Spatial Data Infrastructure Asia & the Pacific Newsletter

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Spatial Data Infrastructure – Asia and the Pacific (SDI-AP) is a free electronic newsletter from the Global Spatial Data Infrastructure Association (GSDI) which is available in both English and Chinese language versions. The newsletter is produced for people interested in Spatial Data Infrastructure, GIS, remote sensing and geospatial data issues in Asia and the Pacific. It aims to raise awareness and provide useful information to strengthen SDI initiatives and support synchronising these activities across the region. Support for the newsletter is also provided by the Permanent Committee on Geographic Information for Asia and the Pacific (PCGIAP), a regional forum to enhance cooperation in the development of a regional geographic information infrastructure. The newsletter is currently being produced for GSDI by the Centre for Spatial Data Infrastructures and Land Administration at the University of Melbourne.

To subscribe to SDI-AP use this link. Back issues of the newsletter are at the GSDI website. You can also sign up for GSDI News List to receive alerts of special news and announcements as well as notification of new issues of the SDI-AP newsletter. To subscribe and access archives of thematic or regional discussion lists please visit.

Contents

Message from the editors

Welcome to the March issue of the newsletter. This issue is the penultimate issue of the Asia-Pacific newsletter with the GSDI introducing a single web-based newsletter which will be published continuously rather than each regional newsletter published monthly in PDF format. The editors wish to thank our readers and contributors. We hope to bring readers further information regarding the distribution of the new single web-based newsletter in the next (April) issue.

If you have news or information related to SDI, GIS, RS or spatial data that you would like to share with the community (e.g. workshop announcements, publications, reports, websites of interest etc.), kindly send us the materials by the 25th of the each month for your contribution to be included in the next newsletter.

Malcolm Park and Serryn Eagleson (Editors), at the Centre for Spatial Data Infrastructures and Land Administration, The University of Melbourne.

Back to contents

Spatial Data Infrastructure
Asia & the Pacific Newsletter

Contributions

Thank you to the following people and organisations for their contributions to this issue: Baek Wonkug for news feeds, Sean Lin and colleagues for the Chinese translation as well as Shivani Lal, *GIS Development*, *GeoSpatial World* and *Asia Surveying & Mapping* magazine for directly contributing to the newsletter.

GSDI News

International Geospatial Society (IGS) Free Memberships

At its recent meeting, the GSDI Board of Directors passed a motion that allows individuals in low and very low income nations to join the International Geospatial Society (IGS) by providing specific information of value to the global community in lieu of annual cash dues. To join, simply add your professional profile to the growing interconnected network of geospatial specialists across the globe. Benefits of membership in IGS are listed at http://www.igeoss.org/benefits. For further information, contact Harlan Onsrud, Executive Director, GSDI Association.

GSDI and IGS Global News, Volume 4 Number 1 for 2014 (January 2014) (PDF)

Outreach & Membership Committee

Committee vice-Chair, Roger Longhorn has joined the International Hydrographic Organization (IHO) Marine SDI Working Group (MSDIWG) and attended the Marine SDI Open Forum meeting in Copenhagen (remotely!) and the following two-day workshop of the MSDIWG, hosted by the Danish Hydrographic Service. The MSDIWG, which has existed since 2009, is setting its new workplan for 2013-2014 and is interested in developing a stronger relationship with non-marine SDI development initiatives at national, regional and global levels. Longhorn will explore this with the GSDI Board and Executive Committee at the next opportunity.
The Outreach & Membership Committee also manages the GSDI Group on LinkedIn, which has added seven new members in the past month, for a total of 229 members today. If you are not already a member of this group, please join today – and tell your friends! Visit http://www.linkedin.com to join, then find GSDI in the 'Groups' option, to join the group.

Technical Committee

Technical Committee Chair, Eric van Praag, Regional Coordinator, GeoSUR Program of the Latin American Development Bank (CAF), along with USGS, has nominated the GeoSUR Topographic Processing Service (TPS), built with ESRI´s AG Server 10.1, for the AAG Stanley Brunn Award for Creativity in Geography. See more news later in this issue.
The Technical Committee is also responsible for updating of the GSDI SDI Cookbook, a wiki maintained at: http://www.gsdidocs.org/GSDIWiki/index.php/Main_Page.

GSDI Member organisations, members of the GSDI Association Committees, Council and Board, and IGS members are involved in the many other regional and global initiatives on an on-going basis:
- Digital Earth (International Society for Digital Earth).
- Eye on Earth.
- Group on Earth Observations (GEO) / Global Earth Observation System of Systems (GEOSS).
- EuroGEOSS – GEOSS Project funded by the European Union.
- INSPIRE – Infrastructure for Spatial Information in the European Community.
- International Hydrographic Organisation – Marine SDI Working Group.
- UNESCO IOC – Marine/Coastal Spatial Data Infrastructure development.
- UNSD (Statistics Division) – UN-GGIM (UN Global Geospatial Information Management).
- UNGIWG (UN GI Working Group).
- UNESCO IOC – Marine/Coastal Spatial Data Infrastructure development.
- UNSDI – UN-GGIM (UN Global Geospatial Information Management).
- UNSDI – UNGIWG (UN GI Working Group).

Back to contents

SDI News, Links, Papers, Presentations

Oman: Spatial Data Infrastructure: Obstacles and Opportunities

With development continuing at an unabated pace, the Sultanate of Oman is working towards creating its national spatial date infrastructure in order to ensure sustainable development, offer new and precise data and create an environment of data integrity and exchange. The article takes a look at the obstacles and opportunities of creating a spatial data infrastructure in Oman.

Abu Dhabi SDI program shares its experience with Saudi delegation

A top Saudi delegation from Makkah, headed by Ahmed Hikmat Alah, deputy secretary general of the Makkah City Information Technology, visited Abu Dhabi Systems & Information Center (ADSIC). The team, including Talal Al-Yamani, director of Spatial Information Technology and Khaled Al-Madani, assistant director of Spatial Information Technology, examined the various details of the success factors of Abu Dhabi Spatial Data Infrastructure Program (AD-SDI) which is managed by ADSIC. Abdul Karim Al Raisi, ADSIC's director of strategy and planning, welcomed the delegation.

The visit from Makkah reiterates the keenness of the Abu Dhabi government to share best practices such as the center's Abu Dhabi Spatial Data infrastructure Program, with Saudi Arabia. Abu Dhabi's Geospatial portal, established by AD-SDI, hosts a wide range of spatial data and information as well as provides web map services which allows visitors to visualize and use more than 500 data sets. It is a significant step toward the long-term AD-SDI goal of establishing a network of inter-operable nodes for geospatial data usage and sharing.

Rwanda: National Geo-Information Committee Executive & Policy high level meeting

The Rwanda Natural Resources Authority (RNRA) organized a National Geo-Information Committee Executive & Policy high level meeting on February 11, 2014. The Ministry of Natural Resources, with support of the Ministry of Youth and ICT, is heading the country's National Spatial Data Infrastructure (NSDI) initiative. RNRA has begun by putting in place a National Geo-information Committee, bringing together all key stakeholders and coordinating their efforts.

See also: RNRA hosts National Geo-Information Workshop and Training (August 2013)

From *Mark E. Reichardt, President & CEO, Open Geospatial Consortium (OGC)*

Call for Volunteers to advance UN-GGIM Core Standards Guide

OGC Technical Committee and Business Value Committee members:

Recently, I briefed the OGC Planning Committee on the activities of the UN Global Geospatial Information Management (UN-GGIM) including a request from the UN-GGIM Secretariat for key standards organizations – OGC, ISO and IHO - to advance a "core essential standards guide" for use by member nations to improve their understanding of the value of standards, and guide the adoption and application of open geospatial standards to meet their geospatial missions. The Planning Committee approved this request and asked for OGC staff to work with membership to stand up a team to development this document in conjunction with our partner standards organizations. ISO TC/211 has already formed a Task Force which will be dedicated to this task.

Our plan is to engage OGC, ISO and IHO members / staff over the next few weeks to scope the document, but the essence of this effort is to discuss the value and role of geospatial standards in the context of implementation and government mission accomplishment. The goal is an easy to understand, and relatively non-technical document focusing on communicating and educating key decision makers within member nations on topics such as:

· Role and value of open geospatial standards
· Core geospatial standards and related best practices explained
· Implementation examples
· References (national, regional and international cookbooks, SDI guides, etc.)

We are planning for an initial draft of this document to be available in late spring 2014, with ample time for a broad review and revision of a draft to be submitted for review and discussion at the UN-GGIM 4 meeting scheduled for the August 2014.

If you have an interested in supporting this activity, please reply to UNStdsGuide@lists.opengeospatial.org with your expression of interest. We anticipate that this activity will be conducted through regular virtual meetings with OGC staff facilitation of and involvement in the process. Please address any questions to me, Denise McKenzie or Carl Reed. The likely home for the effort in OGC's process will be a sub-committee of the Business Value Committee.

Back to contents

Spatial Data Infrastructure
Asia & the Pacific Newsletter

For background, I have uploaded the UN-GGIM Report – "Establishment and implementation of standards for the global geospatial community" to the OGC portal -- https://portal.opengeospatial.org/files/?artifact_id=56897. I look forward to working with members on this important effort.
Sincerely,Mark

Destination Spatial Matchmaker portal - a way for students, employers and educators to link up

Destination Spatial is a free service provided by the spatial information industry and is committed to providing future geospatial professionals with opportunities and resources to gain valuable professional experience.
The Matchmaker portal helps to bring together secondary schools, colleges and universities, students and employer organisations in the spatial information industry for work placement opportunities including work experience, scholarships and cadetships, internships, full-time, part-time and casual employment.
It is our goal to make the Matchmaker portal a gateway for geospatial students, whether school, college, university or postgraduate to gain valuable hands-on experience through practical work assignments with professional spatial employers.
The Matchmaker portal also provides spatial employers with a resource through which to source the assistance of highly qualified students specialised in various spatial fields.

Digital Earth report available

The *D_City: Digital Earth | Virtual Nations | Data Cities* report has been updated and printed, thanks to its sponsor, the Intergovernmental Group on Earth Observations (GEO).
GEO and the International Society for Digital Earth (ISDE) jointly announced the report's launch at the ISDE conference in Kuching, Malaysia, in August 2013. The 172-page document - a 'thorough snapshot' of current contributions to the G8/GEO-co-ordinated Global Earth Observation System of Systems (GEOSS) project - was, notably, edited by two Australians: Davina Jackson and Richard Simpson, two leaders of the ISDE's digital cities working party. They collaborated on D_City (the 'D' being defined as 'dynamic digital data design for decent development') to help educate next-generation urban development professionals about effective ways of using geospatial technologies.
Since the ISDE Kuching release, two more print runs of the report have been circulated to leaders of key stakeholder organisations across the northern hemisphere.
The current update includes a 'Postscript' summary of latest advances supporting the GEO co-ordinated 'global Earth observations system of systems' (GEOSS) project.
The report has been online (originally as a preview for comment) since early 2012, and can be viewed at the D-City website.
Editorial Board members for the D_City report include GEO's Secretariat Director, Barbara Ryan and ISDE leaders Tim Foresman (associate editor), Massimo Craglia, John van Genderen, Michael Goodchild, Milan Konečný, and Abbas Rajabifard. Other ISDE leaders, including president John Richards, secretary general Guo Huadong, Alessandro Annoni and Peter Droege, provided comments for a special feature titled 'Debating the Data Deluge'.

Geospatial Data Sharing Key to Economic Development

The Group on Earth Observations met in Geneva, Switzerland in the week (Jan. 13-17, 2014), with an agenda to discuss the partnership among governments and international organizations to monitor and understand the Earth. Key to much of the discussion was the need to make data readily accessible for research and third-party entities that utilize the data to create economic value.
…
Restrictions to data usage, and complex rules for its use, create a bureacratic mess. With the federal government involved, and setting priorities, the nation stands to benefit, and with international sharing, so does the world.
Source: Asian Surveying & Mapping
Closely related: **'Misguided' nations lock up valuable geospatial data**
Many governments, particularly those in low-income countries, are "shooting themselves in the foot" by failing to give research and development communities open access to their caches of geospatial data, experts have warned.
The potential of such data that incudes geographic positioning information, including satellite imagery, to aid fields such as disaster response, agriculture, conservation and city planning far outweighs any potential value from selling the information, they say.
Some examples of the beneficial sharing and opening up geospatial data were highlighted at a meeting in Geneva, Switzerland, of the Group on Earth Observations, a voluntary partnership of governments and

Back to contents

international organizations.

But the misguided belief that government data represent a lucrative revenue stream is still stifling countries' development potential, says Paul Uhlir, the director of the board on research data and information at the US National Academy of Sciences.

Source: Scidev.net

Back to contents

Spotlight

This month's "Spotlight" feature is a DOUBLE-WHAMMY. The first is from **Alireza Kashian** who is a PhD candidate and member of the Centre for Spatial Data Infrastructures and Land Administration (CSDILA) within the Department of Infrastructure Engineering at the University of Melbourne. Alireza is interested in research topics associated with Volunteered Geographic Information (VGI) which encapsulates the idea of producing geographic information through the contributions of the crowd. He is specifically involved in the investigation of automatic methods for detecting vandalism cases which frequently occur in VGI platforms.

Smart VGI Platforms: Methods for Automatic Vandalism Detection

In recent years, advances in positioning, web mapping and communication technologies gave us hope to fight against incomplete maps and changed the traditional methods of collecting, updating and maintaining geographic information. People distributed within an environment can voluntarily participate in collaborative online activities. While each person works on a small task, the final collective result often turns out greater than its parts. The term VGI (Volunteered Geographic Information) was coined by Goodchild (2007) and highlights the potential use of "citizens as voluntary sensors" to create and enhance geographic data. In academia, other similar terminologies such as Crowdsourcing Geographic Information or User Generated Geodata are also attributed to this phenomenon. As a general definition, VGI encapsulates the process of collecting, maintaining, and distributing geographic information through the help of volunteers. Just about ten years ago, working with geographic information was only feasible for surveyors and professional GIS developers who had access to advanced GIS tools.

The collective work of volunteers, researchers, and technical people gave rise to many successful VGI initiatives which provide advanced online and offline tools for collecting, editing and sharing geographic knowledge. The combination of these tools is known as "VGI Platforms".

One of the oldest VGI platforms, OpenStreetMap (OSM) was created by Steve Coast in 2004 in the UK. This project played a significant role in proving the hypothetical concept which says even ordinary citizens who are not experts in GIS systems can participate in joint activities of creating maps about the real world. Today, well-known VGI platforms such as OpenStreetMap and Google Map Maker have collected millions of geographic information records. This tremendous momentum of collecting data could only be our dream just a decade ago.

In principle, VGI projects give everyone an equal chance to participate in the process of generating geographic information, thus we have experienced a steep increase in the volume of geographic information generated by the crowd in recent years.

The increasing popularity of VGI platforms comes with a number of caveats, especially in the form of vandalism. Harmful activities have a long history in crowdsourcing and they are not only limited to VGI projects. Wikipedia as one of the most popular crowdsourcing projects has been exposed to several poisoning attacks, where spammers tried to disseminate fake or valueless articles in bulk. In the case of VGI platforms, while reports indicate that most contributions are genuine, with increasing popularity there is a high probability of uprising suspicious activities by spammers.

Some of the common vandalism cases in VGI platforms could be summarized as:

Generating non-existing features or fictional objects

- Deleting existing features randomly (could happen in bulk)
- Modifying the geometry of a feature in a non-regular format
- Assigning incorrect or non-common attributes to a feature

According to the latest statistics published by open VGI projects such as OpenStreetMap, frequent cases of vandalism have been tracked in recent years. Some were rolled back successfully by editors but there is a strong assumption that a large number of vandalism cases are still unidentified. Looking into the nature of such

Back to contents

malicious activities, we can logically deduce that lack of methods for their tracking will seriously impact the quality and credibility of generated data and as a result, the ability and reliability of VGI activities would be at question in future. This research intends to address this concern by instituting an automatic method for the detection of vandalism with a special focus on the insertion of non-existing Points of Interest (POI) and the modification of attributes and positions of current point features.

In order to understand the nature of contributions and to learn about different types of vandalism, we developed a new mobile VGI application as a pilot project. We realized that there is a lack of detailed attribute information for POIs in most VGI projects. The process of adding attribute information to VGI databases is usually considered as a boring task and it is believed that contributors do not experience a similar level of satisfaction when they add such detailed information compared to tasks like adding new roads or copying building boundaries from satellite imageries. But how can we encourage volunteers to fix incomplete and missing data? How would we evaluate such contributions and even track cases of vandalism?

In other crowdsourcing projects, we can find approaches to engaging contributors in problem solving by embedding the tasks inside a game. This concept is referred to as "gamification" which encapsulates the idea of entertaining contributors while they are completing a particular defined task. We used the same concept to design a mobile application called "RoadPlex" which mainly aims for collecting general or specific attribute information for POIs. While we were designing the application, we kept in mind that if the defined tasks inside the game are too complex, then potential contributors might refrain from continuing to use this application. It is obvious that if users do not see the value of their contribution, their incentive to put more effort in contributing will diminish.

RoadPlex concentrates on an easy user interface and a straightforward rewarding scheme, so all contributors can immediately see and realize the outcomes of their efforts. Through the game scenario, players receive a list of nearby venues based on their location provided by the GPS sensor. In the next step, players have the option to choose one of the venues to see the list of associated questions for that venue. Each question has specific rewarding points assigned to it which is based on the difficulty of the question. The questions are designed to collect implicit knowledge about attributes of the venues. Answers are mainly given by selecting one of three choices, or by a textbox. For example, to answer a question about the name of a restaurant owner, the player might need to type the name inside a text box. Two sample questions with options are listed in Table 1 to clarify the structure of questions and answers. In general, responding to more questions means more rewarding activity points and therefore higher chances to win prizes. Currently RoadPlex offers 10$ and 20$ Google Play credits for each 40,000 activity points. In Figure 1, different stages of the game are illustrated by screenshots.

What type of credit cards does this place accept?	What is the smoking status in this place?
(a) All three majors Visa/Master/American Express (b) Only Visa/Master (c) No credit card is accepted	(a) Smoking is not permitted (b) Smoking outside only (c) Only in Smoking Zones Area

Table 1 Sample triple choice questions

(a) Login Page   (c) List of Venues   (d) Questions for a Venue   (d) Venue Options
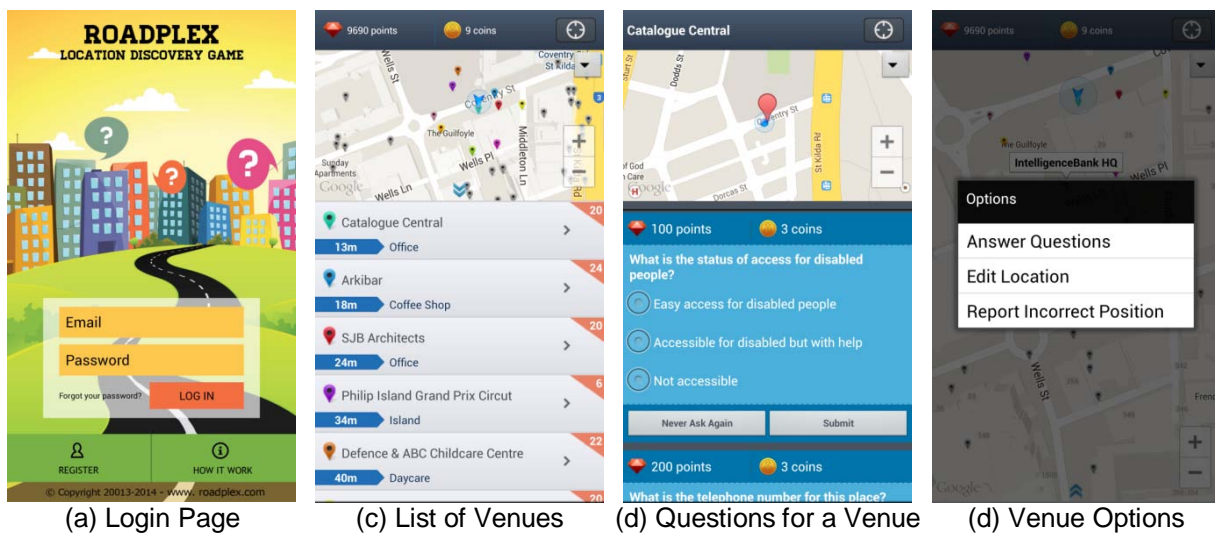
Figure 1 Screenshots of RoadPlex game

By February 2014, RoadPlex attracted around 750 registered players with approximately 5000 questions answered with gradual growing pattern in number of participants. Through our analysis, we found that some players had responded to some questions randomly in order to receive more points in shorter time. While this is not a prevailing behavior among the players, the consequences of such activities decrease the reliability of responses. To control such behavior, we are currently developing a double blind matching algorithm to attest the validity of each answer by asking two anonymous players the same question. We also plan to run a competition inside the campus of Melbourne University which will help to test our blind matching algorithm in a smaller, but more controlled community. RoadPlex supports Android devices and the latest version of RoadPlex (version 2.5.3) is available through the Google Play store under the category of "Travel and Local".

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The second of this month's "Spotlight" features is from **Kuo-Chih Hung** who is a PhD student and member of the Centre for Spatial Data Infrastructures and Land Administration (CSDILA) within the Department of Infrastructure Engineering at the University of Melbourne. Kuo-Chih's main focus is the "Crowd-sourced geographic information and disaster management" research project which is currently under investigation by the researchers at CSDILA.

A framework for automated crowd-sourced spatial data evaluation for disaster response and relief

In recent years, the emergence and innovation of Crowd-sourced Geographic Information (CGI) have been regarded as a new approach in disaster management, and a complementary part of SDI. For instance, the base map by collaborative mapping on OpenStreetMap after Haiti Earthquake has shown CGI can enhance the logistical systems and help relief effort. It has proved a method that people far away from stricken area can work as a part of the digital humanitarian network to assist the formulation of information.

In addition, it was noticed that while the communication infrastructures had been collapsed by hazards, or local Emergency Operation Centre (EOC) could not provide the service well due to the massive call in the moment of event happening, CGI provides an alternative channel for public to report the situation during the event, or to ask assistance and resource.

Although CGI is more immediate and context-rich, there are still some issues in its usage. In this research, we focus on the emergency reports. Since the reports represent the temporary spatial feature like flood or bushfire, it has more uncertainty than normal feature. The position uncertainty of data is one important problem due to the human positioning mistakes. In historical experiences, emergency agencies have to take a lot of efforts to filter and verify the position of reports manually or by the help of volunteers. Another issue is that the data format is usually unstructured, emergency agencies cannot find valuable information such as the time of event happening or observed. This has limited the data applicability.

To facilitate the usage of CGI, this research proposes to design a framework to evaluate the data automatically by semantic analysis and spatial analysis. The framework has 3 levels, location verification, report ranking, reports re-structuralization. At first level, the crowd-sourced data is expected to have the description of its location. Through semantic analysis, if the location matches the reference gazetteer database, it will evaluate the position under the preset tolerance. Beside geographically implicit reports (like an event on a road without description of section), the framework provide a method to verify position of reports more efficiently. Second, by setting criteria of information, the user can have the ranking of each report, for example. Some reports are asking assistance, they will have higher ranking than other reports. Third, through semantic analysis, the critical information will store in other fields that the emergency agencies could control the information more easily.

The editors remind our subscribers and readers that we welcome contributions for the *Spotlight* feature.

Back to contents

GIS Tools, Software, Data

Roger Tomlinson (1933-2014) – the 'father' of GIS

Jakarta partners with mapping agency to promote use of geographic information
The recent Memorandum of Understanding (MOU) between Indonesia's capital city and Geospatial Information Agency (In Bahasa Indonesia: Badan Informasi Geospatial or BIG, http://www.bakosurtanal.go.id/) will promote the greater use of geospatial information to help Jakarta reach a smart city status.

Back to contents

Jakarta is home to more than ten million people, making it the most populous city in Southeast Asia, and 13th most populous city in the world. The growing population and various economic and commercial activities have put a strain on the city's key infrastructures and scarce resources, prompting city officials to partner with BIG to help them sustainably plan for the city's future.

According to Jakarta Governor Joko Widodo, in order for Jakarta to be globally competitive, it is important for decision makers to have readily available authoritative information to help them design liveable urban neighbourhoods and craft sustainable plans to support businesses, commerce, utilities and transportation among others. "Planning cannot be done without proper amount of data," he said.

As part of the MOU, the Governor ordered every city department to submit their respective data and geospatial information to BIG in order to build up the city's Geospatial Information Infrastructure.

Source: FurureGov

New NENA standards document for GIS data: open for public review and comment

National Emergency Number Association (NENA) Standards for the Provisioning and Maintenance of GIS data to ECRF/LVF, NENA-STA-005 (DRAFT) has been posted to the NENA collaboration website (PDF) and is available for Public Review and Comment starting December 20, 2013, and ends on January 16, 2014, at 5PM ET. All comments shall be submitted by going to this link and then selecting "add a comment" just above the title "Document Details." Please complete all requested data and "Save" OR if submitting multiple comments, select "Save and Add Another". Any questions or concerns with submitting your comments please contact the NENA Committee Resource Manager.

Executive Overview

This document defines operational processes and procedures necessary to support the i3 Emergency Call Routing Function (ECRF) and Location Validation Function (LVF). Additionally, this document identifies ECRF/LVF performance and implementation considerations for 9-1-1 Authorities' consideration.

The roles and responsibilities of 9-1-1 Authorities vary depending on jurisdictional hierarchy, resource availability, capabilities, service arrangements, and regulations and statutes. As such, 9-1-1 Authorities are expected to work with ECRF/LVF operators to further clarify and/or identify additional required services prior to development and implementation of ECRF and LVF.

Although this document contains references to 9-1-1 Authorities' Geographic Information System (GIS), Public Safety Answering Point (PSAP) equipment, access and call network providers Location Information Servers (LIS), and other core functions of the ESInet, their functionality and operations are out of scope for this document. NENA 08-003, Detailed Functional and Interface Specification for the NENA i3 Solution – Stage 3, contains definition of data structures and detailed functional and interface standards that are referenced in this document.

The OGC seeks comment on revised GML in JPEG 2000 Encoding Standard

The Open Geospatial Consortium (OGC®) seeks comment on the candidate GML in JPEG 2000 Encoding Standard version 2. This geospatial data encoding standard defines how the Geography Markup Language (GML) is to be used within JPEG 2000 images for adding geographic content to imagery. Once approved, the GML in JPEG2000 version 2 standard will join a suite of international open standards that provide a platform for seamless service-based publishing, discovery, assessment, ordering, access and processing of geospatial information.

Version 1.0.0 of this standard was published in January of 2006. The new candidate version 2 of the standard exploits the capabilities of the OGC GML Coverage Application Schema (GMLCOV) and the OGC Web Coverage Service (WCS) 2.0 Interface Standard that have been made available by the OGC since 2006. Version 2 eliminates shortcomings of Version 1 and also addresses shortcomings of competing methods of using JPEG2000 in geospatial applications.

All OGC standards are free and publicly available on the OGC Standards Page. The candidate GML in JPEG 2000 Encoding Standard version 2 can be downloaded. The GML in JPEG 2000 Standards Working Group (GMLJP2 SWG) will consider comments on the candidate GMLJP2 Standard that have been posted through 19 March 2013.

The OGC is an international consortium of more than 470 companies, government agencies, research organizations, and universities participating in a consensus process to develop publicly available geospatial standards. OGC standards support interoperable solutions that "geo-enable" the Web, wireless and location-based services, and mainstream IT. OGC standards empower technology developers to make geospatial information and services accessible and useful with any application that needs to be geospatially enabled. Visit the OGC website.

Back to contents

Open Development Cambodia (ODC)

Open Development Cambodia (ODC) is an "Open Data" website, the first of its kind in Southeast Asia. The "Open Data" movement is based on the simple premise that data collected for public interest should be publicly available – without restrictions.

ODC has recently launched a new Forest Cover page where one can see animated maps of forest cover change across the country from 1973 – (Oct) 2013. The page also includes animations of six landscapes – the Greater Virachey area, the Eastern Plains, North Central Cambodia (including Prey Lang Landscape and Boeung Pe), Southern Cambodia, Cardamoms and Bokor, and western Cambodia (Battambang and Pailin.) Included in the page is analysis of forest cover changes by %, hectare, and provincial distribution for the forty years.

Open Development Cambodia was conceived by East-West Management Institute in consultation with local and international partners. The project is implemented by a young and dynamic Cambodian staff and a web of partnerships that are contributing to collaborative information sharing and engaging students and others in contributing to the site and increasing their skills through volunteer opportunities.
Interactive map and Download maps.

OGC adopts important GeoPackage Standard for Mobile

The Open Geospatial Consortium (OGC®) has adopted the OGC GeoPackage 1.0 (GPKG) Encoding Standard. The GeoPackage standard will make it much easier to exchange and share geospatial (or location) information across different devices, applications and web services throughout the mobile world.

GeoPackage was developed for mobile application developers whose applications need to provide users with geospatial application services and associated data in disconnected or limited network connectivity environments, or whose applications depend on geospatial data and processing services from diverse sources. GeoPackage supports a wide variety of applications such as those that involve creation of geospatial data products in enterprise computing environments, data product distribution to other computing environments, mobile workforce data capture and updates, and volunteered geographic information.

From a technical perspective, the GeoPackage standard defines an open, non-proprietary, platform-independent SQLite container for distribution and direct use of geospatial data, including vector features and tile matrix sets. This approach simplifies development and gives applications access to a very wide variety of Web-based geoprocessing services.

The OGC GeoPackage (GPKG) Encoding Standard has been developed by OGC members with additional participation by interested developers on GitHub, a web-based hosting service for software development projects. The OGC GeoPackage Encoding Standard and associated resources can be found here. All OGC standards are free and publicly available.

The OGC is an international consortium of more than 470 companies, government agencies, research organizations, and universities participating in a consensus process to develop publicly available geospatial standards. OGC standards support interoperable solutions that "geo-enable" the Web, wireless and location-based services, and mainstream IT. OGC standards empower technology developers to make geospatial information and services accessible and useful with any application that needs to be geospatially enabled. Visit the OGC website.
Source: OGC press release - Contact

The OGC approves SensorML 2.0, advanced standard for Internet of Things

The Open Geospatial Consortium (OGC®) has approved the OGC Sensor Model Language (SensorML) 2.0 Encoding Standard. SensorML 2.0 provides a standard encoding for describing sensors ("things that measure"), actuators ("things that act"), and processors ("things that calculate"). SensorML is part of the award-winning OGC Sensor Web Enablement (SWE) suite of standards that have been implemented in satellite mission planning, monitoring and alerting, and intelligent cities and buildings around the world.

Because SWE standards are open standards based on open and universally accepted standards for the Internet and web, and for spatial location, they are foundational standards for communicating with sensors, actuators and processors whose location matters. They are a key enabler for the Internet of Things.

SensorML 2.0 includes a number of changes to the previous version 1.0.1, which was approved in 2007. SensorML 2.0 includes new or improved features, including:
-- Support for using external schemas to describe sensor properties
-- Better-defined support for positions and dynamic state (e.g. location, orientation, velocity, and acceleration)
-- Better support for inheritance, allowing for more compact descriptions of deployed devices and processes
-- Direct access to real-time values and data streams
-- Better support for multiplexed data streaming (i.e. streams with disparate message types).

Back to contents

The online documentation includes a large collection of programming examples.

Efforts are also underway to take advantage of the complementary role that SensorML 2.0 can play with the OGC City Geography Markup Language (CityGML) Encoding Standard and the candidate OGC standard IndoorGML. Also, the OGC Sensor Web for IoT (SWIOT) Standards Working Group (SWG) seeks to make observations captured by IoT devices easily available to applications and users through data aggregation portals.

All OGC standards are free and publicly available. The OGC SensorML 2.0 Encoding Standard can be downloaded from http://www.opengeospatial.org/standards/sensorml.

Source: OGC press release - Contact

OGC invites government information system managers to a GeoPackage Webinar

The Open Geospatial Consortium (OGC) and Directions Media invite government information system managers to attend a free webinar on the new OGC GeoPackage Encoding Standard, an open standard for accessing spatial data on mobile devices. The webinar, fifth in a series of OGC GovFuture Webinars, will be held on 5 March 2014 from 11:00 am – 12:00 pm EST (GMT-5:00 hours).

You will learn:

· How GeoPackage APIs increase cross-platform interoperability of location apps and spatial Web services in a mobile environment

· About lightweight mobile apps that tap into a mix of powerful cloud-based location services and data

· How GeoPackage works in situations where Internet access is intermittent or disconnected

· How GeoPackage is useful for applications in mobile workforce data capture, providing information during municipal operations, for example, or an emergency event

The recently approved OGC GeoPackage Encoding Standard enables easier exchange and sharing of geospatial (or location) information across different devices, applications and web services throughout the mobile world. A modern, service-oriented alternative to conventional spatial data formats, GeoPackage's SQLite-based format efficiently stores and transfers geographic vector features and image tiles. GeoPackage was developed for mobile application developers whose applications need to provide users with geospatial application services and associated data in disconnected or limited network connectivity environments, or whose applications depend on geospatial data and processing services from diverse sources.

Register for the free GeoPackage webinar here.

Speakers

Jeff Harrison, President, CEO and Founder, The Carbon Project, rank Suykens, CTO, Luciad

The speakers will be introduced by Raj Singh, Director of Interoperability Programs, OGC.

Source: OGC press release - Contact

Back to contents

News from abroad

"This section has been included to highlight some of the developments happening outside the region which demonstrate SDI in action.

Read World News on the Map via the Esri News story map

The ultimate news map! This fabulous Esri Storymap lets you read 86 different English language newspapers around the globe. You've seen the cool and informative Esri news maps no doubt. Well, this one is really fun, clever, and quite informative. Browse and wander around the map to discover major newspapers. Hover over a red city icon and click to reveal a nicely formatted browser window appear displaying the city newspaper for you to enjoy. There's dozens of papers available from Honolulu, to Anchorage and New York and many places in between – great stuff Esri! Oh, and you aren't limited to the USA as you can enjoy and read papers all around Europe, South America and all around the Globe.

Source: GISuser blog and ESRI

Back to contents

Articles

Oman: Spatial Data Infrastructure: Obstacles and Opportunities

With development continuing at an unabated pace, the Sultanate of Oman is working towards creating its national spatial date infrastructure in order to ensure sustainable development, offer new and precise data and create an environment of data integrity and exchange. The article takes a look at the obstacles and opportunities of creating a spatial data infrastructure in Oman.

Abu Dhabi SDI program shares its experience with Saudi delegation

A top Saudi delegation from Makkah, headed by Ahmed Hikmat Alah, deputy secretary general of the Makkah City Information Technology, visited Abu Dhabi Systems & Information Center (ADSIC). The team, including Talal Al-Yamani, director of Spatial Information Technology and Khaled Al-Madani, assistant director of Spatial Information Technology, examined the various details of the success factors of Abu Dhabi Spatial Data Infrastructure Program (AD-SDI) which is managed by ADSIC. Abdul Karim Al Raisi, ADSIC's director of strategy and planning, welcomed the delegation.

The visit from Makkah reiterates the keenness of the Abu Dhabi government to share best practices such as the center's Abu Dhabi Spatial Data infrastructure Program, with Saudi Arabia. Abu Dhabi's Geospatial portal, established by AD-SDI, hosts a wide range of spatial data and information as well as provides web map services which allows visitors to visualize and use more than 500 data sets. It is a significant step toward the long-term AD-SDI goal of establishing a network of inter-operable nodes for geospatial data usage and sharing.

Assessing the Development of Kenya National Spatial Data Infrastructure (KNSDI)

Authors: Josephat Okuku, Arnold Bregt, Lucas Grus, *South African Journal of Geomatics* Vol 3(1) 2014

Abstract: Spatial data plays a vital role in developmental activities, whether natural resource management or socio-economic development. Spatial Data Infrastructures (SDIs) facilitate access, sharing and dissemination of spatial data necessary for complex decision-making processes of the future. Thus, conducting SDI assessment is essential to guide its development, to monitor and improve its quality and to provide evidence of accountability for all stakeholders. Knowledge of the development status of SDI of a country is crucial to increase the accountability and development of spatial data information. In Kenya, there are many organisations both public and private that are involved in spatial data production, use and dissemination to meet needs of the geo-information community. However the developmental status of Kenya National Spatial Data Infrastructure (KNSDI) is unknown. This paper aims at evaluating the development of SDI-initiative in Kenya with an aim of contributing to the enhancement of SDI development to realise its fundamental objectives. Then explore the level to which Kenya is prepared to attain an operational SDI, expose best practices, identify main problems, and review the way forward. Three assessment approaches of multi-view assessment framework were adopted. They are; SDI-Readiness index, Modified state of play and Organisational aspects. Data collection was by interview and questionnaire surveys from 13 KNSDI stakeholders sampled purposely from the following categories; academia, NGOs, public and private sector, civil society, international organisations and government. Document analysis and internet search supplemented data collection. The results indicate that development of KNSDI and implementation in Kenya is ad hoc and fragmented. This paper identified funding sustainability, awareness for SDI and all-inclusiveness communication as major aspects of Kenya NSDI that need to be addressed. The paper suggests that Kenya NSDI secretariat should work towards resolving the identified obstacles by: i).Sustained funding through increased budgetary allocation from the central government and other alternative sources of funding like open source services and cost recovery on geo-information products. ii). Bottom up approach through awareness creation about importance of spatial data for sustainable development.

Back to contents

Books and Journals (including Videos and Web publications)

FGDC ISO Geospatial Metadata Implementation Forum

The Federal Geographic Data Committee is organizing a monthly webinar information series in 2014 for the presentation and discussion of ISO implementation shared experiences, strategies, topics, and resources. NSDI Stakeholders from different sectors will lead a one hour presentation the second Wednesday of each month, from 3:00-4:30 PM (Eastern time), followed by a 30 minute guided discussion. These webinar are to alternate

Back to contents

with the Metadata Working Group Quarterly Meetings held at 3 PM (Eastern USA time) on the second Wednesday of March, June, September and December.

The presentation slides and related resources will be added to FGDC's website following each presentation. The schedule and tentative presentation topics are listed below. If you are interested in presenting, please contact Jennifer Carlino, Acting FGDC Metadata Coordinator.

Tentative Presentation Topics:

January 8, 2014 - 3:00 PM (E)
Introduction to the Forum: Why Implement ISO Metadata?
Federal directives that support implementation and new features/capabilities that the standards provide
Webinar materials: Webinar presentation slides with notes and summary of discussion (PDF)

February 12, 2014 - 3:00 PM (E)
Why We Implemented ISO Metadata
Implementers discuss their reasons for implementing the new standard and the benefits/challenges of their experience

March 12, 2014 - 3:00 PM (E)
FGDC Metadata Working Group Quarterly Meeting

April 9, 2014 - 3:00 PM (E)
ISO Metadata Implementation Tools – Community Resources
Overview of the ISO Metadata Editor Review, GeoPlatform and other community tools

May 14, 2014 - 3:00 PM (E)
ISO Metadata Implementation Tools – Commercial Resources
Overview of the ESRI Metadata Editor, XML Spy and other commercial tools

June 11, 2014 - 3:00 PM (E)
FGDC Metadata Working Group Quarterly Meeting

July 9, 2014 - 3:00 PM (E)
ISO Metadata Implementation Model Workflow
Overview of the Model Workflow and its application to data management organizations

August 13, 2014 - 3:00 PM (E)
ISO Metadata Implementation Model Workflow Experience
Implementers discuss their implementation experience, the workflow components that were most significant and resources they developed to support implementation

September 10, 2014 - 3:00 PM (E)
FGDC Metadata Working Group Quarterly Meeting

October 8, 2014 - 3:00 PM (E)
TBD – based on community input (see potential topics below)

November 12, 2014 - 3:00 PM (E)
TBD – based on community input (see potential topics below)

December 10, 2014 - 3:00 PM (E)
FGDC Metadata Working Group Quarterly Meeting

CALL for PAPERS: Geospatial Semantic Array Programming   Website
The following Special Issue will be published in Future Internet (ISSN 1999-5903), and is now open to receive submissions of full research papers and comprehensive review articles for peer-review and possible publication:
Special Issue: Semantic Geographic Information System (Semantic GIS)
Guest Editors: Dr. Salvatore Flavio Pileggi and Prof. Dr. Robert Amor
Deadline for manuscript submissions: 15 June 2014
Summary

The progressive consolidation of Information Technologies on a large scale has been facilitating and progressively increasing the production, collection, and diffusion of geographic data, as well as facilitating the integration of a large amount of information into Geographic Information Systems (GIS).
Traditional GIS is emerging as a consolidated information infrastructure. This consolidated infrastructure is affecting more and more aspects of Internet Computing and Services. Most popular systems (such as Social Networks, GPS, and Decision Support Systems) involve complex GIS and important amounts of information.
The scale and the complexity of the information on the Internet has led researchers to design the next version of the network (known as the Semantic Web) according to a challenging model: the model assumes that published data will be integrated with its "meaning" (i.e., semantic description). Such integration would potentially allow for the processing of contextual information by machines in a context of interoperability and unambiguity.
Semantic processes on the Internet are not limited to data, but can also involve web services. Indeed, Semantic

Back to contents

Web Services extend the common web service concept by using semantic descriptors (e.g., those regarding modeling, service behavior, and capacity) to perform dynamic tasks, which involve the discovery, matchmaking, and execution of services that are supplied by different providers scattered throughout the global network. As a web service, GIS is affected by exactly the same problems that affect the web as a whole. Reasonably, next generation GIS solutions have to address further methodological and data engineering challenges in order to accommodate new applications & extended requirements (in terms of scale, interoperability, and complexity). The conceptual and semantic modeling of GIS, as well as the integration of semantics into current GIS, may provide highly capable environments (i.e., Semantic GIS) that are capable of capturing the needs and requirements of a wide domain of applications.

Keywords
* semantic technologies
* semantic Web
* Geographic information System (GIS)
* conceptual and semantic modeling of GIS
* ontology for GIS
* geographic space modeling
* novel applications on GIS
* GIS and social media integration
* spatial data infrastructure (SDI)

You may send your manuscript now or up until the deadline. Submitted papers should not have been published previously, nor be under consideration for publication elsewhere. We also encourage authors to send us their tentative title and short abstract to the Editorial Office for approval.

This Special Issue will be fully open access. Open access (unlimited and free access by readers) increases publicity and promotes more frequent citations, as indicated by several studies. Open access is supported by the authors and their institutes. More information is available.

The Article Processing Charges (APC) are 500 CHF for well prepared manuscripts. In addition, a fee of 250 CHF may apply if English editing or extensive revisions must be undertaken by the Editorial Office. For details. Please visit the Instructions for Authors before submitting a manuscript.

Manuscripts should be submitted through the online manuscript submission and editorial system.

CALL for PAPERS: Geospatial Semantic Array Programming

Earthzine, an IEEE-sponsored online scientific journal, is soliciting articles of 800-3,000 words for its second quarter theme of 2014 on **Geospatial Semantic Array Programming** (GeoSemAP). We seek contributions from all regions of the globe, addressing environmental transdisciplinary research in which a concise integration of array-based semantics and array programming, geospatial tools and a modular composition of data-transformation models are exploited for geospatial problems within the paradigm of Semantic Array Programming. This theme specifically focuses on wide-scale transdisciplinary modelling for environment (WSTMe) as a scientific challenge with an increasingly important role in allowing strategic policy-making to be effectively discussed and programmed with the support of robust science.

See the call for papers OR download it in PDF.

CALL for PAPERS: Special Issue "Earth Observation for Water Resource Management in Africa"
Remote Sensing Journal **Deadline for manuscript submissions: March 31, 2014**

The concept of Integrated Water Resource Management (IWRM) is seen as an opportunity to help manage water variability and the wide spread water scarcity in Africa. One key component missing from IWRM in Africa is the limited knowledge of the available extent and quality of water resources at basin level. Earth Observation (EO) technology can help fill this information gap by assessing and monitoring water resources at adequate temporal and spatial scales. The goal of this Special Issue is to understand and demonstrate the contribution which satellite observations, consistent over space and time, can bring to improve water resource management in Africa. Possible EO products and applications range from catchment characterization, water quality monitoring, soil moisture assessment, water extent and level monitoring, irrigation services, urban and agricultural water demand modeling, evapotranspiration estimation, ground water management, to hydrological modeling and flood mapping/forecasting. Some of these EO applications have already been developed by African scientists within the 10 year lifetime of the TIGER initiative: Looking after Water in Africa, whose contributions are intended to be the starting point of this Special Issue and is only one example of the wide range of activities in the field. Contributions from the entire African and international scientific community dealing with the challenges of water resource management in Africa are the target of the special issue.

Back to contents

In the years to come, an ever increasing number of international EO missions, such as the Landsat, ALOS, CBERS and RESOURCESAT mission suites, the family of Sentinel missions and the SMAP mission, will provide an unprecedented capacity to observe and monitor the different components of the water cycle. This Special Issue aims also at reviewing the latest developments in terms of new missions as well as related EO products and techniques that will be available in the near future to face some of the major challenges for IWRM in Africa.

Digital Earth report available

The D_City: Digital Earth | Virtual Nations | Data Cities report has been updated and printed, thanks to its sponsor, the Intergovernmental Group on Earth Observations (GEO).

GEO and the International Society for Digital Earth (ISDE) jointly announced the report's launch at the ISDE conference in Kuching, Malaysia, in August 2013. The 172-page document - a 'thorough snapshot' of current contributions to the G8/GEO-co-ordinated Global Earth Observation System of Systems (GEOSS) project - was, notably, edited by two Australians: Davina Jackson and Richard Simpson, two leaders of the ISDE's digital cities working party. They collaborated on D_City (the 'D' being defined as 'dynamic digital data design for decent development') to help educate next-generation urban development professionals about effective ways of using geospatial technologies.

Since the ISDE Kuching release, two more print runs of the report have been circulated to leaders of key stakeholder organisations across the northern hemisphere.

The current update includes a 'Postscript' summary of latest advances supporting the GEO co-ordinated 'global Earth observations system of systems' (GEOSS) project.

The report has been online (originally as a preview for comment) since early 2012, and can be viewed at the D-City website.

Editorial Board members for the D_City report include GEO's Secretariat Director, Barbara Ryan and ISDE leaders Tim Foresman (associate editor), Massimo Craglia, John van Genderen, Michael Goodchild, Milan Konečný, and Abbas Rajabifard. Other ISDE leaders, including president John Richards, secretary general Guo Huadong, Alessandro Annoni and Peter Droege, provided comments for a special feature titled 'Debating the Data Deluge'.

GSDI and IGS Global News, Volume 4 Number 1 for 2014 (January 2014) (PDF)

MMA Location Terminology Guide

World Disasters Report 2013: Focus on technology and the future of humanitarian action

2013 Tasmanian Bushfires Inquiry Report

Disaster Risk Management in Asia and the Pacific Issues Paper (April 2013)

D_City: New report on modelling Earth systems for climate and environmental solutions

The world's first comprehensive 'snapshot' report on how science and technology leaders are supporting the 'global Earth observation system of systems' (GEOSS) project. Titled D_City: Digital Earth | Virtual Nations | Data Cities, the report has been produced to explain to urban development professionals the emerging 'Google era' of satellite Earth observations and geospatial science and technologies for modelling climate-related environmental solutions.

Co-edited by urbanists and scientists leading the digital cities working party of the International Society for Digital Earth, the book's first printings have been sponsored by the Group on Earth Observatons secretariat in Geneva, led by Ms Barbara J. Ryan.

GEO is supporting D_City's proposed 'network concept diagram' for the GEOSS project – which suggests a new stream of 'Virtual Nations' projects and increasing integrations of computer modelling the stocks and flows of nature, buildings and cities.

The GEO news article is at earthobservations.org. The report (with downloadable PDF) is available from dcitynetwork.net/manifesto. Printed copies can be ordered from DCity at info@dcitynetwork.net. The media release is at http://dcitynetwork.net/wp-content/uploads/2013/09/GEOISDE-Data-Cities-press-release.pdf . A blogpost with links to press coverage of the report is at http://dcitynetwork.net/2013/09/geo-sponsors-first-printings-of-d_city-report/

NewGeography website

Back to contents

Mapping London blog

LandScan: a news update from Land Information New Zealand, Issue 66 (September 2013)
In this issue...
- International acclaim for the LINZ Data Service
- Property rights reputation remains high
- LINZ establishes Crown Land Centre of Expertise
- Location-based information to boost Canterbury recovery
- First new nautical paper chart produced in-house
- LINZ takes learners on a geospatial adventure
- Stakeholder survey - thanks for your feedback

Borderlines blog from the New York Times
Countries are defined by the lines that divide them. But how are those lines decided — and why are some of them so strange? Borderlines explores the stories behind the global map, one line at a time.
by Frank Jacobs
Frank Jacobs is a London-based author and blogger. He writes about cartography, but only the interesting bits. His other blog is Strange Maps

Blog of **Ragnvald Larsen, geographer**
Geographer working with maps at the Norwegian Directorate for Nature Management. Part of his job is to contribute to development aid projects.

Steve Goldman's **Map Fodder** website

David Rumsay Map Collection

International Society for Digital Earth - August, 2012 Newsletter

Thoughts on the Geospatial industry, Open Standards and Open Source Cameron Shorter's blog

New Zealand - SDI Cookbook Chapter 6 – Government and Industry, moving forward.
Carnival Of The Geospatialists #3 - Musings and Down-Right Cool Things Shared by the Geo Faithful

Open Planet 5, the magazine published for the International gvSIG Conference is now available in electronic format

SDI Magazine

Technology & More (July 2013)

Mother Pelican: A Journal of Sustainable Human Development
The November 2013 issue has been published

LiDAR News newsletter, Vol 4, No 3 (2014)

LiDAR News magazine (January/February, Vol 4, No 1, 2014)

Think Quarterly – Google's new on-line magazine

Coordinates monthly magazine - **PDF** (February 2013)

SERVIR-Africa community news

GISuser - GIS and Geospatial Technology News

National Geographic website

Back to contents

**Spatial Data Infrastructure
Asia & the Pacific Newsletter**

The Atlantic Cities website including **Maps**

Professional Surveyor magazine

The American Surveyor newsletter (October 30), **The American Surveyor** newsletter (November 13)
The American Surveyor newsletter (November 27)

The American Surveyor Vol.10 No.9 (September 2013)

My Co-ordinates e-zine – October 2013 issue (PDF)

UN-SPIDER Newsletter January 2014

UN SPIDER Updates January 2014

Thematic Mapping blog Terrain mapping with Mapnik

Richard Bedford blog: Mapping the News

The Afternoon Map – A Cartography blog

Back to contents

Just for Fun!

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6 Questions for World Book's Cartographer
It takes an army to build *The World Book Encyclopedia*. From editors to designers, researchers to cartographers, there are many hands involved in the venerable encyclopedia's creation and none play too small a role in bringing the set to life. Over 450 illustrations, photographs, and maps have been added to the latest 2014 edition. Helping to add many of those visually rich resources is World Book's Sr. Cartographer John Rejba, who gives us the inside scoop on his job as a maker of maps.
How did you become interested in cartography and how did it lead you to World Book?
I've always been kind of adventurous, and I've had the privilege to travel at a young age. Traveling led me to gain an appreciation for geography and culture. I think of myself as a visual person. I tend to lean toward graphics and the visual arts so I kind of latched on to cartography in college and ran with it.
My emphasis in college was geographic information systems and cartography. When I graduated, I promised myself I would pursue a career in one of those two disciplines. I grew up with World Book, and when I saw a job posting for a cartographer, I told myself, "This is the job!"
What has been your favorite project you've worked on at World Book?
The Holy Grail project will always be the encyclopedia. But, the project that is closest to my heart would be *People and Places*. It's such a deep and complex set of books, both cartographically and culturally. The product's rich political and thematic maps, pictures, and facts bring me a lot of joy. It was an honor to revamp and revitalize such a great product.
Why do you think cartography is important?
I think it's important because it helps us to visualize, and understand the world around us. Maps do more than just tell us how to get from point A to point B or where capitals are. They allow us the ability to express geographic relationships that words may not be able to convey.
What elements are essential to every map?
There are many but I'll touch on three here. Every map should have a good representation of Earth's curvature. We commonly call that representation a projection. For example, at World Book we use the Robinson projection for world maps. The Robinson projection is great because it shows each continent at a more authentic size in relation to all the other continents. Other essentials would be the scale representation stating how large or small of an area is on the map. A legend is another tool that helps a reader be more informed with the type of information being displayed on a map.
What can students do to prepare themselves to become a cartographer?

Back to contents

I would say, just start looking at maps and enjoy them. As a student advances, they should take the time to understand what types of content, data, and methodology a cartographer uses to make a map.

I've heard our maps are geo-political. Can you explain more about this?

Some of our article maps in World Book products could be seen conceptually as geo-political. We usually include maps in articles to help explain areas of the world where geography and politics are sensitive issues, or were at one time sensitive issues. Many of these maps illustrate how humans influence area spatially for treaties, struggles, or conflicts in either a historical or present-day context. These types of maps would be a good example of how maps can express relationships geographically, culturally, and politically where words cannot.

Source: World Book newsletter (February 2014)

The Panama Canal, map by John Rejba
Honorable Mention, 35th Annual Map Design Competition

Seven things you probably don't know about maps

1. It's still possible to have your own world-class map collection
2. "BRIC" nations are hot right now
3. The first "modern" map was printed more than 500 years ago
4. Mapmakers included fake towns to catch forgers
5. The world's best map collection is in Paris
6. The most expensive map was the first to name America
7. The best place to shop for maps is in the Netherlands

Source: News.com.au and CNN

The town with no Google Map

Cranberry officials say the township just isn't getting any respect. Facebook posts made in Cranberry on a smartphone tag the location as "near Fernway." Some of Verizon's cell phone exchanges for Cranberry are listed as "Crider's Corners." Type Cranberry Township into Mapquest, it will send you to a similarly named community in Venango County. Clicking on the alternate selection takes you to Fernway and Crider's Corners in Butler County.

"We want people to understand they're in Cranberry," said Ron Henshaw, Cranberry's director of community development. "We've gone to Google and whomever to try to correct that, but so far, Google has been reluctant to change that."

A Google spokeswoman said the company is researching the issue.
Source: Pittsburgh Tribune-Review

How the north ended up on top of the map

Why do maps always show the north as up? For those who don't just take it for granted, the common answer is that Europeans made the maps and they wanted to be on top. But there's really no good reason for the north to claim top-notch cartographic real estate over any other bearing, as an examination of old maps from different places and periods can confirm.
Source: Aljazeera America

An Astronaut's View of the North Korean Electricity Black Hole

North Korea may be a horribly repressive dictatorship by day. At night, it also does a good impression of being nothing – a barren wasteland, an expanse of ocean, a light-devouring black hole.

That's if you look at it from space, as one of the astronauts aboard the International Space Station recently did. This photo from more than 200 miles above the planet's surface shows just what a difference a robust electric grid can make on a country's appearance. To the north is China, blazing out of the darkness like a sea of fire. Below is

Back to contents

South Korea, its borders defined as clearly as patterns on a Lite-Brite. And between these two is a big sandwich of darkness with Pyongyang, a city of more than 3 million people, emitting only the faintest smudge of fluorescence.
Source: The Atlantic "Cities"

January 2014's extreme weather worldwide - interactive map
From temperatures as low as -36C in Russia to some of the wettest weather in the UK's history, this map shows the extreme weather events of last month from around the world. The data was sourced from the Japanese Meteorological Agency and covers all of January 2014.
Source: The Guardian

Back to contents

Training Opportunities

An Introduction To Working With Electronic Maps
Here's a free online training course using QGIS software. 13 lectures in total.
Thanks to Ross Johnson for this link

PennState EDU Introduces Maps and the Geospatial Revolution Online Training
An amazing new effort from Penn State (PSU) kicks off this week in the form of a massive, online EDU offering – enter Maps and the Geospatial Revolution. In just 6-9 hours a week, students can enjoy this online offering and learn how advances in geospatial technology and analytical methods have changed how we do everything, and discover how to make maps and analyze geographic patterns using the latest tools. The course is led by PSU instructor, Anthony Robinson. Geospatial Gurus may find the course a little simple but anyone else is encouraged to take part. See the course program.
Thanks to GISUser blog AND **Meet the Man Who Wants to Teach the World to Make Maps** above

Arizona State University GIS Lab
A good place to get a sense of where the geographic information system (GIS) field is headed is Lattie F. Coor Hall at Arizona State University in Tempe, Ariz. That's the home of the 30-credit-hour Masters of Advanced Study in GIS (MAS-GIS) Program within ASU's School of Geographical Sciences and Urban Planning. Here, students are exposed to not only the latest GIS concepts but also ever-evolving technologies.
Source: The American Surveyor

Free Webinars on Solving Data Challenges
Sign up for future webinars and view past recorded webinars

Course Spotlight: Master of Spatial Information Science

The University of Melbourne Course Spotlight: Master of Spatial Information Science
Spatial information is an essential and indispensable part of any economy's infrastructure. It is needed in all walks of life and on many scales, with applications in land tenure systems, environmental modelling, food production, disaster management, climate change modelling, engineering, architecture and urban planning. Current industry shortfalls in spatial information practitioners combined with a growing demand in Australia and internationally, ensure graduates a range of well-paid job opportunities.
Find out more about the Master of Spatial Information Science, as well as our scholarship opportunities.

Back to contents

Funding Opportunities, Awards, Grants

Singapore government introduces geospatial scholarship
The Singapore government has introduced the government on Friday introduced the Singapore Geospatial Scholarship, the first of its kind in the island nation. Senior Minister of State for Law and Education, Indranee Rajah, made the announcement on Friday last week. Rajah said the scholarship would be jointly conferred by several public agencies, and will meet the increasing demand for geospatial professionals for the industry. The
Back to contents

scholarship is for undergraduate and postgraduate studies. More information is expected to be release later in the year. Ms Indranee noted that Geospatial Information Systems and Technology (GIST) touches many aspects of daily life, such as getting road directions on the smart phone, and providing live traffic condition updates. It is also used in monitoring dengue clusters, and managing issues such as climate change and disaster response

Channel NewsAsia

Ideas Challenge

The Ideas Challenge is at the core of the GMES Masters competition. It invites students, entrepreneurs, start-up companies and SMEs to submit their ideas for an innovative commercial use of GMES to a secure online database on the GMES Masters website. The best idea for a commercially viable business idea using GMES data will be rewarded. The winner will be rewarded with a cash prize of EUR 10,000 as well as the chance to get his idea further developed in one of the six ESA Business Incubation Centres (BICs). The incubation package has a value of up to EUR 60,000.

ESA App Challenge

The European Space Agency (ESA) will award the ESA App Challenge to the best application idea for the usage of GMES on mobile phones. Proposals shall address one or more GMES main thematic areas (land, marine environment, atmosphere, climate change, emergency management). ESA is looking for ideas that can be implemented quickly into a profitable business. The application should consist of a base app containing info and news on GMES, as well as one or more specific content modules that provide relevant location-based data to users in real time. The winner will be considered for support by one of the six European Space Agency's Business Incubation Centres (ESA BICs) across Europe (value up to EUR 60,000).

European Space Imaging High-Res Challenge

European Space Imaging (EUSI) is Europe's leading provider of Very High-Resolution (VHR) satellite data. EUSI will award the best application idea using the most advanced VHR satellite data. Application ideas which are easily implementable, sustainable, cut costs and create efficiencies are of high interest. Participants are required to submit detailed application ideas including business concepts. The winner will be awarded a data package of EUSI satellite data worth up to EUR 20,000 for use in further developing the winning application.

DLR Environmental Challenge

DLR is looking for new applications in Earth observation, especially proposals addressing the mapping of the environment and climate. Ideas for using Earth observation to manage sustainable supplies of energy are also welcome. In addition to any kind of non-satellite geoinformation, proposals should be based on existing or imminent Earth observation satellite data that is available either for free or under commercial terms. The product or service generated from the idea should support either professionals from organisations and companies in environmental assessment, or the general public and consumer-oriented markets. Both regional and global applications and services are possible. Innovative ways to link the service with users are especially encouraged. The ideas should also describe a realistic scenario for their implementation involving either the general public or commercial benefits. The winner(s) will receive a voucher for a workshop or initial coaching according to what further realisation of the idea requires.

Best Service Challenge

The Best Service Challenge invites service providers to upload profiles of their existing services within the main thematic areas of GMES to the GMES Masters competition website. The Best Service Challenge aims at increasing the awareness of existing Earth Monitoring Services and their benefits to European citizens. The winner of the Best Service Challenge will benefit from a substantial satellite data quota made available with financial support by the European Commission.

T-Systems Cloud Computing Challenge

T-Systems will award the prize for its Cloud Computing Challenge to the best GMES application or service idea that will make use of the cloud computing model Infrastructure-as-a-Service (IaaS) to provide Earth observation data on demand via user-oriented web portal or mobile devices. T-Systems will assist the winner in getting the awarded project off the ground. They will support the winner to realise an innovation project, which could lead to a long-term partnership.

Back to contents

Challenge to spur the geospatial industry

The Singapore Land Authority has launched OneMap Challenge that seeks to promote the development of innovative map-based desktop and mobile applications by businesses and the community.

The OneMap Challenge provides a platform for application developers to showcase their creativity through the apps they develop to an increasingly tech-savvy population and enterprises, including those represented by the Association of Small and Medium Enterprises (ASME) which is one of the competition promotion partners. The Challenge also aims to facilitate collaborations between potential business partners for creating location-based apps that are useful for business enterprises and the general community.

With two top prizes of $20,000 cash each and other attractive prizes up for grabs, the OneMap Challenge is divided into two categories – Web Applications for applications that run on web browsers and Mobile Applications for those that run on smart phones, tablets and other portable devices.

Visit http://www.sla.gov.sg/OneMapChallenge to learn more about OneMap Challenge and check out the OneMap Facebook page at www.facebook.com/OneMap.

Source: Geospatial World and SLA press release

Back to contents

Employment Opportunities

New career resource at **GeoJobsBIZ**. There's been about 200 opportunities listed and the growth has been steady in visits and users. If you need to recruit Geo/Tech talent hopefully you'll give it a shot and those of you simply browsing for a new gig so you can tell the boss to go take a hike perhaps there's something here for you. Good luck!

GIS Job Board Launches New Website: www.gisjobboard.com

New Site Provides Employers and Job Seekers Tools to Post and Search Jobs and Resumes in the GIS and Geospatial Disciplines

GIS Job Board has launched a new website specifically dedicated to GIS and other geospatial disciplines. The new site makes it simple for employers and job seekers to post and search for jobs and resumes. The site was created to serve the growing needs of the GIS community and help with recruiting and job seeking efforts.

Visitors also have the option to view the site in a different language if they choose, making it easier for them to have access to the content

Registered users can receive jobs or resumes by email. They can also flag jobs and resumes as well as save searches, setup resume alerts, and save resumes and jobs. Users have the capability of private messaging other users in case they ever want to communicate with someone.

For more information about GIS Job Board, please visit their website at **www.gisjobboard.com**

Back to contents

Conference Proceedings

APSRAC holds workshop on Spatial Data Infrastructure
Source: The Siasat Daily

37th ISO/TC 211 meeting successfully held November 11 - 15

During the week of November 11-15, 2013, the Technical Committee 211 Geographic information/Geomatics (TC 211) of the International Organization for Standardization (ISO) had its 37th plenary meeting and associated meetings at the Esri campus in Redlands, California. All the WGs met, as well as all the maintenance groups and other groups. Delegates and experts from 20 nations participated. The resolutions from the plenary meeting have been published online.

Presentations from Standards in Action Workshop, 13 November 2013, Redlands, CA USA

The 38th ISO/TC 211 meeting will be held in Berlin, Germany, June 2-4, 2014

Back to contents

[First Heart of Borneo spatial meeting held](#) **October, 2013**
Preceded by the recent 7th Heart of Borneo (HoB) Trilateral Meeting in Brunei in September 2013, HoB Geographical Information System (GIS) meeting was organized in October, for the first time since it was initially discussed in 2008. The discussion evolved around the organizational and working modalities of the technical committee on GIS, presentations on national policy on spatial land-use planning, and identification of possible joint activities.

The meeting was considered useful to build a better understanding on each country's land-use management and the underlying principles. It is a reality that each country in the HoB regulates different land use plans and therefore different land-use management. Despite the fact of differences, the three countries demonstrated willingness to cope with the challenge. With distinct land classification or nomenclature, the essential function of land-use planning is understood and has become reference and knowledge for each country to develop better policy and practices on land-use management that considers balance between conservation and development. See link above for full article.

[The Heart of Borneo](#) (HoB) refers to the main part of the island where forests remain intact. Covering an area the size of Utah in the US, Victoria in Australia or the whole of England and Scotland put together and extending into the territory of the countries of Brunei Darussalam, Indonesia and Malaysia, it is one of the largest transboundary rainforests remaining in the world. But the Heart of Borneo is not just a treasure trove of biodiversity - it is also a source of life and livelihood for people, providing ecological services for at least 11 million Borneans, including a million forest-dwelling indigenous Dayaks.

[Back to contents](#)

Conferences, Events

For upcoming events of global or major international interest, please visit the [upcoming conference list](#) on the GSDI website – as this conference list will be reserved for conferences within or with specific interest to the Asia Pacific Region.

The editors welcome news of conferences & events from the newsletter subscribers

[Call for Expression of Interest to host AARSE 2014 and future Conferences](#)
Call for Expression of Interest to host the 10th biennial International Conference of the African Association of Remote Sensing of the Environment (AARSE) in October 2014 and future Conferences.

Date	Location	Event
March 2014		
3-5 March **"NEW"**	Ottawa, Canada	**Geospatial Advancement Canada Conference** [Contact](#)
11-12 March	Kota Kinabalu, Sabah	**Malaysia Geospatial Forum 2014** Incorporating **SABAH International Surveyors' Congress 2014** Abstract Submission Deadline — 15 January 2014 Abstract Acceptance Notification — 20 January 2014 Author Registration Deadline — 31 January 2014 [Contact](#)
17-18 March **"NEW"**	Malaysia	**6th National Geospatial Information Symposium** The National Geospatial Information Symposium is a bi-annual activity of the Malaysian Ministry of Natural Resources and Environment (NRE). The Symposium is one of NRE's efforts to strengthening the geospatial information delivery system and the community using geospatial technologies. Within NRE, the State Geospatial Data Infrastructure Center ([MaCGDI](#)) is the organization established by the government to coordinate access and delivery of the geographic information held by all government agencies. MaCGDI manages and promotes the development of geospatial data portal for Malaysia ([MyGDI](#)).

[Back to contents](#)

		MaCGDI. Complementing MyCDI, the Malaysia Geospatial Online Service (MyGOS) is a user platform to promote sharing of geospatial information. For background on SDI in Malaysia, see: Implementation of National Spatial Data Infrastructure in Malaysia (2009) Spearheading the National Spatial Data Infrastructure (NSDI) in Malaysia (2012)
23-27 March	Louisville, Kentucky, USA	**American Society for Photogrammetry and Remote Sensing (ASPRS) 2014 Annual Conference** *& co-located* Joint Agency Commercial Imagery Evaluation (JACIE) Workshop
April 2014		
30 March-2 April	San Diego, California	**17th Annual AAAE Geographic Information Systems (GIS) Conference and Exhibition** **Speaking, sponsorship, exhibitor and Poster Session information:** greg.mamary@aaae.org **Registration and hotel information:** brian.snyder@aaae.org
7-9 April	Canberra, Australia	**Research@Locate'14** **Held in conjunction with LOCATE 14**
7-9 April	Canberra, Australia	**LOCATE 14 - Conference and Exhibition** Locate14 is the new premier national spatial information conference and exhibition in Australia and New Zealand. Locate14 consolidates the top industry events including spatial@gov Conference and Exhibition (managed by the Office of Spatial Policy), the Surveying & Spatial Sciences Conference and the Asia-Pacific Spatial Excellence Awards. The annual Locate conferences will become the central meeting point of industry, government and academia in one of the fastest growing industries in Australia. **Registrations are now open.**
12-13 April	Washington, DC	**State of the Map - US** State of the Map US is the annual United States conference for all OpenStreetMap users
14-17 April	Colorado, USA	**SPAR International 2014**
May 2014		
5-9 May	Geneva, Switzerland	**Geospatial World Forum 2014** Contact: info@geospatialworldforum.org
8-9 May	Geneva, Switzerland	**Land Information System for Smart Cities** Part of Geospatial World Forum (see above)
5-9 May	Walbrzych-Ksiaz, Poland	**22nd Cartographic School 2014** **"Geoinformatics and Atmospheric Science"** contact Dr Malgorzata Wieczorek phone: +48 71 375 22 30, email.
21-23 May	Thessaloniki, Greece	**5th International Conference on Geographic Object-Based Image Analysis** (GEOBIA 2014).
June 2014		
2-6 June	Berlin, Germany	**The 38th ISO/TC 211** **PDF brochure/flyer only available at this date. Website expected on-line shortly**
16-20 June	Aalborg, Denmark	**The 8th INSPIRE Conference** **Awaiting official website**
15–21 June	Riviera, Bulgaria	**5th International Conference on CARTOGRAPHY & GIS** January 10, 2014: Abstract submission February 25: Full paper submission for publication in Springer Book May 1: Full paper submission for Conference Proceedings Please be aware of the first deadline – **10 January 2014**. You are kindly asked to submit:

Back to contents

		- abstract for conference proceedings OR - **full paper** in case you would like to propose a paper for publishing in a Springer book titled "Thematic Cartography for the Society"
16–21 June	Kuala Lumpur, Malaysia	**XXV FIG Congress: Engaging the Challenges – Enhancing the Relevance** **IMPORTANT DATES** **Peer Reviewed Papers** Deadline for authors to submit **full papers:** November 1, 2013 First notification to authors of acceptance: December 19 **Non Peer Reviewed Papers** Deadline for authors to submit **abstracts:** December 1 Confirmation to authors of acceptance of **abstracts:** January 31 Call for Papers
July 2014		
1-4 July	Salzburg, Austria	**GI_Forum 2014: Geospatial Innovation for Society** **Feb 1, 2014:** deadline for submission of full papers / extended abstracts / extended abstracts for poster presentation March 16, 2014: notification of acceptance **April 20, 2014:** final paper versions June 6, 2014: late deadline for submission of extended abstracts for poster presentation
September 2014		
8-13 September	Portland, Oregon	**FOSS4G 2014**
November 2014		
6–8 November	Hong Kong	**Geo-Process Modeling in VGE** Contact **Managing & sharing Geographic Knowledge** **Important Dates** 20 March, 2014 Abstract submission deadline 10 April, 2014 Notification of acceptance 10 August, 2014 Full paper submission deadline
9–11 November	Dubai, UAE	**4th International FIG 3D Cadastre Workshop** **Tentative timetable**: 30 June 2014 - Extended abstract (500-1000 words) submission 7 September 2014 - Author notification 9 October 2014 - final version of full paper

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Global Spatial Data Infrastructure Association.

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Back to contents