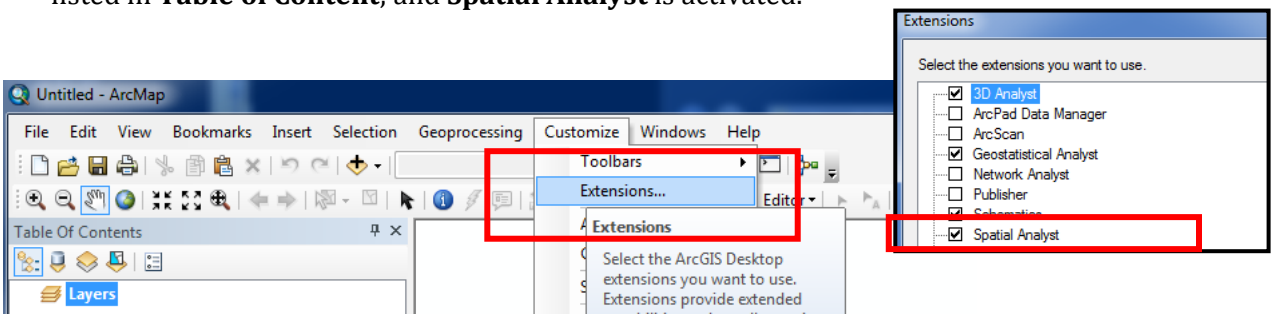
Tutorial Set 2: Data interpolation

Exercise Site20_2-4 Extracting values based on points

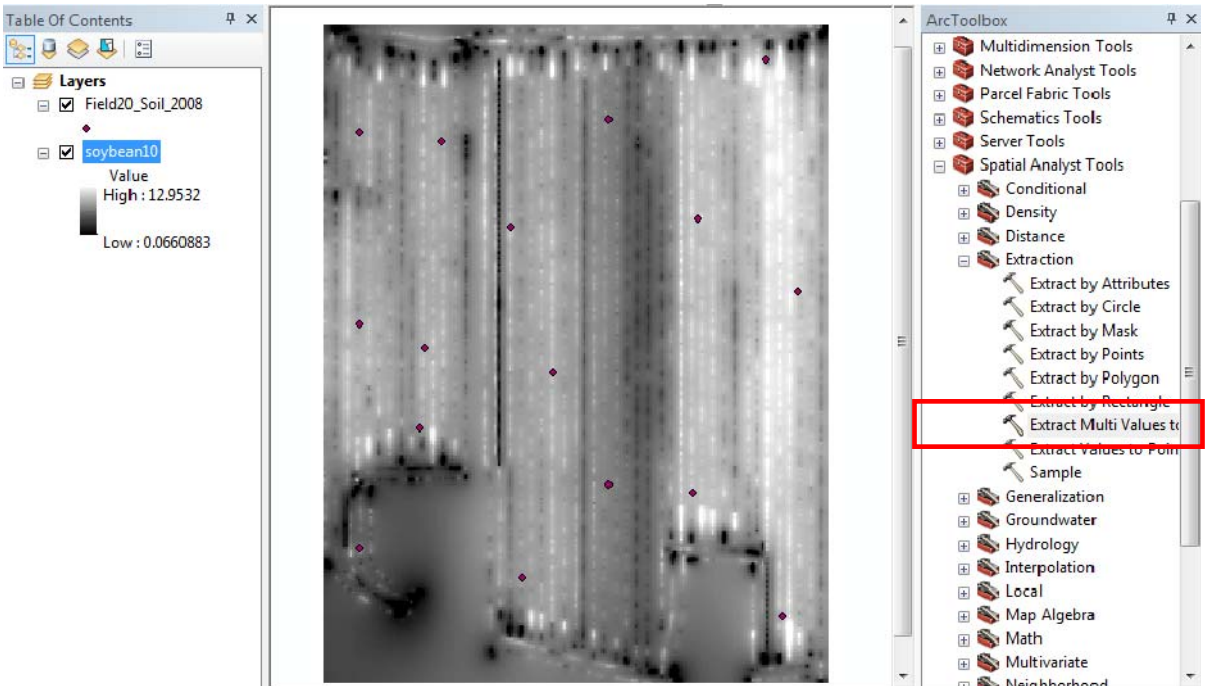
Learning objective: Obtaining yield of soil sampling locations
Techniques: ArcToolbox - Spatial Analyst Tools - Extraction - Extract Multi Values to Points
Data Source: Dataset2

Part 1: Extracting yield value from interpolated yield map

1. Open previously save project in ArcMap
   Make sure the layers ***Field20_Soil_2008.shp*** (vector data) and ***soybean10*** (raster data) are listed in **Table of Content**; and **Spatial Analyst** is activated.

