beal, 2013).

Twitter is an online social networking service that enables users to send and read short 140-character messages called "tweets." Registered users can read and post tweets, but unregistered users can only read them.

Update (U) theme refers to crisis tweets that provided specific information on the status of threat.

Summary

This chapter provided an overview of the characteristics and principles of grounded theory and triangulation and how they guided this study's research design. Data collection procedures were outlined and explained. In addition, the subsequent steps of data analysis were presented in relation to theory development.

Chapter 4

Findings

This section outlines the findings from an emergent design triangulation research methodology as described in Chapter 3 that established a pattern of reoccurring themes derived from multiple reviews, sorting, and categorizing of Twitter crisis tweet data, federal government social media policy directives, and responses from participants in elite interviews. Findings from this process have been applied to six research questions. This section presents the findings.

RQ1: What is the overall theme of the Twitter postings between October 26-October 31 (Hurricane Sandy)?

The findings from a contextual analysis of Hurricane Sandy crisis tweet data identified three emerging themes (Directional, Prewarning, and Update) that were prominent among the crisis tweets analyzed during the established timeframe. However, the findings revealed that the overall theme was Directional. As outlined in Table 2, Directional themed crisis tweets provided specific instructions to the public on how to manage the crisis before, during, and after impact. Prewarning themed tweets alerted the public of the approaching hurricane and recommended behavior adjustments to mitigate or prevent negative impacts from the impending crisis. Update themed tweets were tweets positioned within the context of time (schools closing today, storm brings high winds tomorrow) or new information that had been unavailable previously or had been changed.

RQ2: What is the overall tone of the Twitter postings between October 26-October 31 (Hurricane Sandy)?

The two emerging tones were Headline/Announcement and Impact. The findings showed that Headline/Announcement was the overall tone of the crisis tweet data. The Headline/Announcement tone was categorized as crisis tweets that projected a broadcast or amplification tone designed to grab attention, i.e., "Stay away from windows during hurricanes" (FEMA Region 1, 2012). Some of these themed tweets were identified by the newspaper headline format in which they were written where the first letter of each word was capitalized and the total tweet character count was less than 30 characters, i.e., "East Coast Braces for Sandy" (FEMA Region 1, 2012).

RQ3: Do the Twitter postings during October 26-October 31 (Hurricane Sandy) contain risk communication messages (impending threats to health or environment)?

The findings from the crisis tweet data revealed that risk communication messages, like the above examples, were not common themes in the crisis tweet data during the established timeframe of this study. The National Research Council (1989) defined risk communication as "an exchange of information about the nature, magnitude significance or control of a risk" (p. 2). As noted in Chapter 2, risk communication messages were most often associated with advanced warnings that discussed with vulnerable communities "threat sensing and assessment" (Reynolds & Seeger, 2005, p. 45). These types of messages were most often part of public awareness campaigns with preestablished timeframes and focused on known negative consequences of risks, usually health or environmental, such as risks associated with smoking, drunk driving, or pandemics and how negative impacts from these risks can be reduced or prevented. Risk messages are long-term in scope, a precrisis message that fosters awareness and understanding (Reynolds & Seeger, 2005). For example, the following Prewarning crisis

tweet text shared information about steps and adjustments the public needed to take in preparation for hurricanes in general. These tweets encouraged conversation about physical and mental preparation for a crisis that allowed those potentially affected to assess the crisis and how it could alter their environment:

"What to do before, during, and after a #hurricane. On the web: http://www.Ready.gov/hurricanes On your phone: http://m.fema.gov/hurricanes.htm" (NOAA, 2012).

"Disasters are stressful! Here are some coping tips: http://www.ready.gov/coping-with-disaster Hotline: 800-985-5990 #Sandy" (ABC, 2102).

For purposes of this study, Prewarning crisis tweets were identified as the tweets in the data that were posted before landfall of Hurricane Sandy, October 26-27. Because risk communication messages also focus on understanding and education before and after impacts of a risk, crisis tweet data captured during the recover phase was also included in an effort to explore this research question. The timeframe for the recovery tweets was October 30-31.

In addition, an analysis of Prewarning-themed tweets revealed that the Prewarning crisis tweets were often integrated with specific information about the crisis, which is an element of crisis communication (Covello, 1992; Reynolds & Seeger, 2005) and thus produced a dual-themed crisis tweet. For example, the following crisis tweet urged preparation actions for the hurricane's landfall, and also offered specific instructions on how to prepare for Hurricane Sandy as opposed to preparation in general for hurricane season:

"As #Sandy continues to move up the coast, make sure your emergency kit is up to date & ready to go. Learn more here: http://go.usa.gov/Yp4H" (NOAA, 2012).

RQ4: Do the Twitter postings during October 26-October 31 (Hurricane Sandy) contain crisis communication messages (updates and information about the specific event)?

The findings support RQ4 and find that crisis communication messages were prevalent in the Hurricane Sandy tweet data. Crisis communication as a strategy and practice focuses on communication about how to prevent, mitigate, and respond before, during, and after specific public emergencies, natural and environmental disasters; therefore, messaging reflects the same elements (Mileti & Sorensen, 1990; Reynolds & Seeger, 2005). Historically, crisis communication messages were disseminated through the mass media to stakeholders and other targeted publics to provide specific information about the crisis, as well as how to reduce the negative outcomes of a crisis to the public, organizations, and stakeholders (Coombs, 1999). The type of message that provides information about the crisis and the steps how to manage the crisis have been established as crisis communication messages (Coombs, 1999). For example, the following tweet demonstrates a specific Hurricane Sandy crisis communication message:

"#Sandy: Double check your emergency kit for canned food, a can opener, plenty of water, batteries, a flashlight, radio & pet items" (@NHC-Atlantic, 2012).

Findings from the crisis tweet data revealed that crisis communication messages reinforced the Directional themes and projected the Headline/Announcement tones. In the example above, this crisis tweet includes a list of directives on specific actions for a user to take in an amplified tone of the announcement specifically for #Sandy, not a general hurricane preparation list. Another important note is that this crisis communication tweet

does not offer opportunities for an exchange of information—only instructions or directions, thus, employing a one-way direction of communication as opposed to a two-way communication exchange.

Citing Heath (2004), crisis scholars Waters and Williams (2011) advanced that circumstances, such as crises, are actually "best for one-way communication" in order to protect the public (p. 355). In contrast, other scholars posit that organizations use the crisis communication function of issues management during a crisis, which is more in alignment with two-way symmetrical communication that seeks information about its environment and utilizes this information in a way to proactively create a collaborative, reciprocal communications environment between organizations and stakeholders. Additionally, the use of social media can help enhance the issues management function of crisis communication (Grunig & Repper, 1992; Reitz, 2012).

RQ5: Are the Twitter postings during October 26-October 31 (Hurricane Sandy) reflective of a one-way asymmetrical communication model or two-way communication model?

The fifth research question explored the communication direction of the crisis tweet data. The findings revealed that the crisis tweet data reflected the public information model or one-way asymmetrical communication. Overall, the Hurricane Sandy crisis tweets demonstrated that communication messages were designed to "push out" information that provided updates and disseminated/amplified information about the hurricane. Opportunities for feedback were minimal. Therefore, two-way interactive communication was limited.

Prior research studies examining Hurricane Sandy's social media have noted the overall social media activity was low on behalf of the federal government (Chatfield, Scholl & Brajawidagda, 2014; Sutton et al., 2014). The lack of tweet activity could be attributed to a lack of content that may be alleviated with an increase in interactive communications with strategic publics and guidelines on how to develop interactive and engaging crisis tweet text. Prior research studies have also noted the lack of training and education in how to use social media during crisis events (Alexander, 2014; Hughes & Palen, 2012).

Strategic, two-way communication proactively monitors issues, seeks public opinions about an issue, and makes necessary adjustments. For example, asking Twitter users to share information on the availability of emergency kits items in their community; share family or individual preparation insight and tips; or report situational issues, such as flooding in the streets, encourages participation and helps to create and maintain proactive and relevant social media content to share internally with those responding to the crisis and externally to share with the public (Alexander, 2014; Lindsay, 2011; Sutton et al., 2014). This approach reflects an open-systems environment, explained in the literature review of Chapter 2, as an approach that proactively assesses the environment to detect changes that could impact the organization-public relationship (Cutlip, Center & Broom, 2006).

RQ6: Are the Twitter postings during October 26-October 31 (Hurricane Sandy) consistent with the social media policy directives delineated by the U.S. Department of Homeland Security (DHS)?

The findings from the crisis tweet data revealed that they are in compliance with the 2009 and 2013 DHS ESF 15 policy directives on federal social media usage during crisis events. In the analysis of federal government policy directives, the guidelines for social media during a crisis were to collect, broadcast, rebroadcast, and amplify information about a the event. This study's findings of a prevalence of the themes that provided directions, updates, amplified messages, and general information dissemination were in compliance with the 2009 and 2013 DHS ESF social media policy directives.

Social media guidelines that instructed federal government crisis communicators to include links from other agencies were inconsistent; therefore, a pattern could not be identified. Similarly, prior research studies credit the federal government for the development of the hasthtag #Sandy (Chatfield et al., 2014); however, the presence of #Sandy was also inconsistent in federal government Twitter messages.

In addition to the crisis tweet data used by the federal government, tweet data used by media outlets also informed this study. Media crisis tweets were analyzed during the same timeframe in order to evaluate the similarities and differences between the crisis tweet data used by the federal government and the media.

An analysis of the crisis tweet data revealed that the emergence of the Headline/Announcement tone demonstrates that PIOs use social media to continue to target the media as their primary audience. The ESF 15 interview participant who stated, "Traditional media is still the trusted source," and "News releases still tell the story" reinforced this finding. To that end, an analysis of the media crisis tweets also demonstrated that PIOs use the public information model during crisis. This model utilizes tools such as news releases and press conferences to provide information to the

media that, in turn, disseminates the information to the public. This study has revealed

through an analysis of both media and official crisis tweet data that social media is also

used as the contemporary tool to provide information to the media when the public

information model is employed during a crisis. Unfortunately, this finding concurs with

previous research by Waters and Jamal (2011) that organizations do not leverage the

interactive elements of social media. However, there were lessons to be learned from

analyzing the media's crisis tweet data. For example, examining the media's attempts to

connect with audiences can serve as a guide for PIOs in engagement strategies.

Chapter 5

Discussion and Conclusions

The rapid pace at which responders operate in a crisis coupled with the high volume and rapid flow of crisis-related information are just some of the challenges that crisis communicators face in developing accurate and timely crisis messages, especially social media messages (Comfort, Ko & Zagorecki, 2004; Houston et al., 2014). Specifically regarding government crisis communicators/PIOs, scholars cite a lack of training, lack of leadership support, and small staffs as specific challenges for emergency managers and public information officers in fully integrating social media into disaster response efforts (Liu, 2009; St. Denis, Palen & Anderson, 2014; Tapia & Moore, 2014).

However, in the face of these realities, crisis communication scholars have found that the public's use of social media during crisis, specifically Twitter use, continues to increase and outpace the government and emergency management agencies (Chatfield, Scholl & Brajawidagda, 2014; Lantonero & Shklovski, 2001; Imran, Diaz, Elbassuoni, Castillo & Meier, 2013; Lindsay, 2011; St. Denis et al., 2014) to the extent that some scholars assert that people no longer seek crisis information from traditional media, but are actively involved in providing and sharing information about crisis events through the use of social media and microblogs (Herverin & Zach, 2010b; Palen & Liu, 2007). Scholarly research has also revealed that people most often share information about a crisis sent from official emergency management or disaster agency social media accounts (Starbird & Palen, 2010). In addition, the public will actively engage directly with emergency response agency's online (Denef, Bayerl & Klaptein, 2013; Hughes, St.

Denis, Palen, & Anderson, 2014); and there is a growing expectation that an official

crisis message via social media, albeit brief, will be complete (Sutton et al., 2014).

The public's use of social media platforms has also been the impetus of emerging

technology-focused crisis communication scholarly research. For example, research

addresses issues such as understanding the digital exchange of information during a crisis

(Chatfield et al., 2014; Steelman et al., 2014) and how people share and organize crisis

information using microblogs (Heverin & Zach, 2010; Palen & Liu, 2007; Palen, Vieweg,

Liu & Hughes, 2009; Shklovski, Palen & Sutton, 2008; Sutton et al., 2014).

Unfortunately, as Sutton et al. (2014) posited, much of the contemporary crisis

communication research on Twitter usage is predominately of the public's use, and a gap

in the literature on official use of Twitter during a crisis remains. Chapter 2 outlined

emerging crisis communication research about the government's use of social media

during crisis. However, the focus has been primarily on state and local government

official use (Herverin & Zach, 2010a; St. Denis et al., 2014; Sutton et al., 2014), thus

prompting Chatfield et al. (2014) to note that scholarly investigations into the federal

government's use of social media during a crisis have been limited and "lagging" (p.

1948). These observations further underscore the relevance of this dissertation research

study that has examined the federal government's use of Twitter during a major national

disaster, Hurricane Sandy. The study has been informed by the federal government's

specific policies for social media use during a crisis.

While some crisis communication studies have referenced or mentioned federal

government policies and structures, such as NIMS and the JIC, (Chatfield et al., 2014;

Hughes & Palen, 2012; Liu, 2009), an investigation of crisis communication policies of

these federal government entities have either remained unexamined or vague in description. For example, Hughes and Palen (2012) suggested that the centralized command structure of the government crisis response system, referencing NIMS and the JIC, works in contrast to the interactive elements of social media. Their study failed to even acknowledge the social media crisis communication policy directives established by the federal government's DHS ESF 15 that influence all levels of government emergency response.

This dissertation contributes to the literature by examining Twitter crisis tweet data from Hurricane Sandy, a federally declared major natural disaster, through the lens of the federal government social media crisis communication policies that guide its crisis communication response efforts. It is an appropriate and needed next step to foster a greater understanding of government crisis communications. In addition, this study, as reflected in the proposed model, exclusively focused on federal government tweet data of seven agencies rather than generic "government" or "public service agency" tweet data that bundled all levels of government including police and fire departments, as found in Chatfield et al. (2014) and Herverin and Zach (2010a). This "catch-all" approach makes it difficult to delineate the policy influence and practices of each individual entity to arrive at an accurate analysis of the outcomes.

Overall, in the area of public relations, this dissertation found and supported previous crisis communications studies that determined the government's utilization of crisis tweet data was primarily for broadcasting and dissemination of information about a crisis event (Chatfield et al., 2014; Hughes & Palen, 2012; Lindsay, 2011; Wigley & Zhang, 2011). This strategy and practice reflects the public information model, a one-way

asymmetrical model of public relations as established by Grunig and Hunt (1984). This dissertation also found that the one-way asymmetrical model of public relations and the themes of Directional, Update, and PreWarning and the tones of Headline/Announcement and Impact were reflected in the federal government social media policy directives.

The inclusion of media crisis tweets in this dissertation also underscored the one-way communication, traditional public information model approach that continues to be used in crisis by the government as outlined in Chapter 4. However, an area for future research is an examination of the framing of crisis social media messages used by the media and government officials. An investigation into media's framing of a crisis using social media expands upon Brooke Fisher Liu's (2009) research in *An Analysis of US Government and Media Disaster Frames Analyzing the Frames*, which examined government news releases and media coverage to examine framing influences. The findings of this study were that emergency agencies rely on media's coverage of disaster news and that the media are the public's primary source of information about risks, highlighting that how the media frames disaster is important.

Previous studies, as presented in this study establish that the use of Twitter has replaced the public's reliance upon traditional media for information on a crisis. However there is limited discussion and analysis of framing analysis and actual media and government social media crisis text.

One of the important contributions of this dissertation is the integration of risk communication messaging with the FEMA emergency management response model. The FEMA model is designed to be event based with messaging structured to provide specific instructions and disseminate information via one-way communication. However, risk

communication, as Covello (1992) explained, is interactive involving an exchange about risk and potential consequences between and among targeted audiences. In this way, risk communication creates the avenue for a two-way communication direction that complements the one-way direction of crisis communication.

The integration and continued understanding of risk communication is important because recent crises have revealed that threats such as incidents of West Nile virus, Ebola, E-Coli, the Flint, Michigan and New Jersey public schools drinking water contamination, and most recently Zika are examples of risks that began as messages offering how to avoid mosquito bites, certain animals, or pollution, then rapidly developed into full-blown outbreaks requiring specific information—a component of crisis communication. Therefore, the integration of short- and long-term behavior and lifestyle education and adjustments, two-way exchange of information with key audiences that risk communication provides coupled with specific crisis communication directions and updates are critical in contemporary society.

A greater understanding of risk as a discipline can enhance government response organizations and PIOs of consistent risk communication as a practice. For example, Beck (1992) outlined in *Risk Society, Towards a New Modernity*, that consequences of science and industry have developed a set of risks and hazards that are no longer time delineated, but can impact generations (a concern that is evident today with the Zika virus and long-term implications for pregnant women and babies). Understanding these types of risks and the resulting behavior and lifestyle adjustments can add substantive information to crisis communication messaging as an integration of risk and crisis suggested in the RCSMM Model. Further, an understanding of Giddens (1990) reflexive

modernization concept also supported by Beck (1992), asserts that modern societies are confronted with dealing with the consequences of industry, science and government that impact the lifestyle of contemporary society (Matten, 2004).

Although Beck (1992) shared the concerns of Theodor W. Adorno, whose work critiqued the impacts of expansive mass production and the manufactured product on society, as well as Jean Baudrillard, who viewed postmodern society's reliance on massive reproduction as the catalyst that disconnects people from the natural world, Beck departed from these approaches with a more hopeful view. That is, that the reflexiveness of modern society is the ability to address the consequences thrust upon it by finding "rational solutions" (Matten, 2004, p. 379) to these issues, thus the essence of a risk society. An example of Beck's perspective is demonstrated today in the momentum behind the environmental and ecological movements, nongenetically modified organism (GMO) food initiatives, and other advocacy movements that involve the public questioning of science and technology while adopting alternative behavioral and lifestyle habits to live in a society where these risks exist.

The implications for strategic public relations and communication of risk and crisis are critical during this time on our society. As Beck (1992) noted, risks cannot be spatially confined, but cross international borders. The compensation for the consequences of risk are "innumerable but cannot be compensated with a mere insurance claim in a risk society where there is not be a single person or actor to hold accountable" (pp. 5-6). Therefore, the integration of crisis and risk in the proposed model is a natural next step.

Crises such as Hurricanes Katrina and Sandy and the BP *Deepwater Horizon* oil spill also underscore Beck's assertions and further illustrate the need for the integration of risk and crisis messaging. For example, more than 10 years after Hurricane Katrina, six years after the BP oil spill, and nearly three years after Hurricane Sandy, recovery efforts continue in these communities. This is due to damage sustained by already vulnerable infrastructure (e.g., streets, roads, and bridges), eroding shorelines and marshes, and disrupted pathways for fish and wildlife resulting from legislative decisions prior to the actual trigger of the crisis, as well as emerging issues, such as the health and building construction impacts of mold from flooding or respiratory consequences from cleaning oil-damaged beaches and shorelines.

However, the combination of risk and crisis communication has been relegated to the public health arenas and not expanded to emergency management as this research study has proposed. Although scholars call for an integration of messaging that captures this blended form of communication that illustrates the ongoing developing points of a crisis, current studies and models do not appropriately echo this call (Coombs, 1995; Reynolds & Seeger, 2005; Seeger et al., 1998).

Therefore, an important contribution of this dissertation research study, unlike prior studies that offered crisis communication models, is the integration of risk messages with crisis communication messaging. If reflected in a revised FEMA phases of emergency management, it would transform the role of the PIO and the JIC/JIS crisis communication system from a one-way asymmetrical system to a two-way system. This two-way system would strategically send and receive social media messaging, share critical information with internal units of the larger External Relations units and JICS,

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and enhance first-responder situational reports and analysis. This dissertation's recommendation to integrate risk and crisis messaging builds upon prior research that, based upon recent crises, called for different forms of crisis communication (Reynolds, 2002; Reynolds & Seeger, 2005).

Overall, it is the goal of this research to not only integrate risk and crisis messaging for a normative application in the proposed model, but to link it to the value of strategic, two-way communication when managing an event in a federal crisis setting. For example, Marks and Russell (2015) stated the need for public engagement strategies in the biosciences and biotechnologies; however, the authors called for participation from the discipline of sociology to develop those strategies. These processes are second nature to crisis and risk communication practitioners, but audience engagement is a task ill suited to sociologists. Ironically, public relations, as a social science was not called upon to develop public engagement strategies or to improve policy making and increase understanding and awareness of biosciences and new technologies among targeted audiences and the public at large.

Public relations, the foundation of crisis communication, and as established in Chapters 1 and 2, is a strategic management function based in the social sciences and the ecological approach that is focused on managing, utilizing research and the environment in which an organization and its audiences co-exist. The goal of public relations, employing a two-way communication approach, is to create and maintain collaborative relationships utilizing research-based practices of issues management, public and stakeholder management (public engagement), as well as situational systems and

contingencies theories. The next section outlines areas for future research based on the information that emerged from the crisis tweet data.

Dual Themes and Tones

Previous research studies of Twitter crisis texts, including but not limited to Hurricane Sandy tweets, identify single categories of crisis tweets such as "donations," "information-related," "evacuation," "warning" or an "other" catch-all category. The studies did not offer a deeper analysis of the types of the context of these categories or meanings for the types of information found (Herverin & Zach, 2010a; Imran et al., 2013; Sutton et al., 2014; Yang et al., 2013). For example, in a research study of shootings in Seattle-Tacoma Washington, Hervin and Zach (2010) called for future research of the specific types of information shared during a crisis on social media.

A deeper analysis of the context of the Hurricane Sandy crisis tweets revealed a pattern of integration of the common themes and tones as well as dual-crisis tweets. Herverin and Zach (2010a) noted an integration of information and opinion-related tweets, but did not offer any further explanation for the integration. In this study, a pattern emerged among tweets that included tones of Headline/Announcement and Impact and were integrated with crisis tweet themes of Directional, Updates, and PreWarning to produce dual-themed crisis tweets:

PreWarning+Directional: As #Sandy hits, listen to the radio, TV, or your @NOAA weather radio for information. http://go.usa.gov/Yp4H (FEMA, 2012).

PreWarning+Headline/Announcement: "Tropical Storm Sandy is showing up on NOAA's National Weather Service radar this morning. http://1.usa.gov/9XYtAG" (NOAA, 2012).

Dual-themed tweets add to future content examination of crisis tweet data to determine

the RT count of dual-themed crisis tweets as an effective measurement that can aid in

providing content and timing direction on when and how to create crisis social media

texts.

Crisis Tweet Patterns and Retweet Count

This study also reviewed the RT count of dual-themed tweets in order to develop

a descriptive and applicable framework for PIOs of proposed themes to utilize in drafting

crisis tweet text. For example, PreWarning, Directional, or Update crisis tweets posted by

the federal government that included a URL or media reference to a federal agency

experienced high RT activity (see Appendix E), whereas crisis tweets from the federal

government that included a media URL or media reference merited low RT activity. The

exceptions to this activity were crisis tweets the day before or the day of the hurricane's

landfall where the RT activity was high, often above a 300 RT count. Overall, the

integrated crisis tweet themes maintained RT activity above 50.

Stand-alone crisis tweets from the federal government, meaning those not

integrated with other themes, such as tweets categorized as Headline/Announcement

(HA), Directional (D) or Update (U), that included specific information, reflected a

higher RT count than those that did not. For example:

> "Check your family's emergency supply kit. Make sure you have food, water,
>
> medications & other necessities for at least 72 hours. #Sandy" (FEMA Region 3,
>
> RT count 112, 2012).

"Excellent winter preparedness info for people w/ disabilities - http://ow.ly/ePokY
#sandy" (FEMA Region 2, RT count 6, 2012).

In the second FEMA Region 2 crisis tweet, the message sets an expectation of
information, but does not include any instruction for users to follow, only a link. Another
consideration is that the day before the storm made landfall may have been perceived as
too late for preparedness information and clicking to another link may have been
considered too time consuming.

Future research into RT rates of exposure can provide a greater quantitative
understanding of crisis RTs and the types of information that is shared per rate.

Timing. It was also observed that tweets containing preparation information or
important safety information two to three days before the hurricane made landfall
experienced low RT counts. Also, duplicate crisis tweet texts, such as those announcing
that an advisory notice had been issued about the hurricane, did not generate overall high
RT counts—often in the single digits—until the day before and the day of the hurricane,
specifically if the advisory was issued by a media outlet.

Future research as to the time of day crisis messages are shared in combination
with the RT exposure rate can provide accurate analysis and guidance to PIOs on the best
times to post social media messaging. In addition, future studies evaluating the
effectiveness and framing implications of duplicate media crisis tweets and government
crisis tweets can be helpful for disaster framing research. For example:

"Hurricane #Sandy Intermediate advisory 18A issued. Sandy moving slowly
northward away from great abaco. http://go.usa.gov/W3H" (NOAA, 2012).

"Hurricane #Sandy advisory 18 issued. #Sandy moving slowly away from great abaco, new watches and warnings issued. http://go.usa.gov/W3H" (New York Times, 2012).

In addition, federal government crisis tweets included media #hashtags and links to media outlets and other #hashtags such as #Frankenstorm, the *day before*, *day of* and *after* Hurricane Sandy made landfall. Although the 2013 policy document did not reflect specific #hashtag strategies, an analysis of the impact of media #hashtag placement and popular #hashtags may significantly increase the frequency of shared federal government crisis tweets.

The Proposed Model

The model proposed supports that crisis communication, inherited from public relations, is viewed as an ongoing process rather than a one-time response (Coombs, 2012; Fearn-Banks, 2006; Reitz, 2012). Furthermore, during a crisis there are opportunities for risk messages, as Reynolds and Seeger (2005) purport in their CERC Model and two-way communication as public relations and crisis communication scholars have advocated in prior research studies (Waters & Jamal, 2011).

Further, this model also supports Lindsay's (2011) CSR report that sought to find a use for social media during crisis beyond what was observed at a time when federal government use of social media was passive in form and function, only disseminating information. Lindsay (2011) advocated that social media should be used in a more systematic manner. In accordance with Dozier, Grunig, and Grunig (1995), in the two-way symmetrical model of public relations and communication, this would be achieved by the use of research, two-way communication, and strategic and proactive utilization of

information from stakeholders and affected audiences to adjust organizational strategies, extend boundaries, and create a collaborative environment between the organization and its publics.

The proposed model, the Risk-Crisis Social Media Messaging Model (RCSMMM), as Alexander (2014) advocated, is placed within the system of the current government structure in an effort to provide a greater understanding of government crisis communication. The structures are the phases of Emergency Management, the JIC, and the JIS. The RCSMM Model begins at the Mitigation phase of Emergency Management, which reinforces that crisis communication is not a one-time action, but should be an ongoing, strategic communication process for PIOs, and this model, like ESF 15 directives, has applicability at all levels of government. In the Mitigation phase, communication focuses on information and activities that vulnerable communities can take to mitigate and protect themselves from future threats. Even if a threat is not imminent, risks for those communities are highly probable, and mitigation can help improve a community's recovery and resiliency if/when affected. These messages are primarily risk messages. Like the model of Reynolds and Seeger (2005), messages during the Mitigation phase underscore long-term impacts of a threat, contain messages for probable negative consequences, constitute a part of an advertising or educational campaign, and are personal in scope. An example would be the annual FEMA "Ready" campaign series initiated across the country via social media, television and radio commercials, brochures, and various branded materials. The "Ready.Gov" campaign includes hurricanes, earthquakes, and natural disasters. The following sections further describe and explain the components of the Risk-Crisis Social Media Messaging Model.

Engagement and Core. Two consistent elements throughout the phases of response are Engagement and Core. Engagement refers to crisis and risk messaging that seeks to exchange information (two-way) with targeted audiences, inquires about their environment in order share helpful information, and provides direction to responders to update and/or improve internal processes and information to more accurately meet the needs of internal and external stakeholders. Engaging social media users in the Mitigation phase with stories/insight as to how families or the community are preparing for a possible crisis is one example.

The Preparedness phase involves engaging users to share and identify resources as they prepare for an imminent crisis, asking for situational/environmental information on evacuation, traffic, and other steps. The Response phase engages users on more situation specific information that can aid in improving rescue and response efforts. Repeating these steps in the Recovery phase also includes risk messaging as a lead-in to engage users and encourage volunteers and donations.

Scholars have noted that some of the benefits of social media are incorporating various forms of "listening" to the audience via through monitoring messages to actively engage in a two-way exchange called "reciprocal listening." Alexander (2014) defined this exchange as "two-way messaging with mutual sensitivity as to content and its implications" (p. 720). Engagement also allows for the leveraging of other social media benefits, such as creating social cohesion and promoting therapeutic initiatives, enhancing situational awareness reporting, collecting victims' requests, and uploading images (Alexander, 2014; Lindsay, 2011).

The Core component of RCSMM Model recommends that the necessary and applicable links for government and disaster-related agencies be included in all crisis social media messaging. This study found that the inclusion of government agency links was inconsistent.

Mitigation. RCSMM model illustrates that messages initiated in the Mitigation phase can be strategically utilized during a crisis. Incorporating risk and crisis communication messaging recognizes the developmental phases of a crisis and the communication needs at various points of the unfolding event (Coombs, 1995). Because Mitigation is informational and education-based and designed to exchange information about a risk, the proposed model depicts the two-way communication processes that take place between and among the government organizations (internal agencies) primarily responsible for addressing the risk, the public and potentially affected communities, and the media (external stakeholders).

The proposed model assumes that the PIOs of those agencies are also responsible for strategic communication in routine and as well as crisis events. *Figure 6* depicts the proposed Risk-Crisis Social Media Messaging Model.
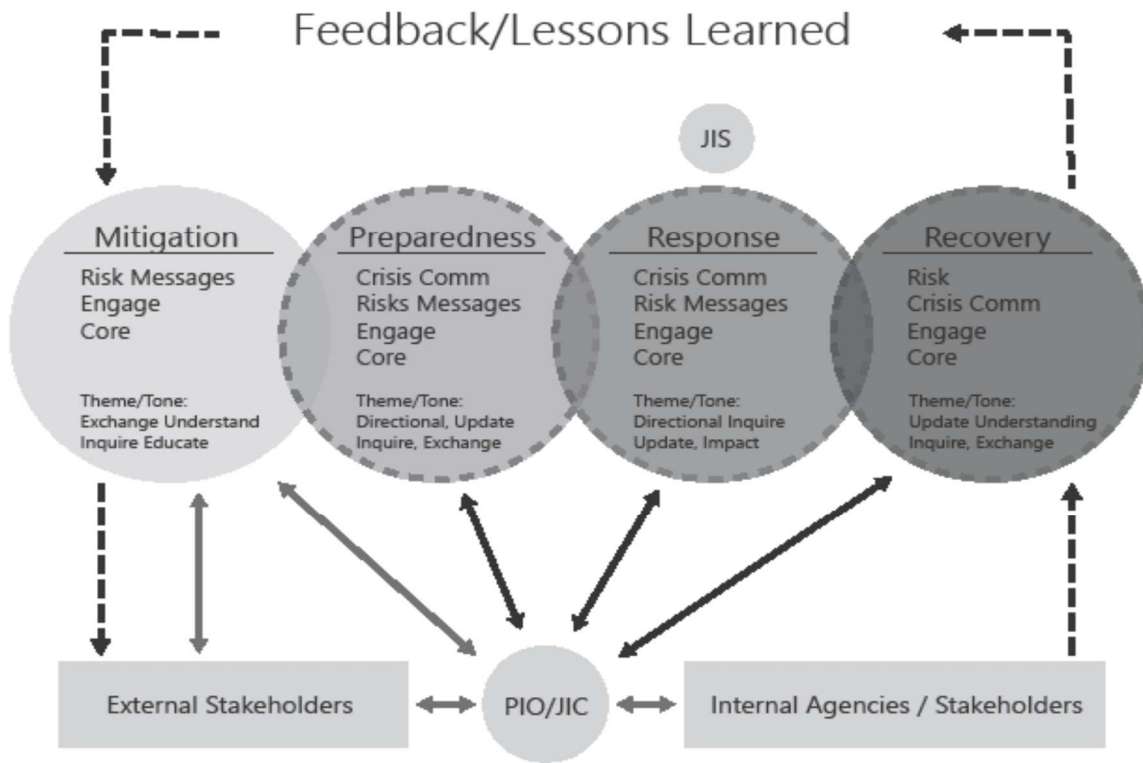
Figure 6. Risk-Crisis Social Media Messaging (RCSMM) Model

Preparedness. Response. Recovery. In line with the unfolding of a crisis, the

Preparedness, Response, and Recovery stages address the continued PIO management

role pre-, during, and postcrisis. Preparedness marks the imminence of a crisis to affect a

community/population, and this is the stage where specific alerts and message are

directed to those that may be impacted. Therefore, during the Preparedness and Response

phases, crisis communication messaging that provides specific information should take

the lead in incorporating dimensions of risk due to the imminent crisis. This means that

these messages are based on what is specifically known about the crisis, and short-term

impacts are accentuated (Reynolds & Seeger, 2005). The Recovery phase of the model

depicts risk messaging as taking the lead in the integration of themes, since this stage is

indicative of the efforts to stabilize and return communities back to a "normal" precrisis state. Risk messaging is primary with a secondary positioning of crisis communication to inform communities of physical, mental, and social resources and behaviors to adjust and manage the postrecovery environment.

The RCSMM Model depicts the PIO in the JIC as strategically creating, sending, and receiving feedback, messages, and information that are shared internally with other members of the JIC, other government agencies involved in the crisis, and external stakeholders impacted by the crisis (e.g., public, media, nonprofit organizations, private corporations). This information exchange expands the JIS network.

Importantly, the RCSMM Model demonstrates how feedback, even during the Mitigation phase, is used throughout the JIS, illustrating the ongoing process of communication and the proactive, strategic management role of the PIO. The feedback from the two-way processes during the crisis phases can be strategically used to inform future Mitigation, risk programs, and initiatives.

As noted in Chapter 2, the PIO is the central figure for crisis messaging in the government structure of crisis response. The role of the PIO has begun to emerge in crisis communication studies (Chatfield et al., 2014; Hughes & Palen, 2014; Latonero & Shklovski, 2001; Liu, 2009; St. Denis et al., 2014; Sutton et al., 2014), and it has been identified as the primary user of technology to create and disseminate crisis information. Further, this role has also been established in the literature as one that is most impacted by technology use during a crisis (Hughes & Palen, 2012), as well as the position in the government crisis structure that faces challenges in resources and technology training to

improve crisis communication response efforts (Laterno & Shklovski, 2001; Liu, 2009). These studies have primarily been at the local and state government level during a crisis.

The PIO is responsible for knowing when and how to activate the Joint Information System (JIS). The JIS is the method of operating during an incident that allows multiple PIOs to coordinate information and integrate messages to avoid confusing the public (see *Figure 7*). Although Hughes and Palen (2012) mentioned the JIC as the central location for crisis information and unit in which the PIO operates, their study failed to investigate the information system created by the operation of the PIO, the Joint Information System (JIS). Further research into the organization of the JIC/JIS construct would provide a greater understanding of the role of the PIO and the JIS system where crisis information is created and shared at every level of government during a crisis, regardless of the size and complexity. In addition, an understanding of the role of the PIO during a major national crisis still needs to be investigated.
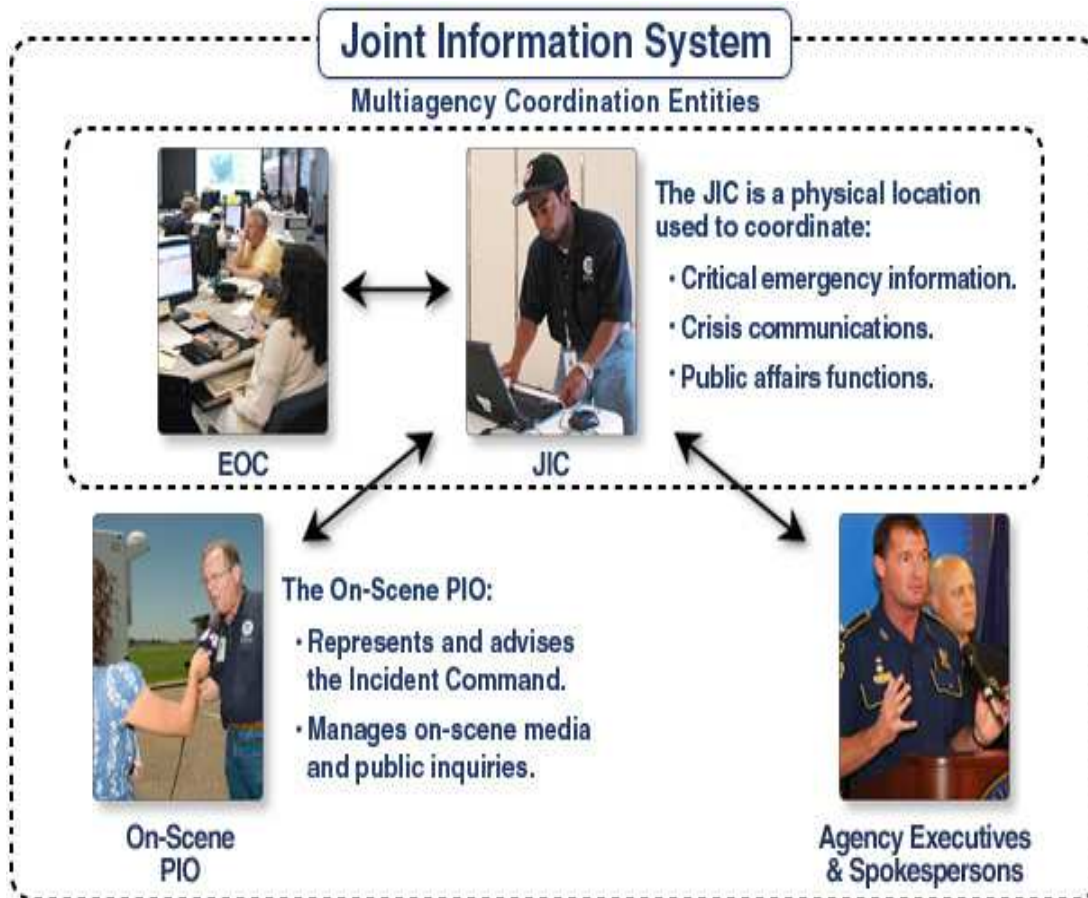
Figure 7. The Joint Information System network. Reprinted with permission from "Lesson 5: Public Information during the Incident: What is a JIC?," by FEMA, 2010. Copyright 2010 by World Health Organization.

Conclusion

The use of technology, as established in Chapter 2, has increased as a vehicle that the public uses during a crisis to learn about and share information (St. Denis et al., 2014). Research established that people often engage with emergency officials online during a crisis and that people actively share information from official government accounts during a crisis (Starbird & Palen, 2010). Given these factors, scholarly studies continue to emerge about social media usage during crises, however, a "rare" discussion

remains about the official use of social media during a crisis (Chatfield et al., 2014; Laterno & Shklovshi, 2001; Sutton et al., 2014).

To fill this gap in the literature, an emergent research design methodology of grounded theory was utilized that identified reoccurring contextual themes and tones specifically found in federal government crisis tweet data used during Hurricane Sandy (October 26-31, 2012). A distinguishing factor of this study is that the crisis tweet data, as well as the overall study, has been analyzed through the lens of federal government social media policy directives, the 2009 and 2013 DHS ESF 15. Further, this study was also informed by insight from federal government officials familiar with these policies.

Overall, this study found that Hurricane Sandy crisis tweet data used by the federal government reflected Update, Directional, and Prewarning themes, and Impact and Headline/Announcement tones. Reinforcing the findings in the crisis tweet data were the federal government interview participants' responses that stated that social media is used to "amplify," update," and "push out" messages to the public. For example, as stated by one of the elite interview participants:

> The news releases still tell the story of programs that are coming to the field, what people should do, what dangers you should look out for, mitigation, all the way through that process. Well, the social media message shouldn't stray from that. It is still the same story, but just being told through a different technique. So, when we would do a press release about, um, the 800 number, let's say, register on the 800 number, then we would have a parallel social media message.

> If we're doing something on, the number of people who have been placed in housing, let's say we do an update to the press on where we stand—well, obviously we're not gonna do a two-page document in one tweet. But we will take components of that and create a, like, maybe a small Twitter campaign about what's happening . . .

The themes and tones found in this study, and as demonstrated in the above interview response and the crisis tweet data, depicted the one-way, public information model of communication. This historical public relations approach utilized media outlets to disseminate information without vehicles for feedback between the organization and its audiences during the Industrial Era in the United States. Previous studies of how organizations and the government used social media during a crisis echo these findings, despite scholars' and public relations practitioners' recommendations to use two-way symmetrical communication that fosters strategic and interactive communications. Further, scholars and practitioners advocate that the interactive elements of social media can be used to foster and enhance two-way symmetrical communication in noncrisis situations as well.

The data from this investigation were used to propose a realistic model that can provide PIOs with guidance as to how to create social media crisis text content and strategically share that information with both internal and external stakeholders beyond rumor control, as revealed by the interview participant Hudson, an ESF 15 officer. It also has the potential to provide a greater understanding of federal policies and to position the PIO as a strategic manager of information. This would effectively expand the operations of the JIS to create a systematic inclusion of social media in crisis operations (Alexander, 2014; Chatfield et al., 2014; Hughes & Palen, 2012; Lindsay, 2011).

Most importantly, this study cites the need for a greater integration of risk and crisis communication. Future studies could test its efficacy in audience engagement on a federal level and strengthen the contributions of public relations to the growing body of knowledge of reputation management. Its relevance is undeniable in a contemporary

society that faces technological and biological risks, as well as threats of global and domestic terrorism. This effort also creates avenues for contributions in policy research and organizational complexity.

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APPENDIX A

2009 AND 2013 DEPARTMENT OF HOMELAND SECURITY EMERGENCY

SUPPORT FUNCTION 15 STANDARD OPERATING PROCEDURES ANNEX R

<u>**Annex R to Emergency Support Function #15 External Affairs**</u>
Social Media

References:
A. National Response Framework (NRF)
B. National Incident Management System (NIMS)

1.0 Purpose
This annex outlines the plan for Federal departments and agencies to use interactive communications (Web and social media) with the public during incidents requiring a coordinated Federal response.

2.0 Concept of Operations
Federal, State, and local departments and agencies have an inherent responsibility to engage with the American public before, during, and after man-made disasters, natural events, and acts of terrorism. Providing timely and effective communications through all interactive communications channels – including Web, social networking, text (SMS), and other emerging technologies in addition to traditional methods – will better inform citizens affected by an incident. Official Web sites, social networking methods, online journals (blogs), photos, and videos are all effective tools to advise and inform the public if used in a coordinated, strategic, and timely manner.

2.1 Department and Agency Web sites
Individual department and agency Web sites are the foundation of Internet communications and social media efforts. A well-designed, user-focused Web site written in plain language is a critical communications channel. As an example, press offices and Web sites that offer automatic e-mail subscription of news releases, speeches, statements, testimony, and multimedia (photo essays) provide the background that will enhance the use of social media outreach. The best way to support the relief and recovery efforts on Web sites is to stay within agency mission-lanes and to link to other agencies with primary expertise. A few guidelines are listed below:

2.1.1 Immediate Web content focus is on saving lives, sustaining lives, and ensuring a comprehensive recovery effort reflecting current citizen information needs.

2.1.2 An agency Web site should not duplicate information that is the purview and expertise of other agencies.

2.1.3 Information needs to remain under control of the "expert" agency and linked to by other agencies.

2.2 Federal Newsroom
A Federal Newsroom will be established as a consolidated Web site for all relevant Federal department and agency Web sites to locate press releases and announcements providing information and resources for incident preparedness,

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Annex R to Emergency Support Function #15 External Affairs
Digital and Social Media

References:
A. National Response Framework (NRF)
B. National Incident Management System (NIMS)

1.0   Purpose
This annex outlines the plan for Federal departments and agencies to use digital, social, web-based and other interactive communications with the public during incidents requiring a coordinated Federal response.

2.0   Concept of Operations
Official websites, blogs, photos, videos, social media sites, text messages (SMS), and smartphone applications are effective tools to advise and inform the public if used in a coordinated, strategic, and timely manner, and should be used in concert with other non-digital communication channels.

    2.1   As digital and technology solutions continue to grow and evolve, the concepts, principles, and guidelines in this Annex should carry over to any digital communication channel.

    2.2   All content, messaging, and communication channels should be accessible to populations with access & functional needs and populations with Limited English Proficiency (LEP), and should be coordinated and thoroughly aligned with Products and Planning and Joint Information Center appropriately. The Digital Communications Specialist sits in the Media Relations Unit in the JIC.

3.0   Digital Communications Channels
Once the ESF-15 Operations Director is identified, the respective agency and their communication channels are the lead.

    3.1   USA.gov
For prolonged national level incidents or incidents where multiple Federal departments are involved, the primary portal website will be USA.gov, operated by the General Services Administration (GSA). This site will serve as a portal to the lead agency and other agencies that are communicating incident specific information. The following is not meant to provide an exclusive list of channels, and the focus should be on the underlying principles and guidelines:

    3.2   **Department and Agency Websites**
Agencies should follow these guidelines for the best way to support the response and recovery efforts:

        3.2.1   Ensure your website and blog are up to date with the latest information regarding the incident.

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APPENDIX B

CRISIS TWEET DATA EXCEL SPREADSHEET

ABC Crisis Tweets: Date, Retweet Count   100+, 99-49, 48-0

	Text	Date	RT	100+	99-49	48-0
ABC	If you find obvious damage to your home or have serious doubts about safety, contact a building inspector before you go inside. #Sandy	10/30/12	9			x
ABC	Another storm-related death reported in NJ: Man found in floodwaters in Bergen County http://www.nj.com/bergen/index.ssf/2012/10/body_found_in_hackensack_flood_waters_identified_as_south_hackensack_man.html â€¦ #	10/30/12	8			x
ABC	.@NBCGo_On's @LauraBenanti + @NBCTheNewNormal's @AndrewRannells + @NBC1600Penn's @JoshGad = #NBC trifecta http://ow.ly/eTC52	10/30/12	5			
ABC	Graphic: Assessing the storm's damage http://nyti.ms/T2keUG	10/30/12	95		x	
ABC	Hurricane Sandy's Progression: View From Space	10/30/12	36			x
ABC	Rescue workers fear residents may be stranded in Toms River after Hurricane #Sandy lashes Ocean County http://www.nj.com/ocean/index.ssf/2012/10/toms_river_emergency_crews_helped_evacuate_about_100_fear_many_re	10/30/12	5			x
ABC	Mayor Michael Bloomberg says he expects the ING NYC Marathon to go on as scheduled Sunday. #SandyABC7	10/30/12	16			x
ABC	Do not try to move a downed power line or anything in contact with it by using another object such as a branch, stick or broom. #Sandy	10/30/12	8			x
ABC	Most Broadway matinee and evening performances will play as scheduled on Wednesday, officials said. #SandyABC7 @BreakingNews	10/30/12	8			x
ABC	The best ways to help those impacted by #Hurricane #Sandy - Cash is best & go thru trusted org's: http://ow.ly/eTu5O	10/30/12	7			x
ABC	Federal, state, tribal and local partners continue to work around the clock, focusing on life saving activities #Sandy	10/30/12	2			x
ABC	Al Gore: â€‹Sandyâ€™ a Symptom of Larger Climate Crisis http://abcn.ws/RrrbQY	10/30/12	73			
Advisory	Latest National Poll: Romney 49, Obama 48 http://abcn.ws/PFuiGA via @ABC News/ @WashingtonPost	10/30/12	65			
ABC	Full list of NY-area transit, institutions and airports that are operating or suspended here: http://nyti.ms/T2rOi9	10/30/12	171	x		
ABC	#Sandy Before and After Photos http://abcn.ws/Uaguzu	10/30/12	58		x	
ABC	#Sandy info in your state: @CTDEMHS @DC_HSEMA @DelawareEMA @MDMEMA @MassEMA @MaineEMA @NJOEM2010 @NYSDHSES @PhilaOEM @VEMVT @VDEM @WVDHSEM	10/30/12	33			x
ABC	Update: As Disney buys Lucasfilm, it plans new "Star Wars" films starting in 2015	10/30/12	525			
ABC	Incredible view of Seaside Heights from the National Guard http://youtu.be/sRAdgh9VH0o via @youtube #SandyABC7	10/30/12	29			x
ABC	Sincere thanks to non-profit voluntary orgs across #NY & #NJ: @RedCrossNY @HumaneSociety @ARC_SWNY @SalvationArmyUS #Sandy	10/30/12	4			x
ABC	RT @kristinthorne: Boats on top of eachother #sandyabc7 http://yfrog.com/h6ck4vhxj	10/30/12	9			x
ABC	NJ officials stunned by extent of damage from Hurricane #Sandy http://www.nj.com/news/index.ssf/2012/10/nj_officials_at_a_loss_for_wor.html â€¦ #njsandy	10/30/12	13			x
ABC	Post-Tropical Cyclone #Sandy advisory 34 issued. Post-tropical cyclone #Sandy continues to weaken over pennsylvania. http://go.usa.gov/W3H	10/30/12	45			x
ABC	Sending a big THANK YOU to the 1st responders -police/fire/EMS/hospital staff- working tirelessly to meet urgent needs of #Sandy survivors!	10/30/12	36			x
ABC	Via @NYSDHSES - Hurricane #Sandy Helpline for New York State Residents: 1â€"888-769-7243 #SandyNY	10/30/12	37			x
ABC	RT @plipof7: Maplewood NJ. Almost out of gas. #SandyABC7	10/30/12	15			x
ABC	10/30 High winds are still in many areas. Don't touch/move downed power lines; report them to your power company immediately #Sandy	10/30/12	168	x		
ABC	For info on #Sandy response/recovery in NY, follow: @NYGovCuomo @MikeBloomberg @NYSDHSES @NYCOEM @NYCMayorsOffice #SandyNY	10/30/12	16			x
ABC	10/30 #Sandy safety tip: Don't walk or wade through flood water. It can contain harmful chemicals, toxins, and even raw sewage.	10/30/12	267	x		
ABC	Media Decoder Blog: Disney Buying Lucas Films for $4 Billion http://nyti.ms/SsUV0x	10/30/12	147			
ABC	Disney buying LucasFilm for $4.05 billion http://nyti.ms/T24qRV	10/30/12	567			
ABC	"Community" to return to NBC on Feb. 7 and air on Thursdays at 8 PM ET	10/30/12	247			
ABC	JUST ANNOUNCED! #NBC's Mid-Season 2013 Premiere Dates Revealed: http://tmblr.co/ZAOwMvWHPOzd	10/30/12	20			x
ABC	Check refrigerated food for spoilage if you lost power. If in doubt, throw it out. http://go.usa.gov/Yp4H #Sandy	10/30/12	23			x
ABC	Breaking News: Disney Acquiring George Lucas's Film Studio for $4 Billion http://nyti.ms/T20pwX	10/30/12	495			
ABC	We have more than 1,500 @FEMA personnel along the East Coast working to support #Sandy response operations http://go.usa.gov/Yw6W	10/30/12	6			x
ABC	For more #Sandy info & tips, follow @FEMA @CraigatFEMA @FEMAregion1 @FEMAregion2 @FEMAregion3	10/30/12	41			x
ABC	Break a leg! RT @nbcsmash: Start dancing (and singing) for joy! The curtain rises on #Smash Season 2 on Tuesday, February 5!	10/30/12	12			x
ABC	RT @lizcho7: Mayor Bloomberg: The Annual Halloween Parade in the Village has been cancelled tomorrow night. #SandyABC7	10/30/12	19			x
ABC	RT @plipof7: These people were not home when this happened thank heaven. #SandyABC7	10/30/12	10			x
ABC	#Sandy: Evacuees who attempt to return home prematurely will be turned back as many roads are still impassable from storm surge	10/30/12	12			x
ABC	10/30 #Sandy tip: Use battery-powered flashlights in the dark - not candles.Check refrigerated food for spoilage. If in doubt, throw it out.	10/30/12	3			x
ABC	UPDATE - ING NYC Marathon is holding off on decision. Disregard last tweet. #SandyABC7 #TeamABC7 @BreakingNews	10/30/12	11			x
ABC	Power outage tip from @FEMA: Conserve phone battery by reducing screen brightness & turning off periodically. http://ready.gov/get-tech-ready #Sandy	10/30/12	36			x
ABC	If you evacuated for #Sandy, return home only when officials say it is safe. http://go.usa.gov/Yp4H	10/30/12	6			x
ABC	Hurricane Sandy Aftermath: State-by-State Updates	10/30/12	37			x
ABC	President Obama to visit New Jersey on Wednesday with Gov. Chris Christie http://nyti.ms/T1Lkv4	10/30/12	205	x		
ABC	In Turkey, protests reveal a break from past traditions, @TArangoNYT reports:	10/30/12	130			
ABC	Due to Hurricane #Sandy, there was no audience for Monday's @LateNightJimmy. But one guy did show up... http://youtu.be/yPPfHTUho1k	10/30/12	17			x
ABC	Flood Safety tip from @FEMA: Stay away from flood waters, don't walk or drive through flooded roadways. #Sandy	10/30/12	27			x

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ABC Crisis Tweets: Date, Retweet Count   100+, 99-49, 48-0

ABC	RT @plipof7: Maplewood NJ. Almost out of gas. #SandyABC7	10/30/12	15			x
ABC	10/30 High winds are still in many areas. Don't touch/move downed power lines; report them to your power company immediately #Sandy	10/30/12	168	x		
ABC	For info on #Sandy response/recovery in NY, follow: @NYGovCuomo @MikeBloomberg @NYSDHSES @NYCOEM @NYCMayorsOffice #SandyNY	10/30/12	16			x
ABC	10/30 #Sandy safety tip: Don't walk or wade through flood water. It can contain harmful chemicals, toxins, and even raw sewage.	10/30/12	267	x		
ABC	Media Decoder Blog: Disney Buying Lucas Films for $4 Billion http://nyti.ms/SsUVOx	10/30/12	147			
ABC	Disney buying LucasFilm for $4.05 billion http://nyti.ms/T24qRV	10/30/12	567			
ABC	"Community" to return to NBC on Feb. 7 and air on Thursdays at 8 PM ET	10/30/12	247			
ABC	JUST ANNOUNCED! #NBC's Mid-Season 2013 Premiere Dates Revealed: http://tmblr.co/ZAOwMvWHPOzd	10/30/12	20			x
ABC	Check refrigerated food for spoilage if you lost power. If in doubt, throw it out. http://go.usa.gov/Yp4H #Sandy	10/30/12	23			x
ABC	Breaking News: Disney Acquiring George Lucas's Film Studio for $4 Billion http://nyti.ms/T20pwX	10/30/12	495			
ABC	We have more than 1,500 @FEMA personnel along the East Coast working to support #Sandy response operations http://go.usa.gov/Yw6W	10/30/12	6			x
ABC	For more #Sandy info & tips, follow @FEMA @CraigatFEMA @FEMAregion1 @FEMAregion2 @FEMAregion3	10/30/12	41			x
ABC	Break a leg! RT @nbcsmash: Start dancing (and singing) for joy! The curtain rises on #Smash Season 2 on Tuesday, February 5!	10/30/12	12			x
ABC	RT @lizcho7: Mayor Bloomberg: The Annual Halloween Parade in the Village has been cancelled tomorrow night. #SandyABC7	10/30/12	19			x
ABC	RT @plipof7: These people were not home when this happened thank heaven. #SandyABC7	10/30/12	10			x

ABC	#Sandy: Evacuees who attempt to return home prematurely will be turned back as many roads are still impassable from storm surge	10/30/12	12			x
ABC	10/30 #Sandy tip: Use battery-powered flashlights in the dark - not candles.Check refrigerated food for spoilage. If in doubt, throw it out.	10/30/12	3			x
ABC	UPDATE - ING NYC Marathon is holding off on decision. Disregard last tweet. #SandyABC7 #TeamABC7 @BreakingNews	10/30/12	11			x
ABC	Power outage tip from @FEMA: Conserve phone battery by reducing screen brightness & turning off periodically. http://ready.gov/get-tech-ready #Sandy	10/30/12	36			x
ABC	If you evacuated for #Sandy, return home only when officials say it is safe. http://go.usa.gov/Yp4H	10/30/12	6			x
ABC	Hurricane Sandy Aftermath: State-by-State Updates	10/30/12	37			x
ABC	President Obama to visit New Jersey on Wednesday with Gov. Chris Christie http://nyti.ms/T1Lkv4	10/30/12	205	x		
ABC	In Turkey, protests reveal a break from past traditions, @TArangoNYT reports:	10/30/12	130			
ABC	Due to Hurricane #Sandy, there was no audience for Monday's @LateNightJimmy. But one guy did show up... http://youtu.be/yPPfHTUho1k	10/30/12	17			x
ABC	Flood Safety tip from @FEMA: Stay away from flood waters, don't walk or drive through flooded roadways. #Sandy	10/30/12	27			x
ABC	President Obama to travel to New Jersey Wednesday to view damage, thank first responders. #SandyABC7 @BreakingNews	10/30/12	38			x
ABC	Partial MTA Bus service will resume on Tuesday at 5:00 p.m. #SandyABC7 #Sandy	10/30/12	11			x
ABC	Power outages affect about 8.5 million American homes http://nyti.ms/SsCIAn	10/30/12	139	x		
ABC	Keep away from loose or dangling power lines and report them immediately to the power company. http://go.usa.gov/Yp4H #Sandy	10/30/12	6			x
ABC	#SandySafety - Stay off the Roads! http://ow.ly/eTfLa #Sandy	10/30/12	3			x
ABC	More than 8 million homes in the U.S. are now without power, post-storm: http://nyti.ms/T1Ey8B	10/30/12	277	x		
ABC	Check out the @fema blog for the latest update on staying safe & how to help: http://ow.ly/eTfoa #Sandy	10/30/12	28			x
ABC	Disasters are stressful! Here are some coping tips: http://www.ready.gov/coping-with-disaster â€¦ Hotline: 800-985-5990 #Sandy	10/30/12	2			x
ABC	President Obama has authorized federal assistance to N.Y. and N.J., via @FEMA: http://nyti.ms/SszYCQ	10/30/12	283	x		
ABC	We have more than 1,500 FEMA personnel along the East Coast working to support #Sandy response operations https://www.fema.gov/blog/2012-10-30/sandy-update-4-staying-safe-how-help â€¦	10/30/12	174	x		
ABC	To find the nearest shelter in your area, text SHELTER + your ZIP code to 43362 (4FEMA). Standard text rates apply. #Sandy	10/30/12	62		x	

ABC Crisis Tweets: Date, Retweet Count   100+, 99-49, 48-0

		Date	RT	100+	99-49	48-0
ABC	10/30 #Sandy tip: NEVER use a generator inside, even with fans or open windows. Deadly levels of carbon monoxide can build up and linger.	10/30/12	10			x
ABC	Can you feel it?! @NBCTheVoice #Knockouts kicked off last night â€" watch all the performances now! http://ow.ly/eSVc1	10/30/12	4			x
ABC	RT @lucyyang7: Do NOT take NJ Turnpike southbound from NYC. Complete standstill and we're stuck in it.	10/30/12	25			x
ABC	#NY: Impacted by #Sandy in Bronx, Kings, Nassau, NY, Richmond, Suffolk, & Queens counties- apply for assistance http://www.disasterassistance.gov	10/30/12	14			x
ABC	(Oct 30) The best ways to help those impacted by #Hurricane #Sandy http://www.fema.gov/volunteer-donate-responsibly â€¦. Cash is best & go thru trusted org's	10/30/12	210	x		
ABC	If you're in #NYC - here's a list of notable accounts to follow: http://ow.ly/eTbIQ #NYCSandy	10/30/12	30			x
ABC	Tips for people with disabilities and other access and functional needs during power outages: http://ow.ly/eSOWF #Sandy	10/30/12	5			x
ABC	Updated: Death toll from storm rises to 38 across the country; 17 dead in New York http://nyti.ms/T1u6hB	10/30/12	270	x		
ABC	For #Sandy Twitter updates from power/water/govt & responders in #NY State- http://ow.ly/eQx1L for #SandyNYC - http://ow.ly/eQx1N	10/30/12	4			x
ABC	Boil Water Advisories have been issued for parts of New Jersey for Sandy http://post.ly/9gcLD #NJSandy	10/30/12	7			x
ABC	How to Help Hurricane Sandy Victims	10/30/12	112	x		
ABC	Blizzard conditions have spread over parts of Tennessee, W. Virginia, Maryland, Virginia & N. Carolina: http://nyti.ms/Ssr9sM	10/30/12	143	x		
ABC	RT @marcussolis7: Damage to Ritz Carlton in White Plains. Panels fell 43 stories to the street. No one hurt. #SandyABC7	10/30/12	11			x
ABC	Only use flashlights for emergency lighting, don't use candles due to extreme risk of fire. #Sandy	10/30/12	3			x
ABC	Will your insurance cover damage from #Sandy? Here's a refresher on hurricane deductibles and flood coverage	10/30/12	132	x		
ABC	RT @nycinvestigates: #Sandy takes out Park Slope's treasured trees and many cars. No injuries.	10/30/12	14			x

		Date	RT	100+	99-49	48-0
ABC	Make sure you continue to listen to state and local officials throughout the duration of the storm. #Sandy	10/30/12	14			x
ABC	Baby Delivered in N.J. Hospital Truck During Hurricane Sandy http://abcn.ws/TlwbTs	10/30/12	49		x	
ABC	For #Sandy info in your state: @MDMEMA @VDEM @DC_HSEMA @DelawareEMA @WVDHSEM @NYSDHSES @NJOEM2010 @CTDEMHS @MassEMA @MaineEMA @VTMVT	10/30/12	110	x		
ABC	NJTransit suspended until further notice http://bit.ly/RnaaUD @breakingnews	10/30/12	14			x
ABC	Superstorm #Sandy: 33 Dead and 8 Million Customers Without Power	10/30/12	104	x		
ABC	10/30: Disaster assistance avail. to indiv. in New York & New Jersey. Eligible counties in NY: http://www.fema.gov/disaster/4085 NJ: http://www.fema.gov/disaster/4086	10/30/12	247	x		
ABC	Did you miss the audience-free @latenightjimmy last night? Catch the entire show online now: http://ow.ly/eSUlv #LateNight #LNJF	10/30/12	10			x
ABC	Storm Continues on a Path of Destruction http://nyti.ms/T12Lft	10/30/12	88		x	
ABC	For info on #Sandy response/recovery in NJ, follow: @GovChristie @NJOEM2010 @CoryBooker @CityofNewarkNJ @NJ_Transit #SandyNJ	10/30/12	22			x
ABC	New York Marathon officials are assessing the storm's effect on Sunday's race	10/30/12	199	x		
ABC	VIDEO: David Letterman Performs to Empty Theater - "Late Show" without audience due to Hurricane	10/30/12	36			x
ABC	New York Stock Exchange to open on Wednesday http://nyti.ms/T0ZVac	10/30/12	142	x		
ABC	Video: Why some young people don't vote, and why they do, an Op-Doc by @errolmorris	10/30/12	71			
ABC	Happy Halloween from The Munsters! Download #MockingbirdLane from @iTunesTV now! http://ow.ly/eSUBb	10/30/12	31			x
ABC	RT @timfleischer7: Damage in Freeport staggering. #SandyABC7 Many marinas boats floated away.	10/30/12	17			x
ABC	New York City buses will resume a limited Sunday schedule at 5 p.m. Tuesday #SandyABC7 #Sandy	10/30/12	24			x
ABC	A boat rests on the tracks at Metro-North's Ossining Station on the Hudson Line http://ow.ly/eST9w http://ow.ly/i/14FhL #SandyABC7	10/30/12	14			x
ABC	#Sandy: Stay out of any building if you smell gas, or if the authorities have not declared it safe.	10/30/12	5			x

ABC Crisis Tweets: Date, Retweet Count 100+, 99-49, 48-0

				100+	99-49	48-0
ABC	How to Cook Everything: Risotto Takes On a Different Shade http://nyti.ms/Ss2xAp	10/30/12	34			x
ABC	Gov. Cuomo says MTA bus service will resume on a limited schedule Tuesday. Fares waived. #SandyABC7	10/30/12	26			x
ABC	NYC taxis, livery cabs and limousines allowed to pickup street hails, multiple fares	10/30/12	10			x
ABC	#Sandy: If you evacuated, return home only when officials say it is safe.	10/30/12	8			x
ABC	Breaking News: Bloomberg Closes Schools for 3rd Day; Says â€¢4-5 or 5 Daysâ€™ Till Subway Service Restored	10/30/12	414	x		
ABC	For info on #Sandy response/recovery in NY, follow: @NYGovCuomo @MikeBloomberg @NYDHSES @NYCOEM @NYCMayorsOffice #SandyNY	10/30/12	26			x
ABC	POWER OUTAGE UPDATE: Outages from Hurricane #Sandy climb as most of N.J. is still in the dark: http://bit.ly/RmNBPK	10/30/12	9			x
ABC	.@CraigatFEMA: Those in #NY #NJ impacted by #Sandy, for @fema disaster asst can call 1-800-621-FEMA (3362) or online http://disasterassistance.gov	10/30/12	29			x
ABC	RT @todayshow: "This was a devastating storm, maybe the worst we have ever experienced." - NYC Mayor @MikeBloomberg #SandyTODAY	10/30/12	17			x
ABC	#Sandy: drive only if necessary and avoid flooded roads and washed-out bridges. Stay off the streets http://www.ready.gov/hurricanes	10/30/12	10			x
ABC	New York City schools are closed on Wednesday #SandyABC7 @BreakingNews	10/30/12	40			x
ABC	At least 15 deaths in New York State. #SandyABC7	10/30/12	16			x
ABC	RT @plipof7: Pier Village. On our way back into hard hit Seaside Heights. #SandyABC7	10/30/12	17			x
ABC	RT @kristinthorne: Staten Island ship wreck http://yfrog.com/oem58jvej	10/30/12	18			x
ABC	To find the nearest shelter in your area, text SHELTER + your ZIP code to 43362 (4FEMA). Standard text rates apply. #Sandy	10/30/12	53		x	
ABC	PHOTOS: 80 homes destroyed by fire in Breezy Point. http://ow.ly/eSJ8L #SandyABC7 #Sandy	10/30/12	19			x
ABC	Make sure you(*test*) continue to listen to state and local officials throughout the duration of the storm. #Sandy	10/30/12	7			x
ABC	Text SHELTER + your ZIP code to 43362 (4FEMA) to find the nearest shelter in your area. Standard text rates apply. #Sandy	10/30/12	13			x
ABC	Gov. Chris Christie says it will be 7-10 days for PATH trains to resume service. Slightly quicker for NJ Transit. #SandyABC7	10/30/12	115	x		
ABC	WOW RT @JujuChangABC: Uprooted concrete... My sidewalk on 90th street #sandy @ABC @Nightline #nightline http://yfrog.com/o0d5nqqj	10/30/12	45			x
ABC	RT @femaregion1: When #flood waters recede, mold can take hold.Watch http://go.usa.gov/YwBh & learn what you should do #Sandy	10/30/12	84		x	
ABC	Keep away from loose/dangling power lines and report them immediately to the power company #Sandy http://www.ready.gov/hurricanes	10/30/12	11			x
ABC	10/30 (Msg 2/2) The 8 eligible counties in #NJ are Atlantic, Cape May, Essex, Hudson, Middlesex, Monmouth, Ocean & Union Counties	10/30/12	7			x
ABC	(Msg 1 of 2) The President made federal disaster aid avail. to impacted individuals & business in 8 NJ counties. http://www.disasterassistance.gov	#VALUE!	6			x
ABC	360 View of Times Square During Sandy http://abcn.ws/QS6Rqm	10/30/12	35			x
ABC	Hurricane Sandy Disrupts Millions of Lives http://nyti.ms/T0jNdD	10/30/12	227	x		
ABC	The @femaregion1 Incident Management Assistance Team's 0700 stand-up meeting at the @RhodeIslandEMA http://ow.ly/i/14Dhk	10/30/12	5			x
ABC	VIDEO - NYC Crane Accident: The Moment It Happened http://abcn.ws/VAEWuQ	10/30/12	19			x
ABC	Christie Heaps Praise on Obama for Hurricane Response http://abcn.ws/SrsgJq	10/30/12	130	x		
ABC	Hurricane Sandy losses are estimated at $45 billion. Story: http://abcn.ws/SZbYVA	10/30/12	203	x		

ABC Crisis Tweets: Date, Retweet Count   100+, 99-49, 48-0

ABC	RT @femaregion1: When #flood waters recede, mold can take hold.Watch http://go.usa.gov/YwBh & learn what you should do #Sandy	10/30/12	84	X	
ABC	Keep away from loose/dangling power lines and report them immediately to the power company #Sandy http://www.ready.gov/hurricanes	10/30/12	11		X
ABC	10/30 (Msg 2/2) The 8 eligible counties in #NJ are Atlantic, Cape May, Essex, Hudson, Middlesex, Monmouth, Ocean & Union Counties	10/30/12	7		X
ABC	(Msg 1 of 2) The President made federal disaster aid avail. to impacted individuals & business in 8 NJ counties. http://www.disasterassistance.gov	#VALUE!	6		X
ABC	360 View of Times Square During Sandy http://abcn.ws/QS6Rqm	10/30/12	35		X
ABC	Hurricane Sandy Disrupts Millions of Lives http://nyti.ms/TOjNdD	10/30/12	227	X	
ABC	The @femaregion1 Incident Management Assistance Team's 0700 stand-up meeting at the @RhodeIslandEMA http://ow.ly/i/14Dhk	10/30/12	5		X
ABC	VIDEO - NYC Crane Accident: The Moment It Happened http://abcn.ws/VAEWuQ	10/30/12	19		X
ABC	Christie Heaps Praise on Obama for Hurricane Response http://abcn.ws/SrsgJq	10/30/12	130	X	
ABC	Hurricane Sandy losses are estimated at $45 billion. Story: http://abcn.ws/SZbYVA	10/30/12	203	X	
ABC	Stay alert for extended rainfall and subsequent flooding even after #Sandy has passed http://www.ready.gov/hurricanes	10/30/12	5		X
ABC	Eyewitness News Live Steam Resumes http://bit.ly/RmpjW7 @breakingnews	10/30/12	4		X
ABC	We continue to work closely with state/local/tribal partners to meet the needs of those impacted by #Sandy & assess damages.	10/30/12	3		X
ABC	Our live streaming web coverage is back! Sorry for the outage. Watch at http://ow.ly/eSzsd #SandyABC7 http://ow.ly/i/14CXx	10/30/12	6		X
ABC	Please don't drive unless you have to. Leave the roads clear for emergency vehicles and crews. #Sandy #Frankenstorm	10/30/12	25		X

ABC Crisis Tweets: Date, Retweet Count   100+, 99-49, 48-0

ABC	Hurricane Sandy losses are estimated at $45 billion. Story: http://abcn.ws/SZbYVA	10/30/12	203	X		
ABC	Stay alert for extended rainfall and subsequent flooding even after #Sandy has passed http://www.ready.gov/hurricanes	10/30/12	5			X
ABC	Eyewitness News Live Steam Resumes http://bit.ly/RmpjW7 @breakingnews	10/30/12	4			X
ABC	We continue to work closely with state/local/tribal partners to meet the needs of those impacted by #Sandy & assess damages.	10/30/12	3			X
ABC	Our live streaming web coverage is back! Sorry for the outage. Watch at http://ow.ly/eSzsd #SandyABC7 http://ow.ly/I/14CXx	10/30/12	6			X
ABC	Please don't drive unless you have to. Leave the roads clear for emergency vehicles and crews. #Sandy #Frankenstorm	10/30/12	25			X
ABC	Palisades Medical Center evacuate the facility due to unstable generator power. Patients going to Hackensack #SandyABC7	10/30/12	12			X
ABC	Get up to date local weather information from #NOAA #NWS at http://1.usa.gov/e7EYr click your location on map or enter your ZIP code.	10/30/12	66		X	
ABC	Here's helpful state-by-state Twitter list of who to follow for #Sandy updates	10/30/12	60		X	
ABC	Photo Slider: Manhattan Before and After Blackout http://abcn.ws/Uaguzu	10/30/12	23			X
ABC	Let your family and friends know that you're ok at http://ow.ly/eSvgF #Sandy	10/30/12	10			X
ABC	Officials say power outages in Rockland, Westchester and Orange counties could take weeks to fully restore #SandyABC7	10/30/12	36			X
ABC	Pic: Rainbow Touches Down Over Manhattan http://on.fb.me/SZXNiR	10/30/12	113			
ABC	Graphic: Assessing the damage from Hurricane Sandy http://nyti.ms/SZXy7C	10/30/12	245	X		
ABC	When #flood waters recede, mold can take hold.Watch http://go.usa.gov/YwBh & learn what you should do #Sandy	10/30/12	12			X
ABC	The New York Times is providing free, unlimited access to storm coverage on http://nytimes.com and its mobile apps today.	10/30/12	606	X		
ABC	At least 80 flooded homes destroyed in Rockaways fire; up to 100 engulfed http://ow.ly/eSsUe #SandyABC7 #Sandy	10/30/12	34			X

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				100+	99-49	48-0
ABC	Make sure you're following your state emergency management agency as #Sandy strikes. @MDMEMA @VDEM @DC_HSEMA @DelawareEMA @WVDHSEM	10/30/12	10			x
ABC	What to do before, during, & after a #hurricane. On the web: http://Ready.gov/hurricanes On your phone: http://ow.ly/eSo1k #Sandy	10/30/12	21			x
ABC	Let family & friends know you are ok by using @RedCross "Safe and Well" Click here: http://ow.ly/eSnUI #Sandy	10/30/12	11			x
ABC	When does the power come back on? No time soon for many of those out. http://www.nj.com/news/index.ssf/2012/10/electricity_not_likely_to_come.html â€¦	10/30/12	5			x
ABC	A six-alarm fire has engulfed several blocks in the Rockaways, 3 dead elsewhere in NYC http://nyti.ms/SrmyXU	10/30/12	146	x		
ABC	President Obama has declared a major disaster in New York and Long Island http://abcn.ws/StJhBK	10/30/12	243	x		
ABC	Reserve 911 for emergencies, use non-emergency numbers for info. Text rather than call unless calling 911. #Sandy	10/30/12	15			
ABC	10/30: THANK YOU to the 1st responders -police/fire/EMS/hospital staff- working tirelessly to meet urgent needs of #Sandy survivors	10/30/12	1083	x		
ABC	Listen to a @NOAA Weather Radio or your local officials for the latest updates and instructions on #Sandy. http://go.usa.gov/Yp4H	10/30/12	3			x
ABC	#Sandy: Car batteries, even those in flood water, may still contain an electrical charge & should be removed with insulated gloves	10/30/12	22			x
ABC	RT @readydotgov: Stay informed: see @NHC_Atlantic latest coastal watches/warnings and 5-day #Sandy path prediction http://ow.ly/eRQok	10/30/12	8			x
ABC	VIDEO: Sandy Floods NYC Subway System	10/30/12	99		x	
ABC	#NY #NJ impacted by #Sandy, for FEMA call 1-800-621-FEMA (3362) or go online at http://www.disasterassistance.gov/	10/30/12	141	x		
ABC	AMAZING VIDEO: Water Tanker Runs Aground in Sandy Storm	10/30/12	75		x	
ABC	Better pic of the 168-foot tanker John B. Caddell, which ran aground in Staten Island #SandyABC7 http://ow.ly/i/14BzI	10/30/12	59		x	
ABC	Make sure you continue to listen to state and local officials throughout the duration of the storm.	10/30/12	6			x
ABC	Power Failures and Flooding Test Resolve in Lower Manhattan and Red Hook http://nyti.ms/Sr8mhx	10/30/12	114	x		

ABC Crisis Tweets: Date, Retweet Count   100+, 99-49, 48-0

				100+	99-49	48-0
ABC	10/30: THANK YOU to the 1st responders -police/fire/EMS/hospital staff- working tirelessly to meet urgent needs of #Sandy survivors	10/30/12	1083	x		
ABC	Listen to a @NOAA Weather Radio or your local officials for the latest updates and instructions on #Sandy. http://go.usa.gov/Yp4H	10/30/12	3			x
ABC	#Sandy: Car batteries, even those in flood water, may still contain an electrical charge & should be removed with insulated gloves	10/30/12	22			x
ABC	RT @readydotgov: Stay informed: see @NHC_Atlantic latest coastal watches/warnings and 5-day #Sandy path prediction http://ow.ly/eRQok	10/30/12	8			x
ABC	VIDEO: Sandy Floods NYC Subway System	10/30/12	99		x	
ABC	#NY #NJ impacted by #Sandy, for FEMA call 1-800-621-FEMA (3362) or go online at http://www.disasterassistance.gov/	10/30/12	141	x		
ABC	AMAZING VIDEO: Water Tanker Runs Aground in Sandy Storm	10/30/12	75		x	
ABC	Better pic of the 168-foot tanker John B. Caddell, which ran aground in Staten Island #SandyABC7 http://ow.ly/i/14Bzl	10/30/12	59		x	
ABC	Make sure you continue to listen to state and local officials throughout the duration of the storm.	10/30/12	6			x
ABC	Power Failures and Flooding Test Resolve in Lower Manhattan and Red Hook http://nyti.ms/Sr8mhx	10/30/12	114	x		
ABC	Bloomberg, Cuomo and Christie Display Different Styles in Storm Response http://nyti.ms/SZrtgc	10/30/12	62		x	
ABC	Obama signs disaster declarations for NY, LI, NJ http://bit.ly/XRjaXT @breakingnews	10/30/12	28			x
ABC	Hurricane Sandy Barrels Region, Leaving Battered Path http://nyti.ms/Sr1MYk	10/30/12	168	x		
ABC	President Obama declares major disaster in New York, New Jersey, Long Island #SandyABC7 #Sandy	10/30/12	82		x	
ABC	Utility companies urging people not to walk around in flooded waters due to downed power lines. #SandyABC7	10/30/12	24			x
ABC	**Post-Tropical Cyclone #Sandy advisory 32 issued. http://go.usa.gov/W3H**	**10/30/12**	**55**		**x**	
ABC7NY	Backup Generator Fails; NYU Medical Center Evacuated	10/30/12	90		x	
ABC7NY	Evacuations, boat rescues in Moonachie, Little Ferry after a levee break flood both towns #SandyABC7 #Sandy	10/30/12	9			x
ABC7NY	Man Tries to Smuggle 16 Tiger Cubs in Pickup Truck http://abcn.ws/RiklEi	10/30/12	24			
ABC7NY	Firefighters are battling a 6-alarm fire burning in Breezy Point; 50 homes involved http://ow.ly/eS7Vy #SandyABC7 #Sandy	10/30/12	31			x

