

THE GREEN WEB: EVALUATING ONLINE NEWS COMMUNITIES AND THEIR  
ENVIRONMENTALISM

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## ABSTRACT

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In the past news and media were disseminated through channels that were difficult for consumers to communicate with. Now a new form of news dissemination is taking place on the internet where communication between consumers and producers exists. Crowdsourced social media sites, where users elect and vote on articles and comments to represent a topic, are creating new forms of news dissemination which heavily alters media content and community discussions. This study was conducted in order to better understand how crowdsourced social media platforms affect users' perception of environmental topics, issues, and problems. It focuses on the crowdsourced social media platform Reddit evaluating the top 100 articles within the subreddit titled r/environment. The methods used in this study include secondary data analysis, archival research of online forums, and social network analysis. Most articles analyzed discussed the topic of politics, including President Trump and his administration's environmental policies, as well as a lack of transparency related to environmental policies in general. Many of the comments responded to these articles by discussing politics. Findings also included a perception that monetary and social capital must be present for individuals to facilitate widescale, meaningful environmental change. Issues such as ecological changes

only accounted for 2 percent of overall crowdsourced articles. Overall this study found an encouraging message in the articles and comments indicating support for global environmental activism. More research on how communities interpret environmental news is needed to broaden our understanding of peoples' interpretations of environmental policies and their representation in crowdsourced and legacy media.

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## 1.0 INTRODUCTION

*“It’s amazing that the amount of news that happens in the world every day always just exactly fits the newspaper” -Jerry Seinfeld*

In the past, news and media were disseminated through channels that were difficult for consumers to communicate with. Media like radio, newspapers, and television all broadcast information with few forms of communication existing for users to discuss information with each other. In the past communication with broadcast media existed, like letters to the editor, however with crowdsourced media those comments exist in an online space instantaneously for other consumers to view and interpret. These broadcast forms of media are heavily influential in informing society about topical issues (Hansen 2018).

Today, in the age of the internet, a new form of media interaction exists between producers and consumers of media. For example, social media sites are increasingly being used to deliver and receive news media. Social media platforms also implement additional channels of discussion in the form of messaging boards, where articles offer consumers the ability to respond to various news stories. This in effect creates dialogue between news consumers as well as with news producers. In this thesis I will examine how crowdsourced environmental news articles have shaped online discourse and rhetoric regarding environmental issues. To achieve this goal, I focus on the social media website of Reddit, due to the nature of its articles and comments being crowdsourced. By

evaluating crowdsourced articles and comments on Reddit, this study will assess how, where, and when environmental rhetoric exists within online social media sites.

Many websites exist that utilize messaging boards, where users can comment on issues or topics and reply to one another creating online forms of dialogue. For example, websites largely utilized by online users, like YouTube have a comment section on each video creating a messaging board within each piece of content. Legacy media outlets, ones born out of traditional media, also use messaging boards and have adapted to internet culture. For example, Fox News or CNN have social media pages on websites like Facebook or YouTube where they post interactive content.

Large corporations that did not make their fortune from the commodity of news have also introduced themselves into the space of news dissemination. Apple and Google, two of the largest technology companies in the world, have their own online news they create for users. Although these companies as well as legacy media outlets utilize messaging boards, alternative forms of media (particularly social media) introduce a new concept regarding news dissemination called crowdsourcing articles. Crowdsourced articles are chosen by consumers, not media conglomerates. Articles are effectively brought forward by consumers and their importance and relevance is voted on by other forum users. This phenomenon offers new insights into how news is consumed. This cultural shift in news consumption has major effects on how information is portrayed and perceived within society.

Reddit, a social media website created in 2005, utilizes crowdsourcing as its primary way to deliver news articles and comments. Reddit is the fifth most visited

website in the United States and the thirteenth most visited website in the world (Alexa Internet 2019). Fifty-Five percent of Reddit's users are from the United States. This means topics within the website will have more of an American perspective as compared to other sites. Within Reddit there are subreddits, forums that are devoted to various specific topics, and these subreddits crowdsource their articles and comments. A crowdsourced article begins with an individual user posting an article that has a linked online source. The user who posted the article, then retitles the article within the subreddit, explaining what exists within the primary source. On the website Reddit this is how every article gets disseminated within online forums. This allows users to be semi-producers of articles within subreddits. Users that are consuming news on the subreddit can look through articles (and comments) and "upvote" or "downvote" them.

An upvote means a user likes the article and thinks it is worthwhile for the community to consider and read. A downvote theoretically entails the opposite, that a user sees the article as not relating to the overall subreddit topic or that they did not like the discourse within the article. Because the meaning of upvotes and downvotes are subjective, individuals interpret how they utilize these tools within online communities. The amount of upvotes are tallied and displayed right next to the article headline. When a group of users upvote an article enough, it becomes "hot". Articles that are "hot" then are displayed on the front page of the subreddit. Additionally, users can sort articles by "top" of a certain date, or "top of all time" displaying the most upvoted articles that have ever existed within a subreddit. This sorting is important because it can quickly show the most

impactful, or upvoted, articles within a subreddit. This in effect shows the most representative articles of a subreddit community.

Social media and online news sources like Reddit, allow for consumers to interact with their articles and the information they find. Users can comment on articles, and these comments can be “upvoted” or “downvoted” just like the articles. This social media format creates a crowdsourced discussion forum, or messaging board, in which articles and comments come from users as opposed to media conglomerates. Social media sites, like Reddit, are increasingly being used to deliver and receive news media (Holcomb, Gottfried and Mitchell 2013).

The structure of Reddit fosters the development of separate communities dedicated to specific topics, called “subreddits”. Subreddits are found by utilizing the URLs (Uniform Resource Locator) ability to add r/ to the end of the main website’s URL. This feature allows the community to create whatever type of subreddit they desire and allows individual users to subscribe to any community in which they choose to participate. Reddit users can also create their own subreddits if they do not see one that fits the specific space they want to participate within. With a general Reddit account, individuals can upload articles from the world wide web and peers can upvote the article, making it popular and widely seen within the subreddit. The subreddit “r/environment”, which is the focus of this study, has 500,000 unique subscribers, comparable to the population of the city of Sacramento, California.

The website Reddit is heavily used as a source for political news (Holcomb, Gottfried, and Mitchell 2013) and its ability to crowdsource articles and comments has

aided in drastically changing dissemination of news media. When articles and comments are crowdsourced, the content that is chosen by users becomes news itself. Individuals choose and vote on articles deemed important to a topic, illustrating the types of articles the community accepts as representing them.

The subreddit of r/environment discusses issues and topics relating to the environment. Environmental issues exist as topics within news outlets. Although past studies have evaluated how legacy news outlets represent environmental issues, little research has been conducted assessing crowdsourced media's portrayal of the environment. With this study, crowdsourced media is being evaluated to see how environmental discourse exists between consumers when articles and comments are self-selected by a community. Because environmental news has historic roots in legacy media, it is important studies emerge evaluating how new forms of media are altering the portrayal of environmental topics.

This leads to the first research question of this study which asks, "What is the most dominant environmental discourse on Reddit?". Articles with more "upvotes" are more influential in their accessibility and how they are perceived within the subreddit. In addition, comments are crowdsourced within messaging forums associated with each individual article. By evaluating the subreddit r/environment, we can assess how r/environment users discuss environmental issues. This study's second research question, "What patterns can we establish from the comments in these articles?" aims to see what patterns emerge between articles and comments regarding environmental rhetoric. Do different article types elicit different or similar comments within Reddit's messaging

boards? What is being discussed on various types of environmental articles? The third research question of this study simply asks, “What news sources are being crowdsourced?” This question shows what sources users are crowdsourcing and what sources users upvote or crowdsource more. This illustrates what sources the community of r/environment deems credible with portraying environmental topics.

By studying crowdsourced forums on a website like Reddit, community input has the potential to be evaluated, not just the portrayal of news by legacy news outlets. This allows studies like mine to utilize content analysis in an entirely new way, where online forums resemble a town hall meeting as opposed to legacy news outlets that broadcast messages with little to no user feedback that can be evaluated (Hansen 2018). Due to its social media roots, Reddit itself offers a platform for individuals to contribute, discuss, and organize ideas within the public sphere, not just be utilized for internet culture and content without political meaning (Vago 2016). So how can an online social media site with a majority of its content revolving around internet culture without political meaning, discuss and propose political and social change with widespread issues like the environment? Due to Reddit users’ nature of discussing a widespread arrangement of topics self-selected by users, everything from meaningless memes to environmental political action have the potentiality to be popular and discussed.

This thesis also examines how social activism a major aspect to consider within crowdsourced forms of media dissemination. In 2007, Reddit users, became involved in a Greenpeace campaign established to protect humpback whales from international commercial whaling. This campaign tracked a minke whale within the South Pacific

Ocean as a part of a larger effort to raise awareness about the international issue of whaling. To generate public interest, Greenpeace created an online poll asking participants within the Greenpeace discussion board on Reddit to name the whale. The campaign quickly evolved into an internet “meme” as Reddit users organized to vote for the name “Mister Splashy Pants” which eventually won the competition. The publicity from this Greenpeace campaign had an immense impact on the industry and garnered wide scale public visibility. The Japanese government announced a moratorium (temporary prohibition) on its humpback whale hunt (Vago, 2016). The Greenpeace campaign illustrates how online discussion forums have the potential to harbor, create, and disseminate social and political change.

Crowdsourced journalism also has the potential to impact society negatively. Guzman argues that journalists, Reddit users and people on Twitter all share the blame for rushed and inaccurate information pointing to the false reporting of the culprit within the Boston bombing massacre that occurred in 2013 (2013). False personal information was shared with police officers regarding who the culprits were, ultimately affecting how law enforcement and the public reacted to the tragedy. Although cyber-vigilantes failed in this instance to detect and find the terrorists, their efforts offer interesting insight into how crowdsourced online forums could help police enforcement and detectives in future investigations (Nhan 2015). The Boston bombing displays how users within online communities instantaneously can burden ongoing investigations. This form of social activism can be harmful in some cases (Nhan 2015).



Social media communities are interactive and have the potential to affect society like the Greenpeace campaign or the Boston bombings. They are rarely seen as viable, cohesive communities that hold desirable academic data (Matthews 2015). As younger generations begin to obtain news from these sources rather than traditional spaces (Gottfried and Shearer 2017), such as mass media through television, it is imperative to research these online communities as well as how their information networks emerge and disperse. The third research question of this study, “What news sources are being crowdsourced”, evaluates patterns regarding sources for various article types. First, we must identify the news source, then patterns regarding what environmental topics are discussed and disseminated by various sources emerge. This shows patterns regarding news sources and environmental topics the subreddit self-selects to represent the r/environment community. It also illustrates what outside sources are the most influential within the r/environment subreddit.

This study will evaluate the top 100 “upvoted” (liked by) articles within the subreddit r/environment, as well as analyze the top 2 comments of each article to gain a better understanding of how this specific online community produces and interprets various environmental content. Chapter 2 will discuss the literature regarding crowdsourced journalism and its differences from legacy news outlets. In addition, the methodology for this study will be explained. Chapter 3 will lay out all the results for the study. Chapter 4 will be the discussion of the thesis. Chapter 5 will discuss this study’s limitations, establish conclusions, and provide an avenue for potential future research.

This research aims to study one specific online messaging board (r/environment), illuminating the relationship between consumers and news producers, analyzing how crowdsourced online forums understand their participation in the environmental news portrayed to them. A large amount of information for academic researchers exists within various online sources, but the data has yet to be mined (Matthews 2015). This is relevant because issues like the environment need to be studied within the context of crowdsourced online communities.

## 2.0: LITERATURE REVIEW

This thesis draws from three distinct bodies of literature. For the purpose of this literature review, first I will review the changing landscape of media, and how legacy media differs in structure to online crowdsourced messaging boards.

Second, I will discuss how social media has become a tool to disseminate news and activism within its online

communities. Lastly, I will discuss how Reddit has been used as a crowdsourced

website that enables activism and user interactions. Little research has been conducted evaluating online crowdsourced social media platforms and their portrayal of environmental news stories (ICA 2018).



Figure 1: The Scope of The Literature Review

### 2.1 Communication and Changing Media Landscapes

Scholars have pointed to the fact that new generations are increasingly relying on online sources for their political news (Gottfried and Shearer 2017). Forty-three percent of Americans obtain political news primarily online, only seven percent below the group of Americans who primarily watch cable news (Gottfried and Shearer 2017). Sixty-six percent of Americans obtain at least some of their news from social media sources, up

five percent from 2016 (Gottfried and Shearer 2017). This data illustrates the immense power social media has over news dissemination to citizens within society.

This transformation from broadcast journalism to participatory media illustrates how society is changing the definition and conception of media. Seethaler and Beaufort (2017) state alternative forms of broadcast journalism are emerging that encourage participative communication between consumers and producers. These scholars did a comparative analysis of Austrian broadcast journalism and how these organizations have evolved over time. Seethaler and Beaufort also evaluated the societal perceptions regarding broadcast media.

They found that several conceptions of broadcast journalism exist, and that journalism is evolving from one-directional communication to participatory channels in which individuals become more aware and in control of their social environment (Seethaler and Beaufort 2017). This is due to the interactive nature of social media as opposed to one-directional broadcasted forms of media. Additionally, these scholars found that younger generations value participatory forms of media at a higher rate as compared to older generations (Seethaler and Beaufort 2017). This has led to broadcast journalism (or legacy news media) adapting to societal expectations, largely driven by the perceptions of younger generations (Seethaler and Beaufort 2017). As news consumer demographics and societal expectations change, legacy news outlets are also adapting to the new online participatory journalistic era.

Not only are social media sites dedicated to portrayal of news topics influencing society and users into participating in the news dissemination process, but they are also

influencing legacy media news outlets to evolve and incorporate some form of participatory crowdsourced online forums within their content (Wasike 2010). Legacy news outlets are news systems that were created before the internet existed. In a 2010 research study evaluating editors of legacy news outlets, George Washington University found that 89 percent of legacy news media editors said they utilized social media blogs for research on news topics (Wasike 2010). This illustrates how social media news forums influence legacy news media outlets. Legacy news outlets aren't only incorporating online forums, but are also utilizing social media sites like twitter, YouTube, and Facebook for news content. The importance of social media sites in news dissemination directly impacts users and crowdsourced content, however these social media spaces also directly impact the news content of legacy news outlets.

In addition to legacy news media outlets adapting to the online news era, societal roles for journalists are also changing. Scholars Firmstone and Coleman (2014) used Leeds City Council in England as a case study, where legacy forms of media were compared with new modes of communication regarding interactions with citizens. Firmstone and Coleman used semi-structured interviews to ask 20 elected politicians and senior journalists about the changing media landscape. They found that the move towards digital modes of engagement are changing perceptions regarding the professional role of journalists and how they disseminate information from government agencies to the general public (Firmstone and Coleman 2014). In one interview a veteran journalist stated that due to understaffed news organizations, news content is produced often without checks or challenges. In other words, as society craves faster news dissemination

news outlets are pressured to provide faster content which affects the quality of news content being produced. This phenomenon was directly related to the speed at which online news outlets produce content after large societal narratives emerge in the public domain. These scholars help delineate how the roles of journalists are changing as legacy media adapts and evolves with online media. Additionally, Firmstone and Coleman associate four distinct typologies of citizen journalism; producers, contributors, sources, and participants (2014). All these typologies are apparent in modern day crowdsourced journalism, including websites like Reddit.

Trust is an important topic for citizens and news consumers when discussing news outlets and news dissemination. Scholars like Daniller, Allen, Tallevi, and Mutz (2017) all discuss how to measure societal trust of news sources within a changing media environment. Using data from the General Social Survey from 1972, the study assesses media users' level of trust regarding various large-scale news media outlets. The scholars discussing the GSS were able to find that users view sources as more trustworthy when they are asked about specific news organizations as opposed to when they are asked generically about news media (Daniller, Allen, Tallevi, and Mutz 2017). As news media changes and is continually disseminated through social media channels, specific sources are shared and disseminated through social media sites which could lead to individuals valuing these sources as more trustworthy as opposed to if they just conceptually thought of crowdsourced journalism without participating within it (ICA 2018). In other words, individuals that participate in online news forums might evaluate the content as more trustworthy according to Daniller, Allen, Tallevi, and Mutz (2017).

As trust has become a central issue for citizens discussing news dissemination, Scholar Rodney-Gumede (2017) conducted a survey within South Africa that asked journalists and media advocacy groups where changes could occur so that the public sphere was less fragmented regarding news topics. Her findings showed that journalists and media advocacy groups believed that in order to widen the public sphere regarding media, more synergies needed to be created between traditional news media and new, online social media platforms (Rodny-Gumede 2017). These synergies proposed are important for societal cohesion regarding news interpretation. In South Africa specifically, a large portion of news consumers are cut-off from mainstream media (Rodny-Gumede 2017). Often seen as two separate media entities, traditional legacy media and crowdsourced media could influence different demographics within society regarding similar news content. When utilized in synergy these united platforms have the potential to create content that the public sphere engages with holistically, not just those with access to mainstream media. Additionally, these platforms create a more diverse set of debates (Rodny-Gumede 2017). This scholar illustrates the societal need for combined forms of legacy and new social media so that media articles and discussions represent its users and consumers as clearly as possible. She states this is how the public can be encouraged to engage with news content (Rodny-Gumede 2017).

The landscape of media is changing with regards to environmental news dissemination. One scholar Detweiler (1992) evaluated environmental rhetoric and articles discussed on the legacy media outlet Time magazine. Time magazine was chosen due to its perceived widescale societal impact and outreach. Initial coding categories

taken from Detweiler were air quality, water quality, human caused environmental harm, environmental additives, management of energy producing resources, wildlife or wilderness conservation, environmental movements, ecological shifts, politics, and the media itself (Detweiler 1992). Although these categories are widescale, Detweiler utilized broad categories and subcategories due to the immense amount of different environmental articles within his study site (Detweiler 1992). Detweiler evaluated the change in Time magazine articles from the years 1991 to 1992 regarding environmental topics. His findings state that there was a 22 percent increase in portrayal of environmental social movements (Detweiler 1992). Detweiler also found that there was a 13 percent decrease in portrayal of energy resource-based articles (1992). His findings illustrate how quickly news outlets can change regarding their rhetoric and specific news topics.

## 2.2 Social Media as a News Dissemination Tool

Social Media is a powerful new platform that connects users in various ways. Some social media users utilize their platforms to discuss, debate, and protest news media through sharing news sources. This creates a vast ideological landscape in which activism, crowdsourced journalism, and user generated public discussion forums are ripe with collectable data (Matthews 2015). This type of media and news dissemination contrasts with legacy forms of broadcast journalism, while still relying on the content produced in legacy media sources.



The massive use of social media is changing how activists communicate with one another. In a case study, Thomas Poell (2014), evaluated the social media efforts of the Toronto Community Mobilization Network, which created and facilitated the protest against the 2010 Toronto G-20 Summit. Poell (2014) found that the network encouraged protestors to post about the activism and protests on social media sites like Twitter, Youtube, and Flickr. These posts all shared a hashtag (used on social media websites to identify messages on a specific topic) phrased as #g20report. This study illustrates how social media accelerates the communication between activists and creates a public visual demonstration of activism (Poell 2014).

As activists utilize corporate social media, their data becomes in jeopardy of losing control and ownership over their crowdsourced communication networks (Poell 2014). This is due to the corporate ownership of intellectual property that exists on websites. Individuals' ideas and discussions occurring on corporate social media platforms belong to the social media site rather than its users, allowing social media sites the ability to sell various forms of users' metadata. We must acknowledge the hierarchical power of how content is produced in online communities so that we understand the neoliberal structure that still affects these spaces (Allan 2018).

The digital ethics of online content are ignored due to the widescale amount of content that exists within these online spaces (Allan 2018). In addition to activists potentially losing control over their communication networks due to the public ignorance regarding digital ethics, social media sites have the potential to share and disseminate false news because of their crowdsourced nature (Allan 2018). Allan criticizes social

media and its dissemination process stating that the platform can easily spread misinformation due to false news and sources being shared by individuals rather than created by news organizations. Because social media encompasses a large-scale platform in which messages on a variety of topics are shared and discussed, the digital ethics regarding information become secondary (Allan 2018). According to Allan (2018) the political economy of communication channels are somewhat invisible within social media spaces as opposed to traditional legacy forms of media. This is important to consider due to the fact all digital forms of media are also embedded within an overarching neoliberal agenda, in which corporate and class interests dominate these institutions' main agendas (Allan 2018).

Although social media could democratize channels of news distribution (ICA 2018), scholars like Suciu (2018) state that the judgement that journalists are free because of crowdsourced journalism is naive and short-sighted. The new forms of media distribution available online offer new networks of news dissemination, however these networks are still neoliberal in nature. Additionally, corporate social media can apply algorithms to how news sources and articles are shared (Suciu 2018). Because these algorithms are not transparent to the public and online users, questions emerge regarding what content is seen by individuals on social media websites (Suciu 2018).

Despite social media's neoliberal nature, fundamental differences exist between legacy news outlets and online crowdsourced communities. Crowdsourced articles, articles elevated into social media sites' influential platforms via upvotes, have the potential to be just as influential in shaping public opinion as past forms of legacy media.

Stephens and Jarvis (2016) evaluated online crowdsourced articles to see if their partisan language was more or less prevalent than front page newspaper headlines. Their study drew 302 “front page” articles from 8 weeks in relation to the 2012 presidential campaign. They found that online audiences participating in crowdsourced journalism select top articles that utilized language that is more partisan when compared to traditional newspaper headlines (Stephens and Jarvis 2016). In most cases online versions of articles featured shorter article headlines than their newspaper counterparts. In addition, these online headlines were less sensationalistic (Stephens and Jarvis 2016). These findings illustrate how online crowdsourced forums have the potential to select and portray articles that establish preconceived notions already held within an online community, effectively creating an ideological echo chamber.

Scholar Sebastian Valenzuela (2017) used a mixed methods approach to understand the generic frames individuals were using when sharing news sources on the social media sites Facebook and Twitter. He found that when articles have a morality frame they are shared at an increased rate (Valenzuela 2017). He also found that when an article utilized a conflict frame or emphasized economic consequences they were shared less (Valenzuela 2017). These findings show that crowdsourced social media article authors value different behavioral frameworks when posting as compared to traditional news journalists. This gap between social media posters and journalists can lead to differences regarding popular and shared content (Valenzuela 2017).

Utilizing a unique case study, scholars Greenwood and Thomson (2017) evaluated how social media users on Instagram (a mobile social media platform) react to

different types of photos posted by news organizations or photographers. Their research attempted to understand the consumptive patterns of individuals that used social media regularly. Using Q methodology, these scholars had 30 participants rank various photos posted on Instagram. Q methodology utilizes a ranking system in which participants order content presented by a researcher on a scale from least liked to most liked. They found that three distinct group types emerged that liked different types of photos, feature lovers, newshounds and optimists (Greenwood and Thomson 2017). As online sources continual produce content, individuals select where they consume content as well as which content they want to consume. This demonstrates further how social media users can stay within ideological bubbles regarding content (Greenwood and Thomson 2017).

### 2.3 Reddit: An Influential Crowdsourced Online Community

Scholars in the field of journalism demonstrate the increase in social influence social media sites like Reddit have over political news. Social media sites can tailor news media and content in a more digestible way for readers because it is crowdsourced (Wasike 2010). When individuals are utilizing social media to discuss news media topics, they create online communities based on these various topics. Wasike notes some users are creating their own cyber newsrooms (2010). Reddit is a perfect example of a social media site that utilizes crowdsourced content as its product.

Scholars suggest when new voices emerge within Reddit online discussion forums, new ideas emerge. An article produced by the International Communication Association analyzed community posts and discussions on Reddit from the years 2008 to

2017). The ICA found that new contributors to online discussion forums do not adhere to linguistic norms found on Reddit, rather they contribute their own (International Communication Association 2018). This article has major implications with regards to understanding the concept of “voice” within online crowdsourced communities (ICA 2018). How an individual contributes to a crowdsourced community is an important concept to understand, because most of the content seen within online crowdsourced communities is produced by individuals not large corporations.

If the concept of a voice is to be fully represented, it must be evaluated as a social practice, not just a physiological phenomenon (ICA 2018). Scholars state that the concept of “voice” is less a matter of meaning and more a matter of representation within the public sphere (ICA 2018). This demonstrates how crowdsourced forums on websites like Reddit, help create the voices individuals use to discuss issues on online forums. Scholars also discuss the constraints that individuals’ influences have on the collective voice. According to Muchnik, Aral, and Taylor (2013) comment ratings (like upvotes on Reddit) do not purely reflect how different comments appeal to users but are rather a combination of judgments of the merit of a comments and the social influence that has affected the commenter in past comment ratings. In other words, as a commenter continual comments and is receiving feedback from peers within an online space, how they tailor comments changes to reflect the community feedback. Linguistic and ideological norms are then established within online crowdsourced discussion forums (ICA 2018). The paper “The Voices of Reddit: Exploring the Effects of New Entrants on The Content of Online Discussions Conferences” which appeared in the International

Communication Association conference in 2018, help illustrate how crowdsourced online forums operate like a public forum in which different “voices” are distributed into a perceived public sphere. These voices produce the content on online news outlets. In order to study content produced on these websites it is imperative to study how individuals interpret and produce their ideas and thoughts. The International Communication Association does an excellent job illustrating this vital importance.

Mitchell and Lim’s (2018) article “Too Crowded for Crowdsourced Journalism: Reddit Portability, and Citizen Participation in the Syrian Crisis”, evaluated the subreddit dedicated to the Syrian civil war. These scholars analyzed how crowdsourced articles were portraying the Syrian civil war within the subreddit r/SyrianCivilWar. Mitchell and Lim wanted to find out how crowdsourced online communities discussed and disseminated information as compared to legacy media outlets. Their findings stated that users and observers deemed the subreddit had often provided more extensive information and faster coverage to related issues as compared to legacy news media outlets (Mitchell and Lim 2018). This illustrates how online crowdsourced communities could be more efficient at disseminating news as opposed to past forms of legacy media like television news shows or newspapers.

Crowdsourced journalism offers an interesting alternative to legacy news media outlets and has the potential to provide better coverage of issues (Mitchell and Lim 2018). To study the differences in news dissemination between crowdsourced online communities and legacy news outlets, Mitchell and Lim evaluated the most popular articles of all time within the subreddit r/SyrianCivilWar. “A corpus of threads was built

from the subreddit, sorting by ‘most popular’ of all time” (Mitchell and Lim 2018). By evaluating the top upvoted articles of all time, a discourse analysis occurred utilizing the most influential sources within the subreddit.

The top upvoted sources within the subreddit help illustrate the sources the community utilizes and ideally represents the subreddit as a whole (Mitchell and Lim 2018). Additionally, all subreddits have a small description called an “about us page” detailing the content that is supposed to exist within the subreddit. Within r/SyrianCivilWar’s about us page, ‘r/SyrianCivilWar is described as “news, analysis, discussion and investigative journalism of the conflict in Syria along with the regional and global ramifications” (Mitchell and Lim 2018). This description establishes a serious tone with regards to the subreddit. By implementing and studying the nuances and intricacies associated with the subreddit’s conceptual page, Mitchell and Lim can more easily discern how the community of r/SyrianCivilWar sees itself and how it is different in its rhetoric compared to news stories produced by neoliberal legacy news outlets.

Mitchell and Lim (2018) found that by replacing meta-narratives within legacy news media outlets, social media sites offer a new way to synthesize information. “As exemplified by the case of r/SyrianCivilWar, such communities can also facilitate citizen crowdsourced journalism projects to potentially challenge legacy media narratives” (Mitchell and Lim 2018). With monopolization and manipulation of large-scale discourses, and legitimizing large meta-narratives while undermining others, the news media can affect public perceptions on the issues and events it covers (Chomsky & Herman, 2002; Hackett & Zhao, 1998). By allowing individuals to contribute and vote on

topics they find of interest, legacy news outlets could be questioned and re-evaluated by crowdsourced journalism on websites like Reddit. Alternatively, legacy news outlets have the potential and financial resources to recreate their informational distribution networks, creating their own forms of crowdsourced online forums, illustrating the power of neoliberal media and agenda-setting institutions within society.

Other scholars have written about the implications of Reddit on public affairs (ICA 2018). The paper “Source, Please? A Content Analysis of Links Posted in Discussions of Public Affairs on Reddit” was submitted to the International Communication Association conference of 2018. This paper discussed how citizen journalism and crowdsourced online forums fulfill a new role where consumers can interact with content produced. Traditional forms of media have failed at producing these new roles for news consumers (ICA 2018). The scholar also stated that little research has been done to investigate the sources citizens use within crowdsourced online forums (ICA 2018). The study conducted utilized content analysis and evaluated the sources individual contributors used within the subreddit of r/Seattle. The findings stated that users relied more heavily on alternative media sources and government sources as opposed to legacy media when discussing environmental issues occurring within the city of Seattle (ICA 2018). Crowdsourced online forums tend to use a wider range of sources disassociated with legacy news outlets. In this case online news forums rely less heavily on legacy news sources. Legacy news sources help create the agenda but are not a major focus within sourced literature on Reddit (ICA 2018).



The problems legacy news outlets have won't be solved with social news sites; however, they offer a new valuable piece of news dissemination that may help democratize journalism (ICA 2018). In the findings of the ICA study evaluating the subreddit of r/Seattle, the agenda on Reddit and within the subreddit of r/Seattle were seen as limited to discussing issues that only impacted the lives of Reddit users, and ignored large scale news like environmental issues (ICA 2018). This is an important aspect to consider when evaluating online crowdsourced forums. Crowdsourced articles have the potential to draw from a plethora of sources, however the way these articles are disseminated vary vastly from legacy news outlets. This can be a strength and a weakness with regards to the goal of democratizing news dissemination.

In the study titled "Freedom from the Press?" Suran and Kilgo (2017) evaluate how Reddit produces a public sphere in which discussion of various topics emerge. Suran and Kilgo see these crowdsourced websites as an alternative to legacy media outlets regarding the production of content. They assess the crowdsourced website's ability to create crowdsourced journalism and discuss how Reddit can produce news content more democratically as compared to legacy news outlets. Suran and Kilgo also illustrate the lack of academic content that exists assessing social media sites like Reddit. Their study states that although Reddit has gained the attention of popular news media, academic studies have not given the website careful consideration and attention when it comes to holding desirable academic content (Suran and Kilgo 2017). While there is research that analyzes how social media creates public spheres, "there is a gap when it comes to studying the types of content shared on social news sites" (Suran and Kilgo 2017, p.

1036). As social media presence increases, it is important academic studies evaluate this form of media, not just legacy media outlets due to the changing nature of news dissemination.

#### 2.4 Conclusion: The Gap

In the first part of the literature review, I discussed how consumers of news media are changing news distribution channels with their continual use of social media for news information (Gottfried and Shearer 2017). Journalists are also changing and evolving to the evolution of digital media. Social media itself has exacerbated this change implementing elements of democracy and activism into news dissemination (Poell 2014). This adaptation to shifts in digital media dissemination isn't only empowering citizens and online news media users. Neoliberal agendas and algorithms still affect how news is delivered and curated for users.

Little academic research has been conducted evaluating news dissemination on social media sites like Reddit (ICA 2018). Plenty of content exists in these spaces it just needs to be mined for by academics (Matthews 2015). In addition, past studies conducted by the ICA evaluating the subreddit of r/Seattle, have discerned that environmental news stories on applicable subreddits are potentially ignored (ICA 2018), justifying a study dedicated to specifically understanding how crowdsourced articles on social media sites like Reddit, present and discuss environmental news.

### 3.0 METHODOLOGY AND THEORY

The methodology for this study centers itself on content analysis and social network analysis. Both use and organize readily available data, as opposed creating new data, like the methodology of surveying. Although both are different in producing in evaluating content they also rely heavily on proper coding. In the case of social network analysis graphing, techniques to accurately display their data are imperative to producing a proper network (Lasswell 1948).

Content analysis simply put evaluates readily available data. Within the 20th century, when media became an integral part of societal influence, content analysis has the ability to deeply analyze rhetoric from media and dissect media logic. "Who says what, to whom, why, to what extent and with what effect?" (Lasswell 1948). This is an important part of analyzing a crowdsourced form of journalism on the website Reddit, due to the amount of discussions and content that exists within the platform.

When discussing studies that evaluate online crowdsourced news forums, it is important to acknowledge the concept of the "Spiral of Silence;" if an opinion is seen as being held by a minority, individuals are less likely to discuss and comment on these opinions (Hansen 2018). This concept is important to note due to the fact many public forums champion popular rhetoric regarding a topic. Online crowdsourced forums have the potential to exacerbate the "Spiral of Silence" which is important to consider in studies evaluating messaging forums.

Although the “Spiral of Silence” can affect what topics are discussed based on popularity and societal acceptance, the fact something is not within public discourse offers interesting analysis, as if it were. In other words, topics that are brought forward in forms of media tell us just as much about a media site as the topics media does not cover. The content that does exist within online Reddit forums are seen by many users, which in effect represents the ideas and values of the subreddit. “If men define situations as real, they are real in their consequences” (Thomas 1928). Symbolic interactionism illustrates how a failed interpretation of a concept does not diminish the power and influence that ideology holds over society, because this concept is still being internalized by individuals (Thomas 1928). In other words, fake articles may be presented to the public, but they are still internalized as real, creating and influencing real world ideologies.

Using cultivation theory, where prolonged use of a media establishes a connection between an individuals’ media use and their conception of the world, we can examine a linkage between consumption of online media and how individuals view the nature of the surrounding world (Hansen 2018). The conception of media can be evaluated as a network in which the press, politicians, and the public influence each other (Hansen 2018). This network enables various hierarchies of public influence depending on the type of media being represented. For example, television news media is heavily influenced by large corporate media structures and politicians, however due to its broadcast nature, public interaction is limited compared to crowdsourced online news forums. The media itself offers insight and reflection into public institutions, due to it often being the most influential source of public opinion (Hansen 2018). Now that there

is a transformation in use from legacy media outlets to crowdsourced online forums, public opinion is heavily representative of individuals participating within the forum, much like a town hall as opposed to a press conference. Utilizing this theory illustrates how crowdsourced online spaces have the potential to democratize news dissemination due to how individuals produce the crowdsourced communities' content themselves as opposed to paid reporters from news corporations.

### 3.1 Theoretical Frameworks for Coding Environmental Journalism

The way in which comments and articles are coded play an integral role in developing a proper content analysis study. For this study applying coding processes that involve the media and environmentalism are an important key to understanding the data that exists within the study. With multiple studies that have already evaluated political content on Reddit, as well as Brulle (2003) and Detweiler's (1992) studies on environmental movements and journalism, a coding process (which I will describe in the Methods section) offers a way to decipher the large amount of data collected.

Scholars like Brulle (2003) and Detweiler (1992) illustrate excellent ways to code for environmental rhetoric within media content. Their coding processes can be applied to studies that wish to evaluate crowdsourced forums on social media sites like Reddit. Detweiler's study which evaluates Time magazine and their portrayal of environmental issues offers insight into how environmental rhetoric is portrayed within legacy media articles. It also illustrates how powerful legacy news media outlets are in disseminating information.

Understanding how media operates is an additional consideration studies must consider when evaluating online crowdsourced journalism. Utilizing the theory of media framing, a branch of Goffman's frame analysis, I can explore how media portrays various topics when evaluating crowdsourced article headlines. Media framing enables studies evaluating crowdsourced journalism to acknowledge the plethora of issues and ways individuals, and media, represent various forms of content. This is important to note for any study evaluating forms of news media and dissemination because it sets the context for news outlets and social media sites.

Often seen as a uniform movement, the environmental movement is widely diverse in actions, beliefs and attitudes (Brulle 2003). Not all environmentalism is the same; in fact, most movements have varied specific goals set within the larger frame of the environmental movement. This variation is crucial to understanding how environmental identities emerge within political spaces, environmental organizations, and news outlets. These ideological areas all play a heavy role in my case study of the r/environment subreddit. For my study I outline four major discourses of environmental movements drawing from Brulle's (2003) article entitled "U.S. environmental movements". Moreover, Detweiler's (1992) thesis evaluating the New York Times and Time magazine's portrayal of environmental issues and topics from 1991 and 1992 will be instrumental within this study's coding process.

### 3.1.1 Conservation and wildlife management

The first type of environmental movement involves evaluating and managing environmental resources. This discourse acknowledges the fact human society is

dependent on natural resources. Conservation and wildlife management must exist so that excess resources are not drawn from nature, heavily placing responsibility on human systems to understand the power they hold by extracting resources for society. By conserving natural resources, those resources are not left alone, but instead managed by various societal systems that interact with them. Conservation and Wildlife Management groups received approximately 25 percent of the total budget allocated to various environmental organizations (Brulle 2003).

This form of environmentalism is the second most funded behind preservation (which will be discussed later), asserting itself as a dominant ideology within the environmental movement. Due to the amount of money this form of environmentalism has access to, I expect it to be quite present within the environment subreddit. Detweiler's coding process includes management of energy producing resources, air quality, water quality, human caused environmental harm, and environmental additives which all play an integral role within the management of resources discussion. I expect this category to be highly represented within my study.

### 3.1.2 Wildlife initiatives

The second movement type entitled wildlife initiatives involves the philosophy of preservation. This movement sees nature not as a machine but as its own intact organism. Human actions can impair the ability of natural systems to maintain themselves or to evolve further (Brulle, 2003). Preservation as an environmental discourse is represented in 50 percent of environmental movements income (Brulle, 2003). This is the highest funded form of environmentalism that exists, possibly due to the large amount of costs

preserving lands entails. Preserving areas is expensive due to the monetary loss that exists for industries and governments. Preservation also calls into question our human value system.

Value extends beyond monetary gains to also include preservation of wild lands and wildlife. This departure from an anthropocentric value system realizes the needs of future generations of humans; nature and wildlands are diminishing making them exponentially more valuable in the future. Detweiler (1992) also has coded for this movement utilizing wildlife and wilderness conservation and preservation, although documented within their respective studies it will be fascinating to apply these coding processes to new forms of crowdsourced journalism within the r/environment subreddit.

### 3.1.3 Reforming of society environmentalism

The third environmental movement, which contains the most environmental subtypes, is entitled reforming society environmentalism (Brulle 2003). Within this movement, individuals believe that we must reform society and human political systems in order to truly establish an effective form of environmentalism that is not beholden to monetary and political systems. Reform of environmentalism, a subcategory, establishes the notion that natural systems are the basis of all organic existence, including humans. In other words, humankind's survival is linked to ecosystem survival. Proper use of natural sciences may help guide the relationship between humanity and the environment.

The next subtype in reform of environmentalism is anti-globalization. The anti-globalization green movement prides themselves on the premise that all humans and their communities deserve to live in an equitable just and environmentally sustainable world.



Global capitalism and political/economic forces have exacerbated inequality leading to apolitical “democratic” societies that speak on behalf of monetary values rather than citizen values. These interlocking coercive powers need to be eliminated for any true form of environmentalism to emerge.

Similarly, environmental justice calls for this inequality to be eliminated, however this subtype goes further to say that local communities must be empowered for social change to occur on a wide scale basis. Reform of Environmentalism only takes up 2 percent of the total environmental movement budget (Brulle 2003). Perhaps this is due to the fact these groups call into question societal systems and advocate direct major change regarding equity within society. Despite its low level of funding, I expect this form of environmentalism to be highly present within the subreddit due to the social justice nature of the internet and crowdsourced article forums (Poell 2014).

Continuing with the discourse of societal reformation includes environmental health. This subtype claims no technology should be used unless proven harmless to the environment. As a part of the ecosystem ourselves, human health is based on our interactions with toxic ecosystems. The subtype of ecofeminist environmentalism claims androcentric concepts, values and institutions are the core of society and that in order for true environmentalism to occur these institutions, values and ideologies must be eradicated (Brulle 2003). The last subtype of societal reformation involves animal rights. The main premise of this subtype involves the concept that life has a right to develop according to its own character and that humanity has no right to infringe upon these rights of other animals (Brulle 2003).

#### 3.1.4 Eco-philosophies

The last environmental discourse involves eco-philosophies. Based on the notion of changing societal belief systems, these forms of environmentalism illicit a form of spiritualism in which nature is enjoyed, respected, and deemed in a sense holy. Eco-spiritualism a subtype of eco-philosophies claims that religious beliefs need to develop and embody this eco-centric ethic so that our foundational moral belief system is ingrained with nature, much like many indigenous cultures. The other subtype within eco-philosophies is deep ecology. This subtype claims all life on earth has intrinsic value separate from how humans perceive this value system. Presently humans hold an anthropocentric view on how society should operate and work with natural systems.

To affect this anthropocentric ideology, society must decrease human intervention and increase wilderness areas. How we view nature must fundamentally change at the base level of our humanistic culture. These are the least funded environmental groups that account for less than half of a percent (Brulle 2003). This might be due to the fact they aim to change attitudes and beliefs; however, these ideologies and frameworks are contrary to our modern form of capitalism in which human individuality and success is paramount over the environment and eco-spiritualism. I do not expect this form of environmentalism to be discussed much on the subreddit, however when this form of environmentalism emerges, I believe it will be quite profound and provoke discussion and thought within the various forums on the environment subreddit.

All these discourses offer different ways to interpret nature and human interactions with nature. Many of these environmental movements exist on online

forums, and it is important to the purpose of this study to discern the differences due to the fact this study evaluates what types of environmental discourse emerge within the environment subreddit. Contradictory values may exist within the data and types of environmentalism, despite the fact all self-deem themselves environmentalists. It is important to note to see where cohesion and disconnect exist. Additionally, by understanding the funding that exists behind each movement, we can see what forms of environmentalism crowdsourced news users are advocating or rejecting. Brulle (2003) and Detweiler's (1992) studies offer my study ways in which I am able to code, interpret, and discuss data I find within discussions relating to the environment on Reddit.

## 4.0 METHODS

The purpose of this study aims to illustrate how online communities accept, interpret and communicate with various forms of environmental journalism. This study uses a mixed methods approach including secondary data analysis, archival research of online forums, and a social network analysis within the social media website Reddit. The study site will be the subreddit (discussion board within the website) r/environment due to its discussion of environmental issues.

### 4.1 Study Site

By utilizing the top followed sources within the subreddit r/environment, this study identifies r/environment's most influential pieces of content. All studies evaluated within the literature review that analyze reddit utilize top posts within a certain subreddit to better understand influential content. By gathering the top posts within the subreddit, articles and comments that are the most influential are evaluated and coded (Suran and Kilgo 2017). Reddit as a website and study site enables the collection of data due to its interactive interface. Sorting by the top posts and comments within a subreddit is accessible, which is not common in many social media sites.

Dates will be collected, illustrating the timeframe top articles and posts were produced (Suran and Kilgo 2017). This will create a time-based representation of when people use and share within the subreddit of r/environment. The depth of data covered in my project will help establish wide scale correlations I can evaluate and gain knowledge

from regarding portrayal and communal dissemination of environmental topics. All data will be collected by early February 2019.

#### 4.2 Social Network Analysis

I have created a social network analysis so that a macro-level ideological map exists that shows the various types of environmentalism found within the subreddit. A social network analysis evaluates and describes communication patterns and could potentially identify community structures as well as the most influential users within a forum (Moessner 2018). The nodes of this map will be r/environment articles and the color of nodes will be the various types of environmental journalism portrayed (utilizing coding from Brulle and Detweiler). The edges (lines connecting nodes) within the social network analysis will be the primary sources of articles. Usually this method is utilized in a corporate setting with regards to consumptive patterns, however it is extremely applicable in understanding how news sources are disseminated within crowdsourced news communities. This method will represent the sources that are being crowdsourced by r/environment's community. The amount of upvotes the articles receive will represent the node size, illustrating an article perceived level of influence.

Within reddit anyone can post an article, but that article must have a link to an additional source or webpage detailing further information based on the article headline. By understanding the shared sources of the community, the purpose of this study will be to gain a better insight into where most sources come from on the internet. This social

network analysis will provide the best overall insight into all the data collected, detailing my study within an ideological map.

### 4.3 Content Analysis

I have evaluated, assessed, and coded article titles and top comments to see how communities react to news articles as well as see whether various communities respond with similar or different types of environmental rhetoric to the articles that are crowdsourced. These comments are quantitatively organized utilizing themes from Brulle (2003) and Detweiler (1992). Quotes have been recorded with each environmental article so that future quotes may be used to accurately represent articles and comments.

Because all news sources fall within the subreddit of r/environment, the social media subreddit can also be evaluated to see the community's macro-level environmental philosophies (based on different forms of news sources). I have compiled the dates associated with articles so that discussions and forums have a timeframe in which they occurred. This illustrates when various types of articles emerge within forums and how they relate to larger socio-cultural phenomena. The upvotes for both articles and comments will be documented so that the scope and scale of comments and articles can be analyzed.

Data was categorized using Detweiler (1992) and Brulle's (2003) categorization of discourses. When representing the data, categories emerged that are representative of these codes for articles. These will be different sections within the data. Comments were analyzed with averages for the overall study, showcasing what types of comments

different articles create. This will provide interesting context for each of the article types. For example, articles dealing with the political realm of the environment will measure whether political comments also come from these article types. Bar graphs will be created to illustrate this phenomenon.

#### 4.4 Coding Process

As stated above, 100 of the top “liked” articles within the subreddit r/environment were evaluated. The subreddit itself has approximately 500,000 subscribers. The top 100 articles will be collected and discussed. Within these top 100 articles 2 of the top “upvoted” comments will be coded for and discussed to see how the community is interpreting and projecting various types of environmental information.

While that data was being collected, the amount of upvotes, dates the posts were created, and the main sources were coded for (Suran and Kilgo 2017). This process emulates past studies that evaluated subreddit communities such as Suran and Kilgo (2017), and the ICA (2018) Reddit studies. These codes help illustrate the social network analysis (which I have discussed above). By coding for Reddit’s macro-data influence and scope will be accounted and coded for, not just content. This benefits academic studies that wants to evaluate large scale information networks and their societal influences.

Leadership development suggests that successful leaders move beyond developing a personal identity to also develop a strong sense of collective identity (Ibarra 2009). By evaluating the most “upvoted” comments within the r/environment subreddit,

we can democratically discern leaders based on their rhetoric and its reception from individuals within the community. This is a form of democracy in which the best or most liked ideas and concepts rise to the top. The process of liking and commenting in a subreddit resembles a town hall meeting, however the space itself holds more measurable, quantitative data.

Within the 100 articles and 200 comments, the purpose of this study is to code for the various discourses of environmentalism that are portrayed and discussed in order to better understand how environmental news is disseminated in crowdsourced social media spaces. These codes are heavily influenced by Scott Detweiler's (1992) thesis studying media portrayal of environmental issues and topics. Initial coding categories will be air quality, water quality, human caused environmental harm, environmental additives, management of energy producing resources, wildlife or wilderness conservation, environmental movements, ecological shifts, politics, and the media itself. These coding categories were refined while the coding processes took place and applies to both coded articles and comments. Brulle's (2003) environmental discourses provide background information for these coding categories and illustrates how various individuals interpret environmental issues and content within society. These coding mechanisms combine to represent the data as well as possible.





## 5.1 Environmental Articles

Within the top 100 upvoted articles in the subreddit r/environment, many various forms of environmental articles emerged. The subreddit's description defines itself as a subreddit for "Current news, information and issues related to the environment" (Reddit 2019). The most prevalent accounted for article category within the study related to politics. 42 out of 100 of r/environment articles discussed the various facets and problems facing the political side of the environment. Many of these articles specifically related to the Trump administration's ability to address environmental problems. These articles are illustrated throughout this results section with the color red.

The next largest section within the environmental subreddit was management of energy producing resources. 19 out of the top 100 articles within the environment subreddit discussed how management of energy resources occurs and being implemented in society. These articles also consider how energy resources might be changed so that they are more environmentally friendly and sustainable. The color chosen to represent these articles within the result section is blue.

The next largest section were articles concerned with Environmental movements and groups relating environmental messages. This section held 12 out of the top 100 articles and are represented using the color gray. Wildlife preservation was the next largest section with 10 out of the top 100 articles within r/environment. These articles use the color green in various figures throughout the results section. Environmental pollution is accounted for in 10 out of the top 100 articles and are represented with the color

orange. Next, media related issues, found in 5 out of the top 100 articles, is represented with the color yellow. Lastly, the topic of ecological shifts was only included in 2 out of the top 100 articles within the environmental subreddit and are represented with the color black.

With the exception of the section of articles concerned with politics, topics are somewhat diverse and evenly distributed. Various subtopics also emerged within these sections creating greater discourse regarding their respective areas of topics as well as environmentalism. These subtopics will be discussed here in the results section.

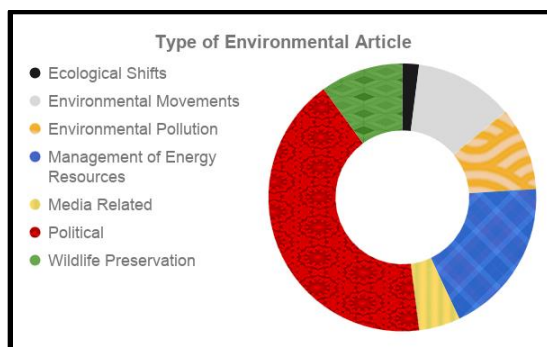


Figure 3: A Pie Chart of Environmental Articles by Environmental Type

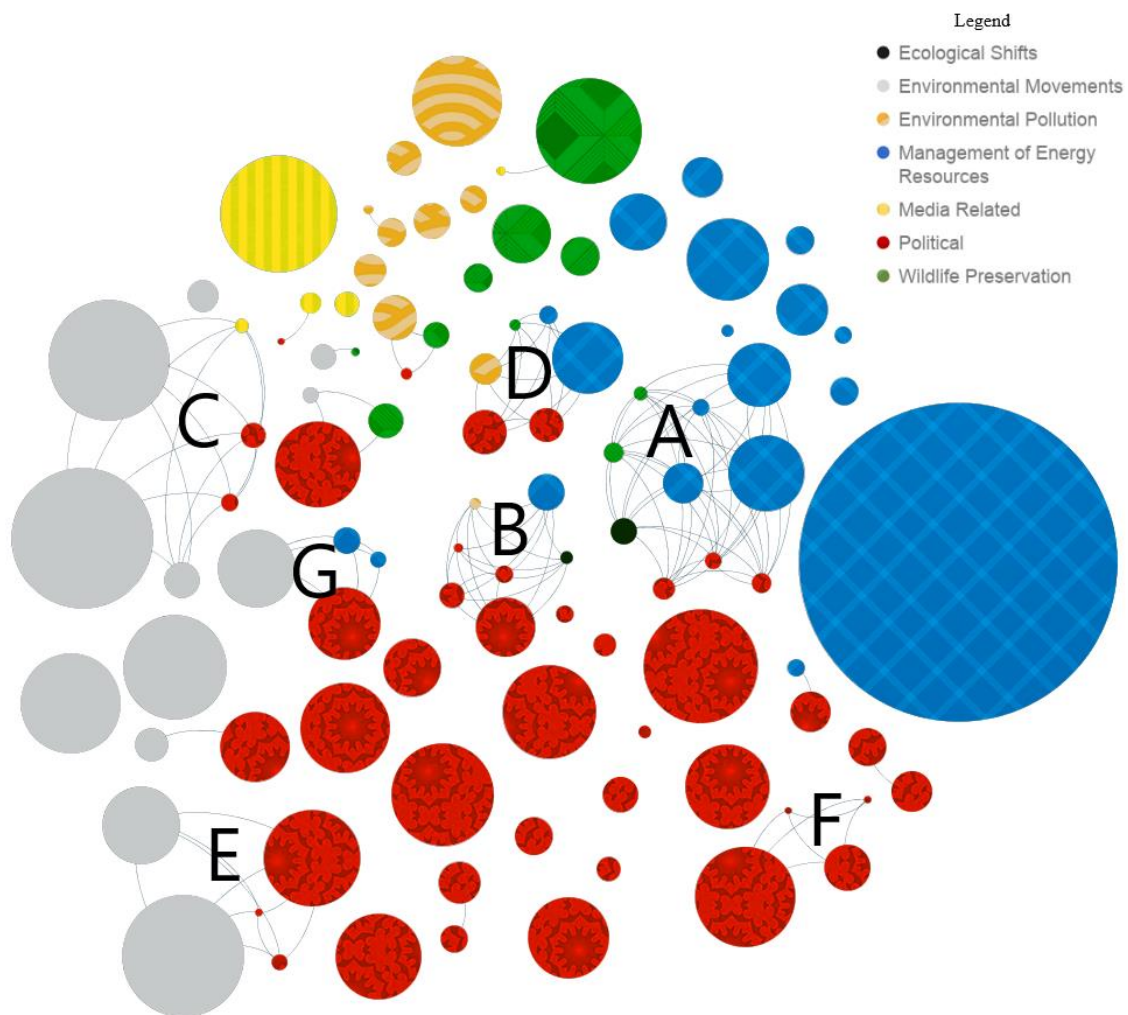


Figure 4: A Social Network Analysis of the Top 100 Environmental Articles in r/environment

## 5.2 Social Network Analysis

This social network analysis was created to illustrate and implement an ideological map of different types of content posted within the subreddit of

r/environment. Interesting findings emerge within the social network analysis of environmental articles. Sixty-six percent of articles did not share a common source; this concept is illustrated by nodes that do not have an edge or are not attached via a grey line. Those nodes that do have a shared edge essentially share a common source for information; thirty-three percent of articles had at least one shared source. Ten articles were sourced from the news outlet *The Guardian* all of which were diverse in themes. Three articles related to wildlife preservation, three related to management of resources, three were political articles, and one discussed ecological shifts. These linkages are labeled on the Social network analysis with an A. *The Washington Post* was the second most popular media source, accounting for seven out of the 100 articles. Four of these articles directly related to politics while one related to management of resources, one related to ecological shifts (global changes in various ecologies) and one related to environmental pollution. These articles are labeled within the social network analysis with a B.

Six articles were self-sourced within Reddit and half of these articles related to r/environment's activism, where users call to different forms of political action, within the subcategory of environmental movements. Two of the articles addressed Politics, and one addressed the media portrayal of the environment. These articles are labeled with a C on the social network analysis. *Thinkprogress.org* had six articles which were also diverse in their representation of issues. Two were political articles, two discussed wildlife preservation, one discussed environmental pollution, and one discussed management of energy resources. These article linkages are labeled with a D on the

social network analysis. *Business Insider* had five sources, three of which were related to politics, while two related to environmental social movements. These article linkages are labeled with an E. The online news source *The Hill* accounted for four articles all relating to politics. These linkages are labeled with an F on the social network analysis. The last major shared source was the news outlet *The Independent*. This source was linked to four articles and had two articles addressing management of resources, one related to politics, and one discussing environmental movements. These linkages are labeled with a G on the social network analysis.

### 5.3 Timeline of Articles

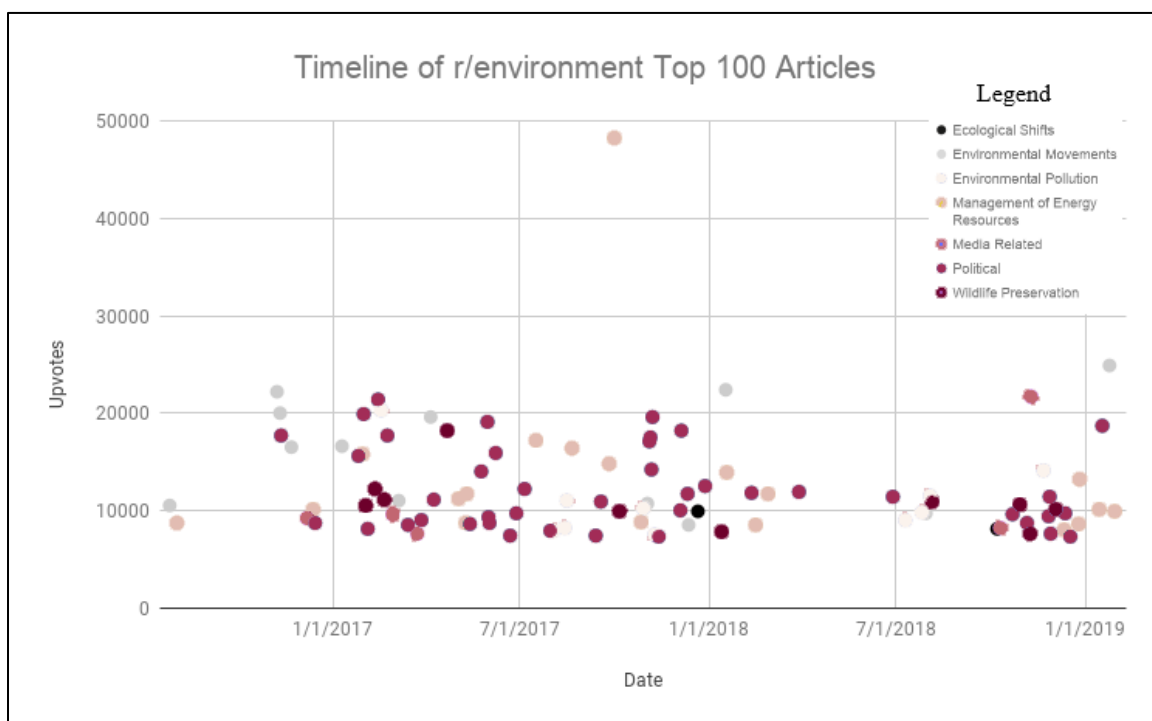


Figure 5: A Timeline of the top 100 articles in r/environment

The timeline of top articles within r/environment illustrates when top articles occur chronologically. All the top 100 articles occurred after the date of 7/1/2016. Moreover, a major increase occurred right after the election of Donald Trump on 11/8/2016 (only two top articles were posted before his election). Interestingly, within the graph there is a cluster of political articles right around the 2018 November elections. All these dates display how r/environment reflects and reacts to American politics, despite environmental issues and news existing within a global phenomenon. The one outlier article, discussing Bill Gates and his funding for renewable energy, towers over other articles at nearly 50,000 upvotes.

The number of subscribers for the subreddit r/environment changed after the Trump election as well. The day Trump was elected there were only 155,000 subscribers (redditmetrics.com 2019). By the same date the following year the number of subscribers increased to approximately 377,000 showing that an extraordinary amount of users that started participating within the subreddit after the election of Donald Trump. As of May 2019, there are 550,000 subscribers illustrating that the trend to participate in the subreddit is continually increasing as the Trump presidency continues (redditmetrics.com 2019).

#### 5.4 Comments on Articles

The top two comments of each environmental article were also coded to gain a better understanding of the community's reaction to these articles as well as to understand how they manifest ideals of environmentalism within the environment

subreddit. Out of 200 comments, 126 were comments providing additional information, 38 were a call to action in some sort of way, 17 were jokes, and 19 were questions asking for additional information. These codes are important for further dissection of concepts and understanding common ideals regarding actions and information the community agrees upon.

The next coded item within the comment section discusses environmental rhetoric within comment texts. Ninety-nine out of 200 comments directly related to the politics of the environment. This was an increase from the representation within the articles themselves; 42 percent of articles discussed politics while 49.5 percent of comments discussed politics. The next largest theme in the comments was economy and globalization which contained 24 out of 200 articles. Reform of environmentalism accounted for 21 out of the 200 articles showcasing its importance as well within the comment section. Reform of environmentalism comments were categorized based on these comments discussing how social movements of the environment in society could be potentially reformed.

Themes of environmental justice, conservation, and animals and food production maintained surprisingly low frequencies during coding, all represented in just four comments each. Lastly wildlife preservation was apparent in only two comments. These overall frequencies help illustrate the community's overall concerns regarding our environment and potential environmental solutions to the complex problems that exist. In the upcoming sections in this chapter, which layout all of the article types in the study, I will dissect the environmental articles that elicited different types of comments,



additionally evaluating and comparing, averages associated with each article subcategory.

### 5.5 Politics

Forty-two out of the top 100 articles within the environment subreddit dealt with politics. Within this theme, three major subcategories emerged. The subcategories of these articles include, transparency, policy, and simply put Trump. 10 out of the 42 articles within this section addressed transparency. Policies were addressed by 13 articles, and articles relating to solely Trump and his rhetoric accounted for 19 out of the 42 articles. Articles about Trump are the most popular and seems to be the most influential within the subreddit of the environment.

#### Transparency:

Discussion of transparency revolved mostly around the Trump administration's ability to affect environmental policy and discredit research and documents regarding climate change. 10 out of the 42 articles dealing with politics discussed transparency. These articles also discussed how the Trump administration is attempting to defund the EPA and alter its main goals. Articles like, "Leaked memo shows EPA told employees to lie about climate science" (Reddit 2017), question the integrity of the government and its ability to affect the various sectors and their main mission statements. It also showcases the divide between political parties regarding environmental issues, especially with regards to transparency.

Another notable headline reads, “Trump officials erase ‘shocking’ amount of climate data from yet another website: You paid for U.S. Geological Survey climate data, but the White House is making it disappear” (Reddit 2017). Not only do articles like this convey the concept of how the Trump administration is altering major institutions regarding climate science, but they also illustrate the ability and power of a government to alter research and knowledge within a desired sector. Articles like this may affect how people perceive power within the United States Government. In the article titled “I am an Arctic researcher. Donald Trump is deleting my citations” (Reddit 2017). It sounds like Donald Trump himself is deleting the articles, creating disdain for the man himself rather than his policies or administration. This contributes to a major concept within my paper which I will discuss further in detail; the concept of the “Trump effect”. Many of these articles discussed Trump himself and his beliefs rather than his policies or administrations ability to affect transparency of major institutions with regards to environmental policies.

Although three distinct categories emerged regarding politics, many themes overlapped including transparency and the Trump administration. The main distinction in categorization is that some article headlines dealt more with transparency as a driving theme as opposed to distaste for Trump’s environmental policies. Many articles discussing transparency, also discussed the Trump administration’s lack of transparency regarding the environment however, not all articles regarding transparency solely discussed the administration and its policies. The article title, “Woman Dragged Out of West Virginia House Hearing For Listing Oil and Gas Contributions to Members”

(Reddit 2018), entailed a more general discussion on government corruption regarding alliances to major industrial powers. Transparency articles like this one call into question the government's motives, as major industrial corporations affect policies regarding macro-level issues like the environment.

Articles that address the political aspects of transparency are important in evaluating how vital information is disseminated and distributed through political realms like the legislative, the judicial and the executive branch. Additionally, they hold administrations accountable regarding their various platforms that discredit, hide, and alter information regarding issues like the environment.

Policies:

Policies regarding the environment were extremely prevalent within r/environment, and specifically in political articles. This may have something to do with many of the top articles existing within the election year. Once again, many of these policies overlapped with the Trump administration's change in discourse regarding the environment compared to past administrations and governments. 13 out of the 42 political articles addressed various environmental policies. "Trump's America First Energy Plan Actually Leaves America Behind - 'there's not a word about the clean energy revolution, a boom in wind, solar, and energy efficiency that is creating millions of jobs, saving billions of dollars, and even saving lives by cutting pollution'" (Reddit 2017). This article took Trump's slogan of Make America Again and reformed it to state that his administration's environmental policies leave America behind.

An article headline like this may be an interesting attempt from its author to bridge political parties regarding the environmental issue. It may also have the opposite effect; this article also had 19900 upvotes, making it the most liked article within the policy section of political articles. It seems the online environmental community of r/environment would support the green new deal rather than just revitalizing past forms of energy production. Another article titled “New Poll Shows Basically Everyone Likes Alexandria Ocasio-Cortez's Green New Deal” (Reddit 2018) illustrates policies the r/environment community sees as bi-partisan and popular amongst the general population.

Two articles from the sample discussed the Paris climate agreement and how Trump is planning to pull out of the deal. The popularity of articles like, “Trump has reportedly decided to withdraw from the Paris climate deal” (Reddit 2017) elucidates that the subreddit of the environment values and sees importance to remain in the Paris climate deal. The two articles dealing with this direct topic of pulling out of the agreement totaled approximately 38,700 upvotes illustrating the deemed importance of the topic. Another article on the topic discussed potential motives for Trump’s administration decision to pull out of the deal; “The Republicans who urged Trump to pull out of Paris deal are big oil darlings: Twenty-two senators wrote a letter to the president when he was said to be on the fence about backing out. They received more than \$10m from oil, gas and coal companies the past three election cycles” (Reddit 2017). This article essentially investigates how lobbyists work within congress, but also puts

blame on Republicans for reinforcing the notion to pull out of the deal. This enlightens readers to how environmental topics fit within narratives regarding party politics.

Trump:

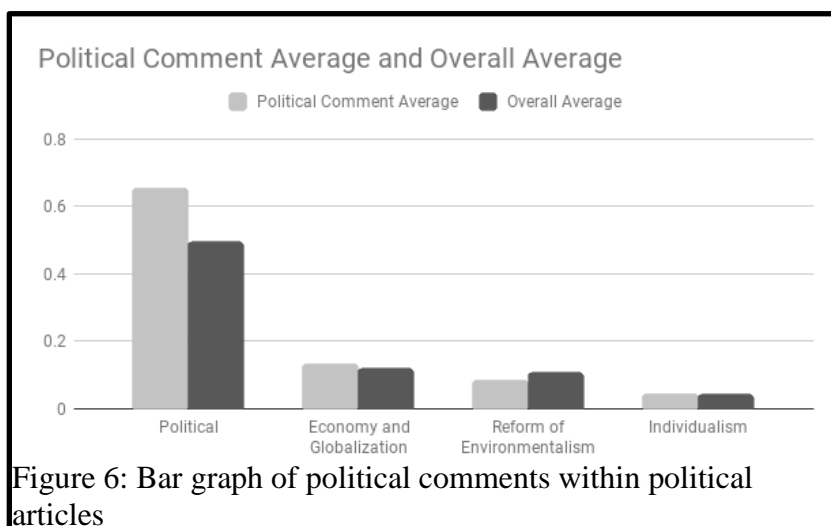
The last section within the politics narratives of the data examines what I am calling “the Trump effect.” Throughout the data analyzed above, Trump is already the most recurring theme regarding the environment and environmental articles within r/environment. This theme is so prevalent I felt it necessary to devote an entire section discussing Trump within the politics section of my data. 19 out of the 42 articles relating to the politics of the environment discussed Trump and, in some cases, his controversial remarks. This categorization was made due to many articles discussing how dangerous Trump’s presidency has the potential to be. These were the main focus of Trump related articles. The article, “Trump’s presidency is dangerous for the planet” (Reddit 2017), establishes the fact the subreddit does not seem to support President Trump, and that, as an individual, he is a threat to the environment and potential environmental policies. “Donald Trump’s stance on global warming is ‘sociopathic, paranoid and malevolent’, world-leading economist says” (Reddit 2017), an article which received 15,900 upvotes, doesn’t discuss much other than Trump's perceived incompetence. It will be interesting to see the types of comments regarding Trump articles to see if they continue to discuss his individual incompetence or whether they attack his various policies and transparency issues.

Articles such as, “Dem lawmaker: Trump 'tweeting like a child who hates science class” (Reddit 2017), again lack critical political substance regarding the environment,

however, the articles does showcase the Trump effect, and how he individually is perceived to be a danger to the environment. “France lures U.S. scientists with anti-Trump climate grants. Several U.S.-based climate scientists are about to win multi-year, all-expenses-paid grants to relocate to France” (Reddit 2017), discusses France’s attempt to create an anti-trump policy which in effect transfers discussions from environmental issues to anti-Trump issues. The Trump effect has an immense effect over environmental discussion, and it will be interesting to see how commenters react to these various political articles.

#### 5.6 Comments within Political Articles:

Various types of top upvoted comments emerged on the political articles detailed above. 55 out of 84 comments in the political article section dealt directly with politics. Economy and globalization was the second largest comment theme represented in 11 out of 84 comments. Reform of environmentalism was mentioned within seven comments. Discussions of individualism were prevalent within three articles, Media was mentioned



in two, and wildlife management in one. Different types of comments also emerged; 55 of 84 comments related to supplying additional

information, while 19 discussed a call to action in some sort of way. Six comments asked questions while four were meant as a joke.

The comments that dealt with politics directly related to articles discussed within the political realm. Many comments that relayed information directly discussed the issues revolving around Trump and his administration. “I think Trump just doesn't care about the environment, wildlife or anything along that line” (Reddit 2018), helps illustrate the “Trump effect” that has taken over social media and social media portrayal of the environment within r/environment.

Five comments that were a direct call to action discussed transparency related issues in various ways. One comment stated “By forcing companies to reveal all payments, it is harder to disguise such payments and when a company does so, it is clearly illegal as opposed to being in the grey area. Another advantage of the transparency law would reveal how different countries act as tax havens making exemptions for large companies and get them to channel their profits through those countries” (Reddit 2017). Another comment stated “If we ever get through this era of Trump, I feel like laws need to be passed against blatantly lying to the public. I know things like laws and morals don't seem to faze this man but for goodness sake we need to start somewhere” (2017).

A last example stated “I will never understand why the US has no unified federal ombudsman laws. They're not uncommon in other countries, and the US clearly needs them” (Reddit 2018). Transparency seems to be the number one call to action within the political comment section. This trend mirrors the trends of article titles relating to the

political realm of the environment. The top comments within the community seem to view these issues as directly relating to change that can be implemented right away within our political system.

Comments discussing politics within political articles are above the study's overall average meaning political articles elicit political discussions higher than average (Figure 6). This makes sense due to the similar rhetoric espoused in both the articles and the comments. Additionally, the only other comment category that was higher than the overall average of the study was the comment section that discussed the economy and globalization (Figure 6). This shows the importance of both topics within the subreddit community of r/environment.

Economy and Globalization was the second largest comment type within the political category, encompassing 11 out of 84 comments. Many comments discussed issues relating to society ignoring the renewable energy industry. "By just focusing in coal and oil, America will be left behind economically from competition" (Reddit 2017). Other comments critiqued the profit motive within capitalism due to its inherent ability to value cost effectiveness over the environment and human health. "the same man that fought the phasing out of asbestos (a substance proved to very prone to cause cancer) because it was cheap" (Reddit 2017). One commenter did an excellent job summarizing this section within the comments. "I don't understand how any of this is conservative or republican at all. This isn't even an ideological thing, it's just about money" (Reddit 2017). It seems commenters relating political issues to the global economy want to discuss the economic influences within politics as opposed to just politics itself. The topic



of economy and globalization was represented above average within the political articles section (Figure 6).

Rhetoric around reform of environmentalism appeared in seven comments. A few of these top comments were upset with the other comments relating to politics. “I’m talking to my brother about climate change and just every single post is donald did this donald [sic] did that. I’d just like some interesting facts about what’s going on. But it’s just r/politics at this point” (Reddit 2017). This comment was one of two within my study that were upset with r/environment’s hyper focused rhetoric on Trump, further illustrating the “Trump effect”. Another comment within the section discussed danger with terms like “belief in science”. “We have to stop talking about ‘belief of science’. This is not something you choose like a religion. The correct way that we should be saying is is ‘We’ve got people in charge of important shit who don’t understand science’” (Reddit 2017). Although comments regarding reforming environmentalism did not deal with reforming environmental movements within the political articles section, they did discuss ways in which environmentalists or those who are part of the environment subreddit can alter discussions relating to these issues. Reform of environmentalism, or the call to change current environmental social movements, was underrepresented compared to the overall average within political articles.

### 5.7 Management of Energy Resources

Nineteen out of the top 100 articles within the environment subreddit dealt with how management of energy resources is harvested and distributed. Discussions also

talked about how these processes can change for the people's benefit. Within this section of articles, 4 major subtopics emerged. Eight out of the 19 articles dealt with specifically the topic of fossil fuels and 7 out of the 19 articles discussed various policies regarding management of energy resources. These articles discussed various ways the government is implementing policies that help form how management of energy resources exist, politically. Finally, four out of the 19 articles discussed renewables and consumption within society, offering potential solutions and possible ways to conduct these proposed solutions.

#### 5.7.1 Fossil fuels

Within the subcategory of fossil fuels, articles discussed the coal industry's ability to effectively alter discourse regarding their industry. In addition, articles discussed how some CEOs and higher ups within the industry admitted contradictory facts regarding their industry such as the claim that clean coal does not exist. Articles like, "Coal CEO admits that 'clean coal' is a myth" (Reddit 2017), show how the subreddit discusses various issues relating to fossil fuels and the complexities involved with the fossil fuel industry. "Clean coal' doesn't exist" (Reddit 2017). It seems the subreddit itself discredits the ability for the coal industry to continue to thrive if transformations within the energy sector need to occur. "Trump's promise to bring back coal jobs is worse than a con | telling those communities, in effect: The best hope they have, and that their children have, is to be trapped in a dying industry that will poison them" (Reddit 2017). The author of this article headline illustrates the belief in coal destroying lives rather than

enriching them. Due to Trump's discourse regarding coal, this once again establishes the notion that the environment (and industrial energy) fits within a political narrative.