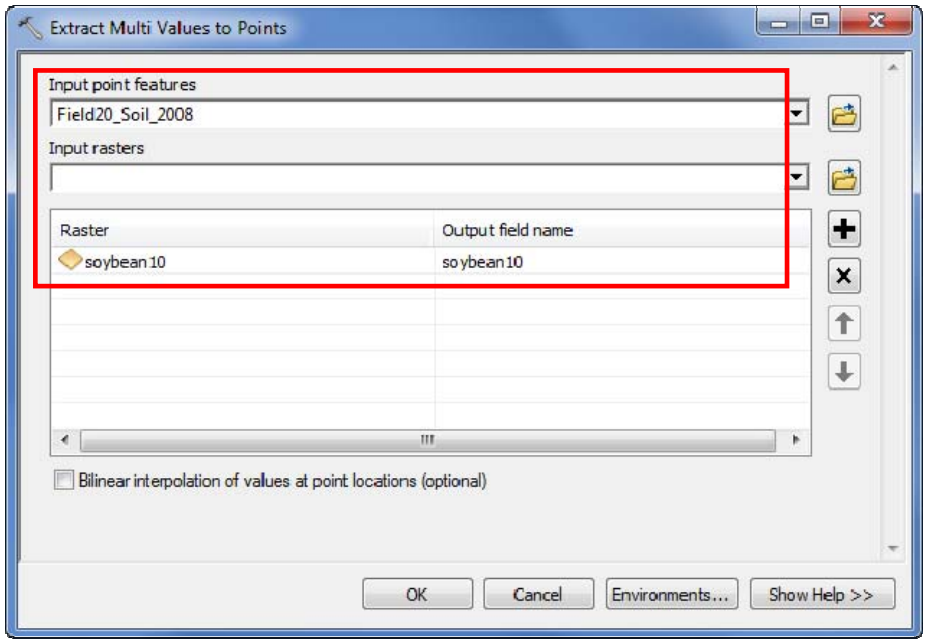


2. Launch **ArcToolbox**.
   Go to **Spatial Analyst tools** > **Extraction** > **Extract Multi Values to Points**.



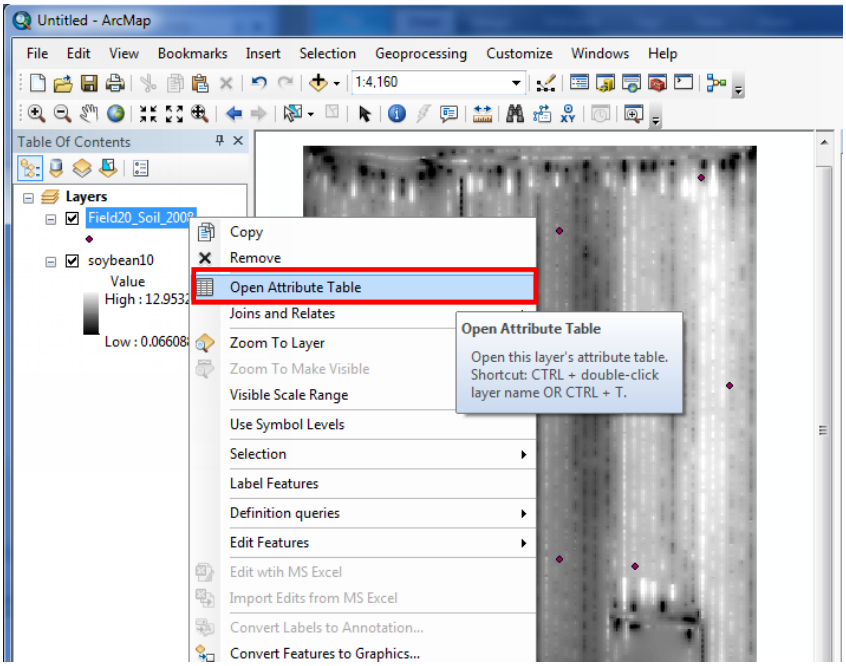
3. In **Extract Multi Values to Points** dialog windows, set parameters as following:

   Input point features: ***Field20_Soil_2008***
   Input rasters: ***soybean10***

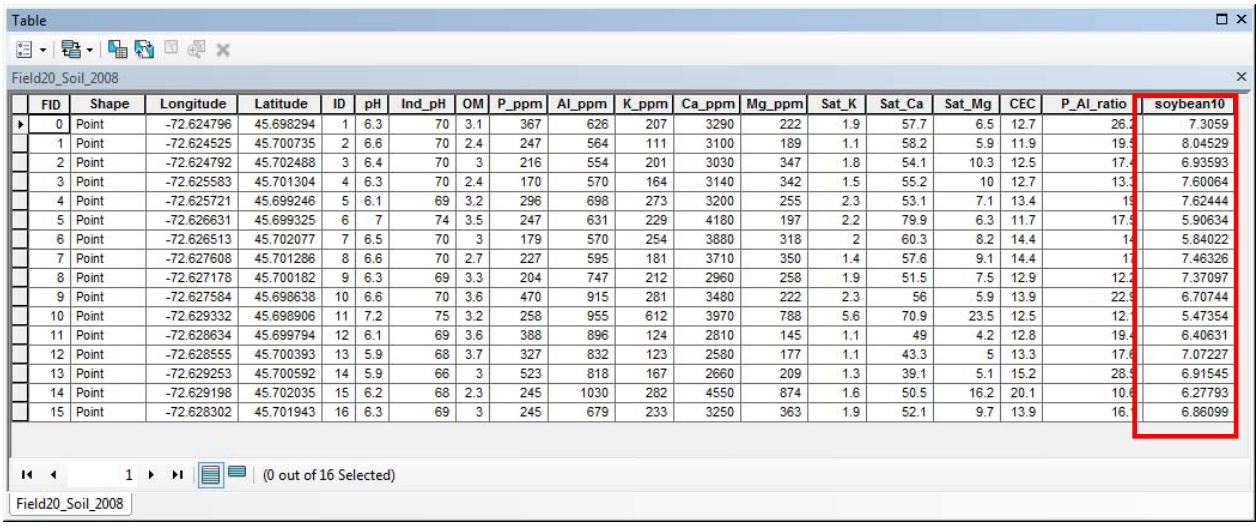


   Click **OK** to proceed.

4. Once done, right click on the layer ***Field20_Soil_2008*** and choose **Open Attribute Table.**



5. In the opened attribute table, a new column ***soybean10***, containing soybean yield of 2010, is added.

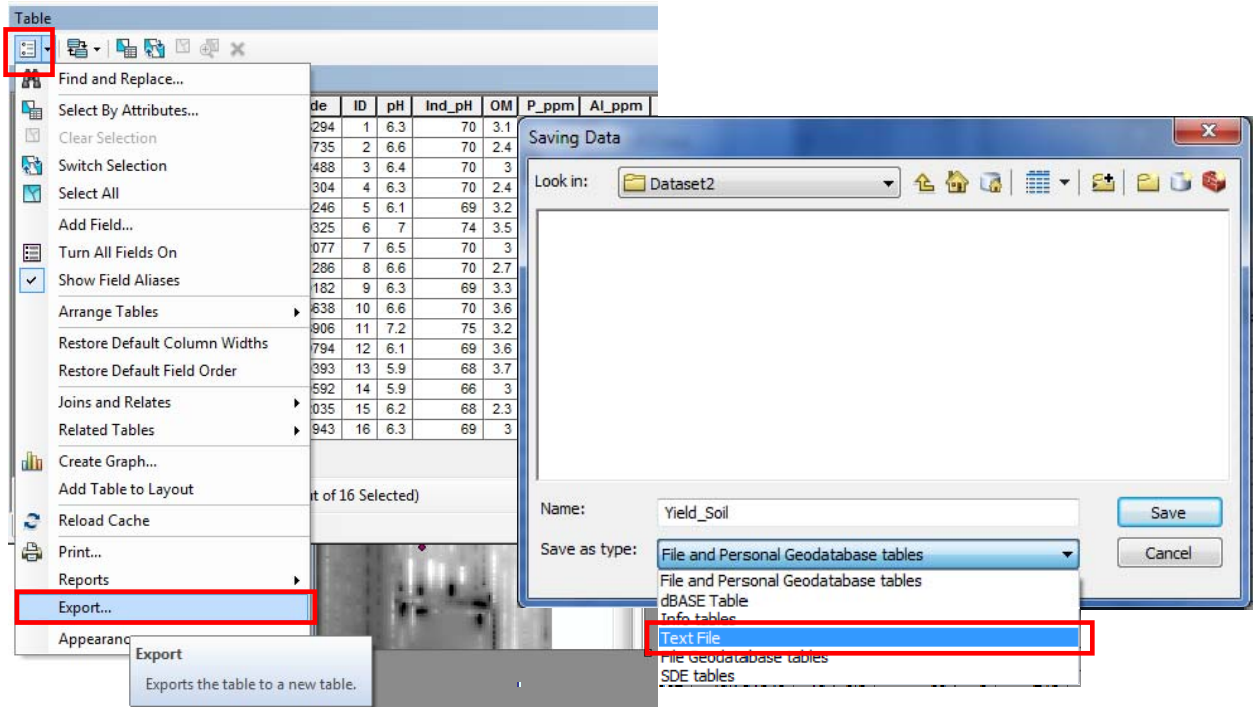


FID	Shape	Longitude	Latitude	ID	pH	Ind_pH	OM	P_ppm	Al_ppm	K_ppm	Ca_ppm	Mg_ppm	Sat_K	Sat_Ca	Sat_Mg	CEC	P_Al_ratio	soybean10
0	Point	-72.624796	45.698294	1	6.3	70	3.1	367	626	207	3290	222	1.9	57.7	6.5	12.7	26.2	7.3059
1	Point	-72.624525	45.700735	2	6.6	70	2.4	247	564	111	3100	189	1.1	58.2	5.9	11.9	19.5	8.04529
2	Point	-72.624792	45.702488	3	6.4	70	3	216	554	201	3030	347	1.8	54.1	10.3	12.5	17.4	6.93593
3	Point	-72.625583	45.701304	4	6.3	70	2.4	170	570	164	3140	342	1.5	55.2	10	12.7	13.3	7.60064
4	Point	-72.625721	45.699246	5	6.1	69	3.2	296	698	273	3200	255	2.3	53.1	7.1	13.4	19	7.62444
5	Point	-72.626631	45.699325	6	7	74	3.5	247	631	229	4180	197	2.2	79.9	6.3	11.7	17.5	5.90634
6	Point	-72.626513	45.702077	7	6.5	70	3	179	570	254	3880	318	2	60.3	8.2	14.4	14	5.84022
7	Point	-72.627608	45.701286	8	6.6	70	2.7	227	595	181	3710	350	1.4	57.6	9.1	14.4	17	7.46326
8	Point	-72.627178	45.700182	9	6.3	69	3.3	204	747	212	2960	258	1.9	51.5	7.5	12.9	12.2	7.37097
9	Point	-72.627584	45.698638	10	6.6	70	3.6	470	915	281	3480	222	2.3	56	5.9	13.9	22.9	6.70744
10	Point	-72.629332	45.698906	11	7.2	75	3.2	258	955	612	3970	788	5.6	70.9	23.5	12.5	12.1	5.47354
11	Point	-72.628634	45.699794	12	6.1	69	3.6	388	896	124	2810	145	1.1	49	4.2	12.8	19.4	6.40631
12	Point	-72.628555	45.700393	13	5.9	68	3.7	327	832	123	2580	177	1.1	43.3	5	13.3	17.6	7.07227
13	Point	-72.629253	45.700592	14	5.9	66	3	523	818	167	2660	209	1.3	39.1	5.1	15.2	28.5	6.91545
14	Point	-72.629198	45.702035	15	6.2	68	2.3	245	1030	282	4550	874	1.6	50.5	16.2	20.1	10.6	6.27793
15	Point	-72.628302	45.701943	16	6.3	69	3	245	679	233	3250	363	1.9	52.1	9.7	13.9	16.1	6.86099

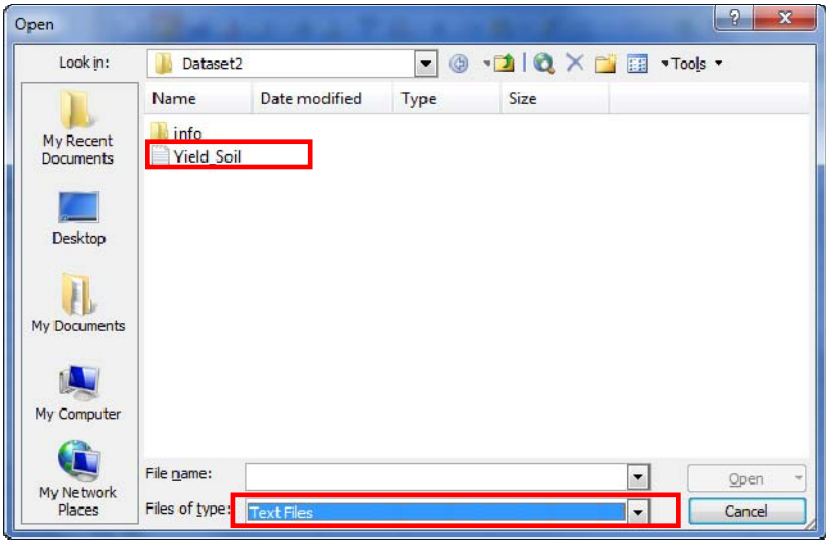
Part 2: Exporting attribute table to EXCEL file

