

# User's Guide for the GIS&T Body of Knowledge, 2024

## Visualization Tool <https://gistbok-topics.ucgis.org/UCGIS>

The primary purpose of the Visualization tool is to support search and discovery across the full and current collection of Topics within the Geographic Information Science & Technologies (GIS&T) Body of Knowledge (BoK). The complete collection is represented within the color-coded graphic. Topics can be accessed via the graphic, the search, or the alphabetical lists.

Geographic Information Science & Technology  
Body of Knowledge Visualization and Search

The domain of geographic information science and its associated technologies (GIS&T)

Enter search term

☐ Code ☒ Name ☐ Keywords ☐ Description ☐ Learning Objectives ☐ References

[UCGIS] GIS&T Body of Knowledge

[View this topic in the Living Textbook tool](#)

This Body of Knowledge documents the domain of geographic information science and its associated technologies (GIS&T). By providing this content in a new digital format, UCGIS aims to continue supporting the GIS&T higher education community and its connections with the practitioners, employers, and clients who comprise the increasingly diverse collection of GIS&T professionals. For more information about the GIS&T Bok, please see <https://www.ucgis.org/gis-t-body-of-knowledge>.

Full Topic Description

Knowledge areas [10]

- [AM] Analytics and Modeling
- [CP] Computing Platforms
- [CV] Cartography and Visualization
- [DA] Domain Applications
- [DC] Data Capture
- [DM] Data Management
- [FC] Foundational Concepts
- [GS] GIS&T and Society
- [KE] Knowledge Economy
- [PD] Programming and Development

Learning Objectives [0]

References [0]

Author and Citation info

the 10 Knowledge Areas

A search for "slope" would return results where the term exists in any Topic's main section. The graphic also indicates in which Topics the term is located (by highlighting those as black-outlined circles).

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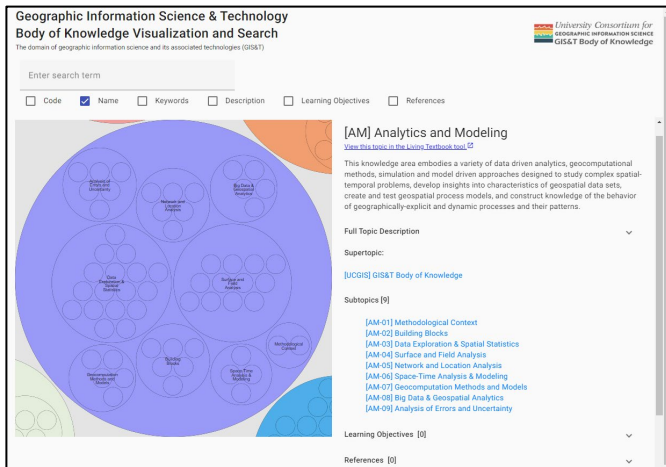
Results: 8

- [AM-02-003] Buffers [View](#)
- [AM-04-066] Watersheds and Drainage Networks [View](#)
- [CV-04-014] Terrain Representation [View](#)
- [CV-04-031] Flow Maps [View](#)
- [CV-05-023] Map analysis [View](#)
- [DC-03-027] Light Detection and Ranging (LiDAR) [View](#)
- [DM-02-010] Triangular Irregular Network (TIN) Models [View](#)
- [FC-05-042] Distance Operations [View](#)

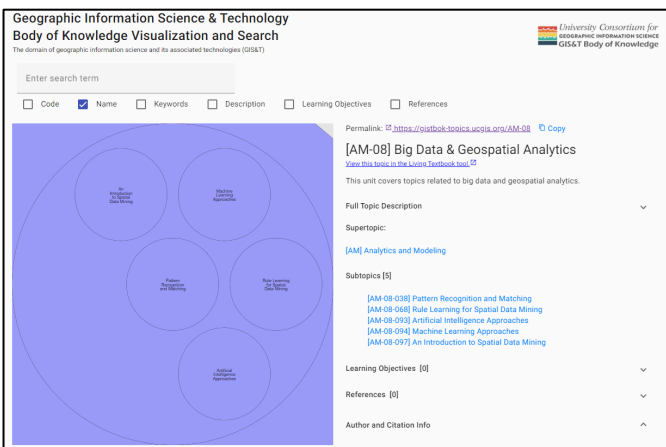
Items per page: 10 1 - 8 of 8

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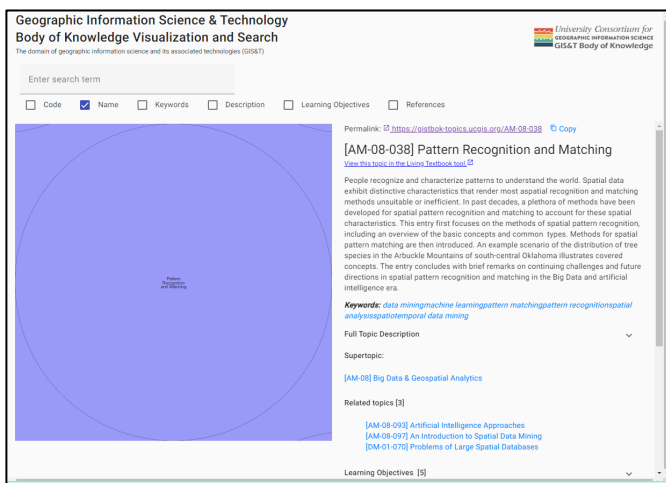
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Once a Knowledge Area is selected (by clicking on it, for example), the interface will zoom in and its respective Units will appear. In this case, [AM] Analytics and Modeling represents the whole purple circle and its 9 different Units are indicated and labeled. The 9 Units are also listed alphabetically.



When a Unit is selected, the interface will zoom in again and reveal its individual Topics. In this example, Unit [AM-08] Big Data & Geospatial Analytics was selected. It's 5 Topics are labeled within the graphic also appear listed alphabetically.



When a single Topic is selected, the interface will zoom to it individually. In this example, Topic [AM-08-038] Pattern Recognition and Matching was selected. Its abstract is displayed automatically, and other elements can be viewed by expanding their sections.

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Each Topic's permalink within this Visualization & Search tool is available here.

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Body of Knowledge Visualization and Search

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Enter search term

☐ Code ☒ Name ☒ Keywords ☒ Description ☒ Learning Objectives ☒ References

Permalink: <https://gistbok-topics.ucgis.org/GS-01-027> [Copy](#)

[GS-01-027] GIS&T for Equity and Social Justice

[View this topic in the Living Textbook tool](#)

A geographic information system (GIS) can be used effectively for activities, programs, and analyses focused on equity and social justice (ESJ). Many types of inequities exist in society, but race and space are key predictors of inequity. A key concept of social justice is that any person born into society, no matter where they were born or live, will have an equitable opportunity to achieve successful life outcomes and to thrive. Geographic information science and its technologies (GIS&T) provide powerful tools to analyze equity and social justice issues and help government agencies apply an equity lens to every aspect of their administration. Given the reliance on spatial data to represent and analyze matters of ESJ, the use of these tools is necessary, logical, and appropriate. Some types of analyses and mapping commonly used with ESJ programs require careful attention to how data are combined and represented, risking misleading or false conclusions otherwise. Such outcomes could build mistrust when trust is most needed. A GIS-supported lifecycle for ESJ is presented that includes stages of exploratory issue analysis, community feedback, pro-equity programs analysis, management monitoring and stakeholder awareness, program performance metrics, and effectiveness analysis.

**Keywords:** [community participation](#) [dashboard](#) [data visualization](#) [equity](#) [equity impact review](#) [equity index](#) [ESJ](#) [geospatial analysis](#) [MAUP](#) [modifiable areal unit problems](#) [social indicators](#) [social justice](#) [spatial data management](#) [zoning](#)

Full Topic Description

Supertopic:

[GS-01] Law, Regulation, and Policy

Related topics [4]

Each Topic can also be accessed at its respective location within the Living Textbook platform. Content is the same while platform functions vary.

To zoom “up” a level, click anywhere outside of the current level’s circle.

By default, most sections are collapsed. Expand sections to reveal content by using the small arrows indicated.