### 5.7.2 Policies

The policies section of articles relating to management of resources discusses the various ways governments are attempting to help or diminish the fossil fuel and other environmentally costly industries. 7 out of the 19 management of resources articles within the subreddit related to various policies regarding the industry. "Trump's decision to allow plastic bottle sales in national parks slammed: 'The Corporate Agenda is King'" (Reddit 2017). Two other articles discussed a similar issue regarding the bottled water industry. This discourse shows that the subreddit is not only critical of the fossil fuel industry, but also of other industries that are deemed environmentally harmful.

Environmental policies that are deemed positive also emerge within the subreddit, however none within this section dealt with positive American policies. "China reassigns 60,000 soldiers to plant trees in bid to fight pollution. Area to be planted by the end of the year is roughly the size of Ireland" (Reddit 2018). It seems that the reddit article's author sees reallocating war resources for environmentally friendly policies as positive and inspirational. Another article, "Norway Is First Nation to Ban All Palm Oil Based Biofuel to Prevent Rainforest Destruction" (Reddit 2018), helps illustrate how individual countries could affect global policies. Norway may be an exception to the rule due to their immense amount of wealth and dedication to global environmental problems. In addition, little discussion revolves around developing nations and their environmental policies.

### 5.7.3 Renewables and consumption

The last two subcategories in this section related to investment in renewables and various ways we consume resources individually and as a society. 2 out of 19 of these articles dealt with renewables while 2 out of the 19 dealt with consumption. “Bill Gates thinks the 1% should foot the bill for renewable energy, and he's offering the first \$2B” (Reddit 2017). This article is the most upvoted article in the subreddits history and therefore gives us some insight into what the subreddit deems the most valuable form of environmental actions are. “Elon Musk: ‘We know we’ll run out of dead dinosaurs to mine for fuel & have to use sustainable energy eventually, so why not go renewable now & avoid increasing risk of climate catastrophe? Betting that science is wrong & oil companies are right is the dumbest experiment in history by far’” (Reddit 2018). Interestingly, both articles relating to renewables used excerpts from billionaires that are leading voices within their industry. This may lead to interesting discussions within the comments.

The two articles relating to consumption discussed ways consumption can be altered to help the environment. “President Obama Thinks We Should Eat Less Meat to Help Combat Climate Change” (Reddit 2017). Another article discussed how eating less meat can benefit the environment, entitled, “Why eating less meat is the best thing you can do for the planet in 2019” (Reddit 2018). Both of the consumption articles within this discussion talk about the meat industry and its harmful environmental effects with relation to factory farming although this call to action does not state to cut out meat, but to simply eat less of it. This article has the potential to lead to interesting comments.

## 5.8 Comments on Management of Energy Resources

There were various comment topics found within Management of Resources articles. Thirty-eight comments were evaluated within the 19 articles that were coded. 13

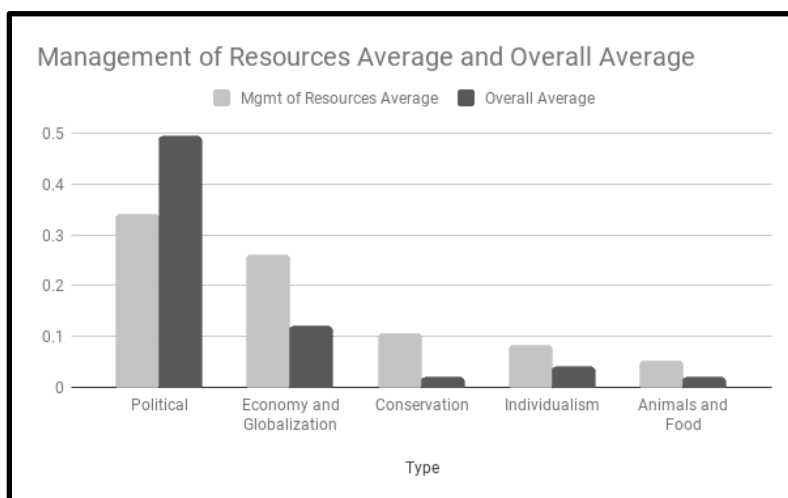


Figure 7: Bar graph of average comment type in Management of Energy Resources

of these comments related directly to the political realm. Ten of these comments related to the economy and globalization. Four discussed conservation, while three discussed individualism. Only one comment discussed environmental justice and reform of environmentalism (one comment each).

Out of the 13 comments relating to the political realm, many comments discussed the various ways in which the energy industry is embedded within the political system; “Clean Coal is and always has been a political tool for the conservatives to put their pawns at ease with funding a deprecated industry. I think it is disappointing how effective it has been” (Reddit 2017). Many discuss the current Trump administration's ability to ignore climate science in the name of politics. “Wait trump supports big business not the people? What a surprise that no one saw coming” (Reddit 2017). “These people want to "devalue" the country they are now being appointed in charge of” (Reddit 2017). Political

comments were underrepresented on average within the Management of Resources articles.

Ten of these comments related to the economy and globalization. Once again, comments within this topic related directly to the barriers that exist with regards to changing our energy systems to renewable sourced energy. Additionally, commenters addressed the barriers in relation to the government's ability to be influenced by lobbyists within the fossil fuel industry. "Oil companies even know that they're wrong. Renewables are the future, so they invest money in renewables. But at the same time, they want to keep making money today, so they lobby Congress to say that climate change is a myth" (Reddit 2018). There seems to be a perceived urgency and fight going on between science and large fossil fuel industries. One comment said, "This is now a fossil fuel industry fighting for its life as the world scientific community warns us that it must die or we will. The gloves are off" (Reddit 2019). The economy and globalization comments within the management of resources section were overrepresented compared to the averages within the study (double the overall average).

Four comments in the Management of Resources section discussed conservation. Two of these comments were discussing the energy related to bitcoin and its immense power produced within the production process. "It's too bad that it doesn't do something useful while wasting energy like machine learning or data training" (Reddit 2018). Another comment concentrated on the specifics, describing the kilowattage used by computer machines producing bitcoin.

“All coal-fired plants should be equipped with carbon scrubbing technology. But this technology should not be used to prop up the dying fossil fuel industry as is being done here by Trump. It should be used to mitigate the effects of coal energy while our civilization is transitioning to fully sustainable and non-polluting sources of energy” (Reddit 2017).

It seems conservation is a key issue, however commenters on r/environment seem to understand the urgency and need to transition to renewable forms of energy.

Conservation was overrepresented compared to the averages of the study.

Different types of rhetoric were also accounted for. Out of 38 comments, 29 added additional information to the topic. Only four were a call to action. All the call to action comments related to how we could conserve various types of energy including natural resources. Three of the comments were jokes, while two were questions.

### 5.9 Environmental Movements

12 out of the top 100 articles within the environment subreddit engaged with environmental movements. I have broken down these articles further because a call-to-action existed itself within the subreddit as opposed to traditional forms of social movements. Three out of the 12 articles within this section discussed an environmental problem and a way for the subreddit to act. This demonstrates how the environment subreddit itself may be perceived as an environmental group or movement. Nine out of the 12 articles discussed movements happening outside of the subreddit in the real world.

The articles pertaining to movements occurring across the globe discussed individuals coming together to protest or motivate a certain environmental point of view. Six out of these 9 articles discussed movements that directly related to holding the Trump administration accountable. “Trump has scientists mad enough to march on Earth Day.

Simply telling the truth has become a political act. By marching for truth, scientists are not being political - they are merely doing their job” (Reddit 2017). Additionally, articles discussed various lawsuits emerging to combat the Trump administration. “The Trump Administration Just Went To Court To Stop Kids From Suing Over Climate Change. Twenty-one young people are suing the US government for contributing to climate change in violation of their constitutional rights” (Reddit 2017).

Other articles discussed various movements happening across the globe. One article discussed a major movement happening within the Belgian youth. “35,000 Belgian High School students skipped school to urge the Belgian government to adopt solid and effective climate change policies. Third week in a row of skipping school (first week: 3000 students, second week: 12 500 students, now 35 000 students) #YouthForClimate (Reddit 2019). Some other articles discussed veterans reporting to standing rock to fight the implementation of a pipeline. “U.S. Army veterans are planning a 'deployment' to Standing Rock to protest the Dakota Access Pipeline: “This country is repressing our people. We need to do the things that we actually said we’re going to do when we took the oath to defend the Constitution from enemies foreign and domestic” (Reddit 2016). Articles like this one once again discuss the dimensions of appropriating war related issues into environmental ones. War rhetoric is now being used to discuss environmental issues, illuminating an interesting theme.

Three out of the 12 articles relating to Environmental movements discussed ways in which the subreddit itself could adopt change with regards to various environmental policies. “Let's get Trump to accept climate change” (Reddit 2016), an article on the



subreddit, attached various ways individuals could contact Trump’s administration to discuss the serious impacts of ignoring climate change. This article was written on November 8th 2016, the very day Trump became the president elect. Another post emerged only three days later discussing how to bring about more change. “Trump is asking us how to make America great again...It's our chance to tell him how important the issue of climate change is to us!” (Reddit 2016). The link this article posted involved a .gov website in which individuals could voice their opinion or “their story” so that their voices could be heard by government officials. The last post relating to reddit itself appropriating change involves the U.S. bill that would dismantle the EPA (Environmental Protection Agency). “US House Representative Matt Gaetz is sponsoring Bill H.R. 861 - Which would terminate the EPA. Here is his contact information if you don't want to see unmitigated pollution, toxic dumping and the rape of our public lands in the US -” (Reddit 2017). All these self-posts that call to action may lead to various interesting phenomena occurring within the comment sections.

#### 5.10 Environmental Movements Comments

I coded twenty-four comments within the environmental movements section. 12 of these comments related directly to politics. Six related to reforming environmentalism. Two articles discussed issues regarding environmental justice. Only one comment discussed the media or the economy & globalization (one comment each). Within Environmental Movement articles, 12 comments discussed politics within Environmental Movement articles. One Comment read, “They have managed to get the attention of

international press, organizations and European political parties which helps to build up the pressure on Belgian politicians” (Reddit 2019).

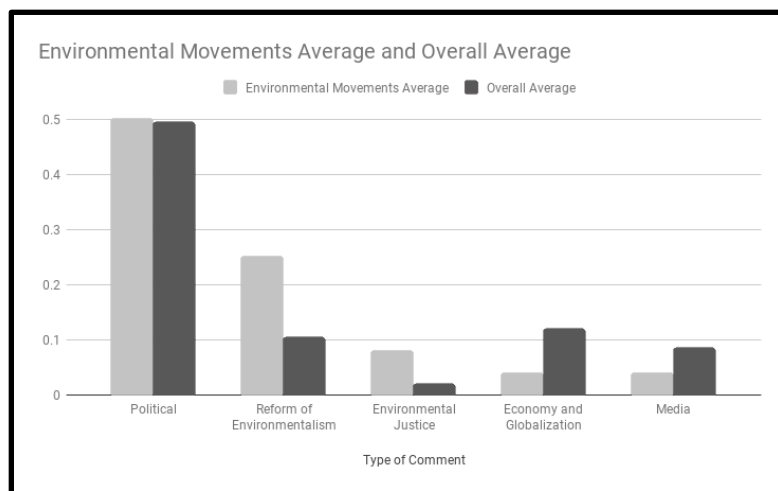


Figure 8: A bar graph of comments within environmental movement section

important piece to the environmental movement conversation. “It forces (safety)

regulations on companies that could make some more profit if they weren't required not to poison people” (Reddit 2017). Political comments were represented about on average with the overall average of the study.

Six comments related to reforming environmentalism. One comment discussed how by just focusing on Republicans and Donald Trump users within r/environment are ignoring the larger picture regarding the environmental movements’ influence within politics. “I wonder if people knew about this when the kids started the process during the Obama administration? I'm sure most people will see this and think ‘great! Regular people are fighting against the Trump administration’ when in fact this has been going on for the past few years” (Reddit 2017).

Many of these comments discuss the influential impact environmental movements have on the political process. Discussions also elucidated why politics and policies were such an

Other comments discussed how important it is to appropriate change individually instead of waiting on the government. “I dunno...seems like everyone is sitting around waiting for the government to come save us all. What we need is people to stand up and take the bull by the horns” (Reddit 2016). Another comment showcased how the rhetoric within environmental movements needs to change so that Conservatives could hop onto an ecological platform. “Why not switch how we talk to them about climate change and talk their language. Instead of pushing a better planet talk about economic growth, economic opportunities, and jobs created from clean energy” (Reddit 2016). Reforming Environmentalism was overrepresented on average within the environmental movements section of the study. This makes sense due to the shared rhetoric type.

With other coding processes, 14 comments discussed additional information while seven were a call to action of some sort. Two comments were questions and one comment was a joke.

### 5.11 Wildlife Preservation

Another major interest of the environmental subreddit focuses on wildlife lands and wildlife preservation. Ten out of the 100 articles within the subreddit were related to protecting various aspects of wildlife. Four out of the 10 articles related to endangered species and various aspects regarding them. Three out of the 10 articles dealt with protection of wildlife lands and ways to help conduct change regarding protecting these wildlands. Lastly three out of the 10 articles discussed policies that were or are being created affecting aspects of wildlife preservation.

### 5.11.1 Endangered species

Four out of the 10 articles relating to wildlife preservation discussed endangered species. All four of these articles discussed the Trump administration's mishandling of issues surrounding endangered species and the endangered species act; "Now Trump's Going After the Bumblebees: The administration just delayed endangered status for a bumblebee species that's on the brink of extinction" (Reddit 2017). More articles surfaced discussing Trump's administration and their ability to ignore endangered species; "Trump Administration Denies Endangered Protections For 25 Species. 'You couldn't ask for a clearer sign that the Trump administration puts corporate profits ahead of protecting endangered species'" (Reddit 2017).

Questions were also raised concerning Trump's promised policy measures; "Trump's 'beautiful wall' threatens 111 endangered species" (Reddit 2017). The combination of threats endangered species and the Trump administration's laws and policies regarding these endangered species will foster an interesting discussion within the comment sections.

Three out of the 10 articles within this section related to wild lands and various ways they are protected. "Man Postpones Retirement to Save Reefs After He Accidentally Discovers How to Make Coral Grow 40 Times Faster" (Reddit 2018). Articles like these are the few optimistic examples in an ideological landscape where most articles are pessimistic. In the article, "Swiss Businessman is Contributing \$1 Billion Towards Protecting 30% of the Planet" (Reddit 2018), power is in the hands of rich individuals that hold social and monetary capital.

Not all articles regarding protection were positive, the article, “Donald Trump’s Earth Day Statement Is Shameful: Trump released an Earth Day statement touting his commitment to protecting the environment, despite doing the exact opposite in the first few months of his administration” (Reddit 2017), shows how Trump’s statement regarding protecting the environment on earth day was received by the individual writing the article. It will be interesting to see if the comments mirror this sentiment regarding Trump.

#### 5.11.2 Policies

Three out of the 10 articles discussing wildlife preservation discussed the various policies regarding preservation, “After protests & public outcry, GOP bill to sell off 3.3M acres of public lands has been withdrawn” (Reddit 2017). This article discusses the power of environmental movements and rhetoric to change bills and laws that affect wild lands. The article, “Fury after China reverses 25-year-old tiger bone and rhino horn ban” (Reddit 2018), takes issue with China’s reversal on wildlife protection laws that exist somewhat universally across the globe. It will be interesting to see how commenters respond to this news. The last article related to Trump’s response to California wildfires. “Trump Blames ‘Bad Environmental Laws’ for California Wildfires, Says ‘Must’ Cut Down Trees” (Reddit 2018). With Trump’s critique of environmental laws within California, I suspect diverse opinions will emerge regarding this subject matter.

### 5.12 Comments on Wildlife Preservation:

Twenty comments were coded within the ten articles on Wildlife Preservation. Twelve of these comments directly discussed politics, four discussed reformation of environmentalism, two discussed the media, and one related to the economy and globalization.

The political comments that dealt with Wildlife Preservation discussed the Trump administration's stances on wildlife as well as how Republicans exacerbate the exploitation of the environment. "I get the strange feeling that President Trump doesn't really care about the environment or those things living in, on, or around it" (Reddit 2018). Another comment stated, "Republicans be like: 'The environment is a liberal conspiracy'" (Reddit 2018). Political comments were overrepresented on average compared to the overall average of the study.

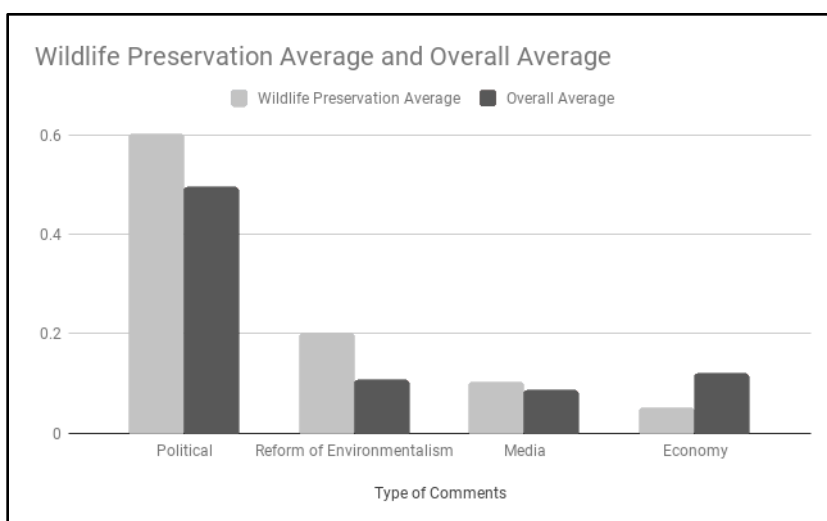


Figure 9: Bar graph of wildlife preservation comments on average

Four Comments discussed reforming environmentalism. "We need to keep vigilant to watch what he is planning with the Endangered Species Act, but let's not make up stuff" (Reddit

2017). It seems the Trump effect has taken over the article headlines however there is some push back from commenters discussing how change can be implemented within environmental discourse, while resisting focus on Trump. Despite the Trump effect, a few comments discussed different organizations that are helping to retain and preserve wildlands. “there’s an organization called rainforesttrust.org They save acres of rainforest through land purchase. Check it out” (Reddit 2018). Reform of environmentalism was overrepresented within articles discussing Wildlife Preservation.

With additional coding nine of these comments went further into detail regarding information. Five comments were a call to action of some sort. Four of the comments asked questions to prove a point or to gain further information. Two of the comments were jokes.

### 5.13 Environmental Pollution

Environmental pollution is a prevalent issue when it comes to discussing environmental problems. Ten out of the 100 top articles within the environment subreddit related to a form of environmental pollution. Five out of those 10 articles dealt with harms explicitly caused by human creations, such as pesticides and toxic pollution. Three out of the 10 articles discussed humans polluting waterways. And lastly two out of the 10 articles discussed air pollution.

#### 5.13.1 Human

Five out of the 10 articles related to human harm to the environment via pesticides and mismanagement of resources. “Trump’s Legacy: Damaged Brains, This is what a

common pesticide does to a child's brain. -- Studies show that it damages the brain and reduces I.Q.s while causing tremors among children. Now the Trump administration is embracing it, overturning a planned ban that had been in the works for years" (Reddit 2017). Once again, we see a Trump narrative within a section relating to environmental pollution. "Thanks to Republicans, Pesticide Companies Are Now Free to Kill All the Endangered Species They Want - "It's like kicking them when they're down" (Reddit 2018). Conversely one article discussed positive change with regards to pesticides. "France is the first country to ban all five bee-killing pesticides" (Reddit 2018). With regards to pesticides one article discussed Monsanto and its ability to affect scientific research and sway government policy creating a lack of transparency in government with regards to vital health information. "Monsanto 'bullied scientists' and hid weedkiller cancer risk, lawyer tells court" (Reddit 2018). I believe the combination of health and lack of transparency will lead to interesting comment discussions.

### 5.13.2 Water

Water related issues accounted for three out of the 10 articles relating to environmental pollution. "The EPA Is Beginning To Roll Back An Obama-Era Rule Limiting How Much Toxic Waste Power Plants Release In Water. | so beholden to big business that they are willing to let power plants continue to dump lead, mercury, chromium and other dangerous chemicals into our water supply" (Reddit 2017). These articles hold political merit reiterating the notion that bi-partisanship does not exist within the political environmental realm. "Trump caps off a long day by letting coal companies dump waste into streams" (Reddit 2017). All the articles that discussed water within these



sections related directly to politics and transparency. “Poison once flowed in America's waters. With Trump, it might again” (Reddit 2017).

### 5.13.3 Air

Two out of the 10 articles dealing with environmental pollution discussed air pollution. One article discussed California and its air pollution problem. “‘This is a stupid policy’: Emissions become latest front in California-Trump war- ‘motorists will pay more at the pump, get worse gas mileage and breathe dirtier air. California will fight this stupidity in every conceivable way possible’” (Reddit 2018). Another discussed the political implications of transitioning former policies to new ones; “One day after getting sued by 15 states, the Environmental Protection Agency on Wednesday reversed course on its plans to delay implementation of Obama-era rules intended to reduce emissions of smog-causing air pollutants” (Reddit 2017).

### 5.14 Comments on Environmental Pollution

Twenty comments were coded for within 10 articles relating to environmental pollution. Seven comments related to politics. Three comments discussed the media and its portrayal of environmental pollution problems. One comment discussed environmental justice. One comment related to the economy and globalization. One comment discussed reformation of environmental movements and one comment also discussed wildlife management. Seven comments relating to politics discussed the various ways politics and policies have changed overtime to accommodate environmental pollution. One user wrote, “Did you know the amount of vehicle pollutants in the air in the LA basin is down

98% since the 60s/70s, despite gasoline usage being up 3x? Purely due to CA clean air laws. Which we will not give up on. California will win this fight” (Reddit 2018).

Comments like this depict the issue of environmental pollution as a fight between policies and industrial waste. Politically themed comments also discussed the major

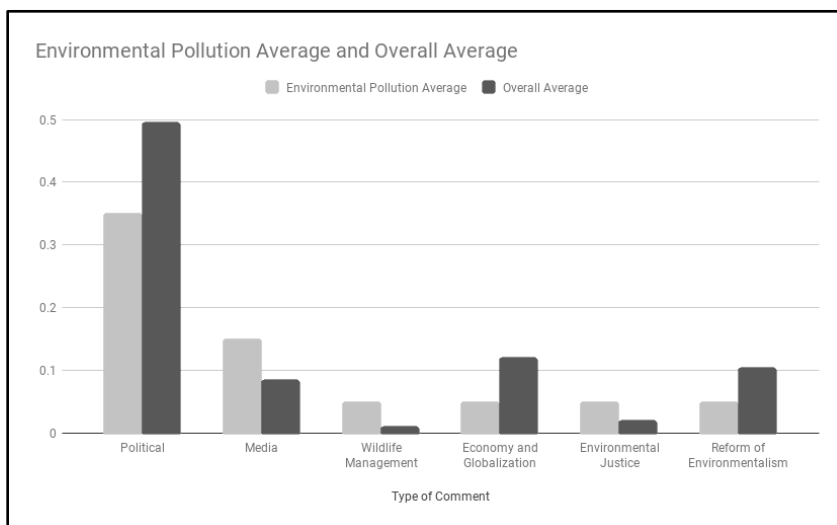


Figure 10: Bar graph of environmental pollution comments by average

influence money has on politics and political decision making within the Trump Administration. “I’m sure it’s just coincidence that he gave a shitload of

money to Trump and now his company can destroy the environment again. Such absolutely disgusting human beings” (Reddit 2018). Political comments were underrepresented on average compared to the overall average of the study.

One comment read, “We don’t give a damn about our planet. Here’s hoping we can fix our shit in time” (Reddit 2018). Another comment wrote, “How much toxic heavy metal do you want in your water supply? Um.. None” (Reddit 2017). The overall feeling of pessimism is rampant within the Environmental Pollution section. These types of comments are way overrepresented within this section compared to the overall averages of the study.

Three comments discussed the media's portrayal of issues regarding environmental pollution. "Reddit's ad section told me the weed killer was not a threat. Interesting. Proof that you can advertise any nonsense these days" (Reddit 2018). Comments like these help question problems with large scale social media companies, like Reddit, portraying issues related to the environment. Discussion of media within the environmental pollution section was overrepresented compared to the overall average of the study.

The 20 comments within environmental pollution were also coded for rhetoric type. 10 of these comments discussed information in further detail. Five comments made a joke of some sort. Four comments asked questions relating to the topic.

#### 5.15 Media Related

Five out of the 100 articles within the environment subreddit dealt with media and the ways media has succeeded or failed in representing environmental issues. One article that critiqued the media was titled, "The media has essentially stopped covering climate change" (Reddit 2017). Other articles also discussed various outlets winning in debates with other outlets regarding climate science. "Fox News host Tucker Carlson bit off more than he could chew when he tried to go head to head with 'Science guy' Bill Nye over climate change" (Reddit 2017). Another article title reads, "Climate Deniers Debunked: Weather Channel Brutally Owns Breitbart" (Reddit 2017). These articles once again bring the notion of politics into the equation. It will be interesting to see how individuals

in the comment section respond to these various types of rhetoric (Ones that attack right wing outlets versus ones that attack all media outlets).

### 5.16 Comments on the Media

Out of five articles, I coded 10 comments. Seven comments discussed media even further. Two comments discussed reformation of environmentalism. One comment discussed individualism.

The seven comments that discussed the media illustrated the immense amount of power the media had in detailing issues revolving around the environment. “God, these

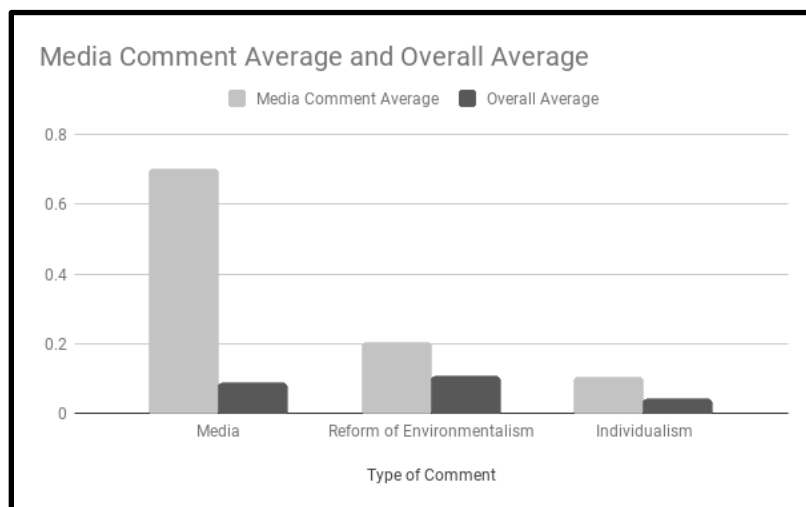


Figure 11: Bar graph of comments on media related articles

fucking headlines. No one was owned, nothing was brutal. Someone just took the time to explain the truth using facts, and asked others to do the same” (Reddit

2016). Another

comment noted, “No one

cares about an ad drenched Gizmodo page saying we should check out the YouTube video” (Reddit 2016). Another commenter discussed his own thesis regarding environmental news writing, “I researched this as part of my thesis and had to conclude that climate change coverage between 2010 and 2015 was roughly the same. The trend

shown here looks scarier than it is. It focuses on the US and only on television coverage. Newspapers tend to cover more climate change than television and they haven't stopped covering climate change" (Reddit 2017). Comments like this showcase how different individuals browse and comment within these online communities.

Seven of these comments discussed information with further detail. One comment was a joke. One comment asked a question. One comment was a call to action.

### 5.17 Ecological Shifts

Finally, two out of the 100 articles within the environment subreddit dealt with ecological shifts and the immense power they have on our human society; "Earth has lost 10% of its wilderness since 1992. At current rates it will all disappear in 50 years" (Reddit 2017). Another article was produced showcasing the immense power of climate change. "The World Has Barely 10 Years To Get Climate Change Under Control, U.N. Scientists Say" (Reddit 2018). Although the sampling produced few articles within this section, a lack of content at times can explain phenomena unseen if they were plentiful within the subreddit.

### 5.18 Ecological Shifts Comments

Four comments were evaluated within articles about ecological shifts. Two comments discussed animals and food production. One comment discussed individualism. Two comments discussed information in further detail. One comment was

a call to action. One comment was a joke. Due to the low amount of frequencies regarding ecological shifts, no graph was created.

## 6.0 DISCUSSION

### 6.1 Social Network Analysis

The two largest nodes (circles) related to Politics and Management of energy resources. The nodes create an ideological map of the content shared within r/environment. The larger a node, the more upvotes that article received. The color of nodes were determined by the type of environmental content the article title elicited. These seem to be the topics that gain the most traction and discussion within the r/environment community. Edges provided an interesting phenomenon. Edges illustrate shared sources. When a source was used by multiple articles, an edge (or line) was created to illustrate that shared source. Only 33 articles had a shared source illustrating that 67 article sources only appeared once. This shows that the r/environment subreddit utilizes sources from a wide variety of online sources. A greater number of sources does not necessarily mean better information comes from these sources. People who prefer social media outlets for news information do not self-expose themselves to high-credibility sources (Pearson and Knobloch 2018). Social media users repeatedly use obscure news outlets. This reemerged within my social network analysis, entailing a possibility of these sources espousing low-credibility information.

Legacy media newspaper outlets that are now primarily online, were heavily sourced. The Guardian was the most sourced website with 10 articles. The Guardian is a news company from the United Kingdom that dates to the early 19<sup>th</sup> century. The website

itself measures high for factual reporting and has self-identified in various articles as being a left-wing publication ([mediabiasfactcheck.com](http://mediabiasfactcheck.com)). The second most common source was The Washington Post with 7 articles. Recently purchased by Amazon CEO Jeff Bezos for 250 million dollars, The Washington Post is more trusted by liberal readers than conservatives according to a 2014 pew research poll. Although these are major online news outlets, their messages take on new meaning when individuals contribute and rename them within the r/environment subreddit. According to [mediabiasfactcheck.com](http://mediabiasfactcheck.com), the top two news sources within the top articles in r/environment, self-identified and were more heavily trusted by liberal individuals (2019). This leads to the conclusion r/environment prefers liberal news outlets to conservative outlets. Both the Washington Post and The Guardian used credible sources ([mediabiasfactcheck.com](http://mediabiasfactcheck.com)). Reddit itself and thinkprogress.org had 6 sources shared each. This also illustrates the community's usage of non-profit organizations not just commercial websites that were discussing environmental topics. ThinkProgress itself is an organization that was conceived to discuss and evaluate American politics. This website is a project of the Center for American Progress Action Fund which is a public policy research organization founded by John Podesta (Chairman of Hillary Clinton's 2016 Presidential Campaign). Although this group has left wing ties, they state that they are editorial independent ([mediabiasfactcheck.com](http://mediabiasfactcheck.com)).



## 6.2 Politics, Policies, Transparency and the Trump Effect

With 42 percent of articles and 49.5 percent share of comments, politics is the number one issue the r/environment community discusses. This creates and represents the subreddits ideology and identity. Political issues were brought forward, and they can be categorized in various ways. Policies from individuals portraying their ideals on the government was a prevalent topic within the subreddit. Policies also conveyed (some that did harm as well as some perceived to do good) an important political topic the community discussed. 13 out of the 42 articles related to policies. The most prevalent article type within policies related to the Trump administration and its movement towards backing out of previous environmental policies. These illustrate the innate issue with government, however (not to the community's fault) also fail to interrogate and put forward policies that may remedy the perceived environmental crisis. This hyper-focused narrative on the Trump administration depicts the obsession the r/environment community has with political parties and political outcomes from these parties. Within the online news era, individuals are prone to confirmation biases and utilize selective exposure to reinforce political ideologies and tendencies (Westerwick, Johnson, Knobloch-Westerwick 2017). Due to r/environment's use of liberal article sources, and the Trump effect, potential conservative users may be turned off to the subreddit and its rhetoric. It's already difficult for certain social media sites portraying news to gain a wider audience (Mitchell and Lim 2018).

The most prevalent policy prescription people had involved critiquing the government's transparency regarding environmental issues. In fact, many policies people introduced dealt with the transparency of government. It seems in order to protect the environment individuals in r/environment required transparency and honesty from institutions that represented the environment within the government. Within the political article section, a heavily above average political response was elicited from comments. This reinstates the community's perceived importance regarding politics within environmental policies. The r/environment subreddit sees the importance of transparency within government, and that policies that enforce transparency, like ombudsmen laws, are deemed functional ways to instate policy prescriptions.

Ten out of 42 articles within the political section discussed transparency within government as well as the suppression of citizens' expressions regarding the environment and environmental policies. A main concept regarding transparency discussed the major influence industrial powerhouses and money have within our government and their policy descriptions. Once again, this section had the focal point of the Trump Administration and its lack of transparency. One article titled "I am an Arctic researcher. Donald Trump is deleting my citations" (Reddit 2017) illustrates the distrust the r/environment community has for not only the Trump Administration but also Trump himself.

Out of the 100 top articles within the r/environment subreddit, all their dates fell between November 8th, 2016 and February 2019. November 8th, 2016 was the day Trump was elected into office. It seems r/environment had a significant boost in usage because of the election of Trump. It also seems that popular article topics began to

discuss Trump and his perceived lack of competence relating to environmental issues. It is not clear whether this means more people identify as environmentalist or whether people are trying to find additional reasons to dislike Trump.

Trump himself became a topic within the political section of the study. Despite most articles relating to the Trump administration, their lack of transparency, and their environmental policy removal, personal attacks against Trump were also the focal point of many articles. 19 out of 42 of the articles within the politics section (19 percent of the overall articles) were attacks on his beliefs personally rather than attacks on his administration's negligence regarding environmental topics. For example, one article titled "Dem lawmaker: Trump 'tweeting like a child who hates science class'" (Reddit 2017) illustrates how the crowdsourced r/environment subreddit doesn't necessarily need to be on topic with regards to environmental issues.

This is a major example of how the Trump Effect, can alter discourse on the r/environment subreddit. It relates when issues related to the environment (or other ecological political issues) become secondary to the perceived lack of competence and distaste for a political individual, like Trump, who holds political power. It creates a power dynamic in which content relating to an issue is not the focal point of discussion. This can be extremely dangerous to discussion revolving around an issue like the environment because it alters topics and discussion points. It also creates a form of echo chamber where it's easy to state a comment that everyone within the community agrees with that holds little substance but will still be liked heavily. The Trump effect is the

main reason 42 articles relate to politics while 10 relate to environmental pollution and 2 relate to ecological shifts.

### 6.3 Management of Energy Resources, Dominant Voices, and Policies

19 out of 100 of the articles dealt with Management of Energy Resources. 8 out of the articles within the 19 discussed industries and their resources. A few major voices emerged within this section. Bill Gates and his declaration to fund the industry of renewables was the largest upvoted article in the r/environment community by a wide margin. In addition, this section featured Elon Musk and he was quoted discussing how fossil fuels are a diminishing resource within the globe. The voices of wealthy and influential individuals were largely present within this management of energy resources section. Some comments were critical of these voices stating that wealth inequality and the capacity for capitalism to coagulate wealth contributes to many of the ecological harms we experience on earth today.

8 out of the 19 articles discussed industries, their existence, and their ability to manipulate markets and governments to constantly reinstate their perpetual existence, individually and as an industry. The subreddit also had issues with companies and industries primarily in the fossil fuel industry and their lack of transparency. Lack of transparency seems to be a key component of the r/environment subreddits' main focal point of change within the government and large-scale corporations. It is deemed to be the major roadblock in financial and political sectors where facing the implementation of environmental change to combat environmental harm is secondary to profit and power.

Users have stated that when a lack of transparency exists within the government and industries it's difficult to implement proper policies when these policies may be perceived to be based on false premises. The subreddit seems to understand this when transparency is explicitly discussed. When other issues are brought forward top comments do not stray away from overarching macro-level policy subscriptions.

When discussing policy prescriptions within the management of energy resources articles the subreddit discussed policies they deemed negative and positive towards the overall health of the environment. Negative policies dealt with policies that championed corporate agendas and the free market over environmental health. Positive policies were policies that directly allocated resources towards improving the environment like China's tree plantation policy, or policies that banned industrial practices like Norway's ban on palm oil-based biofuel to prevent rainforest destruction. No positive policies discussed dealt with American policies, only negative ones. The Trump Effect was also apparent within these policies due to the Trump Administration's crack down on environmental policies. The policies discussed relating to America dealt with the Trump administration's lift on the water bottle ban within National Parks. Two articles dealt with these policies.

Comments within the Management of resources section dealt with a variety of issues. Discussing politics was underrepresented compared to the overall average. Discussion of industry and globalization was overrepresented showcasing that comments fell in line with topics. Conservation was also overrepresented which allows us to see that r/environment may see conservation as a way to combat environmental problems

apparent within society. Individualism was also overrepresented compared to the average which shows that individual consumption is an important way for individuals to combat environmental problems within their daily lives. Individual consumption mostly discussed cutting down meat consumption due to the meat industry and the intense amount of resources required to produce factory farmed meat.

#### 6.4 Environmental Movements

Twelve out of the 100 articles studied within r/environment dealt with environmental movements. Nine out of these 12 articles discussed movements and demonstrations occurring outside of the internet and in the real world. Comments and article titles were proud and supportive of these social movements regarding the environment. It seems environmental movements are an important part of r/environment's action and reaction towards societal pressures and movements. Three out of the 12 articles dealing with environmental movements were the subreddit's own call to action. These articles had links towards government websites where individuals could call or email representatives that were attempting to establish or diminish environmental laws and regulations.

All three of these social activist comment threads dealt with the Trump Administration and its stance on environmental issues. One also included a petition in which individuals could sign in support of climate change. One petition aimed at the Trump administration's initial stances on the environment, discussed how the public cares about climate change. This petition occurred just days after he was initially elected.

This shows how fast social movements and perceived social urgency can contribute to fast forms of social activism. I believe further content analysis and ethnography studies could be conducted by individuals who would like to study social movements within the internet due to the sheer amount of content that exists. Social activist websites are sprouting and emerging especially with the help of crowdsourced journalism on social media.

Comments within the Environmental Movements section held fascinating discussions. Comments discussing politics were equal to the overall average showing that political and social movements regarding the environment are an important topic within the realm of environmental movements. Calls to reform of environmentalism, and its portrayal of environmental issues was 2.5 times the overall average. This shows that discussion is not only occurring regarding implementing social change, but that individuals are also critiquing social movements and how they represent themselves and their ideologies. I believe the confidentiality aspect of the internet perhaps allows more individuals to be hyper-critical of a movement they are a part of, and in effect can help create a more equitable, representative form of a social movement.

Discussion of the economy and globalization was way less than the overall average, which may show where individuals within the r/environment community believe real change can be created and that according to the r/environment subreddit is within political systems and individual behavior. Discussion of media was also below average which is fascinating due to the immense power media holds with portrayal or ignorance of social movements across the globe.

## 6.5 Wildlife Preservation

10 out of the 100 articles studied within r/environment dealt with wildlife preservation. This section is one of the more heavily ecologically based subsections. Even though preservation was the main threshold within the coding process, 5 out of 10 of the articles critiqued Trump's administration and its policies regarding endangered species and preservation of wildlands. The other half of the articles dealt with funding and policies regarding protecting and preserving wildlands across the globe. It seems although small in its share of article size, many individuals within the r/environment community support preservation as an environmental policy and ethos.

Comments discussed a variety of topics. Politics was discussed above the overall average enabling the concept that preservation has a largely political component to it. In other words, subreddit users grappled with the concept of who appropriates what land to be protected and why? It seems many comments blame Republicans and perceived right-wing policies for the lack of action regarding environmental issues. Reform of environmentalism was also largely overrepresented within the comment section showcasing that those discussing preservation believe it to be an important component to environmentalism and environmental rhetoric within the social movement field. Discussion of the economy and globalization was below the overall average. This might be due to the fact a few articles championed large donors and individuals who practiced philanthropy towards protecting wildlands and endangered species. Additionally, due to



the capitalist nature of resource exploitative industries and processes, the harm exacerbated towards wildlands was not discussed as extensively within this section.

## 6.6 Environmental Pollution

With 10 out of the 100 studied articles, environmental pollution was an important topic within r/environment. Once again, most articles related to the Trump administration and Republicans protecting big business over the environment showcasing the immense impact the Trump effect has had on this community. All the articles dealt with environmental harms like water, air and pesticide pollution. All the articles also dealt with political processes that defended or protected these industries and their practices. This led to interesting discussion within the comment section.

Comments underrepresented politics when compared to the overall average which is fascinating due to the immense amount of political systems that were discussed within the articles. It makes sense that individuals within r/environment were very pessimistic about processes that contribute to environmental pollution. Discussion of media was also twice the average amount perhaps illustrating their lack of coverage on many issues regarding environmental pollution like the Flint Water crisis. Also comments regarding the media were critical of the website reddit itself and its advertisement money from large scale industries that are culprits within the pollution realm. Economy and globalization was a comment topic well below the overall average within the study which is fascinating due to the culprits within these article case studies being capitalist industries exploiting nature to the point where environmental harm and pollution occurs.

## 6.7 Media Related

Five articles within the study discussed media portrayal of environmental problems. It seemed one article covered the overall sentiment quite well. The article titled “The Media has essentially stopped covering climate change” illustrates the overall sentiment individuals within the community felt towards media outlets and their discussion of environmental problems. Other articles also discussed right-wing news outlets and their bias against properly covering environmental issues. Comments within the media related section acted as a content-based echo chamber in which media itself was discussed 70 percent of the time. I believe distaste for the media’s portrayal of environmental and social issues could perhaps be a bridge between identity politics and right-wing and left-wing individuals. It seems individuals agree money and advertisements within media outlets alter the rhetoric and discussions media outlets are allowed or not allowed to discuss. Due to the fact only 33 percent of articles within r/environment shared a source, it seems messaging boards and online discussion threads are places where traditional media outlets can be combated through individuals openly discussing issues without a similar form of censorship.

## 6.8 Ecological Shifts

Ecological shifts are defined as large persistent changes in the structure and function of an ecological system. Only two articles discussed ecological shifts occurring within our world. The lack of coverage states more than the coverage itself. It seems

there is a consensus within r/environment that society is already facing an ecological crisis. The main coverage of politics and political systems shows how the community deems change should be appropriated. This might be due to the immense power held by government or the fact that government is an institution that is supposed to democratically listen to its subjects.

The lack of coverage on ecological shifts illustrates the theory of “the spiral of silence”, coined by Elisabeth Noelle Neumann. This theory states individuals have a fear of isolating themselves ideologically when discussing certain topics. Because politics were discussed more heavily as compared to other topics, it seems other topics like ecological shifts were discussed less. This is partially due to the interpretation that other individuals would rather discuss environmental politics as opposed to ecological shifts and issues.

## 7.0 CONCLUSION AND RECOMMENDATIONS

News media is changing within society. The process in which news is disseminated is also changing. Media users on social media sites like Reddit are crowdsourcing articles which in turn is creating new media content based on how liked or upvoted certain articles are within a social media space. Users can choose what articles rise to the top, which affects news dissemination and consumption. Crowdsourcing articles is the process websites like Reddit utilize to display information. The subreddit within Reddit dedicated to environmental issues (r/environment) crowdsources articles and allows commenters to discuss large scale issues within the website.

This study attempted to understand how the subreddit of r/environment self-identified its environmental tendencies. By utilizing content analysis, the top one hundred articles (and top two hundred comments) were coded for. When coded the overall conception of r/environment's form of environmentalism emerges. Politics were discussed the most, while the economy and globalization were discussed the second most. Environmental movements, environmental pollution, and wildlife preservation were all close to the third most discussed topics. Ecological shifts were discussed the least within the subreddit. The subreddit r/environment's environmentalism is heavily based within politics and the politics of the environment. This helps illustrate how individuals who post on crowdsourced communities see politics as the number one environmental issue that needs to be discussed.

The subreddit r/environment heavily used liberal based news media sources within their articles. The top three article sources were all left leaning in their rhetoric. Additionally, the subreddit had 42 out of 100 articles dedicated to discussing politics and political systems regarding the environment. Trump and the Trump administration was the main focus of 19 of these articles while also being a major theme in all other sections within the study. If the subreddit r/environment wants to spread its message outside of its main users in order to gain new users and followers, it should focus on political issues presented, like transparency, as opposed to individuals and political parties (Mitchell and Lim 2018). This would help r/environment's appeal to conservatives and independents who are ideologically on the fence regarding environmental issues.

The subreddit's focus on political systems affects the overall environmental message that was portrayed within r/environment. When Trump and his administration became a topic area, content and discussions regarding the environment fell second to discussions of Trump. This was frustrating as a researcher because it affected the perceived content I was going to evaluate. When politics were discussed, policies and systems were evaluated by individuals. When topics like policies and transparency emerged, users discussed actual environmental issues as opposed to just posting ad hominins against Trump. The subreddit's environmental content would greatly benefit from avoiding the topic of Trump.

Politics were heavily discussed within r/environment and other topics were secondary within their scale. Industrial powerhouses and corporate entities were discussed within the management of energy resources section, illustrating their deemed

importance regarding environmental issues. Once again, the topic of transparency was highly prevalent within this section illustrating how important the topic of transparency is to the r/environment subreddit. The discussion of transparency revolved related to politics and industrial practices. Perhaps as transparency increases within these sections of society different environmental topics will emerge discussing other practical issues. Discussion of transparency and politics as a whole elicited discussions within the comment section that focused on the effects of environmental politics.

A major finding regarding this study revolves around how the r/environment community discusses issues regarding politics and the global economy within certain timeframes. Because of the Trump presidency, this study had more political discussions specifically looking at Trump and his lack of environmental awareness as opposed to environmental policies or solutions. The most popular articles all dealt with convenient political topics like the Trump presidency. Monetary investment in green energies were celebrated by commenters within r/environment. Rich elites and governments were perceived to have more influential power when it came to implementing environmental change on a global societal scale. Small scale individual contributions and efforts from poorer, less influential citizens were not seen as being as viable. It seems social, monetary, and intellectual capital are all intensely influential voices within the most popular articles in the r/environment community. In addition, Reddit itself exists on the internet which can only be accessed by a certain amount of people in the world, creating a population of users that are not representative of the world. These power dynamics of

dominant voices plays out in the landscape of the r/environment community and is important to be aware of when evaluating online crowdsourced communities in general.

Within this study's findings, the Trump administration seems to be a key area of focus for the r/environment community. This illustrates how Americanized the discussion of environmental politics is within the r/environment community. Readers and users who look to social media sites that crowdsource articles should be leery of content provided and should question the bias and intentions of article posters and commenters. Just because individuals who are not being paid to provide sources are creating content, unlike legacy media structures, does not mean they are inherently unbiased. Caution in dissecting information is an important ability for readers to utilize.

### 7.1 Limitations and Recommendations

There are numerous limitations that exist within this study. Only one coder was utilized within the coding process which could represent a bias issue. To combat a biased coder all coding processes were done four times to make sure topics were coded consistently. In addition, the criteria for categorization of concepts were abstracted from a 1992 study that evaluated Time Magazine's portrayal of environmental topics. This had the potential to limit the ideological interpretations of content within r/environment. Because the most upvoted articles were evaluated no timeframe was explicitly evaluated allowing articles and viewers with upvotes to allocate their deemed importance. This allowed cultural phenomena's like Trump's election to affect the data timeline (more upvoted articles within the subreddit around this election). This affects the content being

displayed within the study. Perhaps future studies aimed at understanding crowdsourced articles within a timeframe could evaluate a dataset with fixed dates as opposed to top upvoted articles. This would allow researchers to evaluate cultural phenomenon and the reaction r/environment exhibits. This study evaluated top sourced and upvoted articles due to the importance they represented within the community, therefore a timeframe created itself from the dataset.

Future studies that evaluate crowdsourced social media sites like Reddit could benefit from comparing their news coverage regarding topics like the environment with legacy news outlets. In addition, new forms of online media that are apart of legacy media structures can also be evaluated for discourse and content. Other academic studies could also benefit from comparing different crowdsourced social media sites and their portrayal of topics like the environment. A simple way to do this would be to compare certain subreddits and their discussions and perceptions of similar cultural topics that emerge. This would help illustrate the overall championed and self-selected content users are liking or upvoting on different media platforms.

Not many academic studies have evaluated crowdsourced online news communities. This means, there is ripe content available for academic studies that wish to evaluate changing media landscapes and new forms of news dissemination. This growing field should utilize content analysis and internet-based forms of ethnography, due to the amount of readily available information that exists within crowdsourced online communities.



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## APPENDIX

Table 1: Political Articles within r/environment

In order to be categorized as a political article, the main focus of the article headline has to deal with a policy, political topic, or political person. This means the effects of a policy may be discussed or just how a political individual or organization is attempting to suppress information regarding the environment.

Article Title	Sources	Date	Upvotes	# Of Comments
Trump signs his first significant bill — killing a transparency rule for oil companies	<a href="http://www.vox.com">www.vox.com</a>	2/14/17	21400	1100
Trump's America First Energy Plan Actually Leaves America Behind - "there's not a word about the clean energy revolution, a boom in wind, solar, and energy efficiency that is creating millions of jobs, saving billions of dollars, and even saving lives by cutting pollution."	<a href="http://cleantechnica.com">cleantechnica.com</a>	1/31/17	19900	1100
U.S. is the only nation in the world not in Paris deal after Syria signs on.	<a href="http://thehill.com">thehill.com</a>	11/7/17	19600	1700

Article Title	Sources	Date	Upvotes	# Of Comments
Trump has reportedly decided to withdraw from the Paris climate deal	<a href="http://businessinsider.com">businessinsider.com</a>	5/31/17	19100	3200
Bernie Sanders questions EPA nominee Wheeler "Is Climate Change a hoax?"	<a href="#">Video of Sanders questioning</a>	1/17/19	18700	1700
Iceland elects 41-year-old environmentalist as prime minister	<a href="http://inhabitat.com/">inhabitat.com/</a>	12/5/17	18200	543
Thousands of Pages Of Emails From Trump's New EPA Chief Have Been Released	<a href="http://buzzfeednews.com">buzzfeednews.com</a>	2/23/17	17700	1300
Al Gore offers to work with Trump on climate change	<a href="http://time.com/">time.com/</a>	11/12/16	17700	1400
Trump's presidency is dangerous for the planet	<a href="http://local.sltrib.com/">local.sltrib.com/</a>	11/5/17	17500	1100
Harrison Ford Goes After Trump Team While Accepting Environmental Honor: "We've got people in charge of important shit who don't believe in science"	<a href="http://www.hollywoodreporter.com/">www.hollywoodreporter.com/</a>	11/4/17	17100	576
Donald Trump's stance on global warming is 'sociopathic, paranoid	<a href="http://www.independent.co">www.independent.co</a>	6/8/17	15900	702

Article Title	Sources	Date	Upvotes	# Of Comments
and malevolent', world-leading economist says				
Trump's Hiring Freeze Will Devastate Our National Parks: Our overcrowded National Parks need to hire 8,000 temporary employees to make sure you can go camping this summer.	<a href="http://motherboard.vice.com/">motherboard.vice.com/</a>	1/26/17	15600	1300
The world shrugs at Trump as global climate meeting begins in Bonn. "Trump is utterly isolated, and U.S. positions and negotiators will be largely ignored as a result. This has become a life-and-death issue for most countries,"	<a href="http://washingtonpost.com/">washingtonpost.com/</a>	11/6/17	14200	1100
Trump administration sued over climate change 'censorship'   NGO suit claims US agencies are illegally withholding information about the suppression of climate science in public communications	<a href="http://climatechangenews.com">climatechangenews.com</a>	5/25/16	14000	166
Dem lawmaker: Trump 'tweeting like a child who hates science	<a href="http://thehill.com">thehill.com</a>	12/28/17	12500	471

Article Title	Sources	Date	Upvotes	# Of Comments
class'				
2 states sue over Trump administration suspending a rule that would save taxpayers \$330 million - "President Trump should put the health of the American people over the profits of private companies."	<a href="http://thinkprogress.org">thinkprogress.org</a>	7/6/17	12200	294
Leaked memo shows EPA told employees to lie about climate science	<a href="http://shareblue.com">shareblue.com</a>	3/29/17	11900	548
Woman Dragged Out of West Virginia House Hearing for Listing Oil and Gas Contributions to Members	<a href="http://commondreams.org">commondreams.org</a>	2/11/18	11800	335
France lures U.S. scientists with anti-Trump climate grants. Several U.S.-based climate scientists are about to win multi-year, all-expenses-paid grants to relocate to France.	<a href="http://cbsnews.com">cbsnews.com</a>	12/11/17	11700	521
Crime Against Humanity' and 'International Embarrassment':	<a href="http://commondreams.org">commondreams.org</a>	11/27/18	11400	496



Article Title	Sources	Date	Upvotes	# Of Comments
Trump Refuses to 'Believe' Climate Report - His administration just released a major report detailing far-reaching impacts of the climate crisis. His response? "I don't believe it."				
Schwarzenegger mocks Trump on coal, asks if he'll bring back Blockbuster next	<a href="http://cnn.com">cnn.com</a>	6/28/18	11400	441
Editorial: Trump says, 'I have won awards on environmental protection' — EnviroNews says, 'Bullshit!'	<a href="http://environews.tv">environews.tv</a>	4/9/17	11100	263
Trump officials erase 'shocking' amount of climate data from yet another website: You paid for U.S. Geological Survey climate data, but the White House is making it disappear.	<a href="http://thinkprogress.org">thinkprogress.org</a>	9/18/17	10900	451
"I'm not going to stand back and just let evil win." CEO to sue Trump over land grab.	<a href="http://shareblue.com">shareblue.com</a>	12/4/17	10000	369
On Capitol Hill, EPA chief gets an	<a href="http://washingtonpost.com">washingtonpost.com</a>	6/28/17	9700	388

Article Title	Sources	Date	Upvotes	# Of Comments
earful about Trump's 'downright offensive' budget plan. "These cuts aren't an intent to rein in spending, they are an intentional step to undermine science and ignore environmental and public health realities."				
Trump official gets laughed at when promoting fossil fuels at COP24	<a href="#">video of COP24</a>	12/12/18	9700	725
Leaked Trump Administration Memo: Keep Public in Dark About How Endangered Species Decisions Are Made	<a href="#">ecowatch.com</a>	10/22/18	9600	248
""But six months before people were sickened by the contaminated romaine, President Donald Trump's FDA – responding to pressure from the farm industry and Trump's order to eliminate regulations – shelved the water-testing rules for at least four years."	<a href="#">wired.com</a>	11/26/18	9400	393

Article Title	Sources	Date	Upvotes	# Of Comments
The Republicans who urged Trump to pull out of Paris deal are big oil darlings: Twenty-two senators wrote a letter to the president when he was said to be on the fence about backing out. They received more than \$10m from oil, gas and coal companies the past three election cycles	<a href="http://theguardian.com">theguardian.com</a>	6/1/17	9300	293
I am an Arctic researcher. Donald Trump is deleting my citations	<a href="http://theguardian.com">theguardian.com</a>	3/28/17	9000	350
A Trump team member just compared climate science to the flat-Earth theory	<a href="http://washingtonpost.com">washingtonpost.com</a>	12/15/16	8700	714
Trump: Climate 'will change back again'	video from HBO	11/5/18	8700	888
Mark Zuckerberg says Donald Trump's decision on the Paris agreement 'puts our children's future at risk'	<a href="http://recode.net">recode.net</a>	6/2/17	8700	558
Trump is deleting climate change, one site at a time - The administration has taken a hatchet	<a href="http://theguardian.com">theguardian.com</a>	5/14/17	8600	353

Article Title	Sources	Date	Upvotes	# Of Comments
to climate change language across government websites. Here are several of the more egregious examples.				
Trump's Secretary of Defense says climate change is real, and a national security threat - "a position that appears at odds with the views of the president who appointed him and many in the administration in which he serves."	<a href="http://businessinsider.com">businessinsider.com</a>	3/15/17	8500	337
US government takes animal-welfare data offline - The US Department of Agriculture will no longer make lab inspection results and violations publicly available, citing privacy concerns.	<a href="http://nature.com">nature.com</a>	2/4/17	8100	263
Donald Trump's War on Scientists Has Had One Big Side Effect - More than a dozen Democratic candidates with scientific backgrounds are running for	<a href="http://motherjones.com">motherjones.com</a>	7/31/17	7900	256

Article Title	Sources	Date	Upvotes	# Of Comments
Congress.				
Trump on climate change: ‘People like myself, we have very high levels of intelligence but we’re not necessarily such believers.’   “How can one possibly respond to this?” Dessler said when reached by email, calling the president’s comments “idiotic”	<a href="http://www.washingtonpost.com">washingtonpost.com</a>	11/28/18	7600	375
The Pentagon is ignoring Trump's mandate to treat climate change as a hoax	<a href="http://www.businessinsider.com">businessinsider.com</a>	9/13/17	7400	251
Weather society to Perry: You lack 'fundamental understanding' of climate science	<a href="http://www.thehill.com">thehill.com</a>	6/22/17	7400	287
Trump’s proposed fee hike will create class system at national parks	<a href="http://www.thehill.com">thehill.com</a>	11/13/17	7300	533
New Poll Shows Basically Everyone Likes Alexandria Ocasio-Cortez's Green New Deal	<a href="http://earth.gizmodo.com">earth.gizmodo.com</a>	12/17/18	7300	657

Table 2: Management of Energy Resources Articles in r/environment

In order to be categorized within the management of energy resources section, articles must discuss a corporate or private entity that is affecting the environment. This could be a wealthy CEO donating to an environmental group or discussion of large-scale industrial effects on the environment. Policies that regulate these private entities would fall under the political section due to the main issue representing policies and their effects on private industry.

Article Title	Sources	Date	Upvotes	# Of Comments
Bill Gates thinks the 1% should foot the bill for renewable energy, and he's offering the first \$2B.	<a href="http://www.emphasisms.com">www.emphasisms.com</a>	10/1/17	48300	1500
Coal CEO admits that 'clean coal' is a myth	<a href="http://reneweconomy.com">reneweconomy.com</a> .	7/17/17	17200	628
Trump's decision to allow plastic bottle sales in national parks slammed: "The Corporate Agenda is King"	<a href="http://www.theguardian.com">www.theguardian.com</a>	8/21/17	16400	692
'Clean coal' doesn't exist.	<a href="http://thinkprogress.org/">thinkprogress.org/</a>	1/30/17	15800	529
A ban on bottled water in 23 national parks prevented up to 2m plastic	<a href="http://www.theguardian.com/">www.theguardian.com/</a>	9/26/17	14800	780

Article Title	Sources	Date	Upvotes	# Of Comments
<p>bottles from being used and discarded every year: Despite that, the Trump administration reversed the bottled water ban just three months later, a decision that horrified conservationists and pleased the bottled water industry.</p>				
<p>Photographer Says He Lost His Job After Leaking Pictures Of Rick Perry And Coal CEO- 'The photographs show... Murray handing Perry a four-page confidential "action plan" for reviving the country's struggling coal industry... it mirrors policy later pushed by the Trump administration.'</p>	<p><a href="http://npr.org">npr.org</a></p>	<p>1/18/18</p>	<p>13900</p>	<p>459</p>
<p>Elon Musk: "We know we'll run out of dead</p>	<p><a href="http://cnbc.com">cnbc.com</a></p>	<p>12/26/18</p>	<p>13200</p>	<p>473</p>

Article Title	Sources	Date	Upvotes	# Of Comments
dinosaurs to mine for fuel & have to use sustainable energy eventually, so why not go renewable now & avoid increasing risk of climate catastrophe? Betting that science is wrong & oil companies are right is the dumbest experiment in history by far”				
Bitcoin’s energy usage is huge – we can’t afford to ignore it   The cryptocurrency uses as much CO2 a year as 1m transatlantic flights. We need to take it seriously as a climate threat	<a href="http://theguardian.com">theguardian.com</a>	2/27/18	11700	1000
President Obama Thinks We Should Eat Less Meat to Help Combat Climate Change	<a href="http://onegreenplanet.org">onegreenplanet.org</a>	5/11/17	11700	1700
Trump’s promise to bring	<a href="http://washingtonpost.com">washingtonpost.com</a>	5/3/17	11200	601



Article Title	Sources	Date	Upvotes	# Of Comments
back coal jobs is worse than a con   telling those communities, in effect: The best hope they have, and that their children have, is to be trapped in a dying industry that will poison them.				
Exxon's Pro-Fracking CEO Is Suing to Stop Fracking Near His Mansion (2014)	<a href="http://thenation.com">thenation.com</a>	12/13/16	10100	270
No Park Rangers or Food Inspections – But Government Reopens for Oil and Gas: a handful of bureaucrats were among those back at work approving drilling applications for the oil and gas sector – a move that some say is illegal and possibly even criminal.	<a href="http://usnews.com">usnews.com</a>	1/14/19	10100	257
Each day a cruise ship	<a href="http://independent.co.uk">independent.co.uk</a>	1/29/19	9900	291

Article Title	Sources	Date	Upvotes	# Of Comments
emits as much pollution as a million cars				
EPA chief: ‘True environmentalism is using natural resources that God has blessed us with’	<a href="http://thinkprogress.org">thinkprogress.org</a>	10/27/17	8800	799
Nestle Faces Backlash Over Collecting Water From Southern California. The Forest Service is now reviewing Nestle’s permit for the first time in 30 years.	<a href="http://losangeles.cbslocal.com">losangeles.cbslocal.com</a>	5/10/17	8700	365
The Koch Brothers Are Behind a Plot to Open Up the Grand Canyon Watershed to Toxic Uranium Mining - Last year, Arizona Rep. Raúl Grijalva introduced a bill to protect the greater Grand Canyon as a national monument. But it has stalled.	<a href="http://altnet.org">altnet.org</a>	8/3/16	8700	357

Article Title	Sources	Date	Upvotes	# Of Comments
Why eating less meat is the best thing you can do for the planet in 2019	<a href="http://theguardian.com">theguardian.com</a>	12/25/18	8600	2100
China reassigns 60,000 soldiers to plant trees in bid to fight pollution. "Area to be planted by the end of the year is roughly the size of Ireland."	<a href="http://independent.co.uk">independent.co.uk</a>	2/15/18	8500	305
Norway Is First Nation to Ban All Palm Oil Based Biofuel to Prevent Rainforest Destruction	<a href="http://livekindly.co">livekindly.co</a>	12/11/18	8000	101

Table 3: Environmental Movement Articles in r/environment

In order to be categorized as an environmental movement, article headlines must discuss a certain environmental movement or elicit environmental advocacy from reddit users themselves.

Article Title	Sources	Date	Upvotes	# Of Comments
35 000 Belgian High School students skipped school to urge the Belgian government to adopt solid and effective climate change policies. Third week in a row of skipping school (first week: 3000 students, second week: 12 500 students, now 35 000 students) #YouthForClimate	Video of protest	1/24/19	24900	746
France is offering US scientists 4-year grants to move to the country and do research on climate change via a website called Make Our Planet Great Again.	<a href="https://www.businessinsider.in/">businessinsider.in/</a>	1/17/18	22400	1200
Let's get Trump to accept climate change	Self Post	11/8/16	22200	939

Article Title	Sources	Date	Upvotes	# Of Comments
<p>Trump is asking us how to make America great again...It's our chance to tell him how important the issue of climate change is to us!</p>	<p><a href="http://ptt.gov/yourstory/">ptt.gov/yourstory/</a></p>	<p>11/11/16</p>	<p>20000</p>	<p>855</p>
<p>Trump has scientists mad enough to march on Earth Day. Simply telling the truth has become a political act. By marching for truth, scientists are not being political - they are merely doing their job.</p>	<p><a href="http://www.philly.com/">www.philly.com/</a></p>	<p>4/6/17</p>	<p>19600</p>	<p>1500</p>
<p>Donald Trump urged to ditch his climate change denial by 630 major firms who warn it 'puts American prosperity at risk'</p>	<p><a href="http://.independent.co.uk/">.independent.co.uk/</a></p>	<p>1/10/17</p>	<p>16600</p>	<p>596</p>

Article Title	Sources	Date	Upvotes	# Of Comments
<p>U.S. Army veterans are planning a 'deployment' to Standing Rock to protest the Dakota Access Pipeline: “This country is repressing our people. We need to do the things that we actually said we’re going to do when we took the oath to defend the Constitution from enemies foreign and domestic.”</p>	<p><a href="http://businessinsider.com">businessinsider.com</a></p>	<p>11/22/16</p>	<p>16500</p>	<p>1100</p>
<p>US House Representative Matt Gaetz is sponsoring Bill H.R. 861 - Which would terminate the EPA. Here is his contact information if you don't want to see unmitigated pollution, toxic dumping and the rape of our public lands in the US -</p>	<p>Reddit thread</p>	<p>3/6/17</p>	<p>11000</p>	<p>455</p>

Article Title	Sources	Date	Upvotes	# Of Comments
There's Now a Whistleblower Hotline for Scientists Working Under the Trump Admin - A political advocacy group, 314, set up the hotline with a law firm to help scientists raise alarms if needed.	<a href="http://board.vice.com">board.vice.com</a>	11/2/17	10700	120
Leonardo DiCaprio: "We Are the Last Generation That Has a Chance to Stop Climate Change"- The 3rd gala of the actor's foundations sets new fundraising record, raising nearly \$45 million.	<a href="http://alternet.org">alternet.org</a>	7/27/16	10500	757
The U.S. Supreme Court on Monday rejected a bid by President Donald Trump's administration to put the brakes on a lawsuit filed by young activists who have accused the U.S. government of ignoring the	<a href="http://in.reuters.com">in.reuters.com</a>	7/30/18	9700	226

Article Title	Sources	Date	Upvotes	# Of Comments
perils of climate change.				
The Trump Administration Just Went To Court To Stop Kids From Suing Over Climate Change. Twenty-one young people are suing the US government for contributing to climate change in violation of their constitutional rights.	<a href="http://buzzfeed.com">buzzfeed.com</a>	12/12/17	8500	141



Table 4: Wildlife Preservation Articles in r/environment

In order to be categorized as an article that discusses wildlife preservation, the main focus of the article headline has to deal with either preserving wildlife areas or preserving and protecting endangered species that are threatened across the globe.

Article Title	Sources	Date	Upvotes	# Of Comments
Donald Trump's Earth Day Statement Is Shameful: Trump released an Earth Day statement touting his commitment to protecting the environment, despite doing the exact opposite in the first few months of his administration.	<a href="https://www.huffpost.com">huffingtonpost</a>	4/22/17	18200	985
Now Trump's Going After the Bumblebees: The administration just delayed endangered status for a bumblebee species that's on the brink of extinction.	<a href="https://www.motherjones.com">motherjones.com</a>	2/11/17	12200	372
Trump's 'beautiful wall' threatens 111 endangered species	<a href="https://www.theecologist.org">theecologist.org</a>	2/20/17	11100	785
Trump Blames 'Bad Environmental Laws' for California Wildfires, Says 'Must' Cut Down Trees	<a href="https://www.mediaite.com">mediaite.com</a>	8/5/18	10900	1100

Article Title	Sources	Date	Upvotes	# Of Comments
Fury after China reverses 25-year-old tiger bone and rhino horn ban	<a href="http://mirror.co.uk">mirror.co.uk</a>	10/29/18	10600	384
After protests & public outcry, GOP bill to sell off 3.3M acres of public lands has been withdrawn	<a href="http://thinkprogress.org">thinkprogress.org</a>	2/2/17	10500	138
Man Postpones Retirement to Save Reefs After He Accidentally Discovers How to Make Coral Grow 40 Times Faster	<a href="http://goodnewsnetwork">goodnewsnetwork</a>	12/3/18	10100	225
Trump Administration Denies Endangered Protections For 25 Species. "You couldn't ask for a clearer sign that the Trump administration puts corporate profits ahead of protecting endangered species."	<a href="http://newsy.com">newsy.com</a>	10/6/17	9900	228
Trump administration is taking steps to remove a threatened lynx from the endangered-species list:  The Trump administration announced that it's moving to	<a href="http://washingtonpost">washingtonpost</a>	1/13/18	7800	327

Article Title	Sources	Date	Upvotes	# Of Comments
strike the Canada lynx from the endangered-species list, despite an assessment the species will die out in its northern range without protection.				
Swiss Businessman is Contributing \$1 Billion Towards Protecting 30% of the Planet	<a href="#">goodnewsnetwork</a>	11/8/18	7600	248

Table 5: Environmental Pollution Articles in r/environment

In order to be categorized as an article dealing with environmental pollution, article headlines had to encompass some form of environmental pollution. Common environmental pollution topics include water pollution, air pollution, and pollution that affects humans and wildlife directly.

Article Title	Sources	Date	Upvotes	# Of Comments
Trump caps off a long day by letting coal companies dump waste into streams.	<a href="http://newrepublic.com/">newrepublic.com/</a>	2/17/17	20300	1100
France is the first country to ban all five bee-killing pesticides.	<a href="http://www.inquisitr.com/">www.inquisitr.com/</a>	11/21/18	14100	166
‘This is a stupid policy’: Emissions become latest front in California-Trump war- "motorists will pay more at the pump, get worse gas mileage and breathe dirtier air. California will fight this stupidity in every conceivable way possible.”	<a href="http://politico.com">politico.com</a>	8/3/18	11500	828
The EPA Is Beginning To Roll Back An Obama-Era Rule Limiting How Much Toxic	<a href="http://buzzfeed.com">buzzfeed.com</a>	8/16/17	11000	422

Article Title	Sources	Date	Upvotes	# Of Comments
Waste Power Plants Release In Water.   "... so beholden to big business that they are willing to let power plants continue to dump lead, mercury, chromium and other dangerous chemicals into our water supply,"				
Trump's Legacy: Damaged Brains, This is what a common pesticide does to a child's brain. -- Studies show that it damages the brain and reduces I.Q.s while causing tremors among children. Now the Trump administration is embracing it, overturning a planned ban that had been in the works for years.	<a href="https://www.nytimes.com">nytimes.com</a>	10/29/17	10200	632
Thanks to Republicans, Pesticide Companies Are Now Free to Kill All the Endangered Species They Want - "It's like kicking them when they're down."	<a href="https://www.motherjones.com">motherjones.com</a>	7/26/18	9800	577

Article Title	Sources	Date	Upvotes	# Of Comments
Monsanto 'bullied scientists' and hid weedkiller cancer risk, lawyer tells court	<a href="http://theguardian.com">theguardian.com</a>	7/10/18	9000	589
Poison once flowed in America's waters. With Trump, it might again	<a href="http://theguardian.com">theguardian.com</a>	8/14/17	8200	409
One day after getting sued by 15 states, the Environmental Protection Agency on Wednesday reversed course on its plans to delay implementation of Obama-era rules intended to reduce emissions of smog-causing air pollutants.	<a href="http://thinkprogress.org">thinkprogress.org</a>	8/3/17	7900	171
A cloud of radioactive pollution over Europe in recent weeks indicates that an accident has happened in a nuclear facility in Russia or Kazakhstan in the last week of September, French nuclear safety institute IRSN said	<a href="http://reuters.com">reuters.com</a>	11/9/17	7500	355

Table 6: Media Related Articles in r/environment

In order to be categorized as a media related article, article headlines had to discuss some form of media portrayal of the environment. This could vary from popular cultural portrayal and news portrayal of environmental concepts.

Article Title	Link to Article	Date	Upvotes	# Of Comments
“South Park” apologizes to Al Gore and admits it was wrong about global warming	<a href="http://www.salon.com/">www.salon.com/</a>	11/9/18	21700	2800
Fox News host Tucker Carlson bit off more than he could chew when he tried to go head to head with ‘Science guy’ Bill Nye over climate change.	<a href="http://rawstory.com">rawstory.com</a>	2/28/17	9600	1400
Climate Deniers Debunked: Weather Channel Brutally Owns Breitbart	<a href="http://gizmodo.com">gizmodo.com</a>	12/7/16	9200	766
Climate change, Banksy style	Embedded video	10/10/18	8200	107
The media has essentially stopped covering climate change.	<a href="http://newrepublic.com">newrepublic.com</a>	3/24/17	7600	244

Table 7: Ecological Shift Articles in r/environment

In order to be categorized as an ecological shift, article headlines had to discuss shifts within various ecosystems across the globe.

Article Title	Link to Article	Date	Upvotes	# Of Comments
Earth has lost 10% of its wilderness since 1992. At current rates it will all disappear in 50 years.	<a href="http://theguardian.com">theguardian.com</a>	12/21/17	9900	674
The World Has Barely 10 Years To Get Climate Change Under Control, U.N. Scientists Say	<a href="http://washingtonpost.com">washingtonpost.com</a>	10/7/18	8100	990