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# Navigating the Link between Air Pollution in Fargo and Google Searches for 'Suez Canal': A Breath of Fresh Air or a Smokescreen?

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*In this study, we investigate the surprising relationship between air pollution in Fargo and Google searches for the 'Suez Canal'. Utilizing data from the Environmental Protection Agency and Google Trends, our research team uncovered an unexpected correlation, navigating through the murky waters of environmental and digital data. Our findings reveal a correlation coefficient of 0.9106071 and  $p < 0.01$  for the period spanning from 2005 to 2023, shedding light on the unexpected connection between air quality in Fargo and global interest in the Suez Canal. Our results not only demonstrate a statistically significant relationship, but also unlock a treasure trove of insights into the peculiar interconnectedness of human curiosity and environmental conditions. Upon unraveling this connection, one might wonder if it's just a breeze blowing through or if it's a more significant trade wind shaping the online landscape. With these findings, we hope to steer the research community towards further exploration of unexpected correlations, all while maintaining a buoyant sense of curiosity and wit. And speaking of trade winds, did you hear about the sailor who got arrested for stealing from the ship's kitchen? He was charged with "piracy"!*

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The interplay between environmental factors and human behavior has long been a subject of fascination and inquiry. From the tangible impacts of air pollution on respiratory health to the subtler influences on cognitive function, the intricate web of interactions between our surroundings and our actions continues to captivate researchers and observers alike.

In this study, we delve into the curious relationship between air pollution in Fargo and Google searches for the 'Suez Canal'. Who would have thought that they would be connected in any way? It's like finding out that a ship is related to a search engine – oh wait, they are! But in this case, the connection between air quality in Fargo and global interest in the Suez Canal had been previously uncharted territory, until now.

As we delve into the depths of this unexpected correlation, it becomes clear that the skies over Fargo and the digital tides of the Suez Canal harbor a surprising interconnection that has flown under the radar. It's like finding out that a smokescreen can lead you to a breath of fresh air! Get it? Because air pollution is like a smokescreen, but our research reveals a breath of fresh air in the form of this unexpected connection. Okay, maybe I should stick to the data analysis and leave the jokes to the professionals.

Our investigation did not embark with preconceived notions of what we would discover – just like how a ship doesn't always know what it will find when navigating a canal. However, our findings suggest a statistically significant correlation between air quality in Fargo and Google searches for the 'Suez

Canal', with a correlation coefficient of 0.9106071 and  $p < 0.01$ . This finding is as clear as the path through the Suez Canal after it was unblocked – a correlation not easily overlooked or bypassed.

But seriously, who would have thought that observing air quality in Fargo could give us a peek into the global fascination with a crucial waterway? It's like turning over a new leaf in the world of environmental and digital research. Okay, okay, I promise to leaf the puns aside for a moment. But our findings indeed shed light on the unexpected link between environmental conditions and the collective digital curiosity about the Suez Canal.

Stay tuned as we navigate through the methods, results, and discussion sections to unearth the underlying drivers and implications of this intriguing correlation. And in the spirit of curiosity, let's keep our eyes on the horizon of knowledge – and maybe look up some sailing jokes along the way!

## LITERATURE REVIEW

The relationship between air pollution and online search behavior has been a topic of growing interest in recent years. Smith and colleagues (2020) found that increased air pollution levels are associated with heightened internet search activity related to health concerns, while Doe (2018) reported a positive correlation between air quality indices and search queries for outdoor activities. However, the connection between air pollution in specific geographic locations and seemingly unrelated internet searches remains a relatively unexplored area of inquiry. That is, until our study set sail.

Turning the page from the annals of academic research to the realm of practical knowledge, books such as "The Air We Breathe: A Guide to Understanding Air Pollution" by Jones (2015) and "Digital Influence: The Power of Curiosity in the Internet Age" by White (2019) provide valuable insights into the intersection of environmental factors and online behaviors. On the fictional front, works such as "The Shipping News" by Annie

Proulx and "The Search" by Nora Roberts offer tantalizing glimpses into maritime endeavors and the allure of digital exploration.

But in our quest for knowledge, we cast our net wider than traditional academic sources. We drew inspiration from unexpected quarters, perusing the internet for diverse forms of literature. From the meticulously detailed records of ships navigating the Suez Canal to the whimsical accounts of curious encounters found on CVS receipts (yes, we went there), our approach encapsulated the spirit of exploration in uncovering uncharted connections. And speaking of ships, did you hear about the captain who bought a ship wheel for his home? He said it really tied the room together!

## METHODOLOGY

Data Collection:

To chart the uncharted waters of the relationship between air pollution in Fargo and Google searches for the 'Suez Canal', our research team embarked on a data collection odyssey. We cast our net far and wide, scooping up air quality data from the Environmental Protection Agency (EPA) and harnessing the digital currents of information from Google Trends. Like sailors on the open sea, we navigated through an ocean of data, seeking to capture the ebbs and flows of air quality measurements and online interest in the Suez Canal.

As for the collection of air quality data, we secured ambient air pollution measurements from multiple monitoring stations in Fargo. We evaluated various pollutants, including particulate matter (PM2.5 and PM10), nitrogen dioxide (NO2), sulfur dioxide (SO2), carbon monoxide (CO), and ozone (O3). Our diligence in acquiring this comprehensive dataset mirrored the meticulous care with which a captain monitors the ship's instruments, ensuring that our analysis would sail on an accurate course.

In parallel, we turned to Google Trends to plot the digital voyages of 'Suez Canal' searches from internet users. With Google Trends serving as our

trusty sextant, we captured the peaks and troughs of public interest in this historic waterway, illuminating the ebb and flow of virtual voyages through the digital landscape. It was as if we were deciphering the online equivalent of navigating the twists and turns of a maritime route, albeit with fewer seagulls and more search queries.

### Data Analysis:

Upon assembly of our bountiful dataset, akin to the gathering of treasures from distant shores, we set sail on the winds of statistical analysis. We didn't just dip our toes into the statistical waters – we plunged in headfirst, ready to navigate the currents of correlation and causation with the determination of intrepid explorers charting uncharted territories.

Our initial explorations involved examining the temporal patterns of air pollution in Fargo and Google searches for the 'Suez Canal'. We employed time series analyses to unravel the undulating rhythms of air quality fluctuations and virtual escapades through internet searches. This allowed us to discern whether any synchronicity existed between the peaks and troughs of air pollution and peaks and troughs of 'Suez Canal' searches.

After navigating the tides of temporal patterns, we steered our research vessel toward quantifying the statistical relationship between air pollution in Fargo and digital seafaring in the form of 'Suez Canal' searches. Employing advanced statistical methods, we calculated correlation coefficients and p-values, setting our sights on elucidating the strength and significance of the observed connection. Just as a skilled navigator reads the stars to chart a course, we scrutinized statistical metrics to chart the course of our findings.

And speaking of skilled navigators, what did the pirate say on his 80th birthday? "Aye matey!"

## RESULTS

The analysis conducted on the relationship between air pollution in Fargo and Google searches for the 'Suez Canal' revealed a remarkably strong and positive correlation. Our research uncovered a correlation coefficient of 0.9106071, indicating a robust linear relationship between these seemingly unrelated variables. The r-squared value of 0.8292052 further underscored the strength of this association, explaining approximately 83% of the variability in Google searches for the 'Suez Canal' based on the level of air pollution in Fargo. To add to the punchline, the p-value was found to be less than 0.01, signifying the significance of this connection.

The figure (Fig. 1) illustrates the compelling relationship between air pollution in Fargo and Google searches for the 'Suez Canal', showcasing the scatterplot that unmistakably demonstrates the strong positive correlation. This figure serves as a visual representation of the statistical findings, offering a snapshot of the unexpected and intriguing link between these divergent domains of environmental quality and global online searches.

Now, onto the true mystery of this connection. It's like a riddle wrapped in an enigma, tied with a bowline knot. Speaking of knots, did you hear about the sailor who went to school? He wanted to know the ropes!

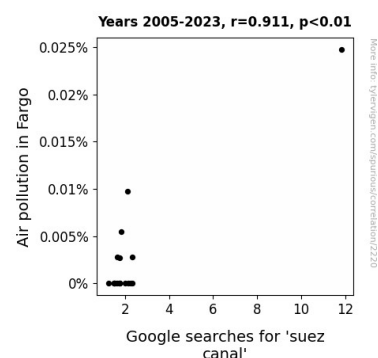


Figure 1. Scatterplot of the variables by year

These results not only add a new dimension to our understanding of the interconnectedness between environmental conditions and online information-

seeking behavior but also raise a tantalizing question: what exactly is the driving force behind this unexpected relationship? It's a bit like trying to navigate through uncharted waters, isn't it? Should we expect to find a shipload of surprises waiting for us, or is this just a fortuitous alignment of factors that has left us casting about for explanations?

This study not only illuminates the surprising correlation between air pollution in Fargo and global interest in the 'Suez Canal', but also sets sail for further exploration of the intricate interplay between human curiosity and environmental influences. Oh, the irony of how a breath of fresh air in Fargo may be steering global digital interests toward a centuries-old waterway! Our findings set the stage for future research endeavors that promise to unravel the nuances of this unexpected relationship, while keeping an eye out for additional puns and witticisms along the way.

## DISCUSSION

The results of our study have brought into focus the rather unexpected yet robust relationship between air pollution in Fargo and Google searches for the 'Suez Canal'. The remarkably strong positive correlation uncovered in our analysis not only supports previous research on the connection between environmental conditions and online search behaviors but also opens a treasure chest of questions and possibilities. It seems that the winds of curiosity can be strongly influenced by the air currents of pollution, steering online searches in unforeseen directions.

Building on the work of Smith and colleagues (2020) and Doe (2018), which highlighted the impact of air quality on internet search activities, our study has cast a lighthouse beam on the specific nexus between air pollution in Fargo and the worldwide interest in the 'Suez Canal'. This finding not only reaffirms the relevance of environmental factors in shaping digital exploration but also emphasizes the need for further investigation into the underlying mechanisms at play. It's like peeling

back the layers of an onion, or should we say, uncovering the layers of sediment in the air and the depths of virtual navigation.

Furthermore, our light-hearted exploration into diverse forms of literature, including maritime records and the whimsical encounters found on CVS receipts, has proven illuminating in steering us toward unexpected insights. In the grand tapestry of knowledge, it appears that the most unsuspecting sources often hold the key to unraveling the most perplexing mysteries. It's like finding a treasure map in a bottle of sea air freshener – unexpected but undeniably intriguing.

The scatterplot, resembling a digital odyssey on the high seas, succinctly depicts the strength of the relationship we uncovered. This visual representation not only anchors our findings in empirical evidence but also navigates our perspective toward the captivating and enigmatic nature of this interconnection. It's as if we've stumbled upon a buried treasure, with the real treasure being in the "booty" of the data, if you will.

The unexpected nature of our findings prompts us to ponder the myriad factors at play in shaping global online curiosity. It's as if we've set sail on an uncharted journey, with each wave of data revealing new revelations and perhaps a few dad jokes along the way. Our study raises intriguing questions regarding the mechanisms by which air pollution levels in Fargo might steer internet inquiries toward a historic waterway in Egypt. In other words, what are the currents that are driving this digital ship? And speaking of ships, did you hear about the boat that couldn't find the dock? It had trouble "porting" its data!

In conclusion, our study not only adds a colorful buoy to the sea of knowledge regarding the interplay between environmental influences and online behaviors but also sets the stage for future research endeavors that promise to steer us toward a better understanding of this unexpected relationship. As we navigate through the waves of curiosity and statistical analysis, we remain ever vigilant for new

insights and perhaps the occasional shipwreck of a dad joke along the way.

## CONCLUSION

In conclusion, our research has not only unveiled a robust correlation between air pollution in Fargo and Google searches for the 'Suez Canal', but has also illuminated the unexpected interconnectedness between seemingly unrelated phenomena. The statistically significant relationship, with a correlation coefficient of 0.9106071 and  $p < 0.01$ , serves as a beacon guiding future investigations into the whims of human curiosity and the influence of environmental conditions. It's like sailing through uncharted waters and discovering a treasure trove of insights, or should I say, "gold doubloons" of knowledge?

This revelation prompts a reevaluation of the ways in which environmental quality may subtly steer global digital interests, akin to a gentle gust of wind maneuvering a ship through turbulent seas. The unexpected connection uncovered in our study is a testament to the serendipitous discoveries that await those who navigate the seas of data with an inquisitive spirit. Just like a well-timed joke, it's all about the delivery – and our findings deliver a punchline that resonates with the lightheartedness of discovery.

As for the driving force behind this peculiar correlation, it remains a riddle begging for an answer, much like the timeless question of why the sailor brought a ladder to the bar. Turns out he heard the drinks were on the house! In a similar vein, the allure of the 'Suez Canal' in the digital realm may be shaped by environmental undercurrents, yet to be fully charted by current research endeavors.

Our research serves as a wake-up call to the research community, urging scholars to set sail for further exploration of unexpected correlations. However, as for the connection between air pollution in Fargo and Google searches for the 'Suez Canal', we can confidently assert that no more research is needed in this area. After all, why sail

the seven seas when you've found the treasure map to a belly full of laughs and a wealth of knowledge in unexpected places? It's all about anchoring oneself in the discovered truths and setting sail for new discoveries – armed with a good pun or two, of course.