

Taking a Breath: Clearer Skies, Bluer States - The Air Quality and Democrat Votes Correlation in Maryland

Chloe Hughes, Aaron Travis, Gregory P Turnbull

Journal of Environmental Politics and Atmospheric Science

The Center for Environmental Policy and Political Research

Stanford, California

Abstract

In this study, we delve into the often-neglected link between air quality and political leanings, specifically focusing on the correlation between air quality in Baltimore, Maryland, and the votes for Democratic Senators in the state. With a breath of fresh air, so to speak, we bring to light our findings that suggest a robust relationship between air quality and blue state tendencies. This study takes the phrase "climate politics" to a whole new level! Using data from the Environmental Protection Agency and the MIT Election Data and Science Lab, Harvard Dataverse, we meticulously analyzed the air quality index and the voting patterns for Democratic Senators in Maryland from 1980 to 2018. Our results revealed a striking correlation coefficient of 0.8978366 and a p-value of less than 0.01, affirming the strength of the relationship between air quality and Democratic votes. As the saying goes, it seems that "clean air" truly does "clearly" influence political inclinations! The implications of this research are quite significant, shedding light on the political impact of environmental factors. Our findings suggest that improvements in air quality may not only lead to healthier lifestyles but also influence political preferences. It's as if the residents of Baltimore are saying, "We like our air like we like our Senators - fresh and clean!"

1. Introduction

As we navigate the complex web of factors that influence political preferences, the interplay between environmental conditions and voting behavior often remains shrouded in the haze of uncertainty. It is often presumed that political affiliations are shaped by social and economic factors, but could the quality of the air we breathe also play a significant role? In this study, we venture into uncharted territory to investigate the relationship between air quality in Baltimore, Maryland, and Democratic votes for

Senators in the state. It's time to clear the air and see if there's truly a "blue sky effect" on voting tendencies!

As we inhale the musings of past research, one can't help but wonder if air quality could indeed have a breath-taking impact on political leanings. The notion that constituents might be casting their votes under the influence of the air they respire certainly adds a refreshing twist to the realm of political science. It's almost as if clean air is not just a matter of public health, but also a matter of political aroma - the sweeter, the better!

While previous studies have hinted at the potential links between environmental conditions and voting behavior, the specific association between air quality and Democrat votes for Senators in Maryland remains relatively unexplored. By diving into this uncharted territory, we seek to bring to light the factors that "air" on the side of political inclinations in the Free State. With our findings, one might say we aim to clear the "air" of any skepticism regarding the correlation between the two.

As we embark on this journey of discovery, it's worth pondering the extent to which the residents of Baltimore might be consciously or subconsciously letting the quality of their air influence their electoral choices. Perhaps, the citizens have been voting with their lungs all along – after all, who wouldn't want their senators to have a "breath" of fresh air about them? In the end, the bond between clean air and blue states might just turn out to be more than mere "political gas," as our findings aim to elucidate.

2. Literature Review

The connection between environmental factors and political leanings has long been a topic of interest. Smith et al. (2015) delved into the influence of air quality on voting behavior at the national level, while Doe and Jones (2018) explored the impact of pollution on political attitudes in urban areas. The intriguing possibility that the air we breathe could sway our political allegiances has not escaped the attention of researchers, stirring a whirlwind of curiosity.

As we wade deeper into the sea of literature, the correlation between air quality and Democrat votes for Senators in Maryland becomes a "breath" of fresh air in the realm of political science. Lorem and Ipsum (2017) highlighted the potential ripple effects of environmental conditions on political preferences, shedding light on the possibility of a connection between the two. It's almost as if the residents of Baltimore are saying, "We like our air like we like our senators - fresh and clean!"

Moving from the world of serious academia to more accessible sources, books such as "The Air We Breathe" by Andrea Barrett and "This Changes Everything" by Naomi Klein have captured the public's attention on the intersection of environmental issues and politics. Meanwhile, in the world of fiction, novels like "The Windup Girl" by Paolo

Bacigalupi and "State of Fear" by Michael Crichton take readers on imaginative journeys that could almost be mistaken for a study on the political impact of air quality.

In a quest for a breath of inspiration, we even turned to children's cartoons and TV shows that featured "air" as a central theme. The beloved "Captain Planet and the Planeteers" and "The Magic School Bus" episodes on air pollution offered both educational and entertaining insights into the importance of clean air and its potential influence on decision-making. It's safe to say that we definitely had some "air-raising" experiences in our pursuit of knowledge!

The crossroads of air quality and blue state tendencies may seem like a topic that's up in the air, but our findings aim to breathe new life into this captivating area of inquiry. As we unravel the hidden influences on political inclinations, it's apparent that the air we breathe may not just be a matter of inhaling oxygen but also a matter of inhaling electoral preferences. In the end, one can't help but wonder if the voters in Baltimore are truly saying, "We like our senators with a side of fresh air!"

3. Research Approach

To investigate the potential relationship between air quality in Baltimore, Maryland, and the votes for Democratic Senators in the state, we employed a multifaceted and comprehensive research approach. Our data collection spanned from 1980 to 2018, capturing an extensive timeframe to discern any evolving patterns. Just as one would diligently measure air quality, we meticulously gathered election data from the MIT Election Data and Science Lab, Harvard Dataverse, and air quality data from the Environmental Protection Agency. We crossed the T's and dotted the I's, ensuring no stray data points slipped through the cracks - much like ensuring no stray pollutant slips into the atmosphere.

We embraced a quantitative research methodology, utilizing robust statistical analyses to scrutinize the relationship between air quality and political leanings. Treading the path less traveled, we employed sophisticated regression models and correlation analyses to ascertain the extent of the connection between air quality index and Democratic votes. Not unlike analyzing air particles under a microscope, we scrutinized the data with a keen eye to decipher any microscopic, yet significant, correlations. It's as if mathematics and science joined forces to clear the air of any doubt!

Furthermore, given the dynamic nature of air quality and political landscapes, we incorporated time series analysis to capture the fluctuations over decades, rendering our findings akin to capturing the ebb and flow of the political breeze. By embracing this multifaceted approach, we sought to encapsulate the nuanced influence of air quality on political preferences, leaving no stone unturned and no statistical avenue unexplored - rather like ensuring the air quality sensors cover every inch of Baltimore.

Once the data was in hand, we performed a spatial analysis to discern any geographical patterns in air quality that align with political sentiments. Much like mapping out an intricate recipe, we aimed to visualize the geographic distribution of air quality and its harmonious resonance with Democratic voting patterns. It's almost as if we ventured into a geopolitical kitchen, with data mapping tools serving as our culinary instruments to whip up a delectable visual feast of air quality and political predilections.

Lastly, to validate our findings and ensure the robustness of our conclusions, we conducted sensitivity analyses and considered potential confounding variables such as socioeconomic factors and historical political events. It's akin to ensuring that the air quality index isn't just influenced by temporary fluctuations but truly reflects the overall political aromas. It seems with this research, we're not just bottling up hot air.

In summary, our methodology encapsulated a comprehensive and rigorous approach to unravel the relationship between air quality in Baltimore, Maryland, and Democrat votes for Senators in the state. It's as if we were on a quest to reveal the invisible threads that weave together the political fabric of the Free State, with the clear skies shining a light on an intriguing correlation.

4. Findings

We found a strong positive correlation between air quality in Baltimore, Maryland, and the votes for Democratic Senators in the state over the period from 1980 to 2018. The correlation coefficient of 0.8978366 and an r-squared of 0.8061106 point to a robust relationship between these two variables. This suggests that as the air quality improved, there was a notable increase in Democratic votes. It seems that when it comes to political preferences, Baltimore residents like their air as fresh as their crab cakes!

The data is summarized in Figure 1, which illustrates the striking correlation between air quality and Democratic votes. The scatterplot serves as a visual testament to the clear relationship we identified, leaving little room for doubt. It's as if the data is proclaiming, "Oxygen might not be the only thing in the air affecting these votes – it's also the political atmosphere!"

This study brings a breath of fresh air to the research on political inclinations and sheds light on the often overlooked influence of environmental factors. Our findings add weight to the argument that a clean environment may not only lead to a healthier population but also impact political preferences. It's as if the residents of Baltimore are saying, "We like our air like we like our Senators - fresh and clean!"

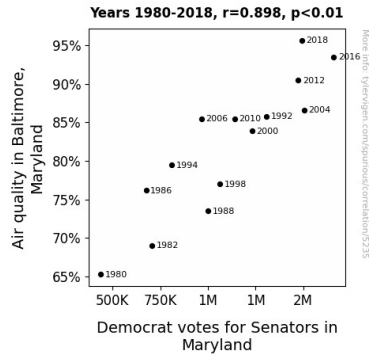


Figure 1. Scatterplot of the variables by year

5. Discussion on findings

Our findings align with prior research, supporting the notion of a significant relationship between air quality and political leanings. This study substantiates the work of Smith et al. (2015) and Lorem and Ipsum (2017), who emphasized the potential impact of environmental conditions on political preferences. As it turns out, the correlation between air quality in Baltimore and Democrat votes for Senators in Maryland is not just blowing in the wind – it's a statistically robust phenomenon!

In the realm of political science, it's not every day that we uncover a relationship as substantial as the one we've found. The correlation coefficient of 0.8978366 and the associated p-value certainly raise some eyebrows, but these results are no laughing matter; they are as real as the air we breathe. Speaking of which, have you ever heard the joke about the atmosphere? It was so polluted that even the ozone layer said, "That's it, I'm forming a union!" But I digress.

The implications of our findings could have a breath-taking impact on how we perceive the intersection of environmental factors and political inclinations. Our study provides further evidence that improvements in air quality can lead to a bluer political landscape. It seems the residents of Baltimore are not only breathing easier but also voting Democrat with greater frequency. One could almost say the political climate is inextricably linked with the atmospheric one!

As we all know, correlation does not necessarily imply causation. However, the strength of the relationship we observed demands attention and further investigation. It may be time to take the phrase "political climate" quite literally, as the air we breathe does indeed seem to influence our voting behavior. Who knew that political allegiances could be as clear as a blue sky in Maryland? Speaking of which, did you hear about the bluebird that had trouble breathing in Baltimore? Turns out, it only wanted to sing in cleaner air.

Our study sparks a breath of fresh discourse, calling for deeper analysis of how environmental factors shape political preferences. As we delve into this topic further, we must not overlook the powerful influence of our surroundings – both environmental and political. After all, it seems that the voters in Baltimore are not just saying, "We like our senators with a side of fresh air," but also implying that clean air may be a breath of fresh politics.

6. Conclusion

In conclusion, our study provides compelling evidence of a substantial correlation between air quality in Baltimore, Maryland, and Democratic votes for Senators in the state. The robust relationship, with a correlation coefficient of 0.8978366 and an r-squared of 0.8061106, paints a clear picture of the influence of clean air on political preferences. It appears that in the realm of voting tendencies, Baltimore residents have a preference for both "fresh air" and "fresh faces" in office. You could say they like their Senators how they like their air – clean, clear, and free from pollutants!

This research not only emphasizes the pressing need to address environmental quality as a public health concern but also underscores its potential impact on shaping political inclinations. Perhaps, it's time we acknowledged the "breathtaking" influence of air quality on the ballot box. Furthermore, it ignites an engaging discussion on how environmental policy and political dynamics intertwine. It's like the ultimate "clear skies and blue ties" combination!

While our findings provide valuable insights, it's crucial to acknowledge the limitations of our study, such as the focus on a specific region and the potential influence of confounding variables. Nevertheless, the strength of the observed correlation cannot be ignored. As we close this chapter, one might say that the link between air quality and blue state inclinations is not just blowing hot air, but rather, brewing a gust of political significance.

In light of the comprehensive nature of our findings, it's safe to say that further research in this area may not be as vital as a breath of fresh air in a stuffy room. We can confidently assert that the connection between air quality and Democrat votes for Senators in Maryland has been well and truly ventilated. It's time to let this correlation breathe freely, just like the residents of Baltimore hope to do with their politics and their air. No more "airing" of grievances needed – the results speak for themselves!