



GIS Resources for Environmental Groups





What is GIS and what do we use it for?

Geographic Information System

Computer based system for capturing, storing, analyzing, and displaying data related to geographic locations, allowing users to visualize and understand geographic patterns and relationships

- Planning - transportation, development, environmental
- Statistics – epidemiology, population density, business analytics
- Emergency response and disaster management
- Collecting data in the field – environmental, utilities
- Providing information and entertainment – virtual tours, service locators



What is GIS and what do we use it for?



Cruisin' the FIREBALL Freeway
Sulpher - Monroe City, IN)
RiverEarth.com

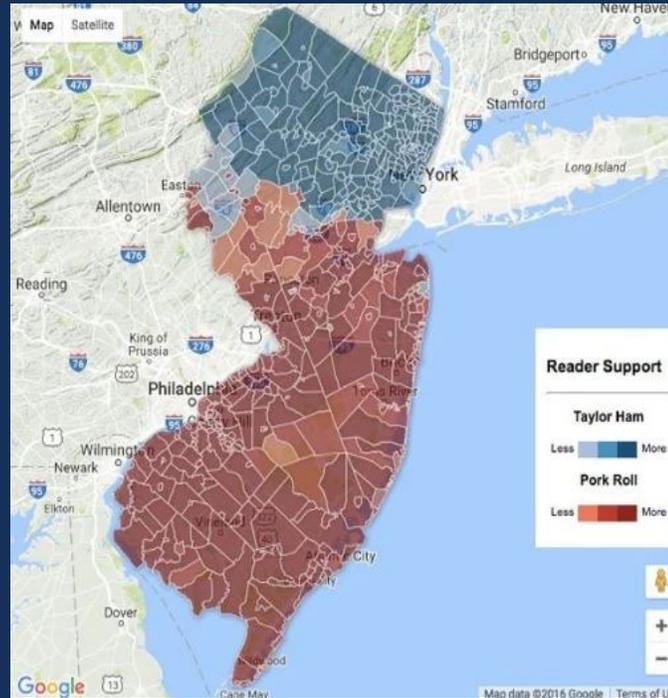
A collection of Fireball whiskey bottles arranged in a grid pattern. The bottles are clear with red caps and labels. The text is overlaid on the bottom of the image.



What is GIS and what do we use it for?

EVERY STATE'S LEAST FAVORITE STATE

(ACCORDING TO @MATTSURELEE'S INSTAGRAM FOLLOWERS)



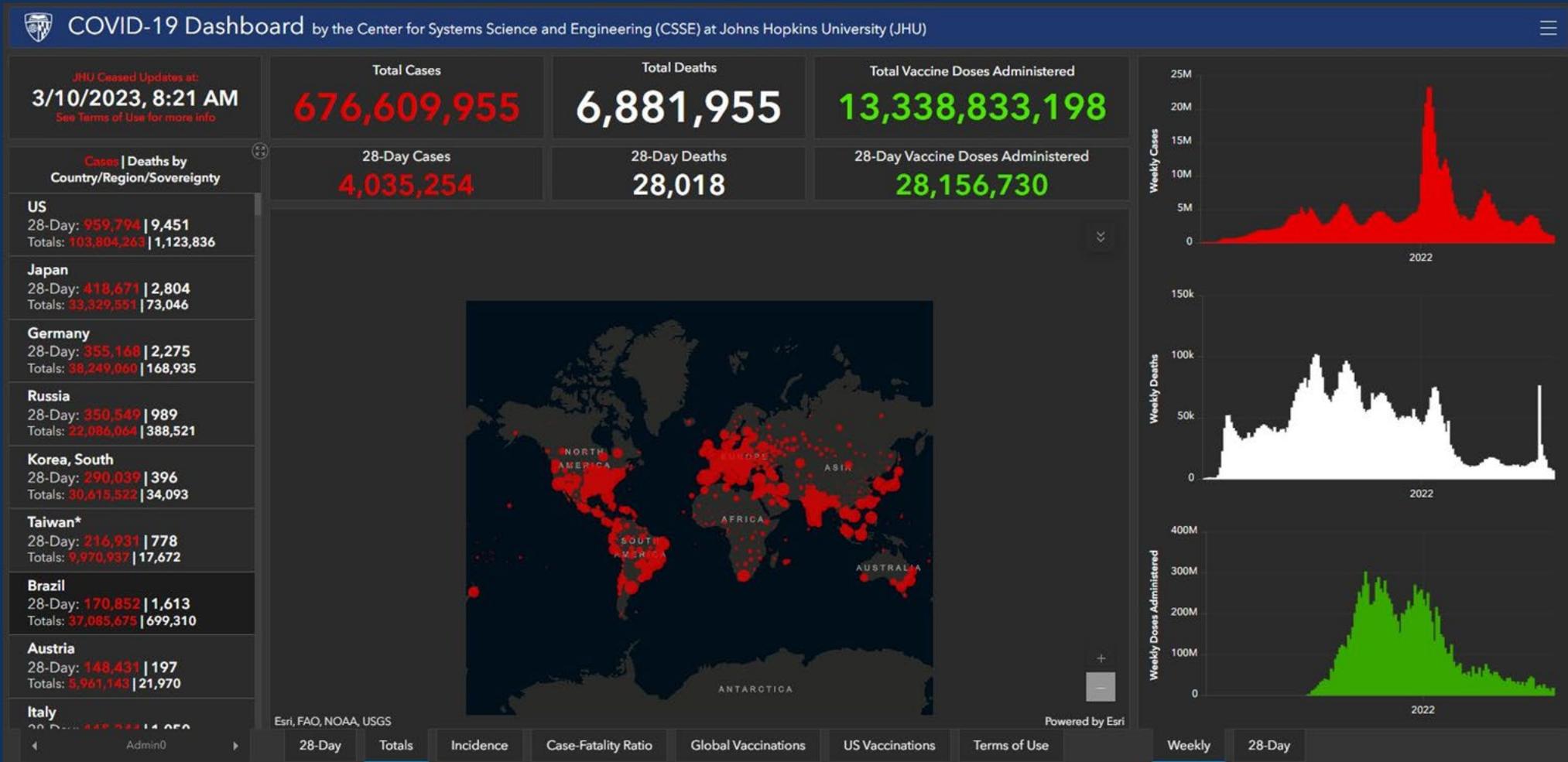
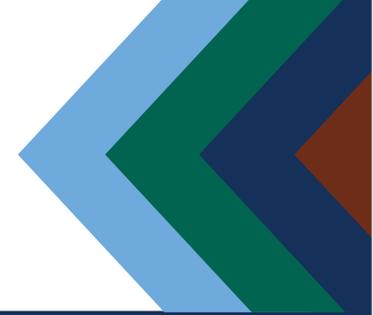
Source: [WolfsToothDogFood on reddit](#)



Source: [NeilParkinsonMakes on reddit](#)



What is GIS and what do we use it for?





Monmouth County GeoHub

Available to the public to explore the county's GIS data. Some services include:

- Property Viewer
- Self-Service Mapping Applications
- StoryMaps
- Open Data (GIS layers for download)
- Other Resources

Website:

<https://data-monmouthnj.hub.arcgis.com/>



NJ GeoWeb and NJGIN

Available to the public to explore the state's GIS data

NJDEP viewer website:

<https://dep.nj.gov/gis/nj-geoweb/>

NJDEP open data download website:

<https://gisdata-njdep.opendata.arcgis.com/>

NJ Geographic Information Network:

<https://www.nj.gov/njgin/>



Other Self-Service Web Applications Helpful for Environmental Work

- NJ MAP <https://earth.rowan.edu/departments/geography/gis/geolab/njmap1.html>
- FEMA National Flood Hazard Layer <https://www.fema.gov/flood-maps/national-flood-hazard-layer>
- NJ Flood Mapper <https://www.njfloodmapper.org/>
- Climate Central <https://sealevel.climatecentral.org/maps/>
- EPA NEPAassist <https://nepassisttool.epa.gov/nepassist/nepamap.aspx>
- USGS <https://www.usgs.gov/programs/national-geospatial-program/topographic-maps>
- USFWS <https://ipac.ecosphere.fws.gov/>



Monmouth County Tool for Environmental Groups- Environmental Planning Features Map

Some layers include:

- MOD-IV classifications (NJ Property Tax System) adjacent to streams and waterbodies
- Preserved open space
- Watersheds
- 2-foot contours
- Trails
- Wetlands

Website:

<https://experience.arcgis.com/experience/3e45aed47ca14169a011ea5dfe6d9b26>

Property Class Field (11) - three alpha-numeric characters: The class should be entered exactly as it is listed below. If it is less than three characters, leading zeros should not be used.

Each line item must carry one of the property class codes listed below.

For the classification of taxable real property, the following codes are applicable:

- 1 Vacant Land
- 2 Residential (four families or less)
- 3A Farm (Regular)
- 3B Farm (Qualified)
- 4A Commercial
- 4B Industrial
- 4C Apartment

For the classification of railroad property, the following codes are applicable:

- 5A Class I Railroad Property
- 5B Class II Railroad Property

For the classification of tangible personal property of public utilities and oil refineries, the following codes are applicable:

- 6A Personal Property Telephone
- 6B Machinery, Apparatus or Equipment of Petroleum Refineries

For all Class 1 (Vacant Land) properties and Class 3B (Farmland-Qualified) properties, *land only is assessed*. Any farm buildings, such as silos, barns or other accessory farm buildings are assessed within the 3A classification in the improvement column.

For the classification of exempt property line items, the following codes are applicable:

- 15A Public School Property
- 15B Other School Property
- 15C Public Property
- 15D Church and Charitable Property
- 15E Cemeteries and Graveyards
- 15F Other Exempt properties not included in the above classifications

Class 15 properties will appear twice: once in the ratable section of the Tax List in block and lot order with the word "Exempt" in the net taxable value, and again in the exempt section of the Tax List.

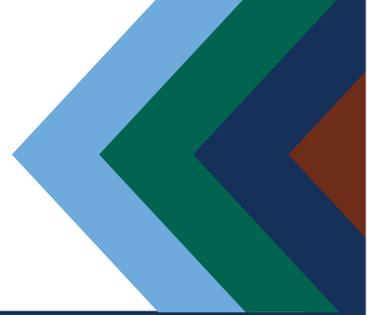


ESRI GIS Products and Other GIS Tools

- ESRI ArcGIS Online and ArcPro (desktop) <https://www.esri.com/en-us/home>
 - Free/"pay as you go" public accounts (more limited functions)
 - Low-cost accounts for personal and 501C3 use (\$100)
 - Enterprise accounts (government or private for-profit organization)
 - StoryMaps, FieldMaps, Web Map and App builders, etc
- Google Maps
 - Accessible for everyone
- QGIS <https://qgis.org/project/overview/>
 - Crowd-sourced platform...free but there is a learning curve



Dive Against Debris Example



Dive Against Debris® Map



<https://www.diveagainstdebris.org/>



Dive Against Debris Example

Dive Against Debris® Data Card

Dive Against Debris® is a survey of underwater marine debris. Only report debris you find underwater while on SCUBA through Dive Against Debris®. Survey leaders should record all diver findings for the same individual survey dive, onto one Data Card. Then, for all English data submissions report your data via the Dive Against Debris® app or online at www.projectaware.org/DiveAgainstDebrisData, for all other languages, please email your completed Data Card to diveagainstdebris@projectaware.org. See the Dive Against Debris® Survey Guide for instructions on using this form.

Survey Date (DD/MM/YYYY)		Survey Site Name		Organisation/Dive Centre	
Survey Site Location (nearest landmark to help verify location i.e. adjacent road name, nearest city/town, state/province, country)				Number of Participants	
Survey Site GPS Coordinates		Latitude		Longitude	
(Get your GPS Map Datum to WGS84)		(Take your readings in decimal degrees)		Survey Duration (in minutes)	
Survey Depth Range (circle one)		Area surveyed (circle one)		Total weight of all Debris Collected (circle one)	
max min		m ² ft ²		OR Our Survey Site Was Free Of Debris (circle one)	
				Estimated: OR Measured:	
Survey Leader Name			Survey Leader Email		
Dominant Substrate (circle one)		Ecosystem (circle one)		Waves (circle one)	
<input type="radio"/> Sand <input type="radio"/> Silt <input type="radio"/> Gravel <input type="radio"/> Rock		<input type="radio"/> Coral <input type="radio"/> Seagrass <input type="radio"/> Other (please describe)		<input type="radio"/> Calm (0-1 metres/0-4 inches high) <input type="radio"/> Smooth (0.1-0.5 metres/4-19 inches high) <input type="radio"/> Slight (0.5-1.25 metres/19 inches-4 feet high) <input type="radio"/> Moderate (greater than 1.25 metres/4 feet high)	
Weather Conditions from Previous Week		Did You Find Entangled Animals?		Identify animal(s) found	
		<input type="checkbox"/> Yes <input type="checkbox"/> No		Identify debris item	
		Record number of each Entangled Animal			
		Was the animal: dead? <input type="checkbox"/>		injured? <input type="checkbox"/>	
				released unharmed? <input type="checkbox"/>	
Are you aware of an event that could have contributed to the debris you have documented? YES <input type="checkbox"/> NO <input type="checkbox"/>					
If so, describe and provide verification - link to the news, etc					
Items of Local Concern					
List the top three debris items you consider a problem in your location and tell us why					
1.					
2.					
3.					
What is the most unusual item found?		Photos <input type="checkbox"/> Entangled Animals, marine debris impacts, items you cannot identify, items you did not remove, etc. See the Survey Guide for more info.			
		Yes <input type="checkbox"/>			
Count all debris items as one, regardless of size. See Too Small to Count in the Dive Against Debris® Survey Guide for counting large quantities of small pieces. Debris items are listed under the main material of construction. List items that do not fit into a category here:					
Other Debris Items (Identify Material)	Tally (#) (= G)				

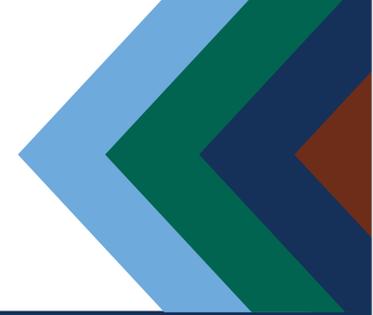
Plastic Materials	Tally (#) (= G)	Metal Materials	Tally (#) (= G)
01. bags: grocery/retail (plastic)		52. aerosol/spray cans	
02. bags: trash (plastic)		53. appliances: household	
03. ball containers/packaging		54. batteries: AA, AAA, C & D, 6V, 9V, etc	
04. balloons		55. batteries: car or boat	
05. balls		56. beverage cans (aluminium)	
06. baskets, crates		57. cans: food, juice, other (tin)	
07. beverage bottles: less than 2 litres (plastic)		58. caps & lids (metal)	
08. beverage bottles: 2 litres or more (plastic)		59. cars & car parts	
09. bottles: bleach, cleaner		60. cups, plates, tableware, dishes (metal)	
10. bottles: oil/lube		61. drums: 55 gallon	
11. buckets, drums & jerry cans: 2 litres or more		62. fishing: sinkers, lures, hooks	
12. buoys & floats (plastic & foamed)		63. fishing: traps & pots	
13. caps & lids (plastic)		64. forks, knives, spoons (cutlery)	
14. carpet (synthetic)		65. gas bottles/cylinder, drums: more than 4 litres	
15. cigarette filters		66. pipes & rebar	
16. cigarette lighters		67. pull tabs: beverages	
17. cigar tips		68. scuba weights	
18. containers: fast food, lunch boxes & similar		69. strapping bands (metal)	
19. cotton bud sticks		70. wire, wire mesh, barbed wire	
20. cups, plates, forks, knives, spoons (plastic)		71. wrappers (foil/metal)	
21. diapers/nappies		72. metal fragments	
22. fishing: line		Rubber Materials	
23. fishing: lures, rods/poles		73. condoms	
24. fishing: nets & pieces of nets		74. gloves (rubber)	
25. fishing: traps & pots		75. inner-tubes & rubber sheets	
26. foam insulation & packaging		76. rubber bands	
27. food wrappers (plastic)		77. tires/tyres	
28. furnishings (plastic)		78. rubber fragments	
29. gloves (latex)		Wood Materials	
30. light sticks/cyalumes		79. fishing: traps & pots	
31. mesh bags: fruit, vegetable, shellfish		80. furnishings (wood)	
32. pipes (plastic/PVC)		81. lumber (processed or out/milled wood)	
33. rope (plastic/nylon)		82. pallets	
34. scuba & snorkel gear, masks, snorkels, fins		83. wood fragments	
35. sheeting: tarpaulin, plastic sheets, pallet wrap		Cloth Materials	
36. six-pack rings, ring carriers		84. bags (burlap/hessian)	
37. strapping bands (plastic)		85. bags (cloth)	
38. straws, stirrers		86. gloves (cloth)	
39. syringes (plastic)		87. rope & string (cloth)	
40. tampon applicators		88. towels, rags	
41. tobacco packaging & wrappers		89. cloth fragments	
42. toothbrushes		Paper/Cardboard Materials	
43. plastic fragments		90. bags (paper)	
Glass & Ceramic Materials		91. cardboard: packaging & cartons	
44. beverage bottles (glass)		92. paper: books, newspapers, magazines, etc	
45. buoys (glass)		93. paper/cardboard fragments	
46. cups, plates, tableware, dishes (glass & ceramic)		Mixed Materials	
47. fluorescent light tubes		94. bricks, cinderblocks, chunks of cement	
48. jars: food (glass)		95. clothing	
49. light globes: bulbs, etc		96. computer equipment & other electronic devices	
50. syringes (glass)		97. fireworks	
51. glass & ceramic fragments		98. shoes, flip flops, sandals, tennis, etc	
		99. tampons	
		100. toys	

Having trouble identifying a debris item?
Refer to the Dive Against Debris® Marine Debris Identification Guide for images of all debris items.

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Watershed StoryMap Example



MonmouthNJGIS Bridget

Watershed and Water Pollution Awareness

✔ Authoritative

Monmouth County GIS Division
Monmouth County NJ GIS

Summary

Good habits for healthy waterways

[View Full Details](#)

Details

- StoryMap
- September 6, 2024
Date Updated
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- Public
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<https://arcg.is/mKruq0>



Questions?



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