

New Developments in Census Data and GIS

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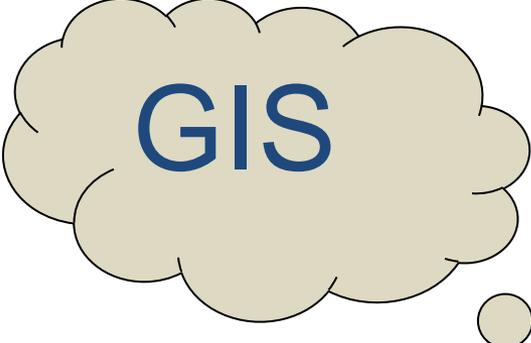
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Traditional Data and GIS Integration

- Desktop GIS
- Census Data on CD-ROM/DVD



GIS



Data



Manual
Join



So What's Changed?

Web Mapping Services (WMS)

- Open GIS Consortium standard for internet based mapping engines accessed via web browsers.
- Displays server side GIS data
- **TIGERWeb** is a perfect Example

Web Feature Services (WFS)

- OGC standard for serving GIS *features*
- Allows for displaying **and** editing
- Possible future for TIGERWeb



So What's Changed?

TIGER/Line files with Pre-joined data

- Available in both Shapefile and Geodatabase format
- Contains SF1 or ACS 5 year data
- Geodatabases contain metadata tables
- 2010 Population and Housing at Block Level

Application Programming Interfaces (API)

- Server side programs that produce formatted output to be consumed by a client application.
- Usually a single http request.
- Census API is a perfect example



TIGERWeb

tigerweb.geo.census.gov

- TIGER/Line Files
 - ASCII files
 - Needed TIGER to Shape Tool
- TIGER/Line Shapefiles
 - Ready to Use
- Partnership Shapefiles
 - Ready to Use
 - Special Attributes to Facilitate Exchange
- TIGER/Line Geodatabases
 - Contain metadata in a separate table



TIGERWeb

The screenshot shows the TIGERweb application in a Mozilla Firefox browser. The address bar displays the URL tigerweb.geo.census.gov/tigerwebmain/TIGERweb_main.html. The page header includes the U.S. Department of Commerce logo and the United States Census Bureau logo. Navigation links for People, Business, Geography, Data, Research, and Newsroom are visible. A search bar is located in the top right corner. The main content area features a navigation bar with links for TIGERweb Applications, WMS, REST Services, Data Files, TIGERweb Geography, and Contact Us. The left sidebar contains a section titled "TIGERweb Applications" with a note that links will open in new windows, and links for TIGERweb and TIGERweb2010. Below this, it lists requirements for the applications: JavaScript enabled, Allow Poppups, and Microsoft Silverlight Plug-In. A link to sign up for updates on TIGERweb and other Census Bureau Topics is also present. The main content area has a section titled "TIGERweb Application" which describes the application's purpose: to visualize TIGER data (Topologically Integrated Geographic Encoding and Referencing database) on a map. It lists features such as linear features (roads, highways, streets, railroads, rivers, streams, drainage), area water (rivers, lakes, glaciers), and boundaries for legal and statistical entities. It also explains that the application determines visibility based on map scale and allows users to filter features and entity types. A video player is embedded at the bottom, titled "Introduction to TIGERWEB", showing a map of the Northeastern United States.

TIGERweb Applications

Note: These links will open new browser windows.

[TIGERweb](#)

[TIGERweb2010](#)

The applications need:

- JavaScript enabled
- Allow Poppups
- Microsoft Silverlight Plug-In

[Click to sign up for updates on TIGERweb and other Census Bureau Topics](#)

TIGERweb Application

The TIGERweb web-based application allows the users to visualize our TIGER (Topologically Integrated Geographic Encoding and Referencing database) data. The application allows users to select features and view their attributes, to search for features by name or geocode, and to identify features by selecting them from a map. The TIGERweb application is a simple way to view our TIGER data without having to download the data.

The TIGERweb application offers the ability to view:

- Linear features
 - Roads, highways, streets
 - Railroads
 - Rivers, streams, and other "single-line" drainage
- Area water
 - Rivers, lakes, and glaciers
- Boundaries for legal and statistical geographic entities

Because geographic and locational context and relationships are important, the TIGERweb application determines which geographic entities and features may be visible based on map scale.

Users have the capability to turn on and off linear features and geographic entities by type. This allows users to limit the amount of data on the map by selecting only the features and entity types they would like to see.

View the following video for an introduction to the TIGERweb application:

Introduction to TIGERWEB

TIGERWeb

- Utilizes REST protocol for data retrieval
- Separate URLs for each available layer
- Users can retrieve data using a variety of software
 - Browser based
 - Client viewer based (GAIA, Google Earth)
 - Desktop GIS



TIGERWeb

[TIGER Web Demo](#)



TIGER/Line Shapefiles & Geodatabases

- Most shapefiles have basic TIGER geometry without data
- Some shapefiles have attribute tables with select demographic data
- TIGER/Line Geodatabases are large datasets covering:
 - Entire country
 - Whole states



Census API

www.census.gov/developers

- Provides live access to select SF and ACS tables
- Utilizes the REST protocol
- Offers a promising future for custom programming



Census API

www.census.gov/developers

[API Demo](#)



Census API

Potential for:

- Custom applications
- Potential for ArcGIS desktop
- ArcGIS Online



The Future

- Current trends suggest a future with automatically integrated demographic data into desktop and web-based GIS.
- Custom applications will utilize mapping and data services to generate thematic maps on-the-fly



Thank you!

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