Protecting the Gulf: Climate change coverage in GCC print media

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Cogent Arts & Humanities (2016), 3: 1212690
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Abstract: This paper explores the range and type of coverage that climate change has received over a five-year period in the English-language press in the six member countries of the Gulf Cooperation Council (GCC), namely Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. Using a coding scheme that has been successfully employed in previous research, the coverage is examined based on several factors, for example, the dominant frame of the story, the number of stories and word count, which sources are quoted, and whether or not blame is attributed. As the salience of the issue ebbs and flows in the world press and for global populations, examining coverage in the regional press of supranational organizations (such as the EU, ASEAN, and the GCC) represents another interesting avenue for research as the potential for future conflict among nations resulting from climate change becomes more of a reality. Results show that climate change receives varied coverage in the Gulf press; researchers and government officials tend to be used as sources; roughly half of the sampled articles mention risks and discuss potential solutions. The stories tend to revolve around energy, conservation, and weather-related topics, while at the same time approximately half mention “man” as to blame for the problem.

Subjects: Environmental Communication; Journalism & Professional Media; Media & Communications

Keywords: media; environment; climate change; GCC; media framing

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PUBLIC INTEREST STATEMENT
This paper explores the range and type of coverage that climate change has received over a five-year period in the English-language press of the Gulf Cooperation Council (GCC). The coverage is examined based on several factors, for example, the dominant frame within the story, the sheer number of stories, which sources are quoted, and whether or not blame is attributed. As the salience of the issue ebbs and flows in the world press and for global populations, examining coverage in the regional press of supranational organizations (such as the EU, ASEAN, and the GCC) represents another interesting avenue for research. Climate change receives varied coverage in the Gulf press; researchers and government officials are used as sources; roughly half of the articles mention “risks” and discuss potential “solutions”. The stories tend to revolve around energy, conservation, and weather-related topics, approximately half mention “man” as to blame for the problem.
1. Introduction

There are no shortages of news reports and academic papers on the subject of climate change and the media. The amount of information being generated can be overwhelming to anyone attempting to wade into the subject matter. The current paper seeks to join the conversation in one small way by presenting data unique to a region and supranational organization whose media has only recently begun being explored and analyzed in greater depth: the Arabian/Persian Gulf and the Gulf Cooperation Council (GCC). Interestingly, the acronym for this supranational organization “GCC” is also often used as representative of the problem faced: global climate change. While we are learning more about how the media represent environmental issues in North America and Europe, even Oceania, and what this means for the respective societies, we do not yet have critical information from a region arguably closest to the heart of the matter. This study has the goal of shedding light on how this important topic is treated in this principal region’s print media.

1.1. Climate change as news

The issue of climate change is undoubtedly one of the most important that humankind has faced. Yet as important as it is, it is merely one of hundreds of news items that may or may not be regularly reported in the news media. How the issue is treated in the press is a relevant inquiry to make, as research clearly indicates that an issue’s salience in the media can translate directly into relevance in people’s minds (e.g. agenda-setting research). We also know that media coverage is also linked to more than just awareness of a topic, and it can also have an effect on policy debates and attitudes among audiences for example (Carvalho & Burgess, 2005).

We know that because climate change is difficult for one person to openly observe, and specific weather events and other environmental news items are not always directly linked to the larger issue of climate change, the ways that media stories are written or produced vary considerably and depend largely on media workers making explicit connections and reporting such through their outlets. However, the business of mediated news and the routines that have developed tend to favor certain kinds of coverage vs. others in the media. That is to say, news producers look for specific crises, or spectacular events, often utilizing an episodic lens through which stories may be relayed to audiences. A specific list of news values has been offered that takes into account aspects to every story and the likelihood that it will or will not make it into the day’s news cycle. This ties in with gatekeeping theory, which again, gives us insight into which items make it into the news and which do not (for more on gatekeeping see Shoemaker & Vos, 2009). If there is no specific event, then the topic will be less likely to receive coverage in the media. The issue of climate change may be important in the long term, but it may not receive ample coverage in the immediate short term. As a result, and regardless of Al Gore’s (Guggenheim, 2006) and Leonardo DiCaprio’s efforts (Conners et al., 2008), the salience of global climate change may be reduced for the public who are likely dealing with more pressing issues, or things that are more immediately impactful on their lives; even the shift of presidential attention to issues such as jobs and the economy over climate change highlights this situation (see Nisbet, 2009).

