

Section C: Project Narrative

TITLE: “Evaluating evacuation decision-making processes among residents of Long Beach, NY before Superstorm Sandy: Lessons for the role of authority and language in storm warnings”

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INTRODUCTION:

In between general disaster preparedness and specific disaster recovery there is a small window of time during which residents in the path of an oncoming storm must decide whether or not to evacuate to a more secure location. According to city officials, approximately two thirds of Long Beach, NY residents did not heed the order to evacuate before hurricane/post-tropical cyclone Sandy, despite clear warnings from the City Manager and others to do so. In contrast, at the peak point of evacuation after the storm an estimated ninety percent of people left the city. This is a clear reflection of the storm’s damaging impact on living conditions in Long Beach, where sewer and water systems were not functioning. Ultimately, “Superstorm Sandy” killed 147 people, although no casualties were reported in Long Beach, and caused at least 50 billion dollars in damages when it made landfall on October 29, 2012 (NCDC/NOAA, NHC/NWS).

The nine mile long barrier island that includes the City of Long Beach varies in width from 1,500 to 4,000 feet. Bounded on the east by Jones Inlet, on the south by the Atlantic Ocean, on the west by East Rockaway Inlet, and on the north by Reynolds Channel, the terrain is low-lying and flat, with elevations generally less than 10 feet above National Geodetic Vertical Datum. The island is subject to flooding during storms and unusual high tides (Coastal Planning and Engineering, Inc., 2009). Residents of Long Beach largely ignored evacuation warnings before the 2012 storm, regardless of the remarkably successful forecasts of the storm track and predicted impacts (Gall et al., 2013; Samenow, 2012; Cohn, 2012; NHC/NWS). Despite adjustments to the storm warning system, including the ongoing development and deployment of recommendations from the Hurricane Forecast Improvement Program (<http://www.hfip.org/>), there still appears to be a large gap between the desired reaction to coastal evacuation warnings and actual resident behavior.

Current warning systems in case of hurricanes emphasize information regarding storm track, wind speed, and flooding potential. However, strict guidelines about the classification of storms as “hurricanes” limited the use of the term in reference to the devastating storm approaching the

northeastern coastline in late October 2012. Authorities were left with the cumbersome title of “Post-Tropical Cyclone Sandy,” which may not have adequately conveyed the severity of the oncoming storm (Lubick, 2013). Indeed, the first recommendation of an internal study by the U.S. Department of Commerce on future National Weather Service storm warning coordination addresses this problem (U.S. Department of Commerce, 2013).

In addition to technical labeling requirements and the need to transform scientific predictions into palatable public information, emergency management officials are often engaged in an uphill battle against the prior beliefs of the residents they wish to evacuate. Although the weather community may be systematically skipping the more personal component of risk communication (Lazo, 2012), the perception of risk may rely more on attitudes and specific fears rather than calculations of probability and magnitude (Sjöberg, 2000). One example of this is the role of prior experience with extreme weather and the associated storm warnings. If the same language is used to describe several different levels of risk, residents may become immune to how dangerous any given storm may be (the “cry wolf effect”; Dow & Cutter, 1998; Whitehead et al., 2000). For example, prior research has demonstrated lower risk perception and concern given a hypothetical oncoming hurricane among Florida residents who had previously experienced a hurricane, regardless of their personal loss (Meyer, Broad, Orlove, & Petrovic, 2013). In the case of “Superstorm Sandy”, experience with the less drastic Hurricane Irene just a year prior may have altered some residents’ perceptions of the authority and veracity of storm information. Experiencing “near miss” events, such as Hurricane Irene, often leads to failure in taking protective measures in the future (Dillon, Tinsley, & Cronin, 2011).

Furthermore, in attempts to relay scientific information to the lay public, often misinformation is harder to correct than ignorance (Lewandowsky et al., 2012). Once a person latches onto a particular piece of information, it is difficult to change his/her opinion based on further evidence or retractions of the initial information. This is particularly important as the later messages may contain the most accurate and important data regarding evacuation options, road closures, power failures, and other emergency situations, so the rate and quantity of messages may be an important guideline to include in any recommendations. In addition, storm communication guidelines should consider the role of repeated messaging throughout the days leading up to a storm. Although there is a need to repeat emergency messaging repeatedly throughout the time leading up to the storm, residents may become overwhelmed by the constant barrage and start to ignore later messages (Morrow, 2009) - a concept noted in interviews of local media members in a hurricane-prone area of southern Florida (Demuth, Morss, Morrow, & Lazo, 2012).

Though understanding of risk and prior exposure to extreme weather disasters may play a large role in the decision to evacuate, it is also important to consider that residents incorporate information from a variety of sources when deciding whether to evacuate (Burnside et al., 2007). A study of 538 people who lived through Hurricane Katrina found that the influence of social relations (both friends and family) was more important during evacuation decisions than prior experience of extreme weather events and duration of residency (Adeola, 2009). Similarly, interviews of evacuees from Galveston during Hurricane Ike indicate that influence from friends and family is rated approximately equal to the influence of authorities (Morss & Hayden, 2010). These findings highlight the importance of information shared in informal networks for residents making evacuation decisions - and a need to determine the veracity of that information.

During the days leading up to a storm, residents are receiving information from a variety of sources, including official weather reports, government representatives, as well as friends, family, and neighbors, either directly or by way of television, radio, or social media. Some of the information from these various sources may be contradictory, and the competing messages may only serve to confuse residents in their decision-making process regarding whether to evacuate. Taken together, it is clear that risk perception is not simply a formulaic problem that will resolve itself when residents are given the correct scientific information in a timely manner. There are several layers of internal biases, defense mechanisms, attitudes, and beliefs that need to be addressed, either explicitly or implicitly, during the dissemination of storm information.

GENERAL WORK PLAN AND MILESTONES:

Anticipated products

We hypothesize that in the days immediately preceding landfall of “Superstorm Sandy”, officials were not relaying risk in optimal terms for resident understanding. This mismatch in language created misunderstanding and/or ignorance of the extent of the impending damage and affected the evacuation decision process for some residents. It is also likely that official messages did not address problematic underlying attitudes and beliefs, such as general hesitancy to leave home, allowing residents to resist and ignore the messages to avoid internal cognitive dissonance and grief. If this is the case, there will be potential areas for improvement in the storm warning system. Of particular interest are (1) the dissemination of technical storm information in lay terms that are understandable but also accurate, (2) the effect of authority and power of messengers, and (3) the use of language to address personal concerns related to, but not directly affected by, the risk of storm damage and evacuation.

The goal of the current proposal is to create improved guidelines for the specific language used by government officials and weather authorities to relay coastal storm information, risk assessment, and evacuation recommendations. These guidelines will be developed through examination of first-hand accounts from residents of Long Beach, NY, regarding their experience living through Sandy. Additional analysis of language used in official warnings and broadcast media prior to the storm will allow this project to find areas of mismatch between warnings sent out by authorities and personal understanding. By finding patterns of word usage and risk emphasis within the first-hand accounts, new potential warning messages and evacuation orders will be developed and tested. In addition, in cooperation with city government and community organizations we will evaluate local efforts to make information available in languages other than English and to address cultural concerns specific to an ethnic minority group present in Long Beach. Testing various messages will reveal whether a straight translation of English language materials is sufficient, or if a more tailored approach is required.

Phase 1: Identifying mismatches in risk perception from first-hand accounts

Approximate timeline: January - July 2014

We propose to examine the decision-making processes for pre-storm evacuation by investigating issues regarding the transformation of technical weather data to public information, the use of risk language and meaning, and the role of source credibility and trust. Long Beach residents report getting information about the storm from a variety of sources, including televised news and weather reports, internet weather reports, social media (Facebook, Twitter, etc.), telephone

warnings from City Hall, insurance agents, and personal contacts (city officials, neighbors and friends, etc.). Through analysis of video and transcripts of extensive oral interviews conducted with 54 city residents, beginning in December 2012 and continuing to the present, we aim to identify the sources residents reported as being most credible and trustworthy, as well as the language residents use to describe the information they received and used during their decision process. In addition, analysis of the language used in government advisories and media reports issued before Irene and Sandy will allow for comparisons with resident accounts to determine if there is a mismatch between technical details relayed in warnings and public understanding. We are also interested in the interaction between expert and peer testimony; that is, in determining whether and to what extent conversations with friends and neighbors minimized perceptions of danger as reported by government agencies and news media.

Collection of oral history

The oral history component comprises videotaped interviews that range from twenty minutes to 1.5 hours. Interviewees were recruited with flyers posted in various locations around Long Beach approximately 1 month after the storm (including storefront windows, restaurants, City Hall), a call posted on the project website (<http://www.longbeachsandy.org>), social media (primarily Facebook), and word-of-mouth. The website, Facebook, and word-of-mouth continue to serve as the primary means of securing participation. No one who expresses interest in doing an interview has refused once contacted to schedule an appointment.

Interviews are structured by a series of questions. Closed (yes/no) and direct questions aim to elicit brief, focused responses (i.e., “Did you remain in Long Beach the night of the storm?” and “Do you remember where you got your information about the storm?”). Open-ended follow-up questions (i.e., “Can you tell me more about your decision [not] to evacuate?”) allow respondents freedom to elaborate about salient issues, including sources of information and competing claims about the storm, without leading in a particular direction.

There are several strengths derived from the use of oral history to address public perception of warnings and evacuation decisions preceding “Superstorm Sandy”. First and foremost, the oral histories have been (and will continue to be) collected in a manner that was intended to elicit an accurate personal description of the events surrounding the storm for the general historical record, without the demand characteristics that may be present in a focus group or interview specifically targeted at evaluating storm warning. Although the use of questionnaires may be an easy way to find an overview of risk perception concerns and problems, one-on-one interviews are the best way to identify specific issues related to language and content, particularly when those interviews are constructed to avoid leading the subject into mentioning or discussing certain facts or reactions over others (Fischhoff, Bostrom, & Quadrel, 1993). Our use of the archived oral histories should allow for a more accurate measurement of the natural language residents use to describe the storm itself, storm warnings, evacuation orders, and the storm aftermath, without the conscious or subconscious use of terms residents believe to match the intentions of the interviewer.

Second, at the time of this proposal 54 interviews have already been collected, with 2 more scheduled within the next 2 weeks. Interviews for the oral history project were collected as early as December 15, just seven weeks after the storm. Prior research surrounding the terrorist attacks

on September 11, 2001 have indicated that the consistency of memory for personal thoughts, actions, and emotions decreases dramatically over the first year after a traumatic event (Hirst et al., 2009; Talarico & Rubin, 2003). Memories for personal details (e.g., where a person was, what he/she was thinking) one year after the event are only 63% consistent with memories of those same details collected one week after the event. Memories for specific emotions surrounding the event are even less consistent as time goes on, yet the presence of an emotional reaction leads people to believe their memories of details are accurate. Although general memories for the event may retain some accuracy, details regarding interactions with other people and timing of events are particularly susceptible to change over time (Conway et al., 2008). There is a clear advantage to using the oral history interviews conducted within the first few months after “Superstorm Sandy” to capitalize on the higher accuracy of both emotional reactions and specific cognitive content regarding preparation and evacuation decisions.

Finally, if funded, this project will continue to identify and collect oral history from additional interviewees, particularly among underrepresented demographic categories. Among the 54 interviews already collected, 52% of participants are female, 12.5% are Black, and participant ages ranged evenly from teenagers through 79 years old, representing a reasonable cross-section of the city and surrounding area. However, the City of Long Beach is ethnically diverse and includes a sizable population of Latino residents, presenting the opportunity to address cross-cultural issues in relaying storm information. Both language barriers and cultural attitudes can affect understanding and acceptance of risk information (Ng, 2005). If funded, interpreters will be hired and the proposed extension of interviews will specifically include members of this ethnic minority group. Through interviews with residents whose primary language is something other than English, we will explore whether and to what extent cultural issues influenced risk assessment and the decision to evacuate. Our research will address both language and cultural barriers to distributing risk information, as well as consider how cultural issues may affect residents responses to information. The continuation of oral history interviews is expected to start immediately upon funding and continue through May 2014.

Collection of media reports, official warnings, and other pre-storm messages

Archives maintained by the National Hurricane Center contain all official text and graphic National Weather Service advisories issued about the dangers of past storms, including Sandy (NHC/NWS December 2012) and Irene (NHC/NWS July 2012). Databases maintained through the Hofstra Libraries system such as the Vanderbilt Television News Archive collect broadcast media output. A search for mentions of “Hurricane Sandy” between October 1, 2012, and October 29, 2012, found 45 usages by CNN, ABC, CBS, and NBC. Our research will focus on these sources, as television is the most common way the public access severe weather information (U.S. Department of Commerce, 2013). Other sources will be studied as well, however: National Public Radio maintains archives of newscasts, both at local station WNYC and national program websites. Past newspaper stories can be accessed through databases like LexisNexis(R) *Academic*. The early stages of Phase 1 will involve accessing these and other archives to collect all government warnings and as many media reports as can be found from a specific period immediately preceding the two storms, for analysis of language used; work on this portion of the proposal should be complete by March 2014.

Identification of language patterns - use of automated software

Linguistic analysis software is utilized across a wide range of social science research disciplines. The general methodology of classifying text content into meaningful categories based on word choice, word frequency, verb use, and other language structures has been used previously to identify political conflict (Monroe, Colaresi, & Quinn, 2008), examine psychological changes after the terrorist attacks on September 11, 2001 (Cohn, Mehl, & Pennebaker, 2004), and even predict postpartum depression (De Choudhury, Counts, & Horvitz, 2013). The Linguistic Inquiry and Word Count (LIWC) program analyzes text and transcriptions of video content for general word usage (e.g., number of nouns, verbs, etc.) and the inclusion of language specific to emotions, social interactions, and thought processes (Tausczik & Pennebaker, 2010). The program is designed to break down word use into specific psychological constructs, such as reference to the self, descriptions of uncertainty, and mentions of work, home, family, religion, and other possible important categories of thought. Validation research has indicated that the categorical ratings and word counts identified by the LIWC software is highly similar to ratings given by trained judges (Pennebaker & Francis, 1996).

By analyzing the patterns of words used by Long Beach residents to describe their decision process regarding whether to evacuate both before and after the storm, we can begin to identify what phrases and terms have the most salience and influence over that decision process. Then, by simultaneously analyzing the language in media reports and messages from government officials, we can identify the degree of overlap between the two language patterns. Language analysis of existing oral histories will begin as soon as transcription is available (no later than April 2014) and will continue with the additional oral histories through June 2014. Analysis of media reports and other messaging will begin immediately upon funding and continue through July 2014.

Identification of language patterns - public dissemination of technical information

This project will develop a protocol for analyzing the presentation and language used in archived media interpretations of official advisories. These methods will be modeled after contemporary studies of media messages in other similar public health and disaster contexts, such as the 2009 H1N1 pandemic (Fogarty et al., 2011; Liu & Kim, 2011; Luth et al., 2013), skin cancer prevention (Cokkinides et al., 2012), and a 2008 nuclear emergency in Slovenia (Perko et al., 2012). All of these studies digitally searched media reports for keywords specific to the case study involved, and analyzed frequency of use and correlation with other keywords.

For our purposes of investigating the interpretation of risk, guidance will be drawn from prior studies of media reports in other disaster situations. For example, language analysis of media reports was used to demonstrate the level of abstraction present during and after the terrorist attacks of September 11, 2001 (Magee, Milliken, & Lurie, 2010). Spatial distance from a situation can increase the amount of abstraction in thinking (Trope & Liberman, 2010) and this in turn affects the type of language used to describe the situation. In addition, people in positions of power (either political power or content experts) also have enough psychological distance from a disaster situation so as to use more abstract terms (Magee, Milliken, & Lurie, 2010). With regard to hurricane messaging, there may be a difference in the impact of certain phrases attempting to note possible damage based on the level of detail contained in those messages (e.g.,

“There will be flooding in low-lying areas.” vs. “There will be flooding in low-lying areas, including Long Beach, the Rockaways, and Seaford.”).

Following on the protocol designed by Magee and colleagues (2010), media reports, interviews with officials, and official advisory and evacuation messages will also be assessed for level of abstraction, position of power and authority of the speaker, and emotional valence. Protocol development for message content will begin immediately upon funding and is expected to be complete by April 2014. Coding of message content will continue through July 2014.

Phase 2: Message development and testing

Approximate timeline: August 2014 - February 2015

To remedy the mismatch between the content of pre-storm messages relayed by government authorities and media reports with the salient information extracted from resident accounts, we intend to develop and test alternate warning messages. Particular attention will be paid to (1) the inclusion and explanation of scientific content regarding the impending storm, (2) who is delivering the information and at what level of abstraction, and (3) the ability to address personal attitudes and beliefs that are unrelated to understanding of storm information, yet still may hinder evacuation decisions. Following on a specific recommendation raised in the service assessment conducted after Sandy, these materials will be concise, easy to read, use graphical information, and include the use of uncertainty information (U.S. Department of Commerce, 2013).

Inclusion of scientific content

Prior research suggests that the simplification of storm intensity into pre-set categories on the Saffir-Simpson scale may mislead coastal residents into underestimating the potential damage as storm intensity increases (Stewart, 2011), particularly in relation to storm surge and flooding potential (Morss & Hayden, 2010). Similarly, there is an ongoing debate about whether the inclusion of track lines within cones of uncertainty marking potential areas of landfall are harmful (Baker, 1991) or beneficial (Meyer, Broad, Orlove, & Petrovic, 2013) in conveying risk. People anticipate a high level of uncertainty in weather forecasts, particularly for extreme weather conditions, and in turn are biased to undervalue the stated forecast (Joslyn & Savelli, 2010; Joslyn, Savelli, & Nadav-Greenberg, 2011). Providing worst-case scenario information may help partially correct any internal bias, but also increases the likelihood of experiencing a false alarm (Joslyn, Savelli, & Nadav-Greenberg, 2011), thereby adding to the “cry wolf” effect (Dow & Cutter, 1998). Instead, studies suggest that providing the upper and lower bounds of uncertainty lead to accurate estimations of expected weather conditions by the public, leading to protective measures given the expected conditions (Joslyn, Savelli, & Nadav-Greenberg, 2011). Furthermore, people are more likely to accept and follow advice regarding protective and preventive action in cases of extreme weather forecasts when those forecasts are accompanied by uncertainty information (Joslyn & LeClerc, 2012), particularly if that uncertainty information is presented as an odds ratio compared to normal weather conditions (LeClerc & Joslyn, 2012).

Guided by the storm information residents describe as crucial to their evacuation decision process prior to “Superstorm Sandy” and findings from similar previous studies involving interviews with hurricane evacuees (e.g., Morss & Hayden, 2010), we will develop and test specific ways to include scientific information regarding extreme weather in a way that is understandable and valued by the public. This will include direct messaging regarding the

comparison of current storm conditions to prior storms (to mitigate the effect of prior storm experience on current risk perception) and descriptions of uncertainty and/or probability regarding particular outcomes. Information will be delivered as concisely and non-technically as possible, as recommended by the post-Sandy service assessment (U.S. Department of Commerce, 2013).

