**Quiet in the eye of the storm: Examining the quality and impact of media coverage of Hurricane Sandy**

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**Abstract**

The United States has seen increases in the frequency and force of extreme weather events in recent years, both of which result from global climate change. As these storms take a great toll, physical and emotional, on communities across the country, they make painfully tangible the impact of what has long been an abstract concern. In order to demand effective solutions, however, citizens require an insightful, nuanced understanding of climate change’s destructive power. This study examines media coverage of Hurricane Sandy, which devastated much of the East Coast in 2012, to determine how and to what extent the U.S. media is responsible for public awareness of this issue. Quantitative and qualitative analyses reveal that coverage of Hurricane Sandy rarely linked the storm to climate change and often included the same biases that have plagued past climate reporting and suppress political mobilization.

**Keywords:** Hurricane Sandy; Journalism; Media Bias; Climate Change, Global Warming, Risk Perception, Political Mobilization.

1. **Introduction**

Hurricane Sandy slammed into the United States’ eastern seaboard on October 29, 2012, grinding everyday life to a halt and leaving a wake of destruction in its path. New York and New Jersey bore the worst of the storm’s impact, as their public transportation systems shut down completely and many residents were forced to evacuate. In New Jersey alone, more than 346,000 homes were damaged or destroyed from the ensuing floods, and two million people were left without power (FEMA Fact Sheet, 2018). Hurricane Sandy was ultimately directly responsible for 72 deaths throughout the Northeast—the greatest number of direct fatalities attributed to a tropical storm outside the South in 40 years (Blake et al., 2013). It was also the second-most costly hurricane in U.S. history to that point, after Hurricane Katrina, with over $70 billion in damages to homes, businesses, and critical infrastructure (FEMA Fact Sheet, 2018). 7,000 National Guard troops were mobilized in response, and the federal government passed a $50.5 billion relief package in January (Obama Signs, 2013). A week after the storm, many schools remained closed, tens of thousands of people were without housing, and over two million Americans still did not have power (Hurricane Sandy Fast Facts, 2018).

The connection between climate change and extreme weather events has been well-documented. Coincidentally, 2012 represented a notable year in scientific literature on this issue, as the United Nations’ Intergovernmental Panel on Climate Change (IPCC) released in June a landmark report that documented a growing risk of extreme coastal flooding due to mean sea level rise, rising economic losses from climate-related disasters, and the potential for significant population flows due to extreme weather (Managing the Risks, 2012). The report concluded with “medium confidence that anthropogenic influences have contributed to intensification of extreme precipitation” and that “it is likely that there has been an anthropogenic influence on increasing extreme coastal high water due to an increase in mean sea level.” It cautioned, however, that it is difficult to conclusively attribute any single weather event to anthropogenic climate change.

Nonetheless, researchers at the National Center for Atmospheric Research concluded as “readily apparent that [Hurricane Sandy’s] storm surge and associated damage was considerably influenced by climate change” less than three years later (Trenberth et al., 2015, p. 728). The team cited meteorological data from the European Centre for Medium-Range Weather Forecasts that compared the influence of observed sea surface temperatures (SSTs) and sea levels—both of which increase with global warming—to lower degrees of those metrics. It demonstrated that higher SSTs did not significantly alter the storm’s path but resulted in stronger winds by 3.6 m/s and greater precipitation by 35 percent. The report concluded that without these factors, as well as an observed sea level rise of about 19 centimeters, “it is quite possible that the subways and tunnels might not have flooded,” potentially mitigating billions of dollars in damages.

As Hurricane Sandy impacted the United States’ largest municipal area and economic hub, it received no shortage of media attention. In the weeks and months that followed, much of the news was dedicated to the resulting damage and rebuilding efforts, including some that examined climate change as a factor in the storm’s historic potency. This coverage is particularly interesting at a time when there seems to be a disconnect between public opinion on climate change and public policy. Despite the fact that a large majority of Americans are concerned about climate change and many of them support policies to combat it, public officials have largely struggled or been unwilling to implement such policies (Irfan, 2019).

As the media is often viewed as a principal driver of public opinion, this paper will endeavor to determine whether local media coverage influences community members’ risk perception of climate change, using Hurricane Sandy as a case study. Such a relationship, if positive and causal, could have major implications for environmental policy.

1. **Existing literature**

This study of climate change reporting, with a specific focus on Hurricane Sandy, draws from two bodies of scholarship. The first explores how the media has historically covered climate change and helps to contextualize post-Sandy coverage. The second analyzes the effects of this coverage on public opinion, specifically risk perception, in order to determine its social impact.

Much of the existing literature in the former category comes from Maxwell Boykoff, an associate professor of environmental studies at the University of Colorado Boulder (Maxwell Boykoff, 2015). A quartet of research papers either authored or co-authored by Boykoff, combined with the work of several other scholars, presents a comprehensive overview of historical patterns and biases in media coverage of climate change. These conclusions include the media’s tendency to downplay systemic trends in favor of human-interest stories, the public’s relatively short attention span for any issue, and the outsized platform given to deniers of anthropogenic climate change (Boykoff & Boykoff, 2007). In *Media Coverage of Climate Change: Current Trends, Strengths, Weaknesses* (1997), Boykoff and J. Timmons Roberts examine international coverage of Hurricane Mitch as an empirical example of media bias, noting, among other trends, the failure of local media to provide comprehensive climate change coverage. This conclusion is of particular interest, as a recent Pew Research survey indicates that many Americans rely on local media to stay informed (What are the Local Dynamics, 2019).

Climate change reporting, like all journalism, has minimal intrinsic value; instead, it should be viewed and valued for its impact on public opinion. Various scholarship addresses the impact of media coverage regarding issues such as nuclear proliferation and ozone depletion to determine the potential of climate change reporting. Meanwhile, a growing body of literature examines how reports on greenhouse gas emissions, among other aspects of global warming, serve as a catalyst for increasing public awareness. Anabela Carvalho and Jacquelin Burgess demonstrate a positive correlation between British newspapers’ coverage of climate change and public awareness for it, while Yuki Sampei and Midori Ayogi-Usui show a similar dynamic in Japanese media coverage (2005; 2014). Other research indicates that the source of this correlation is unclear, however, due to alternative influences on public awareness—including particularly disruptive social and cultural events, which Sheldon Ungar terms “social scares” (1992, p. 483). Based on this evidence, it appears likely that public awareness, and thus risk perception, is a product of both personal experience and exogenous information.

This analysis applies these conclusions to the example of Hurricane Sandy in an effort to demonstrate how climate change reporting affects issue awareness, public opinion, and political mobilization.

1. **Media coverage of climate change**

An historical analysis reveals that media coverage of climate change is often plagued by harmful biases. While such coverage has become increasingly prevalent in recent years, it continues to include these biases. Boykoff and Boykoff conclude that as a result, journalists “have misrepresented the top climate scientific perspective, and thus have perpetrated an informational bias regarding anthropogenic climate change” (2007). This section will review these biases in an attempt to determine how and to what extent they still shape climate change journalism and thereby influence public awareness and mobilization.

*Bias in climate change reporting*

Scholars generally recognize five types of media bias in climate change coverage, which can be classified as “first-order” and “second-order” norms (Boykoff & Boykoff, 2007). First-order norms, which influence the selection and framing of climate change stories, include personalization, dramatization, and novelty bias. Second-order norms characterize the specific content of those stories and include problems of authority-order and balance bias.

1. Personalization bias

*Personalization bias* represents the media’s tendency to ignore the long-term, institutional trends central to a particular issue in favor of emotional human narratives that arise from it (Bennett, 2002, p. 45). Personalization bias weakens public awareness in two ways. For one, it leads people to disregard the structural causes of a problem and thus ignore institutional solutions. Additionally, research shows that human interest stories may be less effective than traditional coverage because they depend on an “affinity between the victim and viewer” that does not always exist (Iyengar & Kinder, 1987, pp. 40-1). Personalization bias was particularly evident following Hurricane Mitch, which caused as many as 19,000 fatalities after striking Honduras in 1998 (Meyer, 2018). International coverage of the storm was extensive but largely focused on the humanitarian response rather than infrastructure deficiencies that contributed to its high death toll and damages (Boykoff & Roberts, 2008). Personalization bias may have rendered reports on Hurricane Mitch particularly impotent because insufficient local journalism meant that most coverage was consumed by people with no connection to the victims.

1. Dramatization bias

*Dramatization bias* characterizes the skew in news coverage toward disaster and shock-inducing developments. W. Lance Bennett, a political scientist at Yale University, observes that news stories “emphasize crisis over continuity [and] the present over the past or future conflicts” (2002, p. 46). In a 1997 study of media attention, a journalist remarked that they “needed dead people” to justify coverage of a public health issue (Kitzinger & Reilly, 1997, p. 344). In the context of climate change, this means that coverage typically follows, rather than precedes, disruptive natural disasters. This also means that climate coverage often falls off when it cannot “piggyback on dramatic real-world events” (Ungar, 1992, p. 483). For example, research by Carvalho and Burgess indicates that a significant drop in articles about climate change in the early 1990s was due to the lack of extreme weather events and the British media’s failure to find “a ‘dramatic’ risk storyline” (2005, p. 1464).

1. Novelty bias

*Novelty bias* characterizes the media’s inability to sustain coverage of a certain issue, regardless of its importance. In general, journalists eschew “creeping” (i.e. slow-to-develop) issues in favor of abrupt events (McCright & Dunlap, 2003). This phenomenon is also known as “issue-of-the-month syndrome” or the *issue-attention cycle*, a term coined in 1972 by economist Anthony Downs, who observed that public interest in an issue inevitably wanes due to realization about the high costs—both financial and temporal—of solving the problem, thus shrinking demand for coverage of it (Stocking, 1990, p. 40; Downs, 1972). Downs concluded that “public perception of most ‘crises’ in American domestic life does not reflect changes in real conditions as much as it reflects the operation of a systematic cycle of heightening public interest and then increasing boredom with major issues” (1972, p. 39). The issue-attention cycle means that “environmental problems … slide out of sight if there is nothing ‘new’ to report” (Stocking, 1990, p. 40). This problem is particularly acute for coverage of climate change, an inherently slow-to-develop issue. The study of British media that attributed a decline in environmental reporting to the lack of a dramatic climate catastrophes also concluded that “editorial ‘fatigue’” likely played a role (Carvalho & Burgess, 2005, p. 1464).

1. Authority-order bias

*Authority-order bias* represents the media’s tendency to consult widely recognized authority figures in a crisis, even if their expertise is not relevant to the particular situation. As a result, news reports about climate change often rely on politicians, rather than scientists, for analysis, despite their relative lack of climate knowledge. This deprives voters of accurate information because public officials have an electoral incentive to misrepresent the situation and “reassure the public that order, safety, and security will soon be restored” (Boykoff & Boykoff, 2007). Authority-order bias is also intertwined with a more dangerous second-order norm: balance bias.

1. Balance bias

The media often provides an equal platform to people on both sides of an issue without regard for the merits of their positions, thus legitimizing those ideologies. This dynamic, known as *balance bias*, typically stems from institutional problems in journalism, which include tight deadlines, reporters’ lack of knowledge about an issue, and a commercial desire to appeal to the median consumer (Boykoff & Boykoff, 2007; Carvalho & Burgess, 2005). Balance bias is especially prevalent in coverage of anthropogenic climate change, which the media often frames as politically and scientifically contentious, despite overwhelming scientific evidence indicating its existence. A 15-year study of leading U.S. newspapers revealed that over 52 percent of their climate change coverage “gave roughly equal attention” to views attributing global warming to human activity and views attributing it to natural climate fluctuations (Boykoff & Boykoff, 2004, 129). By amplifying political debate, the media justifies the scientifically dubious logic of anthropogenic climate change deniers (Boykoff, 2007).

*Recent trends in climate change coverage*

 Media attention to climate change has increased in recent years, though it is unclear to what extent it is still marked by significant biases. In a December 2018 survey, 56 percent of American respondents reported that they see media coverage of climate change at least once a month—a 13 percent increase from 2015 (Schwartz, 2019). Coverage of extreme weather increasingly references climate change, though only marginally so and with great variance based on the type of phenomenon (Carbon Omission, 2019). For example, the largest 50 U.S. newspapers by circulation mentioned climate change in 33 percent of articles about record or extreme heat in 2019—up from doing so 28 percent of the time in 2017. Meanwhile, 35 percent of drought coverage included a reference to climate change, while only seven percent of hurricane coverage did so. Both figures represent increases from 2017 levels, despite that year’s particularly intense hurricane season. Curiously, print media was more reluctant than online and broadcast news to link hurricanes and climate change, doing so in just five percent of cases in 2018 (up from three percent in 2017), versus 10 percent and eight percent, respectively. Additionally, only 13 percent of all climate change reporting in 2018 included potential solutions, with particularly low levels in print (eight percent) and broadcast (five percent) media.

One trend worth noting in the evolution of climate change coverage is a growing emphasis on its local impact. The analysis of British newspapers by Carvalho and Burgess cites two specific instances of widespread local, climate-related coverage: severe riverine flooding in 2000 and a 2003 heatwave across Europe (2005). In both cases, media reports established “causal links” between climate change and extreme weather. Moreover, a 2009 study observed a 10-percent increase in local coverage of climate change and a six-percent decrease in non-local coverage between a pair of three-year periods in the early 2000s (Smith & Joffe, 2009, p. 653).

The media may be paying more attention to climate change, but this does not mean that its coverage is suddenly devoid of bias. While it would be easy to conclude, for example, that increased coverage disproves the issue-attention cycle, this dynamic may instead reflect the fact that significant climate-related events like international conferences and reports are increasingly common (Boykoff, 2007). Media experts are still skeptical of rejecting the issue-attention cycle, citing significant drop-offs in coverage of significant climate reports from the IPCC and the Trump administration within days of their respective releases in 2018 (Hentz, 2018). Moreover, coverage of global warming through an international lens presents additional problems by insinuating that only a global solution is sufficient and thus disempowering regional and local authorities (Carvalho, 2005). Climate change coverage continues to be marked by dramatization bias, too. Even in the previously discussed coverage that cited “causal links” between climate change and extreme weather, the issue only garnered media attention after such events proved particularly disruptive—despite an abundance of pre-existing research demonstrating this relationship (Carvalho & Burgess, 2005, p. 1466).

In order to effectively examine the specific case of Hurricane Sandy, it is first necessary to explore how media coverage of climate change affects public awareness and risk perception of the issue and, in turn, influences political responses to it.

1. **Effects of media coverage on public awareness and political mobilization**

It is well-established that the public depends on the media for much of its general scientific knowledge (Boykoff & Boykoff, 2007; Nisbet et al., 2002). Even for specific environmental issues, the media plays a crucial role in identifying and interpreting such problems (Boykoff & Boykoff, 2007). This relationship appears to hold for climate change, with empirical evidence pointing to a correlation between coverage and public knowledge of the issue. When British print media coverage of climate change dropped off in the early 1990s, the public demonstrated less certainty about its existence and effects (Carvalho & Burgess, 2005). Research also indicates a similar correlation between the quantity of climate change coverage and public concern for climate change (Sampei & Aoyagi-Usui, 2014; Brulle et al., 2012).

As they dictate the frequency and framing of stories, first-order norms like personalization, dramatization, and novelty bias have a clear impact on public awareness—as demonstrated through the British print media. Second-order norms like authority-order and balance bias, meanwhile, are more likely to impact public *opinion* regarding climate change because they frame the cultural debate for media consumers. Just as people are more likely to trust and obey authority figures, most famously demonstrated in the Milgram experiment, research indicates that the public looks to political elites for ideological cues in forming their beliefs (Brulle et al., 2012). Authority-order bias thus elevates public officials’ often-uninformed opinions on climate change. This has particularly dangerous consequences when combined with balance bias: Elite disagreement begets political polarization and increased exposure to skeptical views of global warming likely raises public skepticism, especially among people with “limited cognitive skills” (Krosnick et al., 2006, p. 33).

Despite correlation, it is difficult to isolate any causal effect of media coverage of extreme weather on public opinion from the effect of extreme weather, itself. In a 1992 study of popular mobilization, Ungar points to past “social scares” like nuclear winter and ozone depletion as having driven social change and identifies the impacts of anthropogenic climate change as “good candidates” to do the same (p. 497). Extreme weather events, in particular, are likely to present social scares. For example, *Washington Post* reporter Juliet Eilperin concluded in 2005 that “[Hurricane] Katrina's destructiveness has given a sharp new edge to the ongoing debate over whether the United States should do more to curb greenhouse gas emissions linked to global warming” (Eilperin, 2005). It is especially difficult to distinguish between the impacts of extreme weather and of climate change reporting because the latter often directly follows the former due to personalization and dramatization bias. Without any temporal differences, the two factors are effectively impossible to isolate as independent variables.

In reality public perception of climate change is likely tied to a number of factors—not all of them rational. Krosnick et al. conclude that ideological beliefs about global warming are a function of both media content and personal experiences with weather conditions (2006). However, it is important to note that their research finds that the public typically relies on these sources to confirm, not shape, their beliefs. In evaluating the existence of global warming, people largely look to its perceived effects on sea level rise, food shortages, and species extinction rather than extreme weather. Nonetheless, research has demonstrated that political mobilization often results from high risk perception among the public, including in cases of ecological threats (Kraft, 1991). As such, journalists play an indirect, yet powerful, role in producing social change.

1. **Data**

 Given that Americans pay attention to local news almost as much as they do to national news and that public attitudes seem to be most malleable to issues that are framed locally (and thus, personally), it seems relevant to consider how local media reports on climate change in order to gauge the potential for social mobilization (Mitchell et al., 2018). This potential seems even greater when considering that Americans display significantly higher levels of trust in local journalism than they do in national journalism and that Americans rely heavily on local media for weather coverage—where they are likely to encounter the effects of climate change (Lakshmanan, 2018; For Local News, 2019). While a recent Pew Research Center survey reveals that people consume local broadcast news more than any other local media source, this analysis will focus solely on local print media due to the accessibility of analyzing newspaper articles, compared to television broadcasts (For Local News, 2019).

Hurricane Sandy, which caused billions of dollars in damages to the New York metropolitan area in October 2012, provides a case study for how print media covers climate change.

*Methodology*

This analysis considers articles from three of the New York metropolitan area’s largest newspapers by circulation: *The New York Times* (2012 non-Sunday print circulation: 717,513), *The New York Daily News* (383,835) and *The New York Post* (344,755) (Moos, 2012; Greco, 2014, p. 98-9). Since all three newspapers have a significant online readership that transcends the New York metro area, print circulation figures are used to approximate their regional prominence. LexisNexis’ Nexis Uni database was used to identify articles mentioning *Hurricane Sandy*[[2]](#footnote-2) as well as articles mentioning both *Hurricane Sandy* and *climate change*.[[3]](#footnote-3) Despite having a larger circulation than any of the aforementioned newspapers, *The Wall Street Journal* (2012 non-Sunday print circulation: 1,499,204) does not make the full text of its articles available through Nexis Uni and is thus excluded from this analysis (Greco, 2014, p. 98-9).

Articles are grouped into three arbitrary time periods that serve to present temporal trends in media coverage. The first or ‘immediate’ period comprises articles published between the storm’s formation on October 22, 2012 and one week after it made landfall in the New York metropolitan area, November 5, 2012. The second or ‘intermediate’ period includes articles published between November 6 and November 22, 2012—one month after the storm’s formation. The third or ‘long-term’ period comprises all articles published between November 23, 2012 and April 30, 2019.