The media’s attention to the problem of climate change varies considerably, with many factors responsible for such variance (Anderson, 2009; Boykoff, 2011; Shehata & Hopmann, 2012). One study found that coverage was events-based in France, whereas in the USA, “conflicts between scientists and politicians” (Brossard, Shanahan, & McComas, 2004, p. 359) received more emphasis. Coinciding with this, other studies have suggested that over the years, scientists were quoted less, and politicians more, as the topic became politicized. Another suggested that the issue of climate change was too abstract, that journalists did not have the proper background to assess the details, that there was a false sense of balance in the reports, and that scientists were not providing jargon-free language so that journalists and the public might easily understand the issue (Aram, 2011).

The topic may become relevant to news outfits when the issue is addressed in some way by government or supranational body officials, who may be dealing with incidences or policies that are linked to climate change. So besides having actual events occurring naturally in the environment,
which is likely to be covered, we may see elites or organizations raising the issue and thus drawing news attention, for example by commissioning and issuing an environmental impact report (e.g. Strategic planning will focus on climate change, 2010). Schäfer, Ivanova, and Schmidt (2014), for instance, indicated that international climate summits and agenda-building efforts of NGOs had a strong impact on issue attention, more so than weather events. This is likely also the case in the Gulf region where newspapers engage in a type of protocol journalism practicing “non-adversarial forms of journalism common in Gulf states, relying heavily on protocol news and content supplied by government and corporations” (Reinisch, 2010, n.p.), which emphasizes the importance of covering official activities and pronouncements (usually government-driven). Pejman called this type of writing “receive and see-off journalism” (2009, p. 5). Again, research has shown that coverage can lead to increased awareness of—if not always action upon—an issue. At the same time, the public relations literature informs us that actors are more and more able to recognize that getting out in front of an issue allows potentially for greater control of the narrative surrounding any story. That is to say, if an official of the GCC issues a press release, they are able to address the issue, while at the same time encourage a specific kind of coverage on the subject (i.e. the frame).

While a given country may not see a need to address or take immediate action on an issue prompted by climate change, another country may be suffering the consequences of inaction. As a result of competition for and protection of natural resources, and the potentials for one country’s policies to impact another, supranational organizations are becoming increasingly relevant in dealing with matters of regional and international dealings, including climate change.

1.2. The study’s questions
The current research paper aims to enter into the dialogue on climate change by providing a frame-based, descriptive analysis of climate change coverage in the print media of the GCC countries. The paper explores the range and type of coverage that climate change has received longitudinally over a five-year period in the English-language newspapers of the six member countries of the GCC, namely Bahrain, Kuwait, Oman, Saudi Arabia, Qatar, and the United Arab Emirates. In compiling this account, the issue of climate change coverage in these countries can be considered and potentially compared to other nations and regions, and may be useful for other studies investigating climate change from similar and differing perspectives. The power of comparison lies in the examination of the coverage among the six GCC countries. Previously, Eskjaer used a “comparative regional approach” (Fugl Eskjaer, 2009, p. 358) to look at newspaper coverage of climate change in Danish and Middle Eastern newspapers—finding that the “vast majority of articles on climate change are viewed from the perspective of international politics” (p. 361).

While there is a growing acknowledgment that scholars must relate content analysis with audience reactions and policy decisions (Boykoff & Goodman, 2013; Howland, Becker, & Prelli, 2006; Olausson, 2011), the current paper has only a limited scope—to examine one important element, the newspaper coverage of climate change. Its original contribution is in the media that are reviewed and compared: English-language newspapers in the Gulf region. The research questions are as follows:

RQ1: What kind of coverage does the topic of climate change receive in GCC newspapers?

The first research question addresses the core issue of how climate change has been covered and portrayed in the Gulf region. Moving beyond the descriptive information, which is in itself important, we wanted to uncover the types of frames and meanings in the media discourse on environmental matters in the region. After taking into consideration other literature (Neuman, Just, & Crigler, 1992; Semetko & Valkenburg, 2000; Trumbo, 1996; Valkenburg, Semetko, & de Vreese, 1999), it was decided to use Trumbo’s (1996) classifications to (1) identify four frame types: problems, causes, judgments, and remedies. We also take the examination further by coding for the (2) narrative news content category (Bosompra, 1989; Bush, 1960); further what (3) environmental category they fell into (McGeachy, 1989; Rubin & Sachs, 1973). We were also interested in whether or not the
degree to which the articles contained any (4) “risk” messages (categories adopted from McGeachy, 1989); previous studies have found that risk messages have been “chosen and shaped by journalists on the basis of their own exigencies” (Wakefield & Elliott, 2003, p. 216). All of these elements tell us additionally about the frame or at the least shed light on the way the topic is covered. Moreover, investigating these items contributed to our ability to answer the remaining questions.