Authority and trust in the messenger

Even when residents are adequately aware of the dangers posed by a storm, they often do not follow evacuation advisories (Horney et al., 2010). It is possible that some hesitancy is born out of a mismatch or mistrust in the person delivering the message compared to local knowledge. Construal-level theory indicates that local sources may be more likely to use concrete, specific details than sources farther away from the area (Trope & Liberman, 2010) and residents may be more likely to heed warnings from local sources (Stein, Duenas-Osorio, & Subramanian, 2010). More specifically, previous research has indicated that coastal residents are less likely than non-coastal residents to follow government-issued warnings and instructions. Compliance is more likely when warnings are issued by local officials compared to instructions issued by federal level sources (Donahue, 2010; Donahue, 2012). The pool of possible messengers tested in this project will be guided by those authorities mentioned in the oral histories and represented in the media and government reports, but there will be particular emphasis on comparing the salience of messages delivered by local authorities (e.g., city-level officials, local emergency officials) versus more distal authorities (e.g., weather reporters from national news outlets, state-level officials).

Address of personal concerns

As noted in the introduction, risk communication is more than just the presentation of accurate scientific information with accompanying explanation. Despite our hope that people are rational beings, there are many deeply personal factors at play when asking someone to leave his/her home, however briefly. Based on the language used by residents to describe their reasons for staying, concerns about leaving, and other personal connections to the decision process during “Superstorm Sandy”, we intend to develop messaging that directly addresses these concerns. This is currently an underdeveloped area of weather communication (Lazo, 2012), so it is unclear at this point exactly what this messaging might include. However, given the extensive literature on how personal beliefs play a role in risk perception (e.g., Sjöberg, 2000; Jost & Hunyady, 2002), we believe this to be an important extension to the current weather communication field.

Testing - Extreme weather advisory language

The main goal of this proposal is to develop guidelines for “best practices” in extreme weather advisories. In order to be sure that these guidelines will actually create more effective advisory content and reaction, we need to test impressions, reactions, and knowledge derived from those advisories. Participants will be recruited from areas of Nassau County at risk for hurricane damage and flooding. After looking through materials developed using the guidelines derived from Phase 1, participants will be tested for their impression of risk, possible decision to evacuate given such information, and overall understanding and memory for the material. Several versions of advisory material will be created to test the effectiveness of various approaches (e.g., emphasis on storm information vs. emphasis on local impact, source attribution to national outlets vs. local authorities) and use of different media outlets (e.g., television vs.

print). Phase 2 testing will begin in August 2014 and continue (including data analysis) through February 2015. Testing will be conducted on campus at Hofstra University, where Dr. Ploran already has laboratory space and testing computers for psychological research. In addition, some testing may be conducted at convenient locations within the affected communities, such as libraries, with the use of laptops and other technology.

Testing - Pre-storm education

One finding from previous research is that residents believe that there is not enough education about the hazards in their communities with regard to extreme weather (Morss & Hayden, 2010; Donahue, 2012). This includes knowledge and description of which areas may flood, and under what conditions, as well as the potential damage caused by storms of different strengths. If initial results from testing of the advisory language are promising, a separate testing phase of possible educational materials (pamphlets, media reports) may be developed pending time constraints. Testing in this phase will be conducted similarly to the testing of advisory language, using the same facilities.

OUTCOMES:

The efforts proposed herein will serve as a reply to the call for more testing of simple, non-technical storm communications, as recommended in the service assessment after Sandy (U.S. Department of Commerce, 2013). Furthermore, the geographic area targeted in this proposal serves as a complement to ongoing research and improvements funded by NOAA. Neither the Hurricane Forecast Improvement Project (<http://www.hfip.org/>) nor the Hurricane Local Statement project includes a test population in the New York / New Jersey area. Supporting information for the current call for proposal notes an upcoming extension to this geographic area as part of the focus groups on hurricane inundation graphics, but it appears this work has not yet begun. Our collaborations with the city of Long Beach, NY and Nassau County Office of Emergency Management allow us to begin work quickly with communities on Long Island that are currently not represented in ongoing NOAA projects.

In addition, the projects cited above focus on the dissemination of scientific information regarding extreme weather; as has been repeatedly mentioned throughout this proposal, scientific information is only part of the overall process of risk perception and subsequent decisions. The current proposal will add to the current literature on the presentation of weather reports, but will equally address the role and authority of the message deliverer, as well as non-scientific concerns that add to low evacuation rates. Findings from the work conducted in this proposal will be disseminated in the following ways (to be completed February 2015-April 2015):

1. Specific “best practices” guidelines will be developed in conjunction with our contacts in local emergency management offices. These guidelines will be written in a directly applicable manner, focused on adjustments to content and delivery. Example materials will also be included to serve as templates for future needs.
2. A white paper on the findings of Phases 1 and 2, including statistical analysis and specific guidelines, will be written and distributed to the funding agency and our direct collaborators by the end of the funding period.

3. Scientific findings will be published in appropriate journals and presented at appropriate conferences. (Note: Given the delayed timeline of publishing, this may happen after the end of funding and will take second priority to the white paper listed in #2).

4. A project page will be created and permanently housed on the Hofstra University website, where officials from other communities will be able to access the short, implementation-ready guidelines, the white paper, any related publications, as well as example materials from Phase 2.

The impacts of this project can be documented based on the extent of the satisfaction with and adoption of our recommendations by the City of Long Beach, NY and Nassau County Office of Emergency Management. Because of the geographic similarity of portions of Nassau County to coastal New Jersey, the results gleaned from this study will have broader applicability to much of the highly populated coastline of the northeastern U.S. During the process of the project we intend to extend invitations of collaboration and data sharing with emergency officials across the New York / New Jersey area. Contact has already been made with individuals in the political community in Trenton who will direct us to appropriate collaborations, but we were unable to establish connections within the short window of time between the call for proposals and submission.

COORDINATION:

E. Christa Farmer is an Associate Professor in the Department of Geology, Environment, and Sustainability at Hofstra University and will administer the project. She has been the principal investigator of a \$462,429 research grant from the U.S. Department of Energy since September 29, 2009, which has given her ample experience with grant administration. This grant established the Hofstra University Center for Climate Study, and has resulted in the collection and analysis of over 25 sediment cores from the barrier beach islands of Long Island's southern coastline for the purposes of identifying hurricane "overwash" layers. So far three presentations at two annual meetings of the Geological Society of America have grown out of these efforts. Dr. Farmer will draw on her graduate studies in atmospheric dynamics and meteorology, as well as her 15 years of experience with paleoclimate research, to supervise undergraduate student research assistants in the collection and analysis of official government warnings and media reporting before the storm during Phase 1 and to help inform the science-related content of the messages tested during Phase 2. Her experience teaching five iterations of an introductory "Environmental Geology and Natural Hazards" course to non-science majors will guide her contributions as well. As she will teach the course again in Fall 2014, the students in the class that semester may be a valuable resource for lay perspective and possibly research assistance.