ABC7NY Crisis Tweets: Date, Retweet Count   100+, 99-49, 48-0

				100+	99-49	48-0
ABC7NY	Superstorm Sandy Leaves More Than 4M in the Dark	10/30/12	62		X	
ABC7NY	Ship Laden With Gold Ore Disappears in Storm http://abcn.ws/Sou4mf	10/30/12	40			X
ABC7NY	AccuWeather: Sandy bears down	10/30/12	10			X
ABC7NY	Swiss Bank UBS Announces Plan to Cut 10,000 Jobs http://nyti.ms/SYjAaK	10/30/12	114			
ABC7NY	Cruisers Stranded Because of Hurricane Sandy	10/30/12	22			X
ABC7NY	Patients Evacuated From N.Y.U. Langone After Power Failure http://nyti.ms/SYbmj3	10/30/12	199	X		
ABC7NY	Sandy Expected to Be Less Powerful, and Less Drenching, as It Moves Inland http://nyti.ms/SpuSaj	10/30/12	195	X		
ABC7NY	Supreme Court Hears Challenge to Wiretaps Law	10/30/12	58			
ABC7NY	Hurricane Sandy Ship Rescue Fills Chopper With Cheers http://abcn.ws/SbBrea	10/30/12	34			X
ABC7NY	Steve Jobs' Yacht, Venus, Makes Public Debut http://abcn.ws/Rl8mfr	10/30/12	32			
ABC7NY	RT @jeffpegues7: FDNY able to put water on the fire on Rockaway Beach Blvd after #sandyabc7 powerful punch. http://twitter.com/Jeffpegues7/status/263143219867561985/photo/1 pic.twitter.com/xrIuGZLz	10/30/12	40			X
ABC7NY	We hope that these problems will be corrected soon and our stream will resume. Thanks for sticking with us!	10/30/12	2			X
ABC7NY	If you were trying to watch our live stream online, internet issues due to the flooding in New York City are preventing us from streaming...	10/30/12	17			X
ABC7NY	Superstorm Sandy: Backup Generator Fails; NYU Medical Center Evacuated	10/30/12	176	X		
ABC7NY	Fire burning several buildings in Rockaway Park, Queens http://ow.ly/eS1k5 #SandyABC7	10/30/12	33			X
ABC7NY	Slider: Compare Size of #Sandy and Irene http://abcn.ws/S7Ik5c	10/30/12	35			X
ABC7NY	Superstorm Sandy Knocks Out Lights in NYC	10/30/12	85		X	
ABC7NY	RT @plipof7: Still strong wind and rain in Long Branch NJ. Water rising.. Streets flooded and no power. Can't wait for daylight! #SandyABC7	10/30/12	8			X
ABC7NY	N.B.A.â€™s Biggest Stars Concentrated in Miami and Los Angeles	10/30/12	52			
ABC7NY	Fire in apartment building in Rockaway Park http://ow.ly/2sW2Lb	10/30/12	8			X
ABC7NY	Current view from 51st fl of the NYT building on 40th St. looking east. Many buildings at far right are without power. http://nyti.ms/SXJrR	10/30/12	642	X		
ABC7NY	Gas Price Drops as Hurricane Sandy Keeps Drivers Off Road http://abcn.ws/PhvU7P	10/30/12	72		X	
ABC7NY	WILD VIDEO: NYC building facade collapses	10/30/12	203	X		
ABC7NY	RT @luoyyang7: Yikes! Rescue worker use coffin decoration to help woman out of her flooded home. Weehawken. #sandyabc7	10/30/12	21			X
ABC7NY	NYC officials confirm evacuation underway at NYU Langone Medical Center. Backup generators at the hospital have failed http://abcn.ws/XFRCEF	10/30/12	740	X		
ABC7NY	City Officials confirm that an evacuation is underway at New York University Langone Medical Center. #SandyABC7 @BreakingNews	10/30/12	42			X
ABC7NY	Post-Tropical Cyclone #Sandy advisory 31 issued. #Sandy still packing hurricane-force winds http://go.usa.gov/W3H	10/30/12	116	X		

				100+	99-49	48-0
ABC7NY	Google Doodle: Bob Ross' 70th Birthday http://abcn.ws/UZZj98	10/30/12	23			
ABC7NY	All Nassau County roads are closed as per Nassau County Executive Ed Mangano. #SandyABC7 @BreakingNews	10/30/12	19			x
ABC7NY	About 250,000 lose power in lower Manhattan. http://nyti.ms/SXxkTb	10/30/12	455	x		
ABC7NY	Star-Ledger news producer Bobby Olivier posting a story on our website during a hurricane power outage #sandy #njsandy	10/30/12	9			x
ABC7NY	Star-Ledger staffers posting stories in their Newark newsroom during a hurricane power outage #sandy #njsandy	10/30/12	12			x
ABC7NY	LIVE: NYC Mayor Bloomberg speaking now. http://ow.ly/eRTWm #SandyABC7 #Sandy	10/30/12	17			x
ABC7NY	**#NOAA National Hurricane Ctr advisory - hurricane force winds over Long Island and NYC metro area #Sandy: http://www.nhc.noaa.gov**	10/30/12	113	x		
ABC7NY	Phone lines may be congested during/after #Sandy. Let loved ones know you're OK by sending a text or updating your social networks.	10/30/12	43			x
ABC7NY	New York State officials tell ABC News there have been five deaths in the state. Live blog updates: http://abcn.ws/RrYDVS	10/30/12	129	x		
ABC7NY	Misleading Romney Ad on Jeeps Draws Obama Retort http://abcn.ws/TQvq5p	10/30/12	59		x	
ABC7NY	Manhattan flooded. The West Village powerless. MUST SEE photos coming out of NYC right now: http://on.fb.me/SpVwQy #Sandy	10/30/12	337	x		
ABC7NY	NY State officials: 5 deaths in the state, 3 children in Westchester Co, 1 death in Ulster Co,1 death in Queens #sandy	10/30/12	195	x		
ABC7NY	Crews from Arkansas Electric mobilized for duty in NJ heading to Bergen/Rockland! #Sandy #SandyABC7 @7OnYourSideNY	10/30/12	10			x
ABC7NY	New York City urges residents to stay indoors http://bit.ly/XOTCdN @breakingnews	10/30/12	22			x
ABC7NY	Storm Overwhelms Atlantic City http://nyti.ms/SpRxDy	10/30/12	178	x		
ABC7NY	#Sandy is bringing high winds & heavy rains. Avoid standing water & watch for downed limbs and power lines. http://go.usa.gov/Yp4H	10/30/12	11			x
ABC7NY	#Sandy Search for open shelters by texting: SHELTER + a zip code to 43362 (4FEMA). Ex: Shelter 01234 (std rates apply)	10/30/12	28			x
ABC7NY	Listen to a @NOAA Weather Radio, the local news, and local officials for the latest updates on #Sandy. http://go.usa.gov/Yp4H	10/30/12	14			x
ABC7NY	New York City is urging residents to go indoors immediately and to remain indoors until further notice. #SandyABC7 @BreakingNews	10/30/12	103	x		
ABC7NY	Get the latest #Sandy weather advisories at http://www.nhc.noaa.gov/	10/30/12	3			x
ABC7NY	IMAGE: #Sandy makes landfall about 5 miles southwest of Atlantic City, NJ - http://1.usa.gov/SpMyCZ via @NOAASatellites #EnviroVizLab	10/30/12	81		x	

ABC7NY Crisis Tweets: Date, Retweet Count   100+, 99-49, 48-0

ABC7NY	IMAGE: #Sandy makes landfall about 5 miles southwest of Atlantic City, NJ - http://1.usa.gov/SpMyCZ via @NOAASatellites #EnviroVizLab	10/30/12	81	X	
ABC7NY	BREAKING: More than 1 million N.J. residents now without power due to #Sandy http://nj-ne.ws/TReI0Z	10/30/12	45		X
ABC7NY	@DarceyPezzicola where is this? Thanks for the photo!	10/30/12	2		X
ABC7NY	BREAKING NEWS: A 29-year-old man from Flushing, Queens was struck by a tree limb and killed, fire officials and city officials said today.	10/30/12	71	X	
ABC7NY	Forecasters: #Sandy has made landfall along the New Jersey coast near Atlantic City	10/30/12	70	X	
ABC7NY	Make sure you're following your state emergency management agency as #Sandy strikes. @MDMEMA @VDEM @DC_HSEMA @DelawareEMA @WVDHSEM	10/30/12	20		X
ABC7NY	10/29 #Sandy safety tip: Stay off the roads to let emergency crews do their work. Check on your neighbors to make sure they're OK.	10/30/12	721	X	
ABC7NY	How to help those impacted by #Sandy: Donate/volunteer thru trusted org's. Cash is often the best way to help http://www.nvoad.org/donate	10/30/12	286	X	
ABC7NY	Breaking News: Storm Makes Landfall in New Jersey http://nyti.ms/RHaSwP	10/30/12	281	X	
ABC7NY	Tips to Make Water Safe for Drinking http://abcn.ws/Tr1hNX #Sandy	10/30/12	55	X	
ABC7NY	Lady Liberty goes dark http://nyti.ms/SX1SV5	10/30/12	455	X	
ABC7NY	Biden, Clinton Campaign in Ohio as Obama Monitors Hurricane #Sandy http://abcn.ws/RjzTx0	10/30/12	17		X
ABC7NY	**RT @plipof7: Pier village in Ling branch is getting crushed. Flooding and bricks everywhere. Can't stay here. Moving again. #sandyabc7**	**10/29/12**	**12**		X
ABC7NY	Partial building collapse in Chelsea http://bit.ly/SXOvG6 @breakingnews	10/29/12	8		X
ABC7NY	(Oct 29) #Sandy is bringing high winds & heavy rains. Avoid standing water & watch for downed limbs and power lines.	10/29/12	7		X
ABC7NY	Losses from #Sandy could range between $10 and $20 billion by one estimate	10/29/12	246	X	
ABC7NY	National Hurricane Center: #Sandy no longer technically a hurricane, but still just as dangerous http://nj-ne.ws/S9GxXN	10/29/12	22		X
ABC7NY	***Update* frm @NHC_Atlantic: #Sandy becomes post-tropical; center expected to make landfall within next hour or so: http://1.usa.gov/S8tEgv**	**10/29/12**	**114**	X	

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ABC7NY	Apple Software Chief Takes Fall: Head of iPhone and iPad Software, Scott Forstall, To Leave Apple http://abcn.ws/PDeLXT	10/29/12	41		
ABC7NY	(Oct 29) As #Sandy swirls, remember that flooding can occur well inland. Don't walk/drive thru floodwaters: *Turn Around, Don't Drown*	10/29/12	11		x
ABC7NY	Your Photos: Viewer Submitted Pics of Hurricane Sandy http://abcn.ws/YeLoem	10/29/12	28		x
ABC7NY	Hurricane #Sandy resources on Twitter	10/29/12	8		x
ABC7NY	#SANDY VIDEO: Moments of Impact	10/29/12	42		x
ABC7NY	Go @LateNightJimmy! #TheShowMustGoOn RT @shoemakermike Crew went above & beyond & then beyond that. An awesome audience-less show tonight	10/29/12	16		
ABC7NY	Ensure a supply of water for sanitary purposes. Fill the bathtub and other larger containers with water. http://go.usa.gov/Yp4H#Sandy	10/29/12	53	x	
ABC7NY	RT @kemrichardson7: South street in manhattan now underwater! http://yfrog.com/h4ecksaj	10/29/12	23		x
ABC7NY	10/29 #Sandy video update from @CraigatFEMA http://www.youtube.com/watch?v=8ENZxLgIhcA&feature=plcp â€¦ "Be careful during/after the storm hits & check on your neighbors"	10/29/12	120	x	
ABC7NY	RT @kemrichardson7: East river comes over sea wall at Wall Street #SandyABC7 http://yfrog.com/h7q6dcrj	10/29/12	29		x
ABC7NY	Gov. Christie blasts the mayor of Atlantic City for keeping residents in path of #Sandy http://nj-ne.ws/SprwV8 via @cbaxter1	10/29/12	24		x
ABC7NY	Never use a generator inside homes, even when using fans or opening doors and windows for ventilation. http://go.usa.gov/Yp4H #Sandy	10/29/12	20		x
ABC7NY	ABC Moves Penn., Minn., from "Safe" to "Lean" Obama http://abcn.ws/TqNIOB	10/29/12	66		
ABC7NY	4 East River bridges are closing at 7 PM in NYC, and other regional bridge and road closures http://nyti.ms/SpqPLp	10/29/12	106	x	
ABC7NY	Remember, do not drive into #flooded areas. If waters rise around your car, abandon the car http://www.ready.gov/floods #Sandy	10/29/12	13		x
ABC7NY	RT @mcharlesworth7: No fatalities from storm per Mayor Bloomberg -- please let that news remain the case. Stay safe. #SandyABC7	10/29/12	7		x
ABC7NY	Why Hurricane #Sandy is so Dangerous http://abcn.ws/WVztE9	10/29/12	67	x	
ABC7NY	Check out this new high-speed 'SRSO' satellite imagery of #Sandy (an experimental product): http://youtu.be/G9BgHm5KaeM Via @NOAASatellites	10/29/12	177	x	
ABC7NY	RT @swinvestigates: Nearly 30 years in NYC TV. Never seen weather like this.	10/29/12	12		x
ABC7NY	NYPD is asking people to stop calling 911 "unless lives are at risk." Dial 311 for non-emergencies like downed trees. #SandyABC7	10/29/12	94	x	
ABC7NY	Romney, Ryan Pitched FEMA Changes http://abcn.ws/Rjrfi0	10/29/12	49	x	
ABC7NY	After a #disaster, let your family and friends know that you are safe and well here http://ow.ly/eRzv1 #Sandy #Frankenstorm	10/29/12	6		x
ABC7NY	A jet skier was spotted in the water near South Street Seaport click to watch http://ow.ly/eRC4r #SandyABC7 #Sandy	10/29/12	23		x
ABC7NY	5 p.m. outage update: Power out to nearly half a million N.J. customers due to #Sandy http://nj-ne.ws/Tkoz3E	10/29/12	27		x

		Date	Count	100+	99-49	48-0
ABC7NY	Be #safe if the power goes out: use flashlights instead of candles #sandy	10/29/12	12			X
ABC7NY	Graphic showing areas potentially being affected by sustained winds of trop. storm force & hurricane force: http://1.usa.gov/Tknglf #Sandy	10/29/12	195	X		
ABC7NY	What to Do Before the Power Goes Out http://abcn.ws/UaVrgg #Sandy	10/29/12	59		X	
ABC7NY	Crane Accident at One57 in Midtown http://nyti.ms/SpgNtF	10/29/12	105	X		
ABC7NY	Storm Surge is water that is pushed toward the shore by the force of the winds swirling around the storm #Sandy	10/29/12	23			X
ABC7NY	**Hurricane #Sandy advisory 30 issued. #Sandy moving quickly toward southern new jersey and delaware http://go.usa.gov/W3H**	10/29/12	162	X		
ABC7NY	#Sandy Twitter list to follow in New England http://ow.ly/eRyeP	10/29/12	3			X
ABC7NY	Photos From The Tomb of the Unknown Soldier http://abcn.ws/Phgu3s	10/29/12	53		X	
ABC7NY	(Oct 29) As #Sandy swirls, remember that flooding can occur well inland. Don't walk/drive thru floodwaters' *Turn Around, Don't Drown*	10/29/12	13			X
ABC7NY	@bostonzest For specific services/availability at shelters check w/ the local emerg. mgmnt agency or local officials. @HumaneSociety	10/29/12	0			X
ABC7NY	An Hour and a Half Until #Sandy Landfall and the Soldiers at the Tomb of the Unknowns Remain at Their Post http://abcn.ws/Q2vHa8	10/29/12	269	X		
ABC7NY	Follow #Sandy in your state with these hashtags #ctsandy #sandyri #MEwx #MASandy #ctsandy #nhsandy	10/29/12	6			X
ABC7NY	IMAGE: @NOAA/@NASA's latest wx satellite #Suomi NPP shows #Sandy as it approaches the coastline: http://1.usa.gov/YfxTLm @NOAASatellites	10/29/12	190	X		
ABC7NY	N.J education commissioner urges all schools to close Tuesday for #Sandy http://nj-ne.ws/SWa2i20 #njSandy	10/29/12	4			X
ABC7NY	"Sandy is pretty furious at Atlantic City. She must have lost a bet or something." http://nyti.ms/SW9wyV	10/29/12	500	X		
ABC7NY	Download the @FEMA app for #Sandy safety tips. iTunes http://bit.ly/sNZNJJ Blackberry http://bit.ly/wUiqHL	10/29/12	89		X	
ABC7NY	RT @nbcnews: Slideshow: Hurricane #Sandy and its early impact on the East Coast	10/29/12	10			X
ABC7NY	If you are looking for your local @RedCross chapter, visit: http://ow.ly/eRw65 #Sandy #Frankenstorm	10/29/12	12			X
ABC7NY	Monitors: Satellite Images Show Air Strike Damage in Sudan	10/29/12	8			X
ABC7NY	MT @craigatfema: Hurricane #Sandy: Don't stand outside in the storm like TV reporters do. They have their job, I have mine, stay safe	10/29/12	11			X
ABC7NY	Phone lines may be congested. Update social networks and text to let friends & family know you are ok. #Sandy	10/29/12	19			X
ABC7NY	Video: Hurricane Sandy Tears Apart Atlantic City Boardwalk	10/29/12	105	X		

ABC7NY Crisis Tweets: Date, Retweet Count   100+, 99-49, 48-0

				100+	99-49	48-0
ABC7NY	Most New York City bridges will close at 7:00 p.m. Tappan Zee Bridge has already closed. @BreakingNews #SandyABC7	10/29/12	101	x		
ABC7NY	RT @jimmyfallon We sent our audience home just to be safe. But we are doing our show tonight anyway. Should be fun. #LateNight	10/29/12	15			x
ABC7NY	If you must go out watch for fallen objects; downed electrical wires; & weakened walls, bridges, roads, & sidewalks. http://go.usa.gov/Yp4H	10/29/12	11			x
ABC7NY	Crane Dangling Over West 57th Street http://nyti.ms/Sp4cqw	10/29/12	129	x		
ABC7NY	Update: Now 272K customers without power in N.J. due to #Sandy http://nj-ne.ws/QQuwHQ #njSandy	10/29/12	21			x
ABC7NY	Hurricane #Sandy update issued. Center of #Sandy moving toward cape may new jerseyhttp://go.usa.gov/W3H	10/29/12	121	x		
ABC7NY	If #Sandy knocked out your power and you want to fire up the generator, see http://go.usa.gov/Yw3B first, & use caution	10/29/12	3			x
ABC7NY	Tappan Zee Bridge to close at 4:00 p.m. http://bit.ly/Rj8yes @breakingnews	10/29/12	15			x
ABC7NY	@leegoldbergabc7 latest Accuweather forecast as winds from #Sandy really pick up http://ow.ly/eRqFZ #SandyABC7	10/29/12	4			x
ABC7NY	Hurricane Sandy: Waiting, Fake Pictures, First Glimpses http://abcn.ws/Rp6YLG	10/29/12	26			x
ABC7NY	Stay alert for extended rainfall and subsequent flooding even after the hurricane or tropical storm has ended. http://go.usa.gov/Yp4H #Sandy	10/29/12	81		x	
ABC7NY	Officials: #Sandy is already worst storm in Atlantic City history, and it's only getting worse http://nj-ne.ws/QQrovo #njSandy	10/29/12	34			x
ABC7NY	Phone lines may be congested during/after #Sandy. Let loved ones know you're OK by sending a text or updating social networks.	10/29/12	469	x		
ABC7NY	ABC News reports Gov. Cuomo plans to shut down Tappan Zee Bridge, first cross Hudson span to close. #SandyABC7 @BreakingNews	10/29/12	107	x		
ABC7NY	RT @amyfreeze7: Pressure of 940mb strongest EVER with landfall N of Cape Hatteras #SandyABC7 STORM SURGE expect EXTREME COASTAL DAMAGE...	10/29/12	10			x
ABC7NY	RT @ABCWorldNews: #Sandy is now expected to make landfall between Atlantic City and Cape May between 6 p.m. and 7 p.m.	10/29/12	140	x		
ABC7NY	#Sandy Search for open shelters by texting: SHELTER + a zip code to 43362 (4FEMA). Ex: Shelter 01234 (std rates apply)	10/29/12	5			x
ABC7NY	The New York Times is providing free, unlimited access to storm coverage on http://nyti.ms/SoUq7L and its mobile apps today.	10/29/12	238	x		
ABC7NY	Enough with the â€œPlease Take Oneâ€¦ signsâ€¦ #TreatYoSelf this Halloween! http://tmblr.co/ZAOwMvWD7ffo #ParksandRec	10/29/12	10			x
ABC7NY	Update on outages: As of 3 p.m. Monday, 167,000 N.J. residents without power due to #Sandy http://nj-ne.ws/VZ7d46 #njSandy	10/29/12	28			x
ABC7NY	RT @daveevansabc7: #SandyABC7 Wow! We just saw this and now police r blocking 57th street.	10/29/12	32			x
ABC7NY	Crane hanging from building in Manhattan http://ow.ly/eRl81 #SandyABC7 @BreakingNews	10/29/12	43			x
ABC7NY	#Breaking: Crane dangling over 57th and 7th Avenues in Manhattan http://on.fb.me/TqCk5l	10/29/12	100			
ABC7NY	NEVER run a generator inside a home or enclosed structure. Carbon Monoxide kills http://go.usa.gov/YvhW #Sandy	10/29/12	54		x	
ABC7NY	STORM UPDATE: #Sandy speeds up, could now hit Atlantic City area by 4 p.m. http://nj-ne.ws/VOJ0ce #njSandy	10/29/12	15			x
ABC7NY	RT @plipof7: Power out now in Seaside Heights. Signs being torn off. 70 mile per hour wind. http://fb.me/1MwZKF38g	10/29/12	11			x
ABC7NY	#Sandy is bringing high winds & heavy rains. Avoid standing water & watch for tree limbs and power lines.	10/29/12	35			x
ABC7NY	RT @NOAASatellites: #Sandy is moving toward NJ shore more quickly: See our animated imagery: http://go.usa.gov/Yvuw	10/29/12	95		x	

ABC7NY	RT @NSSL: Blizzard conditions too where Hurricane Sandy meets an upper-level system. Up to 2-3 feet possible! http://fb.me/1fC8NG955	10/29/12	48		X
ABC7NY	NJ Transit will remain shutdown until further notice. http://ow.ly/eRhLi #SandyABC7	10/29/12	22		X
ABC7NY	FEMA has an all-spanish channel. Follow @FEMAespanol #Sandy #Frankenstorm	10/29/12	23		X
ABC7NY	Good tip. #Sandy RT @NBCNews Text, don't call, once Sandy hits, say wireless carriers http://nbcnews.to/V0BUo8 @NBCNewsTech	10/29/12	154	X	
ABC7NY	At 4 p.m. the Garden State Parkway will shut down in both directions below exit 129 http://nj-ne.ws/SsNiNh #Sandy #njSandy	10/29/12	34		X
ABC7NY	PHOTO: Sec. Napolitano meets with staff in the National Response Coordination Center at @FEMA Headquarters #Sandy	10/29/12	12		X
ABC7NY	Consumers in #NJ w/ complaints abt price gouging or emergency-related scams, call the Division of Consumer Affairs at (800) 242-5846 #Sandy	10/29/12	7		X
ABC7NY	Never use a generator inside homes, even when using fans or opening doors and windows for ventilation. http://go.usa.gov/Yp4H #Sandy	10/29/12	12		X
ABC7NY	PHOTO: Sec Napolitano speaks with @USCG LCDR Brian Moore regarding the HMS Bounty search & rescue operation #Sandy	10/29/12	8		X
ABC7NY	From #NOAA NHC, #Sandy moving more quickly toward So. N.J. Landfall expected early this evening http://1.usa.gov/RlV0I	10/29/12	107	X	
ABC7NY	#Sandy Twitter lists to follow via @femaregion2 NY state: http://ow.ly/eQx1L NJ: http://ow.ly/eQx1M NY city: http://ow.ly/eQx1N	10/29/12	60	X	
ABC7NY	Hurricane #Sandy Intermediate advisory 29A issued. Sandy moving more quickly toward southern new jersey http://go.usa.gov/W3H	10/29/12	133	X	
ABC7NY	New Yorkers may contact the Attorney General's office to file complaints about potential price gouging activity: http://ow.ly/eREiW #Sandy	10/29/12	15		X
ABC7NY	Sandy: Latest photos and videos	National News http://www.1067litefm.com/cc-common/news/sections/newsarticle.html?feed=104668&article=10530668 â€¦ via @1067LiteFM	10/29/12	0		X
ABC7NY	Drive only if necessary and avoid flooded roads and washed out bridges. #Sandy http://go.usa.gov/Yp4H	10/29/12	8		X
ABC7NY	NEW JERSEY -- click this twitter list for usefull accounts to follow for #sandy http://ow.ly/eRayl #NJSandy #NJwx	10/29/12	11		X
ABC7NY	Safety info before/during/after blackouts: http://ow.ly/eReks #nopower #severewx #sandy	10/29/12	7		X
ABC7NY	As Sandy comes ashore, follow @FEMA @CraigatFEMA for tips/info. For latest weather follow @NHC_Atlantic & visit http://weather.gov	10/29/12	36		X
ABC7NY	New York State -- click this twitter list for useful accounts to follow for #sandy! http://ow.ly/eR85g #NYSandy #Nywx	10/29/12	19		X
ABC7NY	Ensure a supply of water for sanitary purposes. Fill the bathtub and other larger containers with water. http://go.usa.gov/Yp4H #Sandy	10/29/12	7		X
ABC7NY	Mandatory evacuations ordered in Elizabeth, New Jersey, on Front Street between Elizabeth Avenue and Pine Street #SandyABC7	10/29/12	27		X
ABC7NY	Atlantic City officials have implemented an emergency curfew from 6 PM to 6 AM #SandyABC7 #BreakingNews	10/29/12	12		X
ABC7NY	#Revolution returns tonight! Don't miss the all-new episode at 10/9c, right after #TheVoice!	10/29/12	3		
ABC7NY	Elizabeth, N.J. is imposing a mandatory evacuation of Front Street between Elizabeth Avenue and Pine Streets #SandyABC7	10/29/12	18		X
ABC7NY	RT @todayshow: "We will clean up and we will get through this." ~President Obama #Sandy TODAY	10/29/12	9		X

		Date	Count	100+	99-49	48-0
ABC7NY	Watch live now: President Obama's news conference on Hurricane #Sandy http://nyti.ms/SI/2878	10/29/12	121	X		
ABC7NY	Sandy Freezes Both Presidential Campaigns In Place	10/29/12	15			X
ABC7NY	RT @plipof7: Business owners worried now and we have hours to go. We are in Seaside Heights.	10/29/12	6			X
ABC7NY	#Sandy power outage tip: conserve cell phone battery by reducing screen brightness, turning off periodically & limiting voice calls	10/29/12	487	X		
ABC7NY	New viewer photos from Sandy http://bit.ly/YeKejc @breakingnews	10/29/12	3			X
ABC7NY	RT @joetorresabc7: Large trucks only in shore area of Darien. #SandyABC7 @eyewitnessnyc	10/29/12	6			X
ABC7NY	New GOES-13 satellite image for download: 'Hurricane #Sandy Pounds Northeast' http://1.usa.gov/Tqnvzv via @NOAASatellites #EnviroVizLab	10/29/12	66		X	
ABC7NY	Donâ€™t forget to check out @NOAA StormCentral 2012 webpage, our 1-stop resource for #Sandy info: http://1.usa.gov/Rp1fp5 #NWS	10/29/12	72		X	
ABC7NY	Christie: "Get off the barrier islands now. Don't be stupid." #SandyABC7 #Sandy	10/29/12	95		X	
ABC7NY	Which newspapers have switched endorsements from Obama to Romney? Which has Obama gained? Track them here: http://nyti.ms/SUNjl2	10/29/12	103			
ABC7NY	SEE: Latest #tides & currents "QuickLook" information for #Sandy: http://1.usa.gov/RnVubd @NOAAOceans	10/29/12	27			X
ABC7NY	President Obama Says â€"If Somebody Didnâ€™t Do Their Jobâ€™ Regarding Benghazi Attack, â€"Theyâ€™ll be Held Responsibleâ€™ http://abcn.ws/TjMAYp	10/29/12	32			
ABC7NY	RT @ajohnsonwabc7: OMG. Boat brakes loose in Long Branch. Trying to save from Sandy #SandyABC7	10/29/12	12			X
ABC7NY	Governor Christie says GSP closed in both directions from exit 63. Conditions will only get worse. http://ow.ly/eQWsd #SandyABC7	10/29/12	14			X
ABC7NY	GRAPHIC Latest #Sandy watches, warnings, advisories from NOAA Nat'l Weather Svc Eastern Region: http://1.usa.gov/qFehI9 @NWSEasternRegHQ	10/29/12	43			X
ABC7NY	#Sandy power outage tip: conserve cell phone battery by reducing screen brightness, turning off periodically & limiting voice calls	10/29/12	12			X
ABC7NY	If you're in the path of #Sandy, take refuge in a small interior room, closet or hallway on the lowest level. http://go.usa.gov/Yp4H	10/29/12	16			X
ABC7NY	Breaking News: New York City schools closed Tuesday http://bit.ly/YeOXfS @breakingnews	10/29/12	17			X
ABC7NY	Can't wait for 10pm ET! #Revolution RT @nbcrevolution: It's #Revolution day! Who's ready for an all new episode of #Revolution tonight?	10/29/12	8			
ABC7NY	#LateNight is new tonight! #LNLF RT @latenightjimmy: The view from Midtown, NYC http://latenightjimmy.tumblr.com/post/34565868840/midtown-nyc-is-empty-but-we-are-still-doing-a-â€¦ #theshowmustgoon	10/29/12	8			
ABC7NY	RT @marcussolis7: In Mamaroneck where high tide has brought flooding as #SandyABC7 approaches. #Sandy	10/29/12	11			X
ABC7NY	RT @jimdolan7: #sandyabc7 Atlantic city is deserted and flooded. We're (meaning Todd and Glenn) are working to lock in a satellite shot...	10/29/12	6			X
ABC7NY	#Sandy Search for open shelters by texting 'SHELTER' + a zip code to 43362 (4FEMA). Ex: Shelter 01234 (std rates apply)	10/29/12	27			X
ABC7NY	New York City schools closed tomorrow. #SandyABC7 #Sandy @BreakingNews	10/29/12	25			X
ABC7NY	Do you have ?s about the storm that you can't find answers to? Tweet them to us with #SandyQ. Answers in our live blog: http://abcn.ws/U99Fyc	10/29/12	21			X
ABC7NY	#Sandy: Double check your emergency kit for canned food, a can opener, plenty of water, batteries, a flashlight, radio & pet items	10/29/12	11			X
ABC7NY	RT @nbcnews President Barack Obama will deliver a statement from the White House on Hurricane #Sandy at 12:45 pm ET.	10/29/12	28			X
ABC7NY	AccuWeather: Tracking Sandy update	10/29/12	3			X

ABC7NY & DHSgov Crisis Tweets: Date, Retweet Count   100+, 99-49, 48-0

			100+	99-49	48-0
ABC7NY	#Sandy picks up strength, makes turn toward landfall near Atlantic City. Winds up to 90 mph #SandyABC7	10/29/12	22		x
ABC7NY	RT @jeffsmithabc7: From a pressure standpoint, #Sandy is in the same league as 1938 Hurricane. Once in a lifetime situation unfolding…	10/29/12	41		x
ABC7NY	Here's the latest 24h #rainfall forecast graphic for #Sandy from @NHC_Atlantic: http://1.usa.gov/TqbQk8	10/29/12	46		x
ABC7NY	10/29: As #Sandy makes landfall: stay off the roads, charge your cell phone, listen to local officials & follow your forecast.	10/29/12	565	x	
ABC7NY	Union County: RT @njdotcom: a @Storify on Cranford preparing for Sandy. http://nj-ne.ws/TO6wcz Community was hit hard by Irene. #njsandy	10/29/12	3		x
ABC7NY	5 Hurricane #Sandy Strategies the Airlines Won't Tell You	10/29/12	19		x
ABC7NY	Conserve cell phone battery by reducing screen brightness & limiting voice calls. Get more tips at http://ready.gov/get-tech-ready #Sandy	10/29/12	110	x	
ABC7NY	**Our Twitter accounts all along the East Coast are providing specific #Sandy safety tips @femaregion1 @femaregion2 @FEMAregion3 @femaregion4**	**10/29/12**	**106**	x	
DHSgov	**Hurricane #Sandy advisory 29 issued. #Sandy forecast to turn northwestward soon http://go.usa.gov/W3H**	**10/29/12**	**145**	x	
DHSgov	South Bay Avenue is flooded in Beach Haven, NJ on Long Beach Island. Courtesy: YashBrowns http://ow.ly/I/14oOI #SandyABC7	10/29/12	18		x
DHSgov	See this comprehensive list of official NOAA Nat'l Weather Service Twitter feeds: http://bit.ly/TqarKt via @NSSL @usNWSgov	10/29/12	44		x
DHSgov	Keep listening to Lite fm for updates on #Sandy as the storm hits our area + get more info @ http://www.1067litefm.com/common/tracking-sandy/ â€¦ ..Stay safe everyone!	10/29/12	0		x
DHSgov	Atlantic City's public safety director says most of the city under water #SandyABC7 #Sandy	10/29/12	89	x	
DHSgov	Closing Holland and Brooklyn Battery tunnels at 2:00 p.m. #SandyABC7 #Sandy @BreakingNews	10/29/12	59	x	
DHSgov	Video: the East Haven, CT, Fire Dept gives an account of coastal #Sandy evacuation yesterday at 4pm	10/29/12	8		x
DHSgov	Live coverage of Sandy continues on Channel 7 and 7online http://bit.ly/XLd0Ze @breakingnews	10/29/12	5		x
DHSgov	Ledger reporters in the field, plus the best feeds to folo on @njdotcom's evolving Twitter list http://nj-ne.ws/RfFzZ0 #njsandy	10/29/12	2		x
DHSgov	RT @jenmaxfield7: Hackensack River flooding local parks in Hackensack. #Sandy #SandyABC7 http://twitter.com/JenMaxfield7/status/262919810566991873/photo/1pic.twitter.com/DGNP79R8	10/29/12	17		x
DHSgov	Turn the refrigerator to its coldest setting and keep its doors closed. #Sandy http://go.usa.gov/Yp4H	10/29/12	96	x	
DHSgov	Safety reminders during #Sandy: stay off the roads, avoid floodwaters, continue to listen to local officials & follow the forecast.	10/29/12	342	x	
DHSgov	@LColagrossi7 @SamChampion @RachelChang You've been quoted in my #Storify story "Hurricane Sandy" http://sfy.co/gB1H #SandyABC7	10/29/12	1		x
DHSgov	Hurricane Sandy breaching New Jersey beaches http://bit.ly/SU6UBD @breakingnews	10/29/12	11		x

				100+	99-49	48-0
DHSgov	Police ask NJ barrier island residents who did not leave to report to local police for evacuation #SandyABC7 #Sandy	10/29/12	7			x
DHSgov	(Oct 29) Remember that #flooding can occur well inland. Don't walk/drive thru floodwaters: *Turn Around, Don't Drown* #Sandy	10/29/12	14			x
DHSgov	Phone lines may be congested during/after #Sandy. Let loved ones know you're OK by sending a text or updating your social networks.	10/29/12	23			x
DHSgov	Text SHELTER + your ZIP code to 43362 (4FEMA) to find the nearest shelter in your area. Standard text rates apply. #Sandy	10/29/12	31			x
DHSgov	Meteorologist @twckellycass on #Sandy: "One of the biggest storms of our lifetimes is unfolding right now."	10/29/12	561	x		
DHSgov	Report from Atlantic City: A section of the boardwalk, possibly 30 feet long, is floating down one local street. #Sandy #SandyABC7	10/29/12	223	x		
DHSgov	Info as Northern Suburbs brace for Hurricane Sandy http://bit.ly/STMJnt @breakingnews	10/29/12	1			x
DHSgov	Twitter lists to follow for #Sandy: #NJ http://ow.ly/eQr4B #NY http://ow.ly/eQr8S #NYC http://ow.ly/eQrcX #frankenstorm	10/29/12	9			x
DHSgov	Secure your home, close storm shutters and secure outdoor objects or bring them indoors. #Sandy http://go.usa.gov/Yp4H	10/29/12	12			x
DHSgov	#Hurricane #Sandy [IMAGE] from GOES-East satellite (Oct 29) http://twitpic.com/b8h653 via @NOAASatellites	10/29/12	211	x		
DHSgov	The New York Times is providing free unlimited access to storm coverage on http://nytimes.com and its mobile apps today.	10/29/12	350	x		
DHSgov	Rescues under way after crew abandons ship off North Carolina coast #SandyABC7 #Sandy	10/29/12	4			x
DHSgov	Phone lines may be congested during/after #Sandy. Let loved ones know you're OK by sending a text or updating your social networks.	10/29/12	1015	x		
DHSgov	Map: Find Hurricane #Sandy shelters and evacuation sites in New York City's five boroughs http://nyti.ms/STEvfd	10/29/12	117	x		
DHSgov	Get NOAA Nat. Hurricane Center #Sandy updates via audio #podcast: -- RSS Feed is http://1.usa.gov/YdNBqt via @NHC_Atlantic	10/29/12	29			x
DHSgov	RT @tvmarci: These guys are lovin' #SandyABC7! http://yfrog.com/gy7mhslwj	10/29/12	3			x
DHSgov	(Oct 29) #Sandy is bringing high winds & heavy rains. Avoid standing water & watch for downed limbs and power lines.	10/29/12	122	x		
DHSgov	Oct 29: Food safety in power outages: Group food together in freezer & keep fridge closed to help food stay cold longer. #Sandy	10/29/12	136	x		
DHSgov	As #Sandy hits, listen to the radio, TV, or your @NOAA weather radio for information. http://go.usa.gov/Yp4H	10/29/12	28			x
DHSgov	Obama skips campaign rally in Florida to monitor conditions in Washington	10/29/12	81		x	
DHSgov	**Send your Hurricane #Sandy photos, and visit our gallery of what readers have already sent us: http://nyti.ms/SnkSOY**	**10/29/12**	**80**		x	

fema	New England tune in to NOAA Weather Radio and local news for updates and directions provided by local officials #Sandy	10/29/12	10			X
fema	Hurricane #Sandy Intermediate advisory 28A issued. Sandy now moving north-northwestward and accelerating http://go.usa.gov/W3H	10/29/12	189	X		
fema	Gay Marriage, Pot, Immigration Among Ballot Issues http://abcn.ws/YdGcqX	10/29/12	21			X
fema	Visit our state-by-state guide to information on Hurricane #Sandy	10/29/12	103	X		
fema	Black Churches in Florida Urge Congregations to Vote http://nyti.ms/SnhNyo	10/29/12	81			
fema	Cameras on the 51st floor of the NYT building are capturing the skies ahead of Hurricane #Sandy, updating every minute: http://nyti.ms/SRJ5ui	10/29/12	1051	X		
fema	Tweet us your photos! Here are some we have already received. http://ow.ly/eQe5W #SandyABC7	10/29/12	3			X
fema	Hurricane Sandy Predicted to Bring â€˜Life-Threateningâ€™ Surge	10/29/12	183	X		
fema	Random House and Penguin to Be Combined	10/29/12	132	X		
fema	5,500 people are without power in New Jersey #SandyABC7 Watch our coverage on iPad and iPhone	10/29/12	32			X
fema	Keep your pets safe during Hurricane Sandy	10/29/12	10			X
fema	Hurricane Sandy poised to make landfall in New Jersey	10/29/12	13			X
fema	The 5 a.m. #Sandy update shows winds have intensified to 85 mph. Some N.J. towns have already lost power: http://nj-ne.ws/Ydh3g0 #njsandy	10/29/12	18			X
fema	Latest Accuweather forecast from @evansweather as #Sandy approaches. http://ow.ly/eQ8Kg #SandyABC7	10/29/12	2			X
fema	#Sandy strengthens, winds at 85 MPH, currently 285 mi from Cape Hatteras, 385 from NYC #SandyABC7	10/29/12	6			X
fema	**Hurricane #Sandy advisory 28 issued. #Sandy strengthens http://go.usa.gov/W3H**	10/29/12	75		X	
fema	Get the latest AccuTrack radar maps tracking #HurricaneSandy #SandyABC7	10/29/12	2			X

FEMA Crisis Tweets: Date, Retweet Count   100+, 99-49, 48-0

fema	5,500 people are without power in New Jersey #SandyABC7 Watch our coverage on iPad and iPhone	10/29/12	32		x
fema	Keep your pets safe during Hurricane Sandy	10/29/12	10		x
fema	Hurricane Sandy poised to make landfall in New Jersey	10/29/12	13		x
fema	The 5 a.m. #Sandy update shows winds have intensified to 85 mph. Some N.J. towns have already lost power: http://nj-ne.ws/Ydh3g0 #njsandy	10/29/12	18		x
fema	Latest Accuweather forecast from @evansweather as #Sandy approaches. http://ow.ly/eQ8Kg #SandyABC7	10/29/12	2		x
fema	#Sandy strengthens, winds at 85 MPH, currently 285 mi from Cape Hatteras, 385 from NYC #SandyABC7	10/29/12	6		x
fema	**Hurricane #Sandy advisory 28 issued. #Sandy strengthens http://go.usa.gov/W3H**	10/29/12	75	x	
fema	Get the latest AccuTrack radar maps tracking #HurricaneSandy #SandyABC7	10/29/12	2		x
fema	More than 1,000 without power in New Jersey #SandyABC7 #HurricaneSandy	10/29/12	12		x
fema	Bronx River Parkway to close at 6 a.m. #SandyABC7 #HurricaneSandy	10/29/12	7		x
fema	LIVE coverage of Hurricane Sandy starts RIGHT NOW. Tune into channel 7, or watch online http://ow.ly/eQ43P #SandyABC7	10/29/12	8		x
fema	Hurricane Sandy to Put 50 Million People at Risk	10/29/12	149	x	
fema	Hurricane #Sandy Intermediate advisory 27A issued. Sandy turning toward the north http://go.usa.gov/W3H	10/29/12	53	x	
fema	The Lede Blog: State-by-State Guide to Hurricane Sandy	10/29/12	82	x	
fema	Giants 4, Tigers 3, 10 Innings: Giants Sweep Tigers to Win Second World Series Title in Three Years	10/29/12	252		
fema	Giants win the World Series http://bit.ly/UXsGZX @breakingnews	10/29/12	7		
fema	Breaking News: President Obama signs New Jersey Emergency Declaration #SandyABC7 @BreakingNews	10/29/12	35		x
fema	Sports Alert: San Franciso Giants Win World Series After Sweeping Detroit Tigers http://nyti.ms/SXOnqi	10/29/12	348		
fema	The San Francisco Giants have won the World Series, defeating the Detroit Tigers 4-3 in 10 innings in game 4. @BreakingNews	10/29/12	14		
fema	ABC News confirms no stock trading tomorrow. Financial markets closed - not even online trading. #BreakingNews #SandyABC7	10/29/12	51	x	
fema	Watch New York's skies ahead of Hurricane #Sandy from a @NYTGraphics camera on the NYT building http://nyti.ms/SRBDiO	10/29/12	862	x	
fema	**Hurricane #Sandy advisory 27 issued. #Sandy about to start its northward turn http://go.usa.gov/W3H**	10/29/12	155	x	

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FEMA Crisis Tweets: Date, Retweet Count   100+, 99-49, 48-0

				100+	99-49	48-0
fema	Great job, team! RT @HRD_AOML_NOAA: #NOAA42 45 minutes from landing. Today ends 7 flights that collected data to improve #Sandy's forecast.	10/29/12	26			x
fema	California Boy Comes to Trial in Killing of Neo-Nazi Father	10/29/12	95			
fema	Top 7 Tips to Prepare for Hurricane Sandy	10/29/12	63		x	
fema	RT @jeffsmithabc7: Good illustration of how #Sandy will be pulled in toward the coast tomorrow... #SandyABC7	10/29/12	16			x
fema	Now that you've prepared for #Sandy, the next step is to check on your neighbors- make sure they're ready too. We're in it together	10/29/12	668	x		
fema	(Oct 28) If you're in #Sandy's path, follow the direction of local officials. Latest blog post w/ safety tips: http://www.fema.gov/blog/2012-10-28/sandy-update-3-follow-direction-local-officials â€¦	10/29/12	258	x		
fema	@jaymicallef @TheJackBarbosa You've been quoted in my #Storify story "Hurricane Sandy" http://sfy.co/gB1H #SandyABC7	10/29/12	1			x
fema	@NOAA's one-stop #Sandy webpage at 'StormCentral' http://1.usa.gov/TNiBPg Find links to advisories, satellite images, fact sheets & more!	10/29/12	126	x		
fema	Hurricane Sandy: Hundreds of Flights Canceled, Mass Transit Systems Shutting Down Ahead of Storm	10/29/12	98		x	
fema	MT @NASA_EO: Full disk animation showing the birth and growth of Hurricane #Sandy from @NOAA-NASA GOES Project	10/29/12	83		x	
fema	Our live #Sandy coverage will resume on Eyewitness News at 11:00 p.m. http://ow.ly/ePMtS #SandyABC7	10/29/12	4			x
fema	Barclays Center Attracts Cabs to Brooklyn	10/29/12	58			
fema	#Sandy East coast, search for open shelters by texting: SHELTER + a zip code to 43362 (4FEMA). Ex: Shelter 01234 (std rates apply)	10/29/12	3625	x		
fema	National Hurricane Center estimates Hurricane #Sandy is currently about 485 miles South-Southeast of #NY City http://abcn.ws/WTa1z3	10/29/12	153	x		
fema	Photos: Hurricane #Sandy nears N.J. http://nj-ne.ws/S41NPI	10/29/12	7			x
fema	If you require medication, double check to be sure your prescriptions are filled before #Sandy. http://go.usa.gov/Yp4H	10/29/12	32			x
fema	RT @leegoldbergabc7: Hurricane Sandy 8pm Advisory http://1.usa.gov/Xfl9rq	10/29/12	7			x
fema	Get the latest update on #Hurricane #Sandy here http://www.nhc.noaa.gov/	10/29/12	4			x
fema	Excellent winter preparedness info for people w/ disabilities - http://ow.ly/ePnme #sandy	10/29/12	5			x
femaregion	Hurricane Sandy: Apps and Tech Tips to Track The Storm	10/28/12	44			x

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femaregion1	Hurricane Sandy: Apps and Tech Tips to Track The Storm	10/28/12	44			X
femaregion1	Washington, D.C. officials announce Metrorail and Metrobus service will be cancelled Monday. Hurricane #Sandy Live Blog http://abcn.ws/WTa1z3	10/28/12	77		X	
femaregion1	If you live in a high-rise building, be prepared to take shelter on or below the 10th floor. http://www.ready.gov/hurricanes #Sandy	10/28/12	294	X		
femaregion1	Hurricane Sandy grounds thousands of flights http://bit.ly/XH9L56 @breakingnews	10/28/12	13			X
femaregion1	Getting great photos from viewers! Thanks for sharing, but remember safety first! http://ow.ly/ePGQD	10/28/12	17			X
femaregion1	President Obama signs New York emergency declaration #SandyABC7 #Sandy @BreakingNews	10/28/12	62		X	
femaregion1	Stay indoors during a hurricane and away from windows and glass doors. http://go.usa.gov/Yp4H #Sandy	10/28/12	93		X	
femaregion1	The MTA shutdown has begun. The last trains are about to leave on their routes. The last buses will leave at 9pm. #SandyABC7	10/28/12	38			X
femaregion1	7 Devastating Hurricanes: Where Will Sandy Rank? http://abcn.ws/YbMF5Z	10/28/12	36			X
femaregion1	NJ Gov. Chris Christie: The next 4-5 hours are your last chance before the storm gets going.â€ Hurricane #Sandy http://abcn.ws/WTa1z3	10/28/12	65		X	
femaregion1	Jersey City issues mandatory evacuation http://bit.ly/UWEdbO @breakingnews	10/28/12	20			X
femaregion1	Federal offices in the Washington, DC area will be closed tomorrow because of #Sandy hurricane. Live Coverage: http://abcn.ws/WTa1z3	10/28/12	57		X	
femaregion1	See #Sandy-related #snowfall predictions for high-elevation areas (scroll to end of @NHC_Atlantic advisory): http://1.usa.gov/TNBd1o	10/28/12	36			X
femaregion1	Be smart as you prepare for #Sandy: here are some things to consider as you #prepare http://www.ready.gov/considerations	10/28/12	7			X
femaregion1	Eat: Four Ways to Cook a Pumpkin, No Matter How You Slice It http://nyti.ms/SQJMnD	10/28/12	66		X	
femaregion1	Bits Blog: I.B.M. Reports Nanotube Chip Breakthrough	10/28/12	74		X	
femaregion1	Jersey City issues a mandatory evacuation http://ow.ly/ePEXP #SandyABC7 #Sandy	10/28/12	7			X
femaregion1	Hurricane Sandy: Hundreds of Flights Canceled, Mass Transit Systems Shutting Down Ahead of Storm	10/28/12	102	X		

FEMA Region 1 Crisis Tweets: Date, Retweet Count   100+, 99-49, 48-0

femaregion1	Mandatory evacuation ordered in Hoboken http://bit.ly/RfbCIs @breakingnews	10/28/12	19			x
femaregion1	Mandatory evacuations ordered in Hoboken, New Jersey http://ow.ly/ePDTB #Sandy #SandyABC7	10/28/12	27			x
femaregion1	Get the FEMA smartphone app for tips: Google Play http://bit.ly/Rjo8ut iTunes http://bit.ly/sNZNJI Blackberry http://bit.ly/wUiqHL #Sandy	10/28/12	5			x
femaregion1	Got the NOAA Nat. Hurricane Center's mobile site for your smartphone? It's http://www.nhc.noaa.gov/mobile/ @NHC_Atlantic	10/28/12	43			x
femaregion1	Hurricane #Sandy update: Forecast stands pat, storm draws near: http://nj-ne.ws/UWsLwK #njsandy	10/28/12	4			x
femaregion1	10/28: President Obama received a #Sandy briefing @fema HQ http://www.fema.gov/blog/2012-10-28/sandy-update-3-follow-direction-local-officials â€¦ emphasizing need to prepare	10/28/12	152	x		
femaregion1	Miami pounds the Jets 30-9	10/28/12	3			x
femaregion1	Live storm coverage from Eyewitness News unknown ET Oct 26, 2012	10/28/12	1			x
femaregion1	NYSE to shut trading floor on Monday http://bit.ly/Rf23JF @breakingnews	10/28/12	10			x
femaregion1	RT @jonkarl: Romney event in Marion, OH doesn't start for 3 hrs, but already there's a long line of people waiting	10/28/12	68			
femaregion1	Hurricane #Sandy: Tips For Pet Owners http://abcn.ws/TNneJ9	10/28/12	60		x	
femaregion1	Hurricane #Sandy: N.J. county by county evacuations, flooding, closings -- this will be updated CONTINUOUSLY http://nj-ne.ws/Ybvq4J #sandynj	10/28/12	20			x
femaregion1	Get your local #Sandy weather online by typing in your zip code at http://weather.gov ; our mobile site is http://mobile.weather.gov/	10/28/12	97			x
femaregion1	Are you in the NYC region preparing for #Sandy? Our @nytmetro reporters and editors are taking your storm questions. Tweet them w/ #AskNYT	10/28/12	115	x		
femaregion1	Bookmark the @CDCgov page for great information on what to do if the power goes out http://ow.ly/ePng9 #frankenstorm #sandy	10/28/12	23			x
femaregion1	Map: It's not too late to evacuate. See if you're in Zone A and find shelters in all 5 boroughs http://nyti.ms/SQoTsQ	10/28/12	174	x		

FEMA Region 1 Crisis Tweets: Date, Retweet Count   100+, 99-49, 48-0

femaregion1	RT @repjoecourtney: Also: call 2-1-1 or go to http://www.211ct.org to find out the location of the closest shelters in #CT. #Sandy	10/28/12	0		X
femaregion1	Ready to fire up your new @NOAA Weather #Radio? Find the S.A.M.E. codes you need to program it here: http://1.usa.gov/HIow19 #Sandy	10/28/12	32		X
femaregion1	Top 8 Haunted Attractions in the U.S. http://abcn.ws/WIfDO	10/28/12	37		X
femaregion1	Here's the 5 pm ET update on #Sandy: RT @NHC_Atlantic: Hurricane #Sandy advisory 26 issued. http://go.usa.gov/W3H	10/28/12	41		X
femaregion1	Get the latest #storm #surge and #tidal levels for areas affected by #Sandy from @NOAAOcean: http://1.usa.gov/TX1dls	10/28/12	31		X
femaregion1	Delaware Coast Closes Down for Hurricane Sandy http://nyti.ms/SQiqQT	10/28/12	73	X	
femaregion1	Obama Vows to Respond 'Big' and 'Fast' to Hurricane #Sandy http://abcn.ws/TNI9Ne	10/28/12	52	X	
femaregion1	The New York Stock Exchange will close its trading floor Monday. Trading will continue electronically. @BreakingNews #SandyABC7	10/28/12	20		X
femaregion1	Announcing @FEMAespanol â€" our new account for Spanish updates & safety tips. Please share it with your followers. #Sandy	10/28/12	348	X	
femaregion1	The Times is providing free, unlimited access to coverage of Hurricane #Sandy on http://nytimes.com and our mobile apps.	10/28/12	350	X	
femaregion1	3 hours until #FNIA on @NBC! #SNF RT @SNFonNBC Rehearsal begins in #Denver @Saints @Denver_Broncos #SNF	10/28/12	3		
femaregion1	No More Kid Stuff for Taylor Swift	10/28/12	47		
femaregion1	#Sandy tip: Remember to include items like a flashlight, hand-crank radio, and a solar powered cell phone charger to your emergency kit.	10/28/12	31		X
femaregion1	Prepare, get help, find open shelters & tell people youâ€™re OK by downloading the @RedCross #hurricane app. #Sandy	10/28/12	70	X	

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FEMA Region 1 Crisis Tweets: Date, Retweet Count   100+, 99-49, 48-0

femaregion1	Viewer photos from Hurricane #Sandy Check them out http://ow.ly/ePvr6 #SandyABC7	10/28/12	1		x
femaregion1	@breakingnews @Evansweather @AmyFreeze @severeNJwx You've been quoted in my #Storify story "Hurricane Sandy" http://sfy.co/gB1H	10/28/12	2		x
femaregion1	Send us a pic of your child's best Halloween costume for ur chance to win a $500 @FairwayMarket gift card! http://www.1067litefm.com/l/halloween	10/28/12	0		x
femaregion1	Adult Picky Eater Will Only Consume Three Kinds of Food http://abcn.ws/TK8DrR	10/28/12	16		x
femaregion1	#BreakingNews Amtrak cancels service on East Coast for Monday #SandyABC7	10/28/12	34		x
femaregion1	#Halloween light sticks make great fire safe light sources if the power goes out. Consider adding them to your kit. #Sandy	10/28/12	17		x
femaregion1	#Sandy still a category 1 hurricane, still a worst-case scenario,' experts say: http://nj-ne.ws/YbbUFj #njsandy	10/28/12	11		x
femaregion1	New Englanders here's a list of people to follow for twitter updates on #Sandy http://ow.ly/ePv3r	10/28/12	12		x
femaregion1	Road, rail and air travel in N.J. shutting down as Sandy approaches' http://nj-ne.ws/RhKk6b #sandy, #njsandy	10/28/12	13		x
femaregion1	Receive @DC_HSEMA tweets via text message, text: DC_HSEMA to 40404 (@twitterâ€™s text msg # std rates apply) #Sandy	10/28/12	29		x
femaregion1	Peyton Manning and the @Denver_Broncos vs. @DrewBrees and the @Saints tonight on @SNFonNBC RT @saints GAMEDAY! http://instagram.com/p/RU3ycumKyx #NOvsDEN	10/28/12	14		x
femaregion1	What to do before, during, and after a #hurricane. On the web http://Ready.gov/hurricanes On your phone: http://m.fema.gov/hurricanes.htm #Sandy	10/28/12	98	x	

femaregion1	Broadway cancels shows tonight and tomorrow due to #Sandy http://ow.ly/ePu69 #SandyABC7	10/28/12	27		x
femaregion1	Mayor Bloomberg evacuates Zone A and closes schools http://ow.ly/2sUyxE	10/28/12	6		x
femaregion2	Luggage Shipping Services Let Travelers Fly Without Baggage http://abcn.ws/VtWjO4	10/28/12	27		x
femaregion2	RETWEET if you're ready for @NBCTheVoice #Knockouts tomorrow! http://ow.ly/ePsRU #TheVoice	10/28/12	65	x	
femaregion2	VIDEO: Jersey Shore folks put Hurricane Sandy bluntly: "We're screwed" http://nj-ne.ws/SPLpSz #njsandy #sandy	10/28/12	23		x
femaregion2	Get familiar with #hurricane terms, plus advice on #storm #preparation here http://www.ready.gov/hurricanes #Sandy	10/28/12	7		x

femaregion2	Preparing for a loss of power – remember to charge extra batteries for wheelchairs & other medical equipment. #Sandy #staysafe	10/28/12	25		x
femaregion2	New York area school closings due to #Sandy http://ow.ly/ePt2L #SandyABC7 (New York City schools are closed tomorrow)	10/28/12	13		x
femaregion2	Learn the difference btwn a hurricane watch & a warning in American Sign Language #ASL http://ow.ly/ePnsO #Sandy	10/28/12	9		x
femaregion2	Greek Editor Arrested After Publishing List of Swiss Bank Accounts	10/28/12	208	x	
femaregion2	In the path of #Sandy? Continue to listen to @NOAA Weather Radio and local news for updates & directions from local officials.	10/28/12	44		x
femaregion2	#Sandy: Check your emergency kit for canned food, can opener, plenty of water, batteries, flashlight, radio & meds http://go.usa.gov/Yp4H	10/28/12	15		x
femaregion2	Rachel Carsonâ€™s Lessons, 50 Years After â€˜Silent Springâ€™	10/28/12	138		
femaregion2	#BreakingNews New Jersey Transit to be shut down at 2 p.m. Sunday #SandyABC7	10/28/12	45		x
femaregion2	Click for a great PDF on Preparing for Emergencies: A Guide for People on Dialysis http://ow.ly/ePn8W #Sandy	10/28/12	7		x
femaregion2	Remember to follow your local & state offices of emergency management for evacuation notices and information. #Sandy #NYCSandy #NJSandy	10/28/12	10		x
femaregion2	7 Halloween Houses That Will Haunt Your Dreams http://abcn.ws/U24VdK	10/28/12	17		
femaregion2	#NOAA Hurricane Hunters wrapping up missions to #Sandy today. Here is photo of NOAA-42, Kermit, ready for a.m. flight.	10/28/12	55	x	

femaregion2	Eastern States Scramble to Prep for Superstorm	10/28/12	57	x	
femaregion2	DHS, @FEMA & federal partners continue to monitor/prepare for #Sandy. For weather info follow @NHC_Atlantic & visit http://weather.gov	10/28/12	58	x	
femaregion2	American Sign Language #ASL video on staying safe in your home during a hurricane. http://ow.ly/ePonE #sandy	10/28/12	11		x
femaregion2	Let your friends/family know you're ok via text or social media if voice calls aren't going through #Sandy	10/28/12	11		x
femaregion2	Stay updated on all the developments with Hurricane Sandy as it approaches the tri-state area @ http://www.1067litefm.com/l/storm .	10/28/12	0		x
femaregion2	Excellent winter preparedness info for people w/ disabilities - http://ow.ly/ePoKY #sandy	10/28/12	6		x
femaregion2	#BreakingNews PATH service suspended at 12:01 Monday indefinitely due to Hurricane Sandy. #SandyABC7	10/28/12	24		x
femaregion2	Preparedness in your pocket for #Sandy: take some time to save vital documents to your phone or a thumb drive. http://go.usa.gov/Yp4j	10/28/12	15		x
femaregion2	Emergency Management Information Guide on who has to evacuate and where to go. http://ow.ly/ePnkY #SandyABC7	10/28/12	19		x
femaregion2	Stay up-to-date on your #Sandy forecast. On the web: http://www.weather.gov Mobile: http://mobile.weather.gov #frankenstorm	10/28/12	318	x	
femaregion2	Hurricane #Sandy: The National Guard sets up shelters in Monmouth County: http://nj-ne.ws/WSYqjj #njsandy	10/28/12	10		x
femaregion2	A Controversial â€˜Cureâ€™ for Multiple Sclerosis	10/28/12	107	x	
femaregion2	#BreakingNews Mandatory evacuations for Zone A in New York City announced by Mayor Bloomberg #SandyABC7	10/28/12	19		x
femaregion2	RT @NotifyNYC: MTA subway and rail will be suspended tonight at 7PM. MTA bus will be suspended tonight at 9PM http://www.mta.info #Sandy	10/28/12	0		x
femaregion2	Prepare for #Sandy and have a plan & supplies for pets and service animals. http://ow.ly/ePm8i #Sandypets	10/28/12	19		x
femaregion2	#Sandy tip: bookmark safety info on your mobile phone. Weather http://mobile.weather.gov #Safetytips http://m.fema.gov	10/28/12	7		x

				100+	99-49	48-0
femaregion2	#BreakingNews Mayor Bloomberg announces NYC Schools will be closed on Monday #SandyABC7	10/28/12	61		X	
femaregion2	Our Twitter accounts along the East Coast are providing specific #Sandy safety tips @femaregion1 @femaregion2 @femaregion3	10/28/12	283	X		
femaregion2	Mayor Bloomberg news conference on Hurricane #Sandy NOW! http://ow.ly/ePlTj #SandyABC7	10/28/12	7			X
femaregion2	@isladelmar you're very welcome. We hope your fellow dorm mates are preparing, too. Good luck with Sandy.	10/28/12	0			X
femaregion2	@isladelmar Knowing what you'd do during power outages is a good start. Cafeterias may be closed, so have extra food/water & a flashlight	10/28/12	1			X
femaregion2	Back From the Vomitorium: The Looting of the Mortgage Settlement Agreement	10/28/12	19			
femaregion2	Hurricane #Sandy advisory 25 issued. http://go.usa.gov/W3H	10/28/12	96		X	
femaregion2	#Sandy state accounts to follow: @MDMEMA @WVDHSEM @VDEM @DelawareEMA @NYSDHSES @CTDEMHS @vemvt @MaineEMA @MassEMA #frankenstorm	10/28/12	186	X		
femaregion2	City Room: M.T.A. Chief Announces Storm Plan for Subways, Buses and Commuter Trains	10/28/12	70		X	
femaregion2	Mayor Bloomberg news conference at 11am on Sandy updates. WATCH LIVE http://ow.ly/ePkmV #SandyABC7	10/28/12	13			X
femaregion2	#Sandy tip: Phone lines may be congested after a storm, so update your social networks or text family/friends to say you're OK.	10/28/12	435	X		
femaregion2	MTA service to be shut down as New York City prepares for Sandy http://bit.ly/RdVInj @breakingnews	10/28/12	27			X

				100+	99-49	48-0
femaregion2	The @FEMA app has #Sandy safety tips. Google Play https://play.google.com/store/apps/details?id=gov.fema.mobile.android â€¦ iTunes http://bit.ly/sNZNJ Blackberry http://bit.ly/wUIqHL	10/28/12	101	X		
femaregion2	Keep your mobile device charged! #Sandy #Frankenstorm	10/28/12	30			X
femaregion2	For local weather info visit http://weather.gov and type in your zip code to get your local #NWS forecast	10/28/12	47			X
femaregion2	East Coast Braces for Severe Storm Surge	10/28/12	127	X		
femaregion2	Breaking News: Governor Cuomo Announces Plans to Shut Down Buses, Subways and Trains http://nyti.ms/SXO8vq	10/28/12	371	X		
femaregion2	#BreakingNews Gov. Cuomo announces MTA service to be suspended at 7 p.m. @breakingnews #SandyABC7	10/28/12	89		X	
femaregion2	Watch this @fema video to learn more about planning for those w/ disabilities, access & functional needs http://go.usa.gov/VY1 #Sandy	10/28/12	29			X
femaregion2	Gov. Cuomo news conference NOW #SandyABC7	10/28/12	8			X
femaregion2	Preparedness in your pocket for #Sandy: take some time TODAY to save vital documents to your phone or a thumb drive.	10/28/12	12			X
femaregion2	The @redcross #hurricane app has 1-touch â€œIâ€™m safeâ€ messaging. http://ow.ly/ePlu8 #Sandy #staysafe	10/28/12	85		X	
femaregion2	#Sandy Twitter lists to follow via @femaregion2 NY state: http://ow.ly/ePlU3 NJ: http://ow.ly/ePfzv NY city: http://ow.ly/ePfOW	10/28/12	64		X	
femaregion2	If phone lines are down try texting or updating your social media accounts to let friends & family know you are safe! #Sandy #Frankenstorm	10/28/12	14			X
femaregion2	Oct 28 #frankenstorm tip â€“ check in with your friends/family on the East Coast. Make sure they have an emerg kit & plan for #Sandy.	10/28/12	84		X	
femaregion2	Gov. Cuomo and other officials news conference on Hurricane Sandy update on Long Island. (10am) Watch LIVE! http://ow.ly/ePhXU #SandyABC7	10/28/12	12			X
femaregion2	If you live in New York State, here is a Twitter list of accounts to follow for #Sandy information: http://ow.ly/ePlU3 #smem	10/28/12	18			X
femaregion2	Hey #NYC--check out this #Sandy twitter list for accounts to follow for safety information http://ow.ly/ePfOW #smem	10/28/12	6			X
femaregion2	RT @usNWSgov: Large and dangerous Sandy# continues to parallel East Coast, taking aim at Mid-Atlantic, Northeast: http://1.usa.gov/QG57QZ	10/28/12	42			X

femaregion2	Preparedness in your pocket for #Sandy: text during/after storms as voice calls may overload the network.	10/28/12	9			x
femaregion2	Today is the day to finish #Sandy #preparations. Visit http://www.ready.gov/ for #hurricane #safetytips	10/28/12	17			x
femaregion2	Nassau County executive asks for voluntary evacuations in flood zones. #SandyABC7 http://ow.ly/ePgrk	10/28/12	7			x
femaregion2	Check out our New Jersey #Sandy Twitter list for a good list of accounts to follow for #USandy info http://ow.ly/ePtzv #IUwx #smem	10/28/12	9			x
femaregion2	Hurricane #Sandy update: Storm tracks as of 9 a.m. Sunday: http://nj-ne.ws/S5AVO9 #njsandy	10/28/12	6			x
femaregion2	Follow our Hurricane Sandy Storify http://sfy.co/gB1H #sandyabc7 #sandy	10/28/12	3			x
femaregion2	Worried about loved ones in the path of #Sandy? Make a plan now for how to communicate if the power goes out. #frankenstorm	10/28/12	12			x
femaregion2	If you want to know what impacts #Sandy may have for your community, go to http://www.weather.gov/ and enter your zip code #frankenstorm	10/28/12	34			x
femaregion2	#Sandy #tip: If/When power goes out, banks & ATMs may be offline for some time. Be sure to have cash on hand. http://go.usa.gov/Yp4H	10/28/12	44			x
femaregion2	Residents are evacuating on the Jersey Shore ahead of Sandy	10/28/12	7			x
femaregion2	The New American Job: A Part-Time Life, as Hours Shrink and Shift for American Workers	10/28/12	147	x		
femaregion2	Goat Prank Closes NC High School Football Field for 6 Months	10/28/12	24			
femaregion2	Casualties of Torontoâ€™s Urban Skies	10/28/12	96			
femaregion2	First Tsunami Waves Start to Hit Hawaii After 7.7 Canada Quake http://abcn.ws/S5qgzEW	10/28/12	124	x		
femaregion2	As #Sandy continues to move up the coast, make sure your emergency kit is up to date & ready to go. Learn more here: http://go.usa.gov/Yp4H	10/28/12	6			x
femaregion2	Pentagon Reopens Program Allowing Immigrants With Special Skills to Enlist	10/28/12	82			

FEMA Regions 2 & 3 Crisis Tweets: Date, Retweet Count   100+, 99-49, 48-0

femaregion2	How â€¦Wreck-It Ralphâ€™™ Revisits Retro Video Games	10/28/12	67		
femaregion2	Magnitude 7.7 Quake Strikes Off Western Canada http://nyti.ms/SjoxNV	10/28/12	364	X	
femaregion2	ETA for first #tsunami wave in Hawaii is 10:28 HST Sat. Oct. 27. Read warning at http://1.usa.gov/RcCadn	10/28/12	268	X	
femaregion2	#NOAA's Pacific Tsunami Warning Center has issued #tsunami warning for Hawaii - http://1.usa.gov/S4riiH	10/28/12	215	X	
femaregion2	2 am EDT Tropical Weather Outlook issued. #twoat http://hurricanes.gov/gtwo_atl.shtml	10/28/12	17		X
femaregion2	Hurricane #Sandy Intermediate advisory 23A issued. Sandy continues to move parallel to the southeast u.s. coast http://go.usa.gov/W3H	10/28/12	52	X	
FEMAregion3	Memo From London: European Union Exit? Concerns Grow for Britain	10/28/12	80		
FEMAregion3	Game 3: Giants 2, Tigers 0: World Series: Giants Take 3-0 Lead Over Tigers	10/28/12	123		
FEMAregion3	Circa Now: Background Checks and Personal Ethics in the Age of Google	10/28/12	56	X	
FEMAregion3	RT @timfleischer7: My Ginger & Moose want you to protect your pets during the storm. http://abclocal.go.com/wabc/story?section=weather&id=8862080 â€¦ #SandyABC7	10/28/12	3		X
FEMAregion3	Obama cancels campaign events to monitor Sandy	10/28/12	8		X
FEMAregion3	You can find wind and rain probabilities for #Sandy here: http://go.usa.gov/Yg4j @rashon77 @sheenaparveen	10/28/12	5		X
FEMAregion3	Hurricane Sandy's Threat: 10 Days in the Dark	10/28/12	102	X	

FEMAregion3	Will Sandy force a shutdown of mass transit? @mattkozarabc7 will have up-to-the-minute details coming up after the game. #SandyABC7	10/28/12	8			x
FEMAregion3	RT @NHC_Atlantic: Hurricane #Sandy advisory 23 issued. http://go.usa.gov/W3H	10/28/12	49		x	
FEMAregion3	What to do before, during, and after a #hurricane. On the web: http://www.Ready.gov/hurricanes On your phone: http://m.fema.gov/hurricanes.htm #Sandy	10/28/12	343	x		
FEMAregion3	A Village Rape Shatters a Family, and India's Traditional Silence	10/28/12	247			
FEMAregion3	Biden Says GOP's Social Policy Channels 'Mad Men' http://abcn.ws/PV6m1z	10/28/12	27			
FEMAregion3	Preparedness in your pocket for #Sandy: take some time this weekend to save vital documents to your phone or a thumb drive.	10/28/12	10			x
FEMAregion3	Romney and Obama Change Plans as Sandy Nears	10/28/12	65		x	
FEMAregion3	Di Ionno: A season of sadness in community's senseless loss of Autumn Pasquale: http://nj-ne.ws/RbwdOt	10/28/12	0			
FEMAregion3	Look up the #Sandy forecast with your zip code on our interactive map & track the storm's current & projected paths: http://nyti.ms/SIj5e4	10/28/12	284	x		
FEMAregion3	The Long-gone Side of Vegas, Preserved in Neon	10/28/12	43			
FEMAregion3	RT @darlamiles7: 2 big hurricane preparedness tips often overlooked: Run dishwasher & do laundry in case of power outage #SandyABC7	10/28/12	10			x
FEMAregion3	Text SHELTER + your ZIP code to 43362 (4FEMA) to find the nearest shelter in your area. Standard text rates apply. #Sandy	10/28/12	36			x
FEMAregion3	Remember to bring in outdoor furniture, decorations, garbage cans and anything else not tied down. http://go.usa.gov/YvgF #Sandy #safetytip	10/27/12	42			x
FEMAregion3	Hurricane #Sandy Intermediate advisory 22A issued. http://go.usa.gov/W3H	10/27/12	126	x		
FEMAregion3	RT @jeffsmithabc7: New York City now has a 66% chance of sustained winds over 40mph on Monday. That doesn't even include gusts. #SandyABC7	10/27/12	10			x
FEMAregion3	Coming up after the game, we'll have team coverage on Hurricane Sandy, and the preparations that are being made. #SandyABC7	10/27/12	1			x
FEMAregion3	#Sandy tip: Remember to include items like a flashlight, hand-crank radio, and a solar powered cell phone charger to your emergency kit.	10/27/12	14			x
FEMAregion3	From 1860 (Lincoln) to 2012 (Obama) & each year in between, tour the history of @nytimes presidential endorsements: http://nyti.ms/SLZe4v	10/27/12	300			
FEMAregion3	Mayor @MikeBloomberg announced that a decision on mass transit will be made early afternoon on Sunday. #SandyABC7	10/27/12	10			x
FEMAregion3	Mayor @MikeBloomberg: All city parks will be closed Sunday at 5 p.m. Watch LIVE: http://ow.ly/eOUsL #SandyABC7	10/27/12	8			x
FEMAregion3	Mayor @MikeBloomberg: Decision on school closings and mass transit will take place Sunday. Watch LIVE: http://ow.ly/eOUpN #SandyABC7	10/27/12	8			x
FEMAregion3	Mayor @MikeBloomberg: "Shelters will start opening Sunday." Watch LIVE: http://ow.ly/eOUfQ #SandyABC7	10/27/12	2			x
FEMAregion3	Superstorm: 50-60M Could Be Affected by Sandy	10/27/12	88		x	
FEMAregion3	#Hurricane Safety Tip: Include a crank charger and solar kit in emergency bag. Tropical storms & hurricanes can cause blackouts. #Sandy	10/27/12	55		x	

FEMAregion3	Gov. Christie announced tolls will be suspended on northbound Garden State Parkway+westbound Atlantic City Expressway 6am Sunday. #SandyABC7	10/27/12	11			x
FEMAregion3	#Sandy preparedness tip: consider having board games for your kids if the power goes out, and conserve your phone battery.	10/27/12	14			x
FEMAregion3	Mayor @MikeBloomberg will speak about Hurricane Sandy preparations in a few minutes. Watch LIVE: http://ow.ly/eOTvF #SandyABC7	10/27/12	4			x
FEMAregion3	Stock up on supplies before #Hurricane #Sandy. See http://go.usa.gov/YvgR for a list of emergency items you need	10/27/12	8			x
FEMAregion3	LIVE EVENT: At 6 p.m. Mayor Bloomberg will update New Yorkers on preparations for Hurricane Sandy. http://ow.ly/eOSKK #SandyABC7	10/27/12	7			x
FEMAregion3	NOAA's P-3 and GIV at MacDill AFB between #Sandy missions. P-3 crew flying twice daily, GIV flying 9 hr missions.	10/27/12	30			x
FEMAregion3	@fema: Video from the President on the importance of working together during disasters http://www.youtube.com/watch?v=dfC4n5Rn-P&feature=youtu.be #Sandy @NationalVOAD	10/27/12	1			x
FEMAregion3	Also streaming on iPhone and iPad…ps 98.7 @dgatt1: @LeeGoldbergABC7 @amyfreeze7 what are the numbers associated with that ESPN RADIO?…	10/27/12	2			x
FEMAregion3	Prepare, get help, find open shelters & tell people you're OK by downloading the @RedCross #Hurricane app. #Sandy	10/27/12	43			x
FEMAregion3	Hurricane #Sandy advisory 22 issued. http://go.usa.gov/W3H	10/27/12	68		x	
FEMAregion3	Tracking Sandy http://nyti.ms/SLtgWa	10/27/12	88		x	

Account	Tweet	Date	RT	100+	99-49	48-0
FEMAregion3	Accounts along the East Coast providing specific #Sandy safety tips @FEMARegion1 @FEMARegion2 @FEMARegion3 @FEMARegion4 http://www.fema.gov/colorbox/node/212310?width=500px&height=500px :	10/27/12	5			x
FEMAregion3	During extended periods of sheltering, you will need to manage water and food supplies. http://go.usa.gov/YUKj #Sandy	10/27/12	5			x
FEMAregion3	Mother's Intuition: Michigan Mom Predicted Baby's Near-Fatal Illness Before Doctors Had a Clue	10/27/12	31			
FEMAregion3	Video: Looking back at past hurricanes, talking to survivors, plus tips on how to #prepare http://ow.ly/eLPzU #Sandy	10/27/12	7			x
FEMAregion3	Stay indoors during a hurricane and away from windows and glass doors. http://go.usa.gov/Yp4H #Sandy	10/27/12	3			x
FEMAregion3	Check your family's emergency supply kit. Make sure you have food, water, medications & other necessities for at least 72 hours. #Sandy	10/27/12	112	x		
FEMAregion3	Look up the #Sandy forecast with your zip code on our interactive map & track the storm's current & projected paths http://nyti.ms/SL6TQp	10/27/12	231	x		
FEMAregion3	If power goes out, you can still watch our coverage of Sandy online, on our iPhone app and on our iPad app.	10/27/12	7			
FEMAregion3	Listen weekdays for a chance to win $1k & qualify to have tea time in NYC with @RodStewart during the holidays! http://1067litefm.com/l/f	10/27/12	0			
FEMAregion3	Video from the President on the importance of working together during disasters http://www.youtube.com/watch?v=qfC4n5Rn-B&feature=youtu.be â€¦ #Sandy @NationalVOAD	10/27/12	79		x	
FEMAregion3	Ensure a supply of water for sanitary purposes. Fill the bathtub and other larger containers with water. http://go.usa.gov/Yp4H	10/27/12	14			x
FEMAregion3	@tpgee Check out the FEMA Regions map at http://ow.ly/eOM66	10/27/12	0			x
FEMAregion3	AccuWeather: The Calm Before the Storm http://ow.ly/2sTPbt	10/27/12	3			x
FEMAregion3	(Oct 27) #Sandy tip: If you have pets, have extra food/water for them in case stores are closed after the storm. http://www.Ready.gov/animals	10/27/12	5			x
FEMAregion3	@TPGee http://www.fema.gov/fire-management-assistance-grants-regional-contacts â€¦	10/27/12	0			x
FEMAregion3	Hurricanes often cause flooding & power outages. Here's how you can prepare for whatever #Sandy brings http://Ready.gov/hurricanes	10/27/12	36			x
FEMAregion3	@In2012DemsLie http://www.fema.gov/fire-management-assistance-grants-regional-contacts â€¦	10/27/12	0			x

NHC_Atlantic	10/27: #Sandy tip for east coast- get to the store today for emerg supplies. Water, nonperishable food, batteries, flashlight, etc.	10/27/12	287	X		
NHC_Atlantic	NYC Nanny Stabbing: When Is a Child Too Young to Remember Trauma?	10/27/12	31			
NHC_Atlantic	Breaking News: A mandatory evacuation has been ordered of all Town of Islip communities located on Fire Island ahead of Hurricane Sandy.	10/27/12	43			X
NHC_Atlantic	Tropical Storm Sandy is showing up on NOAA's National Weather Service radar this morning. http://1.usa.gov/9XrtAG	10/27/12	23			X
NHC_Atlantic	Eyes on #Sandy- get the latest updates at the National #Hurricane Center http://www.nhc.noaa.gov/	10/27/12	7			X
NHC_Atlantic	#Sandy: Double check your emergency kit for canned food, a can opener, plenty of water, batteries, a flashlight, radio & pet items	10/27/12	14			X
NHC_Atlantic	Why Your Phone's Battery Life Is Underwhelming	10/27/12	40			
NHC_Atlantic	#NOAA's National Weather Service has updated its 5 day rainfall forecast for #Sandy http://1.usa.gov/TXPGT7	10/27/12	31			X
NHC_Atlantic	8 am EDT Tropical Weather Outlook issued. #twcat http://hurricanes.gov/gtwo_atl.shtml	10/27/12	28			X
NHC_Atlantic	**Hurricane #Sandy Intermediate advisory 20A issued. Air force aircraft finds hurricane-force winds again. http://go.usa.gov/W3H**	10/27/12	62		X	
NHC_Atlantic	Diet and Exercise Mistakes That Are Aging You http://abcn.ws/RM05L	10/27/12	37			
NHC_Atlantic	Sprint Loses Over 400,000 Customers 'By Design' http://bitly.com/Pw7bOt	10/27/12	22			
NHC_Atlantic	Critic's Notebook For Titus Andronicus, Self-Loathing Is a 'Local Business'	10/27/12	23			
NHC_Atlantic	Van Gogh and His Paris Years at the Denver Art Museum	10/27/12	128			
NHC_Atlantic	Asians' Success in High School Admissions Tests Seen as Issue by Some	10/27/12	162			

NHC_Atlantic	Hereâ€™s a Memo From the Boss' Vote This Way	10/27/12	67		
NHC_Atlantic	Tropical Storm #Sandy advisory 20 issued. http://go.usa.gov/W3H	10/27/12	23		X
NHC_Atlantic	Rise in Household Debt Might Be Sign of a Strengthening Recovery	10/27/12	52		
NHC_Atlantic	Remember These? Top #Halloween Costumes From the Past http://abcn.ws/WNM1xh	10/27/12	17		
NHC_Atlantic	Miss. Grand Wizard Heralds Rise of New KKK, Calls for Segregation	10/27/12	48		
NHC_Atlantic	AccuWeather: Calm before the storm	10/27/12	5		X
NHC_Atlantic	The Sixth Sense: '20/20' Viewers' Amazing Premonitions	10/27/12	13		
NHC_Atlantic	Amherst Account of Rape Brings Tension to Forefront	10/27/12	108		
NHC_Atlantic	Hurricane #Sandy Intermediate advisory 19A issued. Sandy gradually pulling away from the bahamas http://go.usa.gov/W3H	10/27/12	14		X
NHC_Atlantic	Miss University of Arkansas Fends Off DUI Charge	10/27/12	17		
NHC_Atlantic	Tina Fey on 'Legitimate Rape' Controversy	10/27/12	54		
NHC_Atlantic	8 Things You Need to Know About Using Windows 8	10/27/12	54		
NHC_Atlantic	Billboardâ€™s Chart Changes Draw Fire	10/27/12	54		
NHC_Atlantic	After NYC Nanny Murders, Parents Wonder How to Trust Again	10/27/12	24		
NHC_Atlantic	AccuWeather Maps: Hurricane #Sandy – click to see what is headed our way	10/27/12	3		X
NHC_Atlantic	Woman dies in Garden State Parkway accident in Ocean County: http://nj-ne.ws/Y5FRNX	10/27/12	3		

NHC_Atlantic	West Coast, it's #MockingbirdLane time!	10/27/12	6		
NOAA	**Hurricane #Sandy advisory 19 issued. #Sandy remains a hurricane as it moves slowly northward away from the bahamas. http://go.usa.gov/W3H**	10/27/12	93	x	
NOAA	Hurricane #Sandy headed for East coast; New York area prepares, get the latest at 11!	10/27/12	5		x
NOAA	Klan Leader Welcomes Separatist Race War	10/27/12	37		
NOAA	Energy Drink Disclosures Expose Gaps in Safety Policy	10/27/12	104		
NOAA	Motive for Stabbings a Mystery as a Portrait of a Troubled Nanny Emerges	10/27/12	37		
NOAA	Sixth Sense: Mom Predicts Baby's Near-Fatal Illness	10/27/12	23		
NOAA	ASPCA provides tips for pet owners during Hurricane #Sandy	10/27/12	14		x
NOAA	Meningitis Outbreak: 331 Cases, 25 Deaths, 7 Joint Infections	10/27/12	57		
NOAA	Happy Birthday Hillary! Secretary of State Clinton Turned 65 Today http://abcn.ws/R7fxHa	10/27/12	140		
NOAA	Taylor Swift's Special Announcement: http://abcn.ws/S2pOFZ #2020Taylor #2020Nashville	10/27/12	36		

NOAA	India's Plague, Trash, Drowns Bangalore, Its Garden City	10/27/12	67		
NOAA	Biden Scolds GOP Ticket For Not Having 'Moral Courage' To Condemn Mourdock, Akin http://abcn.ws/VOE37N	10/27/12	48		
NOAA	sry gotta bail mayb nxt tme http://nyti.ms/Sesao8 (Hope this doesn't happen to you tonight)	10/27/12	42		
NOAA	Woman allegedly stole elderly man's dog in Midtown –click for surveillance video http://ow.ly/eOf6f	10/27/12	3		
NOAA	Marina Krim's online diary of intimate moments becomes a memorial for her children	10/27/12	35		
NOAA	.@RickRussellTX thx for the Q. The solar cell phone charger will come in handy if power is out in your area after the storm rolls through.	10/27/12	27		x
NOAA	How "Hava Nagila" made its way onto a global playlist	10/27/12	75		
NOAA	Which newspapers have changed their endorsements to Romney from Obama? Track them here: http://nyti.ms/Sey4G6	10/27/12	143		
NOAA	Hurricane Sandy Called 'One in 30 Year Storm'	10/27/12	135	x	
NOAA	The United States may have to go a year or more without satellites that track hurricanes like #Sandy	10/27/12	157		
NOAA	You're a Munster, not a monster. #MockingbirdLane	10/27/12	51		

NOAA	It's to die for... RT @popcultmaven Sounds like the east coast is digging #MockingbirdLane can't wait for the west coast showing	10/27/12	4		
NOAA	Hurricane Sandy's impact on N.J.'s inland areas may not be as bad as Irene: http://nj-ne.ws/VtYXTU	10/27/12	7		x
NOAA	Gas prices down in N.J. as Hurricane Sandy approaches' http://nj-ne.ws/WPoYSO	10/27/12	2		x
NOAA	Hurricane Sandy is no longer nicknamed 'Frankenstorm,' but still a monster threat: http://nj-ne.ws/VtFNNP	10/27/12	9		x
NOAA	"Don't turn the neighbors into your blood slaves!" Sound advice from #MockingbirdLane	10/27/12	17		
NOAA	Video: A homemade candy recipe that's not for kids, via @goodappetite	10/27/12	23		
NOAA	Romney and Obama have officially spent $2 billion on their campaigns—here's what that money could buy—, http://abcn.ws/RB1kdg	10/27/12	130		
NOAA	AccuWeather: Tracking Hurricane Sandy http://ow.ly/2sTgXh	10/27/12	3		x
NOAA	Obama: Gay Marriage Is States' Decision http://abcn.ws/UOtArq	10/27/12	31		
NOAA	Want to know where Hurricane #Sandy is headed? Click our Tropical Tracker! #Frankenstorm	10/27/12	7		x
NOAA	Obama Tells MTV He Won't Push Gay Marriage In Second Term http://abcn.ws/SF1HxG	10/27/12	51		
NOAA	Looking good, @eddieizzard! #MockingbirdLane	10/27/12	4		
NOAA	Talk about an entrance! #Mockingbirdlane	10/27/12	16		

NOAA	Let Your Smartphone Deliver the Bad News	10/27/12	75		
NOAA	"It already smells like home." #MockingbirdLane	10/27/12	8		
NOAA	Charts: Keep up with polling averages in swing states and which ones Obama & Romney are visiting http://nyti.ms/SGJobg	10/27/12	39		
NOAA	Be aware of #Hurricane #Sandy's path. Get the latest here http://www.nhc.noaa.gov/	10/27/12	6		x
NOAA	**Hurricane #Sandy Intermediate advisory 18A issued. Sandy moving slowly northward away from great abaco. http://go.usa.gov/W3H**	**10/26/12**	**43**		**x**
NOAA	**As #Sandy continues to move up the coast, make sure your emergency kit is up to date & ready to go. Learn more here: http://go.usa.gov/Yp4H**	**10/26/12**	**10**		**x**
NOAA	Wealth Matters: Armstrong's Fortune Likely to Withstand Doping Charges	10/26/12	46		
NOAA	City Kitchen: In Praise of Persimmons in Fall	10/26/12	18		

NOAA	(10/26) What We're Watching: http://www.fema.gov/blog/2012-10-26/what-were-watching-10/26/12 #; #Sandy updates: Oct 30 #femathinktank postponed: @usfire #Halloween safety tips	10/26/12	29			x
NOAA	Don't use candles during a power outage due to extreme risk of fire. Stock up on flashlights & batteries today! http://ow.ly/eNQ1u #Sandy	10/26/12	17			x
NOAA	.@BryanFuller and @jimdooleymusic are live tweeting #MockingbirdLane at 8pm ET, then @BitsieTulloch live tweets #Grimm at 9pm PT!	10/26/12	2			
NOAA	A very special, spooky Halloween #FF to @BryanFuller, @jimdooleymusic and @BitsieTulloch! #FollowFriday #Grimm #MockingbirdLane	10/26/12	1			
NOAA	45 minutes away! RT @jimdooleymusic: Looking forward to talking with you all tonight about #MockingbirdLane	10/26/12	3			
NOAA	#FF Good follows for #Sandy safety tips: @redcross @humanesociety @VDEM @MDMEMA @nycoem @DelawareEMA @weatherchannel	10/26/12	6			x
NOAA	Oregon Couple Reunited With Dognapped Bulldog	10/26/12	14			
nytimes	**Saturday will remain calm ahead of Sandy and whatever the storm might bring beginning on Sunday.**	**10/26/12**	**3**			**x**
nytimes	Don't miss this exclusive first look at #MockingbirdLane!	10/26/12	5			x
nytimes	If you missed today's #OzoneChat about the #Antarctic ozone hole, you're in luck: We just "Storified" it for you here	10/26/12	13			x
nytimes	We can't wait for next week! RT @nbcthevoice: #Knockouts	10/26/12	3			x
nytimes	If you require medication, double check to be sure your prescriptions are filled before #Sandy. http://go.usa.gov/Yp4H	10/26/12	3			x
nytimes	U.S.D.A. cuts its estimate of typical American's sugar intake by about 20 pounds	10/26/12	45			x

nytimes	Don't forget to join @BryanFuller, @jimdooleymusic, and @nbc as we live tweet #MockingbirdLane tonight at 8/7c!	10/26/12	7			x
nytimes	RT @justinbieber: #MockingbirdLane looks like a movie. Tonight on @nbc #supportyourfriends	10/26/12	5			x
nytimes	Bookmark this: Our one-stop NOAA resource page for all things #Sandy: http://www.noaa.gov/stormcentral	10/26/12	125	x		
nytimes	Use a NOAA Weather Radio to stay alert to potential impacts from #Sandy: http://1.usa.gov/UNsbI7 & http://1.usa.gov/UNsjRq Via @usNWSgov	10/26/12	27			x
nytimes	@maggieduke3 That's excellent to hear, keep up the great work!	10/26/12	1			x
nytimes	NYC makes plans for Hurricane Sandy http://ow.ly/2sT4Rt	10/26/12	11			x
nytimes	What to do before, during, and after a #hurricane. On the web: http://go.usa.gov/Yp4H On your phone: http://m.fema.gov/hurricanes.htm #Sandy	10/26/12	4			x
nytimes	**Hurricane #Sandy advisory 18 issued. #Sandy moving slowly away from great abaco, , new watches and warnings issued. http://go.usa.gov/W3H**	**10/26/12**	**60**		**x**	
nytimes	Portia de Rossi as Lily Munster in #MockingbirdLane. Don't miss the Halloween event tonight at 8/7c! GIF:	10/26/12	18			x
nytimes	sry gotta bail mayb nxt tme http://nyti.ms/Sen9Mr (Is this tweet rude?)	10/26/12	47			x
nytimes	RT @nbcgrimm: Get the lowdown on the legend of #Grimm's La Llorona from @katedelcastillo and @HollywoodLife:	10/26/12	3			x
nytimes	New York preparing for whatever Sandy may bring http://ow.ly/2sT1W9	10/26/12	4			x

nytimes	Before a hurricane, be sure trees and shrubs around your home are well trimmed so they are more wind resistant. http://go.usa.gov/Yp4H	10/26/12	5		x
nytimes	Make sure you're keeping tabs on hurricane #Sandy as she moves up the east coast. Info is available here: http://go.usa.gov/Yp4H	10/26/12	9		x
nytimes	Man Gets Romney 'R' Tattooed On His Face For $15,000 http://abcn.ws/Y4vy5Z	10/26/12	31		x
nytimes	For #Hurricane #Sandy info & tips on getting prepared, #FF @FEMA @CraigatFEMA @NHCAtlantic @usNWSgov #FollowFriday	10/26/12	19		x
nytimes	The @CDCgov has great #hurricane preparation videos in American Sign Language #ASL http://ow.ly/eNSri #Sandy	10/26/12	42		x
nytimes	Death Toll in #Meningitis Outbreak Climbs to 25 http://abcn.ws/QKwsI2	10/26/12	36		
nytimes	#Sandy #tip: If/When power goes out, banks & ATMs may be offline for some time. Be sure to have cash on hand. http://ready.gov/	10/26/12	27		x
nytimes	Nassau County Executive Edward P. Mangano speaks about #Sandy preparation watch LIVE	10/26/12	4		x
nytimes	Berlusconi sentenced to 4 years in prison by Italian court, but he's unlikely to serve any time	10/26/12	165		
nytimes	RT @usNWSgov: Build a #Weather-Ready Nation -- Know what to do before, during, and after a #hurricane: http://1.usa.gov/TewHTb #Sandy	10/26/12	25		x
nytimes	#FF Good follows for #Sandy safety tips: @redcross @humanesociety @VDEM @MDMEMA @nycoem @DelawareEMA @weatherchannel	10/26/12	45		x
nytimes	Our Twitter accounts along the East Coast are providing specific #Sandy safety tips @femaregion1 @femaregion2 @femaregion3 @femaregion4	10/26/12	189	x	
nytimes	7 Halloween Health Hazards	10/26/12	21		
nytimes	Strong winds from #Sandy may cause power outages. Make sure you have enough cash on hand! For other tips, visit: http://ow.ly/eNMBF	10/26/12	12		x
nytimes	#Cybersecurity Tip: Protect yourself against data loss by making electronic copies of important files, referred to as a backup. #NCSAM	10/26/12	13		
nytimes	N.Y.C. transit shutdown is possible as Hurricane Sandy approaches	10/26/12	227	x	

nytimes	As the NY area prepares for the approach of #Sandy we will have LIVE coverage beginning at 3:00 p.m.regarding the storm	10/26/12	5		x
nytimes	8 Things You Need to Know About Using Windows 8	10/26/12	19		
nytimes	Hurricane Sandy Becoming "Extra-tropical Cyclone," Called "One in 30 Year Storm"	10/26/12	116	x	
nytimes	Seattle May Drop Hygiene Requirements For Taxi Drivers	10/26/12	18		
nytimes	Hurricane #Sandy tip: Have 1 gallon of water per person per day; buy or fill large containers with tap water for drinking and sanitation	10/26/12	2		x
nytimes	â€œIt is imaginative. It is dark. And funnyâ€¦'but weird funnyâ€ â€ @EddieIzzard (Grandpa Munster) on #MockingbirdLane http://youtu.be/241EWQtmLhc	10/26/12	1		
nytimes	Father of Slain Former SEAL, New Report, Raise Questions About Response to Attack http://abcn.ws/QKpnkv	10/26/12	61		
nytimes	Sandy eyes Florida as East Coast braces for 'Frankenstorm' | National News http://www.1067litefm.com/cc-common/news/sections/newsarticle.html?feed=104668&article=10526098 â€¦ via @1067LiteFM	10/26/12	1		x
nytimes	Update your emergency kit today for #Sandy. Visit http://www.ready.gov/basic-disaster-supplies-kit â€¦ for a list of supplies	10/26/12	20		x
nytimes	**Hurricane #Sandy Intermediate advisory 17A issued. Sandy weakens a little. http://go.usa.gov/W3H**	10/26/12	38		x

nytimes	We're wrapping things up here -- any last #OzoneChat questions for NOAA expert Bryan Johnson? @NOAALive	10/26/12	2		
nytimes	Make sure you're following your state #emergency management agency as #Sandy approaches @MassEMA @MaineEMA @RhodeIslandEMA @CTDEMHS @vemvt	10/26/12	26		X
nytimes	Keep sending us your #ozone questions for our in-progress #OzoneChat on @NOAALive!	10/26/12	6		
nytimes	Top 25 Worst Passwords Revealed http://abcn.ws/RQpI4y	10/26/12	40		
nytimes	Dying Satellites Could Lead to Shaky Weather Forecasts	10/26/12	71		
nytimes	5 min warning: Join us for our #ozonechat with NOAA's Bryan Johnson. Tweet your Qs with #ozonechat to @NOAALive!	10/26/12	6		
nytimes	MT @citizen_corps: #safetytip: Be sure you have a full tank of gas in case of ermegencies due to #Sandy http://1.usa.gov/GYkgMj	10/26/12	3		X
nytimes	.@FEMA urges those along the East Coast to monitor the progress of #Sandy. Tune into @NOAA weather radio & check http://weather.gov	10/26/12	97	X	
nytimes	Happening soon at 1 pm ET: #OzoneChat on @NOAALive w/ expert Bryan Johnson - Tweet your Qs NOW using #ozonechat hashtag http://1.usa.gov/Suhv6b	10/26/12	9		
nytimes	How to Use Windows 8	10/26/12	26		
nytimes	Suspects in custody in NYPD shooting; officer promoted http://bit.ly/UMQxLN @breakingnews	10/26/12	3		
nytimes	Supreme Court to Hear Electronic Surveillance Case http://abcn.ws/VM2i6u #SCOTUS	10/26/12	12		
nytimes	LIVE: Conn. Gov. Malloy discussing storm preps now. http://ow.ly/eNuLS #Sandy	10/26/12	4		X
nytimes	Seniors make sure you have at least 1 week of extra prescription meds. See http://www.ready.gov/seniors for more #Sandy #safetytips	10/26/12	7		X

nytimes	Charity Wakefield on #MockingbirdLane: â€œEverybody who is doing this is in love with the original show. And that is why itâ€™s being createdâ€	10/26/12	2		
nytimes	#Apple's Profit Report Leaves Sour Taste http://abcn.ws/PUmzrU	10/26/12	10		
nytimes	#NOAA's Coast Survey navigation response teams and the NOAA Ship Thomas Jefferson are getting ready for #Sandy.	10/26/12	14		X
nytimes	#BreakingNews: Romney 49, Obama 48 -Ground Game Tie Overall Nationally in @ABCNews/@WashingtonPost Poll http://abcn.ws/RQqyOO	10/26/12	82		
nytimes	Whether you call it #Sandy, a #blizzicane or #frankenstorm --it's a storm to take seriously. Get prepared at http://www.Ready.gov/hurricanes	10/26/12	236	X	
nytimes	Before a hurricane you should bring in outdoor furniture, decorations, garbage cans & anything not tied down. http://go.usa.gov/YpAH #Sandy	10/26/12	24		X
nytimes	WATCH videos from NOAA's @NHC_Atlantic to help you prepare for #Sandy: http://bit.ly/Xt1qp4 (En español: http://bit.ly/Xtu47L) Via @usNWSgov	10/26/12	23		X
nytimes	Get #Sandy forecasts where we get ours. Follow @NHC_Atlantic or visit http://ow.ly/eNdzu (http://hurricanes.gov/mobile on your phone)	10/26/12	4		X
nytimes	Tracking newspaper endorsements for president, with excerpts and links: http://nyti.ms/SdeO8F	10/26/12	72		
nytimes	TODAY: Why does the Antarctic #ozone hole matter? Find out at 1pm ET in our #OzoneChat on @NOAALive! Tweet Qs now http://1.usa.gov/Suhv6b	10/26/12	20		
nytimes	Hurricanes often cause flooding & power outages. Hereâ€™s how you can prepare for whatever #Sandy throws your way http://www.Ready.gov/hurricanes	10/26/12	157	X	
nytimes	@nbcgrimm and Happy #ThankGrimmItsFriday to you!	10/26/12	2		

nytimes	On our Blog: Secretary Napolitanoâ€™s latest post on how DHS is working to inspire the next gen of #cyber professionals http://go.usa.gov/YdXW	10/26/12	7		x
nytimes	Twitter Impersonator Targets Child Actor	10/26/12	7		
nytimes	North Carolina dog calls 911 to save injured owner http://ow.ly/2sSLgP	10/26/12	4		
nytimes	Biden Pauses Campaign for McGovern Prayer Service http://abcn.ws/SE1Npa	10/26/12	12		
nytimes	China blocks access to NYT Web sites following article on wealth of prime minister's family	10/26/12	279		
nytimes	Hurricane #Sandy update issued. http://go.usa.gov/W3H	10/26/12	50	x	
nytimes	RT @craigatfema: Rainfall forecast along the track of #Sandy http://www.hpc.ncep.noaa.gov/qpf/zoom/hltimages.shtml â€¦ , good time to clear storm drains	10/26/12	3		x
nytimes	#Sandy: Double check your emergency kit for canned food, a can opener, plenty of water, batteries, a flashlight, radio & pet items	10/26/12	13		x
nytimes	What to do before, during, & after a #hurricane. On the web: http://www.Ready.gov/hurricanes On your phone: http://m.fema.gov/hurricanes.htm #Sandy	10/26/12	2		x
nytimes	Berlusconi Convicted and Sentenced in Tax Fraud	10/26/12	180		
nytimes	VIRAL VIDEO: Student vs. Dean Dance Off	Bronson and Christine http://www.1067litefm.com/cc-common/news/sections/newsarticle.html?feed=416272&article=10524808 â€¦ via @1067LiteFM	10/26/12	0		
nytimes	**Hurricane #Sandy advisory 17 issued. #Sandy moving slowly northward near great abaco island. http://go.usa.gov/W3H**	10/26/12	47		x
nytimes	Hillary Clinton Turns 65 Today. Her Years in Photos: http://abcn.ws/Y2pZEV	10/26/12	64		
nytimes	2 Children Slain at Home in City; Nanny Arrested	10/26/12	49		
nytimes	Be a Force of Nature: Know what to do if #Sandy impacts your area. http://1.usa.gov/TGwkr1 & http://1.usa.gov/Y3260f Via @usNWSgoov	10/26/12	31		x
nytimes	â€œThe costumes are UNBELIEVABLE. Iâ€™m wearing horsehair as a skirt.â€¦â€ Portia de Rossi on #MockingbirdLane	10/26/12	0		
nytimes	Hurricanes often cause flooding & power outages - Hereâ€™s how you can prepare for #Sandy: http://Ready.gov/hurricanes #NJ #NY	10/26/12	3		x
nytimes	RT @theofficenbc: It wouldnâ€™t be Halloween at #TheOffice without costumes AND a scandal! Hereâ€™s the full episode: http://ow.ly/eNeHn	10/26/12	3		
nytimes	Berlusconi Gets 4-Year Sentence for Tax Evasion http://nyti.ms/ScYZC7	10/26/12	217		

nytimes	#Sandy: Double check your emergency kit for canned food, a can opener, plenty of water, batteries, a flashlight, radio & pet items	10/26/12	245	x	
nytimes	Now is the time to check your emergency kit. #sandy http://www.ready.gov/build-a-kit	10/26/12	4		x
nytimes	#Hurricanes can #flood areas hundreds of miles inland. Learn about your #risk http://www.floodsmart.gov	10/26/12	8		x
nytimes	East Coast Keeps a Watchful Eye on Hurricane Sandy	10/26/12	57	x	
nytimes	Preparedness in your pocket for #Sandy: text during/after storms as voice calls may overload the network.	10/26/12	7		x
nytimes	Make sure you're keeping tabs on hurricane #Sandy as she moves up the east coast. Info is available here: http://go.usa.gov/Yp4H	10/26/12	5		x
nytimes	Own a #NOAA Weather Radio? If not, now might be a good time. Find the SAME codes U need to program it here: http://1.usa.gov/How19 #Sandy	10/26/12	62	x	
nytimes	Hurricane #Sandy survival guide: How to prepare, storm safety tips, important phone numbers: http://nj-ne.ws/PTTp3o	10/26/12	13		x
nytimes	#FF @NOAA @NHC_Atlantic and @FEMA #Sandy	10/26/12	1		x
nytimes	Statue of Liberty reopening on 126th birthday Sunday http://ow.ly/eN1No	10/26/12	4		
nytimes	(Oct 26) If #Sandy may come your way, nowâ€™s the time to add a flashlight, batteries & portable cell phone charger to your emerg kit!	10/26/12	6		x
nytimes	Hurricane Sandy Barrels Towards East Coast as Potential 'Perfect Storm' Looms http://abcn.ws/Y2YC9S	10/26/12	68	x	

				100+	99-49	48-0
nytimes	Gas prices drop 13 cents on NJ toll roads' iconic NYC steakhouse to close its doors. Check out the AM webcast! http://ow.ly/eMZGi	10/26/12	1			
nytimes	'Mark in the Morning': Employers shouldn't overstep bounds, but use social media at your own risk http://nj-ne.ws/PPmbrio	10/26/12	5			
nytimes	North Carolina dog calls 911 to save injured owner http://ow.ly/eMYUe http://ow.ly/i/13Tnl	10/26/12	6			
nytimes	Nanny Held in Stabbing Deaths of 2 NY Children	10/26/12	32			
nytimes	Caught on camera: Bird poops on news anchor in San Francisco http://ow.ly/eMXeg	10/26/12	4			
nytimes	Breaking News: U.S. Economy Grew at 2% Annual Rate in Third Quarter http://nyti.ms/TqVRik	10/26/12	226			
nytimes	Bird poops on news anchor during live shot	10/26/12	5			
nytimes	Video released of shot NYPD officer's gunfight with suspects in the Bronx. Person of interest IDd http://ow.ly/eMVSI	10/26/12	4			
nytimes	(Oct 26) If #Sandy may come your way, now's the time to add a flashlight, batteries & portable cell phone charger to your emergy kit	10/26/12	83	x		

				100+	99-49	48-0
nytimes	Slain Nassau County cop to be laid to rest Saturday, alleged accomplice arrested http://ow.ly/eMVnr	10/26/12	1			
nytimes	Nearly 15 years later, Piscataway woman's death remains a mystery http://nj-ne.ws/ULGUwQ	10/26/12	1			
nytimes	Stay up to date on #Hurricane #Sandy's progress here http://go.usa.gov/Ydqx	10/26/12	10			x
nytimes	Feds' NYPD officer's abduction, cannibalism plot more than just fantasy http://ow.ly/eMUsr	10/26/12	2			
nytimes	Hurricane #Sandy Intermediate advisory 16A issued. Sandy near great abaco island. http://go.usa.gov/W3H	10/26/12	55		x	
nytimes	Before a hurricane you should learn community evacuation routes and how to find higher ground. http://go.usa.gov/Yp4H #Sandy	10/26/12	9			x
nytimes	Hurricane #Sandy pounds Bahamas, death toll at 21	10/26/12	4			x
nytimes	Investigation continues into deadly Upper West Side stabbing in which nanny allegedly murdered two children http://ow.ly/eMQGB	10/26/12	2			
nytimes	Hurricane #Sandy kills 21 across Caribbean as it barrels toward U.S. coast http://nj-ne.ws/PUeC1V	10/26/12	3			x
nytimes	Real Money: Discover Cash in Unused, Broken Electronics http://abcn.ws/QihrRm	10/26/12	13			
nytimes	Phoenix Buyers of a Wright Home Reconsider	10/26/12	23			
nytimes	Museum Review: Theodore Roosevelt Memorial at Museum of Natural History	10/26/12	34			
nytimes	Hillary Clinton Talks Maternity Leave, Balancing Work and Family http://abcn.ws/PmlXbi	10/26/12	32			
nytimes	Hurricane #Sandy advisory 16 issued. #Sandy passing near great abaco island, , wind field continuing to expand. http://go.usa.gov/W3H	10/26/12	35			x
nytimes	Transcript of '44 Bretton Woods Meeting Found at Treasury	10/26/12	87			
nytimes	Death Toll Tops 100 in Myanmar Ethnic Violence, Official Says http://nyti.ms/SbMdi6M	10/26/12	36			
nytimes	New York Parents Rattled by Fatal Stabbing of 2 Children on Upper West Side	10/26/12	60			
nytimes	Suicide Bomber Kills 35 in Afghanistan, Officials Say http://nyti.ms/SbEGjlN	10/26/12	64			

nytimes	NY Mom Finds 2 Kids Dead in Tub, Nanny Nearby http://abcn.ws/XrjGvk	10/26/12	23		
nytimes	Dietitians Press N.C.A.A. to Allow More Meals for Athletes	10/26/12	49		
nytimes	Tom Cruise May Have Filed Lawsuit to Save Custody Agreement http://abcn.ws/XrcuiI	10/26/12	12		
nytimes	Orange County prepares for Sandy http://ow.ly/2sSlSj	10/26/12	0		
nytimes	AccuWeather: Some sun returns http://ow.ly/2sSlUA	10/26/12	0		X
nytimes	Hurricane #Sandy Intermediate advisory 15A issued. http://go.usa.gov/W3H	10/26/12	20		
nytimes	Do you believe in the sixth sense? Evidence of premonitions discovered in new study: http://abcn.ws/TMVmPM #2020SixthSense	10/26/12	84		
nytimes	Woman Found Dead and Infant Hurt at Scene of Bronx Fire	10/26/12	36		
nytimes	Ghoulish GIFS: Halloween Monsters in Moving Images http://abcn.ws/QwmEIV	10/26/12	8		
nytimes	Former Olympic Swim Coach Charged With Child Abuse	10/26/12	15		
nytimes	2 am EDT Tropical Weather Outlook issued. #twoat http://hurricanes.gov/gtwo_atl.shtml	10/26/12	19		X
nytimes	Chick-fil-A Benefited from Summer's Gay Marriage Flap With More Customer Visits	10/26/12	62		
nytimes	Hillary Clinton Recalls Pregnancy, Creating Maternity Leave	10/26/12	27		
nytimes	Game 2: Giants 2, Tigers 0: Giants Escape With Victory Over Tigers and Take 2-0 Series Lead	10/26/12	81		
nytimes	Political Memo: For Obama Aides, Endgame Takes Grunt Work and Math	10/26/12	26		
nytimes	Giants beat Tigers 2-0 for 2-0 WS lead http://ow.ly/2sShBm	10/26/12	0		
nytimes	Malala Yousufzai Is Speaking, Shows No Sign of Brain Damage	10/26/12	104		
nytimes	Agency Bans Dior Mascara Ad Featuring Natalie Portman	10/26/12	11		
nytimes	NY Mom Finds 2 Kids Dead in Tub, Nanny Nearby	10/26/12	25		

Crisis Tweets: Starledger, Date, Retweet Count   100+, 99-49, 48-0

2 children killed on Upper West Side, nanny in custody @JeffPegues7 has the story http://ow.ly/eMsIP	10/26/12	3		
Dallas to Recognize Heroic Efforts of Homeless Former Crips Leader	10/26/12	20		
Hurricane #Sandy advisory 15 issued. Center of #Sandy passing near eleuthera island in the northwestern bahamas. http://go.usa.gov/W3H	10/26/12	48		x
China blocks access to New York Times Web sites following Wen Jiabao article	10/26/12	426		
Medtronic Shaped Positive Product Studies http://abcn.ws/R1YqXo	10/26/12	5		
At 11, the latest information on the nanny arrested for allegedly fatally stabbing two children http://ow.ly/eMgqP	10/26/12	3		
Citi Chairman Is Said to Have Planned Pandit's Exit for Months	10/26/12	39		
Teen Pitching Phenom Shuns Japan for MLB http://abcn.ws/VIhgdH	10/26/12	9		
Jacques Barzun, Historian and Scholar, Dies at 104	10/26/12	80		
Gas prices drop 13 cents Friday along NJT and GSP	10/26/12	3		
Woman fatally stabbed, baby critical in Bronx fire http://ow.ly/2sSdMv	10/26/12	2		
Graphic: The Wen family empire in China http://nyti.ms/SANrG6	10/26/12	105		
The fight to stop diabetes begins with you: Check out the ADA Expo in Manhattan on Nov. 3!	10/26/12	2		
@ncdot Thanks for helping us get preparedness info out!	10/26/12	0		x
¾ŒĒ¯ ¢f´é¢ë´·»§§¯ ç¯ ēµ...†¼œ•¾œ¸¶‖....¨œ•½¿¸¦¦‖®»‚p®•¶®©¸#·§»¢¸½¼» ¸¤¤¢ ¾¥...»±¸¥€Æ¾§¦—¸¢¡¼¢¿¦p	10/26/12	335		
Details on the extraordinary wealth amassed by the family of China's prime minister, Wen Jiabao, during his leadership	**10/26/12**	**224**		

High School Football Ban Proposal Under Attack in New Hampshire	10/26/12	26		
Woman fatally stabbed, baby dies in Bronx fire @breakingnews #breakingnews http://ow.ly/eMp5u	10/26/12	1		
Presidential Efforts on Track to Raise $2 Billion	10/26/12	35		
Busy Day on Campaign Trail for Obama and Romney	10/26/12	14		
Iran Said to Complete Underground Nuclear Enrichment Plant	10/26/12	75		
Hurricane #Sandy on path to hit N.J., latest 'Frankenstorm' forecast shows: http://nj-ne.ws/TjcgJ7	10/26/12	30		x
Are you convinced? Long Island medium Theresa Caputo reads camera man: http://abcn.ws/VzUgJB More on 20/20 Friday 10PM ET #2020SixthSense	10/26/12	18		
Both Obama and Romney avoid climate change on the campaign trail	10/26/12	135		
Obama Casts Early Vote and Reminds Dems of 2000 Recount	10/26/12	33		
N.J. State Police trooper suspended for allegedly punching man at lounge: http://nj-ne.ws/R3OpsK	10/26/12	1		
Halloween's a big deal for Andy Dwyer. #RonSwanson, not so much: http://ow.ly/eLY3p #ParksandRec @parksandrecnbc	10/26/12	2		
Russian Dissident Claims Abduction, Torture http://abcn.ws/WLF53J	10/26/12	10		
A Doctor's Take on Painkiller Abuse	10/26/12	24		

Crisis Tweets: Starledger, Date, Retweet Count   100+, 99-49, 48-0

starledger	Jessica Ridgeway Murder Suspect Calm in Court	10/26/12	11	
starledger	Gilberto Valle, a New York City police officer, was accused of plotting to kidnap women and eat them	10/26/12	131	
starledger	â€œWhen we do Halloween episodes on this show, we go a little crazy with the costumeâ€¦Everyone goes all out â€ - @EdHelms #TheOffice	10/26/12	3	
starledger	Carmel field hockey team banned from sectionals due to scheduling error http://ow.ly/eMINB #CFHLetTheGirlsPlay	10/26/12	6	
starledger	Books of The Times:â€¹The Richard Burton Diariesâ€™ Edited by Chris Williams	10/26/12	25	
starledger	McCain Renews Support for Richard Mourdock After Abortion Explanation http://abcn.ws/RY3ZXC	10/26/12	17	
starledger	Mother killed, baby critically injured in a fire in the Bronx. #BreakingNews http://ow.ly/eMl62	10/26/12	3	
starledger	Malala Yousufzai Is Speaking, Shows No Sign of Brain Damage	10/26/12	100	
starledger	Cops: NYC Nanny Stabs 2 Kids to Death	10/26/12	26	
starledger	Fine Arts Special Section Preview: Two Exhibitions Re-examine the 1913 Armory Show	10/26/12	20	
starledger	Teenage girl, apparently bullied, commits suicide http://ow.ly/2sS8Tf	10/26/12	10	
starledger	Sandy remains a threat for New Jersey	10/26/12	6		X

starledger	2 children killed, 2 others stabbed, nanny arrested http://ow.ly/2sS8Y8	10/26/12	3		
starledger	Photo Story: Gritty, Subterranean Music in Black in White http://abcn.ws/SAc71m	10/26/12	2		
starledger	Why many women can't perform a pull-up	10/26/12	193		
starledger	Bats: Updates: World Series Game 2, Tigers vs. Giants	10/26/12	9		
starledger	The memories live on: Watch some of the greatest moments of the @INGNYCMarathon now! http://ow.ly/eM7Ju	10/26/12	1		
starledger	Woman Says She Was Exploited in "Girls Gone Wild" Video as a Young Teen http://abcn.ws/VlKb1n	10/26/12	14		
starledger	Brazilian Student Sells Her Virginity for $780,000 http://abcn.ws/SlHYVt via @UnivisionNews	10/26/12	107		
starledger	Early Worries That Hurricane Sandy May Be a â€˜Perfect Stormâ€™	10/26/12	111	X	
starledger	If you live on the East Coast, keep an eye on Hurricane #Sandy and follow @NOAA @FEMA and @CraigatFEMA for additional information.	10/26/12	15		
starledger	'Cannibal' Cop Plotted to Eat 100 Women: Feds	10/26/12	58		
starledger	Elevated levels of radioactive cesium in fish near Fukushima, Japan	10/26/12	138		
starledger	As #Sandy moves up the coast, make sure your emergency kit is up to date and ready to go. Learn more here: http://go.usa.gov/Yp4H	10/26/12	36		
starledger	Apple CEO Tim Cook: Microsoft's Surface Tablet '"Confusing" and "Compromised" http://abcn.ws/VrNmoo	10/26/12	9		
starledger	Savile Sexual Abuse Case Expands to Other Suspects	10/26/12	21		

APPENDIX C

HURRICANE SANDY CASE STUDY

Hurricane Sandy Rumor Control

- After Sandy made landfall, the web and social media team found that a large amount of misinformation was circulating on social media, related to FEMA and the state's role in the response. In order to ensure an effective external affairs operation, and in coordination with the other aspects of ESF #15 including the media outreach team, FEMA began a Rumor Control Initiative.

- A page on fema.gov and m.fema.gov (FEMA's mobile site) was created. When a rumor was identified, the social media team worked with ESF #15 staff to track down additional information and gather the correct information. These details were then added to the Rumor Control page, providing clear language about the misinformation and resources where people could find correct information for each rumor.

- Rumor Control messages were shared widely by FEMA's social media accounts, as well as by other responding agencies. The social media team shared this information with the interagency through the NICCL, and collaborated with state and local partners to share these messages and expand their reach.

R-5

APPENDIX D

INTERVIEW QUESTIONS: FEDERAL REPRESENTATIVES

Interview Questions Federal Officials:

1. How have you used or guided the use of social media during a crisis event?

2. How do federal government agencies define social media?

3. How are federal government policies on social media being integrated at state and local levels of government?

4. What are the training and education programs in place to help PIOs use social media?

APPENDIX E

INTERVIEW QUESTIONS: TWEETTRACKER REPRESENTATIVE

Interview Questions TweetTracker Representative:

1. What was the genesis of the TweetTracket?

2. Why was Hurricane Sandy chosen as the crisis to investigate?

3. What is the interest in the TweetTracker from institutions such as the U.S Navy?

4. What do other educational institutions seek from the TweetTracker?

5. What are some of the findings from the TweetTracker Lab's research?

6. It is my understanding that the TweetTracker Lab is primarily a technically focused project, was audience engagement a part of the process?

APPENDIX F

TRANSCRIPT: FEDERAL REPRESENTATIVES

Telephone Interview: Written Notes

Col. Terry Ebbert

June 21, 2016

Question: How have you used or guided the use of social media during a crisis event?

Col. Ebbert: My company has provided staffing several areas for disaster and crisis response efforts. I have noticed, however that the communications issues that we deal with in today's world do not allow you the "wait" because information is instant. You have to respond quickly and accurately, or you get overwhelmed. Part of us getting better in the United States in response efforts is to get better at pushing the information out proactively and that means to the public and private sector.

Question: How do federal government agencies define social media?

Col. Ebbert: An exact definition, I cannot speak to. There is the realization that we need technology systems to increase our ability to push out information. The organizations are good at using social media have pre-established networks that can help them get people's attention and they are efficient at getting and pushing information out to massive amounts of people.

Question: How are federal government policies on social media being integrated at state and local levels of government?

Col. Ebbert: In this area the capabilities are beyond the people who run them. Digital communication during a disaster is an area of great need and there is room for improvement at all levels, and not just in the U.S., but internationally as well. Also a problem is that we need to open communications at local, state levels to get the facts out

fast and to speak with continuity. For example, the shootings in Orlando, local, state and federal government were not sharing information.

Question: What are the training and education programs in place to help PIOs use social media?

Col. Ebbert: There are training programs, I cannot confirm any specific social media training courses. I do know that since 9/11, the need to have pre-established communication strategies and plans has been recognized.

Telephone Interview: Audio Recorded
Kelly Hudson, ESF 15, FEMA
August 12, 2016

Question: How have you used or guided the use of social media during a crisis event?

Kelly Hudson: Currently, the social media specialist is under the JIC Manager. But I found that to be a little cumbersome and not really, the best strategic place for that person, so, during the wildfires, I moved that person into the planning and products section.

Because, in my, in my mind, they work together tandem, because you always, if we go back to how things first began we would have news releases that go out. The news releases still tell the story of programs that are coming to the field, what people should do, what dangers should look out, uh, mitigation, all the way through that process. Well, the social media message shouldn't stray from that. It is still the same story, but just being told through a different technique. So, when we would do a press release

about, um, the 800 number, let's say, register on the 800 number, then we would have a parallel social media message.

If we're doing something on, um, the number of people who have been placed in housing, let's say we do one of our reports that we might do kind an update to the press, uh, where we stand –well, obviously we're not gonna do a two-page document in one tweet. But we will take components of that and create a, like, maybe a small twitter campaign about what's happening, what are you seeing in your community that's gonna reflect, you know, the same messaging. It's still storytelling. It's just in a different way.

Now, what Twitter does, or, in, in this case we'll, we'll say Twitter, because that's the one we have the most control of in the field, um, the other piece that we see that for, that person, that digital communication specialist – is for analysis because they're out looking at all of the sites, the various forums, like Facebook, and, um, Twitter, and they're analyzing what the community is saying about the recovery process or the response, and when they bring that information in, that becomes the source of rumor, rumor control.

So, if folks are spreading the wrong piece of information around, or we see something that's trending with what might look like something that's fraudulent, then it works in the other way. Then that could go back to inform, goes back to our planning and products where they are doing the strategic messaging and we begin to reshape and how we can counter that information.

And then we push it back through social media, and through our PIOs, who are down on the ground, boots on the ground, um, on radio stations doing the one-on-one face time interviews. If we see something that's trending in that might have to do with fraud, or we

get some new messaging on the street, um, and those PIOs that are on camera to say, "Hey, we're hearing this. Here's the correct information."

And hearing this but here's actually the correct information, and then we will, we will push that out through PIOs in the JIC. That's where we found it or that's where, that becomes a component of, uh, a broader message. And then we loop that back in and we run it through our traditional as well. Again a news release that goes out into the hands with talking points to the field public information officer onto our private sector team and then, then amplifies that, uh, through you know, uh, businesses down to their employees.

Question: How are federal government policies on social media being integrated at state and local levels of government?

Kelly Hudson: I mean, the ESF 15 is really, um, the national response framework and, uh, which all talk about, that structure as well. The locals may or may not. When you're talking about the city level of the county level – they may not have the staff. They may not have the time.

I mean, the JIC structure is, I think, is pretty across the board in terms of, obviously, you want to have folks who could speak for their agency all centrally located. So that there's one place for the media to come –where, uh, messages may vary depending on what agency you're with, but at least we're all co-located and we're talking – and there's a general awareness.

But I found, you know, I've gone into, the California Office of Emergency Services many times as a liaison up to their JIC before there is a federal declaration, and it's not run the same.

And then, when you see that light switch in terms of okay, now there's a federal declaration, and FEMA comes in as the, as the, the management level (ESF 15)- of the overall JIC or JIS operation, um, in partnership with the state if they choose to be there , it's set up entirely different. And, and I've, there've seen some real battles on –how we're gonna move forward and, um, what that looks like.

I, in fact, on the wildfires, I was challenged a little bit because the counties were severely understaffed in terms of their, keeping their local JIC going with their local messages. And they wanted federal agents to come down and support them staff-wise. Well, that doesn't work. But because once the feds come in, it takes on a different shape.

It's a lot of staffing. There's a lot, just, you know, even just the need at the local level is different. You know. You don't have the White House lookin' down to see what you're doing. Making sure that every T is crossed and I is dotted, that sort of thing.

Question: How would you say that the, the federal government defines social media?

Kelly Hudson: Well, I don't think I would have that. I mean, FEMA is still really, I just came back from a workshop. FEMA is still working on its policy for social media. It, is there's not, um, clearly defined that in black and white.

And so, I know the (FEMA) Administrator visited us during our course, and he, really sees it through a, uh, a completely different lens. He is viewing it through operations. So, he sees it as a tool, as the primary lens. Of course, he sees the Internal Affairs piece of it – but he's, he told us that he really sees it more through a, um, operational lens –

Because, again, for the analysis. What are, what are people saying who are boots on the ground? What are they seeing and what are they talking about in the social world. Where are they saying that, the most need is?

Because, if they're sitting there in that community where it's unfolding, then let's verify that as real ground truth, and then let's, center our operations perhaps around that. Um, so, there's that piece of it, but I think from the, uh, external affairs, you know, in terms of when that event unfolds, we were using Facebook and Twitter to get the word out about what our teams are doing, what's coming into the field, um, we're working with our state partners, listen to your local emergency managers. So, again, it, really is following kind of the, the federal footprint as we move out into the operation. We, you know, we're, we're telling our story from that standpoint.

Question: What are the training and education programs in place to help PIOs use social media?

Kelly Hudson: We just had one at FEMA headquarters. They brought in most regions, however, not even all FEMA regions have a digital specialist. It just depends, because we're still kind of in this early phase of infancy of digital coms, but in the ESF 15, there is an annex, for, digital and social media. You can read that and kind of get the sense of what, you know, where the federal, where DHS is coming from anyway.

APPENDIX G

TRANSCRIPT: TWEETTRACKER REPRESENTATIVE

Interview Fred Morstratter
Tweet Tracker, Arizona State Univeristy

Question: What was the genesis of TweetTracker?

Fred Morstratter: So Tweet Tracker was designed as a HADR tool. HADR is Humanitarian Assistance and Disaster, I believe, Recovery. And, maybe it's relief, I don't remember. Anyways, so the idea was, uh, when a disaster occurs – like a lotta people talk about it on Twitter. Uh, there's been studies that show that people will tweet about something before they call 911. Things like that. So we wanted to build a tool that would collect that information from Twitter as it was going on. So that's what inspired us to create the Tweet Tracker tool.

Question: Why was Hurricane Sandy chosen as the crisis to investigate?

Fred Morstratter: I should mention that the Tweet Tracker project started at the beginning of 2011. And the significance of that is that that was basically exactly when the Arab Spring started. So we began the tool with collecting Arab Spring data. But what I should say is that, the Office of Naval Research is the group that funds our research in this area. And they were particularly interested in making tools to facilitate disaster recovery. Hurricane Sandy wasn't really chosen. Uh, so what we do is whenever there's a major disaster, we track it. So any, for example, any protests like Hurricane Sandy, or – any giant earthquake, like the Fukushima earthquake or any major hurricane or typhoon or whatever.

We go in there and we collect it.

So, it just so happened that we had Tweet Tracker available when Hurricane Sandy

started – and the beauty of a hurricane, is that you know it's coming, right? Unlike an

earthquake where you don't get that like pre-event kind've data.

But with a hurricane we, we can start it early, so that was kind've one of the attractive

features of Hurricane Sandy is that we were able to start way earl -- in kind've a pre-

event, during and after event.

I remember at the time – it was like a big thing. They're like, oh man, there's a big, big

hurricane comin' and it's gonna hit New York. And we were like we should collect that

data.

Question: What is the interest in the TweetTracker from institutions such as the U.S

Navy?

Fred Morstratter: Well, um, I think probably the best answer would be that Tweet Tracker

has a capability of tracking in real-time. The Office of Naval Research has also provided

it to other agencies. So Tweet Tracker has been licensed or given to over 200 at this point

agencies – and universities for research, as well as the HADR. Uh, and, um, and each one

of those agencies, you know, if we were to make two clusters, the first would be HADR

and the second would be universities.

Question: What do other educational institutions seek from the TweetTracker?

Fred Morstratter: Um, the HADR stuff is pretty specific. But as far as what universities

do for research, that is, uh, very, it varies widely. Uh, depending on what it is they wanna

study, what they wanna look at, so on and so forth.

We collected Twitter data and gave it to CAU and stuff like that? So that, um, it, and this is, giving data to the universities is one of the main like functions of Tweet Tracker as well. So, we also give accounts and let them go in and make their own jobs. In some cases, we export data from the jobs and, uh, give it to them.

Some of, some of the most recent (requests) that stick out in my mind are we have a university that's tryin' to track the Zika virus – But, but to come back to your question, what we've done is we, we give the data to the universities – It depends on the university, depends on the question they're asking at that time.

But overall, they're usually looking at the tweets. So they wanna see what posts match the key words they're interested in. Uh, conversations are, are studied to some extent, but they do less so

Question: What do other educational institutions seek from the TweetTracker?

Fred Morstratter: We have shared data collected through to various different universities and organizations. And the Office of Naval Research also shares our data. Some include the United States Military Academy, George Mason, the, uh, Penn State, Georgia State University.

We also provide TweetTracker Desktop versions the Department of Housing and Urban Development, University of Maryland, Uppsala University, and the University of North Florida among others.

Question: It is my understanding that the TweetTracker Lab is primarily a technical focused project, was audience engagement a part of the process?

Fred Morstratter: Tweet Tracker specifically-uh, not at all. So Tweet Tracker – is just a, it's just an observational tool. To see what's going on on Twitter. It does not have any ability to post or anything like that. Um, now that being said, it is possible that a disaster agency could read the tweets in TweetTracker and make some inference and adjust what they're saying based on that. Now that's not covered in the tool at all.

Um, one example was during Hurricane Sandy – we work with this group called Humanity Road. And Humanity Road is tryin' to figure out why people don't go to, uh, evacuation shelters and they found that a lotta people don't go because they don't know how to take their pets with them. So based on the Twitter conversation, they adapted what they were saying to include pet-related information to hopefully increase the number of people who actually go to a, an evacuation shelter.

So they use the tweet, the information, well the tweets from Tweet Tracker, to adjust their messaging and adjust their strategies. I believe that's the most direct example I have of that (audience engagement).

Question: What are some of the findings from the TweetTracker Lab's research?

Fred Morstratter: Uh, so we recently had a paper accepted about bot detection. Um, other major findings, so we have, um, a book that we generated based on the Tweet Tracker projects. We also did a study on the types of bias in social media data that's a paper at ICWSM in 2013. It is – International Conference of Web Blogs and Social Media. And, um, that, that particular work now has 300 citations, which is a few.

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And, um, we also have another book which – which is at least partly based on Tweet Tracker. Uh, I should say Twitter data more than – anyways, it's called, uh, Social Media Mining. Oh, wait. Is that right? Introduction to Social Media Mining. And, um, it was written by Reza – It's a textbook, actually. Uh, his name is Reza Zafarani. He was a grad student here, and he is now a professor at Syracuse. And it's been used in the class here at ASU as well as other classes, uh, at other universities on this topic.

APPENDIX H

SUPPLEMENTAL SPREADSHEET

(see attached supplemental spreadsheet)