1. Export this table to EXCEL by clicking on **Table Option** > **Export …**

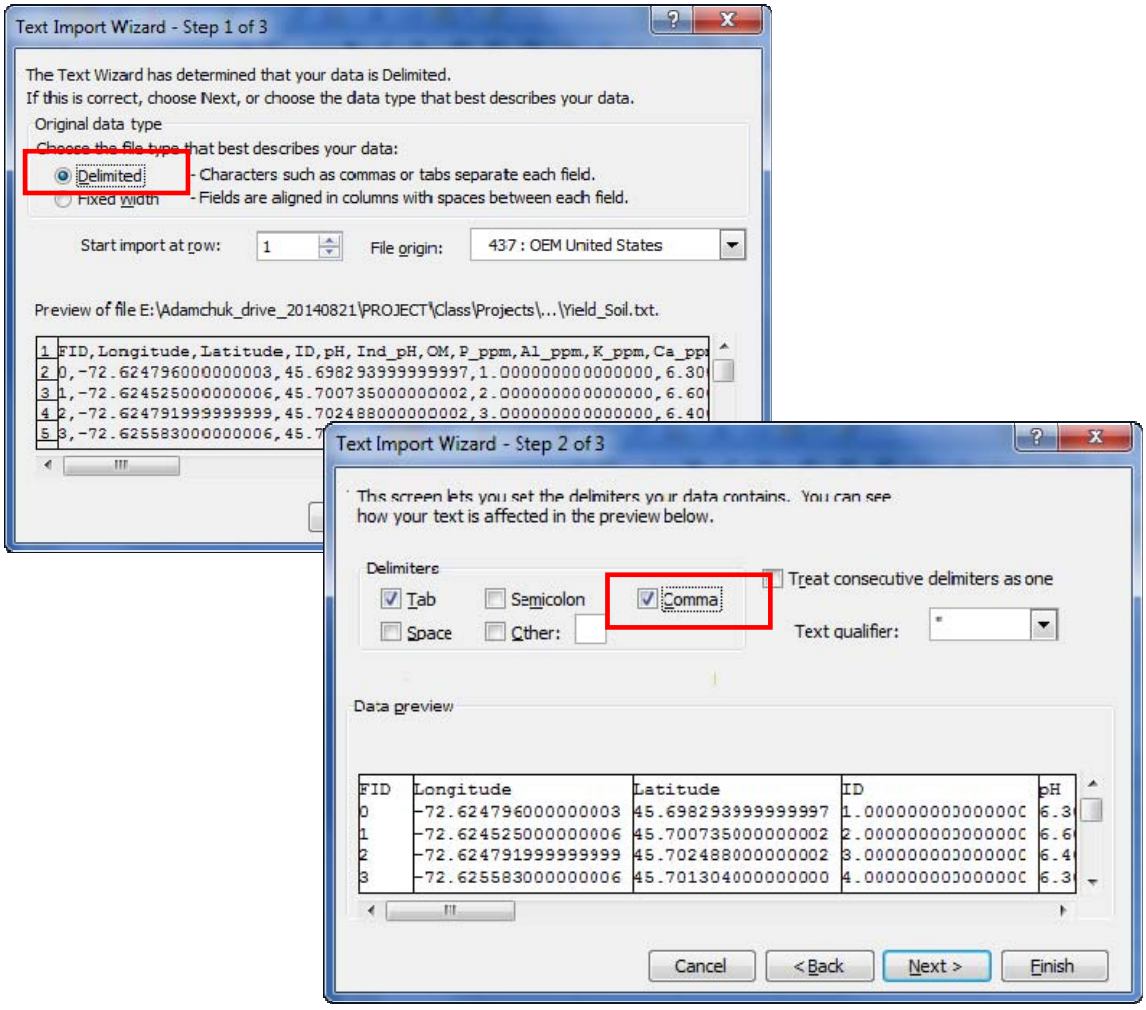
2. Save as ***Yield_Soil.txt*** (Text File).



3. Launch EXCEL. Open the ***Yield_Soil.txt*** file.



4. Import the text file as **Delimited** and delimiters as **Comma**.



Part 3: Plotting correlation between yield and soil property

1. Produce a XY (Scatter) chart to observe the relationship between Soybean yield 2010 and Organic Matter.