In [27]:
```
### Install all necessary modules/libraries
!pip install geopandas
import geopandas as gpd
import matplotlib.pyplot as plt
import pandas as pd

### Add magic command that lets figures render in notebooks
%matplotlib inline

### Read in csv of country capitals and coordinates
data = pd.read_csv('capitals.csv')

### Use pandas to read csv data into a DataFrame
capitols_df = pd.DataFrame(data, columns=['Country','Capital','Lat',
                                          'Lon'])

### Use geopandas to convert capitals DataFrame into a GeoDataFrame
capitols_gdf = gpd.GeoDataFrame(capitols_df, geometry=gpd.points_from_xy(
    capitols_df.Lon,capitols_df.Lat))

### Set the CRS to WGS 1984 and change it to World Web Mercator projection (EPSG: 3857)
capitols_gdf.set_crs(epsg=4326,inplace=True)
capitols = capitols_gdf.to_crs(epsg=3857)

### Prepare Background for Map
world = gpd.read_file(gpd.datasets.get_path('naturalearth_lowres')) # Read in world shapefile
world = world.to_crs({'init':'epsg:3857'}) #Change projection to match capitols
NorthAmerica = world[(world.continent == "North America") & (world.name != 'Greenland')] #Isolate North America (exc
ept greenland)

### Make a map to visualize North America and the capitol cities
fig, ax = plt.subplots(1, 1,figsize=(10,10))
NorthAmerica.plot(ax=ax,color='gray', edgecolor='black')
capitols.plot(ax=ax,color="blue")
ax.set_title("North America", fontdict={'fontsize':20, 'fontweight':'bold'})

### Export figure as a PNG
plt.savefig('Assign4_Map.png',dpi=300)
```

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Requirement already satisfied: geopandas in /usr/local/lib/python3.6/dist-packages (0.8.1)
Requirement already satisfied: pandas>=0.23.0 in /usr/local/lib/python3.6/dist-packages (from geopandas) (1.1.4)
Requirement already satisfied: pyproj>=2.2.0 in /usr/local/lib/python3.6/dist-packages (from geopandas) (3.0.0.post1)
Requirement already satisfied: shapely in /usr/local/lib/python3.6/dist-packages (from geopandas) (1.7.1)
Requirement already satisfied: fiona in /usr/local/lib/python3.6/dist-packages (from geopandas) (1.8.17)
Requirement already satisfied: pytz>=2017.2 in /usr/local/lib/python3.6/dist-packages (from pandas>=0.23.0->geopanda
s) (2018.9)
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>geopandas) (2.8.1)
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Requirement already satisfied: six>=1.7 in /usr/local/lib/python3.6/dist-packages (from fiona->geopandas) (1.15.0)
Requirement already satisfied: attrs>=17 in /usr/local/lib/python3.6/dist-packages (from fiona->geopandas) (20.2.0)
Requirement already satisfied: munch in /usr/local/lib/python3.6/dist-packages (from fiona->geopandas) (2.5.0)
Requirement already satisfied: click-plugins>=1.0 in /usr/local/lib/python3.6/dist-packages (from fiona->geopandas)
(1.1.1)
```

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/usr/local/lib/python3.6/dist-packages/pyproj/crs/crs.py:53: FutureWarning: '+init=<authority>:<code>' syntax is depr
ecated. '<authority>:<code>' is the preferred initialization method. When making the change, be mindful of axis order
changes: https://pyproj4.github.io/pyproj/stable/gotchas.html#axis-order-changes-in-proj-6
  return _prepare_from_string(" ".join(pjargs))
```

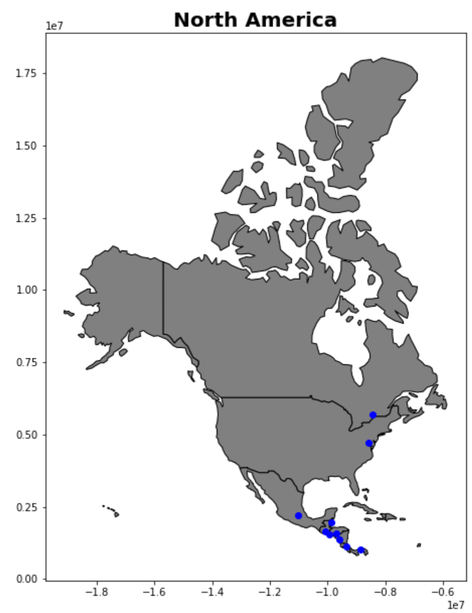

In [ ]: