

Where to Live in the COVID-19 Era

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Introduction

Moving after college is a huge deal for most people, as many are beginning their new lives in a completely new part of the country or moving back to an area they've been away from for some time. In the past couple of years, the COVID-19 pandemic has dawned a new topic for relocating graduates to consider. This project looked at the COVID cases per one-hundred thousand people, covid deaths per one-hundred thousand people and reported violent crime rate per one-hundred thousand people. This was done to create an in-depth analysis of the 'suitability of living' of each individual state as well as divisions of the US. The objective is to provide a source of information that is to be paired with other research which will ultimately help students, families and anyone who is relocating come to an informed conclusion.

Research Questions

This study looked to answer two main questions. First, which states in the US are the most suitable for living in according to the created 'suitability index' when looking at each state individually? Second, which division of states in the US is the most suitable for living in according to the suitability index when averaging values across a division (divisions of states used are from the US Census Bureau)?

Results

In this study, it should first be noted that the COVID-19 data used was as of December 15, 2020. The reason being this was when the vaccine became available to the public. This study uses pre-vaccine data because it is meant to be an indicator of another pandemic/virus.

From the living suitability index by state, the top 5 safest states in order are: Maine, Vermont, Hawaii, New Hampshire and Oregon. These results are the least skewed of them all, only more detailed information on counties or tracts would allow for a better index. Three of the five states are in the New England division (Maine, Vermont, New Hampshire) while the other two came from the Pacific Division. Hawaii is the only state on this list not in the northern part of the US (who wouldn't want to live in Hawaii).

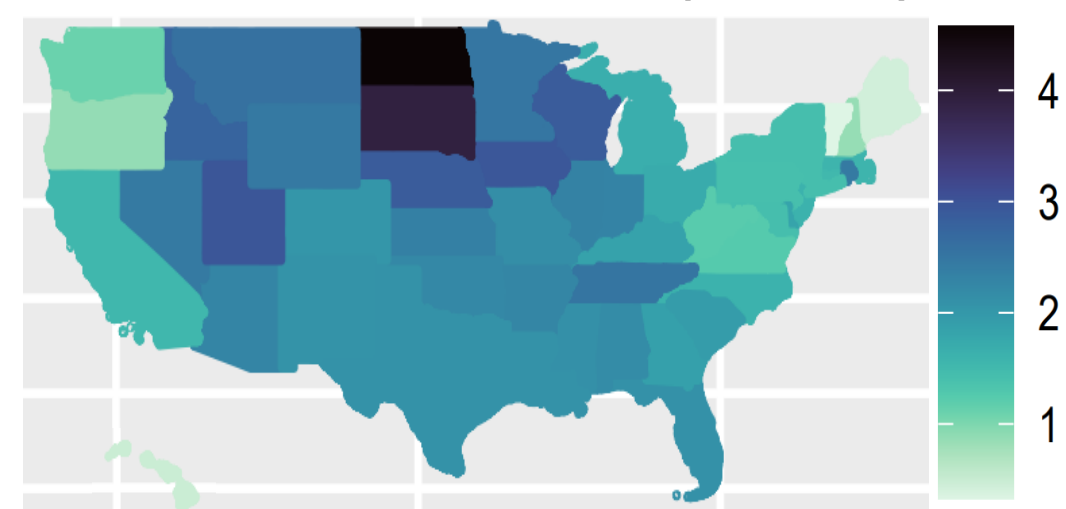
The living suitability index by division ranked Pacific, Mid-Atlantic and New England as the top three safest divisions in the US. This is primarily consistent with the state-level data collected. One thing most of these highly ranked states have is being in the north of the US. Therefore, it's important to pair these finding with other research and data like weather, cost of living, etc.

Methods

There are two main ways the data is analyzed in this study, but both stem from the same set-up. The set-up was to take values of COVID-19 cases, deaths and reported violent crime rates by their average per 100k people to create a statistic that is less skewed by population. To determine the percentages of a total statistic (COVID-19 cases, deaths and reported violent crime rate), the state or division of states' values were divided by that of the total country's. Once these values were found, the three were averaged to determine the suitability index, with a higher index representing less desirable living conditions.

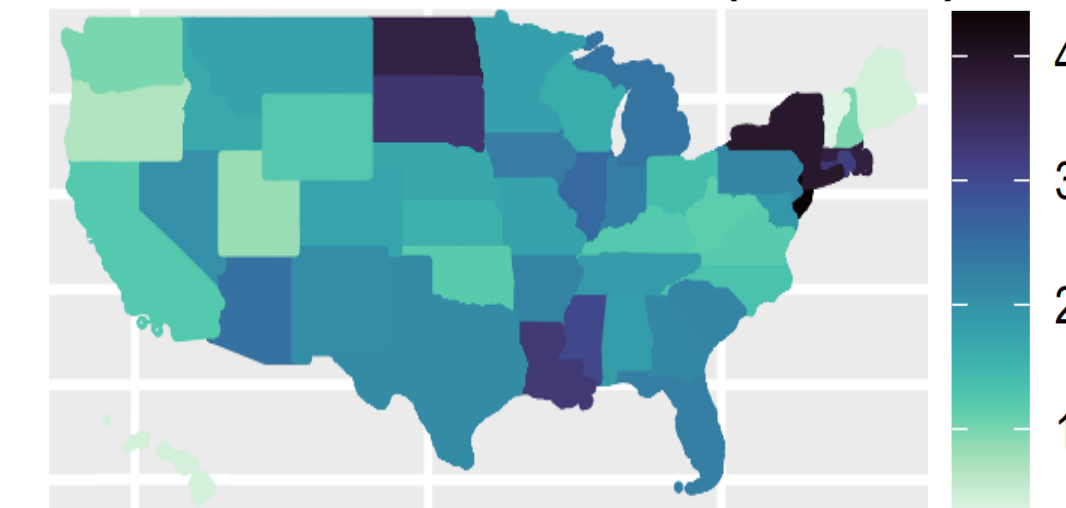
The reason for having multiple maps showing these values at the state and division level is to counter-act any outliers that may be significantly affecting a division's index score. It's important to understand where an averaged value comes from as there are often many different factors that play a role.

Percent of Total COVID-19 Cases per 100k by State



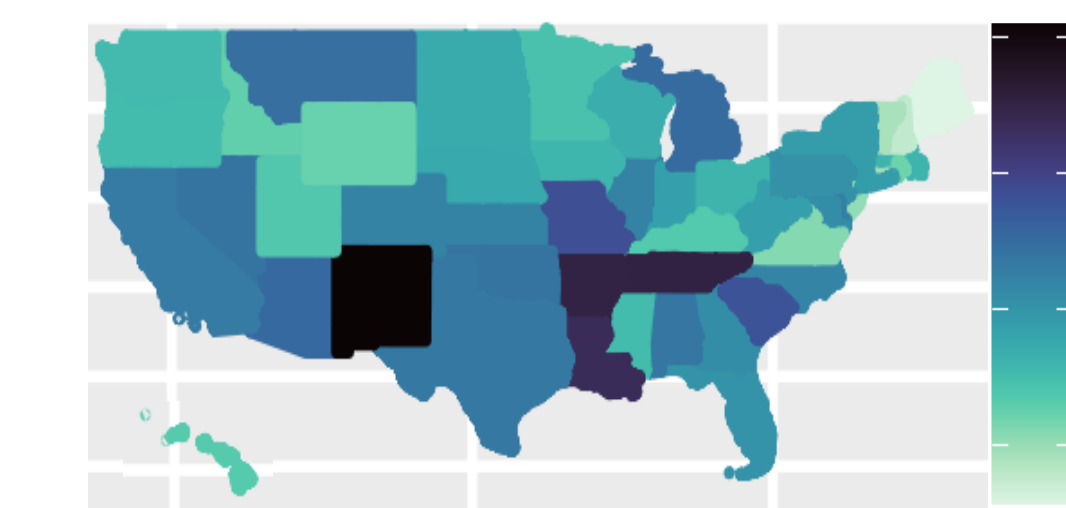
The five states with the lowest recorded COVID-19 cases percentage in order were: Vermont, Maine, Hawaii, New Hampshire and Oregon. Each state individually accounted for less than 1% of the total COVID-19 US cases average!

Percent of Total COVID-19 Deaths per 100k by State



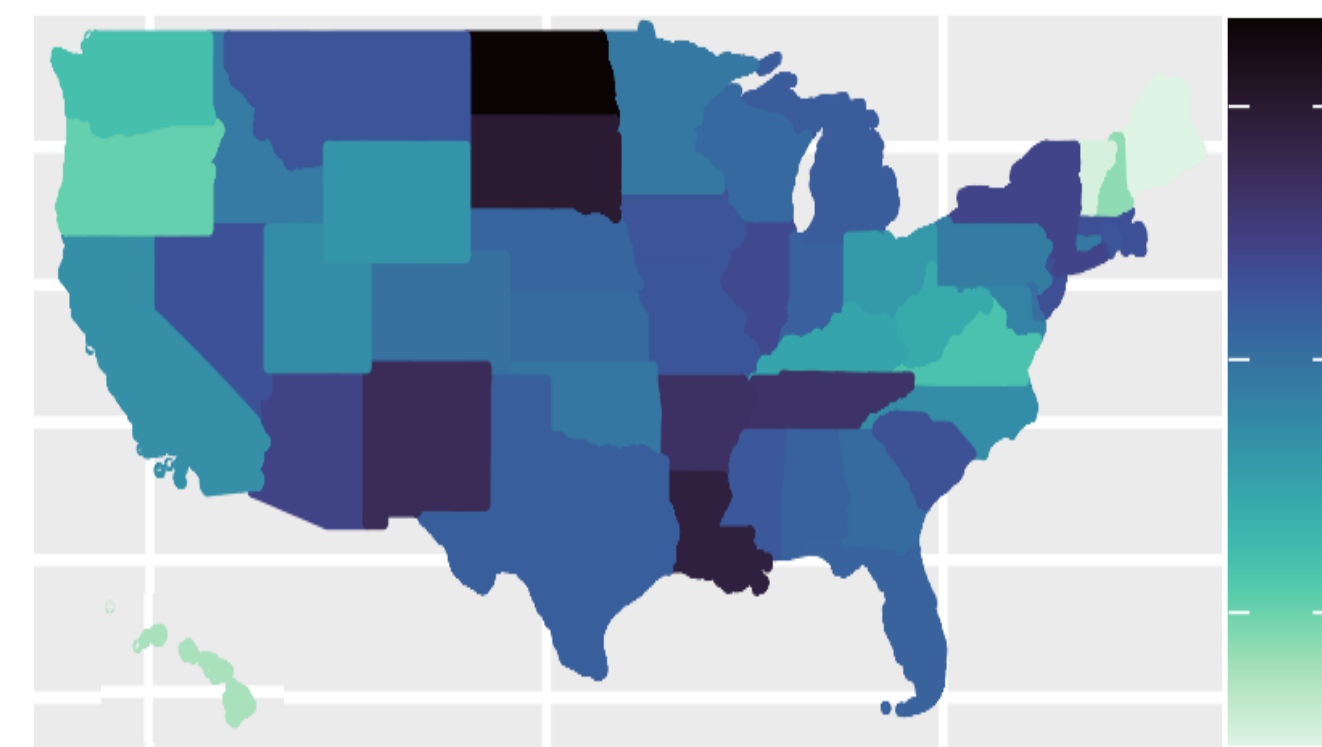
The five states with the lowest recorded COVID-19 deaths percentage in order were: Vermont, Maine, Hawaii, Oregon and Utah. While Utah made this list, they had the third highest COVID-19 cases percentage in the US at 2.98%.

Percent of Total Reported Violent Crime per 100k by State



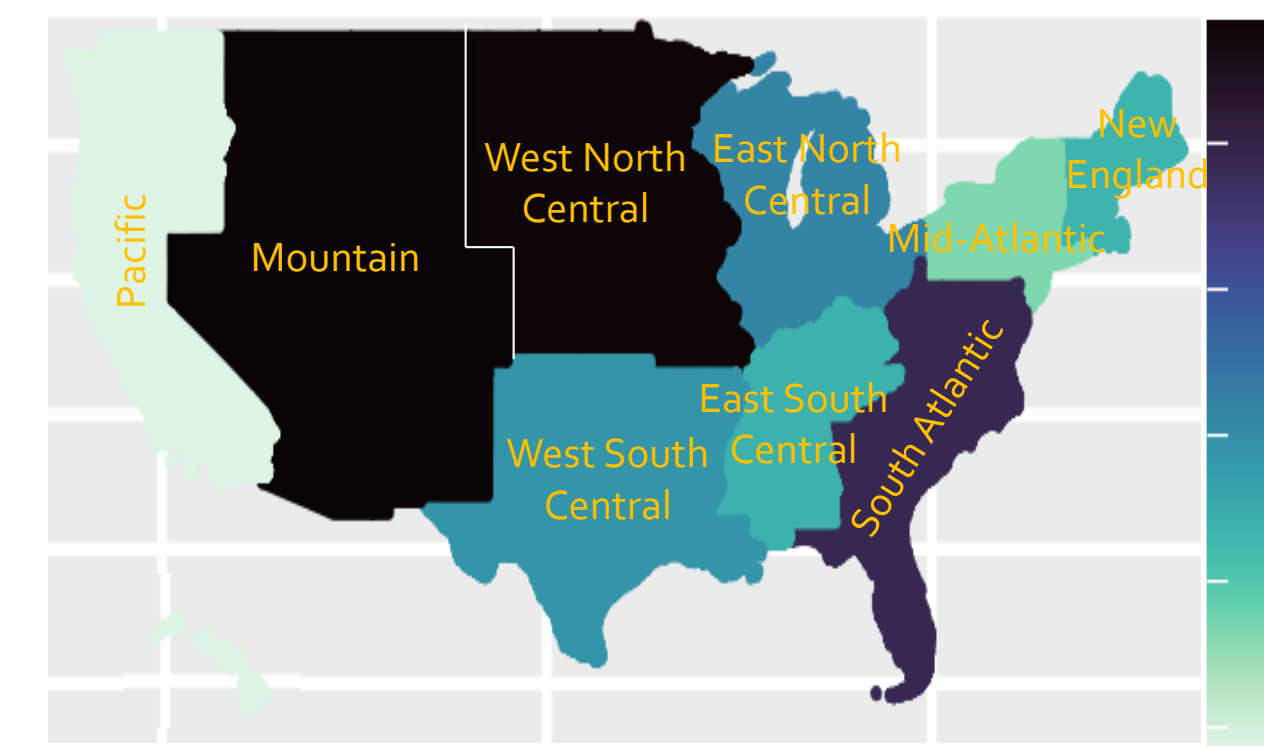
The five states with the lowest reported violent crime percentage in order were: Maine, New Hampshire, Vermont, Connecticut and New Jersey. New Jersey may be relatively safe from violent crime but had the highest covid-19 deaths percentage in the US at 4.35%.

Living Suitability Index¹ by State



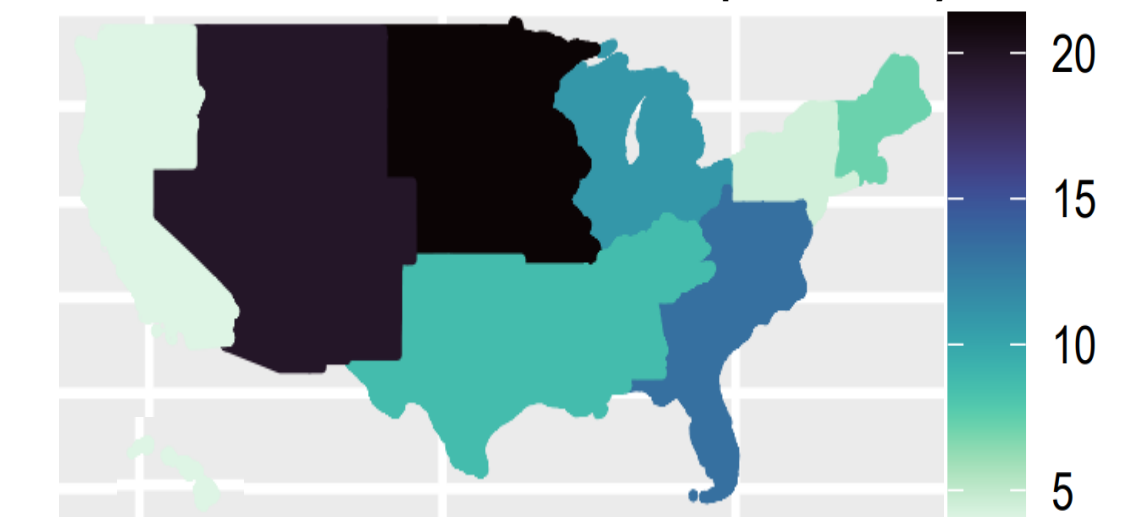
¹Higher index represents worse living suitability.

