Choropleth Maps

Welcome to the Choropleth Maps Exercise! In this exercise we will do some simple datasets and create Choropleth Maps from them.

In [7]:
```
import plotly.graph_objs as go
from plotly.offline import init_notebook_mode,iplot
init_notebook_mode(connected=True)
```

** Import pandas and read the csv file: 2014_World_Power_Consumption**

In [8]:
```
import pandas as pd
```

In [9]:
```
df= pd.read_csv('2014_World_Power_Consumption')
```

** Check the head of the DataFrame. **

In [10]:
```
df.head()
```

Out[10]:

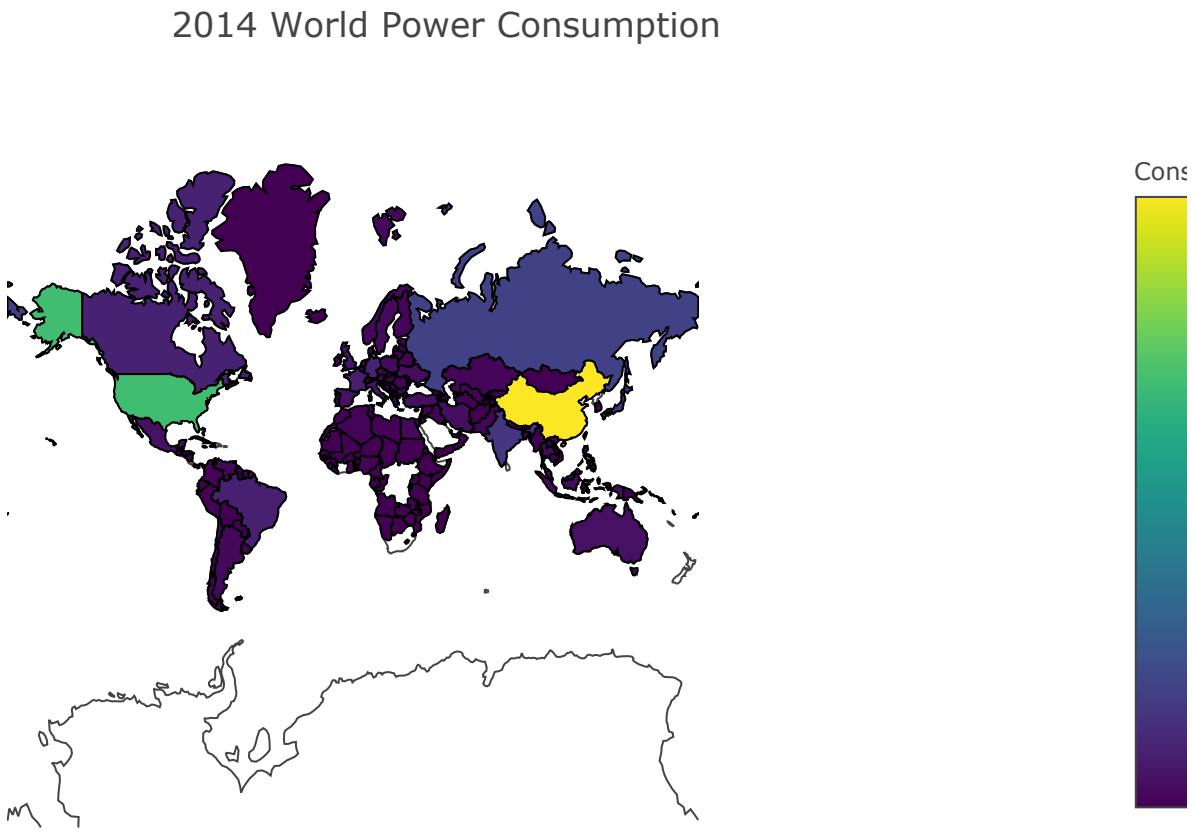
	Country	Power Consumption KWH	Text
0	China	5.523000e+12	China 5,523,000,000,000
1	United States	3.832000e+12	United 3,832,000,000,000
2	European	2.771000e+12	European 2,771,000,000,000
3	Russia	1.065000e+12	Russia 1,065,000,000,000
4	Japan	9.210000e+11	Japan 921,000,000,000

**create a Choropleth Plot of the Power Consumption for Countries using the data and layout dictionary. **

In [22]:
```
data= dict(type = 'choropleth',
           locations = df['Country'],
           locationmode='country names',
           colorscale= 'Viridis',
           text= df['Text'],
           z=df['Power Consumption KWH'],
           colorbar = {'title':'Consumption in KWH'})

layout = dict(
    title = '2014 World Power Consumption',
    geo = dict(
        showframe = False,
        projection = {'type':'mercator'}
    )
)
```

In [23]:
```
choromap = go.Figure(data = [data],layout = layout)
iplot(choromap,validate=False)
```



In [ ]:
```
## USA Choropleth

** Import the 2012_Election_Data csv file using pandas. **
```

In [26]:
```
usdf= pd.read_csv('2012_Election_Data')
```

** Check the head of the DataFrame. **

In [27]:
```
usdf.head()
```

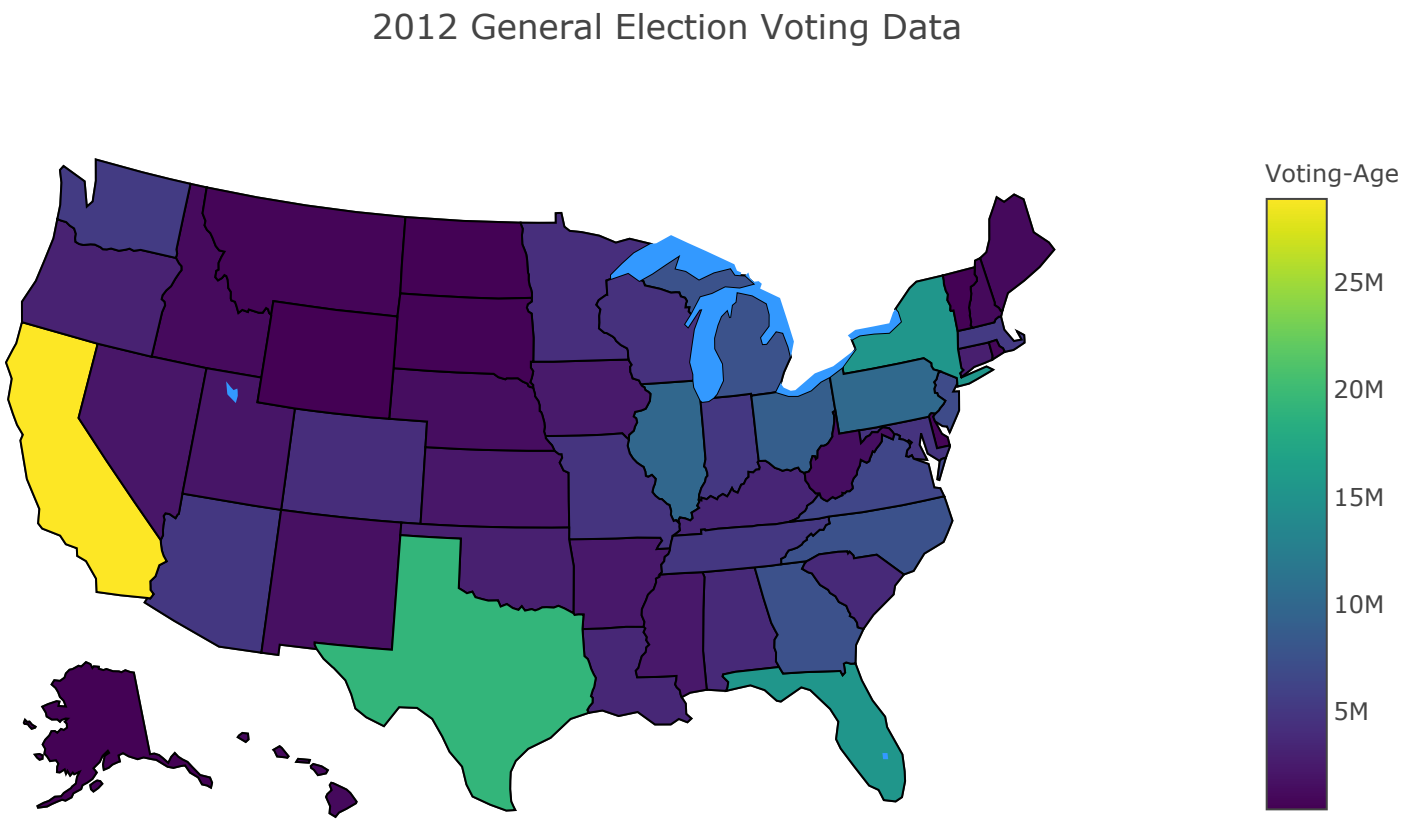
Out[27]:

	Year	ICPSR State Code	Alphanumeric State Code	State	VEP Total Ballots Counted	VEP Highest Office	VAP Highest Office	Total Ballots Counted	Highest Office	Voting-Eligible Population (VEP)	Voting-Age Population (VAP)	% Non-citizen	Prison	Pro
0	2012	41	1	Alabama	NaN	58.6%	56.0%	NaN	2,074,338	3,539,217	3707440.0	2.6%	32,232	
1	2012	81	2	Alaska	58.9%	58.7%	55.3%	301,694	300,495	511,792	543763.0	3.8%	5,633	
2	2012	61	3	Arizona	53.0%	52.6%	46.5%	2,323,579	2,306,559	4,387,900	4959270.0	9.9%	35,188	
3	2012	42	4	Arkansas	51.1%	50.7%	47.7%	1,078,548	1,069,468	2,109,847	2242740.0	3.5%	14,471	
4	2012	71	5	California	55.7%	55.1%	45.1%	13,202,158	13,038,547	23,681,837	28913129.0	17.4%	119,455	

In [28]:
```
data = dict(type='choropleth',
            colorscale = 'Viridis',
            locations = usdf['State Abv'],
            z = usdf['Voting-Age Population (VAP)'],
            locationmode = 'USA-states',
            text = usdf['State'],
            colorbar = {'title':"Voting-Age Population (VAP)"}
            )
```

In [31]:
```
layout = dict(title = '2012 General Election Voting Data',
              geo = dict(scope='usa',
                         showlakes = True))
```

In [32]:
```
choromap = go.Figure(data = [data],layout = layout)
iplot(choromap,validate=False)
```



Type *Markdown* and LaTeX: α^2

In [ ]: