Making maps using shapfiles

Shapefiles describe plots of land using a data type called a *mappolyshape*. We can plot shapefiles in MATLAB by reading them in using the `readgeotable()` function and passing the resulting table into `geoplot()`.

The `geoplot()` function.

The `geoplot()` function plots data on maps from a variety of map inputs. Calling `geoplot()` with different types of input data causes it to create different types of plots.

For example, you've learned that geoplot() takes a longitude and lattitude and will plot a marker on that point in the world. You use regular graphing options to control the marker's shape and color.

The `geoplot(`*`geospacial table`*`)` function

The internet is full of *shape files* that contain shapes placed on longitude and lattitude. You import these files uisng `readgeotable()` and plot the resulting table.

Here, we import a shape file of Natick property parcels:

```
natick = readgeotable("L3_SHP_M198_Natick/M198TaxPar_CY24_FY25.shp");
natick(1:3,{'Shape' 'SHAPE_Leng' 'SHAPE_Area'})
```

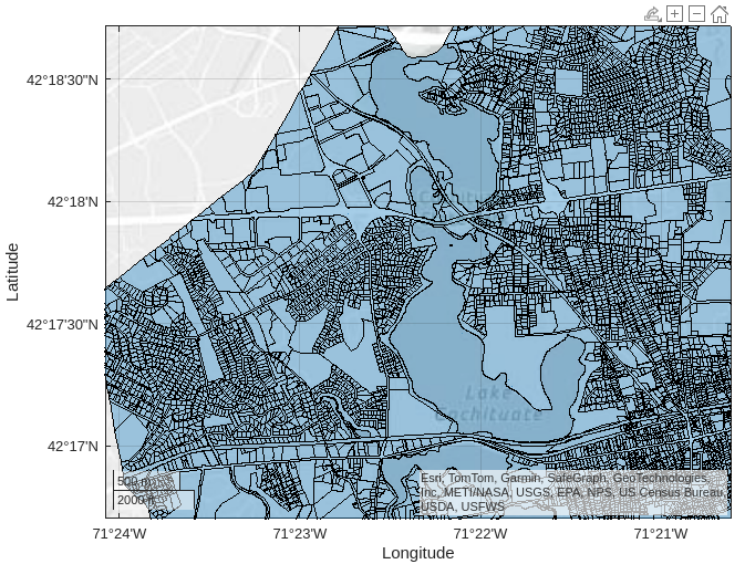
```
ans = 3x3 table
```

	Shape	SHAPE_Leng	SHAPE_Area
1	mappolyshape	159.2151	1.4383e+03
2	mappolyshape	85.7692	370.5394
3	mappolyshape	32.6372	28.4556

We see above that the *geospacial table* we imported has a variable named `Shape`. `geoplot()` needs the table to contain a `Shape` variable to find the shapes to plot. The `Shape` variable needs to be of type `mappolyshape` for `geoplot()` to be able to plot it.

Now that we have a goespacial table, we can plot it and see Natick High School.

```
geoplot(natick)
geolimits([42.2680 42.2789],[-71.37276 -71.35407])
```


42°18'30"N
42°18'N
42°17'30"N
42°17'N
Latitude
71°24'W
71°23'W
71°22'W
71°21'W
Longitude
500 m
2000 ft
Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS