

Introduction to ArcGIS Pro

Making Your First Map

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Fall 2023

Fall Virtual GIS Workshop Series

This Fall we'll mostly be covering techniques using ArcGIS Pro, with a couple ArcGIS Online sessions to end the series. We'll be teaching virtually this semester, please scroll to the bottom for information about software access.

All sessions are one hour and assume participants have no previous experience using GIS. Sessions will be hands-on demonstrations with step-by-step tutorials and expert assistance. All sessions will be taught on **Wednesdays from 2PM to 3PM** and are free and open to the UVa and larger Charlottesville community. **Registration is required**, please use the links below, or check out our [Events page](#), to sign up and get a Zoom link. Late-comers are welcome and encouraged, registration remains open until the end of class.

September 6th - Making Your First Map with ArcGIS Pro

Here's your chance to get started with geographic information systems software in a friendly, jargon-free environment. This workshop introduces the skills you need to make your own maps. Along the way you'll get a taste of Earth's most popular GIS software (ArcGIS) and a gentle introduction to cartography. You'll leave with your own cartographic masterpieces and tips for learning more in your pursuit of mappiness at UVa.

[Register Here!](#)

September 13th - Putting Old maps and Aerial Photos on Your Map: Georeferencing in ArcGIS Pro

Would you like to see historical maps overlaid on modern aerial photography? Do you need to extract features of a map for use in GIS? Georeferencing is the first step. We will show you how to take a scan of a paper map and align it in ArcGIS.

[Register Here!](#)

September 20th - Getting Your Data on a Map

Do you have a list of Lat/Lon coordinates you would like to see on a map? We will show you how to do that, and more. ArcGIS Pro makes it easy to take your tabular data and generate stylized points on a map.

[Register Here!](#)

September 27th - Points on Your Map: Street Addresses and More Spatial Things

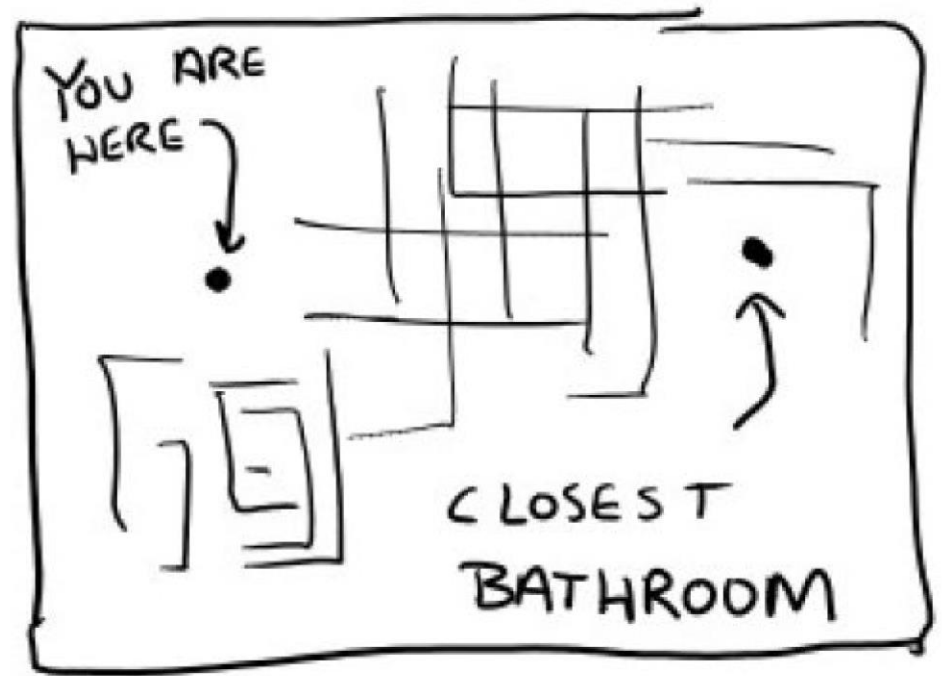
Do you have a list of street addresses crying out to be mapped? Have a list of zip codes or census tracts you wish to associate with other data? We'll start with addresses and other things spatial and end with points on a map, ready for visualization and analysis.

[Register Here!](#)

October 4th - Taking Control of Your Spatial Data: Editing in ArcGIS Pro

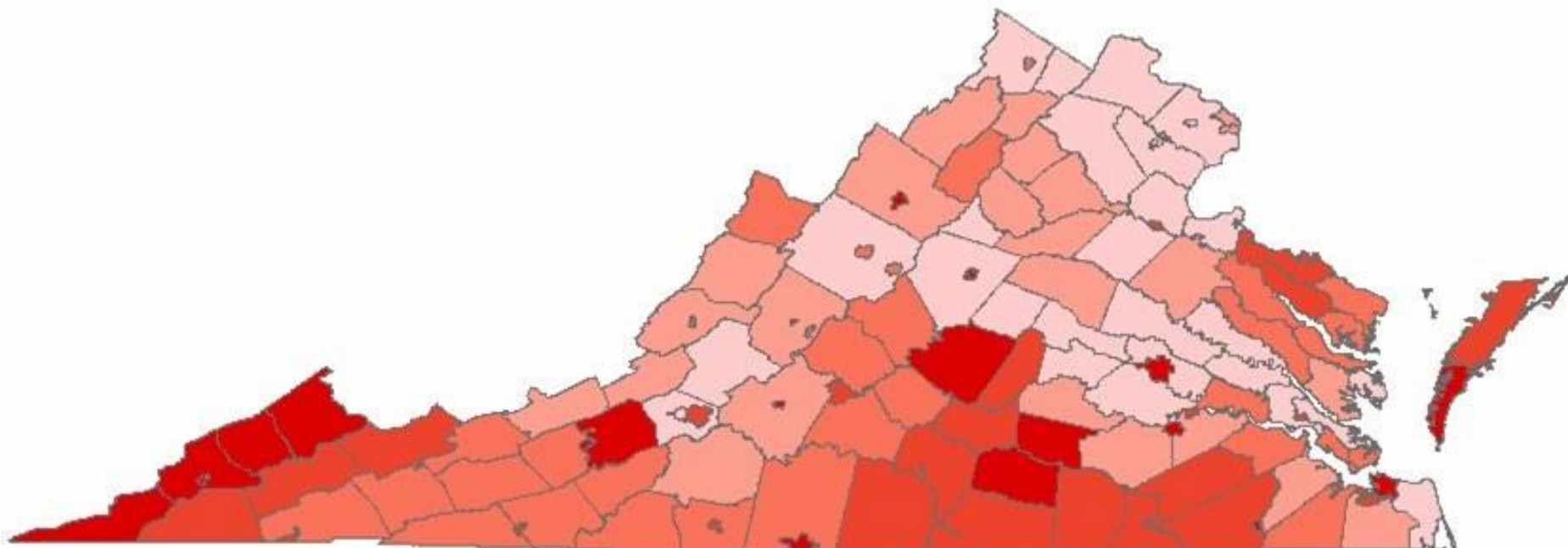
Until we perfect that magic "extract all those lines from this paper map" button we're stuck using editor tools to get that job done. If you're lucky, someone else has done the work to create your points, lines, and polygons but maybe they need your magic touch to make them better. This session shows you how to create and modify vector features in ArcGIS Pro, the world's most popular geographic information systems software. We'll explore tools to create new points, lines, and

Maps can be incredibly useful...



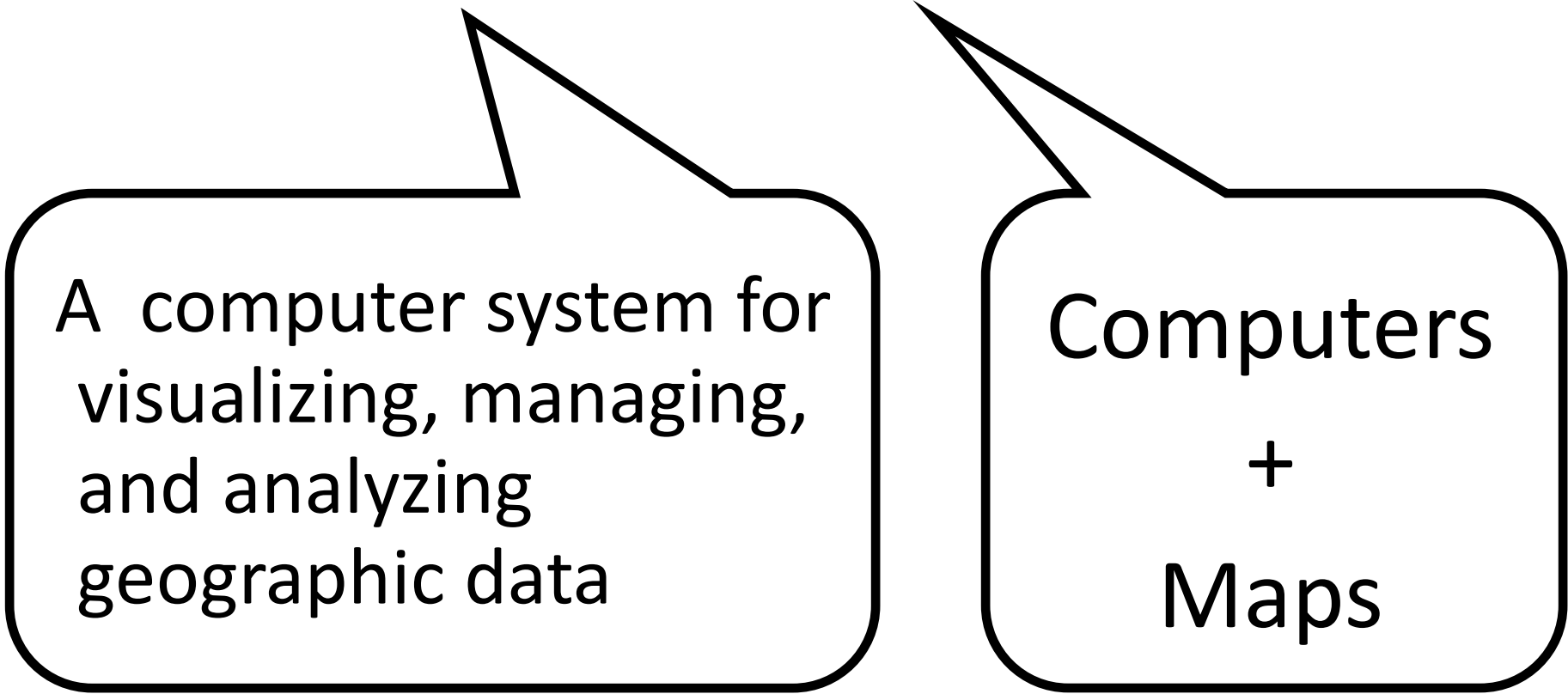
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51163	Rockbridge County, Virginia	20808	2.72	0.06	0.59	1.24	50.34	49.66	5.27	15.61	9.59
51143	Pittsylvania County, Virgini	61745	23.66	0.17	0.12	1.03	48.65	51.35	5.68	14.26	11.75
51105	Lee County, Virginia	23589	0.43	0.44	0.35	0.82	48.75	51.25	5.8	15.49	23.92
51019	Bedford County, Virginia	60371	5.94	0.23	0.96	1.19	49.8	50.2	5.78	12.86	7.11
51027	Buchanan County, Virginia	26978	2.34	0	0.2	0.4	50.87	49.13	4.87	11.39	23.17
51185	Tazewell County, Virginia	44598	2.17	0.07	0.5	0.87	47.51	52.49	5.36	15.37	15.30
51051	Dickenson County, Virginia	16395	0.3	0.09	0.16	0.53	49	51	5.42	14.49	21.31
51021	Bland County, Virginia	6871	4.58	0.22	0.23	0	54.37	45.63	4.48	14.76	12.36
51155	Pulaski County, Virginia	35127	5.65	0.29	0.07	1.51	49.41	50.59	5.74	15.35	13.09
51067	Franklin County, Virginia	47286	9.55	0.11	0.19	1.22	49.28	50.72	5.37	14.27	9.70
51195	Wise County, Virginia	40123	1.57	0.17	0.26	1.04	48.91	51.09	5.67	14	19.99
51121	Montgomery County, Virginia	83629	3.89	0.19	3.75	1.95	52.21	47.79	4.83	8.64	23.24
51197	Wythe County, Virginia	27599	2.64	0.12	0.43	1.37	47.52	52.48	5.49	15.79	11.05
51077	Grayson County, Virginia	17917	6.89	0.09	0.02	1.93	51.81	48.19	4.71	17	13.62
51167	Russell County, Virginia	30308	2.97	0.16	0.09	1.01	50.54	49.46	5.23	13.35	16.35
51173	Smyth County, Virginia	33081	2	0.24	0.1	0.93	48.24	51.76	5.34	16.31	13.33
51720	Norton city, Virginia	3904	5.97	0.15	1.08	2.64	43.78	56.22	5.48	15.7	22.76
51191	Washington County, Virginia	51103	1.54	0.12	0.43	0.7	48.45	51.55	5.06	15.33	10.93
51169	Scott County, Virginia	23403	0.87	0.27	0.06	0.54	48.16	51.84	5.06	17.75	16.76
51520	Bristol city, Virginia	17367	5.2	0.13	0.41	1.61	45.17	54.83	5.11	20.45	16.24
51023	Botetourt County, Virginia	30496	3.67	0.15	0.39	0.97	49.8	50.2	5.7	13.23	5.19
51045	Craig County, Virginia	5091	0.26	0.12	0.33	0.2	50.95	49.05	5.17	13.67	10.26
51071	Giles County, Virginia	16657	1.56	0.01	0.16	1.09	48.83	51.17	5.58	16.65	9.55
51750	Radford city, Virginia	15859	7.49	0.06	1.26	2.3	45.15	54.85	3.73	9.79	31.35
51005	Alleghany County, Virginia	12926	2.54	0	0.56	0.39	50.31	49.69	5.6	15.7	7.14
51580	Covington city, Virginia	6303	13.1	0	0.4	1.6	47.18	52.82	6.38	20.45	12.89
51678	Lexington city, Virginia	6867	10.27	0.19	1.09	1.78	56.53	43.47	3.07	16.37	21.57
51161	Roanoke County, Virginia	85778	3.15	0.15	1.16	1.42	47.31	52.69	5.25	15.82	4.46
51515	Bedford city, Virginia	6299	22.84	0.13	0.51	1.51	47.28	52.72	5.64	21.84	19.68
51770	Roanoke city, Virginia	94911	26.75	0.28	1.06	2.85	46.76	53.24	6.52	16.4	15.95
51775	Salem city, Virginia	24747	5.72	0.15	1.03	1.26	47.38	52.62	4.87	16.92	6.71
51063	Floyd County, Virginia	13874	1.33	0	0.15	1.74	49.06	50.94	5.72	15.79	11.72
51035	Carroll County, Virginia	29245	0.71	0.1	0.22	1.85	49.96	50.04	5.59	17.18	12.46
51141	Patrick County, Virginia	19407	6.81	0.1	0.45	1.59	48.96	51.04	5.82	16.46	13.41
51089	Henry County, Virginia	57930	22.88	0.37	0.27	2	48.68	51.32	5.3	14.89	11.65
51640	Galax city, Virginia	6837	7.3	0.12	0.23	6.1	47.68	52.32	5.47	18.62	18.61
51690	Martinsville city, Virginia	15416	41.84	0.06	0.45	1.58	44.81	55.19	5.76	20.87	19.19

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51143	Pittsylvania County, Virginia	61745	23.66	0.17	0.12	1.03	48.65	51.35	5.68	14.26	11.75
51105	Lee County, Virginia	23589	0.43	0.44	0.35	0.82	48.75	51.25	5.8	15.49	23.92
51019	Bedford County, Virginia	60371	5.94	0.23	0.96	1.19	49.8	50.2	5.78	12.86	7.11
51027	Buchanan County, Virginia	26978	2.34	0	0.2	0.4	50.87	49.13	4.87	11.39	23.17
51106	Frederick County, Virginia	44600	3.17	0.07	0.5	0.87	47.54	52.46	5.66	15.07	15.00



51515	Bedford city, Virginia	6299	22.84	0.13	0.51	1.51	47.28	52.72	5.64	21.84	19.68
51770	Roanoke city, Virginia	94911	26.75	0.28	1.06	2.85	46.76	53.24	6.52	16.4	15.95
51775	Salem city, Virginia	24747	5.72	0.15	1.03	1.26	47.38	52.62	4.87	16.92	6.71
51063	Floyd County, Virginia	13874	1.33	0	0.15	1.74	49.06	50.94	5.72	15.79	11.72
51035	Carroll County, Virginia	29245	0.71	0.1	0.22	1.85	49.96	50.04	5.59	17.18	12.46
51141	Patrick County, Virginia	19407	6.81	0.1	0.45	1.59	48.96	51.04	5.82	16.46	13.41
51089	Henry County, Virginia	57930	22.88	0.37	0.27	2	48.68	51.32	5.3	14.89	11.65
51640	Galax city, Virginia	6837	7.3	0.12	0.23	6.1	47.68	52.32	5.47	18.62	18.61
51690	Martinsville city, Virginia	15416	41.84	0.06	0.45	1.58	44.81	55.19	5.76	20.87	19.19
51590	Danville city, Virginia	48411	44.19	0.3	0.5	1.26	45.4	54.6	5.9	19.68	19.96
51017	Bath County, Virginia	5048	5.74	0	0.32	0.69	49.76	50.24	4.46	17.12	7.79
51091	Highland County, Virginia	2536	0.08	0.24	0	0.35	49.92	50.08	3.67	20.19	12.56
51003	Albemarle County, Virginia	79236	9.72	0.2	3.1	1.75	48.15	51.85	6.29	12.5	6.74
51033	Caroline County, Virginia	22121	34.61	0.8	0.48	1.43	50.13	49.87	6.09	13.07	9.35

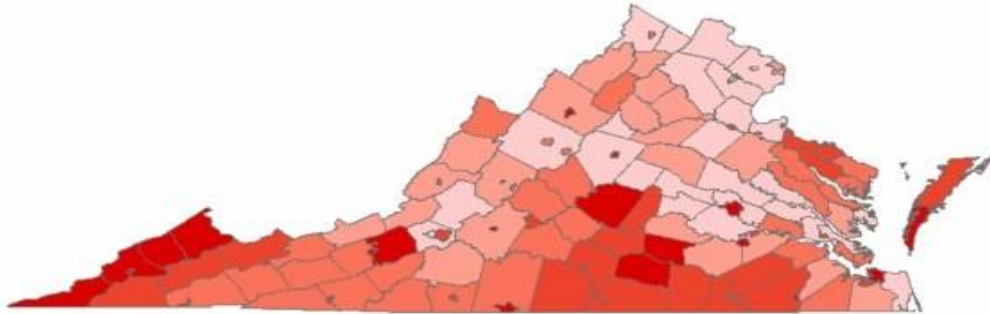
Geographic Information Systems



A computer system for
visualizing, managing,
and analyzing
geographic data

Computers
+
Maps

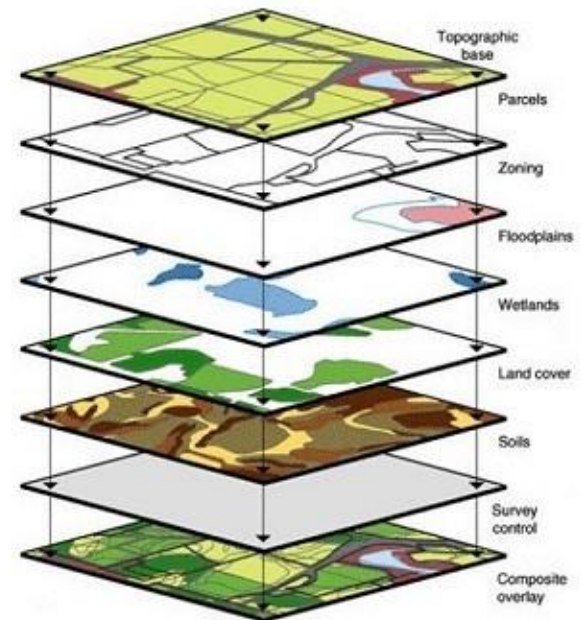
Geographic Information Systems



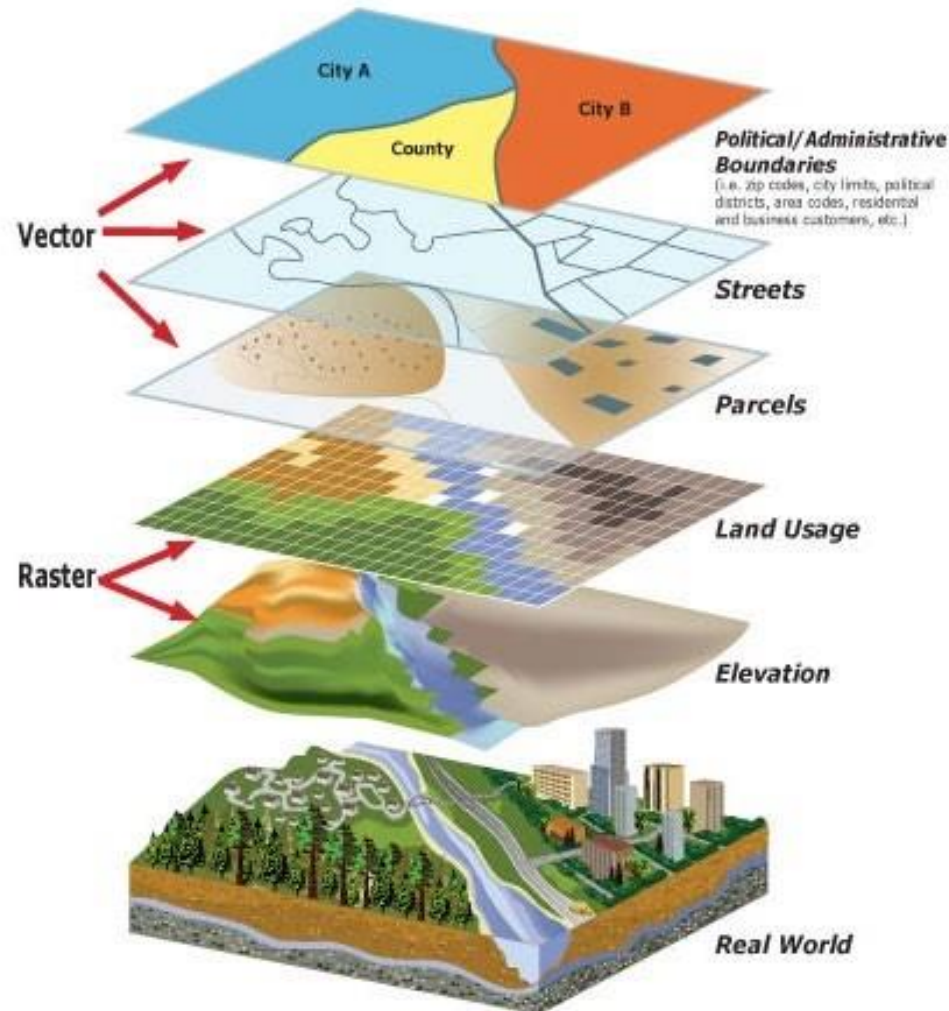
Visualization

Analysis

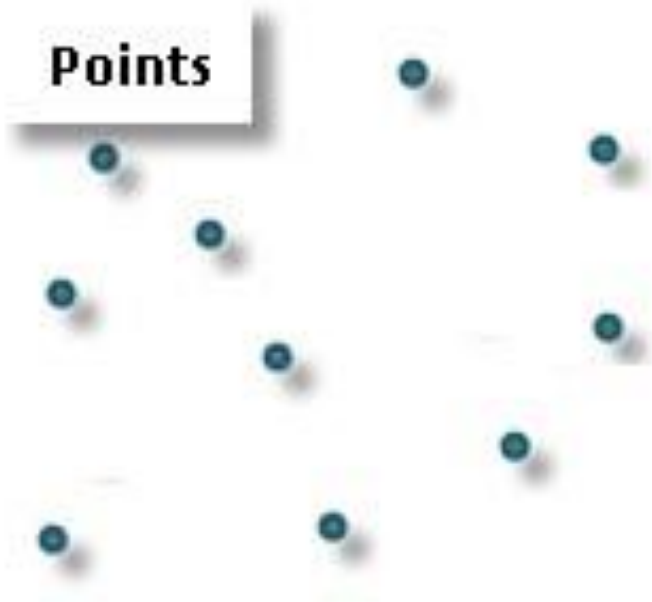
Data Management



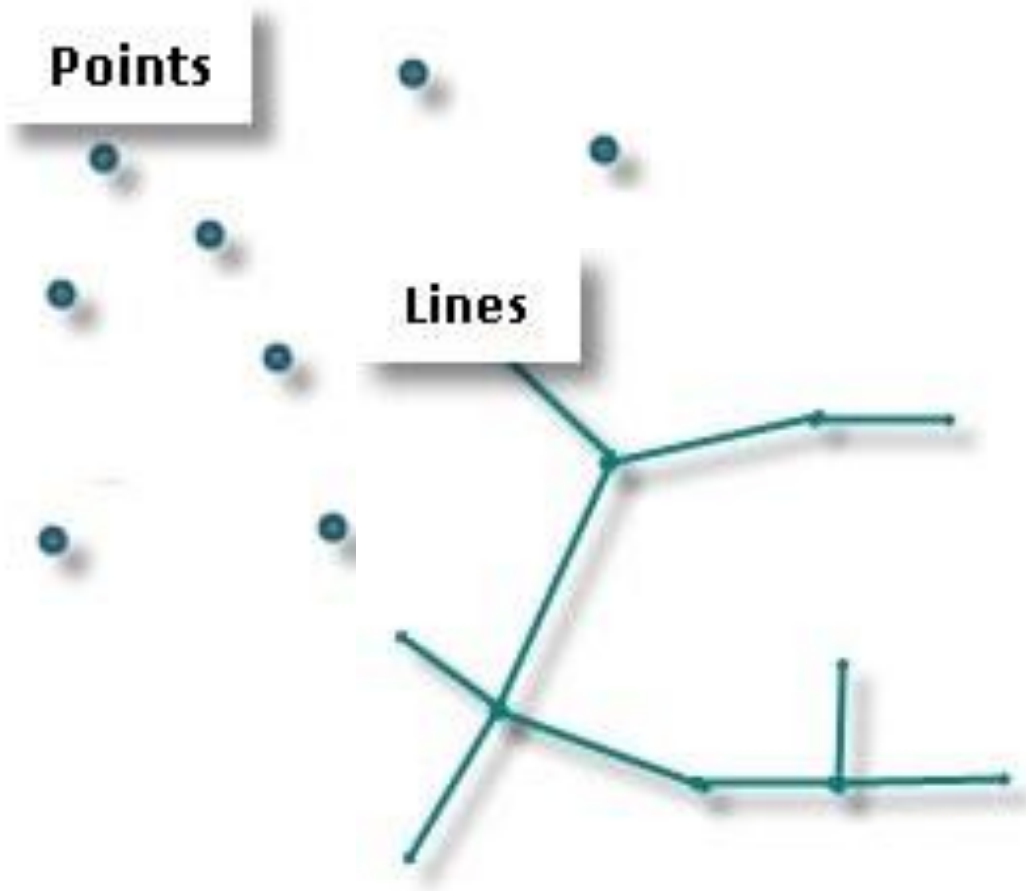
Vector vs. Raster Data



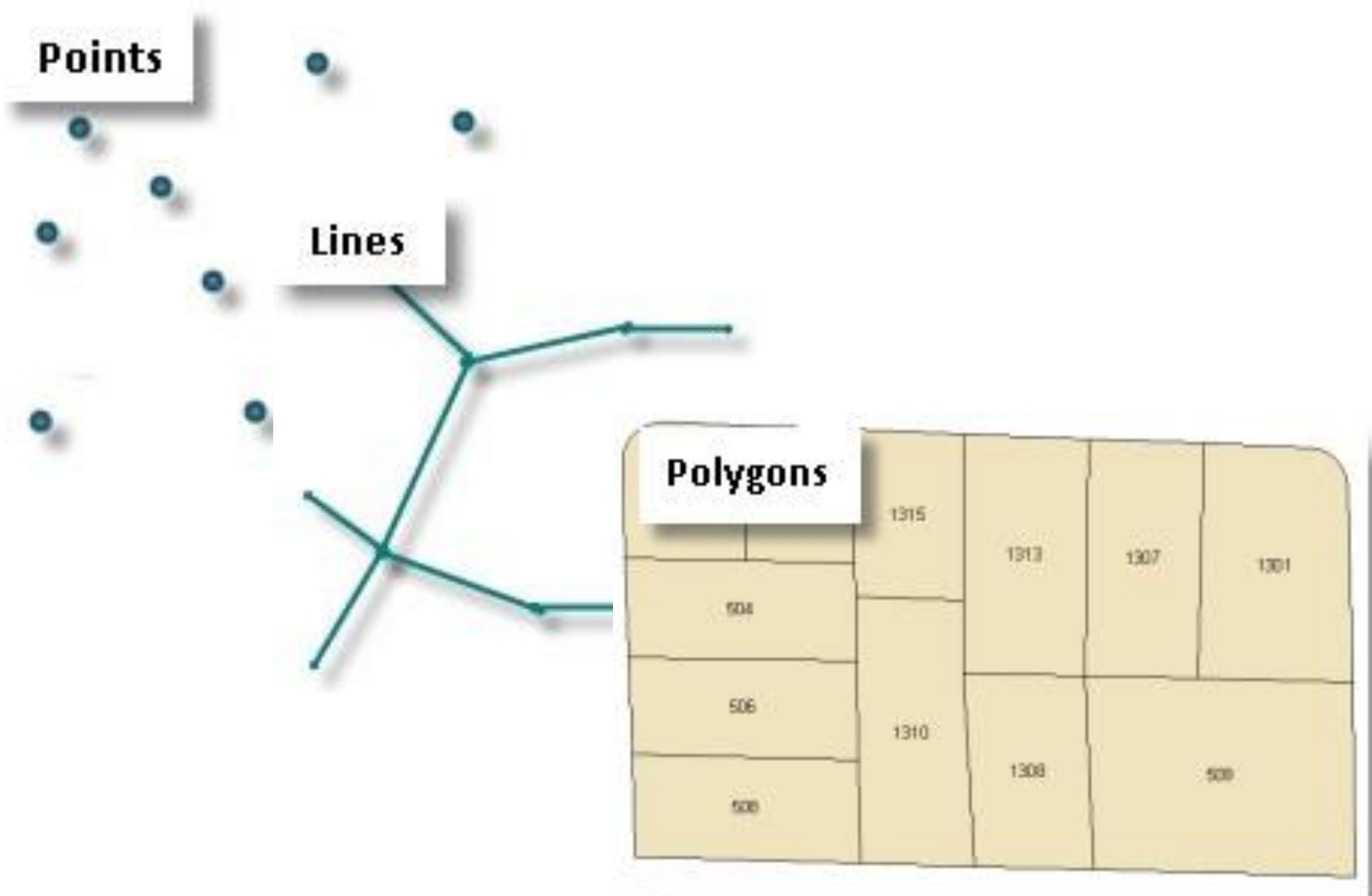
GIS Data – Vector

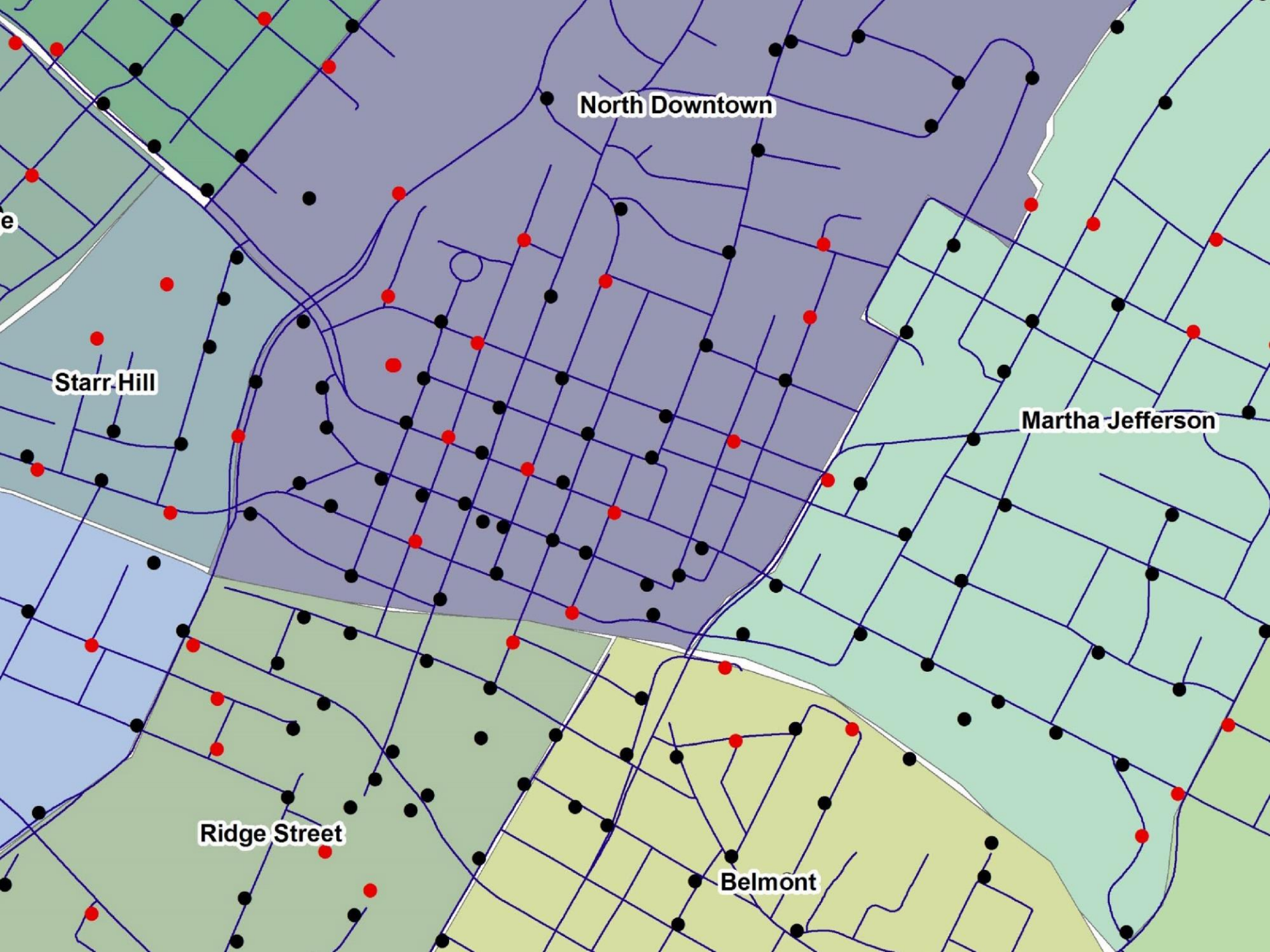


GIS Data – Vector



GIS Data – Vector





North Downtown

Starr Hill

Martha Jefferson

Ridge Street

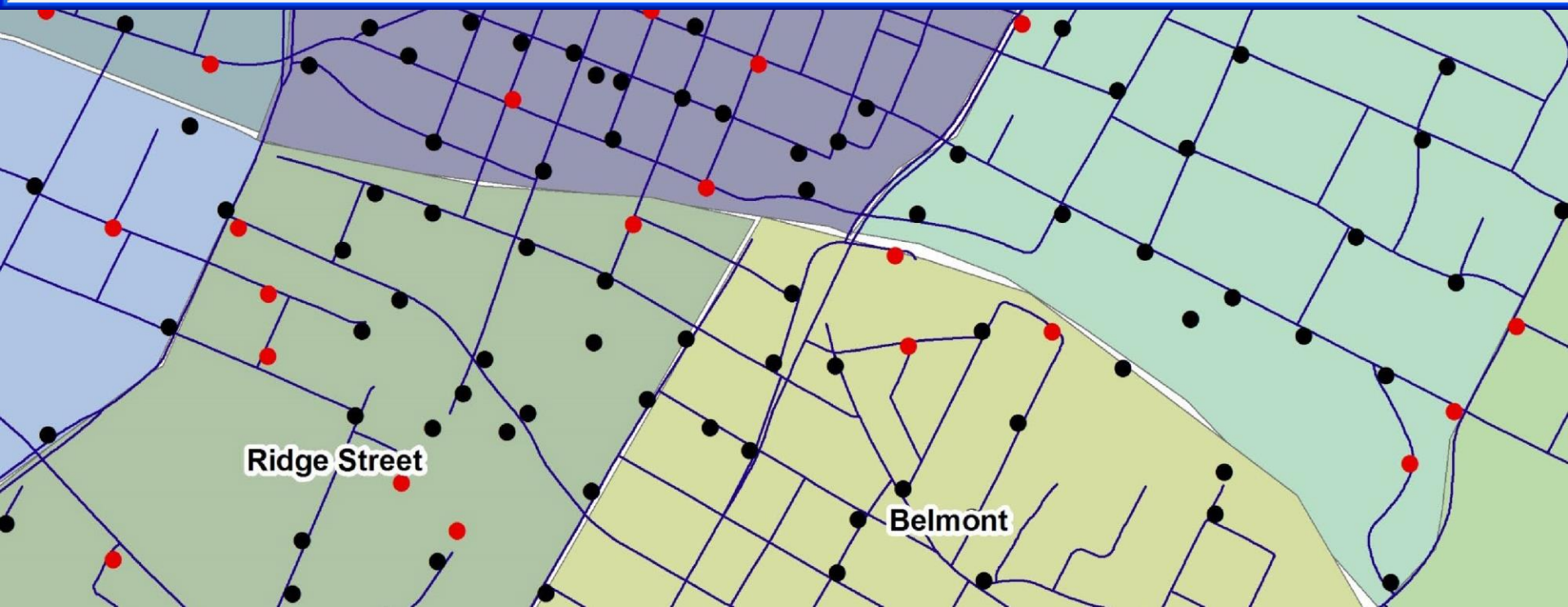
Belmont



Attributes of Hydrants

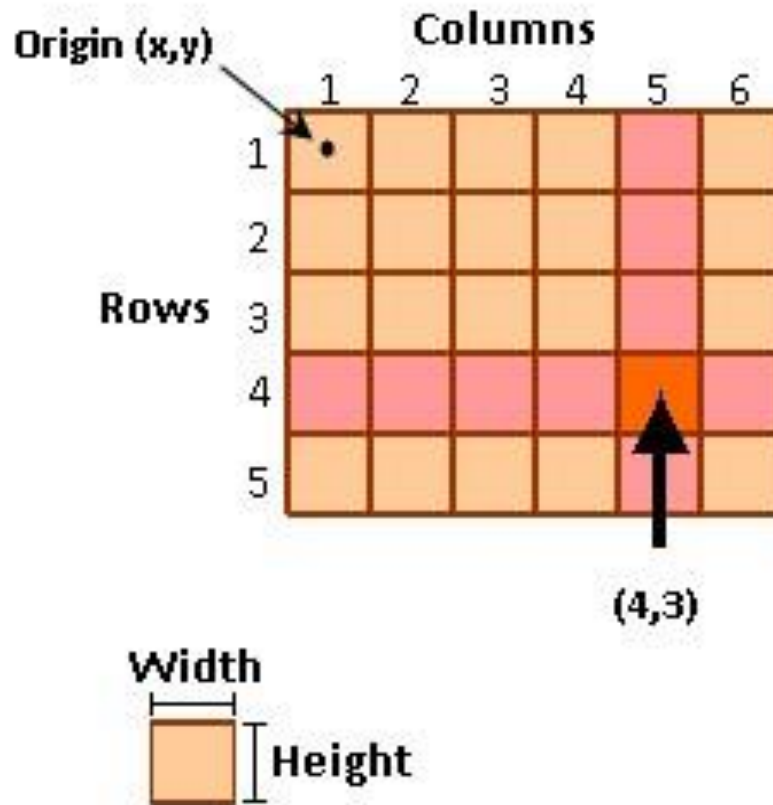
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118	Point	1407	Mueller	02195	1949	5 1/4	N	Good		5/17/2001
119	Point	1408	Mueller	02120	1956	5 1/4	Y	Good	set low in ground	5/15/2001
120	Point	1409	Darling	02110			N	Good	5 inch dia.	5/15/2001
121	Point	1410	Mueller	01040	1976	5 1/4	Y	Good		5/23/2001
122	Point	1411	Mueller	09040	1963	5 1/4	N	Good		6/28/2001
123	Point	1412	Mueller	09070	1963	5 1/4	N	Good		6/28/2001
124	Point	1413	Mueller	09135	1964	5 1/4	N	Good		6/22/2001
125	Point	1414	Darling	09190			N	Good	5 inch dia.	6/27/2001
126	Point	1415	Darling	09180			Y	Fair	5 inch dia. leaning	6/27/2001
127	Point	1416	Mueller	08410	1968	5 1/4	N	Good		5/17/2001
128	Point	1417	Mueller	04280	1951	5 1/4	N	Good		6/26/2001

Record: 1 Show: All Selected Records (0 out of 920 Selected) Options



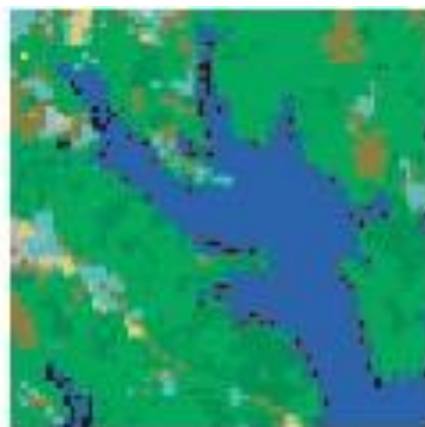
Vector v. Raster

GIS Data - Rasters File Types: .jpg, .jp2, .tif, .bmp, .png, .sid





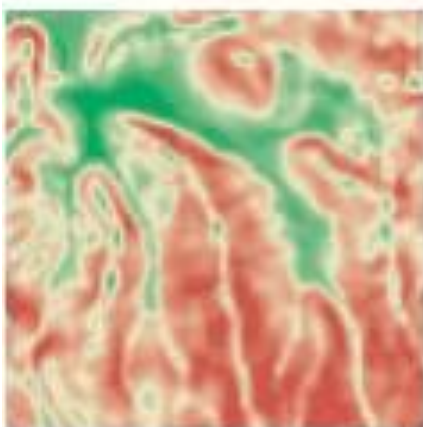
Orthophoto



Land Use



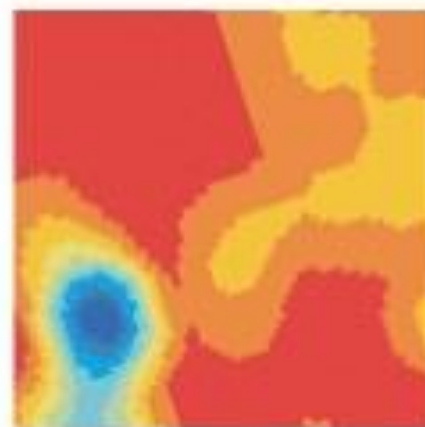
Concentration



Slope



Elevation



Population

ArcGIS



ArcGIS





ArcMap



ArcGIS Pro

Workshop Handouts

<http://guides.lib.virginia.edu/gis>

Click **Teaching Resources > Fall 2023 Workshops**