

Final Project Proposal

1. Project Participants

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2. GitHub Repo: Project_Final

https://github.com/TF2Jackson/Project_Final.git

3. Brief Introduction

This project will use Python-powered analytics to draw inferences about how America's geopolitical rivals use their state-sponsored media to talk about climate change. The purpose of doing this is to determine whether Russian, Chinese, and American media tend to discuss climate change as a genuine threat, or instead tend to use it as a cudgel to embarrass and discredit each other on the international stage. Our expanded goal is to highlight the relationship between climate change reporting and inaccurate information.

4. Background and Problem Statement

Climate security remains a concern for global policymakers, principally because of the widely-held perception that the effects of anthropogenic global warming will exacerbate underlying social, economic, and political sources of conflict.^[1] Despite the challenges posed by climate change, America's geopolitical rivals might leverage some aspects of environmental degradation, particularly in the Arctic. Russia sees oil and gas exploitation opportunities in melting Arctic waters and China is looking to utilize these new waterways for its "Polar Silk Road."^[2]

States' climate change policies and priorities are not immune from the influences of traditional statecraft: looming crisis is both a problem to be solved and an opportunity to be leveraged. China, for instance, has taken advantage of the increasing global attention to climate change to further its own geopolitical goals. Despite initial domestic resistance to accept quantifiable emissions cuts in an effort to achieve economic development, China changed to position itself as a leader during the Paris Climate talks.^[3] When the Trump administration withdrew from the Paris Agreement in June 2017, China was given an opportunity to take the reins.^[4]

State media coverage of climate change becomes an important resource in this context. State media--propaganda--has a long-established track record of influencing political outcomes in international diplomacy, whether by presaging official policy or by elaborating, clarifying, or incrementally modifying policies post-announcement.^[5] Many contemporary studies of climate change-related media focus on the issues of scientific literacy or climate disinformation.^[6] There is not a concomitantly robust body of research into how nation-states broadcast their climate agenda and climate priorities through their state-operated news organizations. Such an analysis could be useful not only for divining "what Russia really

wants” regarding climate change, but could also suggest whether a given country is interested in using climate change as a tool of cooperation or competition.

5. Research Aim and Objectives

Our project will compare climate change-related content from Chinese and Russian state-run media companies, as well as prominent American news outlets and an international control group. Our aim is to determine if Russia, China, and America tend to discuss climate change as a problem in need of a solution, or as a problem caused through the malfeasance of other countries (e.g., their geopolitical rivals). We will focus on the following three questions:

- How frequently does Country A’s media coverage of climate change make negative references to its rival, Country B?
- Is there evidence that China and Russia have changed their climate change coverage as the 2020 election draws closer in an effort to influence the electoral outcome?
- Based on the above: which countries’ media outlets seem to be more interested in addressing climate change as a crisis, and which seem to be more interested in using it as a tool of political warfare to discredit geopolitical rivals?

6. Study Design

We will amass a database going back at least six months from the present which includes climate change-related articles from Russian and Chinese state-run media companies’ websites. We will assess our research questions posed above over time within each country (e.g., “how has China’s climate change coverage changed over time?”) as well as between countries.

7. Data Collection Strategy

We wrote a Python script that takes four arguments from an input file: key phrases, websites, start date, and end date. It then searches each news website for articles published within the specified timeframe and contains the key phrases. Finally, it randomly pulls N such articles each month from each website (if there were fewer than N articles containing the key phrase, it pulls all of them), and saves them as text files.

DataFrame construction: Using pandas, we will build a data frame with four initial variables: the news outlet, the month of publication, an article index (from 1 to N), and the article content in string form. As we conduct our analysis, we will add more variables to the dataset e.g. word frequency.

☐ Russian

☐ *Russia Today*

☐ *Sputnik*

☐ China

☐ *Xinhua*

☐ *Global Times*

We will also construct an American control group as well as international group by pulling climate change related-stories from the following outlets:

☐ **U.S.**

☐ *PBS*

☐ *NPR*

☐ **International**

☐ *Al-Jazeera*

☐ *BBC*

8. Data Analysis Method

At minimum, we will conduct the following analysis on our amassed database:

- Use word count analysis to determine the most common words in each outlet (**Rotem**)
 - **Bar Chart:** Indicating frequency of most common words
- Determine whether articles tend to talk about climate change as an American wedge issue or as a cudgel to wield against geopolitical rivals; we will accomplish this by constructing a customized dictionary to enable searching for specific words or phrases within tokenized articles (**Rotem**)
- Substantiate findings from news scrapes with TextBlob / Vader sentiment analysis and developing visualizations of sentiment variation over time (**Tony**)
 - **Table:** Showing sentiment analysis output for each article in each control group
 - **Table:** Summary statistics of sentiment analysis output for each control group, by month
 - **Chart:** linear graph of sentiment variations by control group, by month
- Visually depict time series for countries' positions on climate change (**Rotem**)
 - **Visualization techniques:** Bar chart, scatter plot, histogram; select based off of which one is most interesting or informative
- Visually depict time series for countries' positions on climate change relative to other policy priorities (**Vu**)

- **Visualization techniques:** Bar chart, scatter plot, histogram; select based off of which one is most interesting or informative
- Employ time-series analysis to determine how these countries' positions change as the 2020 election draws near (**Vu**)

9. Timeline for Execution

- **10 - 14 April:** Develop newspaper website scrape tools, employing both BeautifulSoup and Selenium libraries
- **14 - 18 April:** Conduct research and scrapes to amass database for each identified control group
- **18 - 22 April:** Conduct analysis on database
- **22 - 23 April:** Write up findings and prepare presentation on conclusions
- **23 April:** Present findings

^[1] United Nations Development Programme, "2030 Agenda for Sustainable Development," 2015, available from <https://www.undp.org/content/undp/en/home/2030-agenda-for-sustainable-development/peace/conflict-prevention/climate-security.html>

^[2] Luis CH. Savage, "How Russia and China are preparing to exploit a warming planet," *Politico*, 29 August 2019, available from <https://www.politico.com/story/2019/08/29/russia-china-climate-change-1691698>.

^[3] Geoff Dembicki, "The Convenient Disappearance of Climate Change Denial in China," *Foreign Policy*, 31 May 2017, available from <https://foreignpolicy.com/2017/05/31/the-convenient-disappearance-of-climate-change-denial-in-china/>.

^[4] Ibid.

^[5] See Matthew Gentzkow and Jesse Shapiro, "Media, Education and Anti-Americanism in the Muslim World," *Journal of Economic Perspectives* 18, no. 3 (Summer 2004); David Yanagizawa-Drott, "Propaganda and Conflict: Evidence from the Rwandan Genocide," *The Quarterly Journal of Economics* 129, no. 4 (November 2014); Maja Adena, et al, "Radio and the Rise of the Nazis in Prewar Germany," *The Quarterly Journal of Economics* 130, no. 4 (November 2015).

^[6] See Michael A. Ranney, "Changing Global Warming Beliefs with Scientific Information: Knowledge, Attitudes, and RTMD (Reinforced Theistic Manifest Destiny Theory)," in N. Miyake et al, *Proceedings of the 24th Annual Meeting of the Cognitive Science Society*, 2012; Dan M. Kahan, "Climate-Science Communication and the *Measurement Problem*," *Advances in Political Psychology*, Vol. 36, Suppl. 1, 2015.