Living Suitability Index¹ by Division²



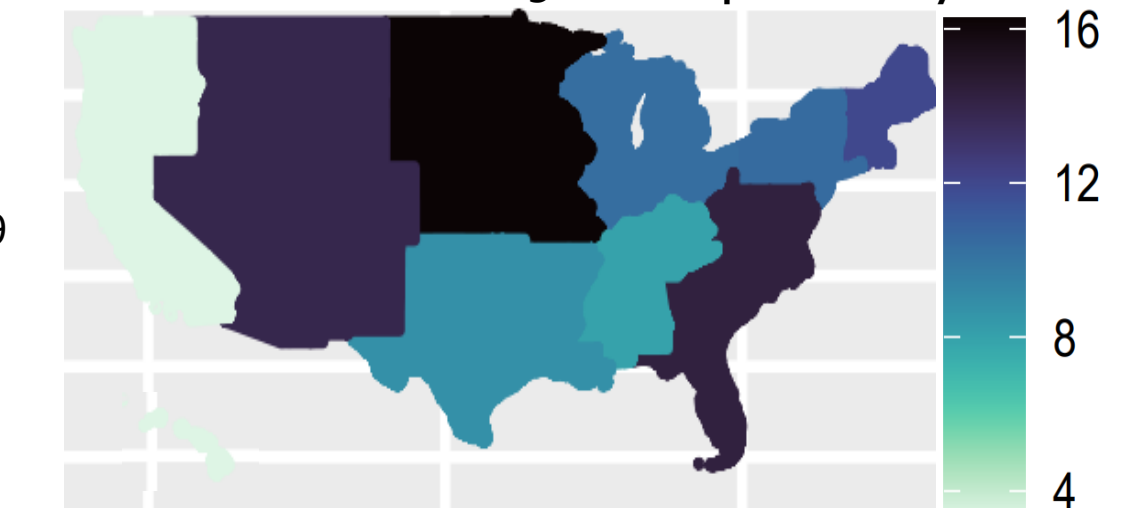
¹Higher index represents worse living suitability.
²Hawaii is part of Pacific division.

Percent of Total COVID-19 Cases per 100k by Division



The three divisions with the lowest recorded COVID-19 cases percentage in order were: Pacific, Mid-Atlantic and New England. The Mid-Atlantic and New England divisions held higher than average COVID-19 death percentages. This could be due to older populations living in these divisions.

Percent of Total COVID-19 Deaths per 100k by Division



The three divisions with the lowest recorded COVID-19 deaths percentage in order were: Pacific, East South Central and West South Central.

Percent of Total Reported Violent Crime per 100k by Division



The three divisions with the lowest reported violent crime percentage in order were: Mid-Atlantic, New England and Pacific.

References

1. "Regions of the United States." *Vivid Maps*, 4 Apr. 2020, <https://vividmaps.com/regions-united-states/>.
2. https://raw.githubusercontent.com/eparkera2/nCoV_tracker/master/input_data/coronavirus_states.csv
3. *ACS 1-Year Survey 2019*. <https://data.census.gov/cedsci/table?q=United+States&d=ACS+1-Year+Estimates+Detailed+Tables&tid=ACSDT1Y2019.B01001>.
4. "Reported Violent Crime Rate in the U.S. by State 2020." *Statista*, 29 Sept. 2021, <https://www.statista.com/statistics/200445/reported-violent-crime-rate-in-the-us-states/>.