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 August issue of the newsletter.

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.

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.

Back to contents

Spatial Data Infrastructure Asia & the Pacific Newsletter

GSDI News

GSDI and IGS Global News, Issue 3 Volume 3 for 2013

GSDI 14 Conference Preparations

Preparations continue for the joint GSDI 14 World Conference and AfricaGIS 2013 Conference scheduled to be held in Addis Ababa, Ethiopia, at the UNECA Conference Center, November 4-8 2013 in partnership with GSDI Association, EIS-Africa, the International Geospatial Society, EiABC - Addis Ababa University and the United Nations Economic Commission for Africa (UNECA).

AfricaGIS is the largest regularly occurring GIS conference in Africa with participants from the whole continent. The GSDI World Conference moves to sites across the globe to offer geospatial specialists from all parts of the world opportunities to better exchange ideas and learn from peers in building spatial data infrastructure. For past conferences.

The selected theme of the conference is "Spatial Enablement in Support of Economic Development and Poverty Reduction" The pressing needs of African nations, their citizens, and the needs of economically disadvantaged nations generally are a particular emphasis of the conference and include such concerns as:

- sustainable development,
- economic development,
- business intelligence and business geographics,
- disaster prevention, warning, management, response, and recovery,
- alleviation of poverty and crime,
- lessening the digital divide including access to information technologies,
- ensuring food security,
- support of transportation, health and communication systems, and
- facilitating land ownership.

Substantial reduction in registration fees will be available for local participants, members of EIS-Africa and members of the International Geospatial Society who are from low income per capita nations. Substantial reductions in Exhibit and Sponsorship fees will be available for companies and agencies that are members of the GSDI Association.

Consult the web site as the Call for Papers and details about the program, facilities and sponsorship opportunities become available.

We are now only two weeks away from the deadline for abstracts (for presentations) and full papers for peer reviewed publication – 15 May 2013!

This combined and fully integrated conference offers numerous opportunities for oral presentations and refereed and non-refereed publication outlets. We invite presentations covering the full range of practice, development and research experiences that advance the practice and theory of spatially enabling citizens, government, and industry. The conference theme is Spatial Enablement in Support of Economic Development and Poverty Reduction.

This call for papers supports two primary forms of publication:

(1) a Conference Proceedings, with Abstracts for all accepted submissions, and refereed and non-refereed Full Papers for some of the submissions, and

(2) a pre-conference published book containing fully refereed articles. The tentative title is "Spatial Enablement in Support of Economic Development and Poverty Reduction: Research, Development and Education Perspectives". The book will be published as an open access book in various e-reader formats.

* IMPORTANT CONFERENCE DATES *

Deadline for Submission of Abstracts: 15 May 2013
Deadline for Submission of Full Papers for Refereed Publications: 15 May 2013
Deadline for Submission of Full Papers for Non-refereed Publications: 1 Sept 2013
Deadline for Full Conference Registration Payment for All Presenters 15 Sept 2013
Conference Dates: 4-8 Nov 2013

* IMPORTANT CONFERENCE LINKS *

Joint Conference Call for Abstracts and Papers, Conference Website: Other Important Dates.
Past GSDI World Conference Proceedings. Past open access Books affiliated with the conference.

* JOIN the GSDI Association or International Geospatial Society to enjoy conference fee reductions! *
Substantial reduction in registration fees will be available for local participants, members of EIS-Africa and members of the International Geospatial Society who are from low income per capita nations. Substantial reductions in Exhibit and Sponsorship fees will be available for companies and agencies that are members of

Back to contents

the GSDI Association.

Consult the web site for latest information and details about the program, facilities and Sponsorship opportunities. Come prepared to engage, learn and enjoy! More news on the conference in future issues!

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.

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

Future trends in geospatial information management: the five to ten year vision

A new edition of the Ordnance Survey/GGIM paper has been published, titled 'Future trends in geospatial information management: the five to ten year vision.' The document was prepared by John Carpenter and Jevon Snell of the Ordnance Survey at the request of the Secretariat for the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM).

Back to contents

A first draft of this paper, building on both written contributions received and on discussions held in April 2012, was presented to the UN-GGIM for consideration at their Second Session in August 2012. This paper has now been updated to reflect the feedback received at that meeting and subsequent submissions.

This paper takes the views of a recognised group of experts from a wide range of fields related to the geospatial world, together with valuable contributions from the national mapping and cadastral authorities (NMCAs) and attempts to offer some vision of how this is likely to develop over the next five to ten years. Based on the contributions received, trends have been broken down into broad themes covering major aspects of the geospatial world. They are as follows: trends in technology and the future direction of data creation, maintenance and management; legal and policy developments; skills requirements and training mechanisms; the role of the private and non-governmental sectors; and the future role of governments in geospatial data provision and management.

Article on the update to the US NSDI Strategic Plan as well as discussion of the Geospatial Platform

Ukraine: law onNational Geospatial Data Infrastructure

The government of Ukraine has instructed the Ministry of the Agrarian Policy and the State Land Agency to be responsible for developing the draft the country's law on the National Geospatial Data Infrastructure. The corresponding order was approved this past week at the meeting of the Cabinet of Ministers of Ukraine.

The order was developed due to the transfer of functions in the area of topographic-geodesic and cartographic activities to the Ministry of the Agrarian Policy and the State Land Agency. Therefore, according to these changes, the two departments will be responsible for developing the draft law.

See also: Ukraine is ready to create infrastructure of geospatial data in single format with EU

At the EU INSPIRE conference 2013 which took place in Florence, Italy, the head of State Agency of Land Resources of Ukraine Serhiy Tymchenko represented the position of the land department of Ukraine concerning the development of cartography and cadastre, use of geospatial data.

INSPIRE: Guidelines for the encoding of spatial data, Version 3.3rc3 (Date: 2013-06-11)

This document specifies requirements and recommendations for the encoding of spatial data for the purpose of data interchange between systems in INSPIRE. The focus of data interchange is understood by this document primarily as access to data via services which includes, but is not limited to, a download of a complete spatial data set.

The requirements and recommendations specified by this document are requirements and recommendations for encoding rules as specified by ISO 19118. These encoding rules will be specified in or referenced from INSPIRE data specifications.

SDI Cookbook update

The SDI Cookbook, in its wiki version, now has an updated Chapter 10 to reflect the latest slate of standards and popular version numbers. We seek contributing editors for the other Chapters to also bring them up-to-date. About three months prior to the next GSDI Conference we will seek to affix a date and snapshot the Cookbook into a "SDI Cookbook 2013" PDF version. By saving a PDF and giving it a date of publication, it will clarify the reference and citation of the document and provide a time context.

If you are interested in helping update any of the chapters, please contact Douglas Nebert.

Ghana: developing a National Spatial Development Framework

Ghana is developing a National Spatial Development Framework, to guide the provision of amenities and facilities in the various districts and regions in the country.

See also: New Spatial Planning System for Ghana (video, 2011)

Iran: Tehran Urban Management Observatory officially inaugurated

In a ceremony on July 13, 2013, six key projects in the field of information technology were unveiled in the presence of Tehran mayor at Tehran Observatory site.

The projects include Tehran Municipality Spatial Data Infrastructure (SDI), the three-dimension map of Tehran, Tehran Real Time Kinematic (RTK), the Tehran map system and street view, the Information Technology Infrastructure Library (ITIL) and the network for social media of Tehran.

According to Shahrnevesht, Managing Director of IT Organization of Tehran Municipality Ali Asghar Qaemi said on the occasion that the aim of the opening of urban observatory, in addition to monitoring information in the area of urban management, was cooperation of other bodies in this field in order to prepare the ground for synergistic efforts in the field of information technology.

Back to contents

"Since the calendar month of Aban (October/November) last year the Tehran observatory was put into experimental operation and today we have succeeded in taking effective steps for implementation of concepts in this center and officially witnessed operation of Tehran Observatory."

Qaemi added: "One of the main programs of Tehran Municipality in the field of information technology is SDI which has attracted the attention in the world. Meanwhile, the 3D map of Iran was prepared after flights which were made over Tehran. Also, RTK became operational and from now on in development projects of the Municipality this system would be employed."

Back to contents

SDI Spotlight

This month's "Spotlight" feature is from Davood Shojaei who completed his Bachelor of Science degree in Surveying Engineering at University of Tabriz and Master of Science degree in Photogrammetry at KNT University of Technology, Tehran, Iran. And is now a PhD student and member of the Centre for Spatial Data Infrastructures and Land Administration (CSDILA) at the Department of Infrastructure Engineering, the University of Melbourne.

Time to Utilise 3D Visualisation Technologies in Cadastre

Population growth and reduced availability of land are common challenges in urban areas and lead to intensive property development. These developments include many types of structures and spaces both above and below ground (car parks, utility networks, and tunnels).

In Australia, land and property ownership information is represented in paper-based plans and ownership boundaries are shown on floor plans, with cross-sections or isometric diagrams. This method of representation is not efficient and has limitations in representing property interests, particularly in complex structures. For recording, managing and representing these structures and spaces, efficient 3D visualisation systems are required to not only represent these objects, but also to improve visualisation of their legal counterparts.

To move from this paper-based representation method to a 3D digital cadastre, three main components should be considered namely 3D visualisation tools and technologies, 3D data, and users' expectations. There are many 3D visualisation tools such as ARC Globe, ARC Scene, Google Earth, Terra Explorer, HERE Map, NASA World Wind which are employed for various applications. However, are these 3D tools able to represent ownership volumes in an efficient way to help cadastral businesses? The answer is not clear at the moment as there is no a developed standard for a 3D cadastral visualisation system. In addition, what types of data will be represented in a 3D cadastral visualisation system? Lastly, who are the users of 3D cadastre and what are their expectations in terms of visualisation?

This research is going to answer these questions by developing a specification for 3D cadastral visualiation and also develop a prototype system and apply a case study to prove the concept.

To develop this specification, firstly, we started to identify users' requirements through two industry placements, meetings with specialists and a comprehensive literature review. In these meetings and interviews, various users such as land surveyors, lawyers, registrars, property managers and architect were met and their expectations were documented. Also, based on these interviews and literature review, we realised both physical and legal data are important for users and it should be represented on the system.

Then, various 3D visualisation tools were evaluated against the users' requirements. Based on this evaluation, there is no a visualisation system which can meet the users' requirements completely and each system has its own limitations. Finally, WebGL technology was employed as a developing environment to implement a 3D visualisation system based on the identified requirements.

WebGL is a low level API for programmers and drawing a simple 3D model such as a cube needs a lot of work. Accordingly, several open-source JavaScript libraries have been developing to simplify the programming of 3D scenes using WebGL technology. They provide a higher level access to the API to make it simple for programming. For instance, Three.js, SpiderGL, Kuda, and SceneJS are widely used for 3D developments. However, Three.js is the most popular in terms of the number of users which may help developers in their difficulties. Accordingly, Three.js is selected as the high level API for developing the prototype system.

Back to contents

The evaluation part is undertaken using interviews and filling a questionnaire to evaluate the system against functionality, usability and efficiency. The evaluation phase will show how this system will be able to facilitate 3D cadastral processes.
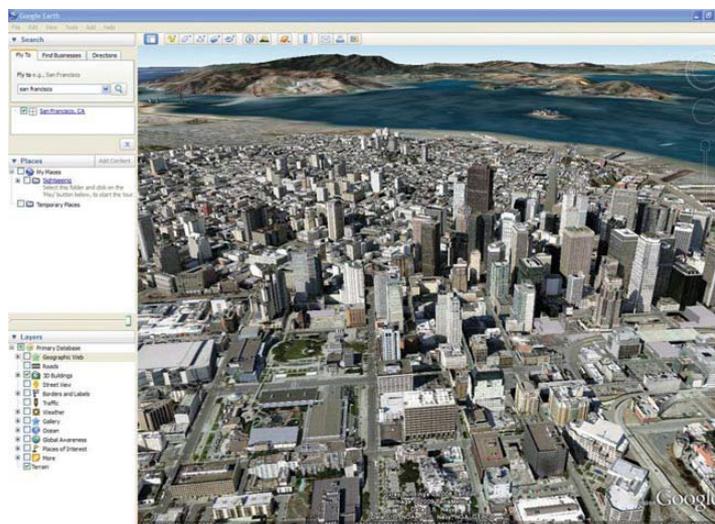
Google Earth, a 3D visualisation system

This research is as a part of a research project (ARC Linkage Project-Land and Property Information in 3D) funded by the Australian Research Council (ARC) in collaboration with the Centre for Spatial Data Infrastructures and Land Administration, the University of Melbourne, Land Victoria (VIC), Land and Property Management Authority (NSW), Australian Research Council (ARC), Intergovernmental Committee on Surveying and Mapping (ICSM), VEKTA Australia, Alexander Symonds Pty Ltd, Fender Katsalidis Architects, PSMA Australia, and Strata Community Australia.

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

Back to contents

GIS Tools, Software, Data

Australia: PSMA moves to strengthen its self-sufficiency
PSMA Australia Ltd, the agency for collecting, packaging and distributing basic geospatial datasets from its Australian government owners to public and private sector customers, is distancing itself from concerns about its governance and operations that were published in the Lawrence Report to the Australian government during 2011.
In the lead-up to an expected change of federal government late this year, PSMA's CEO, Dan Paull, said that recommendations about PSMA's operations by Dr. Vanessa Lawrence, CEO of the United Kingdom Ordnance Survey, are 'not ours, not commissioned by us and not binding on us'.
The Lawrence Report — titled Investigation into the Spatial Capability of Australia – was commissioned by Geoscience Australia and approved by Drew Clarke on behalf of the Office of Spatial Policy, within the Department of Resources Energy and Tourism (DRET).
See also: Australia's Lawrence report on geospatial capability

Australia's Government data portal
Australia's Government data portal has been moved to an open source platform in order to improve access and use of government data sets.

Pakistan: President promulgates Surveying and Mapping Ordinance 2013
President Asif Ali Zardari on Monday promulgated an ordinance to regulate and implement Surveying and Mapping standards in the country and to enable Survey of Pakistan (SoP) effectively assume its role of National

Back to contents

Mapping Organization. Spokesperson to the President Senator Farhatullah Babar said the Surveying and Mapping Ordinance, 2013, had been promulgated on the advice of the Prime Minister.

He said the bill prepared by the Survey of Pakistan was duly approved by the Cabinet and was unanimously recommended by the National Assembly Standing Committee on Defence.

The bill was included in the order of day of house of National Assembly on 11th, 13th and 14th March, 2013 but could not be taken up due to paucity of time.

As the National Assembly has been dissolved on completion of its five-year tenure on March 17, and the Senate of Pakistan was not in session, the matter being of urgent nature, the Prime Minister advised the President for according approval and promulgating the said legislation as ordinance.

Accordingly the President on Monday signed and promulgated the Surveying and Mapping Ordinance, 2013, the spokesperson said.

See also: Surveying and Mapping Ordinance 2013 **- AND -** Bill drafted to regulate surveying, mapping

China to offer APSCO member states remote-sensing satellite data

The China National Space Administration (CNSA) and Asia-Pacific Space Cooperation Organization (APSCO) signed an agreement on Earth-observing satellite data-sharing at the APSCO council meeting held meeting held July 5th, 2013. According to the agreement, CNSA will provide remote sensing satellite services to all APSCO member states. The data will be used to aid in natural disaster reduction and relief in the Asia-Pacific region, according to the agreement. CNSA director Ma Xingrui, was elected president of the APSCO council during the meeting.

APSCO is an inter-governmental organization established in 2005, with China as its host and one of its nine member states, which include Bangladesh, China, Iran, Mongolia, Pakistan, Peru, Thailand, Turkey. APSCO promotes collaborative space technology development in member countries, with research, training, and peaceful applications. The organization has defined projects on designing, building and launching light satellites, middle class satellites weighing 500–600 kg, research satellites, remote-sensing and telecommunications satellites.

Vietnam: 2nd phase of Flood Early Warning Project (FEW2) brings stakeholders together

U.S. Agency for International Development (USAID) Office of Foreign Disaster Assistance (OFDA) is supporting the second phase of a Flood Modeling and Early Warning Capacity Development Project (FEW2) in Vietnam. Key stakeholders convened June 4 in Hanoi, following the project's official approval by the Government of Vietnam. The meeting was held by the Vietnam Ministry of Agriculture and Rural Development (MARD) and Pacific Disaster Center (PDC) in order to review planned project outcomes, goals, and timelines with stakeholder agencies within MARD, as well as those under the Ministry of Natural Resources and Environment (MONRE) and other members of the country's Central Committee for Flood and Storm Control (CCFSC).

FEW2 aims to enhance the ability of central and provincial-level decision makers and disaster managers to assess flood events, evaluate their likely impacts, and reach those at risk with meaningful warning messages. The goals of this two-year project will be realized by the expansion and enhancement of a web-accessible decision support system called VinAWARE, based on PDC's DisasterAWARE platform.

This second phase will include capacity development at the national level, as well as within 10 coastal provinces of central Vietnam. An important aspect of this project will be the development of policies and memoranda of understanding necessary to institutionalize the use of VinAWARE within Vietnam's disaster management framework.

The Philippines Geoportal Project

The Philippine Geoportal Project is a three-year, multiagency e-gov funded project spearheaded by NAMRIA which aims to establish a spatial data infrastructure that provides and integrates geographically-referenced data generated by various government agencies/offices, the academe, and other organizations using one standard multiscale basemap and governed by data management, exchange, and use policies.

The project likewise aims to provide a customer friendly portal 24/7 web/online access to spatial data and an Information Communications Technology (ICT) platform for collaboration, data and resource sharing, integration, transparency and resource optimization.

The Philippine Geoportal is the realization of the National Spatial Data Infrastructure (NSDI). The Philippine Geoportal promotes the "One map" principle which is one set of consistent, multiscale basemaps that can be used for thematic mapping by many users working on Philippine geospatial data.

Visit the Philippine Geoportal to see how technology is changing the Philippine landscape -- or the current knowledge of it. The site is running in Beta version.

Back to contents

New Zealand: 1 Million Mobile Transactions Improve Public Safety

When emergencies happen, responders in the field need immediate access to accurate, real-time data. Increasingly, smartphones and tablets are a low-cost option for improving officer safety and productivity.

A recent storm in Wellington, New Zealand, proved the value of these technologies. During the storm, police equipped with smartphones and tablets featuring Intergraph's Mobile Responder app hit the 1 million transaction mark.

"Our staff in Hutt Valley have used the devices to monitor the flow and dispatch of critical jobs as they were coming in, tap into appropriate websites, and have live updates on rainfall and flooding issues," said Deputy Commissioner Mike Bush. "It has provided them with a better picture of their operating environment."

These efforts are part of New Zealand Police's ambitious plan to equip 6,500 frontline officers with iPhones and iPads featuring Mobile Responder. Mobile Responder links these devices to Intergraph's industry-leading computer-aided dispatch (CAD) software. New Zealand Police estimate the mobile technologies will allow officers to spend more time to spend in the field, reduce significant amounts of paperwork and increase productivity by thirty minutes per shift, amounting to 520,000 hours each year or $304.8 million (NZD) in productivity savings over twelve years.

With results like these, this trend will surely continue, resulting in more responders equipped with the tools they need to increase safety and productivity and make smarter decisions. As Deputy Commission Bush said, these technologies enable police "to deploy our staff in the right place at the right time. That's what mobility is all about."

Mapping Wind Resource Potential in Asia

Most of the world's wind resources are in the ocean, and much of that lies on the continental shelves close to our population centers. Asia is a prime target for near-shore wind development, given both its large shallow coastal waters and the demand for energy. With this large resource, and the lower costs of transmission and development of wind power, the next step toward real plans is to closely map its potential.
Source: Asian Surveying & Mapping
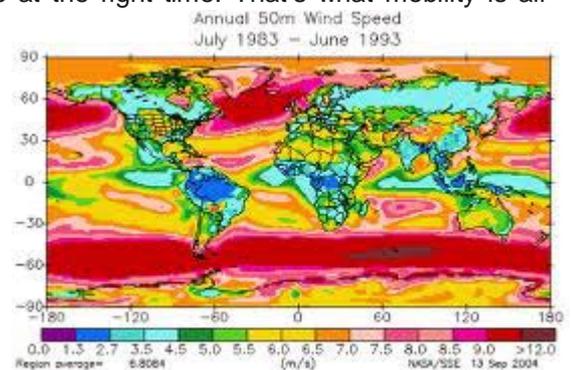
Quarter Degree Grid Cells (QDGC or QDS – Quarter degree Squares) is a way of dividing the longitude latitude degree square cells into smaller squares, forming in effect a system of geocodes. Historically QDGC has been used in a many African atlases. Several African biodiversity projects uses QDGC, among which The atlas of Southern African Birds is the most prominent one.

Information on the distribution of animal populations is essential for conservation planning and management. Unfortunately, shared coordinate-level data may have the potential to compromise sensitive species and generalized data are often shared instead to facilitate knowledge discovery and communication regarding species distributions. Sharing of generalized data is, unfortunately, often ad hoc and lacks scalable conventions that permit consistent sharing at larger scales and varying resolutions. One common convention in African applications is the Quarter Degree Grid Cells (QDGC) system. However, the current standard does not support unique references across the Equator and Prime Meridian. We present a method for extending QDGC nomenclature to support unique references at a continental scale for Africa. The extended QDGC provides an instrument for sharing generalized biodiversity data where laws, regulations or other formal considerations prevent or prohibit distribution of coordinate-level information. We recommend how the extended QDGC may be used as a standard, scalable solution for exchange of biodiversity information through development of tools for the conversion and presentation of multi-scale data at a variety of resolutions. In doing so, the extended QDGC represents an important alternative to existing approaches for generalized mapping and can help planners and researchers address conservation issues more efficiently.

Our correspondent announces that a new set of the Quarter Degree Grid Cell shapefiles has been generated. This time the coverage is global and the publication is for individual countries. The QDGC shapefiles contain center lon/lat coordinates and the QDGC string for the different squares.

The files and associated code is kept in the following project on github.

Open the following folder to download national level shapefiles for levels 1-3. The files are according to the ISO three letter nation code. They are compressed using 7zip. Read more about the use of QDGC on this page. Source: Ragnvald Larsen

Spatial Data Infrastructure
Asia & the Pacific Newsletter

Australia - Shipwreck archeologists use 3D mapping

ShipShapeSearchers, a non-profit organisation of shipwreck archeologists is trying to find long sunken ships using 3D mapping. The team starts with data sourced from industry, government and research organisations. They focus on data primarily gathered from remote sensing techniques such as Sonar (Sound Navigation and Ranging), satellite surveys and LiDAR. GIS technology enables the researchers to combine and process all the information into a 3D model of the ocean floor. The 3D model shows all the different elements such as rocks and sand, vegetation etc. These different layers can be "peeled back" to reveal any ships that may lie beneath. The technology also helps the researchers to determine the types of materials the ships are made of. They get to know the condition and the age of the vessel too. This makes it easier to identify the wreck. Currently, the ShipShapeSearchers is testing the technology in the shipwreck graveyard at North Arm, near Port Adelaide. Esri Australia is helping them with the technology. They now have access to more than 20 shipwrecks from different eras. Esri Australia remote sensing and imagery expert Dr. Dipak Paudyal said ShipShapeSearchers' use of GIS and 3D would have ramifications beyond archeology. "As an island nation with a strong nautical history, it's important that researchers, historians and archeologists use modern technology to gain a clearer view of where we've come from," said Paudyal.
Source: Geospatial World

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.

GIS Files Are Public Data

Back in 2007, the Sierra Club requested a copy of what it thought was a public record from Orange County, California, covering information like the location and addresses of 640,000 land parcels in the county. The local government held the information in a geographic information system, or GIS database, a much more modern equivalent of the old spreadsheet, or the older-still stack of printed papers. In exchange for handing over a copy of the digital file, which can be used to map data, the county requested a $375,000 licensing fee.
As you can imagine, the Sierra Club balked – both at the price tag and the suggestion that this taxpayer-funded database of public information wasn't available under the state's open records law. Six years later, the California Supreme Court this week agreed with the Sierra Club [PDF] that digital mapping data is public data, too.
Source: The Atlantic

UAE: Dubai Municipality introduces Geo-Address System

'No more waiting or confusion to identify any place, building, street or locality in Dubai if you use the new Geo Address System developed by Dubai Municipality 's Geographical Information Systems Department,' said Abdul Hakim Malik, Director of GIS Department.
The Geo-Address System, a strategic project that aims at creating a national coordinate grid and system to enable everyone to find and reach any location in Dubai easily using a globally integrated code via smart phones, iPads, computers and navigators.
'Although people use different navigators to find out places, mostly they have been directed to wrong direction due to confusion in name of location, spelling mistakes, difficulty in understanding the language of service provider or customer..etc,' he said.
In order to tackle this issue and considering the huge and rapid changes in localities due to several urban development projects, Dubai Municipality has adopted this system to exactly locate any place in Dubai.
To avail this service the user is required to have devices of Garmin company, the leading navigation equipments manufacturer and app developer who is the partner of Dubai Municipality in this project, or visit the site.
'The department has so far numbered 130,000 entities in Dubai, hopefully the system will be fully launched by the end of 2014 once the numbering or entire buildings and locations completed, which will ultimately help different nationalities who speak around 127 languages in the city of Dubai,' Malik added.
Dubai Municipality 's Geographical Information Systems Department

Back to contents

Spatial Data Infrastructure
Asia & the Pacific Newsletter

Articles

Climate-Related Power Outages Aren't Just a Coastal Problem

A report from the U.S. Department of Energy released on last week shows that New York City and other coastal regions aren't the only ones at risk. And it's not just a question of the future. No American region, it turns out, has been exempt from the possibility of mass power outages. The report focuses on three major causes: rising temperatures; wider-spread, more severe droughts; and more devastating flooding, storms, and sea level rises. DOE also created a map of energy and power-related disruptions over the past decade that experts have attributed to large-scale, long-term disruptions in climate and weather patterns
Source: The Atlantic "Cities"

Heindrich du Plessis & Adriaan Van Niekerk, **"A Comparison of Geographical Information Science Competency Requirements"**, South African Journal of Geomatics, Vol. 2, No. 3 (June 2013)

Abstract: Because universities often provide training in geographical information science (GISc) as part of geography, surveying as well as environmental and computer science programmes, the content, outcomes, extent and quality of training can vary significantly. Very little research has been done on how the existing sets of competency requirements for GISc overlap or differ. No literature exists that identifies commonalities and inconsistencies (gaps) at detail level that could assist with developing a framework that incorporates both South African and international GISc curricula guidelines.
Three sets of competency guidelines, namely the U.S.-developed Geographic Information Science and Technology (GI S&T) Body of Knowledge (BoK) developed by the University Consortium for Geographic Information Science (UCGIS), the South African Unit Standards-Based Qualifications (USBQ) and the South African Council for Professional and Technical Surveyors (PLATO) model, are compared qualitatively and quantitatively to identify commonalities and inconsistencies. The exercise identified duplication among the three models and highlighted themes that the South African GISc community deems to be important. The study further identifies topics in the GI S&T BoK that the GISc community in the U.S. considers to be essential knowledge for anyone wishing to practice in the GISc field. The BoK offers the most comprehensive and detailed set of GI competencies, but lacks generic competencies such as physics. Some competencies are unique to a specific set, for example physics and geographical science in the PLATO model, while training is unique to the USBQ. The authors conclude that a new competency set based on the findings of the research is needed to best serve the GISc industry and academia. Recommendations for further research are made.
Keywords: Curriculum design, data acquisition, geographical information science (GISc), knowledge and skills requirements, mathematics, photogrammetry, physics, professional body, unit standards-based qualification (USBQ), remote sensing, statistics.

Ben Knoechel, Chih-Yuan Huange, and Steve H.L. Liang, **"A bottom-up approach for automatically grouping sensor data layers by their observed property"**, ISPRS Int. J. Geo-Inf. 2013, 2(1), 1-26

Abstract: The Sensor Web is a growing phenomenon where an increasing number of sensors are collecting data in the physical world, to be made available over the Internet. To help realize the Sensor Web, the Open Geospatial Consortium (OGC) has developed open standards to standardize the communication protocols for sharing sensor data. Spatial Data Infrastructures (SDIs) are systems that have been developed to access, process, and visualize geospatial data from heterogeneous sources, and SDIs can be designed specifically for the Sensor Web. However, there are problems with interoperability associated with a lack of standardized naming, even with data collected using the same open standard. The objective of this research is to automatically group similar sensor data layers. We propose a methodology to automatically group similar sensor data layers based on the phenomenon they measure. Our methodology is based on a unique bottom-up approach that uses text processing, approximate string matching, and semantic string matching of data layers. We use WordNet as a lexical database to compute word pair similarities and derive a set-based dissimilarity function using those scores. Two approaches are taken to group data layers: mapping is defined between all the data layers, and clustering is performed to group similar data layers. We evaluate the results of our methodology.
Keywords: GIS; data mining; information retrieval; data interoperability; OGC; SOS

Adapting Data Models for the Design of Spatio-Temporal Databases by Bédard, Caron, Maamar, Moulin & Vallière, Computer, Environment & Urban Systems, Vol 20(1): 19-41 (1996)

Back to contents

Publishing OGC resources discovered on the mainstream web in an SDI catalogue

Authors: Tomas Kliment, Carlos Granell, Vlado Cetl, Marcel Kliment, AGILE 2013 – Leuven, May 14-17, 2013

Abstract: Nowadays geospatial data users search for geospatial information within an SDI using discovery clients of a Geoportal application (i.e. INSPIRE Geoportal). If data producers want to promote related resources and make them available in the SDI, then they need to create metadata according to the predefined rules (i.e. INSPIRE metadata regulation) and publish them using a CSW standard. This approach allows for either distributed searches or harvesting metadata from different SDI nodes. Nevertheless, there are still a lot of data producers making their resources available on the Web without documenting and publishing in a standardised way. The paper describes a workflow to provide a tool to make OGC-based geospatial services found on the Internet discoverable through CSW-compatible service catalogues and, hence, more visible to a wider SDI community.

Keywords: mainstream web, OGC services, metadata, harvesting, geospatial catalogue.

JOSIS: Special issue on Web and Wireless Geographic Information Systems, No 6 (2013):

Table of Contents

Mining sensor datasets with spatiotemporal neighborhoods

Automatic integration of spatial data in viewing services

Interactive maps: What we know and what we need to know

Web and Wireless Geographic Information Systems

Using trend clusters for spatiotemporal interpolation of missing data in a sensor network

A dynamic and context-aware semantic mediation service for discovering and fusion of heterogeneous sensor data

Articles published by the Journal of Spatial Information Science (JOSIS) are free to download and read. JOSIS is an international, interdisciplinary, open-access journal dedicated to publishing high-quality, original research articles in spatial information science. The journal aims to publish research spanning the theoretical foundations of spatial and geographical information science, through computation with geospatial information, to technologies for geographical information use.

3D Cadastral complexities in dense urban areas by Tarun Ghawana, Joao Hespanha, Pradeep Khandelwal, & Peter van Oosterom

Cities in developing countries are expanding rapidly and consuming every possible space available. The growth is not only in their physical expansion but also the increased urban population. The space consumption is again not only horizontal but also vertically underground and upwards covering the skyline of the city (Godard, 2004). Delhi, being a metro city and also the capital of India, is not an exception to this phenomenon.

Property information systems based on 2D maps have served land administration and property management well for hundreds of years. However, most of the developed world (including Australia) and many developing countries now give ownership titles in buildings in three dimensions (3D) using the same 2D maps developed for traditional broad acre development on vacant land (CSDILA, 2012).

The paper aims to study the multi-stakeholding urban area locations where 3D (infrastructural) developments are creating more and more complex land management situations for the authorities involved. We are presenting some cases in brief to highlight the different aspects of complexities while focusing on a particular case study of multi infrastructure (utility) networks in one single area, where we have tried to understand the current administrative situation as well as spatial dimensions involved from Land Administration Domain Model context.

Source: Coordinates magazine

Be insured with risk mapping by Anusuya Datta

As globalisation and increasing catastrophes make risks around the world more and more complex, geoinformation and location analytics could open up a whole new vista for the insurance industry which needs to continuously innovate and develop new tools.

Source: Geospatial Worldf

Books and Journals (including Videos and Web publications)

Future trends in geospatial information management: the five to ten year vision

A new edition of the Ordnance Survey/GGIM paper has been published, titled 'Future trends in geospatial information management: the five to ten year vision.' The document was prepared by John Carpenter and Jevon Snell of the Ordnance Survey at the request of the Secretariat for the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM).

A first draft of this paper, building on both written contributions received and on discussions held in April 2012, was presented to the UN-GGIM for consideration at their Second Session in August 2012. This paper has now been updated to reflect the feedback received at that meeting and subsequent submissions.

This paper takes the views of a recognised group of experts from a wide range of fields related to the geospatial world, together with valuable contributions from the national mapping and cadastral authorities (NMCAs) and attempts to offer some vision of how this is likely to develop over the next five to ten years. Based on the contributions received, trends have been broken down into broad themes covering major aspects of the geospatial world. They are as follows: trends in technology and the future direction of data creation, maintenance and management; legal and policy developments; skills requirements and training mechanisms; the role of the private and non-governmental sectors; and the future role of governments in geospatial data provision and management.

Article on the update to the US NSDI Strategic Plan as well as discussion of the Geospatial Platform

3D Visualisation World (May 2013 newsletter)

Manuel of Photogrammetry, Sixth Edition Now Available

The American Society for Photogrammetry and Remote Sensing (ASPRS) announces the Manual of Photogrammetry, Sixth Edition is now available for purchase through the ASPRS Bookstore.

Under the leadership of J. Chris McGlone, PhD, CP, as Editor-in-Chief and George Y.G. Lee, Technical Editor, the Manual covers photogrammetry in depth, as well as its constituent technologies, providing the student, practitioner, or researcher with a single valuable reference resource.

The overall outline of this Sixth Edition is slightly modified from that of the Fifth Edition. The emphasis is again on digital methods and products, while material on film cameras and analog plotters has been deleted. The mathematical content has been further expanded, especially the treatment of replacement sensor models, along with discussions of digital image processing and computer vision algorithms.

SDI Cookbook update

The SDI Cookbook, in its wiki version, now has an updated Chapter 10 to reflect the latest slate of standards and popular version numbers. We seek contributing editors for the other Chapters to also bring them up-to-date. About three months prior to the next GSDI Conference we will seek to affix a date and snapshot the Cookbook into a "SDI Cookbook 2013" PDF version. By saving a PDF and giving it a date of publication, it will clarify the reference and citation of the document and provide a time context.

If you are interested in helping update any of the chapters, please contact Douglas Nebert.

GSDI and IGS Global News, Issue 3 Volume 3 for 2013

NewGeography website

Mapping London blog

LandScan: a news update from Land Information New Zealand, Issue 64 (March 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

Back to contents

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 December 2012 issue has been published

LiDAR News, Vol 3, No 11 (July 11, 2013 Newsletter)

LiDAR News magazine (July-August, Vol 3, No 4, 2013)

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

The Atlantic Cities website including Maps

Professional Surveyor magazine

The American Surveyor newsletter (June 12)

The American Surveyor Vol.10 No.6 (May 2013)

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

UN-SPIDER Newsletter June 2013

Back to contents

Spatial Data Infrastructure
Asia & the Pacific Newsletter

UN SPIDER Updates May 2013

Thematic Mapping blog
Terrain mapping with Mapnik

Back to contents

Just for Fun!

Meet the Man Who Wants to Teach the World to Make Maps
The world's first digital-mapping MOOC (massive open online course) kicks off tomorrow, and I'm really looking forward to it. Apparently I'm not alone. About 30,000 people from all over the world have enrolled so far. The course, called Maps and the Geospatial Revolution, will be taught by Anthony Robinson, a geographer at Penn State. **SEE ALSO Training Opportunities below**
Source: Wired Magazine

ESRIUC Map Gallery People's Choice Winner Inspired by Van Gogh
One of the most popular events at the annual ESRIUC each year is the Map Gallery where the works of thousands of GIS users from around the World are put on display and shared with attendees. Maps are judged and the "best" are selected based on a number of criteria. Selected maps are then featured in a future edition of The Map Book from Esri Press. This year, the People's Choice Award winning map was announced at the closing plenary address by Esri President Jack Dangermond. The award went to an eye-catching map that was very artistic and inspired by the work of Vincent Van Gogh… great stuff indeed!
Source: GISUser blog – see also **2013 ESRIUC Map Gallery**

The Exquisite Geometry of Global Flight Paths
If you have not already stumbled across Contrailz, Alexey Papulovskiy's worldwide map of civilian plane built with a billion dots, you will easily get lost here. Airplane routes are always a visually rich topic.
…
Papulovskiy's map, built with flight data from October of last year, plots higher altitudes in blue and lower altitudes in red. As a result, you can watch planes circle and land outside of London, even as others bypass the city overhead.
Source: The Atlantic "Cities": Maps
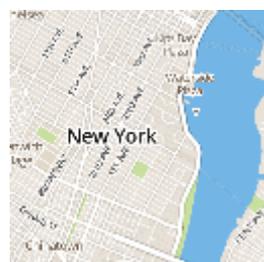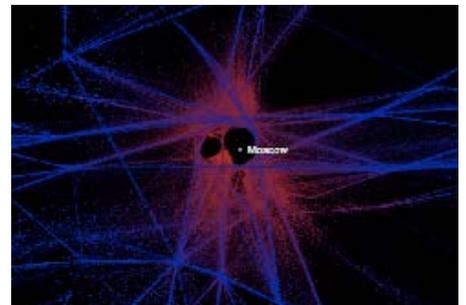
The New Cartographers
In a garage in Washington DC, startup MapBox is changing the way we see the world. The 30-person team of engineers and designers helps companies create customizable maps using open-source data collected from mobile communities. It provides the tools to quickly create beautiful and interactive maps that are uniquely suited to the communities they serve.
…
For the innovators at MapBox, the exploration and crafting of a map are done not by one person, but by a community. As technology makes it possible for anyone to contribute data inputs – the results of their own yearnings for exploration and discovery – maps can now be created by communities to serve their own needs. MapBox lets those explorers present rich maps in ways that reflect their interests, for the first time.
Source: The Washington Post sponsor generated content

Back to contents

INTERACTIVE: A MONTH OF CITI BIKE
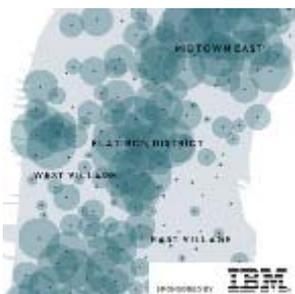
It's been a long slog for New York City's bike-share program. Citi Bike, named for its primary sponsor, Citibank, was first announced by the Department of Transportation in 2010, and, at that time, it was expected to be up and running by the spring of 2012. The launch was delayed by software problems and by Hurricane Sandy, but, two months ago, docking stations finally began appearing around Manhattan and Brooklyn. On Memorial Day, the bikes rolled out, offering rides to and from hundreds of locations.

We examined how the first few weeks of the program fared by tracking when the bikes appeared at different docks. After a Citi Bike is unlocked (through a code or a key), it can be used for up to forty-five minutes before it must be redocked. Using live data provided by the Citi Bike Web site, it's possible to see how many bikes are checked into each station at any particular moment. Other Citi Bike-trackers have used this data to develop insightful live views of the program, or to follow it closely for a single day. We chose to take a long look, grabbing information at fifteen-minute intervals each day for a month, from June 8th through July 8th.
Source: The New Yorker

Your social networks and the secret story of metadata

Researchers at MIT's Media Lab have created an application called **Immersion**, which uses your email to display all of the people you communicate with in a highly visual way. Although it was designed primarily as a way of illustrating a person's connections and social networks, it has served to highlight the amount of information that is encoded in communication metadata and what can be done with that data without even needing the actual content of emails.

This is especially relevant at the moment with the revelations that the US secret service has been engaged in widespread surveillance using email and other personal data sourced from companies such as Google, Apple, Facebook and Microsoft.

Email metadata refers to information such as the sender and recipients of an email. On its own, this information may not be particularly very interesting, especially if as in the author's case, it is one of 53,129 emails that is in his work Gmail account.

But when visualised using a social network graph, relationships with particular people emerge along with their place in particular networks. Relationships emerge from the metadata that reflect working structures, projects the author has worked on and companies that he has interacted with.
Source: The Conversation

Twitter Can Tell Whether Your Community Is Happy or Not

We typically gauge happiness, among individuals and whole communities or demographics, with survey questions like "how satisfied are you with your life?" But surveys cost money and contain their own biases. And so these academics, led by Johannes Eichstaedt and Andrew Schwartz, began to wonder if they could glean some sense of a community's wellbeing from the firehose of daily updates many of us voluntarily communicate about ourselves on Twitter.
Source: The Atlantic "Cities"

Tips To Save Yourself From death by PowerPoint

Some useful tips here from Stephen Hannon as he picks on the topic of death by PowerPoint! We've all been there. An important customer meeting has finally been scheduled, and a presentation is needed. As usual, you feel there's a lot of information to be communicated. The outline is rote. You have files upon files of other similar presentations. Simply pick a few charts from here, and a few more from there. Pretty soon, a deck of more than 30 slides is in place. The title chart just needs to be updated, and a bit of shuffling is required. The deck is dense with some graphics, an awful lot of words, and too-small font size. There's not a prayer of fitting into the 60 minute slot. But, you've briefed the material umpteen times before, so you somehow convince yourself you can shave the metric to 45 seconds per chart, leaving plenty of time for discussion. Save, copy it to the memory stick, and off you go. It's called "Death by PowerPoint" and we've all been guilty of it.
Source: AnyGeo blog

Back to contents

Cartographic tattoos

One could just choose a tattoo for what one loves or for what one is interested in. Most people who have tattoos will say that they got it for a specific time or person in their lives that they will never forget. Some people get tattoos to get attention. Some say their tattoos open new doors of communication. It is a way of expressing themselves and what they want. We came across some pictures on gizmodo.com where people are sporting tattoos that show maps of cities. These tattoos not only show their love for the hometown, but also their love and passion for maps. After all a map is not just a symbol of streets and lanes. It connects people with places. One of the pictures shows a map of the Chicago El tattooed on the ribs of a youth. Another one shows New York's Five Points, the notorious neighbourhood that disappeared in the 19th century. Then there's one that shows a well-built shoulder with the Paris of 1910 map. Another one is a simple topographic map on a man's back. A girl showing Hanover in 1896, a wrist telling how Downtown Mexico has always been the heart of the city and a forearm etched with a map of Detroit. All these tattoos show a very special bonding between the person and the city. These pictures seem to be claiming that nothing says I love my city more than a permanent tattoo. After all tattoos are like hometowns. They leave a permanent mark. Don't they?

Source: Geospatial World – Image of the Week & Gizmodo

Back to contents

Training Opportunities

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

UNIGIS distance learning MSc - registration open for fall 2013

Interested students and professionals from Central Asia will again have the opportunity to enhance their qualifications and to improve their career prospects: the UNIGIS MSc in 'Geographic Information Science & Systems' as well as the 'UNIGIS professional' certificate are offered via online distance learning to active professionals and graduates aiming at making GIS and Geoinformatics the basis for their current and future jobs.

The globally recognized UNIGIS qualifications are offered in Central Asia in a cooperation between the University of Salzburg's Z_GIS competence centre and the Austria-Central Asia Centre for GIScience - ACA*GIScience. Degrees and certificates are awarded from the University of Salzburg, Austria. The UNIGIS study programmes for Central Asia are based on English language online materials with support from instructors in local languages.

Registration now is open for the fall 2013 intake of students, starting in October. Enquiries and a brochure for Central Asian students is available online.

Announcing the Open Knowledge Public Lecture Tour of Australia **featuring Dr. Rufus Pollock founder of the Open Knowledge Foundation.**

The objectives of this open knowledge tour include:

- Talk to government representatives about the idea of 'open knowledge' especially 'open data', 'data journalism' & other 'open' events and efforts.
- Launch the official OKFN Australian chapter. GovHack+OKFN = #Community!
- Appoint local OKFN volunteer ambassadors in cities across Australia, including an OKFN-au workplan and volunteer drive. #Leadership
- Establish a senior advisory committee for an 'OKCon Asia Pacific' (NB – OKCon in the Northern Hemisphere is in its 3rd year and will have over 1500+ people in attendance at the Geneva conference this year). #OKCon #AsiaPacific

Back to contents

Locations include: Sydney 27/08, Canberra 28/08, Brisbane 29/08, Adelaide 30/08, Melbourne 2/09.
More information or Register for free tickets.

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

APPLICATIONS FOR COMMONWEALTH SCHOLARSHIPS TENABLE IN SOUTH AFRICA FOR DOCTORAL STUDIES AT THE UNIVERSITY OF PRETORIA, SOUTH AFRICA
The University of Pretoria is a research intensive university. Hence, it is seeking candidates for doctoral studies who will make significant contributions to its research endeavour. As part of South Africa's contribution to the Commonwealth Scholarship and Fellowship Plan, the University of Pretoria has made funds available for two doctoral scholarships for students coming from Commonwealth Countries (excluding South African students). This scholarship will be known as the University of Pretoria Commonwealth Doctoral Scholarship and will be awarded on a competitive basis. The University of Pretoria has established a reputation for academic excellence, particularly in relation to some of its major research activities. Information about these research activities can be obtained from the website of the University. Download PDF
- The UP Commonwealth Doctoral Scholarship will be awarded to applicants who are citizens of Commonwealth countries.
- Applicants must conduct their studies at the University of Pretoria.
- Applicants must have completed the degree that will give them admission to a doctoral programme a maximum of three years prior to their application for the University of Pretoria Commonwealth Doctoral Scholarship.
- Applicants must not be older than 35 years of age at time of application.
- Masters students currently registered at the University of Pretoria are not eligible for the Doctoral Scholarship.
- The value of this Doctoral Scholarship will be R120 000 in 2014.
- The holder of this scholarship may hold supplementary bursaries/ grants/scholarships.
- The scholarship will be for a maximum period of support of three academic years. Doctoral students who are not able to complete within the maximum three academic year period due to unforeseeable reasons must provide a written motivation supported by their supervisor as to why an extension is necessary. The extension request will be considered by the University's Institutional Selection Committee.
Closing DATE for 2014 academic year– 30 August, 2013

Singapore Geospatial Challenge
The Singapore Geospatial Challenge [SGC] is an initiative of the Singapore Land Authority to encourage the use of Geographic Information Systems technology in schools. Supported by the United Nations Initiative on Global Geospatial Information Management (UNGGIM), the challenge is organized for Junior Colleges and Secondary School students to help create a spatially enabled Singapore.

Back to contents

Details:
The main event will be held on the 2nd August 2013, Singapore Geospatial Challengers will have to plan an optimal route prior to the event and use a geospatial mobile application (created by Organizing-Partner, Nanyang Polytechnic) to navigate around the civic district while they check-into caches (e.g. Heritage Buildings/Trees) selected by SGC partnering agencies, NParks, NEA and NHB. While navigating and checking-into the caches with their mobile device, students will learn of the power and benefits that geospatial information and applications can bring while simultaneously uncovering Singapore's rich historical and green heritage.
Once checked-in, the cache would become unavailable to other challengers for a set period of time. Challengers waiting to check-in may opt to use their 'Lifelines' [limited!] to unlock the cache so that they may check-into the cache. Conversely, rival teams may want to work together to challenge reigning teams by creating quiz-barriers to caches they might be attempting to check-into.

Singapore Government launches app competition
The Singapore Government announced the launch of Apps4SG, an app development competition promoting the use of government data in developing innovative applications. **The Competition is open to all Singapore residents**.
To be eligible for the competition, a developer must create either a mobile or web-based application featuring the use of at least one government dataset.
The government is offering three attractive cash prizes to winners - the first prize is SG$10,000, the second SG$5000, and the third SG$3000. In addition, all apps will be eligible for consideration to receive seed funding. The government will provide free cloud services to each participating team.
Participants are encouraged to participate in hackathons to get a headstart in conceptualizing ideas and prototypes. Apps that are developed from these hackathons can be submitted to Apps4SG.
Health Up! - May 2013
Environment Up! - April 2013
Apps4SG Hackathon - June 2013
Workshops on app development and government data will be organized for participants to attend.
Register your interest with us and be kept informed! http://www.data.gov.sg/apps4sg/reg.aspx
Submission deadline: October 1, 2013.

CARIS announces 2014 calendar contest
Note from the Editors: the rewards offered are the kudos & recognition associated with publication. Further note – entrants are required to utilize the CARIS software.
CARIS' popular calendar contest is back! Now in its eighth year of production, the calendar contest continues to gain in popularity.
Submit your CARIS images for the calendar contest
Submissions for the 2014 calendar contest are now being accepted. CARIS software users are encouraged to submit their favourite CARIS imagery including geospatial datasets, maps, charts, 3-D views and more.
The submission deadline is Friday, September 13, 2013.
New this year – You vote for the winners
Winners will be featured in the 2014 CARIS calendar
Once the voting period ends, the 12 images with the highest number of votes will win a spot in the 2014 CARIS calendar. In addition, CARIS judges will choose two additional images to be included in the 14-month calendar. The winning images will also be published on the CARIS website as downloadable calendar desktop images and be displayed on CARIS' social media pages.
The overall calendar contest winner, with the highest number of votes, will receive a mounted copy of their winning image and will be featured in CARIS Coastlines.
Check out our past calendar winners
Previous calendar images can be found on the Calendar Desktop Images web page. Check out last year's winner.
The deadline for submissions is **September 13, 2013**.For more information, contact CARIS.

Back to contents

2013 IEEE Data Fusion Contest

Recently, the IEEE Geoscience and Remote Sensing Society announced plans for its **2013 Data Fusion Contest**. The Contest, which helps connecting students and researchers around the world, evaluates existing methodologies at the research or operational level to solve remote sensing problems using data from various sensors. The Contest is open not only to IEEE members, but to everyone, and consists of two parallel competitions: Best Paper Award and Best Classification Award. The winning teams will receive an iPad, an IEEE Certificate of Appreciation, and a free open access publication in an IEEE GRSS Journal. Final results will be announced at the 2013 IEEE International Geoscience and Remote Sensing Symposium in Melbourne, Australia, in July 2013.

Thanks to AnyGeo blog

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.

Back to contents

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.

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

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

2013 Esri International User Conference Paper Sessions

Proceedings: GMES & Africa Water Resources Management Workshop, May 14-15, 2013, Abuja, Nigeria

The "GMES and Africa" process was launched by the Maputo Declaration, signed on 15 October 2006. The initiative aims to strengthen and further develop infrastructure for a more coherent exploitation of Earth Observation data (space and in-situ), technologies and services in support of the environmental policies for sustainable development in Africa and ACP countries.

The GMES & Africa Water Resources Management Workshop (the 2nd GMES & Africa workshop) was organized through the BRAGMA FP7 project and was co-financed by the European Union in the framework of the joint Africa-EU Strategy and by the host organisation NASRDA. It was attended by over 60 participants from over 30 African countries and included representatives of the AUC, AMCOW, ECOWAS, EAC, CEMAC and NEPAD. The Workshop was furthermore attended by representatives from the EU and EU financed supporting projects in Africa and the European Space Agency. The background of the African technical representatives, as

Back to contents

proposed by the AUC, was very broad and ranged from members of various (trans-boundary) water resources implementation organizations to members from various national universities, as well as the NASRDA, which also acted as the Workshop local organizing committee.

See: Report on the 2nd GMES and Africa Workshop on Water Resources Management (PDF)

Note: a 3rd GMES & Africa workshop focusing on Long Term Management of Natural Resources will be held June 25-26, 2013, in Sharm el-Sheikh, Egypt.

Australia: AURIN Training Update

Between the 1st and 3rd of May over 35 participants representing 15 partners agencies took part in a training and information session on the Australian Urban Research Infrastructure Network (AURIN) portal and demonstrator projects conducted as part of the North West Melbourne Data Integration Project. This project has been delivered through the Centre for Spatial Data Infrastructures and Land Administration and jointly funded by the Australian National Data Service (ANDS) and AURIN.

Click here to view the latest Demonstrator video, showcasing the latest eTools and data available through the AURIN Portal.

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
August 2013		
5-7 August **"NEW"**	Brisbane, Australia	**18th Annual Geospatial Solutions Conference** GITA 2013 Theme: **WISDOM THROUGH THE SPATIAL SPHERE – BUILDING ON FUNDAMENTALS**
17-18 August **"NEW"**	Auckland, NZ	**Maori GIS Association National Conference**
19-24 August **"NEW"**	Tokyo, Japan	**Summer Seminar on GNSS**
21-23 August **"NEW"**	Bangkok, Thailand	**5th International Conference on HealthGIS 2013**
26-29 August	Arlington, VA, USA	**2nd Symposium on Advances in in Geospatial Technologies for Health** This event is being organized in collaboration with the 5th International Conference on Medical Geology - MEDGEO 2013 scheduled for August 24-30, 2013 in Arlington, Virginia, USA. **Abstract submission deadline: CLOSED June ,** The organizing committee welcomes your attendance. There will be a number of workshops and short courses for young researchers in these fields.
26-28 August	Kuching, Sarawak, Malaysia	**The 8th International Symposium on Digital Earth** (ISDE8) with the theme of "Transforming Knowledge into Sustainable Practice" will be held in Kuching, Sarawak, Malaysia.
30 August - 1 September	Beijing, China	**International Conference 2013 on Spatial Planning and Sustainable Development** Abstract deadline closed: 15 April 2013.

Back to contents

September 2013		
2 – 4 September	Jakarta, Indonesia	**UN/Indonesia Workshop on Climate Change** **United Nations/Indonesia International Conference on Integrated Space Technology Applications to Climate Change** **Application deadline: CLOSED May 31, 2013** The United Nations is organizing the United Nations/Indonesia International Conference on Integrated Space Technology Applications to Climate Change under the framework of the United Nations Programme on Space Applications. The Conference will be hosted by Indonesia's National Institute of Aeronautics and Space (LAPAN). This conference will bring together experts from the space and the climate change community as well as decision makers to discuss methods to use space-based applications to support the identification and implementation of adaptation measures, as well as to share experiences and lessons learned on the use of such applications in the context of mitigation. The objectives of the Conference are: 1) To discuss ways in which countries affected by climate change can make better use of space applications to assess vulnerability to climate change. 2) To identify potential alternatives in the context of mitigation and adaption to climate change 3) To improve synergies among space agencies and organizations targeting efforts on climate change. 4) To strengthen international and regional cooperation in this area. 5) To raise awareness on the recent advances in space-related technologies, services and information resources which can be use to assess the impacts of climate change and the effects of measures implemented to reduce such impacts. Applicants must have a well-established professional working experience in a field related to the theme of the Conference. Applicants should ideally be involved in the planning or implementation of relevant space programmes in relevant governmental organizations, international or national agencies, non-governmental organizations, research or academic institutions or industry. Within the limited financial resources available to the co-sponsors, a number of qualified applicants from developing countries, who have expressed the need for financial support will be offered financial support to attend the Conference. This may include the provision of a round-trip air ticket between Jakarta and the applicant's international airport of departure and daily subsistence allowances to cover board and lodging for the duration of the Conference. En-route expenses or any changes made to the air ticket must be the responsibility of the participants.
7-19 September	Tehran, Iran	**ISNET/ISA Workshop on Space Applications for Disaster Risk Reduction and Management** **Application deadline: CLOSED June 30, 2013** The objectives of the Workshop are: 1) To provide participants with a broad overview of space-based technologies for disaster risk reduction and management 2) To provide specialized training in the processing, interpretation and applications of satellite remote sensing data for disaster risk reduction and management 3) To impart hands-on training on floods, earthquakes, landslides, cyclones, tsunamis and avalanches using space-

		derived optical, SAR and microwave remote sensing data 4) To impart knowledge on the use of advanced disaster risk reduction and management techniques and methodologies in handling space-derived data 5) To develop familiarization with techniques used to integrate optical and SAR data for applications in different disaster hazard areas 6) To enhance horizontal cooperation and collaboration among the participants through the development of synergy Applicants must have a professional background of working in the fields of satellite image processing, interpretation and analysis, disaster management applications especially floods, earthquakes and landslides. Applicants should ideally be involved in the areas of space technology applications for disaster risk reduction and management particularly on early warning, prevention, response and mitigation in space agencies, disaster management authorities and other space-related organisations. Those with the knowledge and working experience of optical, SAR/microwave remote sensing data processing and interpretation would be given preference. Postgraduate students who are in the second phase of their studies in disaster management area or Ph.D. fellows who are in the starting phase of their studies are encouraged to apply. ISNET will offer full/partial funding to a limited number of deserving applicants from OIC member states only. This will include the provision of a round-trip air ticket between Tehran and the applicant's international airport of departure and daily/subsistence allowance to cover board and lodging for the duration of the Workshop. En-route expenses or visa fees must be the responsibility of the participants. While applying for funding, an applicant must submit a letter of recommendation from the head of organisation alongwith a duly-filled application form to ISNET. Incomplete application forms shall either be returned or not be entertained depending upon the date of receipt.
12-14 September	Enschede, NL	**GISDECO: URBAN FUTURES. Multiple visions, paths and constructions** **Deadline for abstract submission:** 15 April 2013 Notification of acceptance: 15 May 2013 **Deadline full paper submission:** 15 August 2013 ? The upcoming GISDECO (GIS for Developing Countries) conference is being hosted by the Department of Urban and Regional Planning and Geo-Information Management (PGM) (Faculty ITC, University of Twente) and jointly organized with N-AERUS (Network-Association of European Researchers on Urbanisation in the South).? CALL FOR PAPERS Some pre-conference workshops/meetings can be arranged for a small fee can also be facilitated. Should there be a desire for these please contact the local organization committee before 31 March 2013. For any further information or communication regarding the conference please only use this email.
17-18 September "NEW"	Singapore	**8th Annual GDI APAC 2013: Geospatial Defence & Intelligence 2013**
23-27 September	TSUKUBA, Japan	**ASPAR 2013 The 4th Asia-Pacific Conference on Synthetic Aperture Radar** "Overcoming the Hardships: Responding to Disasters with SAR"
24-25	Kuala Lumpur,	**International Symposium & Exhibition on Geoinformation (ISG)**

Back to contents

Spatial Data Infrastructure
Asia & the Pacific Newsletter

September **"NEW"**	Malaysia	
24-26 September	Kuala Lumpur, Malaysia	**Asia Geospatial Forum 2013** **CALL for ABSTRACTS** Contact Abstract Submission — 30 May 2013 Abstract Acceptance / Non-Acceptance — 15 June 2013 Authors' Registrations — 30 June 2013
October 2013		
8-10 October **"NEW"**	Ankara, Turkey	**APSCO 5th International Symposium on Satellite Remote Sensing (RS) and Geographic Information System (GIS) Development in the Asia-Pacific Region** Abstract deadline: July 15th, 2013.
15 – 17 October	Coombe Abbey, Warwickshire, UK	**1st call for papers** for the **9th International Workshop of the EARSeL Special Interest Group (SIG) on Forest Fires**. The workshop is organised by the University of Leicester with support from the Laboratory of Forest Management and Remote Sensing, Faculty of Forestry and Natural Environment, Aristotle University of Thessaloniki. Contact **EXTENDED** deadline for abstract submission is 15 April 2013.
23-25 October	Beijing, China	**United Nations International Conference on Space-based Technologies for Disaster Management - "Disaster risk identification and response"**. Please submit your application for participation online until 10 August 2013. In the context of the Conference the International Training Programme "Flood Risk Mapping, Modelling and Assessment using Space technology" will be organised for 25 participants of the conference. The organisers will be able to provide financial support to a limited number of participants. Only participants/experts representing a country and/or an organisation engaged in developing a long-term partnership with UN-SPIDER will be considered for the funding support. Those who request funding support must express their government's or organisation's intention to develop a work programme with UN-SPIDER in the coming years. The support will defray the cost of travel (round-trip ticket – most economic fare – between the airport of international departure in their country of residence and Beijing) and/or room and board expenses during the duration of the event. If you have further questions about the conference, contact Mr. Shirish Ravan, Telephone: (+86) (10) 6353 3527 For specific questions related to the registration process contact Ms. Liu Jing, Telephone: (+86) (10) 6353 3527
28 - 30 October	Tehran, Iran	**2nd Meeting of the Regional Committee of United Nations Global Geospatial Information Management for Asia and the Pacific (UN-GGIM-AP)** Theme: NGIA's roles in successful disaster response The 2nd Plenary Meeting of the Regional Committee of United Nations Global Geospatial Information Management for Asia and the Pacific (UN-GGIM-AP) is being hosted by the National Cartographic Center of Iran under the theme of National Geospatial Information Authorities' (NGIAs') Roles in Successful Disaster Response. The theme was chosen based on a common understanding and recognition that strengthening regional capacities for disaster

Back to contents

		response is critical as Asia and the Pacific region is the most disaster-prone region in the world. The intensity and frequency of natural disasters are likely to increase due to environmental degradation, population growth, urbanization and climate change. Considering such circumstances, it is very important for us to meet and discuss disaster response and develop strategies in a coordinated manner. In addition, global trends in the spatial web services will be discussed under the sub theme of The Latest of Spatial Web Services Provided by NGIAs. As the number of Spatial Web Services by NGIAs is increasing in the region, the sharing of experiences and lessons learnt in this area is expected to be beneficial to all participants
November 2013		
4-8 November	Addis Ababa, Ethiopia	**GSDI 14 and AfricaGIS 2013:** The GSDI Association, EIS-Africa, the International Geospatial Society, and the United Nations Economic Commission for Africa (UNECA) are pleased to announce a close partnership in offering the joint GSDI 14 World Conference and AfricaGIS 2013 Conference. The theme of the conference is **Spatially Enabling Africa in Support of Economic Development and Poverty Reduction**. **IMPORTANT DATES** Deadline for Submission of Abstracts:15 May 2013 Deadline for Submission of Full Papers for Refereed Outlets: 15 May 2013 Deadline for Submission of Full Papers for Non-refereed Outlet: 1 Sept 2013 Deadline for Full Conference Registration Payment for All Presenters: 15 Sept 2013
13-16 November	Skopje, FYRoM	**International Conference on Spatial Data Infrastructures and Spatial Information Management 2013** e-mail
December 2013		
2–5 December "NEW"	Bellvue, Washington, USA	**Institute of Navigation (ION) Precise Time and Time Interval Meeting**
3–6 December **"NEW"**	Hanoi, Vietnam	**Asia-Pacific Regional Space Agency Forum (APRSAF-20)** Theme: Values from Space - 20 Years of Asia-Pacific Experiences APRSAF-20 is being jointly organized by the Vietnam Academy of Science and Technology (VAST), the Ministry of Education, Culture, Sports, Science and Technology of JAPAN (MEXT), and the Japan Aerospace Exploration Agency (JAXA).
16–19 December	Ahmedabad, India	**AGSE 2013 -** "Geospatial Momentum for Society and Environment" Organizers: - Dr. Anjana Vyas (CEPT University, India) Dr. Josef Behr (Stuttgart University, Germany) **Important Dates** Last date of Abstract Submission: 20th June 2013 Last date of Full Paper Submission: 07th September 2013 End of Early Bird Conference Registration: 31st September 2013 **Contact**
2014		
	Malaysia	Malaysia will be hosting the (International Federation of Surveyors) FIG Congress in 2014. The decision was taken at the recently concluded FIG Congress 2010 in Sydney, Australia.

Back to contents

Spatial Data Infrastructure Asia & the Pacific Newsletter

May 2014		
21-23 May	Thessaloniki, Greece	**5th International Conference on Geographic Object-Based Image Analysis** (GEOBIA 2014).

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