Mary Anne Trasciatti is an Associate Professor of Rhetoric in the School of Communication and a 14-year resident of Long Beach, NY. She designed the oral history component of the project, drawing on her graduate studies in narrative and research on framing strategies for communicating about significant events. During Phase 1, Dr. Trasciatti will continue to identify residents of Long Beach, NY who are good candidates for interviews about their experiences with Sandy, and will supervise graduate students from the Clinical Psychology program at Hofstra University who will serve as research assistants in conducting further interviews with these residents. She will also oversee the transcription of the videos into text files for use in the

language analysis software and maintain continued connections and collaborations with city officials in Long Beach, NY and Nassau County Office of Emergency Management.

Elisabeth Ploran is an Assistant Professor in the Department of Psychology at Hofstra University and has designed and conducted psychological research in the areas of perception, cognition, and memory for over 10 years. Dr. Ploran will be responsible for the initial language analysis of the oral history interviews during Phase 1, as well as the development of message content, testing methodology, and data analysis for Phase 2 of the project. Additionally, she will be responsible for securing the appropriate approval for all portions of the protocol that require testing human subjects or use of archival data. Dr. Ploran already oversees several undergraduate research assistants for her research and will serve as the coordinator of undergraduate research assistants on the project.

Phase 1 of the project will include continued collaboration with officials from the city of Long Beach, NY with whom Dr. Trasciatti has coordinated the Long Beach Sandy oral history project. Phase 2 of the project will include additional collaboration with the Office of Emergency Management in Nassau County, NY. Supporting documentation is included in this proposal and descriptions of the level of collaboration are included in the general workplan. In addition, the National Center for Suburban Studies at Hofstra University has expressed support and interest in archiving the data, results, and other products from this proposal. Supporting documentation to this effect is included at the end of the proposal.

Section D: Data Management/Sharing Plan

This project is expected to result in the collection of several types of data, including:

1. Transcripts of approximately eighty interviews with residents Long Beach, NY (Phase 1)
2. Linguistic analysis (software output) of interview transcripts (Phase 1)
3. Linguistic analysis (software output) of official advisories and media reports (Phase 1)
4. Responses of research participants to tests of alternative messages/messengers (Phase 2)
5. Recommendations for improved coastal storm warning language and delivery (Phase 2)

The data collected by this project will be archived in different ways, depending on the type.

Transcripts of the interviews with Long Beach, NY residents (#1 above) will be archived at the Hofstra University Library Special Collections as part of the Long Island Studies Institute. Please see the supporting letter from Geri Solomon in this proposal. Transcripts will be saved in .pdf (Adobe's portable document format) versions and paper copies, and both will be transmitted to the Long Island Studies Institute for archival. This will be completed by April 30, 2015, the end of the project period.

Data (software output) resulting from the linguistic analysis of interview transcripts, official advisories, and media reports (#2 and #3 above) and responses of research participants (#4 above) will be archived on DVD and kept in Dr. Ploran's laboratory at Hofstra University. These data will be available upon request after April 30, 2015, the end of the project period, by other researchers and will be shared freely with other researchers who wish to use the data for meta-analysis and other research activities. Summaries of the data and statistical analyses conducted as part of the research activities described in this proposal will be available for release to NOAA, SeaGrant, and any emergency management offices that wish to see it. It will be available upon direct request to the investigators and via the website associated with the project.

Recommendations for improved coastal storm warning language and delivery (#5 above) will be published on a project website maintained by Hofstra University, supported by the National Center for Suburban Studies (please see supporting letter from Larry Levy).

Section E: Literature Cited

- Adeola, F.O. (2009). Katrina cataclysm: Does duration of residency and prior experience affect impacts, evacuation, and survivors? *Environment and Behavior*, 41(4), 459-489.
- Baker, E.J. (1991). Hurricane evacuation behavior. *International Journal of Mass Emergencies and Disasters*, 9, 287-310.
- Burnside, R., et al. (2007). "The impact of information and risk perception on the hurricane evacuation decision-making of greater new orleans residents." *Sociological Spectrum* 27(6): 727-740.
- Coastal Planning and Engineering, Inc., "Coastal Protection Study City of Long Beach, NY: Bayside Flood Protection Plan, November 2009, <http://www.longbeachny.gov/vertical/sites/%7BC3C1054A-3D3A-41B3-8896-814D00B86D2A%7D/uploads/%7BF71538B3-3066-402E-B6A1-E8C2FA816227%7D.PDF>.
- Cohn, M.A., Mehl, M.R., & Pennebaker, J.W. (2004). Linguistic markers of psychological change surrounding September 11, 2001. *Psychological Science*, 15(10), 687-693, doi:10.1111/j.0956-7976.2004.00741.x
- Cohn, Nate. October 30, 2012. "Weather Models Get Sandy Right," *The New Republic*. <http://www.tnr.com/blog/electionate/109370/weather-models-get-sandy-right>
- Cokkinides, V., et al. (2012). "A profile of skin cancer prevention media coverage in 2009." *Journal of the American Academy of Dermatology* 67(4): 570-575.
- Conway, A.R., Skitka, L.J., Hemmerich, J.A., & Kershaw, T.C. (2008). Flashbulb memory for 11 September 2001. *Applied Cognitive Psychology*, 23(5), 605-623, doi: 10.1002/acp.1497
- De Choudhury, M., Counts, S., & Horvitz, E. (2013). Predicting postpartum changes in emotion and behavior via social media. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 3267-3276, doi: 10.1145/2470654.2466447
- Demuth, J.L., Morss, R.E., Morrow, B.H., & Lazo, J.K. (2012). Creation and communication of hurricane risk information. *Bulletin of the American Meteorological Society*, 93, 1133-1145, doi: 10.1175/BAMS-D-11-00150.1
- Dillon, R.L., Tinsley, C.H., & Cronin, M. (2011). Why near-miss events can decrease an individual's protective response to hurricanes. *Risk Analysis*, 31(3), 440-449, doi: 10.1111/j.1539-6924.2010.01506.x
- Donahue, A. (2010). Disaster risk perception, preferences, and preparedness project (Vol. 1). University of Connecticut, Department of Public Policy, West Hartford, CT. <http://dpp.uconn.edu/PDFs/Risk-Perceptions-and-Preparedness-Volume-1.pdf>
- Donahue, A. (2012). Disaster risk perception, preferences, and preparedness project (Vol. 3). University of Connecticut, Department of Public Policy, West Hartford, CT. <http://dpp.uconn.edu/PDFs/Risk-Perceptions-and-Preparedness-Volume-3.pdf>

- Dow, K. & Cutter, S.L. (1998). Crying wolf: Repeat responses to hurricane evacuation orders. *Coastal Management*, 26, 237-252.
- Fischhoff, B., Bostrom, A., Quadrel, M.J. (1993). Risk perception and communication. *Annual Reviews of Public Health*, 14, 183-203.
- Fogarty, A. S., et al. (2011). "Communicating uncertainty - how Australian television reported H1N1 risk in 2009: a content analysis." *BMC Public Health* 11.
- Gall, R., et al. (2013). "THE HURRICANE FORECAST IMPROVEMENT PROJECT." *Bulletin of the American Meteorological Society* 94(3): 329-343.
- Hirst, W., Phelps, E.A., Buckner, R. L., Budson, A.E., Cuc, A., et al. (2009). Long-term memory for the terrorist attack of September 11: Flashbulb memories, event memories, and the factors that influence their retention. *Journal of Experimental Psychology: General*, 138(2), 161-176, doi: 10.1037/a0015527
- Horney, J. A., et al. (2010). "Individual Actual or Perceived Property Flood Risk: Did it Predict Evacuation from Hurricane Isabel in North Carolina, 2003?" *Risk Analysis* 30(3): 501-511.
- Joslyn, S. & LeClerc, J. (2012). Uncertainty forecasts improve weather-related decisions and attenuate the effects of forecast error. *Journal of Experimental Psychology: Applied*, 18(1), 126-140, doi: 10.1037/a0025185
- Joslyn, S. & Savelli, S. (2010). Communicating forecast uncertainty: public perception of weather forecast uncertainty. *Meteorological Applications*, 17, 180-195, doi: 10.1002/met.190
- Joslyn, S., Savelli, S., & Nadav-Greenberg, L. (2011). Reducing probabilistic weather forecasts to the worst-case scenario: Anchoring effects. *Journal of Experimental Psychology: Applied*, 17(4), 342-353, doi: 10.1037/a0025901
- Jost, J. & Hunyady, O. (2002). The psychology of system justification and the palliative function of ideology. *European Review of Social Psychology*, 13(1), 111-153.
- Lazo, J.K. (2012). One economist's entreaty for increased research on weather risk communication. *Weather, Climate, & Society*, 4, 233-235, doi: 10.1175/WCAS-D-12-00057.1
- Lazo, J. K., et al. (2010). "Household Evacuation Decision Making and the Benefits of Improved Hurricane Forecasting: Developing a Framework for Assessment." *Weather and Forecasting* 25(1): 207-219.
- LeClerc, J. & Joslyn, S. (2012). Odds ratio forecasts increase precautionary action for extreme weather events. *Weather, Climate, & Society*, 4, 263-270, doi: 10.1175/WCAS-D-12-00013.1
- Lewandowsky, S., Ecker, U.K., Seifert, C.M., Schwarz, N., & Cook, J. (2012). Misinformation and its correction: Continued influence and successful debiasing. *Psychological Science in the Public Interest*, 13(3), 106-131, doi: 10.1177/1529100612451018

- Liu, B. F. & S. Kim (2011). "How organizations framed the 2009 H1N1 pandemic via social and traditional media: Implications for US health communicators." *Public Relations Review* 37(3): 233-244.
- Lubick, N., 13 September, 2013. "A hurricane by any other name: How Sandy changed the way we issue storm warnings." *EARTH: The Science Behind the Headlines*. (accessed online: <http://www.earthmagazine.org/article/hurricane-any-other-name-how-sandy-changed-way-we-issue-storm-warnings>)
- Luth, W., et al. (2013). "When Pictures Waste a Thousand Words: Analysis of the 2009 H1N1 Pandemic on Television News." *PLoS One* 8(5).
- Magee, J.C., Milliken, F.J., & Lurie, A.R. (2010). Power differences in the construal of a crisis: The immediate aftermath of September 11, 2001. *Personality and Social Psychology Bulletin*, 36, 354-370, doi: 10.1177/0146167209360418.
- Meyer, R., Broad, K., Orlove, B., & Petrovic, N. (2013). Dynamic simulation as an approach to understanding hurricane risk response: Insights from the *Stormview* lab. *Risk Analysis*, 33(8), 1532-1552, doi: 10.1111/j.1539-6924.2012.01935.x
- Monroe, B.L., Colaresi, M.P., & Quinn, K.M. (2008). Fightin' Words: Lexical feature selection and evaluation for identifying the content of political conflict. *Political Analysis*, 16(4), 372-403, doi: 10.1093/pan/mpn018
- Morrow, B.H. (2009). Risk behavior and risk communication: Synthesis and expert interviews. Final Report for the NOAA Coastal Services Center. http://www.csc.noaa.gov/digitalcoast/_/pdf/risk-behavior-communication-report.pdf
- Morss, R.E. & M.H. Hayden (2010). Storm Surge and "Certain Death": Interviews with Texas Coastal Residents following Hurricane Ike. *Weather Climate and Society* 2(3): 174-189.
- National Climatic Data Center, National Oceanic and Atmospheric Administration, "Billion-Dollar Weather/Climate Disasters," <http://www.ncdc.noaa.gov/billions/events>.
- National Hurricane Center, National Weather Service, "Tropical Cyclone Report: Hurricane Sandy," 12 February 2013. http://www.nhc.noaa.gov/data/tcr/AL182012_Sandy.pdf.
- National Hurricane Center, National Weather Service, "Hurricane Irene Advisory Archive," Last Modified 17 July 2012. Accessed 16 November 2013 at <http://www.nhc.noaa.gov/archive/2011/IRENE.shtml>.
- National Hurricane Center, National Weather Service, "Hurricane Sandy Advisory Archive," Last Modified 31 December 2012. Accessed 16 November 2013 at <http://www.nhc.noaa.gov/archive/2012/SANDY.shtml>.
- Ng, A.T. (2005). Cultural diversity in the integration of disaster mental health and public health: A case study in response to bioterrorism. *International Journal of Emergency Mental Health*, 7(1), 23-31.
- Pennebaker, J.W. & Francis, M.E. (1996). Cognitive, emotional, and language processes in disclosure. *Cognition & Emotion*, 10, 601-626.

