

# Location Analysis of Climate Change Discourse on Twitter

## Study Overview

Experience with climate-related disasters is linked to location, so this study uses location to understand the climate change conversation. Using Twitter data, I investigated how this discourse varied depending on several location variables: State Political Affiliation, Climate Change Vulnerability Index, Coastal versus Inland.

**God JB Pricker (Parody)** @GodPricker  
Climate change is real. This summer was so hot, the volcanoes have started boiling over. Windmills and electric vehicles will prevent this.

**FordLincolnMercury** @Johnnie07091619  
How much have you earned for spreading the climate hoax? We know Gore has become a multimillionaire.

**Roscoe1679** @Roscoe1679  
Does anyone really believe that Ukraine is at war? What freaking leader of a country in peril worries about climate change?????

## "Climate Crisis" VS "Climate Hoax"

Inclusion of key words:	All Tweets		Blue State Tweets			Red State Tweets		
	n	Average Engagement Score	n	% Within Category	Average Engagement Score	n	% Within Category	Average Engagement Score
Any of the four key words	21,425	35.62	14,385	67.14%	37.06	7,040	32.86%	32.68
"Climate Crisis"	2,131	79.07	1,578	74.05%	99.55	553	25.95%	20.61
"Climate Hoax"	453	225.43	325	71.74%	311.70	128	28.26%	6.37

The figure above demonstrates the usage of key words based on state political affiliation. "Climate Crisis" and "Climate Hoax" were tracked specifically due to the contrasting connotations these terms bring about, reflecting the differing attitudes and perceptions towards climate change among distinct political groups.

This figure includes examples of tweets from the dataset that demonstrate common themes that arose on Twitter during September 2023.

**Joyce** @JoyceKaranikol2  
Follow

Earth's hottest summer recorded

1:53 PM · Sep 9, 2023 · 105 Views

This figure is an example of a tweet from the dataset that highlights the extreme heat of Summer 2023.

## BREAKING NEWS: SUMMER 2023 IS THE HOTTEST SUMMER ON RECORD

Summer 2023 was the hottest summer on record, garnering significant attention on social media. To investigate this conversation, Twitter data was collected from September 7 - 21, 2023 using BrandWatch. The dataset included 28,845 tweets that contained at least one of four keywords: climate change, global warming, climate crisis, and climate hoax. The pattern of negative sentiment was pervasive regardless of state political affiliation, belief in the climate crisis, or willingness to act. Attacks on President Biden's climate policies stood out the most.

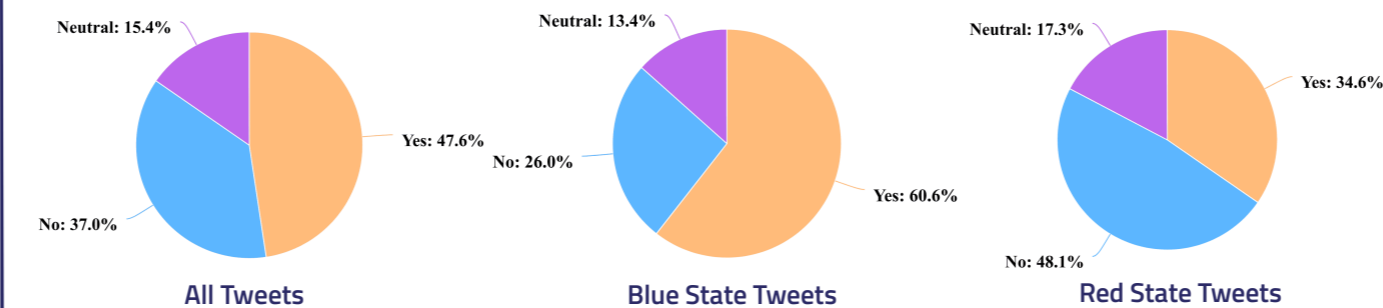
**#WWilson** @Laurie\_Homes  
Excellent way to piss away more money and increase the national debt even more for the climate hoax. Yay

**c.gerrish** @cgerrish  
California sues Chevron, Exxon, Shell, others for public deception on climate change

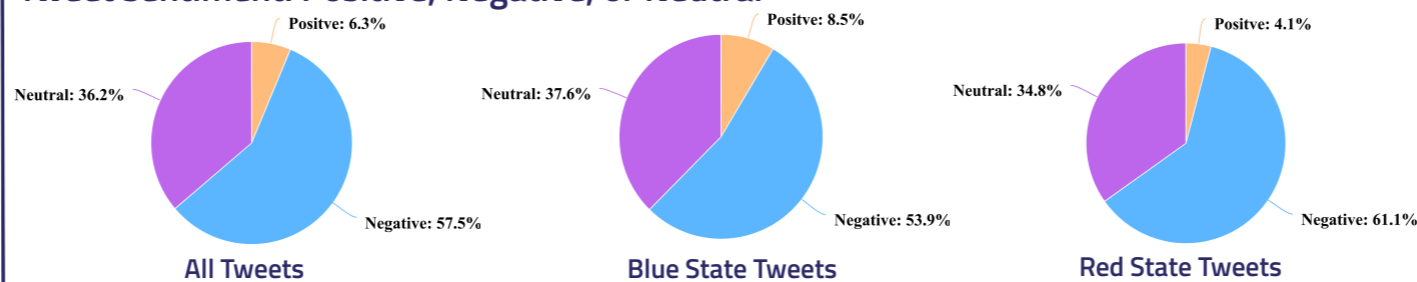
The figure above displays two tweets that highlight the ongoing negative sentiment in the online climate discussion.

## Content Analysis: State Political Affiliation

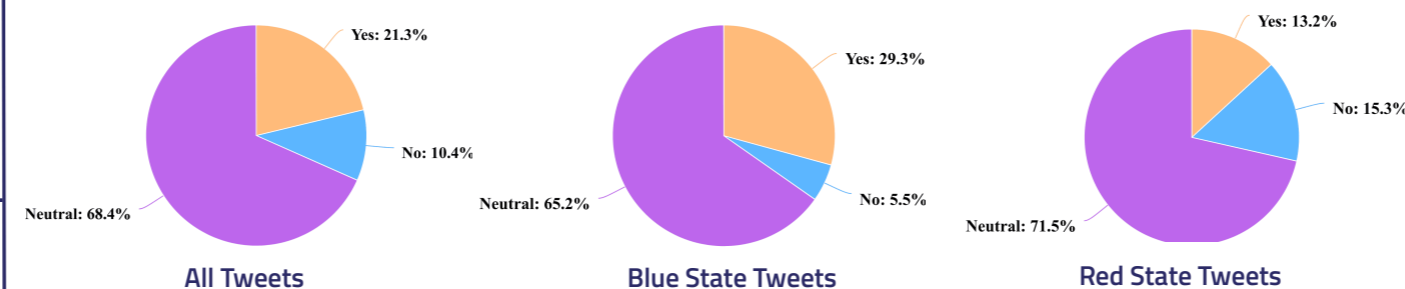
Refers to climate change as a legitimate phenomenon: Yes, No, or Neutral



Tweet sentiment: Positive, Negative, or Neutral



Demonstrates support for pro-climate action/policy: Yes, No, or Neutral



The figures above show data from a content analysis of 1,000 tweets (500 from blue and 500 from red states) using a codebook I developed meant to categorize tweets by climate change stance, sentiment, policy opinions, etc.

## Negativity Within the Climate Conversation

For both red and blue states, the climate change conversation is negative. This negativity can take form in many ways, including fear of extreme weather events, anger towards a politician that supports pro-climate policy, frustration that one's home is flooded, etc. There were 42 tweets (8.54%) with a positive sentiment, 265 (53.83%) that demonstrated a negative sentiment, and 185 (37.63%) that were neutral from blue states. The findings from red states were similar: 20 (4.07%) were positive, 300 (61.10%) as negative, and 171 (34.83%) as neutral.

### References:

- Ballew et al., 2021
- Brody et al., 2007
- Climate Change Vulnerability Index, 2024
- Dahal et al., 2019
- Edmonds et al., 2020
- Milfont et al., 2014
- "Red states and blue states," 2024

Scan here for access to my full paper:

