

SDI-AP July 2011 Vol. 8, No. 7

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.

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#### Message from the editors

Welcome to the July 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 <u>send us</u> the materials by the 25<sup>th</sup> of the each month for your contribution to be included in the next newsletter.

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

#### **Contributions**

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



#### **GSDI News**

#### **Towards a Global Licensing Framework**

The Legal and Socio-economic Committee of the GSDI Association explores the legal and economic frameworks within which spatial-data infrastructures are developed in individual nations and multi-nation regions. It encourages dialogue with regard to varying public policy and legal approaches, and explores models, approaches and experiences that may enhance co-operation among nations in sharing spatial data and spatial technologies. The Committee shall propose and develop statements if needed in support of organisational goals, and develop approaches for communicating with legislators, agency personnel and other policymakers. **Repository** 

Moderated by Roger Longhorn, communicator, the Committee has compiled a public discussion list devoted to the legal, economic, social, institutional and ethical issues relating to SDI developments. Access: http://lists.gsdi.org/mailman/listinfo/legal-socioecon Guidance is provided on how to use and subscribe to the list. There are 86 subscribers so far. This Committee invites experts from all over the world who are interested in contributing to implementation of the action plan relating to licences to contact one of the committee chairs: The Committee has its own archived repository, linking in topics of interest to the legal and socioeconomic community. To use it or contribute please visit www.gsdi.org select Committees, select website for Legal and Socioeconomic Committee. Committee chairs encourage list subscribers and other interested experts to join the Geospatial Information Knowledge Network (GIKN).

Source: GIM International

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### **SDI News, Links, Papers, Presentations**

#### **Spatial Infrastructures Alignment Study**

The CRC Spatial Information Australia is aiming to will deliver the research to support the creation of a fully functional spatial marketplace. The marketplace will facilitate discovery and access to a broad range of spatial information products and services from a variety of sources (from government owned to volunteered geographic information). The marketplace will also deal with issues of privacy, cost, data aggregation, maintenance, accuracy and licensing in a way that should lead the world.

The Spatial Infrastructures Alignment Study is addressing this gap in understanding. Phase 1 will review and evaluate the main existing SDI initiatives in Australia and New Zealand. It will also include a survey of relevant national and international research activities that relate to the objectives of Program 3.

Source: CRC Spatial Information

#### **Evaluating the Application of the Multi-view Spatial Data Infrastructure Assessment Framework**

Authors: L. Grus; J. Crompvoets; A. K. Bregt; B. van Loenen; Tatiana Delgado Fernandez; and D. Vandenbroucke

In this article we evaluate the application of the Multi-view SDI assessment framework. In addition, we ask the potential users of the framework to evaluate its applicability to assess SDIs. The results show that the framework could be applied to 21 National SDIs. Evaluation of the application process reveals that the completeness of assessment data and time needed to measure indicators depends strongly on the assessment methods used. It is recommended to use those methods that need less time to measure assessment indicators. The results also show that a significant part of the measurements could not be done due to survey questions not being filled in by the respondents. The results also show that the users tend to agree with the applicability of the Multi-view SDI assessment framework to assess SDIs."

Source: GIS and Science

#### Introducing a new SDI newsletter

SDI Magazine will publish a monthly newsletter beginning with the July issue, covering different aspects of SDI development and implementation from around the globe. Each issue will focus on either a specific topic, such as SDI cost-benefit, privacy concerns, IPR, SDI's role in e-government, standards for interoperability, etc. or SDI progress in a specific country or region of the world.

Source: <u>SDI Magazine</u> Back to contents



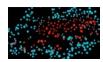
#### Is the vision of a spatial data infrastructure (SDI) practical?

Yes, in fact SDIs are beginning to be established around the world. Several national and regional SDIs are already building the policy framework for collaboration and opening up GIS assets. With the rise of web services, cloud computing, and volunteered mapping, SDIs are enabling trusted official data sources from national mapping organizations to be available to citizens and businesses which advances open government. Because of the rise and importance of SDIs, and in order to promote a conversation about best practices, at this year's Esri User Conference, Esri and Abu Dhabi Government's System and Information Centre (ADSIC) will cohost a number of SDI activities.

#### These include:

- Special weeklong SDI Pavilion where you can see examples of SDIs around the world and join the conversation - Sail Area (SDCC)
- SDI Executive Symposium that will include speakers and participant round table discussions Tuesday, July 12; 8:30 -11:30 am, Ballroom 20 D (SDCC)
- SDI user paper track (check your online <u>UC agenda</u>).

Source: ESRI Q&A



#### Finding Truth and Beauty in Data - BBC News

The voyages of trains, planes, tubes, bikes and buses come to life graphically by "data visualisation".

Source: BBC and thanks to Gordon Ojwang for bringing this item to our attention

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#### **SDI Spotlight**

This month's "Spotlight" feature is from Peter Branca, a commencing PhD candidate in the CSDILA Research Group. Peter has a Diploma of Social Science (Justice Studies) and Master of Applied Science in (Geospatial Information). He has worked broadly in the field of law enforcement since 1989. Between 2006-8, he worked as a senior intelligence analyst in the Regional Assistance Mission to Solomon Islands (RAMSI)

#### Spatially Enabled Policing – an integrated spatial information model for law enforcement

#### Introduction

Advances in information technology, and in particular spatial information, are now driving significant changes in policing. Dominant policing models of today, including community policing, problem-oriented policing and Intelligence-led policing place greater emphasis on information and knowledge (figure 1). This new focus, combined with innovations of the digital age, has resulted in police organisations collecting increasingly larger volumes of information and data. The challenge for policing is to transform this data and information into actionable knowledge for decision making.

#### **Background**

Knowledge-based policing describes the emerging knowledge-focused and risk-based paradigm in policing in this, the digital age. Despite the promises of improved effectiveness and efficiencies in policing, the challenges to achieving this approach are not insignificant, especially when considering that most police data is often stored in 'silos', with little or no connectivity between databases. Problems include the lack of common processes to provide a connected technical registry of multi-sourced databases to achieve new functionality, such as Knowledge Discovery in Databases (KDD). Some of these connectivity limitations are due the delineation of roles or functions that law enforcement organisations typically perform, such as crime and traffic law enforcement, emergency management and public order. Additionally, security and privacy issues limit the sharing of informational both within and external to police organisations. Also, many older police information systems had been originally built for purpose reporting statistics, rather than for analysis in support of operational decision making. Each of these issues presents significant challenges to the development of an enterprise knowledge—based environment to operate within.

Within this environment Geographic Information Systems (GIS) are a type of information management system which focuses on the location attribute of information. Location is a common attribute within policing information and has a demonstrated potential to provide significant value to all areas of policing, including crime analysis.



Indeed, both time and space (or location) is broadly accepted as being significant factors for crime analysis and, in the case of location, has been the catalyst for the expansion of GIS within policing (generally referred to as 'crime mapping'). Crime mapping has thrived on what could be described as a 'desktop mapping revolution', where users have had the flexibility to map and analyse crime records stored within policing databases, without the need to involve an organisation's IT departments. An arising issue to this more decentralised approach, however, has inefficient processes and a lack of information and knowledge sharing at the enterprise level (see Figure 2). At the same time the focus on 'crime' has meant that GIS has been somewhat limited in supporting other important policing functions, such as emergency management and public safety.

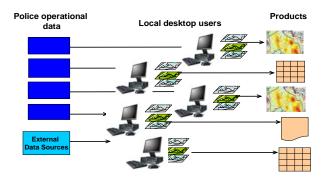


Figure 1 - Current Architecture for many Policing organisations

#### **Research Problem**

Policing has always relied on accurate and timely information for decision making, especially in times of major criminal investigations or public emergencies. However, for various institutional, technical, political, and economic reasons, the capture, exchange, aggregation and use of information and 'knowledge' has been problematic. This is especially so in relation to spatial information and related technologies. These limitations often extend to external partner organisations and institutions with the result of impacting on the ability for an organisation to make effective decisions. Ultimately the organisation's operational effectiveness can be reduced. Put simply, these issues can cause policing to become limited in its capacity make informed decisions and work effectively with others.

There is no existing integrated platform model which maximise the value of information and data held throughout policing organisations. This includes an infrastructure that will facilitate the coordination, sharing, integration, aggregation and dissemination of information and knowledge.

The aim of this research is to develop an integrated model to address the key challenges of police knowledge management through the design and creation of a spatial information management framework and associated tools. The diagram (Figure 2) below describes a possible architecture for such a model.

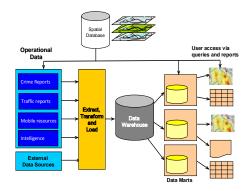


Figure 2 - Proposed spatial information management architecture for policing



The concept of a spatial data infrastructure (SDI) in the context of spatial enablement will help guide the development of this model, which will help facilitate the creation, aggregation and sharing of police knowledge through a service oriented approach.

Based on the SDI model (see Figure 3) it will also include the components of people, access networks, policy, standards and data, as well as address the technical, legal and privacy issues unique to policing. The key concepts of space and time held within all policing information will the foundation of this model. The aim of the will be provide benefit all policing functions and activities, including crime analysis, search and rescue, emergency management and public order.

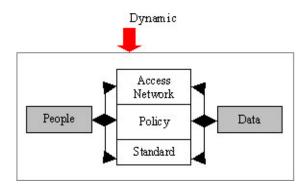


Figure 3 Basic SDI Components

#### **Research Objectives**

This research sets the following objectives:

- 1. To examine the extent to which spatial information has, and is, being used for police decision making, both within Australian and internationally.
- 2. To investigate how 'space' and 'time' elements can be integrated within an information management framework for police decision making, including in areas of crime analysis and emergency management.
- 3. To assess the future information needs in supporting emerging technologies such as expert systems, with a particular focus on spatial information.
- 4. To explore how an integrated spatial information model (ISIM) might assist in knowledge management and information sharing within policing.
- 5. To develop an ISIM through using a service oriented approach, which will meet the future needs of policing organisations.
- 6. To develop and test a prototype to validate this model.

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

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#### GIS Tools, Software, Data

#### Japan Explores the Use of Google Modeling Tools for Redevelopment

The United Nations University held a workshop (June) in Tokyo to explore ways to redevelop the region of Tohoku. The aim is to harness community input through the creation of social contribution networks and the use of Google's mapping and modeling tools. Google representatives will be training participants on both Google Maps, Google Earth and Google SketchUp.

Source: Asian Surveying & Mapping

#### Twitter can better detect earthquakes, tsunamis

Geosciences Australia suggested that Twitter's speed can enable agencies to detect earthquakes faster than traditional seismometer networks. At the CeBIT conference in Sydney, the agency's Geospatial and Earth Monitoring Division chief, Andrew Barnicoat, said the use of Twitter in the US had shown the potential of the medium to detect such natural disasters.



"The US Geological Survey (USGS) is starting to use social media as a sensor network and runs a <u>Twitter</u> <u>earthquake detector</u>," he said. "It is effectively a crowd-to-agency system and the tweeted reports of having felt an earthquake and a social epicentre is defined by this data.

According to the USGS, its Twitter Earthquake Detector gathers real-time, earthquake-related messages from the social networking site Twitter and applies place, time, and keyword filtering to gather geolocated accounts of shaking.

The USGS said that using social media people local to an event are able to publish information via these technologies within seconds of their occurrence. In contrast, depending on the location of the earthquake, scientific alerts can take between two to 20 minutes.

Source: GeoSpatial World and ComputerWorld

#### Melbourne to launch online mapping system

The City of Melbourne (Australia) invited several small focus groups to test a new municipal mapping system. It is currently in development phase. It is designed to display community points of interest like parks and healthcare centres, for example, and has been in the works for the last 18 months according to the council.

Source: GeoSpatial World and ZDNet



#### Scientists detect landscape changes in innovative way

Researchers at the National Central University (Jhongli, Taiwan) developed way of identifying altered features of urban areas by comparing existing building models with new LiDAR data points and aerial images. The researchers, Liang-Chien Chen, Li-Jer Lin, and Wen-Chi Chang, have improved on current methods in which changes are usually measured by spectral analysis of aerial images and LiDAR data.

In their technique, they sought to integrate the LiDAR data and aerial images into a single system that detects changes in a landscape by comparing old 3D building models with newly obtained imagery. To improve accuracy, they use a double-thresholding strategy

Source: GeoSpatial World and SPIE

<u>High Resolution Satellite Pictures of Fukushima Daiichi Nuclear Power Plant and Tsunami devestation</u> Source: GeoSpatial Talk blog

### Japan Tsunami Wave height animation across the Pacific ocean

Source: GeoSpatial Talk blog & < http://www.youtube.com/embed/yoDFmHn4aLQ >

#### Hong Kong government launches mobile mapping service

The Lands Department launched on June 22<sup>nd</sup> "GeoMobile Map Hong Kong", a new mobile mapping service that allows users to view detailed government maps or to search for community facilities in the surrounding area while they are on the move.

This enhanced mapping service comes after the Government web map portal, "GeoInfo Map", which was rolled out by the Lands Department in May 2010. "GeoMobile Map takes advantage of multi-touch technology, allowing users to smoothly zoom in and out of a map on their mobile devices," a spokesman for the Lands Department said.

"It also incorporates a strengthened geographic search engine, supporting not only the search for places, streets and buildings in Hong Kong, but also simple semantic searches, such as 'museums in Central', 'supermarkets within map area', and so on".

GeoMobile Map supports mobile devices and smartphones running on iOS and Android operating systems. The new service can be accessed via <a href="https://www.map.gov.hk/mobile">www.map.gov.hk/mobile</a>.

Thanks to Kate Lance for this item.



### News from abroad

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

#### Visually impaired Wheelchair Users use Laser Scanning to See

Researchers at Sweden's Lulea University of Technology have developed an electric wheelchair that can "see" for its user through the use of a 3D laser scanner. The <u>report</u> in *Ubergizmo* notes that the scanner is limited to a fixed height for this model, but that plans are to add a 3D camera system. The obstacles in the path are sensed by the operator through the joy stick via what is called <u>haptic</u> feedback.

Projections are that the "seeing wheelchair" will be commercially available in 5 years.

Source: LiDAR News

### **Geospatial tech joins battle against AIDS**

South Africa: Digital mapping company MapIT is using geospatial technology to streamline the

battle against HIV/AIDS in South Africa. Source: GeoSpatial World and ITWeb

#### Laser Scanner Helps Recreate the Wright Brothers first Flight



December 17th, 1903 at Kitty Hawk, North Carolina, the Wright Brothers took the first sustained heavier-than-air flight by a human. Almost exactly 97 years later on December 11, 2000, Direct Dimensions had the once-in-a-lifetime opportunity to perform 3D laser scanning on one of the original propellers from that exact airplane.

Source: LiDAR News

#### **GLONASS** more accurate than GPS: Roscosmos

Russia's satellite navigation system <u>GLONASS</u> is more accurate than American GPS, Federal Space Agency (Roscosmos) Deputy Director Anatoly Shilov claimed. "Today the accuracy of GLONASS is 6 metres, and that of GPS is 7 metres," Shilov said at the 5th international forum on satellite navigation in Moscow, Russia. Shilov added the accuracy of the Russian navigation system would have to be improved to 2-3 metres in the years to come. In his opinion, this can be done only if the system operates at full capacity with 24 satellites. As per schedule, Russia will launch another GLONASS-M satellite in August and another three in September-October from Baikonur in Kazakhstan. GLONASS system will become fully operational by the end of 2011. Source: Geospatial World

#### Round table on topic "Spatial data infrastructure"

On June 21St, 2011 in Sarajevo, round table was held on topic "Spatial data infrastructure"

Round table on the topic of "Spatial data infrastructure of federation of Bosnia and Herzegovina" had been held in hotel Sarajevo on June 21st, 2011, in Sarajevo, organized by the Federal administration for surveying and property rights with the Federal Ministry for spatial planning.

Participation in this round table was also taken by the Republic Geodetic Authority of the Republic of Serbia, State geodetic administration of the Republic of Croatia, Republic administration for geodetic and property rights affairs of the Republic of Srpska and Norwegian mapping and cadastral agency.

Source: V1 Magazine

#### **Coastal Spatial Data Infrastructure in South Africa**

Post-apartheid South Africa is a transforming society and a developing nation with a rich natural coastal heritage. As a nation, the South African government has, faciliated through a process of extensive public participation, developed a legislative and management framework which uses integrated coastal management (ICM) as a paradigm for coastal sustainability. Considering the developmental status of South Africa and the need for defensible scientific data and information going into an uncertain climate future, what are the requirements of a coastal spatial data infrastructure (CSDI)?

While this paper will briefly review the history of CSDI in South Africa, it will focus on providing some information on the recent development of a shared data platform. This platform is evaluated for the inclusion in the emerging CSDI. The shared platform currently hosts the SAEON [1] Data Portal, The South African Risk and Vulnerability Atlas [2], the South African Earth Observation System [3] (SAEOS), the CSIR GSDI Geoportal [4], and a prototype World Data Centre for Biodiversity and Human Health in Africa (WDCBHH) [5].



Source: SDI Magazine.

#### The Geo Data Portal: A spatial data infrastructure for integration of geographic and atmospheric

This presentation is about the U.S. Geological Survey Geo Data Portal (GDP) project which formalizes common data acquisition and assimilation tasks to assist in model parameterization, model coupling, and data integration in a standards based data retrieval and analysis application. The GDP spatial data infrastructure has been designed to leverage and integrate open-standards and open source software implementations from the geographic, oceanographic, hydrologic, and atmospheric science communities. Interoperability is achieved by adopting existing standards and open-source software components where possible, by working closely with enterprise-scale data providers to implement standards compliant services, and by developing transformations and interoperable connections where necessary.

Source: Free and Open Source Software for Geospatial

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#### **Articles**

#### Journal of the International Society for Digital Earth - 2010 Editor's Choice Articles

#### Cartography: Changing Perspectives on Mapping by Jeff Thurston

Cartography is more prominent today than it has ever been. Changing technology is allowing more people to create and use maps and they are designing and editing them with tools that are easier to use, and which provide improved capabilities. How we map the world around us is a strong indication of the type of society we live in, and how it impacts each of us.

Source: Asian Surveying & Mapping

#### Lets drop the whole GIS tag, We are in the location services industry by Rory Biggadike

GIS (Geographic Information Systems) has inhabited a niche in the world of computing. It has been long lamented as an important but not widely known technology. The launch of Google maps in 2006 shook this comfy niche. Bringing the widespread availability of free slippy maps with the ability to overlay markers, photos, videos. ESRI, the open source community and the other key players in the GIS market had to move quickly to catch up.

Mobile is about to have a much wider impact on the GIS industry. Real estate often proclaim its "Location location". Take heed GIS industry. We are entering a time of location based application development. GIS is a part; a tool, in a much wider game. Developers will be building location based applications, NOT GIS applications. GIS allows us to work with location data, but it is merely a tool. One of many.

Source: GISUser.com

#### GPS Is In Jeopardy! by Randy Noland

In a recent article, we asked the question, "Is GPS in Jeopardy?" It can now be said with no doubt that the answer is YES!

Source: GISUser.com

#### When Will Public Transit Provide Users With Mobile Apps? by GlennLetham

Source: GISUser.com

### Mapping How To - Reporting Map Errors to Google maps, Bing, Mapquest, OSM, and others data providers by GlennLetham

Source: GISUser.com

#### China geospatial industry - The flight of the dragon

Rapid industrial restructuring over the past three decades has helped China transform itself from a traditional agricultural society to a modern industrial society. In the last decade, China has emerged as the fastest growing economy in the world. This has enabled sectors like infrastructure, transportation, urban development, environment, natural resources and information technology to grow tremendously.

Source: GeoSpatial World



#### A European perspective on Digital Earth

by A. Annoni, M. Craglia, M. Ehlers, Y. Georgiadou, A. Giacomelli, M. Konecny, N. Ostlaender, G. Remetey-Fülöpp, D. Rhind, P. Smits and S. Schade

#### **Abstract**

The purpose of this paper is to contribute to the definition of a European perspective on Digital Earth (DE), identify some actions that can contribute to raise the awareness of DE in the European context and thus strengthen the European contribution to the International Society for Digital Earth (ISDE). The paper identifies opportunities and synergies with the current policy priorities in Europe (Europe 2020, Innovation Union and Digital Agenda) and highlights a number of key areas to advance the development of DE from a European perspective: (1) integrating scientific research into DE; (2) exploiting the Observation Web with human-centred sensing; and (3) governance, including the establishment of stronger linkages across the European landscape of funding streams and initiatives. The paper is offered also as a contribution to the development of this new vision of DE to be presented at the next International DE Conference in Perth, Australia, in August 2011. The global recognition of this new vision will then reinforce the European component and build a positive feedback loop for the further implementation of DE across the globe.

Strengthening national geographic services in Lao PDR by Kari Suominen (Finland), Thongchanh Manixay and Bouasoth Souvannakhoumane (Laos, PDR) Conference paper

Paper prepared for/presented at <u>FIG Working Week 2011: Bridging the Gap between Cultures</u>, 18-22 May 2011, Marrakech, Morocco.

#### **Summary:**

Strengthening National Geographic Services in Lao PDR is a four year programme started in August 2010. The programme is bilateral technical co-operation between the Government of Lao PDR and the Government of the Republic of Finland. The programme is continuation to extensive support from Finland to Laos, particularly focused on land sector.

The programme purpose is to assist the National Geographic Department (NGD) in creating, managing and distributing reliable modern national spatial data services to public and private stakeholders and clients. The services will include database for digital topographic maps at 1:50,000 and digital orthophoto maps covering first the project area.

This data will form the base of National Spatial Data Infrastructure and it will be used in various governmental and private organisations. Policy to share the data among various stakeholders will be established and Strategy and Mid Term Development Plan of National Geographic Department of Lao PDR will direct further development in this field.

#### Sensors, empowerment, and accountability: a Digital Earth view from East Africa

by Yola Georgiadou, Benson Bana, Robert Becht, Robert Hoppe, Justinian Ikingura, Menno-Jan Kraak, Kate Lance, Rob Lemmens, Juma Hemed Lungo, Michael McCall, Gianluca Miscione and Jeroen Verplanke **Abstract** 

Several innovative 'participatory sensing' initiatives are under way in East Africa. They can be seen as local manifestations of the global notion of Digital Earth. The initiatives aim to amplify the voice of ordinary citizens, improve citizens' capacity to directly influence public service delivery and hold local government accountable. The popularity of these innovations is, among other things, a local reaction to the partial failure of the millennium development goals (MDGs) to deliver accurate statistics on public services in Africa. Empowered citizens, with access to standard mobile phones, can 'sense' via text messages and report failures in the delivery of local government services. The public disclosure of these reports on the web and other mass media may pressure local authorities to take remedial action. In this paper, we outline the potential and research challenges of a 'participatory sensing' platform, which we call a 'human sensor web.' Digital Africa's first priority could be to harness continent-wide and national data as well as local information resources, collected by citizens, in order to monitor, measure and forecast MDGs.

<u>Spatial cloud computing: how can the geospatial sciences use and help shape cloud computing?</u> by Chaowei Yang, Michael Goodchild, Qunying Huang, Doug Nebert, Robert Raskin, Yan Xu, Myra Bambacus and Daniel Fay

#### **Abstract**

The geospatial sciences face grand information technology (IT) challenges in the twenty-first century: data intensity, computing intensity, concurrent access intensity and spatiotemporal intensity. These challenges require the readiness of a computing infrastructure that can: (1) better support discovery, access and utilization



of data and data processing so as to relieve scientists and engineers of IT tasks and focus on scientific discoveries; (2) provide real-time IT resources to enable real-time applications, such as emergency response; (3) deal with access spikes; and (4) provide more reliable and scalable service for massive numbers of concurrent users to advance public knowledge. The emergence of cloud computing provides a potential solution with an elastic, on-demand computing platform to integrate – observation systems, parameter extracting algorithms, phenomena simulations, analytical visualization and decision support, and to provide social impact and user feedback – the essential elements of the geospatial sciences. We discuss the utilization of cloud computing to support the intensities of geospatial sciences by reporting from our investigations on how cloud computing could enable the geospatial sciences and how spatiotemporal principles, the kernel of the geospatial sciences, could be utilized to ensure the benefits of cloud computing. Four research examples are presented to analyze how to: (1) search, access and utilize geospatial data; (2) configure computing infrastructure to enable the computability of intensive simulation models; (3) disseminate and utilize research results for massive numbers of concurrent users; and (4) adopt spatiotemporal principles to support spatiotemporal intensive applications. The paper concludes with a discussion of opportunities and challenges for spatial cloud computing (SCC).

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### **Books and Journals (including Videos and Web publications)**

International Journal of Digital Earth (IJDE) will have a <u>special issue on Spatial Cloud Computing</u> (SCC) to capture the latest advancements and collect cutting-edge research, development, education, and applications of SCC. The special issue is especially interested in "how cloud computing enables scientific research, application building, and educational activities with on-demand and elastic computing" and "how spatiotemporal principles have been utilized in the enablement and optimization of cloud computing platforms". Topics include but are not limited to:

- 1. Education or vision of SCC
- 2. Cloud computing tools, methods, technologies, and applications
- 3. GeoCloud and related efforts
- 4. Cloud platform/cloud services, such as Amazon EC2, Microsoft Azure, and Google App Engine, related research and development
- 5. Examples of deploying geospatial applications onto cloud platforms
- 6. Studies of how to ensure and utilize the capacity of spatial cloud computing
- 7. Communication and performance analysis of cloud computing
- 8. Assessment of the types of problems amenable to spatial cloud computing
- 9. Any other research, development, and education related to cloud computing
- 10. Implementation of cloud computing platforms
- 11. Optimization of cloud computing platforms

The guest editors invite extended 300- to 500-word abstract submissions, which will be reviewed by guest editors to select full paper submissions, of which accepted papers will be published in August, 2012 after the journal's peer review process.

#### Deadlines:

- \* July 25, 2011, abstract submission
- \* August 1, 2011, full paper submission invited
- \* November 30, 2011, full paper submission
- \* February 15, 2012, paper acceptance notification
- \* April 1, 2012, paper in final form
- \* August 2012, special issue published

#### LiDAR News, Vol 1, No 9

Think Quarterly - Google's new on-line magazine

**Coordinates** monthly magazine

**SERVIR-Africa community news** 



The American Surveyor newsletter (25 May) and 11 May

#### **GISuser - GIS and Geospatial Technology News**

#### LiDAR News Video of the Week - Pompeii showcase

Video showcasing the scan project conducted by CyArk and Ferrara University at Pompeii, Italy. The first major 3D scan archaeological documentation project conducted. <a href="www.cyark.org">www.cyark.org</a>

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### **Just for Fun!**

#### **Down memory lane**

These days, maps are created with satellite imagery and finding a destination on a map is just one click away on the Internet. But in earlier days, mapmaking was an arduous task that took years of research.

The largest and most detailed map of Joseon-era Korea, called Daedongyeojido (Territorial Map of the Great East), was made 150 years ago by scholar Kim Jeong-ho (ca. 1804 - ca. 1866). The creation of this historic map, which is National Treasure No. 850, is



being celebrated in a new exhibition at the National Museum of Korea called "Daedongyeojido: The Country Embraced in a Map," till July 24.

Image & info: Joongang Daily

Source: GeoSpatial World "Image of the Week" June 9

CUBA ON MY MIND: Armchair Traveling by Rosemary Daley, GIS Cartographer, National Geographic Maps As a National Geographic GIS Cartographer, people frequently inquire whether I get to travel to gather the data we use on our maps. I suppose National Geographic still evokes those romantic images of cartographers out in the field collecting information. While there are still plenty of people here at National Geographic exploring the globe, we cartographers, unfortunately, don't travel too often, and hardly ever in search of data. But I'm not complaining (much).

Source: National Geographic

#### Judge Bars Woman From Suing Over Faulty Google Map

Finding that Google has no duty to provide accurate content on its website, a Utah judge has thrown out the novel case of a woman who claimed that faulty walking directions on Google Maps caused her to be hit by a car. We note that, missing from earlier reports [see July 2010 SDI-AP <u>newsletter</u>], Google's defence included the claim that the plaintiff "stepped in front of [Harwood's] car in the dark at 6 in the morning, apparently after drinking all night."

Source: OnPointNews.com and Lowering the Bar legal humour website

### Costa Rica's legislators want to get rid of GPS

The majority of legislators - 29 out of 55, argued that the use of the GPS in their vehicle is a breach of their powers as representatives of a supreme power. ... The group formally protested the use of the GPS to the chairman of the legislature, Juan Carlos Mendoza. Mendoza said the tracking system generates savings to the Legislature for the payment of travel expenses and also provides security for legislators.

Mendoza's position is based on reports endorsed by the Legislature's executive director, Antonio Ayala, who reported a significant fuel savings in travel and legislative budget since the installation of the monitoring system. **And perhaps that is where the problem lies**, legislators cannot anymore "fudge" their travel expenses and

can be located - at least their vehicles - at any given time.

This is not the first time legislators have complained about the use of GPS in their vehicles. In fact this is the third collective complaint of a system that was installed in February 2010 during the Arias administration and at a cost of USD 9000 a year.

Source: GeoSpatial World and Inside Costa Rica



Stalking the Stalkers by THOMAS BELLER

In New Orleans a citizen turns the tables on Google's "Street View".

Source: New York Times

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### **Training Opportunities**

#### Summer School "Advanced Spatial Data Infrastructures", Leuven, Belgium

This event will take at the Irish College in Leuven between 8 and 15 July 2011, and is organised by the University of Melbourne (Australia), Leuven University and Brussels University (both Belgium), and supported by Global Spatial Data Infrastrucure (GSDI) Association. The key objective of this Summer School is to enhance the knowledge about the current developments in the field of spatial data infrastructures.

#### REGISTRATION FOR COURSES IN THE ACADEMIC YEAR 2012-2013 NOW OPEN:

#### University of Twente - ITC Faculty of Geo-Information and Earth Observation

You can now apply online for courses starting in the academic year 2012-2013. Browse by programme (degree, diploma, and certificate), course domain (disaster management, earth sciences, geoinformatics, governance, land administration, natural resources, urban planning, water resources) or location in the course finder at <a href="www.itc.nl/CourseFinder">www.itc.nl/CourseFinder</a>. If you prefer a printed copy of the study brochure 2012-2013, let ITC know by sending us an email: <a href="mailto:</a> <a href

### Short Course: Remote Sensing and GIS for Geological and Mineral Exploration, 2 weeks (Dar es Salaam, Tanzania)

The two-week course Remote Sensing and GIS for Geological and Mineral Exploration provides an introduction into the application of GIS, remote sensing and airborne geophysics to geologic mapping and mineral resources exploration. The course will start on 7 November 2011 at the SEAMIC premises in Dar es Salaam, Tanzania. Registration deadline: 1 November 2011. The following will be covered: 1) The analysis and interpretation of geological data sets, such as ASTER satellite imagery, aeromagnetics and gamma-ray spectrometry and geochemistry, 2) the integration of different data sets to enhance geologic interpretations, and 3) mineral prospectivity modelling with GIS to generate exploration targets. Concepts and theories are explained in interactive lectures and their application will be practiced in hand-on exercises of East-African and other case studies.

Target group: Geologists who are working in the field of geological mapping and/or mineral resources exploration who want to deepen their knowledge of the use of digital data sets in a GIS environment to increase the efficiency of geologic mapping and exploration campaigns.

For more information and registration: <a href="https://www.itc.nl/Pub/study/Courses/C11-ESA-TM-05.html">www.itc.nl/Pub/study/Courses/C11-ESA-TM-05.html</a>.

#### gvSIG Training platform opens with a first course for gvSIG users

The gvSIG Association tries to increase its learning offer through online courses, publishing a new learning platform: gvSIG Training. In parallel, the gvSIG Association launches its official certification program. It's a step forward in the training processes in free geomatic, creating an online training centre, that contributes to the spreading as well as to the sustainability of the gvSIG project. Training without geographic barriers, and with the best professionals.

In this platform, you will find courses in several languages to learn to use the different applications of the gvSIG project, in a user level as well as in a developer one. The courses list will be extended gradually with different gvSIG and free geomatic specialization courses (databases, map servers...), with the objective of covering the different needs of the Community.

The courses offered by gvSIG Training are part of the training routes that are required to obtain the gvSIG official certification.

For further information:

- gvSIG Training: <<u>http://gvsig-training.com/</u>>
- gvSIG Certifications: <a href="http://www.gvsig.com/services/certification">http://www.gvsig.com/services/certification</a>>

### GIS Courses by Distance Education

#### **NSW Riverina Tafe**

The courses listed below are all full Geographic Information Systems courses which can be studied over a number of semesters by distance study pathways.

- 12 -



Certificate III in Spatial Information Services (GIS)
Certificate IV in Spatial Information Services (GIS)
Diploma of Spatial Information Services (GIS)

Source: NSW River

#### Participatory Spatial Information Management and Communication Training Kit now available on-line

Co-published by CTA and IFAD in English and Spanish, the Training Kit is a unique product that can be tailored to meet user needs, ensuring that employees get the best training available on Participatory Spatial Information Management and Communication.

The online version was launched at the beginning of March 2011. The DVD version was launched in December 2010. The Training Kit contains 15 Modules, each presented through a series of Units. Modules cover the entire spectrum of good developmental practice – from mobilising communities to developing a communication strategy based on the outcome of participatory mapping activities. The Modules touch on topics such as the fundamentals of training, ethics and community groundwork and processes as well as the more technical low-, mid- and high-tech participatory mapping methods.

Users decide what they want to cover and when. The product has been developed using the Multimedia Training Kit (MMTK) approach – which allows you to pick and choose those Modules, Units and components that best suit your particular requirements and develop a curriculum to suit your specific needs.

**Publishers:** Technical Centre for Agricultural and Rural Co-operation ACP-EU (CTA), Wageningen, The Netherlands and International Fund for Agricultural Development (IFAD), Rome, Italy

Source: The Centre for Agricultural and Rural Cooperation

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### **Funding Opportunities, Awards, Grants**

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### **Employment Opportunities**

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### **Conference Proceedings**

#### 2011 Esri Asia Pacific User Conference Proceedings

#### ISDE Working Group Meeting on Digital Earth Vision to 2020

In March 2011, the International Society for Digital Earth held a working group meeting in Beijing on a Digital Earth Vision to 2020. The meeting brought together a diverse group of experts in an attempt to imagine how Digital Earth might evolve over the next decade. The Vision to 2020 is an updated reevaluation of the Digital Earth concept presented by Al Gore in 1998. This new vision takes into account the advances in technology made so far in the 21st century, considers changes in society and the ways people interact with technology, and anticipates the drivers that will affect future development.

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#### **Conferences, Events**

For upcoming events of global or major international interest, please visit the <u>upcoming conference list</u> 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. The 9th conference will be held in Morocco in October 2012.

Date	Location	Event		
July 2011				
3 - 8 July	Paris	25th International Cartographic Conference. 15th General Assembly of the International Cartographic Association (ICA) Contact: regist-icc2011@europa-organisation.com		
5 – 7 July "NEW"	Kuching, Malaysia	ASIA Infrastructure 2011  Development for Sustainable future in Asia  Contact Mr Zahir or Ms Zaida		
5 – 8 July	Salzburg, Austria	GI Forum 2011		
6 – 8 July	Islamabad, Pakistan	Call for papers at the 3rd International Conference on Advances in Space Technologies (ICAST)  This conference will focus on the use of space technologies for hydrologic disasters & climate change research. ICAST will raise awareness on the applications of space-borne sensors for hydrometeorologic extremes, water resources management and climate change studies. This conference will improve international collaboration on scientific and technical research on emerging issues of the region.  Contact – OR – Contact#2  Registration		
7 – 9 July	Ostrava, Czech Republic	The International Conference on Digital Information Processing and Communications Registration: May 03, 2011		
7 – 12 July	San Diego	Esri and ACSM - Event for Surveyors and Mapping Professionals		
11 – 15 July	San Diego	ESRI International USER CONFERENCE		
11 – 13 July	Macau	3 <sup>rd</sup> International Conference on Networked Digital Technologies (NDT 2011)		
12 – 15 July	Islamabad, Pakistan	Expert Meeting for Development of Data Sharing Platform and Technical Experience-sharing for Cost-effective Operation & Maintenance of National Satellite Earth Stations  The focus of the meeting will be discussion on activities of ground segments of remote sensing and communication satellites including communication with satellite; tasking and controlling of satellite; downloading of satellite telemetry; processing and archiving; backup procedures; and trouble shooting in case of operational problems.		
19 – 22 July	Ulaanbaatar, Mongolia	Infrastructure for Asia and the Pacific (PCGIAP)  - held in conjunction with 4th International Land Administration Forum The aims of PCGIAP are to maximize the economic, social and environmental benefits of geographic information in accordance with Agenda 21 by providing a forum for nations from Asia and the Pacific to:  a. cooperate in the development of a regional geographic information infrastructure;  b. contribute to the development of the global geographic information infrastructure; c. share experiences and consult on matters of common interest;		



19 – 22 July 20 - 22 July 21 – 22 July 28-29 July	Mayagüez, Puerto Rico London, UK  Rio de Janeiro, Brazil National University of Singapore, Singapore	d. participate in any other form of activity such as education, training, and technology transfer. For further information, contact host, Mr. Ariunbold or Jane Hong.  Surveying and Geomatic Educators Society Biannual Conference The International Conference on Digital Enterprise and Information Systems(DEIS2011) Registration: May 5, 2011  THE THIRD INTERNATIONAL CONFERENCE ON CLIMATE CHANGE: IMPACTS AND RESPONSES  Remote sensing, natural hazards and environmental change 2011  This conference is organized by the Centre for Remote Imaging and Sensing (CRISP), National University of Singapore; Laboratoire Magmas et Volcans (LMV), Université Blaise Pascal; and the Working Group for Large Rivers and Climate Change, International Association of Gemorphologists. The conference is designed to initiate informal discussion and paper presentation in two areas that are significant for the Asia Pacific Region and especially Southeast Asia. First of these involve natural hazards with emphasis on volcanoes, earthquakes, tsunamis and large floods. The second concerns environmental changes including climate change, modification of hydrological and geological processes and urbanization. The application of remote sensing in both observing such phenomena and ameliorating their non-beneficial effects will be emphasized. The conference provides a forum for exchange of views among researchers currently working in this area and for designing research strategies for the
		future. <u>Liew Soo Chin</u> , CRISP, NUS; <u>Jean-Claude Thouret</u> , LMV, Blaise Pascal; <u>Avijit Gupta</u> , Large Rivers and Climate Change, IAG
August 2011		1 ascal, Avijit Gapta, Large Rivers and Gilmate Ghange, IAG
3 – 4 August	Kampala, Uganda	1st Conference on Advances in Geomatics Research The Department of Geomatics and Land Management, Makerere University invites you to the 1st Conference on Advances in Geomatics Research to be held from the 3rd – 4th of August 2011 at the CEDAT Conference Hall – Makerere University Kampala, Uganda. The theme of the conference is "Geomatics Research for Sustainable Development". The theme seeks to bring to the fore Geomatics research and practice taking place internationally, regionally and locally in Uganda. The conference essentially seeks to highlight, promote, share and encourage scholarship in the various Geomatics sub-disciplines such as Geographical Information Systems (GIS), Remote Sensing, Engineering Surveying, Global Navigation Satellite Systems (GNSS) Geodesy, Land Management etc. The conference will include preconference workshops, plenary and technical sessions. Contact: Moses Musinguzi - Head Geomatics and Land Management Department – OR – Anthony Gidudu - Organising Committee Chair
5 - 7 August	Washington, DC USA	THIRD INTERNATIONAL CONFERENCE ON SCIENCE IN SOCIETY
8 - 10 August	Taipei	AOGS 2011 Geosciences World Community Exhibition The Geosciences World Community Exhibition will be held in conjunction with the 8th Annual Meeting of the Asia Oceania



		Geosciences Society (AOGS)		
15 - 19 August	Nairobi, Kenya	AGSE 2011		
17 - 19 August	Rio de Janeiro, Brazil	Latin American Geospatial Forum		
23 – 25 August	Perth, Australia	7th International Symposium on Digital Earth (ISDE7) Held in conjunction with WALIS Forum 2011 and the 2011 NRM Conference. Registration is now OPEN. The Australia Brazil Canada China Consortium will convene a workshop, as will the CRC for Spatial Information.		
September 2011				
9 – 11 September	Denver, Colorado	State of the Map (SotM)		
12 – 16 September	Denver, Colorado	FOSS4G 2011		
15-16 September "NEW"	Paris,FRANCE	3rd Symposium on Earth Observation Business		
18 – 22 September	Amman, Jordan	ISNET / RJGC Workshop on Applications of Satellite  Technology in Water Resources Management  The workshop would comprise presentations by participants, topic-specific lectures by experts and hands-on training which will focus on building capabilities in use of SRS techniques for water exploration. The main focus of the workshop is sharing of knowledge, experiences and update relevant OIC researchers on water resources exploration.  Important dates  Last date for abstract submission & applications  05 July Intimation of selection  03 August		
19-22 September "NEW"	Tossa de Mar, SPAIN	Last date for sending full papers & presentations 18 August  11th International Scientific & Technical Conference From imagery to map: digital photogrammetric technologies. E-mail: conference@racurs.ru		
28 – 30	The Delft,	<u>UDMS 2011</u>		
September	Netherlands			
October 2011				
3-7 October	Taipei, TAIWAN	32nd Asian Conference on Remote Sensingensing for		
"NEW"	, ,	Green Asia" (ACRS 2011)		
5-7 October "NEW"	Zanzibar Beach Resort, Tanzania	6th ESRI Eastern Africa User Conference Call for Presentations ESRI Eastern Africa invites you to share and discuss your GIS experiences by submitting a paper abstract for the upcoming conference in any of the following tracks:  * Conference Track Sub-themes		
		* Mapping & Charting and Public Safety Defence & Intelligence, Disaster Management, Law Enforcement, National Mapping & Charting  * Government Demographics, Economic Development, Election Services, Land Records, Public Works, Urban Planning  * Natural Resources Agriculture, Biodiversity Conservation, Environmental Management, Water Resources  * Health Services and Education Higher Education, Public Health, Research  * Utilities Electric Generation, Transmission & Distribution, Telecommunications, Water & Sewerage  * Transportation & Business Aviation, Highways & Roads, Logistics, Maritime Transportation, Railways, Real Estate		



6 – 7 October	Melbourne,	Africa encourages advantage of this cand the regional Gearliest considerate Papers brochure for submit your abstratea-user-conference Map Gallery ESRI Eastern Africa GIS work done with during the conference presentations. All swith great prizes to Categories of displementations. All swith great prizes to Categories of displementation. Maps that in Maps that in Maps that in Maps that in All poster presenter registration. The poster presenter registration. The poster presenter registration deadlifer commends that yearly Bird Registration Regi	bstract submiss anyone working apportunity to proportunity and the proportunity and	submit posters/banners of your are for display in the Map Gallery usion in the keynote rs will be entered into a contest sure to submit your work.  ecision ties work together message or tell a story ing cartographic displays analysis, modeling, and science ion with other systems  30% discount on conference in deadline is the 24 September see for more details.  It open and the Early Bird is 2011. ESRI Eastern Africa ay and take advantage of the www.esriea.co.ke/index.php/6th-televents@esriea.co.ke/for more
	Australia	Celebrating 10 Ye  2001-2011 CELEBRATING 10 YEARS CSDILA THE CENTRE FOR SMATIAL DATA SHYMATSTRUCTURES 8 LAND ADMINISTRATION	Ears (2001-2011 Established in contributing knowledge and Administration ten years. To the CSDILA is titled "Beyond Melbourne, Od	
17 – 19 October	Jakarta,		ebranded as As	ia Geospatial Forum.
"UPDATED"	Indonesia	Contact Important Dates		
		Abstract submissi	on	29th July 2011
		Abstract acceptan	nce	19th August 2011
		Author registration	า	09th September 2011
		Full paper submis	sion	15th September 2011
		Excellence Awards	Excellence Aw is proud to anno s' for innovations	



20 - 21 October	Guilin, China	award will recognize, highlight and honor the best projects or applications of geospatial technologies in various segments, which have made significant contributions towards the development of new geospatial applications, or innovative modification of existing practices. The dateline for submitting nominations is 15th July 2011.  Nominate a project now!  ISPRS Workshop on Geospatial Data Infrastructure: From data acquisition and updating to smarter devices 2011  Contact Deadline for abstracts: CLOSED  The objective of the workshop is to provide a platform for scholars and professionals in relevant areas to exchange research ideas and interests, to present the newest research results, to discuss the cutting-edge technology, and to promote the development and
04.07.6 1		application of SDI and the international collaboration.
24 - 27 October	Seoul, Korea	United Nations Forum on Global Geospatial Information Management (GGIM)
25 <sup>th</sup> – 28th	Paris, France	FIG Commission 3 Workshop - The Empowerment of Local Authorities: Spatial Information and Spatial Planning Tools Website
November 2011		
7 – 11 November "NEW"	Abuja, Nigeria	AfricaGIS 2011: A Geospatial Technology Revolution in Africa Sub-themes:  Spatially-enabled Governance; Enterprise GIS and Land Administration: the building blocks of sustainable development;  New Trends: crowd-sourcing, volunteered geographic information (VGI), and web services in the cloud; Business Geographic's: the geospatial advantage Please submit your abstracts to secretariat@eis-africa.org immediately.
14 – 16 November "NEW"	Madrid, Spain	ICERI2011, the International Conference of Education, Research and Innovation Abstract submission: 14th July 2011 Acceptance notification: 1st September 2011 Final Paper submission: 29th September 2011
14 – 18 November	Santiago, Chile	UGI 2001 International Geographic Union "Regional Geographic Conference"  Brochure & Call for Papers
15 – 16 November "NEW"	Seoul, Korea	Esri Korea, Inc. is proud to host the <u>7th Esri Asia Pacific User</u> <u>Conference</u>
15 – 17 November	Canberra, Australia	Spatial@Gov2011
21 – 25 November	Wellington, New Zealand	Surveying & Spatial Sciences Conference 2011
29 November – 2 December	University of Melbourne, AUSTRALIA	The State of Australian Cities  Key Dates  Full papers due  Reviewed papers returned Early registration closes Final papers due  31 OCT 2011



December 2011		
5 - 7 December	Hue City, Vietnam	The 9th International Conference on Advances in Mobile Computing and Multimedia (MoMM2011)  15 July 2011: Full Papers (8 pages), Short papers, Demos and work in progress (5 pages)  15 September 2011: Acceptance Notification  15 October 2011: Camera-Ready Papers and Authors Registration The submitted papers should not exceed 8 pages and must follow the ACM guidelines.  Contact
11 – 14 December	Abu Dhabi, UAE	The 6th International Conference for Internet Technology and Secured Transactions (ICITST-2011)  The ICITST is an international refereed conference dedicated to the advancement of the theory and practical implementation of secured Internet transactions and to fostering discussions on information technology evolution. The ICITST aims to provide a highly professional and comparative academic research forum that promotes collaborative excellence between academia and industry.  Full Paper Submission Date: June 30, 2011  Extended Abstract (Work in Progress) Submission: July 31  Early Registration Deadline (Authors only): September 30, 2011  Late Registration Deadline (Authors only): November 15, 2011  Participants Registration: May 01 to December 01, 2011  For more details
January 2012		
10 – 12 January	University of BC, Vancouver, Canada	Eighth International Conference on Environmental, Cultural, Economic and Social Sustainability.
16 – 18 January	UCLA, Los Angeles, USA	EIGHTH INTERNATIONAL CONFERENCE ON TECHNOLOGY, KNOWLEDGE AND SOCIETY  Presenters may choose to submit written papers for publication in the fully refereed International Journal of Technology, Knowledge and Society. If you are unable to attend the conference in person, virtual registrations are also available which allow you to submit a paper for refereeing and possible publication in this fully refereed academic Journal.  The deadline for the next round in the call for papers (a title and short abstract) is 14 June 2011.
May 2012		
13-17 May	Quebec City, Canada	2012 Joint World Conference GSDI 13 and Canadian Geomatics Conference (CCC) hosted by GEOIDE Network GSDI 13 invites presentations/papers covering the full range of practice, development and research experiences that advance the practice and theory of spatial data infrastructure development and spatial enablement of society. GSDI 13 will support three primary forms of publication: (1) a normal conference proceedings with abstracts and full articles (non-refereed and refereed), published on a CD, (2) a pre-conference published book of fully refereed articles, and (3) a post-conference special edition of the International Journal of Spatial Data Infrastructures Research (IJSDIR) with full articles selected from the proceedings and then fully refereed and revised after the conference.



August 2012		
25 August – 1 September	Melbourne, Australia	XXII International Society for Photogrammetry & Remote Sensing Congress Email: isprs2012@icms.com.au
October 2012		
	Morocco	10th biennial International Conference of the African Association of Remote Sensing of the Environment (AARSE)
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.

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