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Storms and Sorting: The Partisan Impact of Domestic Climate Migration

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Abstract

As climate-induced natural disasters increase in frequency and severity, domestic climate migration is shifting from a future projection to a present reality in the United States. While the political impacts on “origin communities,” areas facing climate disasters from which people may move, are well-documented, the political consequences for communities receiving climate migrants remain minimally researched. This paper investigates how climate migrants influence the partisan alignment of the communities they are moving to, particularly the “receiving counties.” By integrating IRS county-to-county migration data, the FEMA National Risk Index, election results from the National Neighborhood Data Archive (NaNDA) between 2016 and 2020, and Census data, I test whether migration from climate-vulnerable areas predicts shifts in Democratic vote share.

Building on theories of ideological sorting, spatial dependence, and risk perception, I find that the proportion of movers from areas with moderate-to-high climate risk is a statistically significant predictor of increased Democratic vote share in receiving counties. This suggests that climate-induced mobility is not politically neutral. That it may involve Democratic-leaning individuals proactively seeking to move to areas that are safer from climate impacts, areas often vote for Democratic candidates. While climate migrants currently represent a small fraction of the electorate, these findings suggest that intensifying environmental displacement could fundamentally reshape the American political landscape as climate change intensifies

Introduction

We know from Hurricane Katrina that natural disasters can trigger significant political change in the communities they impact. New Orleans experienced a sharp decline in voter turnout when several neighborhoods required months of cleanup and rebuilding before residents were officially permitted to re-enter the community. By the time the mayoral election took place in the spring following Katrina, many people had still not re-entered their communities, resulting in a sharp decline in voter turnout in the neighborhoods most severely damaged by the storm as community members still lacked the resources and ability to vote. Many of the communities that faced total or nearly total flooding were predominantly black, leading to a decrease in the black vote in the election following Katrina as well (Logan 469-470). At the same time, Katrina demonstrates how natural disasters can create political change through policy decisions. For example, by allocating the majority of rebuilding funds to homeowners rather than renters, the state systematically discouraged the return of lower-income and rental-dependent populations. The state government's choices in clean-up and infrastructure rebuilding led to the development of a new and wealthier electorate, an electorate that would vote for candidates and policies that would reshape the city and state of Louisiana moving forward, particularly as many lower-income individuals and people of color struggled to or never migrated back to New Orleans (Logan 446).

Although we can use Katrina as an example of how natural disasters can impact the political composition of the communities people are leaving, we know much less about how natural disasters affect the politics of the communities climate migrants enter. Although some studies have explored how receiving communities may develop an increased tolerance toward climate migrants or greater support for climate policies, we know very little about how the

migrants themselves might change the political composition of their new communities (Arias and Blair 2024). In particular, we do not know how they affect the voting behavior of these communities as they move and settle there. As the number of natural disasters in the U.S. increases every year and more and more people are affected by disasters that are destroying their homes and communities, forcing them to relocate, we must consider how climate migrants are going to reshape their new communities, asking the question: How does domestic climate-induced migration affect the partisan alignment of receiving communities in the United States?

In this paper, I argue that climate-induced migration causes receiving communities to become more politically homogeneous as migrants self-select into areas that align with their existing political and demographic identities. I base this argument on the theory of ideological sorting, the idea that people choose to move to areas that align with their political views, even if they previously lived in areas that differed politically from their views, because they want to be around like-minded individuals (Liu 2019). I also consider how climate migrants often choose to stay close to their original homes, typically moving to neighboring counties or to the closest region deemed as safe (Elliott and Wang 2023). I also consider the spatial dependence theory, the idea that policy views in one area, such as a county, are often dependent on and influenced by those of surrounding regions or other counties, meaning that if a climate migrant were to move from one county to another, it is likely their origin and destination counties share similar political and ideological views (Neumayer and Plümper 2012). Due to these geographic considerations, I have decided to keep the scale of this paper at the county level to test these theories.

To test whether climate migration could strengthen partisanship in receiving communities, I will examine partisanship in these counties before and after they receive an influx

of climate migrants. I will do this by looking at data from the National Neighborhood Data Archive, which provides county-level information on how many people voted for Republican, Democratic, and Independent candidates. I will identify the level of climate risk in communities and identify communities people may be moving from using the FEMA National Risk Index. To track the scale and direction of movement, I use IRS county-to-county migration data, which identifies annual population flows between counties. I then regress these migration patterns against voter registration and election results to determine if the density of climate-induced migration predicts a statistically significant shift in Democratic vote share in receiving counties.

Right now, we do not know how climate-induced migration may affect the long-term political alignment of receiving communities. However, this paper makes several contributions to the study of population movement, climate migration, and the prediction of shifts in the political landscape. It advances our understanding of how domestic migration can shift the country's partisan balance and, in particular, emphasizes the role of climate-induced migration in this balance, which, to my knowledge, has not yet been studied directly. Researchers have examined the role of domestic climate migration in changing the demographic makeup of communities or altering communities' temporary sentiments towards climate or climate migrants, but it does not seem as though studies have considered its permanent impacts on voting patterns and partisanship. This stems from a lack of studies that explicitly focus on climate-induced migration and from the failure to account for partisan alignment in the demographics of many relevant studies. Through this study, I hope to bridge that gap and provide a better understanding of how these increasingly frequent climate events and the resulting displacement could impact the United States, as more and more people move to new areas of the country, bringing their political views and voting power with them. It is also important to understand how demographic shifts

influence voting patterns, as this information underpins predictions of future electoral outcomes and polarization in the United States.

Literature Review

Dependent variable: Partisan alignment of receiving communities

Several studies have established that people moving within the United States often factor in the partisan alignment of the communities they are considering. Liu et al. (2019) found that individuals generally self-select into like-minded places, moving to counties with electoral records similar to those of their previous locations. They observed this effect to be stronger in counties with more “extreme partisan composition,” such as Democratic or Republican strongholds. Cho et al. (2012) link this concept to individual political views, finding that people prefer to live near those who share their ideologies. Specifically, they found that 39.1% of Republicans and 28.5% of Democrats consider a neighborhood's partisan composition an essential factor in their choice of where to move. While Democrats showed this tendency to a lesser extent, Republicans demonstrated a strong preference for relocating to areas with more Republican voters than their original community. Generally, this suggests that people may take into account the political composition of their new communities when choosing where to live and would likely prefer to live in communities that share their political views.

Migration precipitated by climate change can also have some specific political impacts on receiving communities compared to voluntary migration. Regardless of the displaced individuals' political views, their presence can temporarily influence the attitudes of the receiving community. A 2024 study by Arias and Blair found that “climate disasters may briefly increase favorability toward climate migrants and climate policy action,” though they specifically noted

that these shifts are often not long-lasting. They observed that in incidents where communities received climate migrants, Democrats and Republicans initially held similar attitudes toward climate migrants. Events like hurricanes led to bipartisan support for policies aiding the displaced and addressing climate change, even in conservative Southern regions. For example, an influx of climate migrants led to support for pro-climate proposals in Florida's 2022 general election. Yet, the authors also found that these sentiments did not persist. In areas affected by Hurricane Ian, this bipartisan support lasted at least one month but dissolved within six. This suggests that while climate displacement introduces immediate changes in issue perception and increased empathy, it also necessitates a consideration of longer-term impacts, such as voting behaviors and partisan alignment.

Beyond temporary shifts in attitude, Hauer et al. (2024) argue that the demographic impact of climate migrants can fundamentally alter the partisan alignment of receiving communities over time. They suggest that the impact of those displaced is often underestimated, as shifts in race, gender, age, and birth rates will reshape the electorate. Additionally, political changes may arise from the development of housing, health, and infrastructure policies needed to accommodate migrants. These policies can skew partisan alignment as people enter or leave the community in response to new local priorities. This dynamic is also complicated by the strain placed on public services. Marandi and Main (2021) found that receiving communities often face political challenges due to the pressure an influx of people places on resources. This strain can lead to resentment, particularly in vulnerable receiving communities, such as those with lower incomes, higher elderly populations, or larger non-white populations that may be more likely to rely heavily on social services. Consequently, an influx of migrants can adversely affect existing

residents, particularly in smaller, rural communities that lack adequate resources to accommodate sudden population growth.

While this study centers on domestic climate migration and its impact on partisanship, it is also beneficial to consider how prior episodes of mass domestic migration have shaped politics and political alignments, particularly as intensifying natural disasters create the potential for sudden mass migration. In a 2024 article by Vanessa Williamson, she argues that the Great Migration, the mass movement of millions of African Americans from the South to the Midwest and Northern regions of the United States in the 1910s, serves as an important precedent for climate migration, as the movement caused the Democratic Party to transition from a platform of white supremacy to one of civil rights. She states that this change was not immediate and did not stem from an ideological shift, but rather resulted from shifts in the population and the formation of “alliances of convenience,” in which existing institutions like labor unions and political groups aligned with migrants to win elections. She believes that over time, these partnerships or “alliances” changed the partisan identity of the receiving communities as they adapted their policies to meet the new population's needs and wants. She suggests that climate migrants may have similar impacts, thereby forcing political parties to adjust their platforms to capture new voters. Although there are significant differences between the southern to northern migration of Black Americans in the Great Migration and the movement induced by climate change, her theory does pose an interesting point in thinking about the long-term political impacts of migration, especially as many modern studies on this subject have only been able to show evidence of short-term effects.

Independent variable: domestic climate migration

But beyond partisanship and political impact, we must also understand the current state of domestic climate migration in the United States as it increases annually, and its impacts increase. According to Hauer (2017), millions of people are projected to migrate within the United States due to sea-level rise, with many following an already established migration pattern out of Florida and toward inland metropolitan areas. Florida is projected to experience the largest amount of out-migration, potentially losing more than 2.5 million residents. At the same time, Texas is projected to have the highest population increase, with an estimated 1.5 million new residents due to displacement from sea-level rise. The migration is expected to continue into cities such as Austin, Orlando, Atlanta, and Houston. Hauer assumes that people displaced by rising sea levels will follow pre-existing migration pathways, moving away from the coasts and farther north. On the West Coast, he predicts that cities such as Phoenix, Las Vegas, and Riverside, California, will see an influx of migrants from coastal areas. However, Robinson et al. (2020) note that migration due to sea-level rise will affect not only coastal areas but also surrounding communities as people move inland. Their study projects that by 2100, around 13 million people will be affected by flooding, leading to migration that will affect over a third of the US population, as the annual number of incoming migrants to their counties doubles.

This study, along with Elliott and Wang (2023), finds that domestic climate migrants typically relocate very close to their place of origin. Robinson et al. (2020) found that most migrants displaced by flooding move to the closest less affected county, while Elliot and Wang (2023) found using FEMA data that the median driving distance for individuals moving to a new area from their previous home is only 7.4 miles and that 74% of people stay within a 20-mile drive of their origin. From this, we know that the areas most susceptible to domestic climate

migration at present are in the southern and coastal regions of the United States, and that as temperatures increase and sea levels continue to rise, more people will move inland, though likely only short distances.

Elliot and Wang's 2023 study found that racial composition is the strongest predictor of whether and when people will move in response to climate change. They found that majority-white communities often tolerate more risk and are less likely and later to move due to climate events. In contrast, majority Black or Hispanic communities are more likely to move earlier. Hauer's 2017 model predicts that wealthier households (earning over \$100,000/year) are more likely to attempt to adapt in place rather than move, as they have the resources to protect their homes and assets. However, he believes that millions of people will still migrate regardless of their financial status. Additionally, a New America report from 2024 found that lower-income individuals are more likely to move out of necessity, while middle-class people move proactively, and people with the highest incomes often stay willingly. In another study by Hauer on population aging and demographic change due to climate migration, the authors report that younger working-age adults are most likely to migrate. They note that this demographic could drastically impact the populations in receiving communities; if they were to permanently migrate, they are more likely to start families in their new communities than older demographics (Hauer et al. 2024). Considering these findings, we conclude that the populations most likely to migrate due to climate concerns are younger, lower-income, and non-white.

While the demographics of who is most likely to migrate are important, it is also important to consider the impacts on the populations of where they are moving to. A study by Kim et al. (2023) on climate migration's impact on gentrification found that migration from hurricane-prone coastal cities to areas with lower risk could create a phenomenon known as

climate gentrification. They found that migration to areas with a lower storm intensity is associated with a 13.8% increase in median income to an area. They also found that migration into lower flood-risk areas is associated with a 18.9% decrease in non-Hispanic African American residents. These findings suggest that an influx of wealthier and whiter residents into lower-risk climate areas could have significant impacts on communities, potentially shaping the electorate over time.

A 2022 study by Bernstein et al. found that properties exposed to sea-level rise are more likely to be owned by registered Republicans. They found that Republicans own 11% more homes even moderately exposed to sea-level rise. The gap between Republican and Democratic homeowners in these areas has also widened over time, doubling between 2012 and 2018, indicating a growing share of Republican homeowners. The researchers believe this is due to anticipatory beliefs about long-term sea-level rise, and that short-term or current risk of flooding does not seem to be driving migration from these areas. This suggests that Democrats are more concerned about the long-term effects of owning property in affected areas and that they may be more proactive in staying away from or moving away from areas with a higher climate risk.

In terms of where people are moving, a 2024 report by New America highlights several potential “climate havens” that are marketing themselves as destinations for climate migrants and people hoping to escape climate-related events. Some examples include Buffalo and Cincinnati, both of which have access to bodies of water and are not particularly vulnerable to sea-level rise. Cincinnati has been preparing to accommodate these migrants through its Green Cincinnati Plan, which includes improvements to drainage systems and expanded transit services. However, although these areas are not currently as vulnerable to climate change, they are not immune to it.

They are still affected by harsh winters and may face additional impacts from climate change in the future (New America 2024).

Theory

Theory of Self-Selection

When people choose where to move, they often consider a variety of factors that depend on their lifestyle and needs. However, one specific factor they may consider is whether their political views align with those of the area they are considering moving to. McDonald (2011) has found that people moving within the United States tend to move to places that align with their political views, regardless of the political alignment of their place of origin. A study by Cho, Gimpel, and Hui (2012) found that 39.1% of Republicans and 28.5% of Democrats consider the neighborhood's partisan composition an essential factor in their choice of where to move. I believe this is an important factor when looking at climate-induced migration, as natural disasters may make individuals more likely to consider the infrastructure, climate, and disaster policies in the future communities where they reside. Additionally, in the context of natural disasters, when individuals have little time to consider their options, they may focus on those that initially stand out to them as comfortable fits. I believe that if someone is somewhat politically aware and considering places where people similar to them live, they are likely to choose a region with political views similar to their own.

A study by Brown and Enos (2021) found that a large proportion of Americans live in areas where they share political views with their neighbors, thereby increasing the likelihood of further polarization. This study found that Americans in larger cities or rural areas tend to be isolated from individuals with political views that differ from theirs, even at the neighborhood

level. These findings suggest that political self-selection plays a significant role in domestic migration. If climate change were to induce large-scale migration, as projected, people may continue to apply these political considerations when choosing where to relocate. The movement of Democrats from counties or cities affected by climate change could lead more Democrats to move to existing Democratic counties, increasing the divide between Democratic and Republican counties.

Theory of Spatial Dependence and Proximity

In the face of a natural disaster, citizens may not have much time to consider where to evacuate. They may be told by their cities, counties, or states where to go, or they may hear from friends and family about what areas are safe to retreat to. They may also choose to stay in place and, post-disaster, realize they no longer have a safe home. In these cases, the choice to relocate may not be about finding a perfect future community; instead, it may be about convenience and finding the closest, safest location to move to. A study on the resettlement of homeowners due to flood risk found that retreat is a “highly local process,” with a median driving distance of 7.4 miles and 58% of homeowners staying within a 10-mile drive of their previous residence (Elliott and Wang 2023). This suggests that people are not moving very far and are likely moving to communities similar to their previous ones.

The assumption that these communities in close proximity may not differ greatly stems from the concept of spatial dependence, which finds that political outcomes or views in one location are influenced by the politics of surrounding areas (Neumayer and Plümper 820, 2012). To me, this suggests that individuals who are, for example, moving from a county that leans Republican may be more likely to move to a neighboring county that also leans Republican, as

counties tend to cluster. This is especially possible in regions that are similarly rural or urban and of similar demographics.

A study also found that the destination of individuals moving due to flood risks was racially segmented, as white homeowners coming from majority-white neighborhoods were not only less likely to move because of increased flood risk, but if were to move, they would do so to other majority-white neighborhoods (Elliot and Wang 2023). I believe this shows again that people who want to move to areas with a demographic makeup similar to where they previously lived may also want to move to regions with similar political views. This could lead to partisan intensification, as people from a more moderate county may choose to move to the closest county that shares their views, for example, a conservative person moving to a more conservative city.

Theory of Climate-Risk–Based Partisan Selection

Beyond the constraints of physical proximity, the decision to relocate is increasingly filtered through the lens of partisan identity, in which differing tolerances for climate risk reinforce residential sorting. A working paper titled *Voting With Their Sandals: A Partisan Residential Sorting on Climate Change Risk* (2021) found that Republicans are more likely to own homes exposed to sea level rise and that Democrats were less tolerant of the long-term risks of sea-level rise than Republicans. A study by Kim et al. (2021) found that Democrats and individuals with higher education were significantly more likely to say that climate-related issues would play a role in their decision to relocate.

Additionally, if Democrats are more likely to be proactive about climate change, they are likely to choose destinations perceived as climate-resilient, which tend to be more urban and

liberal, such as Buffalo, Cincinnati, and Ann Arbor, all of which are considered “climate havens.” If that is the case, these areas will become even more left-leaning, reinforcing existing partisan alignments (New America 2024). Similarly, if Republicans are more likely to remain in place or not as seriously consider climate risk, because as Bernstein et al says, that they are less likely to believe climate change will cause long-term property damage, conservative areas may retain or increase their partisanship as Democrats leave for areas they perceive as safer. These findings together imply that climate-related mobility is not politically neutral; instead, it is shaped by partisan identities that may influence risk perceptions that then play a role in guiding individuals toward communities where their views are already prevalent.

Hypothesis: Receiving communities that experience higher levels of climate-induced migration are more likely to become more intensely partisan over time compared to those that experience less.

Research Design

I operationalize my dependent variable as the percentage point change in the Democratic vote share in U.S. counties between the 2016 and 2020 presidential elections. I operationalize my independent variable as the proportion of a county's total population that migrated from a climate-vulnerable area. To get a better understanding of the level of climate vulnerability potentially driving people out of a county, I utilize two levels of measurement: the percentage of movers from counties with a "Relatively Moderate or higher" National Risk Index rating, and the percentage of movers from counties with a "Relatively High or higher" National Risk Index rating.

The FEMA National Risk Index assigns each U.S. county one of five qualitative ratings, Very Low, Relatively Low, Relatively Moderate, Relatively High, and Very High risk based on the county's Expected Annual Loss value, defined as the total expected monetary loss to property, agriculture, and population due to natural hazards each year, relative to all other counties nationally. Each county is assigned an National Risk Index score from 0 to 100 representing its percentile rank among all U.S. counties. For example a score of 40 indicates a higher Expected Annual Loss than 40% of all other counties. A "Relatively Moderate or higher" rating includes counties at or above the 40th percentile in climate-related expected annual loss and a "Relatively High or higher" rating corresponds to counties at or above the 60th percentile.

For this study, I combine three datasets into a single dataset for analysis. To identify migration pathways, I use IRS County-to-County Migration datasets in one-year increments between 2016 and 2020 to see how many people moved from one county to another and from which specific counties each year. I have chosen to examine the data for each year from 2016 to 2020 to account for all movement between election cycles. To categorize the environmental

vulnerability of origin counties, I use the FEMA National Risk Index. By merging this index with the IRS data, I can identify not just how many people moved between counties, but also pinpoint how many people moved into a specific county from a climate-vulnerable origin county. This allows me to distinguish between general domestic migration and “climate migration” from higher-risk zones.

This distinction is important for my research question, as it allows me to examine whether counties that receive higher proportions of movers from climate-vulnerable areas experience different political changes than those that receive fewer climate migrants. By measuring variation in exposure to climate-induced migration across counties, I can assess whether higher levels of migration from at-risk areas are associated with stronger shifts in partisan alignment over time. Additionally, using two levels of climate risk allows me to evaluate whether the severity of climate vulnerability in origin counties is linked to more pronounced political changes in receiving communities.

To measure political shifts, I use a dataset from the National Neighborhood Data Archive, specifically the “Voter Registration, Turnout, and Partisanship by County” dataset. This provides me with data on Democratic and Republican vote ratios, voter turnout, and the number of registered voters for the 2016 and 2020 election years. I have chosen to focus my voting data on Presidential elections, as those typically have higher voter turnout.

I identify several demographic and control variables, including average county income, education level, mean age, and the county's racial and gender composition, from Census data. These control variables are essential for establishing that my observed results on political shifts are attributable not to broader regional demographic trends but to climate migration. I also use

my demographic data to identify the makeup of the counties people from climate-at-risk areas are moving to, to identify any patterns in their movement.

After constructing my dataset, I analyze the data in several stages. I begin by generating descriptive statistics in R to establish the baseline characteristics of all U.S. counties, including mean turnout, partisan lean, the change in vote ratio between 2016 and 2020, and the average proportion of movers from climate-impacted areas to new counties, among other variables. I then conduct a means comparison by political party to determine whether climate-vulnerable movers disproportionately select Democratic- or Republican-leaning destination counties. Finally, I use regression to test whether higher climate-induced migration density predicts a statistically significant political shift, specifically if increased climate migration leads to changes in the Democratic vote share. To do this, I use three models: a bivariate model, a demographic model incorporating socioeconomic controls, and a baseline model that includes the 2016 Democratic vote share to account for pre-existing political trajectories. This approach allows me to identify the specific effect of climate migration on partisanship by disentangling it from broader national and demographic trends, such as correlations between education or race and democratic leanings.

Results

Descriptive statistics

Figure 1.

Summary table of all variables

	Unique	Missing Pct.	Mean	SD	Min	Median	Max	Histogram
REG_VOTERS_PCT	2509	0	0.8	0.2	-1.0	0.9	1.0	
REG_VOTER_TURNOUT_PCT	3039	0	0.7	0.2	-1.0	0.7	1.0	
PRES_DEM_RATIO	3110	0	0.3	0.2	0.0	0.3	0.9	
PRES_REP_RATIO	3110	0	0.7	0.2	0.1	0.7	1.0	
majority_rep_2016	3	0	0.8	0.4	0.0	1.0	1.0	
majority_dem_2016	3	0	0.2	0.4	0.0	0.0	1.0	
CHANGE_REP_RATIO_2016_2020	3110	0	-0.0	0.0	-0.1	-0.0	0.3	
CHANGE_DEM_RATIO_2016_2020	3111	0	0.0	0.0	-0.3	0.0	0.1	
prop_movers	3112	0	3.8	0.4	0.9	3.8	7.2	
prop_movers_mod_higher	2406	0	0.6	1.2	0.0	0.0	3.8	
prop_movers_rel_v_high	1822	0	0.2	0.7	0.0	0.0	3.7	
totalpopulation	3040	0	105606.5	334739.8	87.0	26187.0	9943046.0	
propmale	3107	0	0.5	0.0	0.4	0.5	0.7	
propfemale	3107	0	0.5	0.0	0.3	0.5	0.6	
propwhite	3113	0	0.8	0.2	0.1	0.9	1.0	
propblack	3108	0	0.1	0.1	0.0	0.0	0.9	
prophispanic	3114	0	0.1	0.1	0.0	0.0	1.0	
medianage	311	0	41.9	5.4	22.4	41.6	68.5	
percent_less_than_highschool	3103	0	11.3	5.5	0.0	10.1	53.2	
percent_college_grad	3104	0	24.0	10.2	0.0	21.4	79.7	
percent_unemployment	139	0	6.7	2.3	1.6	6.6	22.6	
median_income	3010	0	57325.2	14506.9	22901.0	55028.5	160305.0	

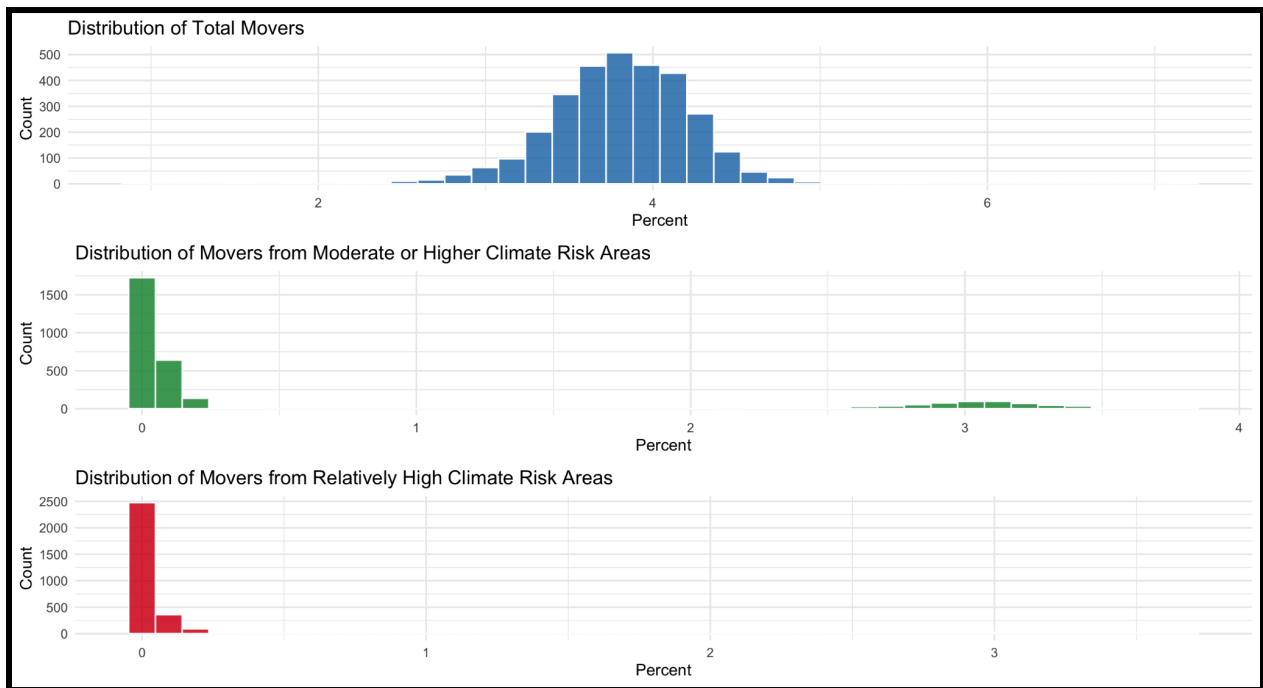
This table provides summary statistics for each variable of the final data set. This data shows the percentage of voters, voter turnout, the democratic and Republican vote ratio, and the party majority for each county. We can also see changes in voting ratios across counties in the United States. When it comes to who is moving, the data show the total proportion of people who have migrated out of counties, the proportion of movers from areas with moderate or higher climate risk, and the proportion of movers from areas with relatively high climate risk. Variables on the demographics of each county are also included, such as race, median age, education level, income, and employment. Some key statistics from this table show that the average county has 70 percent of registered voters who turned out to vote in the presidential election & and that 80

percent of counties had a Republican majority in 2016. The prop_movers variable indicates that, on average, 3.8 percent of a county's population had moved there from moderate- or high-risk countries in recent years.

Findings

Figure 2.

Distribution of movers in the U.S.



The first stage of the analysis establishes the baseline for domestic migration and migration from climate-impacted counties. Figure 2 illustrates the distribution of movers across U.S. counties, highlighting the distinction between total domestic migration and movement specifically originating from climate-vulnerable areas. While the average percent of movers from a county is approximately 3.8%, the proportion of movers from "Moderate or Higher" and "Relatively High" climate risk areas is significantly smaller, averaging 0.6% and 0.2%, respectively. Despite these low percentages, the volume of these movements is still substantial, with over 7.7 million people moving from moderate-risk areas and 5.1 million from high-risk areas between 2016 and 2020. This suggests that while these migrants represent a small part of

the total electorate, especially in each county, their geographic concentration in specific areas could lead to significantly more intense partisanship.

Figure 3.
Distribution of movers by political party

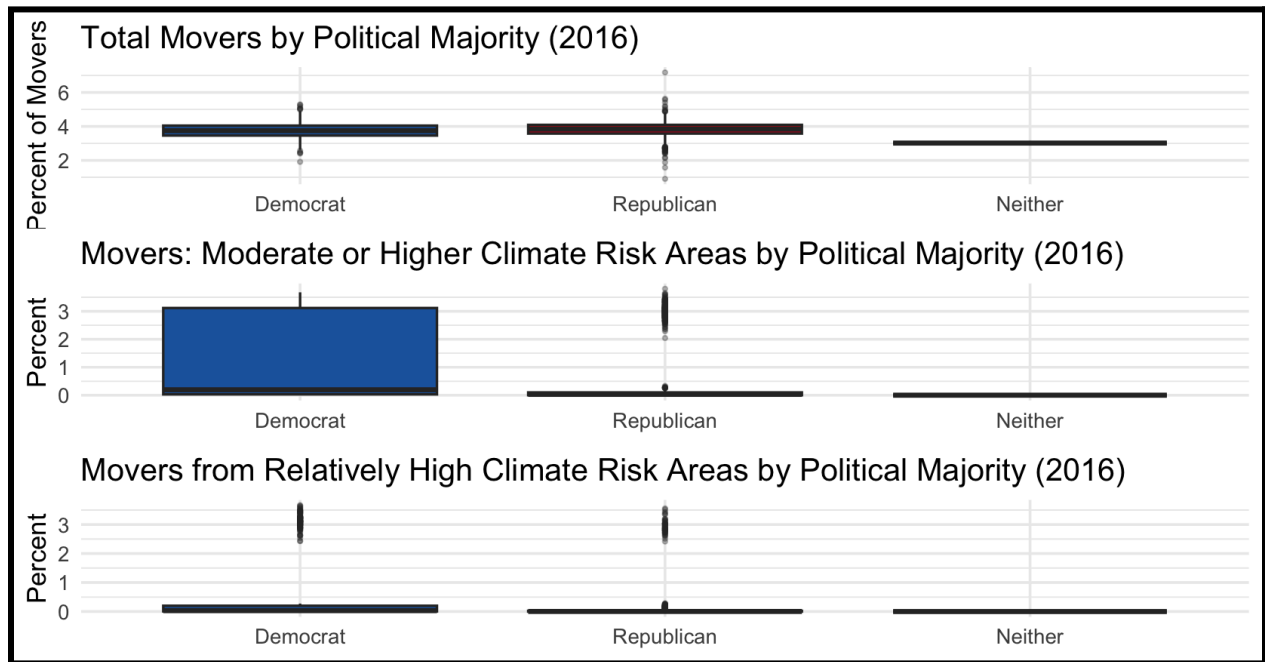


Figure 4.
Summary table of movers by political party and climate risk.

Political majority	n	Mean movers (%)	Mean movers from moderate or higher climate risk (%)	Mean movers from relatively high risk (%)
Democrat	489	3.75	1.49	0.770
Republican	2623	3.83	0.447	0.0866
Neither	3	3.02	0	0

Figures 3 and 4 illustrate that while overall migration rates are nearly identical across partisan lines, with Republican-majority areas seeing slightly more movement at 3.83%

compared to 3.75% for Democrats, migration rates are very different when climate is introduced. Movers settled in Democratic-majority areas are more likely to originate from climate-vulnerable regions, particularly regions with a moderate to high risk compared to Republican counties, at 1.49% compared to 0.447. For movers from a relatively high-risk area, there are fewer movers in total, but Democratic leaning counties see a much higher amount of movers than Republicans at 0.770% compared to 0.0866%. This shows that while migration generally skews slightly toward Republican counties, Democratic counties see many more migrants from climate-affected areas.

Figure 5.

Top 10 counties with the most in-migration by climate migrants

Moderate or higher			Relatively high		
County	Percent	2016 Vote	County	Proportion	2016 Vote
Colusa	3.802	Republican	Nassau	3.670	Democrat
Nassau	3.675	Democrat	DuPage	3.644	Democrat
DuPage	3.655	Democrat	Imperial	3.632	Democrat
McHenry	3.651	Republican	Lake	3.592	Democrat
Imperial	3.641	Democrat	Bucks	3.576	Democrat
Somerset	3.624	Democrat	Suffolk	3.558	Republican
Lake	3.617	Democrat	Will	3.557	Democrat
Morris	3.611	Republican	Napa	3.527	Democrat
Bucks	3.602	Democrat	Monmouth	3.523	Republican
Waukesha	3.602	Republican	Santa Clara	3.497	Democrat

By identifying the top 10 counties to which the most movers from moderate or higher climate risk have moved, we can determine movement patterns. The proportion in this chart represents the proportion of movers from this type of area moving into a new destination county.

For all of these counties, migrants from these areas make up only a very small percentage of the population and only a part of the proportion of movers in general. This is important to note because in both cases, most of the movement is into large suburban counties within major metropolitan areas. These counties tend to have strong economies and growing populations, making them more attractive to domestic migrants than smaller or rural counties.

While this may be the case for a majority of the top 10 counties, there are a few standout counties, including Colusa, the county with the most in-migration from counties with moderate or higher risk. Colusa is a small rural county in northern California near Sacramento. In 2020, a large wildfire near the Sacramento area burned over 1 million acres (Liberto). While it cannot be directly attributed, it is possible that much of this migration into Colusa was due to people trying to escape the fire or damage. Imperial County is a rural county that has seen migration from areas with a high climate risk. This county is located in southern California and is one of the state's poorest counties. Currently, it faces significant climate issues due to the Colorado River's drying (Lindenfield). While the literature suggests that people fleeing climate-impacted counties may choose to move to counties deemed “safer” from climate change, both counties are severely affected by climate change, with Colusa having extreme fire risk (First Street). In these cases, we could speculate that migration may be driven more by proximity than by perceived climate safety.

Generally, we see overlap of movers from both moderate- and relatively high-risk counties to counties within major metropolitan areas. It is possible that this is a strategic choice on the part of the movers and their desire to move to larger cities, or this could be an effect of migration patterns in general, as these are the counties people are moving to, regardless of the climate risk where they are coming from. While I would have expected to see more movement to

Democratic counties, particularly from people coming from moderate- or higher-climate-risk counties, the results in Figure 3 show that four of the ten counties with the highest levels of migration for this group voted for the Republican candidate in the 2016 election. These counties, besides Colusa, are directly outside of democratic voting counties representing cities, for example, Waukesha County, in which 60% of the county's votes went towards Donald Trump, while being next to the Democratic stronghold of Milwaukee and Milwaukee County, where Trump earned 28.6% of the votes. This suggests that while close to Democratic areas, climate migrants are not always moving to Democratic areas. We do not know whether that was a conscious decision or if other factors played a role in the migrants choice of location.

Figure 6.
Distribution of change in Republican vote share

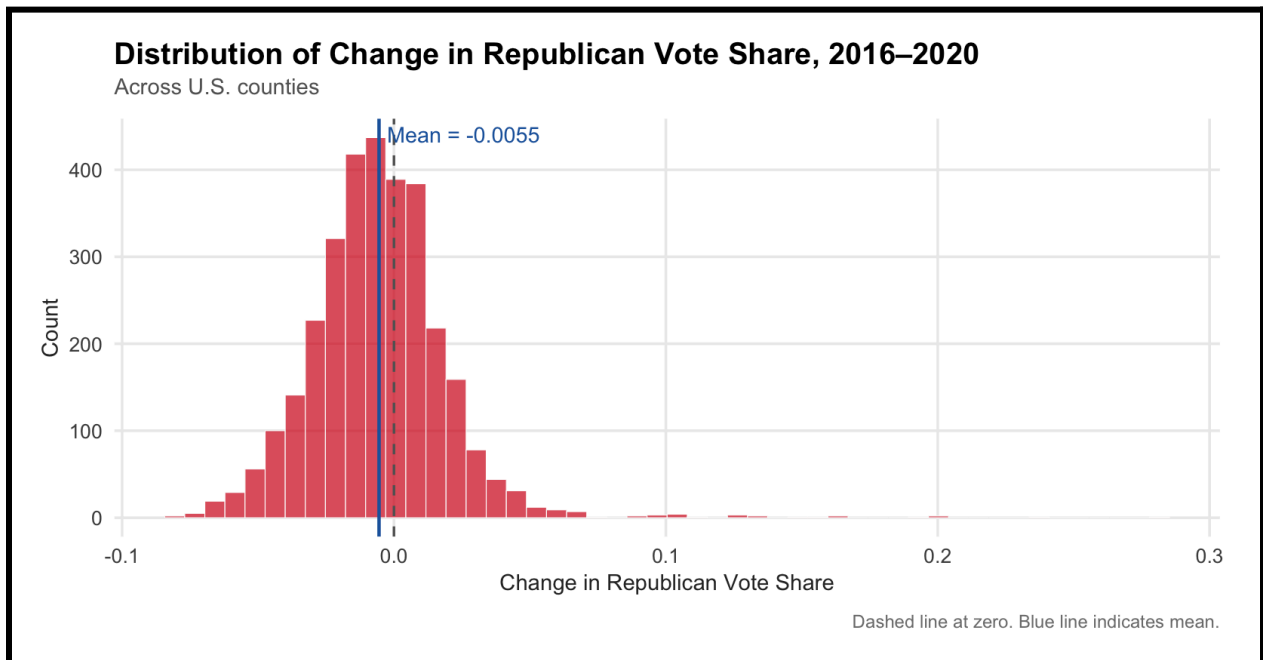
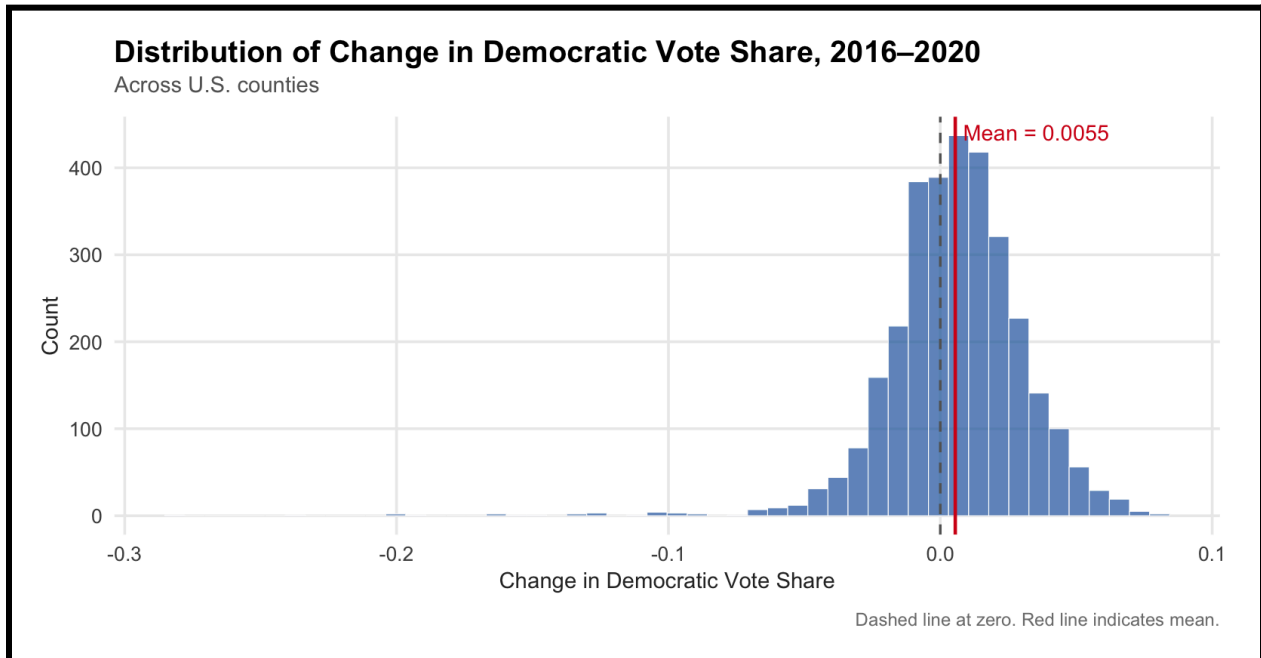


Figure 7.
Distribution of change in Democratic vote share



Before assessing the direct impact of migration, it is valuable to understand the broader partisan shifts that occurred between 2016 and 2020. Figures 6 and 7 depict the distribution of change in Republican and Democratic vote shares across all U.S. counties. The data show a minor national trend toward the Democratic Party, with a mean increase of 0.0055 in Democratic vote share and a corresponding decrease in Republican vote share. This baseline confirms that, at the time, the country was generally shifting towards the Democratic Party. This also means that we must further analyze and isolate the impact of climate migration on this trend, especially because migrants from climate-impacted areas are concentrating in Democratic areas.

Figure 8.

Scatter plot with regression for vote movers from moderate climate risk

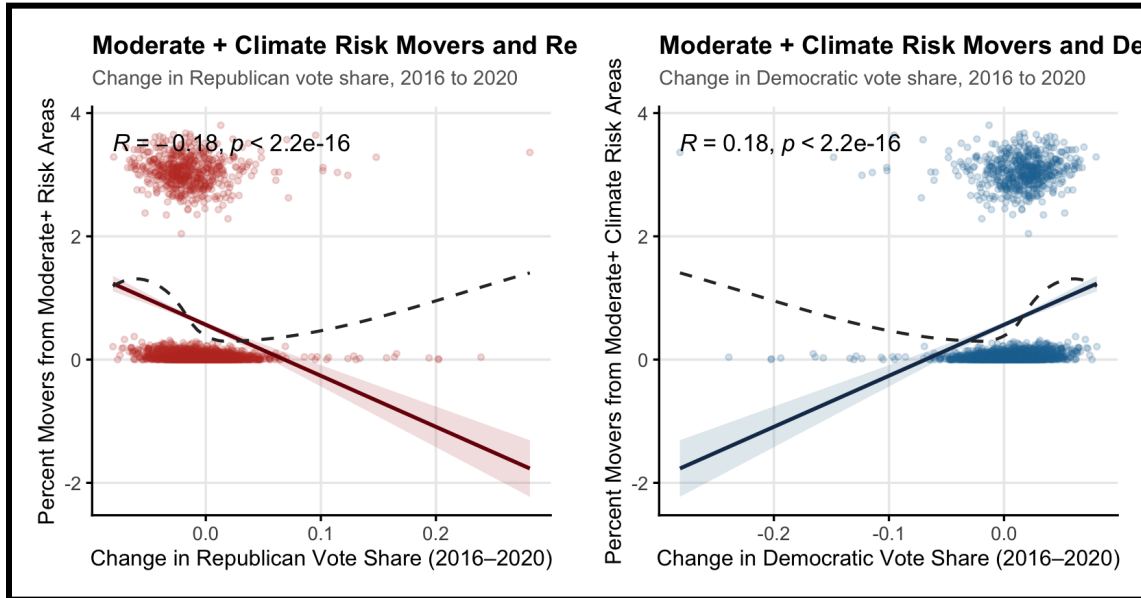
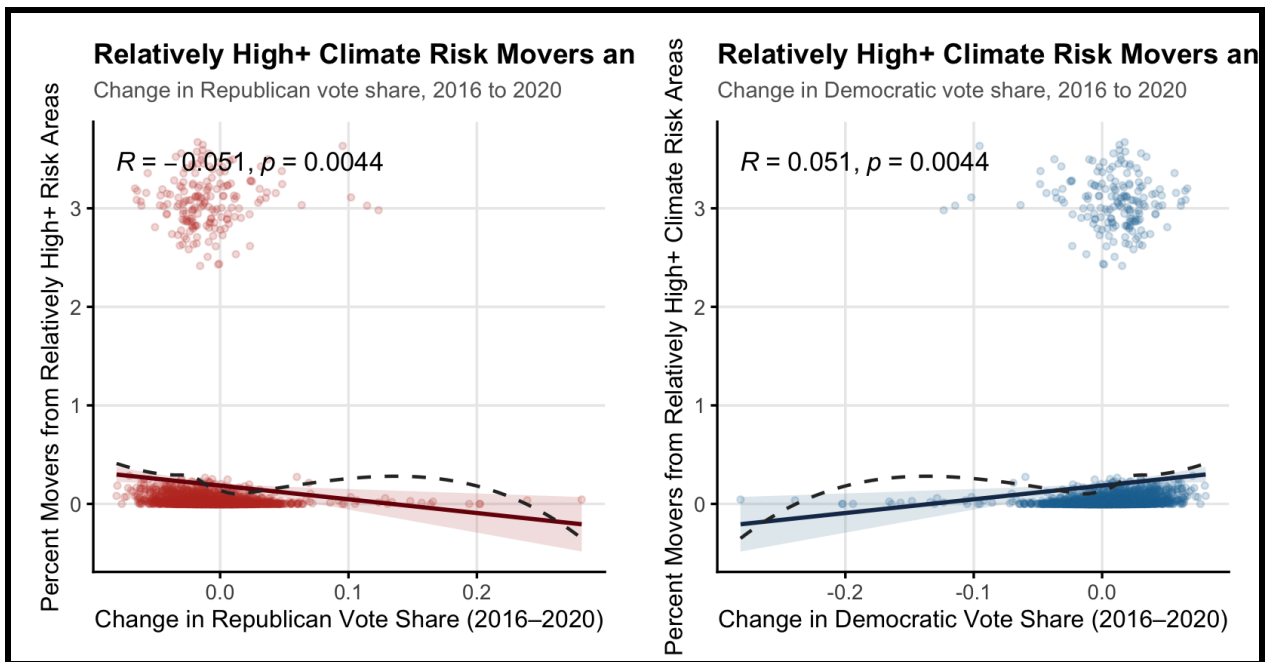


Figure 9.

Scatter plot with regression for vote movers from relatively high climate risk



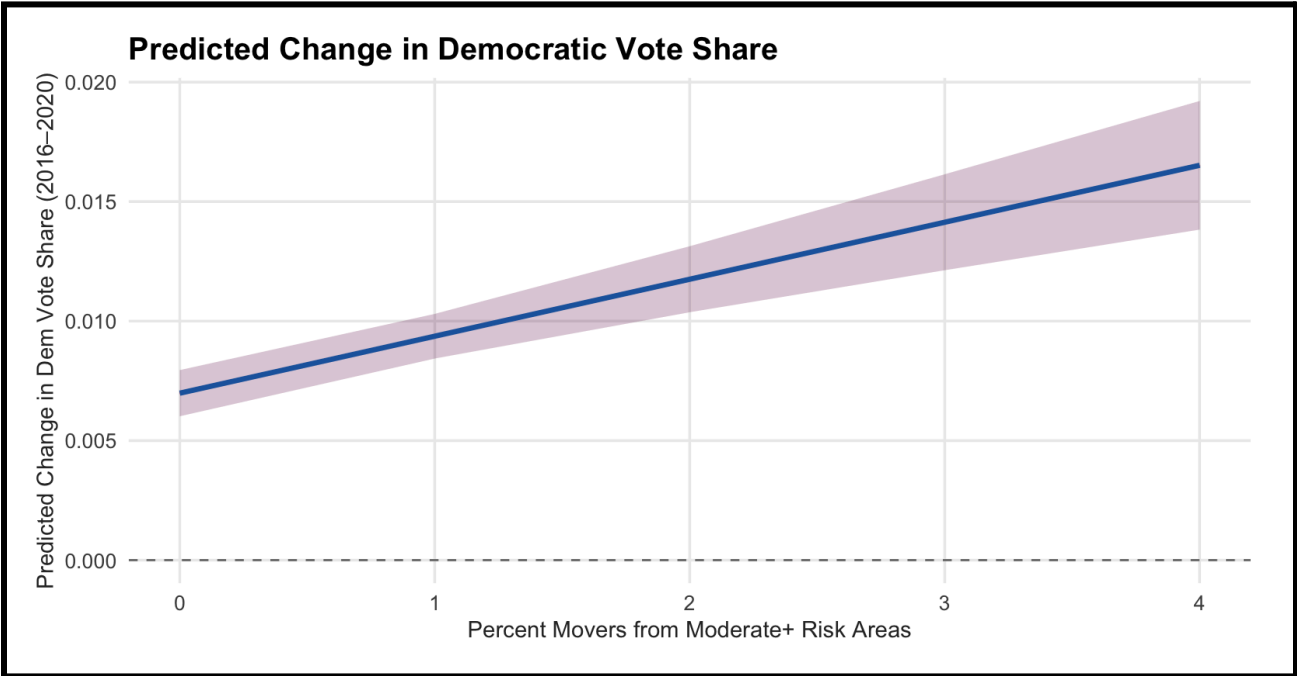
Figures 8 and 9 demonstrate the bivariate relationship between the density of climate-vulnerable movers and changes in county-level vote shares. In plot 8, depicting movers from moderate-risk areas, there is a statistically significant positive relationship of 0.18 between

the increase in movers from moderate-risk areas and the increase in the Democratic vote share. This correlation suggests that as the percentage of climate-vulnerable movers in a county increases, so does the share of votes cast for Democratic candidates. While this is the case for both movers from moderate and relative climate risk areas, movers from the highest-risk area show lower significance, potentially due to the smaller number of climate migrants from these areas. Regardless, while there are fewer of these movers, their presence in receiving counties still aligns with the democratic shift we see both nationally and in climate migrants.

Regression analysis

Figure 10.

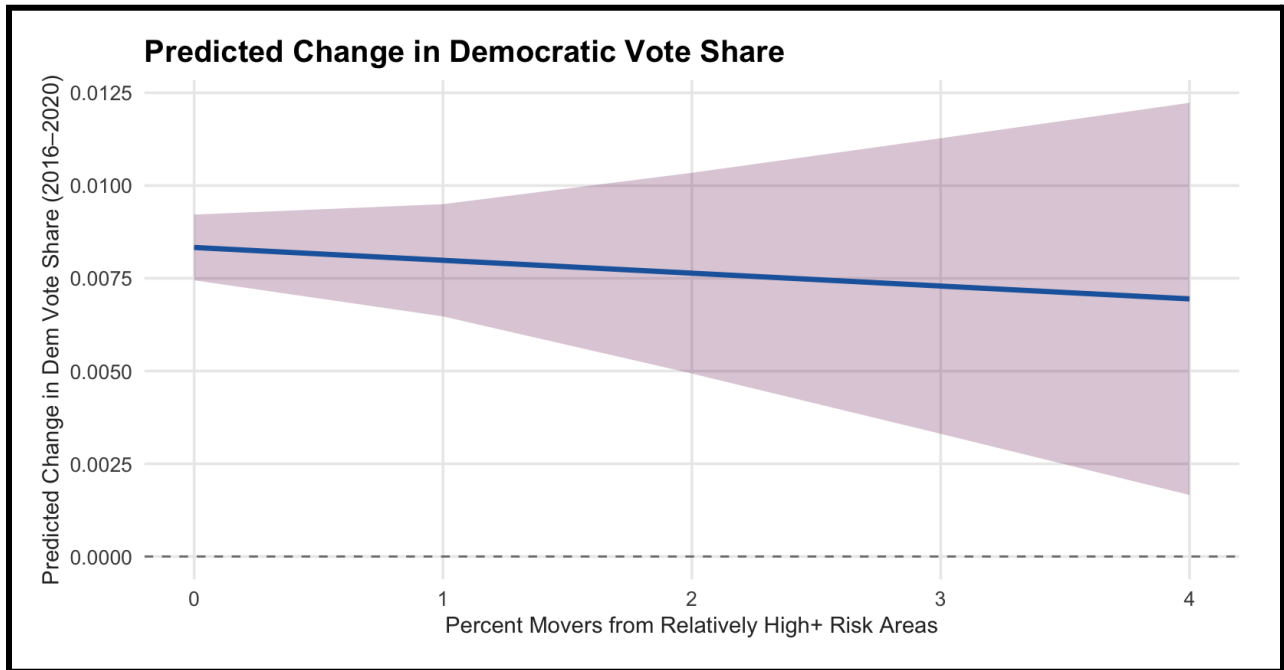
Regression plot of the Democratic vote share and movers from moderate climate risk counties



This graph shows a positive relationship between migration from moderate- to higher-risk climate areas and the predicted change in democratic vote share between 2016 and 2020. As the percentage of movers from these areas increases, the regression line steadily rises, suggesting that areas receiving a greater influx of people from areas with this level of risk may see an increase in the Democratic vote share. The shaded purple band around the regression line

indicates a 95% confidence interval, showing the uncertainty around the estimated relationship between migration and changes in Democratic vote share. As the percentage of movers from moderate risk areas increases, the band grows, showing increased uncertainty.

Figure 11.
Regression plot of the democratic vote share and movers from high climate risk counties



For movers from relatively high-climate-risk areas, we see a slight decrease in the Democratic vote share as more people move to new counties. This indicates a slightly negative relationship between the proportion of movers from relatively high climate-risk areas and changes in Democratic vote share. However, the effect is small, and the confidence interval widens significantly at higher levels of migration, suggesting considerable uncertainty, likely due to the limited number of movers from the higher-risk areas compared to moderate areas.

Figure 12.

Regression table of the Democratic vote share and demographics

	Bivariate	With demographics	With baseline 2016 vote
Dem Vote Share 2016 (baseline)			0.008+ (0.005)
Total population		-0.000** (0.000)	-0.000** (0.000)
Prop. White		-0.013 (0.008)	-0.023** (0.008)
Prop. Black		-0.024*** (0.007)	-0.020** (0.007)
Prop. Hispanic		-0.060*** (0.007)	-0.051*** (0.006)
Median age		-0.000 (0.000)	-0.000 (0.000)
Median income		0.000*** (0.000)	0.000*** (0.000)
% College graduate		0.001*** (0.000)	0.001*** (0.000)
% Unemployed		-0.001** (0.000)	-0.000+ (0.000)
Constant	0.003*** (0.000)	-0.000 (0.007)	0.002 (0.007)
Num. Obs.	3111	3103	3103
R2	0.033	0.383	0.415
R2 Adjusted	0.032	0.382	0.413

P < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

HC3 robust standard errors in parentheses. * p < 0.05, ** p < 0.01, *** p < 0.001

The regression analysis reveals that graduating from college and median income are the strongest positive predictors of an increase in Democratic vote share, with both variables remaining highly statistically significant even after controlling for 2016 baseline levels. The model shows a significant negative correlation with the proportion of Hispanic and Black individuals in a county who voted for the Republican presidential candidate, indicating that counties with higher shares of these groups voted more Democratic than in other periods. While the initial bivariate model explains only 3.3% of the variance, the inclusion of demographic controls and the 2016 baseline vote share increases the coefficient of determination to 41.5%, suggesting that a combination of average socioeconomic status and prior political leaning for a county provides a more robust explanation for the democratic lean than any single demographic factor alone.

Analysis of results

The regression analysis demonstrates a statistically significant relationship between climate-induced migration and changes in partisanship. Specifically, the proportion of movers from areas with a moderate to high climate risk is positive and significant in predicting an increase in the Democratic vote share. This finding suggests that as the proportion of these movers increases in a county, the proportion of votes for Democratic candidates will also increase. While the bivariate model shows a clear positive trend, the introduction of a control for 2016 baseline results, whether a county had a democratic majority during the 2016 election, reveals a negative effect, suggesting that the impact of movers may depend on the existing political leanings of the area. This may suggest that democratic vote share mainly increases when climate-impacted migrants move to democratic counties, meaning that movers may be choosing to migrate to areas that align with their political views, which is why an increase is seen.

Despite these findings, a degree of skepticism is warranted regarding the immediate impact of climate-induced migration on electoral outcomes. Currently, movers from moderate to higher risk and relatively high risk areas account for a very small share of people moving throughout the country. It cannot be claimed with certainty that the movement of climate migrants is shifting the results of entire elections, especially because the established electorate is very large compared to the number of people moving into communities due to climate disasters. While we are not seeing a massive effect on the electorate now, these results may indicate a growing trend in the future. As climate crises intensify, the percentage of climate-induced migrants may rise. If the current positive correlation continues, increased migration could eventually lead to larger shifts in the political composition of the receiving counties and the United States as a whole.

These results offer partial support for the hypothesis that receiving communities experiencing higher levels of climate-induced migration become more intensely partisan over time. The evidence most clearly supports the Democratic side of this hypothesis. Counties that were already Democratic-leaning saw the strongest increases in Democratic vote share as climate migrants arrived, suggesting that migrants may be self-selecting into politically compatible destinations. While my methodology does not allow me to directly observe the partisan identity of individual migrants, the concentration of climate migrants in Democratic-majority counties is consistent with the theoretical expectation that Democrats are more likely to proactively flee climate-vulnerable areas and seek out like-minded communities. On the Republican side, the data suggest that Republican-majority counties simply receive fewer climate migrants overall, which may indicate that Republican communities are not so much becoming more Republican

due to higher levels of climate-induced migration but as seeing partisan shifts due to the out-migration of Democrats.

Conclusion

As climate disasters increase in frequency and severity across the United States, climate-induced migration has shifted from a future problem to a present reality. While many states have begun to consider steps to handle an increasing number of migrants in their cities, the potential impacts on partisanship and political change have not been explored as thoroughly. The political impacts on climate-affected areas, such as electoral shifts in New Orleans following Hurricane Katrina, are well-documented. But this paper addresses the under-researched impact of climate change on the communities that receive migrants, particularly how partisanship changes. By investigating how climate-induced migration shapes the partisan alignment of destination counties, this research supports a trend in the American electoral landscape: an influx of migrants from moderate- to high-climate-risk areas is a statistically significant predictor of increased Democratic vote share.

This change can be attributed to the theories of ideological sorting, spatial dependency, and climate-risk perception. As people are affected by climate change to the point that they feel they must relocate, they may factor in the partisanship of the community they are seeking to enter into their decision to relocate, opting to move to communities where they share similar ideological and political views. Additionally, the literature suggests that certain demographics are predisposed to lower climate tolerance and therefore choose to migrate earlier than other groups. This includes Democrats who may be more likely to proactively seek out new

communities, often areas considered “climate havens” or urban centers, which typically lean Democratic.

While this is the case, we also know that people often stay close to their original area when moving due to the climate, which adds an additional layer to the choice of where to move, as well as the political impacts of a move. This is a factor I was unable to test due to limited access to data. Further research using data on county-to-county movements of climate migrants could determine how far they are moving and whether their short moves may play a role in partisanship. This could be a valuable extension to this study, or it could be its own future study, as it could provide insight into whether these short moves could actually make an impact over time. This could also examine the tension between climate-risk sorting and spatial dependence, specifically, how the desire to flee climate-impacted areas while staying close to home coexists.

Literature also suggests that climate migration can affect politics and political views in the short term, as members of receiving communities begin to feel empathy for those moving into their communities. They may, only in the short-term, adapt or change their political views, but this is not a permanent political change. That is another reason why this study fills a gap in the literature: it provides information on the long-term effects of climate migration. This is important because it gives insight into how communities and electorates may change. A community may be prepared to take on the infrastructure and policy projects that an influx of migrants may bring, but it is likely not as prepared to handle political change. Understanding not only how the demands of your future voters might change but also how the physical makeup of a city's or a county's government may change is important and may help give constituents the attention they want and deserve.

Despite the trends identified in this study, it is important to note that the data were collected on a relatively small scale, and the populations examined constitute only a very small proportion of the country. The inability to access certain types of data, particularly precise movement data for climate migrants, limited the analysis I could undertake in this project. As a result, the sources I had to use meant that, for this initial study, I was only able to examine changes in partisanship and migration between the 2016 and 2020 presidential election cycles. To fully capture and predict the magnitude of this phenomenon, further research should extend these models to include the most recent election cycle and, preferably, prior cycles, to better understand how increased democratic vote share is connected to partisanship over time. If we could better understand this relationship earlier, when there were fewer climate events, and later, up to now, when there are more, we could better assess whether these partisan trends hold across election cycles.

Ultimately, this study serves as a new perspective on the intersection of climate change, environmental crises, and American democracy. By proving that climate migration is a statistically significant driver of partisan shifts, this research moves the conversation on the future impacts of climate change beyond preparing for infrastructure changes due to relocation to preparing for political and social changes. As climate change continues to drive demographic shifts, understanding these changes is essential for predicting the long-term stability and representation of the American electorate. The results of this study show an urgent need for political systems to adapt as quickly as the environment, ensuring that the evolving needs of a mobile and climate-conscious population are met with responsive and understanding governance.

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