- Perko, T., et al. (2012). "Media Reporting of Nuclear Emergencies: The Effects of Transparent Communication in a Minor Nuclear Event." *Journal of Contingencies and Crisis Management* 20(1): 52-63.
- Samenow, Jason. November 6, 2012. "National Hurricane Center hits bull's-eye with dead-on early forecast for Sandy," *The Washington Post*.
- Sjöberg, L. (2000). Factors in risk perception. *Risk Analysis*, 20(1), 1-11.
- Stein, R.M., Duenas-Osorio, L., & Subramanian, D. (2010). Who evacuates when hurricanes approach? The role of risk, information, and location. *Social Science Quarterly*, 91(3), 816-834.
- Stewart, A.E. (2011). Gulf coast residents underestimate hurricane destructive potential. *Weather, Climate, & Society*, 3, 116-127, doi: 10.1175/2011WCAS1077.1
- Tausczik, Y.R. & Pennebaker, J.W. (2010). The psychological meaning of words: LIWC and computerized text analysis methods. *Journal of Language and Social Psychology*, 29(1), 24-54, doi: 10.1177/0261927X09351676
- Talarico, J.M. & Rubin, D.C. (2003). Confidence, not consistency, characterizes flashbulb memories. *Psychological Science*, 14(5), 455-461.
- Trope, Y. & Liberman, N. (2010). Construal-level theory of psychological distance. *Psychological Review*, 117(2), 440-463, doi: 10.1037/a0018963
- U.S. Department of Commerce (May 2013). "Service Assessment: Hurricane/Post-Tropical Cyclone Sandy, October 22–29, 2012." Accessed online: <http://www.seagrant.sunysb.edu/funding/pdfs/RFP-CSAP-DOC-ServiceAssessment%20-Sandy13.pdf>.
- Whitehead, J.C., Edwards, B., van Willigen, M., Maiolo, J.R., Wilson, K., & Smith, K.T. (2000). Heading for higher ground: Factors affecting real and hypothetical hurricane evacuation behavior. *Environmental Hazards*, 2, 133-142.

Section F: Project Timeline

Tasks / Activities / Milestones	Related Project Objective(s)	Funding Year 1												Funding Year 2											
		Beginning Month and Year: January 2014																							
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13	Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24
Complete interviews for oral histories	Phase 1	x	x	x	x	x																			
Collect media and official advisories	Phase 1	x	x	x																					
Qualitative language analysis	Phase 1	x	x	x	x	x	x	x																	
Scientific language analysis	Phase 1	x	x	x	x	x	x	x																	
Develop advisory guidelines	Phase 2																								
Test advisory guidelines	Phase 2																								
Write white paper outlining main results	Phase 2																								
Prepare guidelines and example materials for dissemination	Phase 2																								

Section J: Biosketches

E. Christa Farmer

a. Professional Preparation.

Institution:	Major:	Degree:	Year:
Stanford University	Earth Systems- Biosphere	B.S.	1994
Columbia University	Paleoclimatology	M.A.	2000
Columbia University	Paleoclimatology	M.Phil.	2001
Columbia University	Paleoclimatology	Ph.D.	2005

b. Appointments.

2011 – present	Associate Professor, Department of Geology, Environment, and Sustainability, Hofstra University, Hempstead, NY
2007 – present	Adjunct Associate Research Scientist, Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY
2005 – 2011	Assistant Professor, Hofstra University, Department of Geology, Hempstead, NY
2004 – 2005	Instructor, Hofstra University, Department of Geology, Hempstead, NY
1998 – 2004	Graduate Research Assistant, Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY

c. Products.

Products Most Closely Related

- [1] **Farmer, E. Christa**; Bennington, J. Bret; Leone, Steven; Longjohn, Tamunoisoala; Persaud, Ashley; Chery, Nika; Spero, Dayna; Kast, Emma; and Melrose, Courtney; 2013. "Trace Metals as a Tool for Chronostratigraphy in Sediment Cores from South Shore Barrier Beach Marshes in Long Island, NY." Geological Society of America *Abstracts with Programs*. Vol. 45, No. 7, p.52.
- [2] Bennington, J. Bret; **Farmer, E. Christa**; Chery, Nika; Dorward, Emily; Leone, Steven; Persaud, Ashley; and Spero, Dayna; 2013. "Recognizing Past Storm Events Recorded in Sediment Cores Based on Analysis of Recent Overwash Lobes Deposited by Superstorm Sandy." Geological Society of America *Abstracts with Programs*. Vol. 45, No. 7, p.52
- [3] **Farmer, E. Christa.**; Bennington, J. Bret; Melrose, Courtney; Kast, Emma; Leone, Steven; LongJohn, Tamunoisoala; Persaud, Ashley; 2012. "Identifying Hurricane Overwash In Sediment Cores from the Great South Bay, New York." Geological Society of America *Abstracts with Programs*. Vol. 44, No. 7, p.87.
- [4] **Farmer, E.C.**; Bennington, J. Bret; Melrose, Courtney; Jensen, Matthew; Hoffmann, Amy; Longjohn, Tamunoisoala; and Noboa, Luciana; 2011. "Developing a Chronostratigraphy for Sediment Cores from Gilgo Beach Marsh, Long Island, NY." Long Island Geologists Eighteenth Conference, April 9, 2011.
- [5] **Farmer, E. Christa**; Christensen, Beth; Freile, Deborah; Browne, James; Ciapetta, Jonathan; Haslbauer, Stephen; Jensen, Matthew; Rosiello, A., Zdziarski, Mark; 2009. Paleotempestology of Long Island: Does Grain Size Indicate Past Hurricane Activity? Geological Association of New Jersey, XXVI Annual Conference, October 9-10, 2009.

