CARTOGRAPHIC RESOURCES 2012

Mapbox.com – openstreetmaps

Tour Maps TileMill Help Plans + Pricing



MapBox Streets is powered by high-quality open data from OpenStreetMap, available now from MapBox. Liberate your maps with global street level detail, rich features, and your own custom design. http://mapbox.com/

Grass

Celebrating 29 years!



GRASS GIS User map

Geographic Resources Analysis Support System

Commonly referred to as GRASS, this is free Geographic Information System (GIS) software used for geospatial data management and analysis, image processing, graphics/maps production, spatial modeling, and visualization. GRASS is currently used in academic and commercial settings around the world, as well as by many governmental agencies and environmental consulting companies. GRASS is an official project of the <u>Open Source Geospatial Foundation</u>.

http://grass.fbk.eu/



Quantum GIS (QGIS) is a user friendly Open Source Geographic Information System (<u>GIS</u>) licensed under the <u>GNU General Public License</u>. QGIS is an official project of the <u>Open</u> <u>Source Geospatial Foundation</u> (OSGeo). It runs on Linux, Unix, Mac OSX, Windows and Android and supports numerous vector, raster, and database formats and functionalities. <u>http://www.qgis.org/</u>

Tilemill



TileMill is an application for making beautiful maps. Whether you're a journalist, web designer, researcher, or seasoned cartographer, TileMill is the design studio you need to create compelling, interactive maps.

http://mapbox.com/tilemill/

Mapnik



Mapnik is a <u>Free</u> Toolkit for developing mapping applications. Above all Mapnik is about making beautiful maps. It is easily extensible and suitable for both desktop and web development.

http://mapnik.org/

Leaflet



An Open-Source JavaScript Library for Mobile-Friendly Interactive Maps by CloudMade

Overview	Features	Tutorials	Documentation	Download		😨 GitHub Repo	¥ @LeafletJS
Watch 2,434 Fork 374 Tweet S26 Follow S2,401 followers ELike S86							

Leaflet is a modern, lightweight open-source JavaScript library for mobile-friendly interactive maps. It is developed by <u>Vladimir Agafonkin</u> of <u>CloudMade</u> with a team of dedicated <u>contributors</u>. Weighing just about 22 KB of gzipped JS code, it still has all the <u>features</u> most developers ever need for online maps, while providing a fast, pleasant user experience.

It is built from the ground up to work efficiently and smoothly on both desktop and mobile platforms like iOS and Android, taking advantage of HTML5 and CSS3 on modern browsers. The focus is on usability, performance, small size, <u>A-grade</u> browser support and <u>an easy-to-use API</u> with <u>convention over configuration</u>. The OOP-based <u>code of the library</u> is designed to be modular, extensible and very easy to understand.

Basic usage example



Here we create a map with tiles of our choice, add a marker and bind a popup with some text to it: http://leaflet.cloudmade.com/

ColorOracle.com

Color Oracle





Color Oracle moved to colororacle.org

Color Oracle is a free color blindness simulator for Window, Mac and Linux. It takes the guesswork out of designing for color blindness by showing you in real time what people with common color vision impairments will see.

© 2006-2011 by Bernhard Jenny, Oregon State University. Last site update: 18 December 2011 jennyb@geo.oregonstate.edu

www.ColorOracle.com

Colorlovers.com



www.ColorLovers.com

kuler.adobe.com



nup.//kulei.auobe.com/#inemes/raing:time=

ScaleMaster.org



ScaleMaster is a structured diagram for organizing multi-scale mapping using multiple databases and design, selection, and generalization decisions.

In its rudimentary form, ScaleMaster is a do-it-yourself Excel file available for download (**19**. below). Other resources are listed and linked as we continue to develop the idea. <u>www.ScaleMaster.org</u>



http://www.mapsgalaxy.com/index.jhtml?spu=true&partner=UXxdm004&gclid=CJDl9_yOor ECFQaApAod7CDPOQ



Every human perceives urban space differently. Some places are seen to be unsafe, others as especially beautiful. This perception is subjective and emotions of the person influence it. For the project EmoMap we will enable an online community to collect that kind of data and store it in an open database. This database can be accessed and used by anyone to enhance the quality of future products and services, e.g. navigation systems for pedestrians.

www.openemotionmap.org

OpenStreet map

OpenStreetMap Australia

The Free Wiki World Map

Welcome to OpenStreetMap Australia, the Australian part of the OpenStreetMap. We're creating the Australian part of a map of the world that everybody can use freely and we're having a lot of fun in the process. Join us.



http://www.openstreetmap.org.au/



A new platform for storing and exchanging data which are location and time-sensitive, making them accessible to users through mobile devices, web interfaces and physical interface objects. This platform enables people to become distributed intelligent actuators, which pursue their individual interests in cooperation and competition with others, and thus become prime actors themselves in improving the efficiency of urban systems. http://senseable.mit.edu/wikicity/

How can we get our map colours right? How open journalism helped us get better

How good are we at choosing colour palettes for maps on the Datablog? What happened when our users showed us how to do it



Maps of many different colours. But which one is best?

How can you get the colour scales right on maps?

(At this site) is a Storify showing how the conversation evolved - to create a better map.

http://www.guardian.co.uk/news/datablog/2012/apr/13/mapping-colours-open-journalismstorify

Free GIS Software - QGIS 1.7.4

Quantum GIS (QGIS) is a user friendly Open Source Geographic Information System (<u>GIS</u>) licensed under the <u>GNU General Public License</u>. QGIS is an official project of the <u>Open</u> <u>Source Geospatial Foundation</u> (OSGeo). It runs on Linux, Unix, Mac OSX, and Windows and supports numerous vector, raster, and database formats and functionalities. <u>http://www.qgis.org/</u>

Map Maker Pro desktop mapping

The foundation of the system is the free GIS, Map Maker *Gratis*. If your mapping needs are basic simply use Map Maker *Gratis* for free. <u>http://www.mapmaker.com/</u>

ESRI Free Mapping Software

Easily visualize and share spatial information. *Web*

- ArcGIS Explorer Online—Do queries, create dashboards, and author presentations.
- ArcGIS Online for Personal Use—Create and share maps everywhere.

Desktop

- ArcGIS Explorer Desktop—Combine your local data with online spatial information.
- ArcGIS for AutoCAD—Access ArcGIS map services within AutoCAD and prepare CAD data for use in ArcGIS.
- ArcReader—View high-quality interactive maps authored in ArcGIS for Desktop and published with the ArcGIS Publisher extension.

Mobile

• ArcGIS for Smartphones and Tablets—Navigate maps, collect and report data, and perform GIS analysis from your smartphone or tablet device.

http://www.esri.com/software/free-mapping-software/index.html

MapSphere

MapSphere is a mapping software for Windows that:

- downloads maps and satellite images from different sources (OpenStreetMap, Terraserver, LandSat, and others)
- stores all the mapping data on the hard drive for offline use
- represents the map in 2D and 3D modes
- supports GPS-receivers to track your current position
- displays the location of other users and their GPS tracks
- provides a chat to discuss your travels
- geo-references your photos according to your track and uploads them to your personal trip page
- shows tracks, photos, and chat messages on the map
- supports geocaching
- supports an easy-to-use iPad viewer

http://www.mapsphere.com/

Spatial references, coordinate systems, projections, datums, ellipsoids – confusing?

by Morten 5. May 2007 21:44

People are often mixing the above as if they were one and the same, so here's a recap of them. One of the things you often find people saying is that "my data is in the WGS84 coordinate system". This doesn't really make sense, but I will get back to this later.

This is a very confusing subject, and I might have gotten a few things wrong myself, so please add a comment and I'll update it ASAP.

Coordinate systems

A coordinate system is



Datums and ellipsoids

Some of the common properties of the above coordinate systems are that they are all relative to the center of Earth and except the Geocentric coordinate system, uses a height system relative to the surface of the earth.

This poses two immediate problems:

- Where is the center of the earth
- What is the shape of the earth?

.....



Projections

The earth isn't flat, and there is no simple way of putting it down on a flat paper map (or these days onto a computer screen), so people have come up with all sorts of ingenious solutions

Spatial reference

The spatial reference is a

http://sharpgis.net/post/2007/05/05/Spatial-references2c-coordinate-systems2c-projections2c-datums2cellipsoids-e28093-confusing.aspx

MAPS – HISTORY

Map expert Professor Jerry Brotton uncovers how maps aren't simply about getting from A to B, but are revealing snapshots of defining moments in history and tools of political power and persuasion

Episode guide

Mapping the World

3/3 How maps offer visions of distant lands, tempting explorers to plunder and conquer.

FIRST BROADCAST: 02 May 2010

CLIPS

Spirit of the Age

FIRST BROADCAST: 25 Apr 2010





Windows on the World

1/3 How maps are both snapshots of defining moments in history and tools of political power.

2/3 Jerry Brotton shows how maps can reveal the fears, obsessions and prejudices of their age.

FIRST BROADCAST: 18 Apr 2010

CLIPS

CLIPS

http://www.bbc.co.uk/programmes/b00s5m7w/episodes/guide



New book – Maps for the Future

1. "Maps for the Future: Children, Maps and Internet"



Finishing January the Springer-Verlag Editorial House published the book entitled "Maps for the Future: Children, Education and Internet", containing a selection of papers presented during the Joint ICA Symposium held at the University of Orleans on 30 June and 1 July of 2011. This event was organized by the Department of Geography of this university, counting with the participation of four ICA Commissions and a Working Group (Cartography and Children, Education and Training, Maps and Internet, Planetary Cartography and Cartography for Early Warning and Crisis Management).

The book includes a total of 24 works written by authors from Australia, Austria, Belgium, Brazil, Bulgaria, Hungary, Indonesia, Poland, The Netherlands and USA.

More information at: http://www.springer.com/earth+sciences+and +geography/geographical+information+systems/book/978-3-642-19521-1

eBook on "Advanced Geo-Simulation Models"

Geosimulation has recently emerged at the intersection of Geographic Information Science, Complex Systems Theory and Computer Science. Geosimulation aims at understanding the dynamics of complex human-driven spatial systems through the use of spatially explicit computer simulation. The approaches and tools for validating Geosimulation models are especially important for understanding their complex and spatially heterogeneous outcomes. The Ebook presents the recent conceptual and methodological advances achieved in the field.



Advanced Geo-Simulation Models

eISBN: 978-1-60805-222-6, 2011

Editor: Danielle J. Marceau University of Calgary Canada

Co-Editor: Itzhak Benenson Tel Aviv University Israel

info@eureka-mkt08.com

HISEN: 978-1-60805-222-6

History of Cartography

International Symposium of the ICA Commission, 2010 Series: <u>Lecture Notes in Geoinformation and Cartography</u> Subseries: <u>Publications of the International Cartographic Association (ICA)</u> Liebenberg, Elri; Demhardt, Imre Josef (Eds.) 2012, 2012, IX, 303 p. 120 illus., 3 in color. Available Formats: Hardcover Information ISBN 978-3-642-19087-2



GeoInformation Research and Development Papers

Evacuation Trace Mini Challenge Award: Tool Integration Analysis of Movements with Geospatial Visual Analytics Toolkit Natalia Andrienko, Gennady Andrienko

Fraunhofer Institute IAIS (Intelligent Analysis and Information Systems), Sankt Augustin, Germany

The Geospatial Visual Analytics Toolkit intended for exploratory analysis of spatial and spatiotemporal data has been recently enriched with specific visual and computational techniques supporting analysis of data about movement. We applied these and other techniques to the data and tasks of Mini Challenge 4, where it was necessary to analyze tracks of moving people. <u>http://vac.nist.gov/2008/summaries/205_206_andrienk.pdf</u> See also:

http://geoanalytics.net/and/papers/ivs08b.pdf

Visualizing Time Series Data Using Web Map Service Time Dimension and SVG Interactive Animation,

by Timothee Becker. http://geoserver.itc.nl/TimeMapper/docs/Becker-MScGFM.pdf

The Gauss-Krueger Projection:

Karney-Krueger equations

R. E. Deakin1, M. N. Hunter2 and C. F. F. Karney3

The Gauss-Krueger projection has two forms. One has the Karney-Krueger equations capable of micrometre accuracy anywhere within 30° of a central meridian of longitude. The other has equations limited to millimetre accuracy within 6° of a central meridian. These latter equations are complicated but are widely used. The former equations are simple, easily adapted to computers, but not in wide use. This paper gives a complete development of the Karney-Krueger equations. http://icaci.org/files/documents/ICC_proceedings/ICC2011/Oral%20Presentations%20PDF/D1-Map%20projection/CO-300.pdf

Cartographic Enhanced Geoportals

TOOMANIAN A., HARRIE L., OLSSON P.O. GIS Centre, Dept of Earth and Ecosystem Sciences, Lund University, LUND, SWEDEN

The demand for web based spatial data applications are increasing rapidly. A wide area of web based applications, initiated the requirement to disseminate spatial data to the end-users by the use of geoportals. They support searching, viewing and downloading spatial data. http://icaci.org/files/documents/ICC_proceedings/ICC2011/Oral%20Presentations%20PDF/D2-Web%20services%20and%20cartographic%20issues%20for%20geoportals/CO-329.pdf

Restoring Blaeu's Globes by Modern Methods

MÁRTON M.(1), PLIHÁL K.(2), UNGVÁRI Z.(1) (1) Eötvös Loránd University, BUDAPEST, HUNGARY ; (2) National Széchényi Library, BUDAPEST, HUNGARY

The famous Dutch Blaeu dynasty produced globes in the seventeenth century, which we can find all over Europe. In the Museum of the Zirc Abbey, there is a 68 cm diameter earth globe and its celestial pair too. These globes were in very poor state, so they had to be restored in 2008. After the restoration, we can see the globes in their original state in the Museum. Unfortunately, not every people can visit this museum. This is why the Department of Cartography and Geoinformatics at Eötvös Loránd University decided to take a photo series of the surface of the globes, and publish the globes on the Internet as virtual globes (Virtual Globes Museum: *http://vgm.elte.hu*).

http://icaci.org/files/documents/ICC_proceedings/ICC2011/Poster%20Presentations%20PDF/POSTERS%20SES SION%203/P-172.pdf

Examples of Spatial Humanities Projects

Published: July 26, 2011

Historians, literary theorists, archeologists and other academics are using advanced technology to establish a novel field that they are tentatively calling "spatial humanities." These scholars use software that can display and analyze information related to a physical location to re-examine real or fictional places in new ways.



http://www.nytimes.com/interactive/2011/07/27/arts/spatial-maps.html?ref=maps

Cartography – Other news sources



http://www.cartotalk.com/index.php?showtopic=8245



Best of the Blogs

Hot news this morning is Apple's <u>departure from Google Maps</u> in iOS 6, instead moving to their own in-house mapping application, created from acquisitions of several mapping companies in recent years. AnyGeo has a great overview, including data partners. Apple have also now posted a video showing the <u>new maps application</u> in action.

Further to this, James Fee from Spatially Adjusted asks "<u>Will Apple maps impact web</u> <u>mapping?</u>" And interesting post worth a read by any GIS developers out there.

Google Maps Mania highlight a crowd-sourced map of "<u>the global transition to a new</u> <u>economy</u>." A new economy is one that "maximizes well-being, operates within environmental limits and is capable of coping and adapting to global environmental change".

For any Doctor Who lovers out there, Retronaut has pulled together various historical photographs of the <u>Doctor's many travels through time and space</u>, and, using StreetView, has placed them in their current context.

GIS Lounge have a post all about some of history's most <u>notable cartographers and their</u> <u>maps</u>. Some truly beautiful maps here.

O'Reilly Radar's visualisation of the week last week was a time-lapse movie map that shows <u>global Bit Torrent usage</u>, made by the creators of the file-transfer protocol. It's a great example of a way to display time-series data in an attractive and engaging way.

LiDAR News has a post talking about the way that LiDAR was used to assess the damage after the <u>Japan earthquake and tsunami</u>. "The idea is that it's a virtual world you can explore without being physically present in that dangerous environment. You can move through it in the software."

http://www.spatialsource.com.au/2012/06/12/article/Best-of-the-Blogs-12-June-2012/PDKPTYSXZK.html





How will real-time inputs, and the increasing number of sensors, impact the geospatial industry?

For decades the lack of geospatial data was a barrier to geographic information system expansion and adoption. While obtaining high-quality spatial data continues to be a challenge, the problems of a lack of available data has quickly turned into the need to manage a glut of information.

Discovering the Next Dimension: How LiDAR Data is Changing the Geospatial Workflow

Today, geospatial data is used in critical decision making across industries and applications – from disaster response to defense and intelligence and natural resource management. When using geospatial data to make critical decisions, it is increasingly important to understand an area of interest from all angles in order to make the most informed decisions possible.

A Data Commons for Spatio-Temporal Knowledge About Our World

Now that we've achieved near global digital spatial data coverage, with a number of online tools to explore the world, it's time to add to that data with further understanding.

info@sensysmag.com



Coordinates is a monthly magazine on positioning, navigation and associated technologies. It aims to broaden the canvas of the technology by taking it from the domain of experts to the realm of potential users.

Coordinates is published by Centre for Geo-Information Technologies (cGIT), a Non Government Organisation (NGO) based in Delhi, India Examples of articles:

LBS



Assisting visually impaired using smart-phone sensors Oluropo Ogundipe

A project at the University of Nottingham, is working to investigate indoor positioning and object recognition to aid the blind. As part of that project, tests were conducted to assess the quality of the various sensors of a smart-phone, the aim was to assess whether the smart-phone could be used as the sensor platform to enable the development of assistive technology for the visuallyimpaired... [more]

▶ DISASTER MANAGEMENT

Crustal movement before and after the Great East Japan Earthquake

Dr Shunji Murai and Dr Harumi Araki

This paper summarizes the pre-signals before the earthquake which may be important information for predicting the occurrence of earthquakes as well as the crustal movement after the earthquake. At last a case study of simulation of future catastrophic earthquakes and Tsunami which may happen in coming a few hundred years by using archeological excavation data of the past great earthquakes... [more]

http://mycoordinates.org/



Newsletter

Week 24/25 - 2012

Latest news

Leica Geosystems and GeoCue to Develop Innovative Workflow Solutions Together Leica Geosystems, manufacturer of airborne mapping solutions, together with GeoCue, a provider of geospatial workplace integration, announced ... Read more

TomTom Confirms Agreement with Apple for Map Data Dutch navigation and digital map maker TomTom confirmed their licensing agreement with Apple "for maps and related information" following ... Read more

http://www.geoinformatics.com/newsletter-subscribe



http://www.gisuser.com/component/option,com frontpage/Itemid,1/

Technology, Developments & Knowledge

The Wind Rose

Pat Shingleton for June 15, 2012

June 15, 2012

The "wind rose" is a circular directional emblem found on vintage maps and charts. As noted previously, it evolved from the four primary wind directions arranged around a circle that represented the horizon. In the 16th century, cartographers expressed their most imaginative work within the rose, incorporating brilliant colors with gold- and silver-laced trims. Possibly through some means of uniformity, principal winds, half-winds and quarter-winds were done in various colors. Fifteenth-century Italian cartographers used gold, green and red hues for their winds. Cherubs were added, blowing the principal winds from their mouths, accompanied by wild animals. Where the compass and GPS set our course today, the wind rose was the primitive directional indicator on navigational charts. More Saturday. Fastcast: Sticky.

http://theadvocate.com/columnists/3032973-55/pat-shingleton-for-friday-june

How satnav maps are made

Posted on 22 Jun 2012 at 15:15







Jonathan Bray reveals how the maps are created for the world's biggest satnav firms - and whether they have a future at all

When a lorry driver wedged his 13-tonne truck between a house and an estate agent in Somerset recently, the media was quick to point the finger of blame at a familiar culprit – the 6in screen sitting on his dashboard.

Flawed satnav instructions are the scapegoat for ridiculous round-trips, buses wedged under bridges, and ambulances taking life-threatening diversions. But few understand or appreciate how far mapping companies go to ensure the accuracy of the data they're providing.

And, of course, we rarely hear of the millions of gallons of petrol saved or countless hours of business productivity recouped by the millions of satnav users who shave 10 or 20 minutes off their journey times every day.

In this feature, we'll reveal the extraordinary efforts companies make to create and update their maps, and continually verify their accuracy, as well as sparing drivers from hours of sitting in traffic jams with the use of real-time data. We'll also show just how much maps can differ from one provider to another.

Read more: <u>How satnav maps are made | Analysis | Features | PC Pro</u> <u>http://www.pcpro.co.uk/features/375415/how-satnav-maps-are-made#ixzz1ymNIHSdl</u>

Acquisition Guide for GIS Hardware and Software

Guide discusses the acquisition of GIS hardware and software, GIS system integration, GIS application development, and GIS use and maintenance. Also covered is evaluation of

proposals and a delivery and installation plan as well as hardware, software, and network and communications specifications. Guide is available for download by clicking <u>here</u>.



http://www.ncgia.buffalo.edu/sara/volumeiii.pdf

GPS technology improves weather forecasting 14 June 2012



RMIT researchers are helping make weather forecasting more accurate. Image © iStockphoto.

The satellite-based global positioning system technology that guides modern in-car navigation systems is now being used to improve weather forecasts.

Researchers at RMIT University's SPACE Research Centre and the Bureau of Meteorology are using GPS and low earth orbit satellites to provide an additional type of temperature profile observation for use in weather forecasting computer models.

The computer models draw on about a hundred thousand million current weather observations, including data from 30 to 40 complementary satellite instruments, to generate the information used by meteorologists to prepare weather forecasts

RMIT Adjunct Professor John Le Marshall is Research Program leader at the Bureau of Meteorology and former Inaugural Director of the Joint Center for Satellite Data Assimilation, a joint NOAA, NASA and DOD research initiative in Washington.

He said: "What we've found through our work with RMIT's SPACE research team is that the GPS data improves the real-time temperature field and the cross-calibration of the data from a number of satellite instruments.

"This in turn significantly increases the usable quality of the satellite observations. http://www.rmit.edu.au/browse;ID=zdfzl7ajhq9s

The Next Generation of Maps

Thursday, June 21, 2012 at 11:00 AM

Maps you can move in. Big, deep, 3D changes coming to the world of digital cartography.



Itsukushima Shinto Shrine, Japan. (Google Maps) http://onpoint.wbur.org/2012/06/21/maps

In the zone

Using geocoding technology can help bring customers to businesses by simplifying and speeding up the use of maps on websites.



Geocoding technology is being used by businesses which have maps on their websites

Ben Lobel Date: 20 June 2012 Article: <u>Analysis</u>

Geocoding is a technology that translates an address or postcode into geographical coordinates. It is being used by businesses which have maps on their websites to give customers quicker access to details of local services.

http://www.growthbusiness.co.uk/growing-a-business/business-tools/2109148/in-thezone.thtml