

**Hands On**

# CONVERSION OF TABULAR DATA INTO GIS

**Training Course on  
'Marine GIS for Operational Oceanography'**

**January 18-22, 2016**

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# Overview

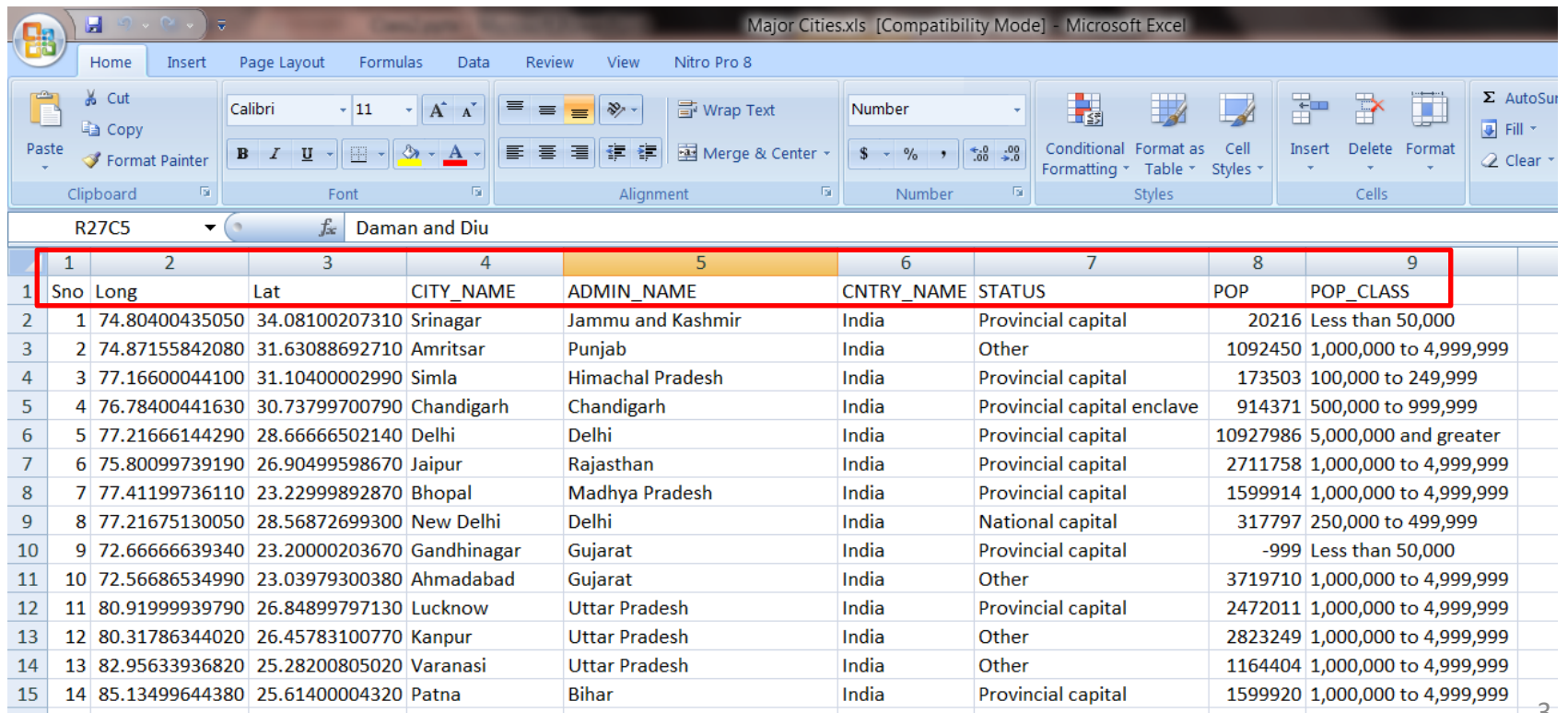
- Generation of point shapefile from tabular data (spreadsheet or CSV)
- Joining attribute information to shapefile
- Prepare population map
- Tools needed
  - ArcGIS
  - Microsoft excel or any spreadsheet software

Data Credits:

Global Admin Boundaries - <http://www.gadm.org>  
Wikipedia

## Task -1 : Importing spreadsheet data in to ArcGIS

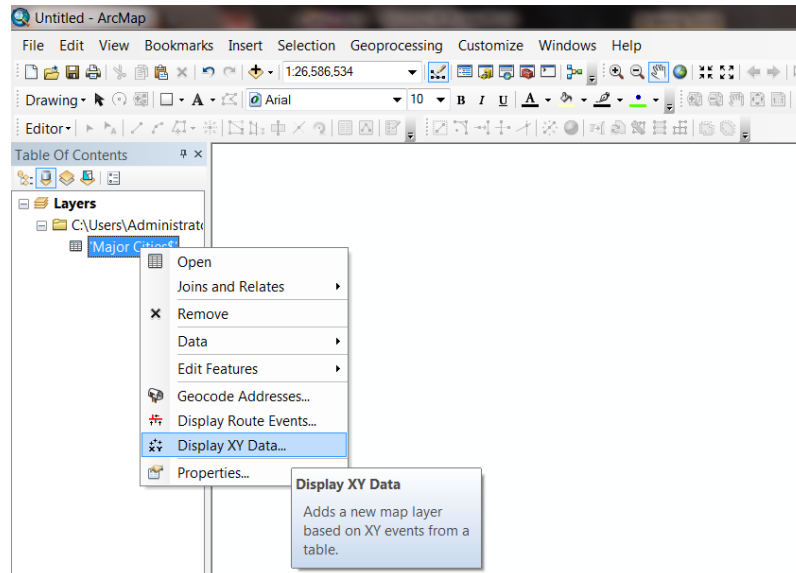
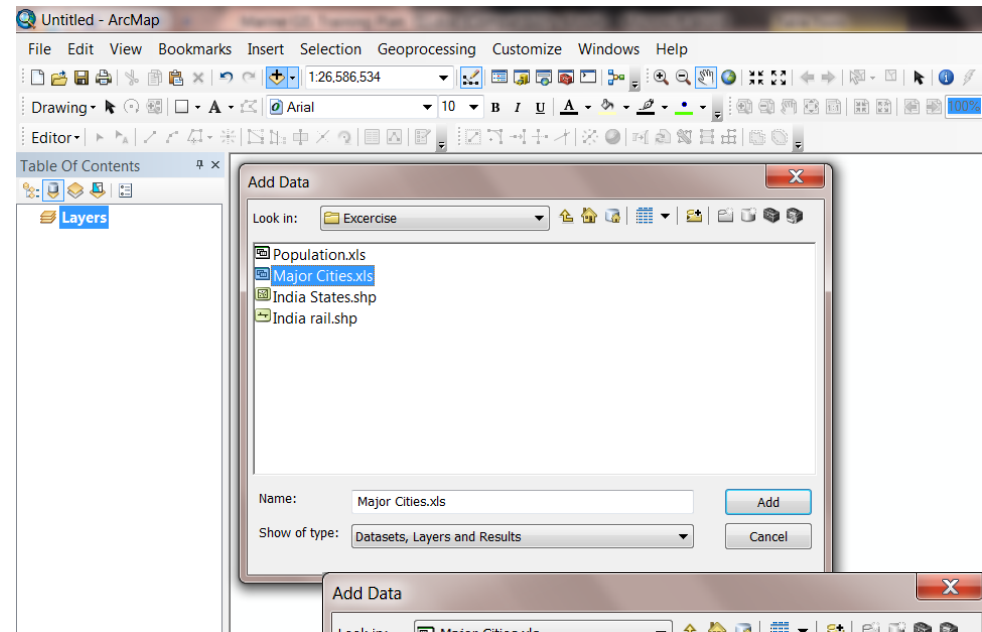
- Open the exercise folder and open the excel file “Major cities.xls”
- It contains the positional information (Longitude, Latitude) and the attribute information (City name, State Name, Population information, etc.)



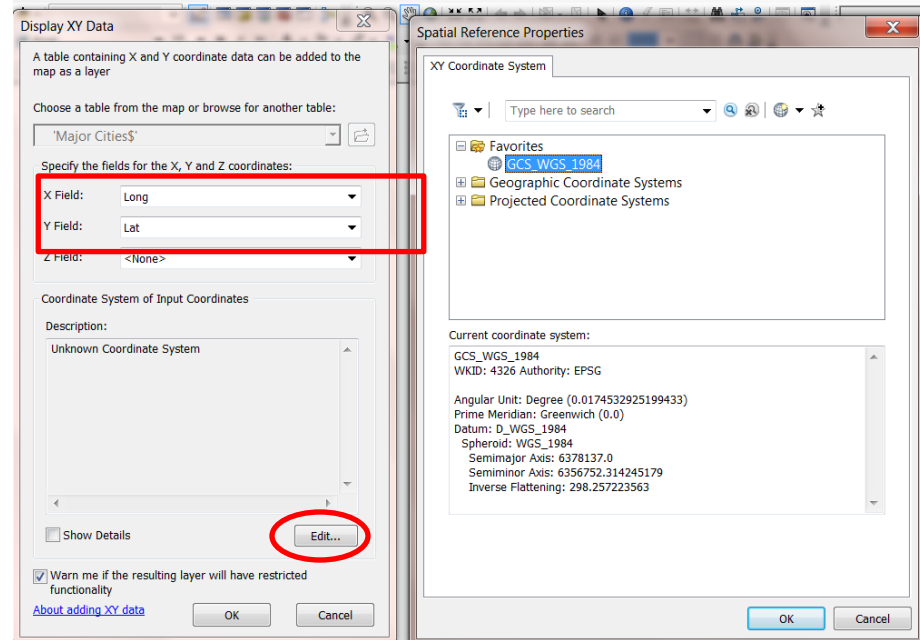
Major Cities.xls [Compatibility Mode] - Microsoft Excel

R27C5 Daman and Diu									
1	2	3	4	5	6	7	8	9	
Sno	Long	Lat	CITY_NAME	ADMIN_NAME	CNTRY_NAME	STATUS	POP	POP_CLASS	
1	74.80400435050	34.08100207310	Srinagar	Jammu and Kashmir	India	Provincial capital	20216	Less than 50,000	
2	74.87155842080	31.63088692710	Amritsar	Punjab	India	Other	1092450	1,000,000 to 4,999,999	
3	77.16600044100	31.10400002990	Simla	Himachal Pradesh	India	Provincial capital	173503	100,000 to 249,999	
4	76.78400441630	30.73799700790	Chandigarh	Chandigarh	India	Provincial capital enclave	914371	500,000 to 999,999	
5	77.21666144290	28.66666502140	Delhi	Delhi	India	Provincial capital	10927986	5,000,000 and greater	
6	75.80099739190	26.90499598670	Jaipur	Rajasthan	India	Provincial capital	2711758	1,000,000 to 4,999,999	
7	77.41199736110	23.22999892870	Bhopal	Madhya Pradesh	India	Provincial capital	1599914	1,000,000 to 4,999,999	
8	77.21675130050	28.56872699300	New Delhi	Delhi	India	National capital	317797	250,000 to 499,999	
9	72.66666639340	23.20000203670	Gandhinagar	Gujarat	India	Provincial capital	-999	Less than 50,000	
10	72.56686534990	23.03979300380	Ahmadabad	Gujarat	India	Other	3719710	1,000,000 to 4,999,999	
11	80.91999939790	26.84899797130	Lucknow	Uttar Pradesh	India	Provincial capital	2472011	1,000,000 to 4,999,999	
12	80.31786344020	26.45783100770	Kanpur	Uttar Pradesh	India	Other	2823249	1,000,000 to 4,999,999	
13	82.95633936820	25.28200805020	Varanasi	Uttar Pradesh	India	Other	1164404	1,000,000 to 4,999,999	
14	85.13499644380	25.61400004320	Patna	Bihar	India	Provincial capital	1599920	1,000,000 to 4,999,999	

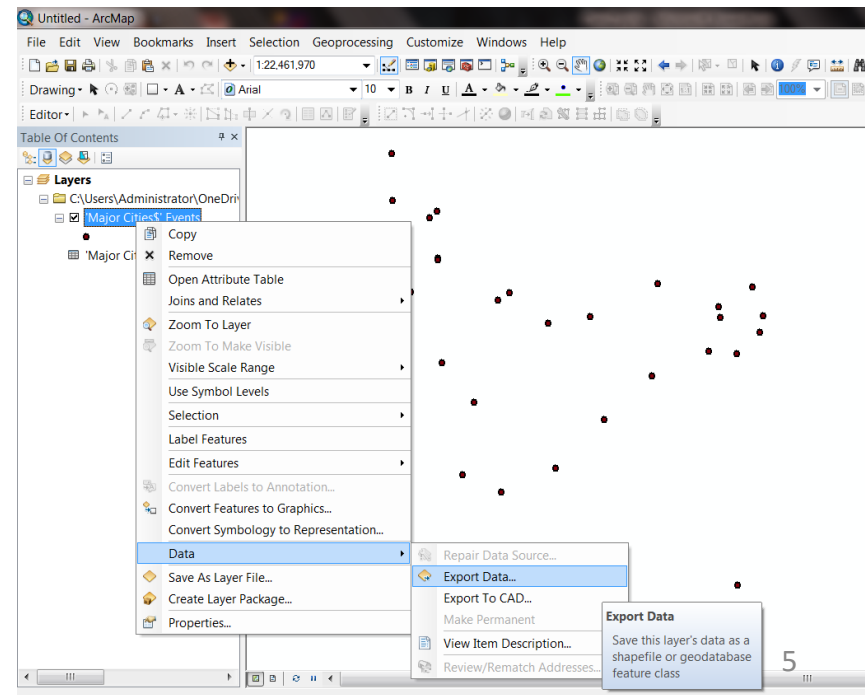
- Now to connect to this folder in ArcMap document and select the “Major cities.xls” file and click add
- Select the sheet “Major Cities\$” and click add
- The sheet is now added to the ArcMap document
- Right click on the ‘Major cities\$’ and select Display XY data



- In the X Field and Y Field select Long and Lat respectively
- Click on **“Edit”** tab below **Description** and choose **GCS\_WGS\_1984** in **Spatial Reference Properties** and click **ok**
- Or search for 4326 (EPSG Code)

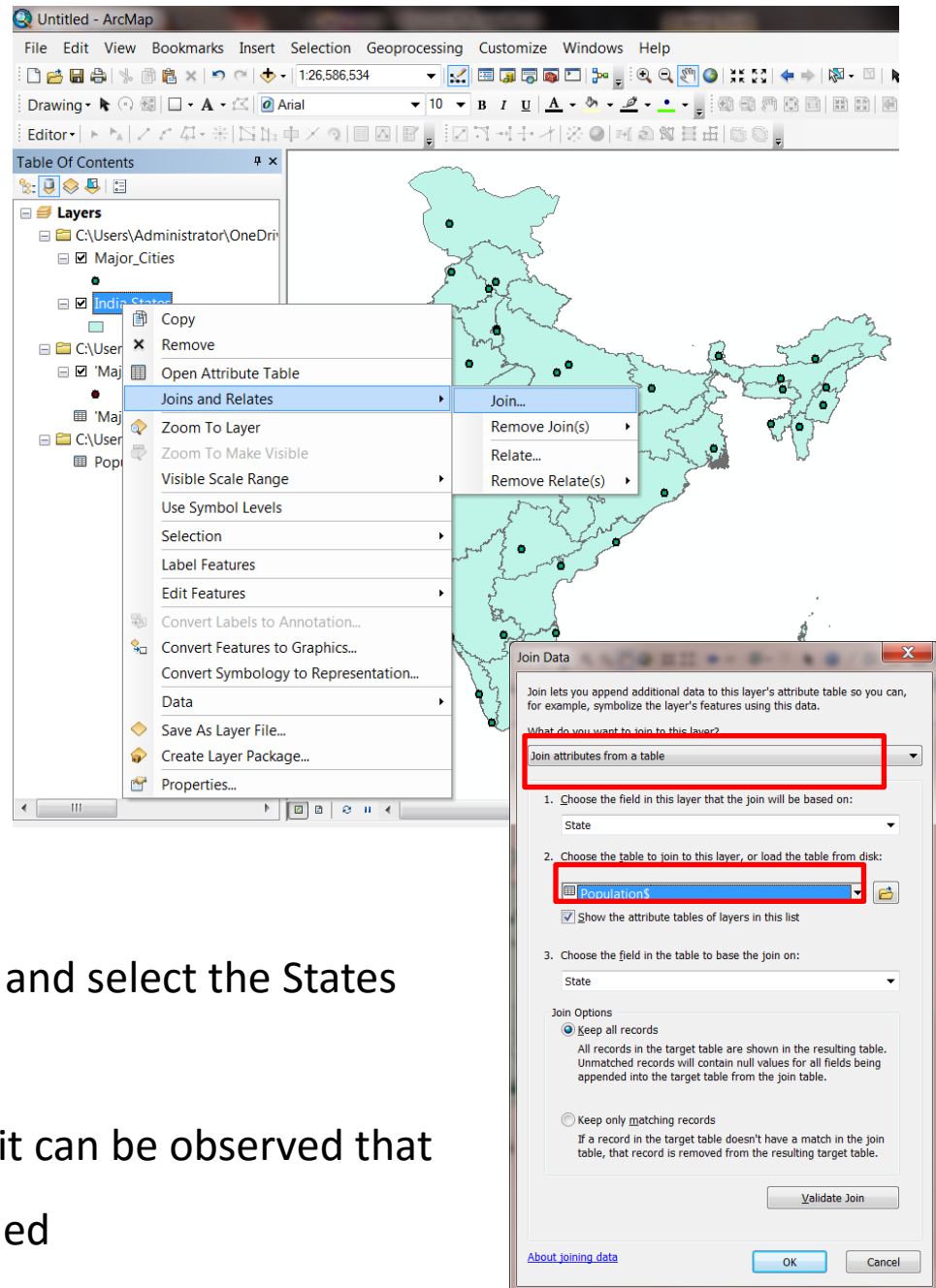


Right click on the point file and **Export Data** as shapefile and add it to the ArcMap document



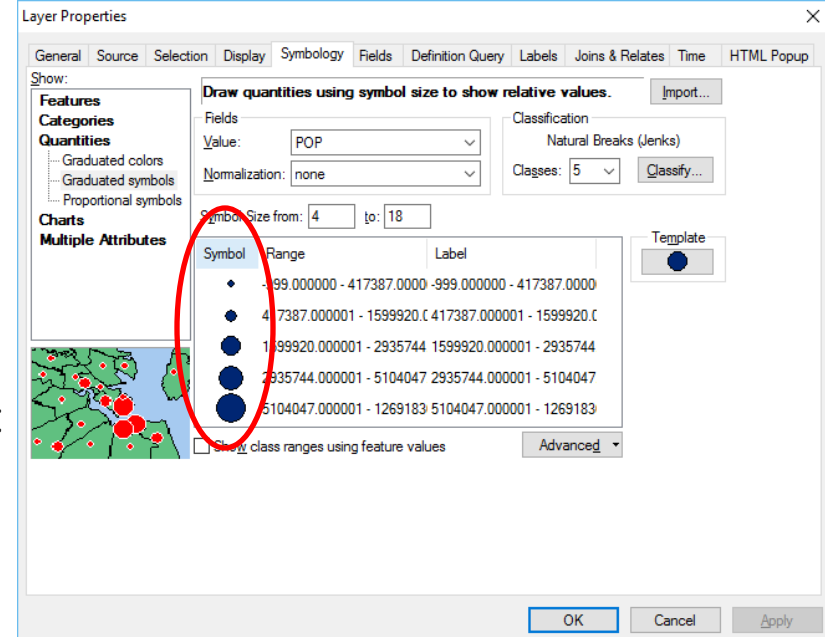
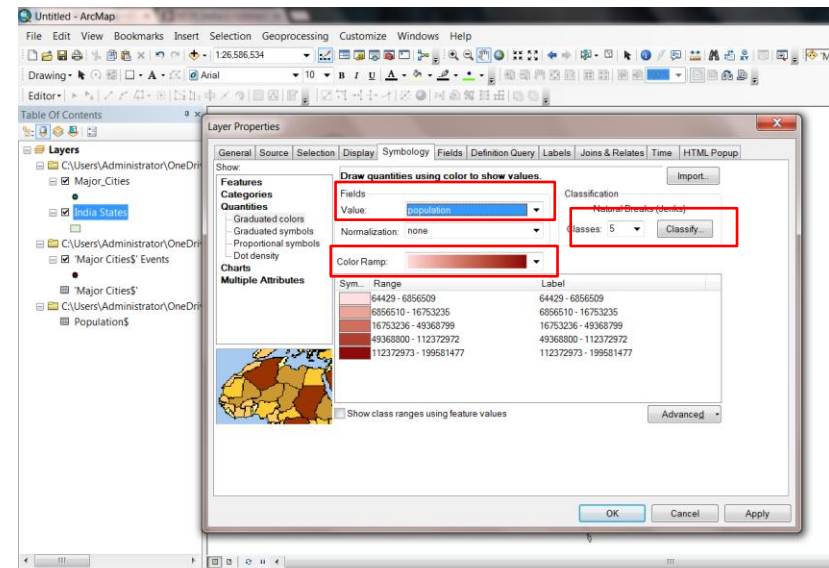
## Task -2 : Joining attribute data to shapefile

- Add the **India States** shapefile to the ArcMap document
- Add **Population\$** sheet from the excel file **Population.xls** which contains the state names, population and area.
- Right click on **India States** and select **Join** in the **Join and Relates** tab
- Choose **Population\$** as the table to join and select the **States** as the join **Fields** and click ok.
- Open attribute table of the India States it can be observed that the fields of Population excel sheet are added

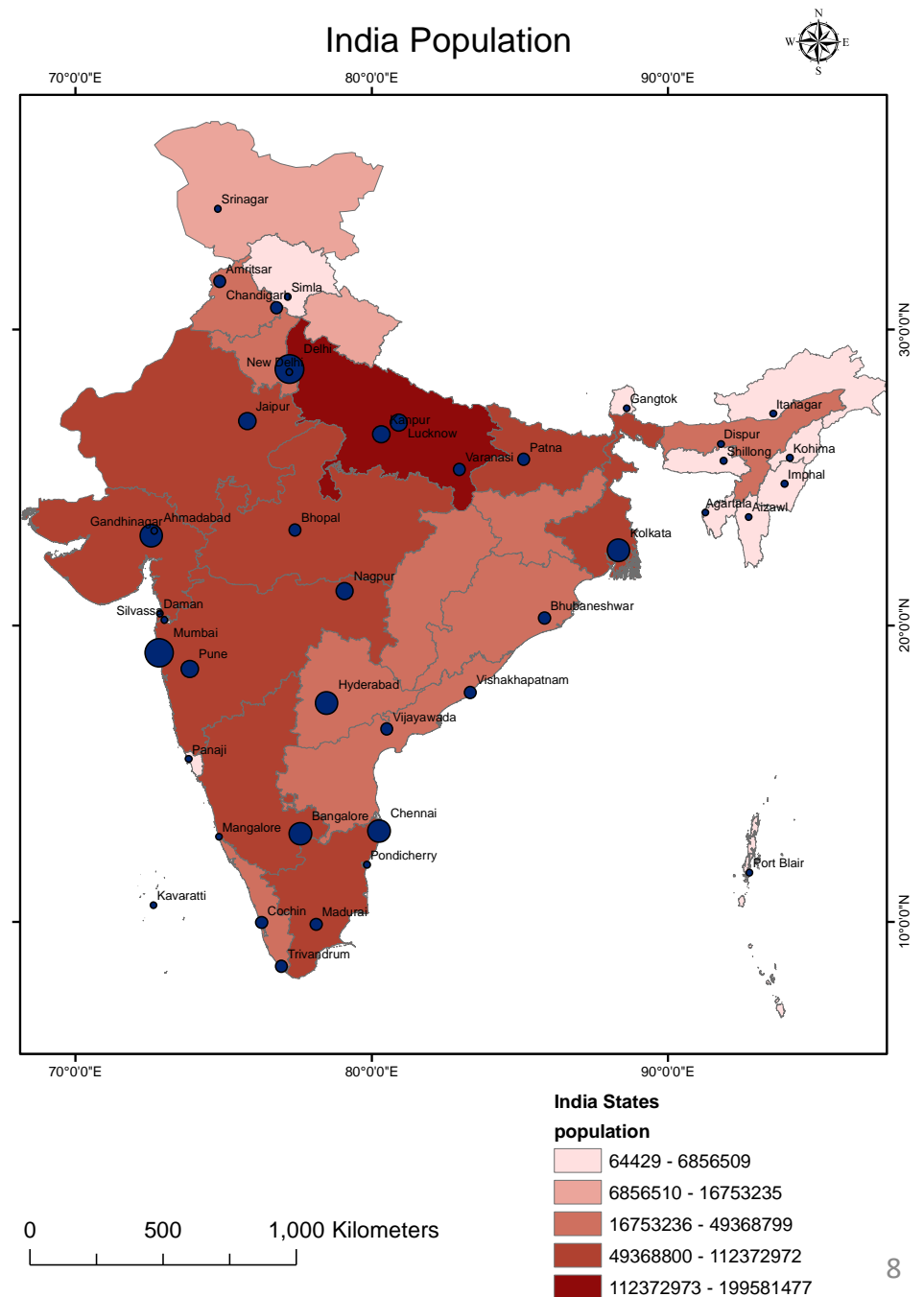


## Task – 3 : Generation of population map

- Goto **Layer Properties** → **Symbology** → **Quantities** → **Graduated colors**
- Select value as population and choose the Color Ramp, set the classes to five and click ok
- Insert Label for the cities and states
- Apply symbology to major cities based on population
- **Properties** → **Symbology** → **Quantities** → **Graduated Symbols**
- Choose the **Value** field as POP and with the left click on the **Symbol** change the change the symbol color and size



Switch to layout view and insert Grid,  
Label, Scale, Legend and North  
Arrow and export map





## Other Tutorials

<http://www.esri.com/news/arcuser/0312/importing-data-from-excel-spreadsheets.html>