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Whiplash:

The Rapid Rise of the Right-Wing in French Presidential Elections, 2012-2022

Background

French politics has undergone shocking transformations over the last decade. Electing a socialist president in 2012 and then almost electing an alt-right conservative in 2022, France has been the focus of analysis for many journalists, scholars, and political activists. They view the shifts in political ideology as particularly worrying for the second strongest European power and a bellwether for many other countries' political trajectories. Additionally, France is a pivotal member of the United Nations Security Council, the European Union, the North Atlantic Treaty Organization, and many other international governmental organizations. With its immense power in these organizations and globally, France has the power to either contribute to or pose roadblocks to global efforts to tackle climate change, human rights abuses, the threats posed by Russia and China, and other issues that demand consensus among global powers. Therefore, French elections matter. They matter for the French and for the world, which is why I want to dig deeper into the recent history of French presidential elections.

Press from around the world covered and continue to write on the shockwaves of the election results. In just hours after receiving the election results, France24— one of the largest news organizations in France— called Macron's win a "Pyrrhic victory" to highlight how he

overcame numerous obstacles and still left the election bruised after his second campaign against Le Pen.¹ Another leading French newspaper, *Le Monde*, called election night, “[f]or Macron, a night without victory” because of “the historic score of the extreme right.” His “humiliating” victory demonstrated the growing strength of the far-right and his near-failure to halt it from overturning French “politics and society.”² News agencies outside of France concurred, as CNN found that Macron’s win “will be met with a huge sigh of relief in the capital cities of France’s most prominent allies.” While claiming Macron won “by a relatively comfortable margin of 58.5% to 41.5%,” the article pointed to unusually high numbers of abstentions— 34% of registered voters compared to the average rate of 25%— and Macron’s overall crumbling support. Macron’s growing unpopularity has led voters to consider Le Pen as a viable, even mainstream, presidential candidate despite her extreme views of severely punishing illegal immigration and targeting Muslims who refuse to conform, such as by wearing *hijabs* or *burqas*.³ These news agencies point out how this election likely signals an imminent realignment of France by redefining which politics are mainstream, charting future, untraveled paths for French politics.

There have been previous attempts to visualize these election trends cartographically, but they are not sufficiently interactive or visually compelling. The Ministry of the Interior’s website advertises a few visualizations on the same page as the data they provide.⁴ In one particular set of

¹ All translations from French to English have been made by the author. Romain Brunet, “Présidentielle : Emmanuel Macron, une victoire à la Pyrrhus ?,” *France 24*, April 24, 2022, <https://www.france24.com/fr/france/20220424-pr%C3%A9sidentielle-emmanuel-macron-une-victoire-%C3%A0-la-pyrrhus>.

² Claire Gatinois and Olivier Faye, “Pour Macron, une soirée de victoire sans triomphe, marquée par le score historique de l’extrême droite et la crainte d’un troisième tour politique et social,” *Le Monde.fr*, April 25, 2022, https://www.lemonde.fr/election-presidentielle-2022/article/2022/04/25/pour-macron-une-soiree-de-victoire-sans-triomphe-marquee-par-le-score-historique-de-l-extreme-droite-et-la-crainte-d-un-troisieme-tour-politique-et-social_6123542_6059010.html.

³ Luke McGee, “Analysis: Macron’s Win Is a Relief to the West, but a Historic Far-Right Vote Signals a Looming Threat,” *CNN*, April 25, 2022, <https://www.cnn.com/2022/04/24/europe/macron-victory-analysis-intl/index.html>.

⁴ Meyer, Cyril. 2022. “data.fr.ElectionPresidentielle - t1 - positionnement politique gauche droite.” <https://cyril-meyer.github.io/data.fr.ElectionPresidentielle/>

visualizations from a presumably citizen contributor, the maps are static and show extremely little geographic variation, with Paris being the only remotely bright colored mainland territory. Additionally, the maps include France's colonies, but they appear dispersed throughout the map and have no labels to make reading the maps easier. In another set of visualizations on the Ministry's website, the interactive map is on an R Shiny application and provides users options to focus on particular candidates' results.⁵ The application features data from 2022 and 2017, allowing for limited historical comparisons of the election data. The map, however, is not user-friendly and suffers from bugs, as the application could not generate any election data maps after multiple attempts to use its customizable options.

Aside from those advertised by the government, other private organizations, notably the press, have made election result maps. In six striking maps from *Le Parisien*, the 2022 presidential election results are probed from a variety of angles— from the raw data to change over time.⁶ One fascinating map shows the candidates' performance by election bureau— the smallest scale of analysis possible from the data— and includes labelled colonies with an easily understood color palette. While these do not have any faults on their own as static maps, they do not have an interactive feature to explore all of the incredible intricacies that the authors mapped or boundary lines that could better orient readers geographically. Consequently, although the maps visualize the country-wide scale of analysis, they stop short of deeper analyses of the election data that would have been available with an interactive feature, boundary lines, and additional labels.

⁵ Peret, Philippe. 2022. "Elections France." <https://kangaroo-ai.shinyapps.io/election-map/>

⁶ Aubin Laratte, Tanguy De l'Espinay, and Victor Alexandre, "Présidentielle : six cartes pour tout comprendre au second tour," *leparisien.fr*, April 25, 2022, <https://www.leparisien.fr/elections/presidentielle/presidentielle-six-cartes-pour-tout-comprendre-au-second-tour-25-04-2022-BWBMVXMFJJAO5N4HJSTVXY6ZFM.php>.

Goals and Objectives

My goal for this project is to create multiple interactive maps that investigate the 2022 Presidential Elections in France. Specifically, I want to make a MapBox visualization of the election data from the scale of the *département*—roughly equivalent administratively to a U.S. state— a cartogram weighted based on population in R, and an interactive GIF that allows easier visual comparisons of the cartograms. If I have time, I would like to make the R and MapBox visualizations that show the historical transformation French voting results of the second-round presidential election data beyond only 2022 and also for 2012 and 2017. These maps, taken together, will hopefully visualize the massive political transformation of France from a socialist state to a state on the brink of being led by extreme conservative factions.

As a brief note on French Presidential Elections, French presidents are elected to five-year terms by the popular vote. In other words, there is no “Electoral College,” and all votes are counted equally, including those in French colonies. Additionally, there are two rounds of voting: one for all prospective candidates and a second for the two most popular candidates. This project will only focus on the second round of the presidential elections because they illustrate the higher-level political transformations of the French electorate and render historical comparisons more reliable.

Data Sources, Spatial, and Temporal Scales

The French Government graciously compiled all of the election and population data I will use for this project, with the exception of the 2012 data.⁷ I was unable to successfully download the 2012 data, so I had to manually input every datum into the spreadsheet I used containing the

⁷ Ministère de l’Intérieur, *Les données relatives aux élections et aux référendums*, <https://www.data.gouv.fr/fr/pages/donnees-des-elections/>.

geometries from a website that had already created a visualization based on the French Government's 2012 data.⁸ The data are available for download into CSV or Excel files and document the election data from every administrative level possible— from the entire country to the smallest voting precinct. However, the government did not attach any boundary data to the election or population data besides listing the *département* to which it corresponded. Therefore, I joined the CSV files with boundary data from the European Environmental Agency to create a GeoJSON file that I could then import into R and MapBox to make the maps.⁹

While visualizing every voting precinct would produce an incredibly detailed map, my goal is to visualize the broader regional patterns of voting variation, which would be difficult to assess with such a minute scale of analysis. In addition to the election results map, I would like to produce a cartogram of the changes in population within each *département* to provide context for the relative voting power visualized in the MapBox map. The map would not reveal many significant results if the spatial scale of the changes in population are from either an extremely minute or large scale of analysis. Instead, a regional— *département*-level— scale would produce the most meaningful results to illustrate the vast changes to the French electorate since 2012. Therefore, since the maps should all use the same spatial scale for the sake of comparison, I use data from the *département*-level to illustrate the broader country-level scale of this project.

Since this project aims to illustrate how meaningful the most recent election results are for 2022, the temporal scale of this analysis spans a decade to include the election of the first socialist president and the closest that France has come in the Fifth Republic to electing a candidate from its most conservative faction. While it could have been useful to include data

⁸ “Résultats élection présidentielle 2012 France entière,” LExpress.fr, <https://www.lexpress.fr/actualite/politique/elections/presidentielle-2012/resultats-elections/france.html>.

⁹ European Environmental Agency, “Boundary Data – By Country,” <https://www.eea.europa.eu/data-and-maps/data/external/france-administrative-boundaries>.

from even earlier than 2012, this project seeks to analyze just how quickly the French electorate is changing by controlling for changes in political parties as much as possible— at least on the left. Therefore, the project will use the relatively recent 2012 election as its starting point.

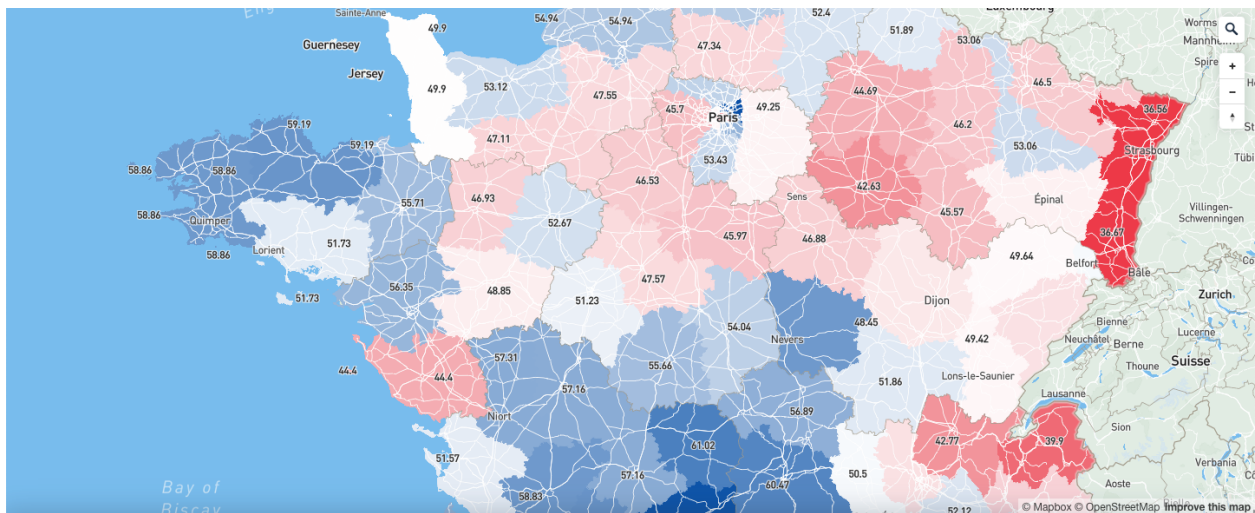
Methods

To create the population-weighted cartograms, I called the appropriate libraries in R. Then, I downloaded and standardized all of the data as CSV files from the French Government's data portal. While the French government provided population data by département, the data portal only included the data as an excel file without any boundary data. I therefore joined the CSV data to boundary data I found elsewhere on the French government's website and performed a spatial join in QGIS before importing into R after ensuring that there was a join key, "Département" and "Name_2". After creating the new joined layer in QGIS, I saved it as a GeoJSON and then imported the file into R using `st_read()`. I standardized the CRS of the data by using `st_transform()`. Finally, I used the `cartogram_cont()` function to create a continuous cartogram of the population data and added on other essential cartographic and design features using functions like `tm_shape()` and `tm_layout()`.

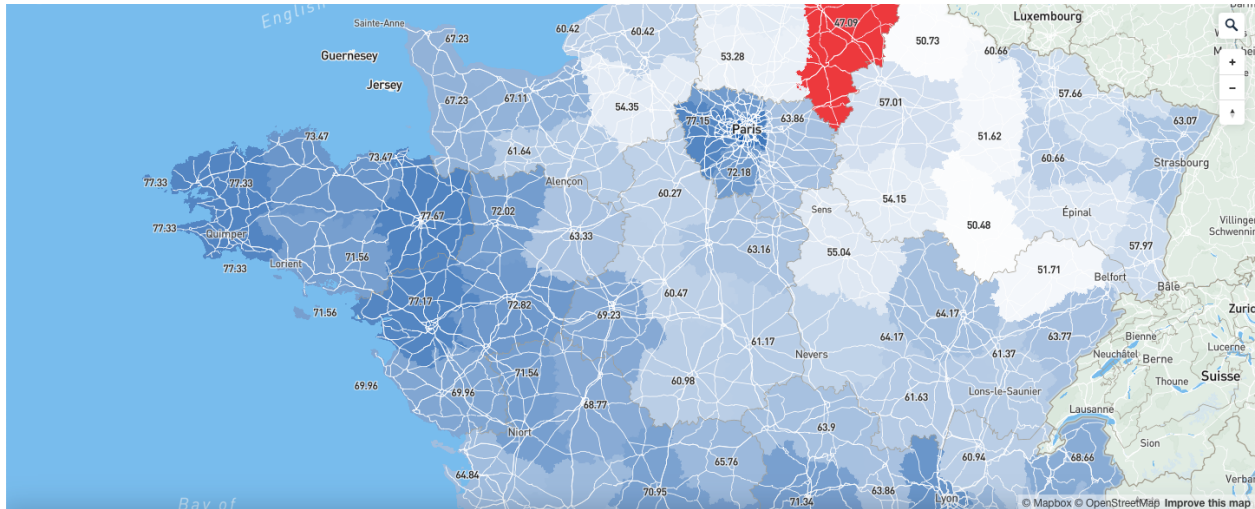
To create the MapBox maps, I downloaded and standardized all of the data as CSV files from the French Government's website. Then, I used the same process of joining the CSV file of the election data to the boundary data from the European Environmental Agency website as in the cartogram cases. After downloading the new layer from QGIS as a GeoJSON, I uploaded the data to MapBox and chose the visualization type, color palettes, map theme, and labels to finish the interactive maps.

Results

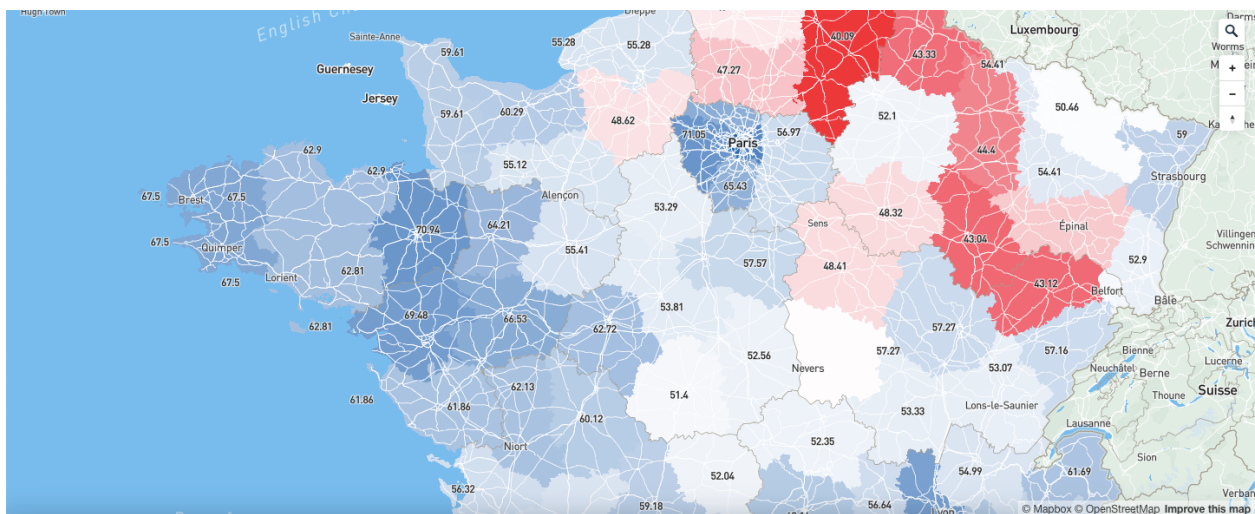
As a brief note, the MapBox maps use a choropleth design to show *départements* that Macron won by stronger margins than 50% in blue and *départements* that he lost— in that he did not get at least 50% of the vote— in red. *Départements* in white colors show Macron’s margins at or close to 50%.



Map 1: A partial view of the MapBox map for the 2012 election data. For the full interactive visualization, click [here](#).

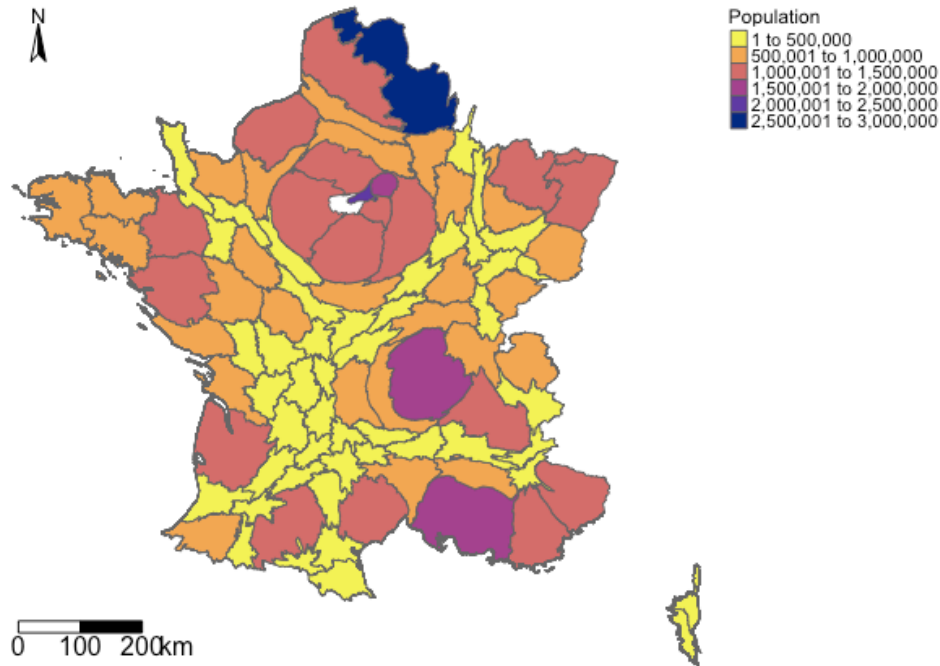


Map 2: A partial view of the MapBox map for the 2017 election data. For the full interactive visualization, click [here](#).



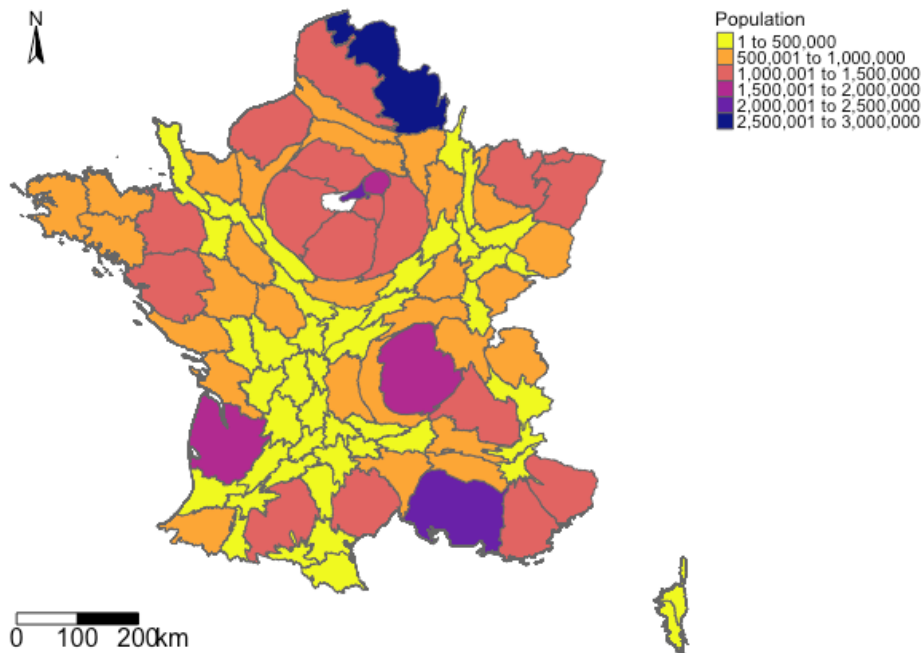
Map 3: A partial view of the MapBox map for the 2022 election data. For the full interactive visualization, click [here](#).

2012 Cartogram of Population by Department, by Josh Sulkin

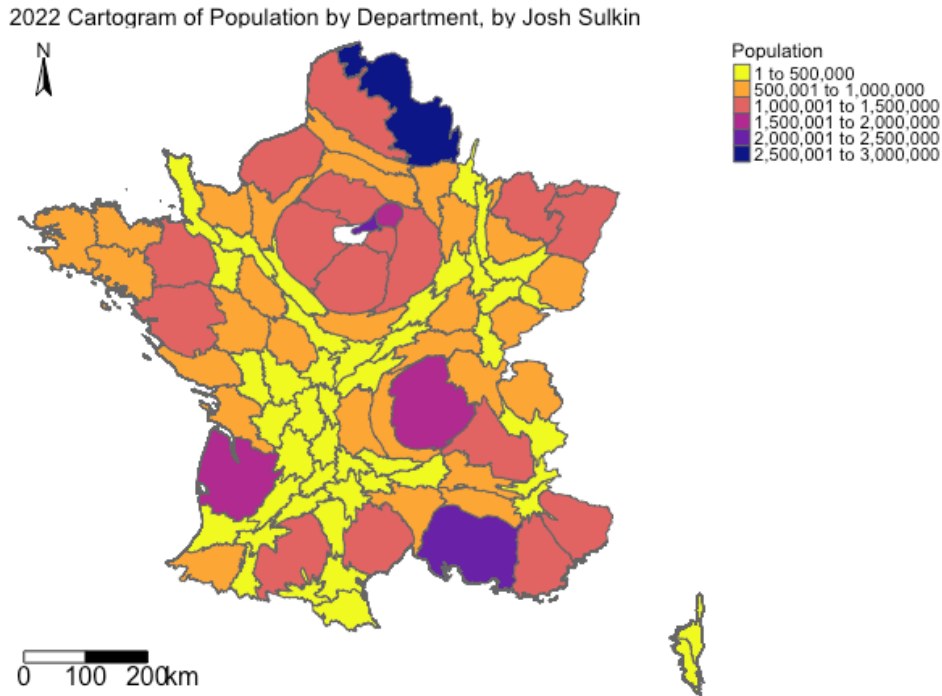


Map 4: 2012 Population-weighted cartogram

2017 Cartogram of Population by Department, by Josh Sulkin



Map 5: 2017 Population-weighted cartogram



Map 6: 2022 Population-weighted cartogram

Regarding the MapBox maps displaying the election data, there are a number of important trends in each year's results and across the three elections. In the 2012 map, socialist candidate François Hollande had significant support in Paris and the regions surrounding central France except for Var in the southeast and Haute-Savoie in the East. He also struggled for support particularly outside of Paris in central France, roughly from Mayenne in the West to Bas-Rhin in the East. Nevertheless, he won the heavily populated northern and western *départements* by small but consequential margins that likely allowed him to overcome his close victories in central France.

After socialist President Hollande's first and only term in office, France elected moderate President Emmanuel Macron in 2017. He overwhelmingly beat alt-right candidate Marine Le Pen across France. Macron only failed to win over two *départements*, both of which Hollande

won in 2012. Macron's landslide victory was underscored by the mostly double-digit margins separating him from Le Pen in virtually every *département*, producing the map covered in blue.

Then, after just one term in office, Macron entered a difficult reelection campaign. Despite hairline victories and dramatic losses across France, Macron managed to preserve a coalition of western and central voters. He suffered the most dramatically in *départements* to the North and East of Paris, as well as southeast France, including Corsica.

Macron's 2022 victory looked almost completely different from the 2017 election, and his coalition of support even differed from Hollande's despite being the new, most left-wing candidate of the second round of the election. In 2012, Hollande won the northern and many southern *départements* by healthy margins, while Macron's 2022 campaign lost virtually all of them. Yet, Macron did still win: He maintained support in some southeastern and many central *départements* that did not support Hollande. This support, however, was relatively limited. He won most *départements* by single-digit margins, signifying a dramatic loss in support for his campaign.

To contextualize the relative power of each of these *départements* in electing the French president, I created population-weighted, continuous cartograms for a visual demonstration of how many people live in each of these *départements* and for a comparison with the population of *départements* across France. From 2012 to 2022, Paris lost almost 100,000 people, causing the notable shrink in size of Paris over all three maps. However, some western *départements*, especially Gironde, grew by about half of a million people. The populations of southeastern and northern *départements* maintained their large numbers, while those of central France stayed roughly the same. These trends have shifted the power to decide presidential elections particularly to the West, while maintaining the importance of northern and southeastern

départements. Although Parisian voters will still hold enormous influence in deciding elections, their power seems to be diminishing in the face of shifting population trends throughout the country.

Discussion

The objective of this analysis was to create at least one map visualizing the 2022 French presidential election results and a population-weighted cartogram in R for each *département*. Since my ultimate goal was to contextualize the 2022 statistics with those of the last decade, I challenged myself to create a total of six maps and include an interactive element to tie together the cartograms. Admittedly, I encountered significant difficulties in creating an interactive element to tie together the cartograms in R. The issues I encountered likely rose from the fact that the cartograms were built on three different data sets that I did not join together. Due to time constraints from having to reconstruct the 2012 data, I did not accomplish the ultimate challenge of the interactive GIF to transition between the maps. Nevertheless, I successfully visualized three of France's fascinating elections in interactive web applications on the *département* scale. Since not everyone who will use these MapBox maps will necessarily know how French elections work or how much power voters in each *département* have to impact the election, I coded three population-weighted cartograms to provide some perspective on the *départements'* relative voting power given that the popular vote elects presidents in France. Combined, these maps provide a perspective on how quickly French politics have changed over the course of just a decade, allowing viewers to witness Marine Le Pen's popularity grow from winning virtually no *départements* in 2017 to winning close to half in five years' time.

This most recent election results must be contextualized within the broader transformation in French politics since 2012. In 2012, François Hollande upset incumbent conservative President Nicholas Sarkozy by winning healthy margins in the heavily populated northern, western, and southwestern regions. While his support did not extend far into central France, Hollande became the first socialist president in French history, so his victory against an establishment conservative incumbent seemed like a realignment of French politics. However, given his massive unpopularity,¹⁰ he did not run for a second term, opening the field to a wide range of candidates on all parts of the ideological spectrum. Speaking of uniting France after five years of turmoil in Hollande's presidency, Macron swept the French electorate by winning over 66% of the vote in the second round— margins that have not been seen in French politics since the era of Charles de Gaulle.¹¹ The nearly all-blue MapBox maps effectively illustrate country-wide support for Macron despite noticeable opposition in the populous northern *départements*. Nevertheless, the 2017 map demonstrates France fiercely supporting Macron— a relatively distant picture from the 2012 map that illustrates France torn between Sarkozy and Hollande but perhaps on the precipice of realignment. After this realignment failed to materialize, Macron presented himself as the middle ground between Hollande's unpopular leftist politics and Le Pen's then-unelectable politics.

However, this image was not to last. Macron faced an extraordinarily different political landscape in 2022. France became deeply divided on Macron's political decisions with the rise of conservative factions protesting his policies ranging from gas prices to participation in the North Atlantic Treaty Organization. While it is normal for incumbents to face more opposition—

¹⁰ "Hollande : la presse salue 'l'élégance' d'un geste 'respectable' et 'courageux,'" Le Point, December 2, 2016, https://www.lepoint.fr/presidentielle/hollande-la-presse-salue-l-elegance-d-un-geste-respectable-et-courageux-02-12-2016-2087396_3121.php.

¹¹ "Résultats de l'élection Présidentielle 2017," <https://www.lemonde.fr/resultats-presidentielle-2017/>.

Hollande is a potent example— Macron campaigned in 2017 on his policies as the compromise between the ideological divides that Hollande’s unpopularity exposed. Despite a landslide victory in 2017, Macron in 2022 faced a public that was skeptical of his once-moderate policies, as evidenced by voters even considering the once-unelectable Le Pen. Le Pen overturned wide swaths of France that Macron had safely won just five years prior, especially the heavily populated southern and northeastern regions. Additionally, she reduced Macron’s lead significantly in the rapidly growing western *départements*, in which Macron lost 20% of voters. This new geographic trend poses numerous problems for the future of the left in France, as the population-weighted cartograms illustrate thousands of people emigrating from Paris and towards the west, while also visualizing the stable, heavily populated northeast and southeast. For Macron, the gyre of opposition is widening, but for the left, it may become insurmountable even by the next election in 2027.

Conclusion

This analysis introduced interactive maps to explore the 2012, 2017, and 2022 French Presidential Elections, as well as population-weighted cartograms to visualize the locations of the bases of power in determining French elections. I analyzed the 2022 French Presidential Election alongside the 2012 and 2017 elections to argue that France’s consequential 2022 election must be contextualized within the broader trend of French politics that have become increasingly accepting of alt-right politics. France’s rapid shift to the alt-right threatens the future of tackling climate change, defending human rights, and preserving international organizations. Moreover, France’s trajectory likely will limit international efforts to challenge Russia’s and

China's rises to power that have relied on human rights abuses and other disruptions of international norms and laws.

Nevertheless, this analysis has a number of limitations. First, since I had to input the 2012 data, the 2012 election map may contain errors, which is why I linked in my "coding walkthrough" the source of the data for a more accurate but less visually appealing and interactive map to better understand the data. Second, I could not join the boundary data with the CSV data, so an important part of the French electorate does not have representation in the maps I created.

Third, I wrote this as an American with less knowledge about France's election system than the one in the United States. America's election system relies on the Electoral College, which grants more power to certain groups of voters than others. American elections, therefore, rely on analyses that feature results based on the state-level as opposed to the popular vote. The popular vote, by contrast, elects candidates in French elections. Consequently, French election analyses focus less on the *département* scale of analysis than on the smallest scale— the *bureau des votes*— so as to more closely understand how individual French voters are thinking about the election. However, the *département* level of analysis, I ultimately decided, offers a more holistic understanding of French election results, as there is less noise in the data. The fewer data allows viewers to make observations about regional and country-wide trends that would be more difficult to make when there are more data with which to wrestle. Since my goal was to understand the realignment of France as a country instead of the localities within it, the *département* scale offered the best scale for my analyses, but it does not necessarily conform with standard scholarship or understandings of French politics on its own terms. This project evinces my American perspective on the importance of groupings of voters in elections, and

other analyses could certainly use smaller scales of analysis to visualize a more detailed picture of the state of French politics.

Finally, I only visualized the data from three elections, which could skew the political history I told regarding France's transformation from electing a socialist, a moderate, and almost an alt-right conservative. Nevertheless, I sought to analyze French politics by presenting the most recent elections to ensure the most reliable historical comparisons given how quickly the state of French politics have changed over just the past ten years. Therefore, other studies could tell a significantly different story of French politics based on the elections they choose to compare.

French politics must and will continue to be studied, particularly in light of its likely imminent realignment. In this future research, commentators could interactive visualizations of even more elections to better understand how French politics have transformed over the course of the Fifth Republic that began with President Charles de Gaulle after World War II. Additionally, researchers could create an interactive element to transition between the population-weighted cartograms I made and include inset maps to show the French colonies. They could also make a combined version of the population-weighted cartogram and the interactive election results map by manipulating the size of the *département* to match its relative population and then color each *département* according to the same color scheme I had to display the election data. By using geovisualizations, the study of French politics has the opportunity to make the stakes of France's seemingly incomprehensible transformation clearer to the world, which will be changed no matter the outcome but especially if it is unprepared for it or underestimates its magnitude.

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