There are some different suggestions regarding how to go about determining the frames of news articles, the interpretive commentary be it latent or manifest beside the informational content of the news article. Hertog and McLeod (2001) cautioned that too often scholars are generating “a unique set of frames for every study” (p. 151). We wanted to accept this counsel and follow closely the taxonomies that have been previously suggested. We also wanted to take advantage of the conditions mentioned in previous literature to augment the coding scheme and fully examine the articles and potentially develop a summarizing path for article exploration on this topic. Originally, we wanted to examine whether stories followed more thematic or episodic frames; however, once we decided to gather articles using the keyword “climate change”, it was determined that the nature of the term itself would mean that articles would probably have a tendency to lean toward the thematic because the concept of climate change is inherently linked to a more general “big picture” context. In fact, Tillinghast and McCann (2013) found just that in their examination of four magazines’ coverage—over a twenty year period, it shifted from being episodic to thematic.

**RQ2: Do the articles list risks and/or solutions that are related to climate change?**

A number of climate change articles have examined the issue of risk assessment and uncertainty in relation to climate change (Greenberg, Sachsman, Sandman, & Salomone, 1989; Painter, 2013; Smith, 2005). This research question addresses that issue in this study to add to our understanding of this area in the research literature.

**RQ3: What types of sources, if any, do the newspapers utilize?**

One of the more prominent discussions within framing (and notably public relations) research is the degree to which sources influence the messages and themes that are found in news stories, especially if the sources are directly quoted. The pattern is clear: Sources are indeed able to influence news stories, and they can become linked to certain frames. For example, Trumbo (1996) discovered that on the issue of climate change: “scientists tend to be associated with frames emphasizing problems and causes, while politicians and special interests tend to be associated with frames emphasizing judgments and remedies” (p. 269). We must also note that sources are not always quoted accurately or in context (Bell, 1994), but the kinds of sources represent an important element in shaping coverage patterns.

We created our source categories based on the information provided by Trumbo (1996) and McGeachy (1989). Trumbo referred to sources as “claims-makers” and identified the following: “university scientists, government scientists, other scientists, Congresspersons, Presidential administrations, officials of other nations, environmental interest groups, and business and industry groups” (p. 272). McGeachy referenced nine classifications from Sandman (1986) and added two categories for sources that were loosely similar to Trumbo (1996), with the possible exception of experts or authors (we might include scientists here, but it could also be non-scientists—for example, media pundits), ordinary citizens, unattributed or mixed, and historical figures; this included people who “were no longer alive but whose writings or observations are referred to in the article as a source” (McGeachy, 1989, p. 8). Ultimately, we ended up with five categories in this study.

**RQ4: Do the newspaper stories assess blame for climate change, and if so, who or what do they blame?**
Understanding that the media are a product of the society in which they evolve, we are interested in comparisons among the GCC nations’ newspapers in terms of the coverage of climate change. Do the articles place blame on other countries, companies, or organizations or do they represent climate change as caused by mankind (i.e. Anthropocene epoch)?

2. Literature review

While there is no shortage of research concerning the topic of climate change media coverage in North America and Europe, as well as Oceania, as mentioned, research into this topic and the media located in the Middle East has not yet received a lot of attention. This is changing as more communication programs enter into the Arab world, and media researchers turn their eye to the region (Khatib, 2014). However, given the copious amounts of writing overall on the subject, the previous literature provides ample direction for this study. This study’s original contribution is to shed light on coverage of the topic in the GCC countries’ newspapers, to allow for greater insights into how the topic is being covered in these countries, and to make some preliminary observations and allow for future comparisons. It joins a growing research body that has actively investigated newspaper coverage of climate change (Dotson, Jacobson, Kaid, & Carlton, 2012; Lee & Chen, 2013; Liu, Vedlitz, & Alston, 2008; Mercado, 2012).

What we know so far concerning climate change and specifically how the issue is typically being dealt with in the media could fill several encyclopedias (in fact, see Robbins, 2007). The areas of research relating to this are quite large so that even providing a cursory review is challenging and certainly beyond the scope of any one study. There are, however, a number of studies that inform the current paper and its narrow objective: to consider GCC newspaper coverage of climate change. Several studies provided the insights as to which content categories, and other variables, would be necessary to examine in order to uncover and document the nature of the coverage.

2.1. Framing research

The manner in which the topic of climate change is portrayed is largely based on the language used in stories (Makwanya, 2010). The construction of a narrative in a news story is referred to as the “frame” of a story. Framing research has a long tradition in the mass communications research and still generates vibrant discussions as to its application and outcomes (for more see David, Atun, Fille, & Monterola, 2011; Entman, 1993; Matthes, 2009; Scheufele, 1999). Media framing as an approach has been utilized in examining environmental issues topics, from proposed nuclear reactors (Culley & Angelique, 2010) to global warming (Olausson, 2009). It is relevant here because the way a story “frames” an environmental issue is important on a number of levels (Nisbet, 2009). First, it can tell us how a country or organization views the topic on a rudimentary level—based on the information they release on the subject. Second, we can make guesses as to the importance based on the amount of coverage that appears, or is allowed to appear, in the media. Finally, it may also inform us about how the society feels about the issue—if there is feedback in the media channels—or again if the coverage increases due to a perceived desire on behalf of the media audience to have more of such coverage.

2.2. The GCC and climate change

The GCC was formed in May of 1981 in an effort to foster greater cooperation among its six member countries: Bahrain, Qatar, Saudi Arabia, Kuwait, The UAE, and Oman. In the process, this supranational organization has created a Gulf identity for its members distinct from the wider Arab world of which it is also a part (Legrenzi, 2008). The GCC countries “are politically, economically, and geographically connected and ... their economies are principally dependent on oil production for their sustained economic prosperity ... the oil sector accounts for 44 percent of the G.C.C. countries GDP and 81 percent of total exports” (Osman, 2011, p. 33). Moreover, to some degree or another, these largely rentier states have suggested a need to eventually wean their economies off of a reliance on oil exports. Four of the countries (Qatar, UAE, Kuwait, and Saudi Arabia) are members of Organization of the Petroleum Exporting Countries (OPEC), which was founded in 1960. All of the countries are also members of the Arab League, established in Cairo in 1945. Much has been written about the GCC
and its member countries; for example, Ulrichsen wrote about how this supranational organization is becoming more interested and active “in changing the balance of global power” (Coates Ulrichsen, 2011, p. 232). So it is fair to say that the GCC countries are looking to “punch above their weight class” when it comes to world affairs.

Though we do not often hear of the impacts of climate change on the Gulf region in media reports, there certainly are a number of problems that climate change is creating in the Gulf. We do more frequently hear that the burning of fossil fuels directly contributes to global climate change. Thus, these oil-producing countries, and the supranational organizations to which they belong, are usually mentioned in world news reports and academic papers in relation to their oil-related activities and the negative impact they have on the environment. The GCC is certainly aware of these realities (both media and environmental) and has taken steps in recent years to address them—often through a combination of policy initiatives (Pamell, 2012) and public relations efforts (Four GCC countries, 2012).

Various other reports have indicated the concern of climate change impact on the Gulf. Luomi (2012) has written the most comprehensive volume on the subject, stating that the “GCC states’ environment [is] under stress” (2013, p. 1). Not only regarding environmental damage, but also in terms of the security issues raised (Detraz, 2011). Russell has written about security concerns in the Gulf regarding climate change, stating for example, that “the baseline of renewable fresh-water availability in today’s Gulf is already an environmental crisis” (Russell, 2009, p. 91). Evans wrote about climate change in the Middle East indicating that the “combination of a stressed fresh water resource and rapid population growth, substantially increases the vulnerability of the region to future climate change” (Evans, 2009, p. 418).

Given the increased concern prompted by environmental issues, as well as the growing desire of the GCC countries to engage on world issues, examining how their newspapers are treating the topic of global climate change is of import.

2.3. Arab world journalism and the Gulf

Another area of note is the trade of journalism and how it is practiced in the Arab world and the Gulf region. We know that individual media workers have an influence on media content as do the routines they learn to follow (Shoemaker & Reese, 1996). Here, we are fortunate to have several works that provide crucial insight into the profession of journalism in the Arab world (Amin, 2002; Hussein, 2002; Mellor, 2009; Pintak & Ginges, 2008) and the Gulf (Duffy, 2013, 2014). We know more about the newspapers (Gonen, 2014) and even specifically the evolving approach to environmental news coverage in the UAE (Reinisch, 2010), one of the GCC countries. Tolba and Saab (2009) have indicated the lack of qualified environmental reporters in the Arab world’s newspapers, though this is certainly true in other parts of the world and is not unique to the Arab world (see McIlwaine, 2013; Vesterågd, 2011; Wilson, 2000). Reinisch indicated that “[g]enerally speaking, environmental and science reporting do not rank high among the editorial priorities and newsroom hierarchies across the Arab world” (2010, n. p.). We must be careful in relating information collected in the Arab world to the experiences of English-language newspapers in the Gulf region, as much may not directly translate. However, many of the insights have considerable value and, absent other specific information, are relevant to note and include.

Pejman (2009) has suggested that the English-language newspapers may have started out just doing basic news coverage and re-reporting of government press releases; however, in more recent years, the papers realize that they need to do better journalism in order to stay relevant in the market. If this is so, then we might expect that climate change would receive fair and frequent coverage as the years progress(ed).
3. Method

The examination of newspaper content in mass communications research is one of the most prominent techniques utilized in the field. Dozens of studies have been performed specifically looking at the issue of climate change in print media (e.g. Debrett, 2011; Dotson et al., 2012; Good, 2008; Lee & Chen, 2013; Mercado, 2012; Tillinghast & McCann, 2013; Young & Dugas, 2011). The written words of newspapers are often readily available as they have typically been archived for many years—and so researchers have access to these discrete issues of media information going back decades or longer. While newspapers in the Gulf region are also being archived, it is not the case for all of the papers. Many of the newspapers, and certainly this applies to the English-language ones, are relatively recent endeavors, and even when they are being archived in some manner, it is still not a guarantee that they will have instant, unfettered access via an online database. Thus, the decision as to which newspapers would be included in the study was forced in a way, simply by noting which newspapers were accessible.

To assess the nature of newspaper coverage of environmental issues, the study examined ten (10) articles per year from six (6) newspapers, one from each of the GCC countries, over a five-year time period, 2009–2013. This resulted in a total of 300 articles coded for analysis in answering the study’s research questions. The newspaper articles were sampled by searching the Factiva and Lexis Nexus databases using the keywords of “climate change” and “global warming”. Because the first research question was interested in describing the overall coverage of the topic of climate change over the five-year period, the number of non-repeated “hits” or results was used to determine one way to begin to answer this research question, which is to say, overall how many articles were written concerning the issue of climate change or global warming in these six newspapers. While the simple number of stories does not provide tremendous insight into coverage in a detailed way—it does allow us to take a general snapshot of the aggregate numbers, again this is one way to start to answer the first research question concerning the nature of coverage. It is worth to note that climate change and global warming are not the same concepts, however, they are closely related, and in terms of media coverage, these two keywords offer one plausible way to search for relevant articles, as others have noted (Dotson et al., 2012).

Initially, a two constructed-week approach was attempted for the sampling of the newspapers. This sampling method has received the most amount of attention with regard to similar analyses involving newspaper content. For this study, however, due to the targeted nature and limited number of articles available in some years, the constructed-week sampling method would not have worked. So it was decided that for each year, the most relevant articles (returned based on the keyword searches) became those that were used for the coding. That is to say, the articles that were ultimately selected represented the top ten with the largest percentage of relevance given the search terms used. In this way, there was greater assurance that the articles being coded were definitively dealing with the subject of climate change. In addition, it should be noted that the number ten was also important because it represented the lowest number of relevant articles for one of the newspapers in one of the years (Qatar’s Tribune). In this way, the number 10 was the minimum that could be assured across all the papers for the years in question. Ideally, the two constructed-week method should be employed; it is just that it would not have worked out for this study.

Using a manual coding scheme that has been successfully employed in previous research, newspaper article text was examined and categorized based on several factors (mentioned in the previous chapter), for example, the number of stories and word counts, the main narrative news category found in climate change articles, the specific environmental issue(s) addressed, the dominant frame found within the story (i.e. problems to solutions), how many and what type of sources were used (e.g. male or female; government, business or activist), whether or not solutions (i.e. individual or society-based), or risks (i.e. mentioned, not mentioned, or stressed) were stated, and if blame (i.e. none, nature, our country, another country) was attributed in the newspaper articles.
Initially, the intercoder agreement was around 70% during the pilot test on articles that were drawn from outside the years examined in the study (2007 and 2014). On the second go-round, the agreement stood at 72%. After further discussion, and consultation with the literature, we revised two of the categories (narrative news category and environmental category) where disagreement often stemmed, and the agreement rate on the third round then rose to 90%. The coding then commenced on the studies sampled articles.

3.1. The sampled newspapers

One of the limitations of the study is the use of English-language newspapers; another is the specific papers selected were those that were archived online. Their use is justified on the grounds that they were available (not all papers are) and that English-language papers can still provide an insight into the country’s thinking about certain topics. Freeman (2012) has written previously on the unique characteristics of English-language papers in Southeast Asia, and many of the points are valid for the current use of such papers. Among the points is that these papers offer a glimpse into how the country’s leaders view a topic because many of the sources are likely to be from the government. In a way, these papers may be considered similarly to international shortwave radio stations in the past, in terms of their attempt to put their best foot forward for their neighbors. It is possible for an individual writer to inject information into a story that may be on the borders of what might be deemed acceptable by the authorities, whether intentional or not, that allows a media literate reader to gain more insight into a situation. This scenario is probably not common but certainly could happen. As with other developing countries, the theme of nation-building and economic prosperity are often used as explanation for why the government watches the press so closely (George, 2007), and subsequently why the press comes to self-regulate as well.

There is not too much known about the English-language newspapers in the Gulf region, beyond what one might guess—they hire those who can write in English, and this would mean that they employ expats with experience likely brought from their home countries. Ostensibly, while these professionals bring a lot of experience to their work, they are also likely cognizant of the working environment in which they find themselves, and it would be unlikely that they would blatantly push the boundaries of accepted local practices. In the country of the United Arab Emirates, the paper selected was the *Khaleej Times*, Khaleej being the Arabic word for Gulf. This newspaper was founded in 1978 and is considered to have the highest circulation for an English-language newspaper in the Gulf. It has 180 employees, most of whom are of Indian and Pakistani origin. In Kuwait, *The Kuwait Times* was selected. This paper was the first English-language paper in the Gulf region having launched in 1961. It consists of roughly 36 pages for its daily edition. In Oman, *The Times of Oman* was the paper examined. This paper has roughly 52 pages for its daily edition. In Bahrain the newspaper selected was *The Gulf Daily News*, which was for a time the only English-language newspaper in the country. According to the newspaper’s Web site, it targets the expat community of Americans, British, Filipinos, Pakistanis, and Indians. The *Qatar Tribune*, with main offices in Doha, has its slogan on its Web site: “First with the news and what’s behind it.” It operates both a print and e-paper and is published by Qatar Information and Marketing (QIM). The *Qatar Tribune* was founded in 2006 and claims a “readership of 15,000 issues daily” and “caters to the entire nation including locals and expatriates who understand English” (LinkedIn, 2014). In Saudi Arabia, the *Arab News* was analyzed, founded in 1975 as Saudi Arabia’s first English-language newspaper.

4. Results and findings

In attempting to answer research question one (RQ1), articles were coded according to word count, providing an indication of how detailed the story would be, as well as placement into narrative news categories, which give us an indication of how the overall story is treated. The specific environmental category of the main topic of the story was also ascertained, so as to allow us to discover which environmental topics are of most concern in the GCC countries as indicated by the coverage. On all categories, intercoder agreement was above 80% (with numbers reported in the respective sections).
Figure 1 provides the first information gathered in the effort to answer the first research question, which was purposely broad to examine how the issue of climate change has been covered in these countries. The results of the keyword search give us an indication, and in looking at the figure, it can be seen that the amount of coverage in the newspapers varies considerably. There are several items worth noting when considering this figure. First, Qatar’s paper had the least number of stories concerning climate change. There is a spike in stories in 2012, and the reason seems to be because there was an “expert” on the topic at a local university who was sourced in the majority of the stories that appeared. However, the effect seemed only to occur in a one-year period. Another noticeable change is how Bahrain’s newspaper reduced coverage in the latter three years, while in the UAE, coverage went up. Qatar’s paper had the least coverage, and Kuwait had the most during this five-year period. Finally, it is fair to say that coverage has not been consistent in any of the six newspapers.

Related to answering RQ1 is the issue of the narrative news categories of the articles (Figure 2). Here, we see two categories dominate, as many of the stories revolved around either science or educational aspects of climate change or on the other hand stories dealing with policies or international relations as related to the issue. At first, the study employed several separate categories. However, it was difficult to gain intercoder reliability (70% agreement). The categories had been suggested by several previous research studies. Ultimately, however, we needed to combine the list into essentially three main catch-all categories, with a miscellaneous fourth category. This allowed us to gain better intercoder reliability (90% simple agreement; Scott’s Pi of .86); at the same time, there is still enough distinction among the three remaining categories for the variable to have merit.

We also coded for the specific environmental category for the sampled news articles. Initially, and again based on the literature, this study employed ten specific categories to catch the environmental issues being written about in the stories. We coded for up to three environmental
issues in any given article, which created a problem for judging intercoder agreement. However, a trend emerged during the coding process in that three categories dominated the rest among all six newspapers: managing energy resources, land/resource conservation, and weather-related events (Figure 3). Coding with these four categories led to greater agreement (95%).

The stories’ dominant frames are posted in Figure 4. Researchers have come up with different classifications for frames, making it difficult to decide how best to classify the various discussions and methods that have developed relating to climate change. Urry (2011), for example, suggested that three discourses are most prevalent concerning climate change: skepticism, gradualism, and catastrophism. For this study, we chose four a priori frames through which to analyze the stories: problems, causes, judgments, and remedies (as suggested by Trumbo, 1996).

We also coded for solutions (if mentioned in the articles—Figure 5) as well as risk assessments (Figure 6) in order to answer research question two (RQ2). Again, these aspects of climate change coverage were suggested by previous research which has taken a look at these issues in relation to media climate change coverage. The takeaway here is that causes are not likely to be mentioned in the GCC newspaper articles. At the same time, there is a host of remedies or solutions discussed in the articles. The majority of the solutions revolved around international treaties and national policies. Individuals and companies were rarely mentioned in terms of being part of the solution to the issue.

On the issue of whom the newspapers go to when they are seeking quotes for their stories revolving around the topic of climate change, Figure 7 represents the sources who were called upon to speak on the matter. This information speaks to research question three (RQ3). Trumbo found that sources had an impact in how the readers perceived an issue, reporting that “[r]esults of the analysis show that scientists tend to be associated with frames emphasizing problems and causes, while
Figure 5. Solution types mentioned in GCC newspaper articles dealing with climate change, 2009–2013.

Notes: N = 300. Articles were coded according to five main solution types as suggested by previous research. Articles were purposively sampled from six GCC newspapers. Search term “climate change”.

Figure 6. Risk assessment in GCC newspaper coverage of climate change, 2009–2013.

Notes: N = 300. Articles were purposively sampled from six selected GCC English-language newspapers during the years 2009 to 2013. Risk assessment categories suggested by previous research. **This category also included missing cases where coders failed to make a coding decision or where data entry failed.

Figure 7. Number of articles were a source was quoted, by gender and type, 2009–2013.

Notes: N = 300. Not all of the articles had a source quoted. Articles came from six GCC newspapers. Search term was “climate change”. Ten articles were selected from each newspaper over a five-year time frame.
politicians and special interests tend to be associated with frames emphasizing judgments and remedies” (1996, p. 269). In the case of the GCC newspapers, scientists and researchers were the most often cited sources in the articles, with government officials in second place—and the majority of sources were male.

Finally, when it comes to the issue of blame, how are the GCC newspapers indicating this, if at all? This allows us to answer the final research question (RQ4). Figure 8 shows the results of the 300 sampled articles. There was a fairly even split between “Man” being to blame and the “Mixed or Unclear” category. We further looked at this variable by asking in those cases where “Man” was clearly indicated as being to blame for climate change—did the articles place specific blame on the newspaper’s own country or elsewhere, or perhaps they indicated it was both their country and others as well. The final Figure 9 of the study shows the breakdown from the coded articles. Here, we saw that the articles tended to avoid placing blame on the newspaper’s operating country.

5. Discussion and conclusion
The way different newspapers present the same news can vary enormously depending upon the paper in question. When we add to the mix the various countries and cultures and journalistic traditions, the differences become noteworthy and offer insights into how each views and potentially deals with environmental concerns. This study highlighted the nature of coverage of environmental issues in the English-language newspapers of the GCC countries. Specifically, it looked at articles dealing with the topic of “climate change” and that were dealing with the themes related to the environment in their stories.
A number of items are of interest in terms of the findings in this study. First, contrary to what one might think, the Gulf English-language newspapers do cover the issue of climate change—and not from a skeptical or deniers standpoint, rather a gradualism-oriented frame. Although the extent to which the topic is covered varies year to year and among the different newspapers (and countries), the subject receives coverage; it is certainly not ignored. Second, as one might guess, the coverage deals a lot with the management of energy resources, and resource conservation, while weather-related stories also figure into the coverage. The coverage indicates that the GCC countries are aware of the main issues revolving around the topic of climate change. If we look at the narrative news categories, the results are somewhat counter-intuitive. We might expect to find the issue of climate change being discussed in articles that deal with the energy industry, but instead, we see climate change discussed in less economic or business-related terms—and more in terms of political, social, and educational perspectives. Oil and gas are essential to the GCC economies, but also contribute to climate change. Coverage also tells us that these countries have a desire to diversify their economic portfolios and to invest in alternative energy ideas. The newspaper stories also indicate that international treaties and national policies are considered more important than companies’ policies or individual calls-to-action. Regarding “sources”, both scientists and government officials are often quoted in the GCC English-language newspapers, and male sources outnumber female. Finally, “man” is indicated as contributing to climate change in roughly half of the articles sampled. Further, the articles tend to push the blame onto other countries as much as they indicate that the newspaper’s country or all countries are to blame. This was one of the interesting takeaways; the newspapers acknowledge climate change and the role that fossil fuel plays. However, it is mainly indicated that other countries are playing a larger role in the creation of climate change—by buying and using these resources. It is certainly the case that different countries have different reliance on various energy means—and some countries certainly use more than others. The GCC countries are tending to move toward a realization that the fossil fuel industry will not always be as strong as it has been, and many stories talk about the GCC countries’ attempts to diversify their energy portfolios. There is a tacit implication that all countries should be doing the same. Moreover, this comes through in the reporting on climate change in the GCC press.

There are a number of limitations which must be acknowledged. The use of English-language newspapers is something that has been discussed previously. The reality is that the English language has come into greater use in the GCC region. These newspapers, no doubt, tend to encode the dominant preferred meanings in their text; however, there are also ample syndicated articles that make it to print as well, as all news is a construction and gatekeepers are playing their role. We are able to uncover some of the trends as to how the newspapers help to construct the news, information, discussions, and debates which are acceptable in the public sphere within the societies in which they publish. There are inherent limitations in selecting only English-language newspapers for review. Other researchers have noted the differences in the very nature of why these newspapers exist and for whom the news is being written—and it often differs from the Arabic-language papers in the same markets (Rugh, 2004). Be that as it may, it does not discount the importance and relevance of studying these print media outlets. However, it should also be mentioned that we do need studies examining the content of the Arabic-language press as well.

The study was, again, of a preliminary nature, meant to follow closely a previous study that looked at English-language newspapers in the ASEAN region in Southeast Asia. Presented here are some findings that will provide for interesting discussions and ideas for future research. The study’s contribution is in bringing the Gulf media into the discussion of how media are treating the issue of climate change. The inclusion of the media analysis from supranational organizations should prove useful in future climate change studies. Although we did not specifically code for Urry’s (2011) three discursive categories, the feeling among the coders following the coding sessions was that the coverage leaned toward “gradualism”—that is to say, the coverage seemed to place climate change in a context of just another issue that is gradually occurring and that can be managed with the right attention and proper policies. The media are covering the topics related to climate change and the way they do so offer us insights into what the audience has available to them, and perhaps how we can move forward in understanding and to act in the best interests of the planet.
Acknowledgement
The author wishes to thank Joudy Fawaz and Tarini Pahwa who acted as research assistants and coders on this project.

Funding
The author declares no direct funding for this research.

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Citation information
Cite this article as: Protecting the Gulf: Climate change coverage in GCC print media, Bradley C. Freeman, Cogent Arts & Humanities (2016), 3: 1212690.

Cover image:
Source: Author.

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