

Geo-spatial Data Visualization

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Exploring the interest of veganism

GGMAP + GGLOT2 = Powerful Combination

```
library(tidyr)
library(ggplot2)
library(ggmap)
library(plotly)

#Register your unique Google API Key
register_google(key="AizaSyBweXKG1ouNTBIJd3e8XNiFBEeV7OUeuYA")
```

Google Maps API Key

Static Maps API

Geocoding API

<https://console.developers.googlemapsapi/dashboard>

<https://developers.google.com/maps/documentation/embed/get-api-key>

Plotting a map with library GGMAP

The Process

Retrieve a Static Map
`get_map()`



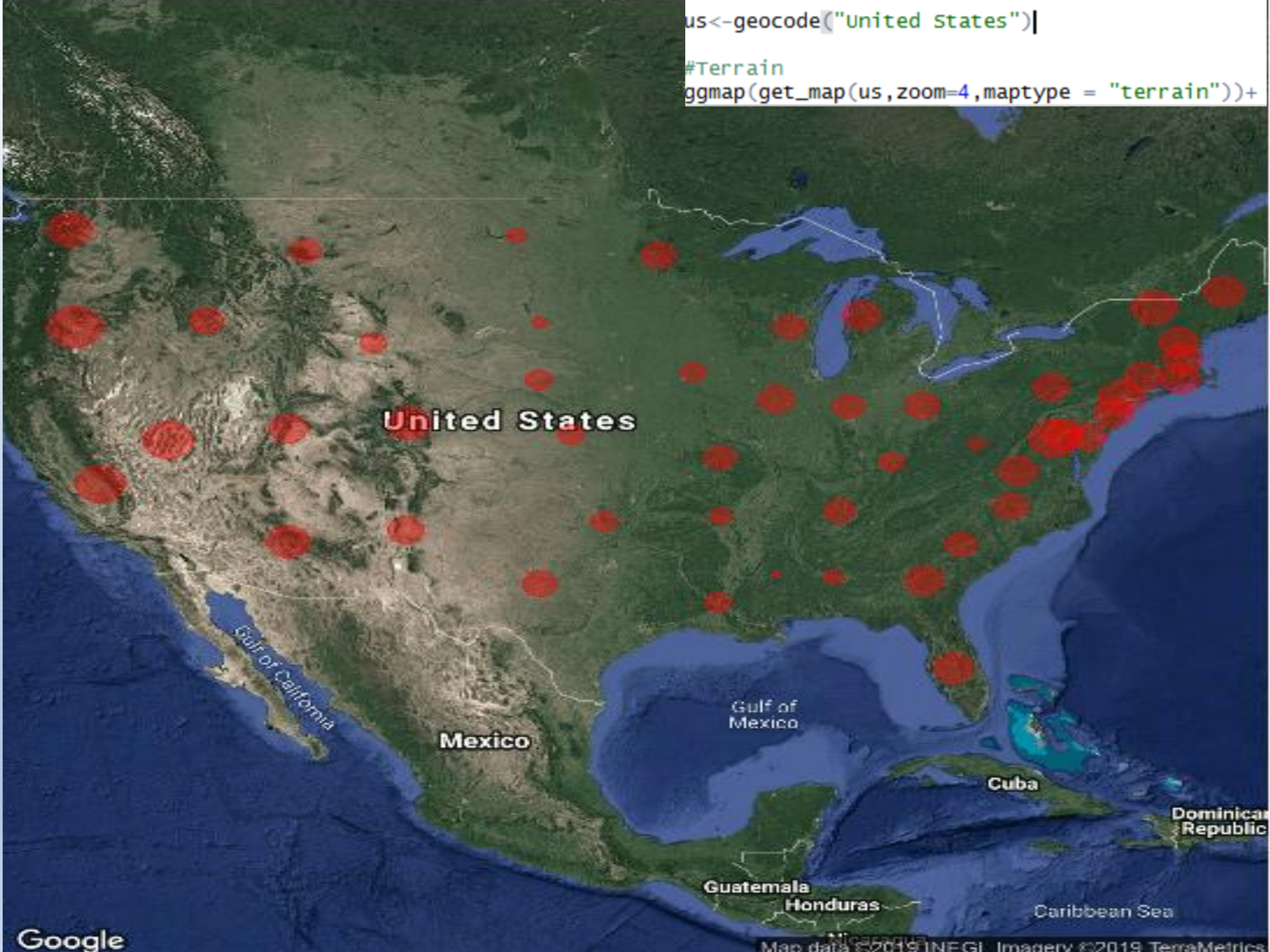
Plot the map
`ggmap() + ggplot2`

`geocode()`
`get_map()`
`qmap()`
`get_googlemap()`
`ggmap()`


```
us<-geocode("United States")|
```

```
#Terrain
```

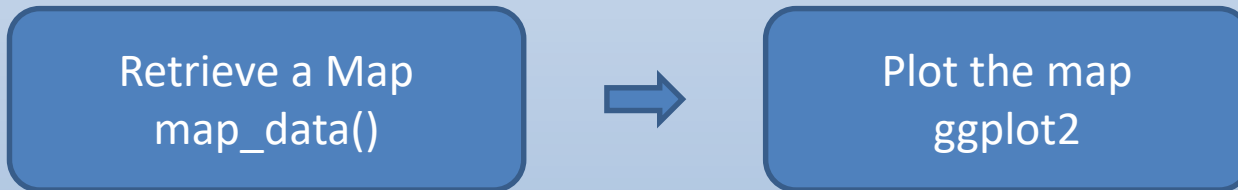
```
ggmap(get_map(us,zoom=4,maptype = "terrain"))+
```



Plotting a map with library GGPLOT2

- **map_data()** - defines boundaries of countries, states and cities
- **geom_polygon ()** – plot the geometries of the borders
- Color each polygon with a fill

The Process



Creating a Choropleth map using GGPLOT2

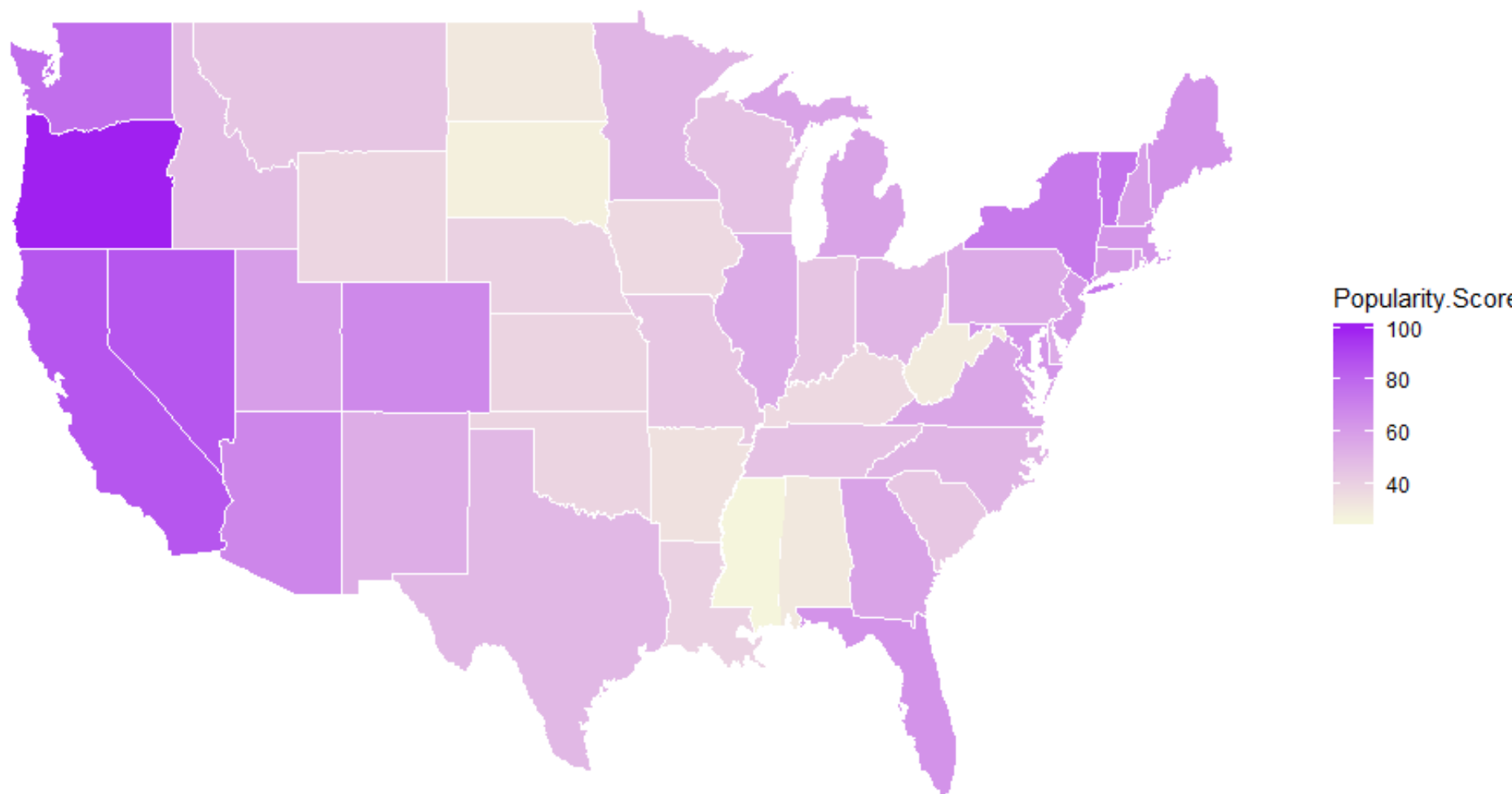
Merged data

	region	long	lat	group	order	subregion	Popularity.Score
1	alabama	-87.46201	30.38968	1	1	NA	31
2	alabama	-87.48493	30.37249	1	2	NA	31
3	alabama	-87.52503	30.37249	1	3	NA	31
4	alabama	-87.53076	30.33239	1	4	NA	31
5	alabama	-87.57087	30.32665	1	5	NA	31
6	alabama	-87.58806	30.32665	1	6	NA	31
7	alabama	-87.59379	30.30947	1	7	NA	31

```
plot<-ggplot(data=data) +  
  ggtitle("Google search interest on the word 'vegan' in US",subtitle="Data Source:Google  
  geom_polygon(mapping=aes(x=long,y=lat),group=group,fill=Popularity.Score,label=region))+  
  theme(axis.ticks=element_blank()  
    ,panel.background = element_blank()  
    ,axis.title = element_blank()  
    ,axis.text=element_blank())+  
  scale_fill_gradient(low="beige",high="purple")
```

Google search interest on the word 'vegan' in US

Data Source: Google Trends



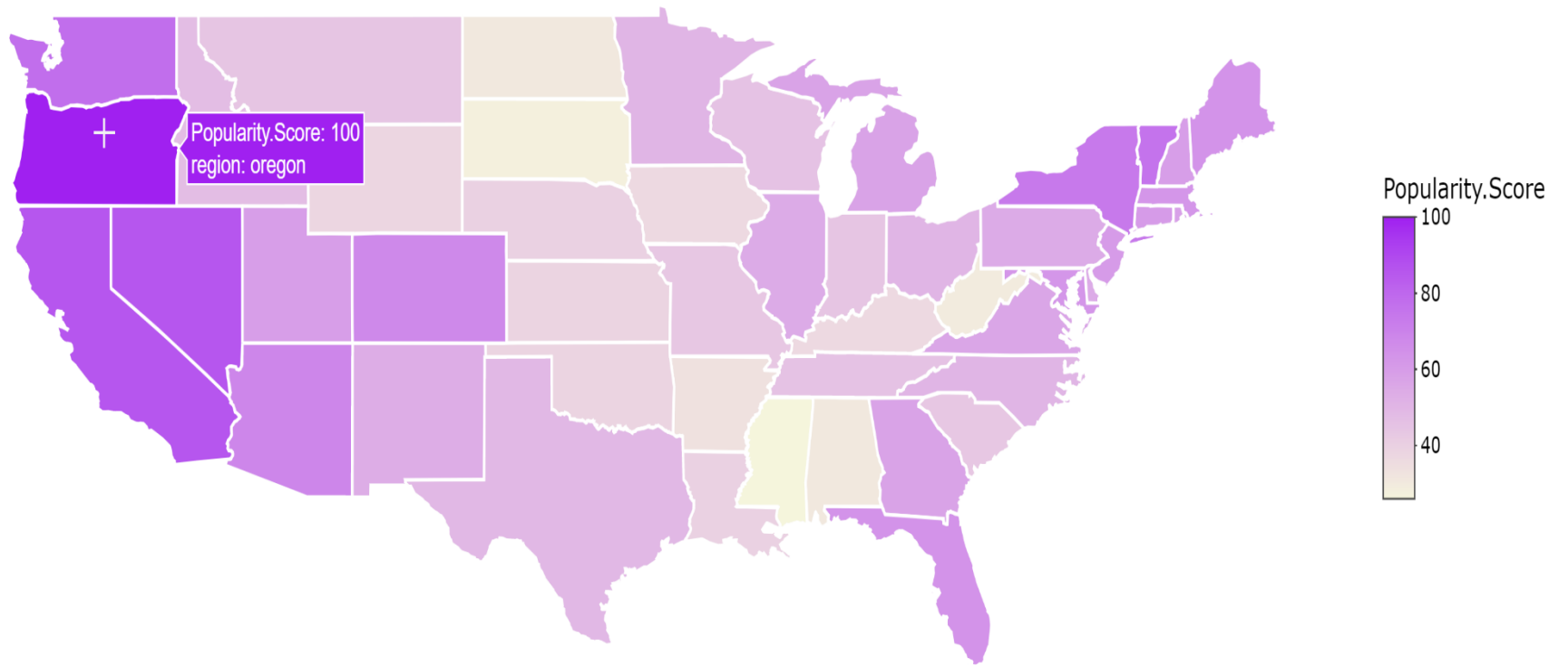
Creating a Choropleth map using GGPLOT2

Creating an interactive plot

```
#create an interactive map using library plotly  
plot<-ggplotly(plot)
```

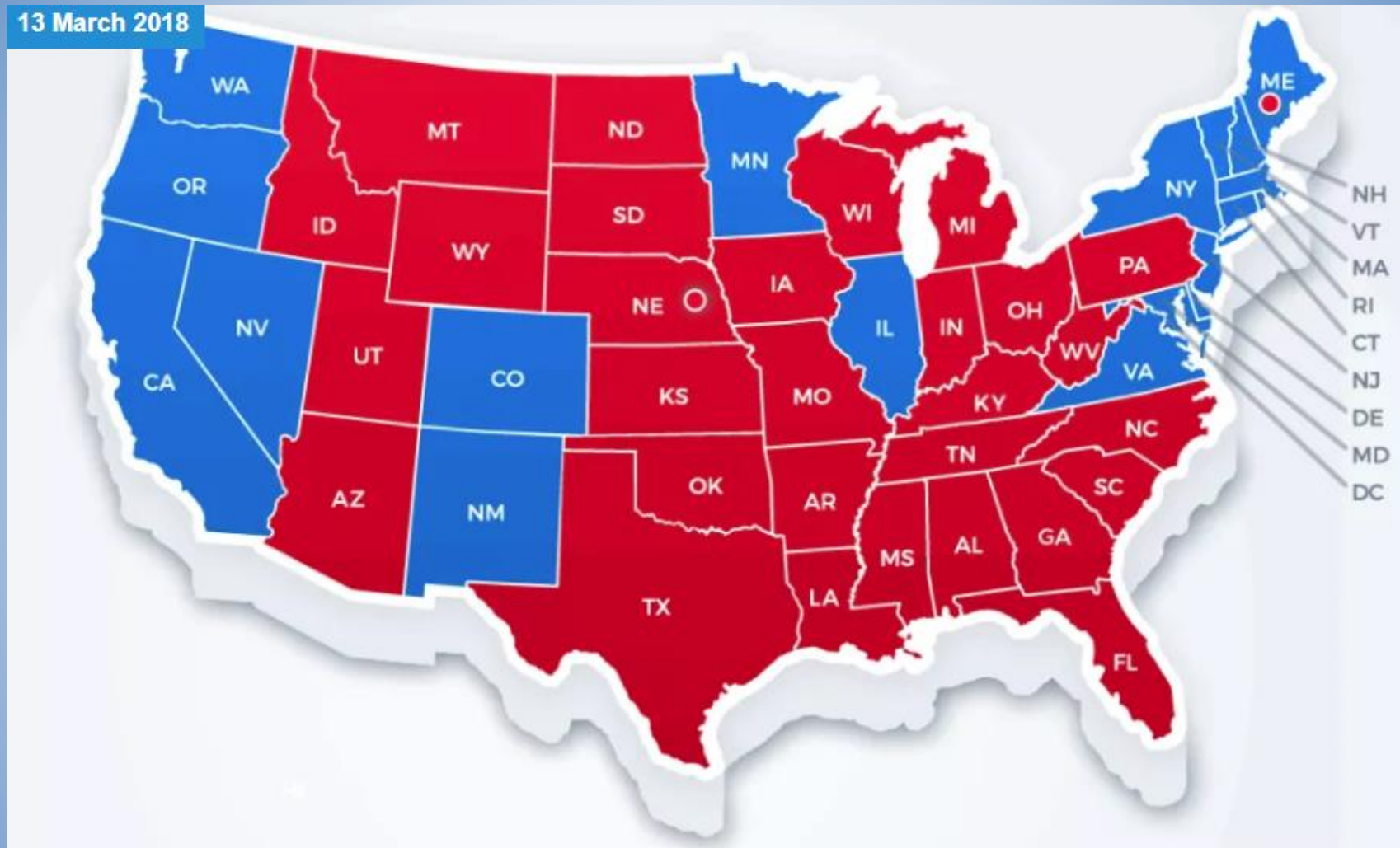
<http://rpubs.com/natashasing/482496>

Google search interest on the word 'vegan' in US



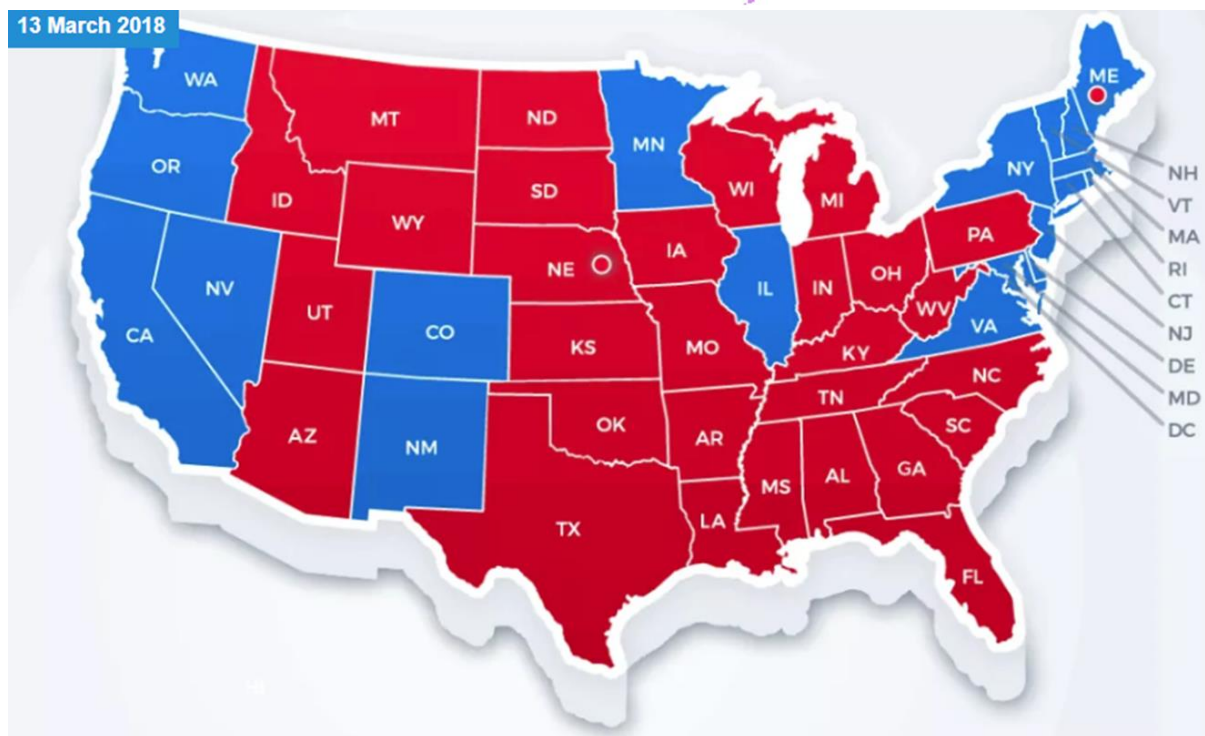
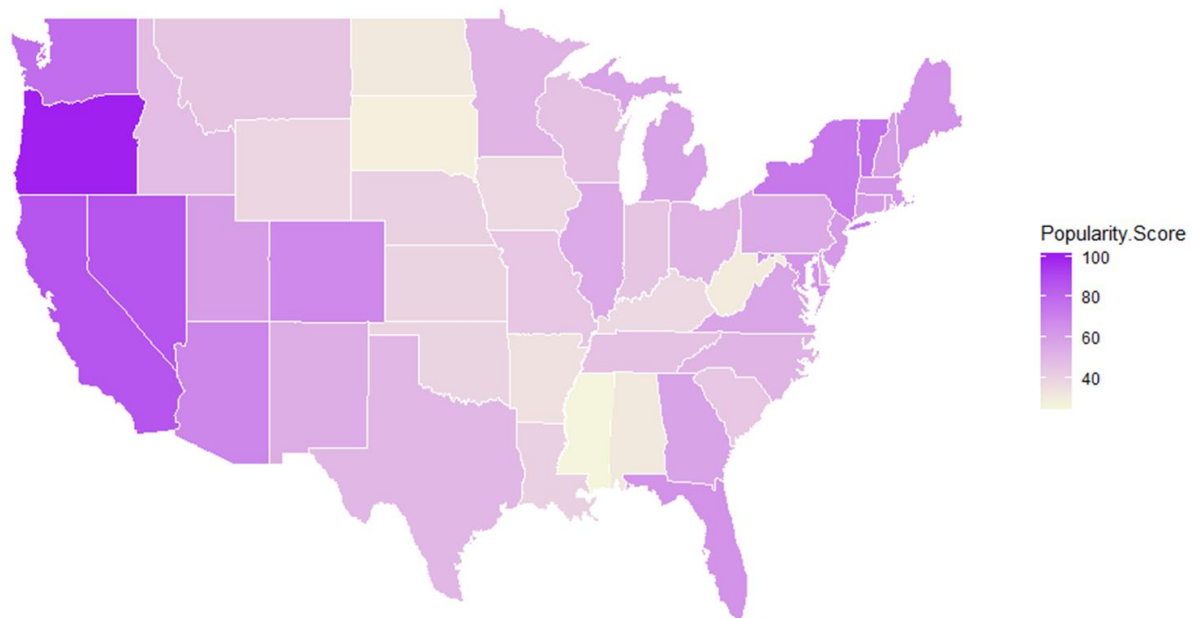


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Google search interest on the word 'vegan' in US

Data Source: Google Trends





Trump



Eggplant

RISE OF THE VEGAN