*Results*

Across all three intervals, *The New York Times* leads the trio of publications in both the quantity and share of Hurricane Sandy coverage that discussed climate change. In the immediate period, 6.1 percent of *Times* articles about Hurricane Sandy mention climate change, compared to 4.1 percent and 1.4 percent of *Daily News* and *Post* articles, respectively. For the intermediate period, 5.6 percent of the *Times*’ Hurricane Sandy coverage discusses climate change, versus 1.7 and 3.4 percent of *Daily News* and *Post* coverage, respectively. In the long-term period, 10.4 percent of *Times* articles about Hurricane Sandy also bring up climate change, versus 2.2 percent and 1.0 percent of *Daily News* and *Post* articles, respectively. (see Figure 1)

The aggregate data reveals that during the first interval, climate change is mentioned in 4.2 percent of articles about Hurricane Sandy. Meanwhile, in the ‘intermediate’ period, 4.0 percent of relevant articles refer to climate change in some way. Finally, 6.1 percent of ‘long-term’ Hurricane Sandy coverage mention climate change. This data indicates a slight dip in Hurricane Sandy coverage referring to climate change before that portion rose again. When aggregated, 5.8 percent of all articles reference climate change in some way (see Figure 2).

*Figure 1: Stratified coverage*

|  |  |  |  |
| --- | --- | --- | --- |
|  | NY TIMES | NY dAILY NEWS | NY POST |
| IMMEDIATE | 19 / 310 | 5 / 123 | 3 / 209 |
|  | *6.1%* | *4.1%* | *1.4%* |
|  |  |  |  |
| Intermediate | 24 / 428 | 4 / 234 | 9 / 261 |
|  | *5.6%* | *1.7%* | *3.4%* |
|  |  |  |  |
| Long term | 362 / 3470 | 48 / 2140 | 13 / 1248 |
|  | *10.4%* | *2.2%* | *1.0%* |

*Figure 2: Aggregate coverage*

|  |  |
| --- | --- |
|  | ALL ARTICLES |
| IMMEDIATE | 27 / 642 |
|  | *4.2%* |
|  |  |
| Intermediate | 37 / 923 |
|  | *4.0%* |
|  |  |
| Long term | 423 / 6858 |
|  | *6.17%* |
|  |  |
| tOTAL | 487 / 8423 |
|  | *5.8%* |

A qualitative review of these newspapers’ Hurricane Sandy coverage reveals many of the biases common in all climate change reporting, with authority-order bias and balance bias particularly prevalent. Politicians commanded acute media attention in the storm’s immediate aftermath for their comments framing it in the context of climate change, despite climate scientists’ reticence on the subject (Kahn, 2012). New York Governor Andrew Cuomo called Hurricane Sandy a “wake-up call” to climate change-induced extreme weather, writing in the *New York Daily News* on November 15 that “The denial and deliberation from extremists on both sides about the causes of climate change are distracting us from addressing its inarguable effects” (NYS Executive Chamber, 2012; Cuomo, 2012). New York City Mayor Michael Bloomberg hesitated to directly attribute the storm to climate change but wrote in an op-ed that “the risk that it might be [connected]—given this week's devastation—should compel all elected leaders to take immediate action” (2012). Bloomberg later introduced a $20 billion plan to adapt New York’s infrastructure to extreme weather (Russ, 2013). Meanwhile, New Jersey Governor Chris Christie stated in May 2013 that, “[He didn’t] think there’s been any proof thus far that Sandy was caused by climate change” (Gonzalez, 2013).

1. **Discussion**

 The aggregate data reveals that 5.8 percent of all articles about Hurricane Sandy from three major newspapers in the New York metropolitan area reference climate change. This figure is largely consistent with the conclusions of the aforementioned Public Citizen study that eight percent of all 2018 hurricane coverage also discussed climate change and that five percent of print media coverage did so (Carbon Omission, 2019). Despite industry trends showing that reports on climate change have risen steadily in recent years, *The New York Times* is the only one of the three newspapers examined to exhibit a significant increase in the share of its Hurricane Sandy coverage that discussed climate change.

It is difficult, however, to draw conclusions about the scale of climate change coverage from the data due to a number of idiosyncratic factors that cannot be universalized. For one, this study analyzes articles from an interval of seven years. It is probable that media coverage, regardless of the issue, concentrates on varying elements as new information is introduced and fluctuates over time due to phenomena like the issue-attention cycle. Several factors intrinsic to Hurricane Sandy further make it a poor case study for extrapolation. Based on the size of the metropolitan area and low frequency of powerful hurricanes in the Northeast United States, the storm evoked an outsized, and likely abnormal, media response—its strength may have also altered coverage by disrupting New York-based media organizations (Mirkinson, 2012; Haughney & Stelter, 2012). Moreover, as the region is largely represented by progressive politicians who are more likely to draw a link between Hurricane Sandy and climate change, media coverage of both subjects may be higher than in other circumstances.

Nonetheless, it remains important to hypothesize whether media coverage of the storm had an impact on public awareness and risk perception of climate change. It is the belief of veteran journalist Dale Willman that, “In terms of agenda-setting, the media don’t tell people what to think, but they tell them what to think about” (Boykoff, 2007, p. 484). However, recent studies have suggested that media coverage of climate change is correlated with public concern for it. Moreover, such coverage invites sympathy and likely makes a greater impression on news consumers when it shows how climate change affects their own community, rather than an impersonal location. This literature suggests that based on the high concentration of media outlets in the New York market and Hurricane Sandy’s unusual strength for the region, the storm presented a powerful opportunity for *The New York Times*, *The New York Daily News*, and *The New York Post* to accurately and holistically inform their readers about the dangerous effects of climate change, thus empowering them to effect political change. With just six percent of their storm coverage referencing climate change, they largely failed to do so.

Even ignoring the biases that plague all climate change reporting, the impact on public opinion of these publications’ failure to cover the climate change aspect of Hurricane Sandy is particularly difficult to characterize due to a number of factors. For one, this analysis included any article that mentions both Hurricane Sandy and climate change, but it is unclear whether traditional, ideologically neutral news articles have a different impact than editorials and op-eds on public opinion. Finally, while this analysis focused on print journalism purely for the efficacy of media analysis tools like Nexis Uni, newspaper readers do not reflect national demographics. For one, only 13 percent of New York area respondents to a recent Pew Research survey listed print media as their preferred news source (What are the Local Dynamics, 2019). Additionally, newspaper readers tend to be older and have lived in their current place of residence longer than the average American—they may also be wealthier, though this has not been conclusively proven (Malthouse & Calder, 2006). As people often use media reports to confirm, rather than inform, their beliefs, the small share and demographic skew of newspaper readers make their opinions vis-à-vis climate change particularly unrepresentative of all media consumers.

1. **Conclusion**

 Political mobilization for more effective climate change policies is ultimately contingent on a number of factors. In their research into public opinion on climate change, Irene Lorenzoni and Nick Pidgeon conclude that:

A risk communication strategy based on providing scientifically sound information alone … will not be sufficient in itself. Perceptions of climate change are more complex, defined by varied conceptualizations of agency, responsibility and trust. Successful action is only likely to take place if individuals feel they can and should make a difference, and if it is firmly based upon the trust placed in government and institutional capabilities for adequately managing risks and delivering the means to achieve change (Lorenzoni & Pidgeon, 2006, p. 77).

Nonetheless, this analysis has revealed that a) the media has a powerful, if indirect, force behind popular mobilization through its influence on issue awareness, and b) it has largely failed to achieve this influence as it relates to climate change due to harmful, recurring biases in its coverage. The case study of Hurricane Sandy largely reflects this dynamic, as the local media did not frame the storm in the context of an anthropogenic climate change-induced trend of increasingly dangerous extreme weather events—and when it did, fundamental flaws in its coverage likely limited, nullified, or even reversed its impact. For the media to realize its full potential, holding powerful actors accountable and empowering citizens, it must reject these harmful tendencies and instead provide accurate, deliberate climate reporting. If the scientific community is right, it will have many more opportunities to do so.

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2. Terms included: *Hurricane Sandy*, *Superstorm Sandy*, *Tropical Storm Sandy* [↑](#footnote-ref-2)
3. Terms included: *climate change*, *global warming* [↑](#footnote-ref-3)