Other Significant Products

- [1] **Farmer, E. Christa**, 2011. "Evaluating the Efficacy of an Animation to Enhance Understanding of First Motion Diagrams." American Geophysical Union, Fall Meeting, 5-9 December 2011.
- [2] Arbuszewski, Jennifer A.; deMenocal, Peter B.; Kaplan, Alexey; **Farmer, E.C.**; 2010. "On the Fidelity of Shell-Derived $\delta^{18}\text{O}_{\text{seawater}}$ Estimates." *Earth and Planetary Science Letters* 300(3-4): 185-196, doi:10.1016/j.epsl.2010.10.035.
- [3] **Farmer, E. Christa**; Kaplan, Alexey; deMenocal, Peter B.; and Lynch-Stieglitz, Jean; 2007. "Corroborating Ecological Depth Preferences of Planktonic Foraminifera in the Tropical Atlantic with the Stable Oxygen Isotope Ratios of Coretop Specimens." *Paleoceanography* 22, PA3205, doi:10.1029/2006PA001361.
- [4] **Farmer, E. Christa**; deMenocal, Peter B.; Marchitto, Thomas M.; Guilderson, Thomas P.; 2005. "Holocene and deglacial ocean temperature variability in the Benguela upwelling region:

Implications for low-latitude atmospheric circulation.” *Paleoceanography* 20(2): PA2018.
doi:10.1029/2004PA001049.

- [5] LeGrande, Allegra L.; Lynch-Stieglitz, Jean; **Farmer, E. Christa**; 2004. “Oxygen isotopic composition of *Globorotalia truncatulinoides* as a proxy for intermediate depth density.” *Paleoceanography* 19(4):PA4025. doi:10.1029/2004PA001045.

d. Synergistic Activities.

1. I have supervised several undergraduate research assistants as part of the Hofstra University Center for Climate Study, funded by the U.S. Department of Energy. Many of these students appear as co-authors on recent presentations at the Geological Society of America. The purpose of this research is to reconstruct past impacts of hurricanes on Long Island from sediment cores.
2. I have taught five separate iterations of “Environmental Geology and Natural Hazards” at Hofstra University, an introductory science course for non-majors. This course has given me experience discussing hurricanes with non-scientists.

f. Collaborators and other affiliations.

1. Collaborators.

Jennifer A. Arbuszewski	Woods Hole Oceanographic Institution
J. Bret Bennington	Hofstra University
Nika Chery	Hofstra University
Peter B. deMenocal	Lamont-Doherty Earth Observatory of Columbia University
Emily Dorward	Hofstra University
Alexey Kaplan	Lamont-Doherty Earth Observatory of Columbia University
Emma Kast	Hofstra University
Steven Leone	Hofstra University
Tamunoisoala Longjohn	Hofstra University
Ashley Persaud	Hofstra University
Dayna Spero	Hofstra University
Courtney Melrose	Stonybrook University

2. Graduate advisor.

Peter B. deMenocal	Lamont-Doherty Earth Observatory of Columbia University
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3. Thesis advising.

I was the outside reader for a Master’s thesis by Robert Schenck at Adelphi University from 2006-2007.

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Professional Preparation

Drew University, Madison, NJ	Psychology	B.A., 2004
University of Pittsburgh, Pittsburgh, PA	Psychology	M.S., 2008
University of Pittsburgh, Pittsburgh, PA	Cognitive Neuroscience	Ph.D., 2010
George Mason University, Fairfax, VA	Cognitive Neuroscience	2010-2012

Appointments

2012-present Assistant Professor, Department of Psychology, Hofstra University

Peer-reviewed Publications

Ploran, E.J., Bevitt, J., Oshiro, J., Parasuraman, R., & Thompson, J.C. (in revision, expected publication Jan 2014). Self-motivated visual scanning predicts flexible navigation in a virtual environment. *Frontiers in Human Neuroscience*.

Ploran, E.J., Tremel, J.J., Nelson, S.M. & Wheeler, M.E. (2011). High quality but limited quantity perceptual evidence produces neural accumulation in frontal and parietal cortex. *Cerebral Cortex*, 21(11), 2650-2662, doi: 10.1093/cercor/bhr055

Wheeler, M.E., Petersen, S.E., Nelson, S.M.M., Ploran, E.J., & Velanova, K. (2008). Dissociating early and late error signals in perceptual recognition. *Journal of Cognitive Neuroscience*, 20(12), 2211-2225.

Ploran, E.J., Nelson, S.M.M., Velanova, K., Donaldson, D.I., Petersen, S.E., & Wheeler, M.E. (2007). Evidence accumulation and the moment of recognition: dissociating decision processes using fMRI. *Journal of Neuroscience*, 27(44), 11912-11924.

Synergistic Activities

Co-authored two chapters on episodic memory (in the *Handbook of the Neuroscience of Aging and New Encyclopedia of Neuroscience*)

Currently serving as a grant reviewer for the Canada Foundation for Innovation

Ad-hoc reviewer for numerous journals, including *Neuron*, *Cerebral Cortex*, and *Human Brain Mapping*

Collaborators

R. Parasuraman & J.C. Thompson, Department of Psychology, George Mason University; E. Rovira, Department of Behavioral Sciences and Leadership, U.S. Military Academy; M.E. Wheeler, Department of Psychology, University of Pittsburgh

Graduate and Postdoctoral Advisors

M.E. Wheeler, University of Pittsburgh; R. Parasuraman & J.C. Thompson, George Mason University

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Professional Preparation.

Providence College, Providence, RI	Political Science	B.A.	1985
Emerson College, Boston, MA	Communication	M.A.	1991
University of Maryland, College Park	Communication	Ph.D.	1999

Appointments.

2006-present Associate Professor, Department of Rhetoric, Hofstra University, Hempstead, NY
2000-2006 Assistant Professor, Department of Rhetoric, Hofstra University, Hempstead, NY
1999-2000 Special Assistant Professor, Department of Rhetoric, Hofstra University, Hempstead, NY

Selected Peer-Reviewed Publications.

Trasciatti, M.A. (2013). Athens or anarchy? Soapbox oratory and the early twentieth-century American city. *Buildings & Landscapes: Journal of the Vernacular Architecture Forum*, 20 (1), 43-68.

Trasciatti, M.A. (2009). Letter writing in an Italian immigrant community: A transatlantic tradition. *Rhetoric Society Quarterly*, 39 (1), 73-94.

Trasciatti, M.A. (2007). Rhetoric and revolution: An introduction. *Advances in the History of Rhetoric*, 10 (1), 145-150.

Trasciatti, M.A. (2007). Technology and the liberal arts: How wide is the chasm? *Transformations: The Journal of Inclusive Scholarship and Pedagogy*, 18 (1), 75-82.

Trasciatti, M.A. (2003). Framing the Sacco-Vanzetti executions in the Italian American press. *Critical Studies in Media Communication*, 20 (4), 407-430.

Synergistic Activities.

Creator and principal interviewer, Long Beach Sandy: The Hurricane Sandy Long Beach Oral History Project, www.longbeachsandy.org

Graduate Advisors

M. Solomon Watson and E.L. Fink, University of Maryland, College Park.