

Internet Mapping

Sharing geographic information on
the web

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A-B Tech

Technology

- Sharing geographic information through the internet
- **Past:** created GIS data by the desktop, for the desktop – consumed by desktop applications like ArcMap
- **Now:** Also, *published* to the web for consumption by some client. Streaming data formats into web clients.

What is Internet Mapping?

- Extension of Desktop Mapping
 - Use of open standards based on remote data and map services in desktop applications
- Geospatial Data Sharing
 - Establishing open standards based services to share geospatial data and mapping capabilities over the Internet
- Web-client Mapping
 - The delivery of mapping and geospatial data tools through web browsers, again based upon open standards

Definitions

- Internet
 - The global computer network of computers that typically connect with each other over TCP/IP
- World Wide Web
 - The subset of applications that are run over the Internet, typically using the HTTP protocol in combination with data (HTML, XML), presentation (CSS), and behavior (JavaScript) components
- Mapping
 - The generation of cartographic products that include map images (pictures of geospatial data) and other elements

Standards

- Open Standards
 - Characterized by
 - Developed through a public process by a national or international standards group
 - May be implemented royalty-free
- Web-based standards dominate the realm of web-based GIS
- Open Geospatial Data Consortium – OGC
 - <http://www.opengeospatial.org/>
- Web is all about open access to data – why not with

Spatial Data formats

Desktop Spatial Data Formats	Web Spatial Data Formats
Shapefile	KML (Z)
Coverage	WFS
CAD	WCS
Geodatabase	WMS
.sid	JPG, GIF, PNG
Grid	GML
.jpg	ArcGIS Server

- Shift in data formats and standards of how it is made and consumed.

Software

Desktop	Web
ArcGIS	Google Maps (Mapping API's)
MapWindow	ArcGIS Server
QGIS	GeoServer
MapInfo	OpenLayers
GRASS	MapServer
AutoCAD Map	GIS Cloud
uDig	PostGIS

- Vary in cost and complexity

Google

- Mission:
 - to organize all the world's information
- Beyond indexing the web making the world's physical information useful and accessible
- Google maps attempts to bridge the gap between online and the real-world

2005

- Google Maps API release revolutionizing the way geographic information is created, shared and consumed by millions of people
 - <http://www.housingmaps.com/>
- Before that,
 - maps served as either static image with clickable HTML image map
 - Through a costly server based GIS like ArcIMS where you run the server, database, own the software

Lately ...

- *... Mashups ...*
- 'Cloud'-based everything is big
- Location about anything is everything.
 - [Geospatial Revolution Project](#)
- Big advances in many web-based GIS services
 - Bing Maps
 - GeoServer
 - OpenLayers
 - GISCloud
 - ArcGIS Online and ArcGIS Explorer Online
 - ArcGIS Server

iPhone / Android mobile world

- Foursquare
- Gowalla
- Facebook Places
- Google Latitude
- Just to mention a few ...

Shifting paradigm

- ‘Cartographers’ and GIS specialist losing control of data
- Neogeography – *new geography*
- “*the geospatial web*”
- “*Where 2.0*”

- *All complimenting the evolution of the web ...
Web 2.0 and beyond.*

Some examples

<http://googlemapsmania.blogspot.com/>