What is a Shapefile

- A geospatial *vector* data format.

- Developed and regulated by *Esri* as a mostly open specification.

- First introduced in the early 1990s.

- It consists of <u>a series of files</u> with the same name stored in the same directory.

  - Unlike a Word document, which is a single file per document.

Shapefile Structure

- It has three mandatory files:

    - `.shp`: Shape format, contains the feature geometry.

    - `.shx`: Shape index format, a positional index of the feature geometry allowing quick seeking.

    - `.dbf`: Attribute format, contains columnar attributes for each shape, in dBase IV format.

Shapefile Structure

- Other optional files:

    - `.prj`: Projection description

        - Although optional, a shapefile without a projection file cannot be displayed correctly in GIS software.

        - You will work with a shapefile without a projection file in assignment 3.

    - `.sbn`, `.sbx`, …

Modern Alternatives

GeoPackage:

- Uses the `.gpkg` extension.

- An open, non-proprietary, platform-independent, and standards-based data format for GIS.

- Based on SQLite.

- Can hold multiple vector and raster data layers in a single file.

- Initially released in 2014.

References

- https://en.wikipedia.org/wiki/Shapefile

- https://en.wikipedia.org/wiki/GeoPackage