Spatial Data Infrastructure – Asia and the Pacific (SDI-AP) is a free electronic newsletter from the Global Spatial Data Infrastructure Association (GSDI) and 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 the synchronisation of 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 to, and access archives of, thematic or regional discussion lists please visit.

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Message from the editor

Welcome to the October edition of the newsletter. In this edition the SDI Spotlight feature by Jeremy Huang relates the role played by GIS in the recent typhoon natural disaster in Taiwan.

Also it is important to note that The Global Spatial Data Infrastructure Association has announced its Small Grants Program for the year 2009-10. Further information on the awards program is available from here. The successful proposals for the 2008 awards are listed under “SDI News &c”. We remind readers that the applications close today the 1 October 2009. Of further interest to our readers is the International Geospatial Society (the individual membership arm of the GSDI Association) which has only recently been formed and is seeking individual members.

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.

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Thank you to the following people and organisations for their contributions to this issue:
Paul Box, Kate Lance, and Baek Wonkug for news feeds, Jeremy Shen & Jeremy Huang for the Chinese translation, and Shivani Lal, GIS Development, Asia Surveying Mapping Magazine for directly feeding into the newsletter.

International Geospatial Society Information

The International Geospatial Society is the individual membership arm of the GSDI Association and seeks individuals for membership that have geospatial, SDI, GIS or related professional or specialist interests. The Society intends to engage and enhance communications globally among individuals that are actively involved in promoting, developing, or advancing spatial data infrastructure and related concepts. The Society is in the formative stage but there are significant benefits to be gained by joining early.

SDI News, Links, Papers, Presentations

Geospatial Information Systems Market to Grow 50% Over Next Five Years
The worldwide market for Geospatial Information Systems (GIS) is forecast to grow 50% over the next five years, representing a compound annual growth rate of 9.3%, according to a new ARC Advisory Group study. GIS market revenues will be driven in the near future by continued worldwide spending in non-cyclical industries such as electric power, oil and gas distribution, and divisions of federal governments.
Source: ARC Advisory Group

Gaia 3.4 Release Provides Platform for SDI Users and Developers
The Carbon Project recently announced the release of Gaia 3.4, a free platform designed to support Spatial Data Infrastructure (SDI) users and developers. The Gaia 3.4 platform release includes new SDI tools, an open API for software developers and support for OGC data and services, ESRI ArcGIS Server, Bing Maps and OpenStreetMap. You can download the free Gaia 3.4. A suite of free Extenders and API documentation are also available. Technical information and forums for the Gaia 3.4 platform and its Extenders are available. Initial Gaia development was sponsored by the National Spatial Data Infrastructure (NSDI) Cooperative Agreements Program (CAP).
RECENT UPDATE: Gaia SDI Platform Now Available for Linux and Mac Users
Source: Jeff Harrison

Mapping Forest Fires
The Centre for Remote Imaging, Sensing and Processing, a research centre of the National University of Singapore, has published data on forest fires in the region. CRISP has a mission to track forest fires, particularly those on Java and Sumatera that influence air quality on the island.
Source: Asian Surveying & Mapping

Taiwan Wildlife Survey Database Query System
With a unique natural geographic environment, there is rich flora and fauna in Taiwan and the abundant species and high density are renowned over the world. Influenced by long geographical isolation, the proportion of endemic species has increased. For example, there are currently around 4200 different vascular plant species.
recorded in Taiwan, 27% of which are endemic species, and around 18,500 wild animal species (including mammals, birds, Amphibia, Reptilia, fresh water fish, butterflies and other insects) have also been recorded, of them over 60% are endemic species. Whether for academic research, resource conservation and utilization or even international tourism, the abundant animal and plant resources as well as the high ratio of endemic species are all of very high value.
Source: Asian Surveying & Mapping

**OGC India Forum established**
New Delhi, India: The India Forum of the Open Geospatial Consortium (OGC) was recently chartered to provide government, academic, research and industry organizations in India with opportunities to learn about and discuss issues related to interoperability of geographic information involving OGC standards.
Source: GIS Development

**ALSO From Asian Surveying & Mapping:**

**OGC Chapters for South Korea and India**
The Open Geospatial Consortium has announced its first two national chapters in the region, in South Korea and India:

**GPS maps mostly outdated**
User-generated data may be the answer to the GPS navigation industry's problem of outdated maps on user devices. According to Ed Parsons, Google's geospatial technologist, the reason users encounter inaccurate road layouts and landmark placements on their GPS devices is that it takes a long time to get updated maps to users.
Source: GIS Development

**Chinese to Control Surveying**
Authorities in Guangdong are cracking down on surveying and mapping by foreign organisations which, they claim, has hindered the 'healthy development' of the industry in China. The crackdown coincides with a move by the central government in Beijing, to regulate the geographic information industry.
Source: Asian Surveying & Mapping

**Map Servers—H1N1: Do We Really Know What Is Going On?**
The Pan American Health Organization (PAHO) operates a web map server that provides information about H1N1 in the Americas. It clearly shows that Canada and the northern United States are the areas with the highest levels of H1N1 occurrence. Although dated July 2, the information as compared to this Google map example of the world current situation tells a different story, and shows the rate of spread more recently.
Source: V1 Media

**NZ major map upgrade unveiled**
A new, official topographical mapping series, Topo50 is being launched by Land Information New Zealand (LINZ) and will immediately be adopted by the search and rescue sector. The Topo50 map series has been developed to be compatible with international mapping systems and modern navigational technologies such as GPS. As a result, the Topo50 maps use different coordinates (latitudes and longitudes) of points to previous official maps. The difference is equivalent to an approximate 200 metre change in position. The maps are produced at 1:50,000 scale and are designed to help you navigate through remote areas. The website www.topo50.govt.nz has been launched to help map users understand the changes and view the new maps.

**INDIA launches Oceansat 2**
The Indian Space Research Organisation (ISRO) on September 23 successfully launched seven satellites in 1,200 seconds. The agency put six nano satellites and one major satellite into the orbit from Sriharikota. Of the six nano satellites, four are from Germany, one is from Switzerland and one from Turkey. The seventh is a big one, India's Oceansat-2 weighing 960 kg. Oceansat-2, India's second satellite will study oceans as well as interaction of oceans and atmosphere and is the 16th remote sensing satellite of India. The satellite will map fishing zones around India, measure ocean surface wind speeds as well as atmospheric temperature and humidity.
Source: http://www.timesnow.tv and Asia Surveying Magazine

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National SDI survey results in Africa (to be taken with a grain of salt)
The presentation of Anthony Cooper, from the Council for Scientific and Industrial Research (CSIR), at the ISO/TC 211 Workshop on Spatial Data Infrastructures, held May 27, 2009 in Tsukuba, Japan, puts two SDI surveys into context, showing that surveys can yield quite different results depending on the questions asked and how they are asked. Not only does this point out the subjective nature of SDI characterization and status/monitoring, but it also is a good lesson about research methods in general. Cooper's presentation titled 'African requirements for SDI standardization' compares:

a) Survey results of the UN Economic Commission for Africa, reported at the CODIST-I meeting, Addis Ababa, April 2009, CODIST.1 - Report on Member States activities since CODI V and
b) Survey results summarized in 'A review of Spatial Data Infrastructure implementation in Africa (2008)' by Prestige Makanga & Julian Smit or PowerPoint version.

Thanks to KL for this item.

Sydney blanketed by Dust storm - photos
The dust storm of Saturday, 26 September over New South Wales was imaged by the Chinese HJ-1A satellite around 10:00 am AEST. You can view the results. The dust (yellow) is clearly distinguishable from the clouds (white). HJ-1A satellite sensor's resolution is 50 times better than the satellites used by BoM. This link was provided by A/Prof Linlin Ge.

GeoEye marked the first anniversary of the launch of GeoEye-1 on September 6, 2009.
Since its launch, GeoEye-1 has imaged every continent in the world and chronicled several noteworthy events this year, including President Obama's inauguration ceremony in Washington in January. In April, GeoEye-1 photographed a North Korean missile facility just moments before the launch of a long-range missile. The GeoEye-1 satellite has collected about 54 million square kilometers of imagery and taken over 200,000 images since its launch. GeoEye began delivering GeoEye-1 imagery to Google Inc. for both the Google Earth and Google Maps services in March. A sample of images from GeoEye-1, including the Great Pyramid of Giza, Egypt; Borneo, Indonesia; Cabo Polonio, Uruguay; and British Columbia, Canada is available. Plans are in development for GeoEye-2, another high-resolution satellite. GeoEye has contracted with ITT Corporation to build the GeoEye-2 high-resolution camera and electronics. ITT's work could be used to accelerate the development of GeoEye-2, so that it could begin commercial operations in 2013.
Source: GeoEye Press release.

GIS helps the work of the rescue and recovery after Typhoon Morakot by Jeremy Huang

Typhoon Morakot hit Taiwan on 8 August, taking at least 400 lives and causing more than $15 billion in property damage. Parts of the region experienced their worst flooding in half a century and a record 120 inches of rain fell during the weekend. The storm triggered landslides and widespread flooding that trapped thousands of people in remote mountain villages for days.

The government of Taiwan is exerting its full energies and resources in the post-typhoon reconstruction and in ensuring that rescue and recovery efforts are as efficient and exhaustive as possible.

There are many cases showing not only government but also the private use of GIS to help the work of rescue and recovery after the storm. These instances are list below:

1. MITAC International Corp. donated 100 Mio GPS Navigators to the local governments of disaster areas. Those GPS Navigators equipped with the function of real-time traffic report, allowing rescuers to to anticipate or sidestep storm damage obstructions.
2. The disaster management system of the highway, developed by the Directorate General of Highways, provided information relating to impassable roads and alternate routes on the Google map.
3. The Construction and Planning Agency used GIS tools to select the lands for home rebuilding by overlapping satellite images, cadastral maps of public lands, maps of risk potential areas, and maps of restricted development districts.

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4. There were 17 new landslide-dammed lakes after the storm. The Forestry Bureau is monitoring these dangerous lakes by FORMOSAT-2 satellite images and aerial photos, to allow for emergency evacuation of civilians in instances of any immediate danger.
5. EPA organized a consultant team for disaster and environment recovery. This team will collect the environmental information in the disaster area, such as the quality of air, water, soil and groundwater. All the information will be analyzed by GIS tools to help the work of disaster recovery and home rebuilding.
6. There are some satellite images, maps and GIS service about the disaster on the internet, collected as below.

- The rescue information of Typhoon Morakot developed by Google Taiwan
- The disaster information of Typhoon Morakot on google map
- The disaster information of Typhoon Morakot Web2.0 and RSS Feed for Flood 88 in Taiwan

Satellite images and air photos after Typhoon Morakot: 1 2 3 4 5

The editors are actively soliciting contributions to the monthly “SDI Spotlight” feature for the November and subsequent issues.

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**GIS Tools, Software, Data**

**Hyperspectral Research**
The China Geological Survey and the Commonwealth Scientific and Industrial Research Organisation in Australia have signed an agreement to develop new technologies related to hyperspectral sensing of minerals. Wang Xuelong, a deputy director-general of the CGS, and Mike McWilliams, the chief executive of CSIRO Exploration and Mining signed a memorandum of understanding in Brisbane last week.
Source: [Asian Surveying and Mapping](http://www.asiansurveying.com)

**Further to the item in the September Newsletter:**

**Ortelius Aims to Unleash Both the Art and Science of Geography**
A new cartographic design tool called Ortelius was launched last week by Mapdiva. This tool addresses a lack of mapmaking software for the Mac OS X environment, and aims to make map design easier to learn and implement.
Source: [Vector 1 Media](http://www.vector1media.com)

**Catalog of Earth Satellite Orbits**
This website provides an overview of satellites and their patterns in orbit.

**The World Stress Map Project - A Service for Earth System Management**
The World Stress Map (WSM) is the global compilation of information on the present-day stress field of the Earth's crust with 21,750 stress data records in its current WSM database release 2008. It is a collaborative project between academia, industry and government that aims to characterize the stress patterns and to understand the stress sources.

**GADM database of Global Administrative Areas**
GADM aims to provide a spatial database of the location of the world's administrative areas (or administrative boundaries) for use in GIS and similar software. Administrative areas in this database are countries and lower level subdivisions such as provinces, departments, bibhag, bundeslander, daerah istimewa, fivondronana, krong, landsvæðun, opština, sous-préfectures, counties, and thana. GADM describes where these administrative areas are (the “spatial features”), and for each area it provides some attributes, foremost being the name and variant names.
Source: [GADM](http://www.gadm.org)

**ColorBrewer.org** - helps GIS users with color options with standard color ramps.
Source: [Vector 1 Media](http://www.vector1media.com)

**North Shore City GIS Viewer** - public viewer of GIS data for this New Zealand area outside of Auckland.
Source: [Vector 1 Media](http://www.vector1media.com)

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New Zealand NRC to give away Aerial, Geographic data
Northlanders are to be granted access to hundreds of thousands of dollars worth of aerial photography and other local authority geographic information system (GIS) data. In what is believed to be a first for a Regional Council in New Zealand, the Northland Regional Council (NRC) has decided to grant access to roughly 90 percent of the data currently on its GIS databases.
Source: GIS Development & NZ “Scoop” News

Generating KML from CMS - and how to make mashups without a key
After a great thematic mapping timeout this summer, it feels good to start blogging again. In my first autumn post, I want to write about the benefits of using a Content Management System (CMS) to create KML documents. I will also show how you can create Google Maps and Google Earth mashups without a map key.
Source: Thematic Mapping Blog

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News from abroad

LA Times “My Map” Map of Latest Fires
Source: Directions Magazine & LA Times

Geological map of Arctic in final stages
Canadian scientists are putting the finishing touches on the world’s first detailed geological map of the Arctic. The Geological Survey of Canada already published a preliminary map late in 2008, but a final copy will be released next year.
Source: GIS Development & Canadian Broadcasting Corp.

USGS (US Geological Survey) to track cause of ground sinking
The latest satellite tracking data will be used to help scientists gain a better understanding of how land subsidence is affecting the state-owned California Aqueduct in California’s San Joaquin Valley.
Source: GIS Development & USGS.

ASPRS approves guidelines for mapping services
The Board of Directors of the American Society for Photogrammetry and Remote Sensing (ASPRS) has approved the “Guidelines for Procurement of Professional Aerial Imagery, Photogrammetry, Lidar and Related Remote Sensor-based Geospatial Mapping Services.” A copy of the Guidelines is available online at www.asprs.org/guidelines.
Source: GIS Development & ASPRS.

First Open Source GIS UK Conference Webcasts
In June of this year Nottingham University hosted the First Open Source GIS UK Conference. The aims of the event included hearing presentations from government, academic, industry and policy makers on open source geospatial technologies, providing a platform to network and develop ideas for future collaborative work in open source GIS, developing an understanding of current developments in open source GIS and enabling a focus for open source GIS research. One hundred and fifty delegates represented 17 countries. Co-chair Dr. Suchith Anand reports that webcasts of the program are available for free online and invites the community that could not attend to view them.
Source: Directions Magazine

Innovation in Water-Use Maps
The Ash Institute for Democratic Governance and Innovation at the John F. Kennedy School of Government at Harvard University today announced Idaho’s Mapping Evapotranspiration (YouTube video) program as a 2009 Innovations in American Government Award winner. Because over 90 percent of Idaho’s water is used for irrigating agriculture and rainfall amounts remain low, regional water supply disputes continue to grow. In collaboration with the University of Idaho, Idaho’s Department of Water Resources is the first government agency in the nation to develop and use satellite-based evapotranspiration imagery to enhance the planning process.
Source: Directions Magazine

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understanding of agricultural water usage in the state. Such data is integral to settling water demand conflicts and offers more accurate and detailed mapping than previous estimates.

**SOURCE:** Idaho Department of Water Resources news release (PDF) & http://ashinstitute.harvard.edu/corporate_site/innovations/innovations_news/mapping_evapotranspiration_wins_innovations_in_american_government_award

**Measuring Progress of the Fifty States Initiative Report.**

The U.S. Federal Geographic Data Committee (FGDC) administers the Cooperative Assistance Program (CAP) to advance the National Spatial Data Infrastructure (NSDI). 'Measuring Progress of the Fifty States Initiative Report', commissioned by the FGDC, was recently released. To provide insight into how the Fifty States CAP grant category has improved intrastate and interstate coordination on geospatial matters, and thereby impacted the growth of the NSDI, this report analyzes quantitatively and qualitatively how these grants benefited state government geospatial activities. View Report [PDF]

**Source:** Federal Geographic Data Committee http://www.fgdc.gov/policyandplanning/measureprogress

**American scientists to save water using aerial imagery**

Agricultural Research Service (ARS) scientists are developing a system that saves water by using aerial imagery and ground-based sensors to determine the irrigation needs of small sections of cultivated fields. Conventional irrigation practices, even when based on modern management and water application techniques, can be wasteful because they assume crop water needs are the same throughout an entire field, according to Douglas Hunsaker, an agricultural engineer at the ARS Arid-Land Agricultural Research Center in Maricopa, Arizona.

**Source:** GIS Development & US Dept of Agriculture ARS

The world's first commercial, high-resolution, Earth imaging satellite, IKONOS, will achieve its 10th year of operation on Sept. 24. Built by Lockheed Martin (NYSE: LMT), the satellite continues to provide high-resolution imagery of the Earth to commercial and government customers around the world.

**Source:** Lockheed Martin Press Release

**Air Pollutants From Abroad a Growing Concern, Says New Report**

Plumes of harmful air pollutants can be transported across oceans and continents -- from Asia to the United States and from the United States to Europe -- and have a negative impact on air quality far from their original sources, says a new report by the National Research Council.

**Source:** V1 Media

**NASA satellite reveals ice loss**

Greenland and parts of Antarctica are losing large volumes of ice to the oceans as their glaciers get thinner, a Nasa satellite has revealed.

**Source:** BBC

**Where Are the Long-Term Unemployed?**

While national data don’t reveal exactly where those 5 million workers live, recently released data from the Census Bureau offer a window on the labor markets that were already highly troubled in 2008, which almost certainly contain outsized shares of the long-run unemployed today. This map examines two measures for the 100 largest metro areas in the United States in 2008: unemployment (the share of adults not employed and actively looking for work), and labor force participation (the share of adults employed OR actively looking for work).

**Source:** The New Republic

**NDVI: Satellites Could Help Keep Hungry Populations Fed as Climate Changes**

In the early 1980s, scientists at NASA's Goddard Space Flight Center, Greenbelt, Md., developed the Normalized Difference Vegetation Index (NDVI), an innovative combination of two satellite measurements that allowed them to analyze changes in the "greenness" of Earth as viewed from space. Much like measurements from weather satellites allow meteorologists to track and monitor hurricanes, NDVI lets scientists track droughts, crop infestations, and even full-blown crop failures that lead to widespread famine.

**Source:** V1 Media & NASA
Earth Pulse – State of the Earth 2010
Mapping global trends for population, agriculture, forestry, conflict, and &c.-
Source: National Geographic & V1 Media

Articles

Economic benefits from spatial information
Spatial Information in the New Zealand Economy - Realising Productivity Gains is a report commissioned by Land Information New Zealand, the NZ Department of Conservation and the Ministry of Economic Development in New Zealand. The Report provides robust economic analysis that quantifies the contribution spatial information makes to the New Zealand economy, as well as opportunities for this contribution to grow. It conservatively estimated that the use of spatial information added NZ $1.2 billion in productivity-related benefits to the economy last year - just over 0.6 per cent of gross domestic product.
Source: SKM Consulting

Geoparsing Maps the Future of Text Documents by Douglas Caldwell
Geoparsing offers the promise of modern geospatial alchemy... the ability to turn text documents into geospatial databases. This “magic” is done in two steps: 1) entity extraction and 2) disambiguation, which is also known as grounding or geotagging. Geospatial entity extraction uses natural language processing to identify place names in text, while disambiguation associates a name with its correct location. The geoparsing results can be inserted into the original document, used to produce a new document, or formatted for output to a geospatial application.
Source: full article available from Directions Magazine

100 Years “The Photogrammetry Week Series” by Dieter Fritsch

IP, privacy & liability: The legal angle of geo-info
by Dr. Colette Cuijpers, Tilburg University
Geoinformation is increasingly used to track, trace and locate people in real time, using various technologies. Besides questions relating to the technical and design specifications necessary to effectively provide these services, legal issues are an important concern. Location based services (LBS) can be provided by public and private bodies or a combination of both, they can have commercial and non-commercial purposes, they can entail different kinds of techniques and they can be directed towards different kinds of people. Because of this diverse picture, the range of legal rules that might impact a particular LBS is extensive
Source: GIS Development

An Integrated approach using remote sensing, GIS and Geoelectrical techniques for the Assessment of groundwater conditions: a case study. by P.K.Singh, U.C.Singh & Suyash Kumar
Abstract
Groundwater constitute an important source of water for various purposes. The conventional approach for groundwater investigation are ground based survey. Keeping this in view the present study attempts to map groundwater prospect map of the Morar river basin using remote sensing, GIS and geoelectrical techniques. Geomorphological, geology, lineaments and slope map has been prepared from satellite data. All the thematic maps maps are integrated in GIS environment and classified the area in four categories of groundwater prospects from poor to excellent groundwater potential zones. For the field verification of the result obtained from the integration of thematic maps are crossed checked with resistivity survey of the area. Twenty-one vertical electrical sounding (VES) have been carried out by Schlumberger electrode configuration and found four to five layers in sub-surface set-up in study area. The resistivity of water bearing weathered / fractures shales varies from 30 to 100 ohm m. The results also verify with the bore well yield data of the area.
Source: GIS Development

Framework for enterprise GIS for Saudi municipalities
Municipalities in Saudi Arabia are working hard to make use of rapid advances in information technology (IT), especially geographic information systems (GIS), to improve their performance and increase their effectiveness. Most initiatives in IT applications, including GIS, are limited to individual departments rather than supporting comprehensive institutional operations. This has resulted in fragmented applications with isolated databases. It
is obvious that the municipalities lack an overall framework to guide them through building reliable IT solutions that care for enterprise or corporate requirements. Because the Saudi municipalities share many commonalities, especially among their business functions and organizational structures, it is believed that a general framework is necessary to help them to develop their IT solutions in general and GIS applications in particular, because the majority of municipal decisions are spatially oriented. This article attempts to provide a framework for enterprise GIS for Saudi municipalities. It starts by reviewing the important issues associated with enterprise GIS to establish the basis for building a framework that is suitable for the Saudi context. The proposed GIS framework emphasizes the enterprise requirements for municipal institutions and considers GIS as a major IT requirement that can be supported by other related technologies. The suggested framework includes three main factors: business functions, tasks and data requirements. The integration of these factors provides the basis on which the municipalities can advance their aim of automating their functions. Discussion of these factors within Saudi context is presented with reference to the Municipality of Jeddah where data were based upon interviews with key municipal officials in 2004. The main finding of this research article is the identification of municipal functions and tasks that pave the way for determining applications required for the corporate IT solution. Furthermore, this article identifies data issues related to municipal data - sources, sharing and management - and calls for establishing a unified municipal data model. Finally, this article suggests that similarities among Saudi municipalities lead us to believe that IT applications can grow reasonably well by partnership among municipalities.


How can Digital Cities and SDI connect? by Jeff Thurston (of V1 Media)
Digital cities are a topic of high interest today. While they have been discussed for a number of years, technological developments, particularly in the area of 3D and remote sensing have propelled them forward. While geographic information systems (GIS) are natural integrator's of spatial information, their role in spatial data infrastructure (SDI) is well known. A line runs between digital cities and SDI that is closing quickly. How can digital cities and SDI connect?

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Books and Journals

Foundations of Multidimensional and Metric Data Structures
In his latest book, *Foundations of Multidimensional and Metric Data Structures*, Hanan Samet, renowned authority on this topic, presents a comprehensive view of spatial data structures and indexing that includes some of his own major algorithms, as well as those of other computer scientists. He is considered an expert on the use of hierarchical data structures such as the quadtree, which is often used to partition a two-dimensional space by recursively subdividing it into four quadrants, thereby providing a means to index the data that they span.

Location-Based Services and Geo-Information Engineering
Location-Based Services (LBS) are the delivery of data and information services where the content of those services is tailored to the current location and context of a mobile user. This is a new and fast-growing technology sector incorporating GIS, wireless technologies, positioning systems and mobile human-computer interaction. Geo-Information Engineering is the design of dependably engineered solutions to society's use of geographical information and underpins applications such as LBS. These are brought together in this comprehensive text that takes the reader through from source data to product delivery. From Wiley, 2009.

Experimental Geography: Radical Approaches to Landscape, Cartography, and Urbanism
(2009) By Nato Thompson
A groundbreaking collection of visual research and mapmaking from the past ten years that explores the distinctions between geographical study and artistic experience of the earth.

E-book "Essays on Geography and GIS, Vol. 2" by ESRI
It is a collection of essays written by many of the top academics in the fields of geography and GIS technology. Previously published individually in the company's ArcNews magazine, the collection of articles provides insight.
into the power of spatial thinking.

**The 12 articles in Essays on Geography and GIS, Vol. 2, include:**

- "GIS: Designing Our Future" by Jack Dangermond
- "Implementing Geographic Information Technologies Ethically" by Harlan J. Onsrud
- "GIScience for Human Rights" by Doug Richardson
- "Transport 2.0: Meeting Grand Challenges with GIScience" by Harvey J. Miller
- "Geography Education and GIS Professional Development" by Doug Richardson
- "Changing the Face of Geography: GIS and the IGU" by Roger F. Tomlinson
- "Process Models and Next-Generation Geographic Information Technology" by Paul M. Torrens
- "Geographic Literacy in U.S. by 2025" by Daniel C. Edelson
- "Geography, GIS, and Mental Health" by Doug Richardson
- "The National Geospatial Advisory Committee: An Action Agenda" by Anne Hale Miglarese
- "Global Dialogues: GIScience and Sustainable Development in Africa" by Doug Richardson
- "Get Involved with Geo-Education Reform" by Daniel C. Edelson

**The Implementation and Effectiveness of GIS in Secondary Education: Geographic Information Systems in Education**

Some educators consider GIS to be one of the most promising means for implementing educational reform. However, GIS technology has been adopted by only 1% of American high schools. This research describes the geographic and curricular extent to which GIS technology and methods are being implemented in secondary education in the USA, explains why and how GIS is being implemented, and assesses the effects of GIS-based lessons on teaching and learning. A national survey of 1,520 high schools provided primary data to explain the extent of the implementation. A set of experiments and case studies provided primary data for assessing the effects of GIS. From VDM Verlag, 2009.

**Advances in Spatial and Temporal Databases: 11th International Symposium, SSTD 2009**

This volume constitutes the refereed proceedings of the 11th International Symposium on Spatial and Temporal Databases, SSTD 2009, held in Aalborg, Denmark, in July 2009. The 20 revised full papers presented together with three keynotes, seven short papers, and 10 demonstration papers, were thoroughly reviewed and selected from a total of 62 research submissions and 11 demonstration submissions. The papers are organized in topical sections on spatial and flow networks, integrity and security, uncertain data and new technologies, indexing and monitoring moving objects, advanced queries, as well as on models and languages. From Springer, 2009.

**Foundations of Multidimensional and Metric Data Structures**

In his latest book, *Foundations of Multidimensional and Metric Data Structures*, Hanan Samet, renowned authority on this topic, presents a comprehensive view of spatial data structures and indexing that includes some of his own major algorithms, as well as those of other computer scientists.

**Topographic Laser Ranging and Scanning: Principles and Processing**

A systematic, in-depth introduction to theories and principles of Light Detection and Ranging (LiDAR) technology is long overdue, as it is the most important geospatial data acquisition technology to be introduced in recent years.

**Global Geodetic Observing System: Meeting the Requirements of a Global Society on a Changing Planet**

With the provision of accurate reference frames and observations of changes in Earth's shape, gravity field and rotation, modern geodesy takes a fundamental role for improved understanding of geodynamics, geohazards, the global water cycle, global change, atmosphere and ocean dynamics, and it supports many societal applications that depend on accurate positions. The book provides a comprehensive overview of geodesy's contribution to science and society at large, and it identifies user needs and requirements in terms of geodetic observations and products. Specifications for a global geodetic observing system that would meet these requirements lead to considerations of system design and implementation. From Springer, 2009.
MORE BOUNDARY PROBLEMS?

Virginia’s New Wind Farm in W. Virginia?
That’s the assertion of Pocahontas County Commission (WV) President Martin Saffer. He says the state boundary shown on Highland New Wind Development's maps doesn't match U.S. Geological Survey maps. That would put one or two of proposed turbines in West Virginia. The company says it used GPS to determine the boundary. Work on the wind farm started in August of this year.
Source: Directions Magazine

How I Learned to Stop Worrying and Love GIS
Source: Megan Taylor blog and Directions Magazine

ARMCHAIR TRAVELLING
Artist Bill Guffey uses Google Maps Street View to travel the world and find places to paint. It is certainly a new spin on *plein air* painting! Below is his painting of Angwin Vineyards in Angwin, CA, a place that Bill's actually never visited.
Source: Directions Magazine

Berliner Buys a Street for €1,000 in Auction Mix Up
A Berlin resident has purchased a street in Havelsee, a small town outside of the city for €1,000. He lays claim to the pavement, lights, water pipes - everything. This happened as he became aware of an auction where a town representative was expected to purchase the street for €1, more or less as a matter of procedure but she only brought one euro to the event and felt she could not raise her bid.
Source: The Local (Germany’s News in English) & V1 Newsletter

American Vice: Mapping the 7 Deadly Sins
Source: Wired magazine

Achieve Satisfaction when Beer Mapping

Monopoly Goes Google Maps
All Points Blog readers got a “heads up” on this week’s launch of a four-month-long online, Google Maps-based version of Monopoly co-hosted by Hasbro and Google. At launch on Wednesday there was enough demand to slow the Google servers to a crawl. Prospective players hoped to use their 3 million Monopoly starter dollars to buy any real estate they wanted on the Google Map. And as in the board game, the goal is to become the richest player and win. Wired sent it's Geek Dad blogger in for a test drive before the craziness; he didn't quite understand the big deal.
Source: Directions Magazine blog

Great Wall Expands
The Great Wall of China stretches 11 km further east than previously thought. The newly discovered section, built during the Qin (221-206 BC) and Han (206 BC to 220 AD) dynasties, was found in northeastern Jilin province.
Chinese archaeologists working in JinLin Province discovered the new section of the Great Wall last year, according to a report by Xinhua news agency last week. They found a 172-metre-long section of ruins in Tonghua county, it said. The wall, built over centuries as a defence against northern barbarian tribes, stretched for more than 8851 kilometres. It included 6259.6 kilometres of actual wall, plus 359.7 kilometres of trenches and 2232.5 kilometres of natural barriers such as hills and rivers, according to the survey.
Source: Asian Surveying & Mapping

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Training Opportunities

**SLA First Scholarship**
Singapore Land Authority, the island's national mapping authority, plans to give scholarships to undergraduates who want to pursue geospatial science and technology-related disciplines. The scholarships will be available for study in both Singapore or overseas. SLA is also working with secondary school students to make them more aware of geospatial technology.

Source: Asia Surveying & Mapping Magazine

**MacArthur Foundation to Support Sustainable Development Master’s Programs Around the World**
Supporting rigorous professional training for future leaders in the field of sustainable development, the John D. and Catherine T. MacArthur Foundation announced today grants totaling $7.6 million to nine universities in seven countries to establish new Master’s in Development Practice (MDP) programs.

Source: V1 Magazine

**Forestry GIS User Group Opens for Membership**
ESRI has launched a new user group specifically for its forestry and timberland management customers. The newly formed ESRI Forestry Group (EFG) will build opportunities for foresters to learn about business solutions, network with like-minded professionals, and develop professional growth.

Source: Vector1Media

**UNIGIS MSc now in Australia**
The international UNIGIS MSc postgraduate degree is now offered in Australia through the UNIGIS study centre at the University of Canberra, ACT. Students are invited to enrol in a joint programme combining the capacities from the University of Canberra and University of Salzburg, Austria.

This new UNIGIS study centre is led by Prof. George Cho at the Institute of Applied Ecology, University of Canberra. It offers in-service distance education for professionals interested in GIS and Geoinformatics. Courses towards the MSc will be launched with an on-site workshop in later in 2009 and lead students to recognized international academic degrees.

Source: [http://www.unigis.net](http://www.unigis.net)

**Cours International - Navigation et Services Basés sur le Positionnement par Satellite**
Rabat, Maroc, du 28 septembre au 24 Octobre 2009
[International Training Course, Satellite Navigation and Location Based Services, hosted by African Regional Centre of Space Sciences and Technologies, in collaboration with International Committee (ICG) and United Nations of Office of Outer Space Affairs]

 Télécharger Bulletin d'inscription
Télécharger le programme

L'objectif global de ce cours de formation est de sensibiliser les participants au potentiel de la technologie de navigation par satellite et à ses applications, en mettant un accent particulier sur les services basés sur le positionnement.

Les participants seront initiés aux fondements technologiques de la navigation globale par satellites, ainsi qu'à l'exploitation opérationnelle de ces systèmes, dans différentes configurations possibles d'utilisation de ces systèmes.

Au terme de la formation, les participants disposeront des qualifications nécessaires pour l'exploitation des connaissances acquises dans leurs propres organismes, autant dans les applications de base des systèmes de navigation par satellite que pour le développement de services à valeur ajoutée.

Contacte: Abderrahmane TOUZANI, Director, CRASTE-LF.

**3éme session de Formation Post-Graduée en Météorologie par Satellite et Climat Mondial**
Rabat, Maroc
Centre Régional Africain des Sciences et Technologies de l'Espace en Langue Française (CRASTE-LF)
Date limite date de réception des candidatures: 1er octobre 2009

Début des cours: 15 novembre 2009

Le programme de formation, d'une durée globale de 9 mois, comporte une introduction aux concepts de base dans les disciplines telles la météorologie, la climatologie, l'oceanographie, la physique de l'atmosphère, les mathématiques etc. Il aborde dans une seconde partie le traitement d'images et les Systèmes d'information géographique ainsi que la collecte des données spatiales et leurs applications. La troisième partie est dédiée...
Spatial Data Infrastructure
Asia & the Pacific Newsletter

aux modèles numériques incluant l'assimilation de données satellitaires ainsi que les questions relatives au climat global (Climatologie basée sur les données spatiales, le changement climatique et ses impacts). Les questions environnementales telles la chimie de l'atmosphère, les protocoles environnementaux et la gestion des catastrophes sont également abordées. Il intègre de nombreux travaux dirigés et pratiques, permettant aux participants d'acquérir l'expérience nécessaire dans l'utilisation des données satellitaires pour les études météorologiques et climatiques. Cette expérience se matérialisera à travers la réalisation d’un projet-pilote.

Trimble Seminars
Trimble will launch a new series of web seminars for people with an interest in GPS and GIS. They will be offered every 4-6 weeks. The schedule for upcoming Webinars includes: an introduction to the new Yuma rugged tablet computer and VRS. Visit the Trimble website for more information. Source: Asian Surveying & Mapping

Funding Opportunities, Awards, Grants

Sol Katz Award for Geospatial Free and Open Source Software - Call for Nominations
The Open Source Geospatial Foundation would like to open nominations for the 2009 Sol Katz Award for Geospatial Free and Open Source Software. Nominations for the Sol Katz Award should be sent to SolKatzAward@osgeo.org with a description of the reasons for this nomination. Nominations will be accepted until midnight UTC on October 9th. A recipient will be decided from the nomination list by an OSGeo designated selection committee. Source: OSGEO

The Global Spatial Data Infrastructure Association is pleased to announce its Small Grants Program for the year 2009-10.
Summary:
* Awards for spatial data infrastructure or EOS-related activities in economically disadvantaged nations,
* Application deadline of 1 October 2009,
* 4000 words maximum,
* Awards of $2500 USD in cash and/or contributed volunteer professional services for the project
Please visit the http://www.gsdi.org/node/175 to familiarize yourself with the application process.
Please note that proposals are due on 1 October 2009. Please e-mail them to: Societal Impacts Committee, GSDI Association, <grants@gsdi.org>

New India Region for Navteq LBS Challenge
Navteq is expanding its Global LBS Challenge to include India and South America as dedicated competition regions. With these additional tracks, the Challenge has expanded to cover five regions, including Europe/Middle East/Africa, North America and the Asia Pacific. Registration for all five regions is now open. Details for India, the Asia Pacific and South America are yet to be released.
The competition, now in its 7th year, invites developers to build innovative applications for navigation devices that use Navteq maps.
Navteq says the addition of the India and South America tracks 'reflects the global interest in location-based services', and the company's desire to tap into the innovation of these communities and support emerging markets.
The 2010 challenge also introduces new features to encourage wider participation and provide greater industry exposure for contestants. One such feature is new 'Best Of...' recognitions to individual applications, for example Best Use of User Generated Content, Best Use of Location-Based Advertising, and Best Use of Pedestrian Content (see regional rules for details).
Another new feature is that the Challenge will now accept applications for any platform and device, provided they use Navteq map data.
Source: Asian Surveying & Mapping
Celebrate World Space Week 2009
UN-declared World Space Week, October 4-10 annually, is the largest public space event on Earth and the best
time each year for teachers to use space to excite students about learning. During World Space Week, you are
couraged to use space-themed activities, such as those from <www.worldspaceweek.org/education>,
NASA, and other sources. To show how your classroom is part of this global celebration, please register. To
recognize creative use of space to inspire students, World Space Week Association will recognize several
participating teachers with $500 grants this year. For further information, contact Jim Volp, Director

Wanted: Innovative Solutions to the World’s Water Crisis - Reward $75,000
The inaugural Imagine H2O Prize competition is open for submissions. The competition offers prizes of $70,000
in cash and in-kind services, which will be awarded to the business plans that promise the greatest
breakthroughs in the efficient use and supply of water.
The Imagine H2O Prize is designed to encourage entrepreneurs, investors, inventors and academics around
the world to address water challenges. This inaugural business plan competition focuses on solutions to
improve water efficiency in agriculture, commercial, industrial or residential applications, such as water demand
reduction, improved water use, water recycling and/or reuse.
Entries will be accepted from around the world beginning September 1 through November 16, 2009. Winners
will be announced at a showcase event in early 2010. The annual competition will feature a different water-
related prize topic each year. For more details, go to:<www.imagineh2o.org>.
Source: Vector 1 Media

A new competition offered by the Journal of maps
The Journal of Maps are having a competition to develop the best Google Maps mashup. Use JoM GeoRSS
feed and GoogleMaps API. The contest runs from now until 11:59pm on Thursday, 31 December 2009. Entry is
straightforward: just email googlemap@journalofmaps.com giving a brief description of the project and a link to
the code or project home page. For the winner there is £200 payable via PayPal.
Source: GIS Lounge

The FIG Foundation has decided to make a number of awards in connection with the 2010 FIG Congress in
Sydney next April. The flagship award will be the 2010 FIG Foundation Fellowship, which will provide full
funding for the Fellow to attend the Congress.
The FIG Foundation is an independent body within the FIG family which raises and disburses funds for the
development of the surveying profession and surveyors. In addition to the Fellowship, the Foundation will award
up to six grants which will provide €500 funding (about $1000) and free registration to the Congress.
The Fellowship and Awards are open to all nationals of countries designated by the World Bank as low or lower
middle income economies. To qualify, a person must live in one of these countries.
The World Bank includes such countries as Bangladesh, Cambodia, Indonesia, Laos, Myanmar Nepal and
Timor-Leste and Vietnam.
Successful applicants must have a technical paper accepted for the Congress through the peer review process.
The closing date for submission of papers for peer review to FIG, and for the application form to the Foundation,
is 22 September 2009.
NOTE: the award is confined to those who will have submitted their papers by 22 September.

Bugs, Turtles and Whales Have a LOCATION 2—Kids Art Contest
Who says kids aren't location aware? "From a tiny insect to a huge blue whale, all animals have a place they
call home. Their home — called a habitat — provides them with the food, water and shelter they need to
survive. An art contest for grades 2 – 4 challenges young scientists and artists to become wildlife
investigators by exploring habitats, small and large, in their backyard or around the world, and then draw a
picture showing what they learned. Artwork might focus on one animal or many, from an area as small as a
single habitat or large as a biome. “Habitat: Imagine That!” is the 14th annual art contest held by the Institute
for Global Environmental Strategies (IGES) in Arlington, Va, USA.
Source: V1 Media

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Employment Opportunities

Spatial Jobs Online (Australia) Because of tight application closing dates the editors provide these websites for employment seekers to access directly: <http://www.spatialjobs.com.au> and <http://www.GISjobs.com.au>

Looking for a GIS - Geomatics Job in Canada? (from V1 Magazine)
Here are some links:
1) Geomatics Canada Job Site; 2) GeographyJobs.ca; 3) GoGeomatics Canada; 4) Geomatics Employment Center

Positions at Singapore Earth Observatory
The Earth Observatory of Singapore (EOS) is a Research Centre of Excellence, funded by Singapore's National Research Foundation, Ministry of Education, and Nanyang Technological University. Research at EOS focuses on understanding Southeast Asia's dynamic oceans, atmosphere and tectonic plates and characterizing the tectonic, volcanic and climatic processes responsible for these hazards. These scientific characterizations will promote forecasts of natural processes that will aid governments, communities and businesses to anticipate and adapt creatively to these environmental challenges, as well as develop and implement visionary policies. Dynamic and competent individuals are invited to fill the following positions:

Research:
- Research Fellow / Research Associate in Tsunami Evacuation Simulation
- Research Fellow in Regional Climate Modeling
- PhD student in Regional Climate of Southeast Asia
- Research Fellows in Computational Seismology and Site-Response Analysis (3 positions)

Technical:
- GPS Analyst

Education & Outreach:
- Curriculum Development Specialist

More information about the Observatory and job opportunities can be found at www.earthobservatory.sg. Interested applicants are invited to submit a full CV, including academic qualifications, research records and names and contact details of two referees, to: eos_humanresources@ntu.edu.sg.
Selection will commence immediately.
Thanks to Kate Lance for bringing these positions to our attention.

Ramsar opening for Intern/Assistant Advisor for Asia-Oceania
The Ramsar Secretariat welcomes applications for the position of Intern/Assistant Advisor for the Asia-Oceania region, a 12-month posting (possibly extendable up to 18 months) in the Ramsar Secretariat in Gland, Switzerland to begin in mid-February 2010 (the expected start date of 11 January 2010 mentioned in the online announcement is incorrect).
IUCN, the International Union for Conservation of Nature, provides administrative services for the Ramsar Convention, and more information and online application for this post is available on the IUCN website.
Here is a checklist of Ramsar’s requirements for this position:
* You are under 30 years old.
* You have a university degree (preferably a post-graduate qualification) in a subject relevant to wetland conservation and sustainable use, such as, biology, hydrology, marine sciences, natural resources management, land use planning, geography or anthropology/sociology.
* You are a national of countries in the Asia-Oceania region and have lived most of your life in the region.
* You have perfect fluency in English.
The deadline for applications is 9 October 2009.
Note: A candidate should SUBMIT HIS/HER APPLICATION ONLINE, USING THE LINK ABOVE. No other method of application will be considered.

International Automated Mapping (Leyte and Bohol) & GIS/ IT Adviser, Philippines
The Land Administration and Management Project - Phase II (LAMP II) is part of a long-term commitment by the Government of the Philippines (GOP) to Land Administration and Management (LAM) reform. Land Equity

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International (LEI) seeks an International Automated Mapping (Leyte and Bohol) & GIS/ IT Adviser for a 140 day position in the Philippines, commencing in October 2009. Deadline: 6 October 2009

Conferences, Events

For upcoming events of global or major international interest, please visit the [upcoming conference list](#) on the GSDI website.

**FIG 2010 Pre-Congress Program**

Online registration is now open for the FIG surveying congress to be held in Sydney, 11-16 April 2010. A local surveyor, John Brock, has arranged a history seminar on the two days leading up to the congress (9-10 April). Technical tours have also been organised, including a boat trip to historic Fort Denison.

Source: [Asia Surveying and Mapping Magazine](#)

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

<table>
<thead>
<tr>
<th>Date</th>
<th>Location</th>
<th>Event</th>
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<tbody>
<tr>
<td>4-8 October</td>
<td>Cleveland, Ohio, USA</td>
<td>NSGIC(National States Geographic Information Council) 2009 Annual Conference</td>
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<tr>
<td>5-8 October</td>
<td>Attica, Greece</td>
<td>IXth International Scientific &amp; Technical Conference</td>
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<td></td>
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<td>From imagery to map: digital photogrammetry technologies</td>
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<td>• Telephone +7-495-720-5127</td>
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<td></td>
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<td>• Contact Elena Voronina</td>
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<tr>
<td></td>
<td></td>
<td>Email <a href="mailto:conference@racurs.ru">conference@racurs.ru</a></td>
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<tr>
<td>October 6-8</td>
<td>Manchester, UK</td>
<td>Registration for the Fourth Annual International Airport GIS Conference is open announced IAAE and AIAE. Drawing airport GIS, government officials, consultants and vendors from around the world.</td>
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<tr>
<td>October 7</td>
<td>Washington, D.C.</td>
<td>The Open Geospatial Consortium, Inc. (OGC®) will hold a Spatial Law and Policy Summit at The Westin Washington, D.C. City Center on October 7, 2009. Professionals from government and the private sector whose work involves laws and policies related to geospatial technology are invited to register and attend. This event will feature a keynote talk by Robert W. Corell, Vice President of Programs at The Heinz Center. Noted for his role in climate science research, Dr. Corell has served as a Senior Policy Fellow at the Policy Program of the American Meteorological Society and as a Senior Research Fellow in the Belfer Center for Science and International Affairs at Harvard University's Kennedy School of Government.</td>
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<tr>
<td>7 - 9 October</td>
<td>Taipei, Taiwan</td>
<td>GIS in the Humanities and Social Sciences 2009 International Conference. Alternative URL</td>
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<tr>
<td>12-16 October</td>
<td>Kuala Lumpur, Malaysia</td>
<td>FIG Commission 7 Annual Meeting and one-day International Symposium</td>
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<td>15 October 2009</td>
<td>Taichung, Taiwan</td>
<td>2009 Urban Geographical Information System Forum Contact</td>
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<tr>
<td>15-16 Oct 2009</td>
<td>Taichung, Taiwan</td>
<td>Annual Conference of Taiwan Geographic Information Society Online registration deadline: Sep 25, 2009.</td>
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<td>Date</td>
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<td>19-22 October</td>
<td>Hanoi, Vietnam</td>
<td>7th FIG Regional Conference</td>
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<td>20-23 October</td>
<td>Sydney, Australia</td>
<td>FOSS4G 2009 Call for Abstracts</td>
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<td>25 October</td>
<td>Bangkok, Thailand</td>
<td>16th Meeting of ISCGM (International Steering Committee for Global Mapping)</td>
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<tr>
<td>26-30 October</td>
<td>Bangkok, Thailand</td>
<td>18th UNRCC AP/15th PCGIAP Meeting</td>
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<tr>
<td>26-29 October</td>
<td>Kampala, Uganda</td>
<td>AFRICAGIS 2009; International Conference</td>
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<tr>
<td>November 2009</td>
<td>Hobart, Tasmania</td>
<td>IMTA Asia Pacific Regional Conference &amp; Trade Show</td>
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<td>2-6 November</td>
<td>Quebec City</td>
<td>The Standards Council of Canada is hosting the next International Standards Organization (ISO) Technical Committee (TC) 211 meeting. ISO/TC 211 develops international technical standards for Geographic Information and Geomatics.</td>
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<tr>
<td>Date Range</td>
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| 10-12 November       | St. Petersburg, Florida, USA    | *Fifth National GIS in Transit Conference*  
Website: [http://www.urisa.org/gis_transit](http://www.urisa.org/gis_transit) |
| 10-12 November       | Bahrain                         | *2009 ESRI Middle East &North Africa User Conference*  
[Email](mailto:info@esri.com) |
| 11-13 November       | Perth, Western Australia        | *WALIS Forum 2009*  
- **Telephone** +61-8-9273-7042  
- **Contact** Melissah MacKenzie |
| 15-22 November       | Santiago, Chile                 | *XXIV International Cartographic Conference* |
| 16-18 November       | St. Petersburg, Florida         | *Fifth National GIS in Transit Conference Program Unveiled*  
“The Route to Success in Transit GIS,” This biennial conference will focus on the growing role of GIS in supporting planning, service delivery, and decision making in public transit. Recognizing the importance of the conference, both the Transportation Research Board (TRB) and the American Public Transportation Association (APTA) have endorsed the event. |
| 16-19 November       | San Antonio, Texas, USA         | *ASPRS / MAPPS 2009 Fall Conference* |
| 17-20 November       | Denver, USA                     | *7th William T. Pecora Memorial Remote Sensing Symposium*  
[Email](mailto:info@ignss.org) |
| 25-27 November       | Hyderabad, India                | *ISPRS Workshop on Geospatial Data Cyber Infrastructure*  
The ISPRS is inviting abstracts for an international workshop on Geospatial Data Cyber Infrastructure and Real-time Services, with an emphasis on Disaster Management (25-27 November, Hyderabad). Themes include web-based geospatial services, data management, predictive modelling for disaster management, decision support systems and participatory mapping using high resolution imagery. |
| 30 November - 2 December | Sydney, Australia (Univ NSW)  | *GeoComputation 2009*  
The 10th International Conference on GeoComputation* |
| December 2009        |                                 |                                                                      |
| 1 – 4 December       | Suva, Fiji                      | *Pacific GIS and RS User Conference*  
University of the South Pacific, Suva, Fiji  
[Website](http://www.gisandrecords.com)  
Since the first Pacific GIS & RS Conference in 1999, this annual event has attracted many participants, from near and far. Each year the range of GIS & RS technologies presented cover an array of applications including the management of resources of the small island Pacific nations. Shallow water bathymetry derived from satellite imagery, forest function maps to identify areas for to be protected, areas identified for developments in flood zones are some of the applications where the development of GIS & RS in the region have been applied in various sectors. As with previous conferences, there are no fees levied for those wishing to attend. |
| 1 – 3 December       | Gold Coast, Australia           | *International Global Navigation Satellite Systems Society’s (IGNSS) 2009 symposium and exhibition* |
| 1 – 3 December       | Moscow, Russia                  | *Scanex 4th International Conference “Earth from Digital Space – the most effective solutions”*  
[Email](mailto:info@scanex.org) |
| 2 – 4 December       | Feria Valencia, Spain           | *The 5th Edition of the gvSIG Conference* organized by the Regional Ministry of Infrastructure and Transport (CIT), will be held at the Feria Valencia Convention and Exhibition Center, and will once again host the eclipseDay. The call for papers for the Fifth Edition of the gvSIG conference is now open. As of today communication proposals can be sent to the email address to be evaluated by the scientific committee as to their inclusion in the conference program. There are two types of |

[Back to contents](mailto:info@gsdi.org)
communication: paper or poster. Information regarding to regulations on communication presentations can be found in the report's section. Abstracts will be accepted until September 21st. See also <http://jornadas.gvsig.org/how-to-collaborate> email to.

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<tr>
<th>Event Date</th>
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<th>Event Name</th>
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<tr>
<td>17 – 18 December</td>
<td>Ahmedabad, India</td>
<td>ISPRS International Workshop on &quot;Impact of Climate Change on Agriculture&quot;</td>
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<tr>
<td>January 2010</td>
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<tr>
<td>January 6–8</td>
<td>Redlands, California</td>
<td>The first GeoDesign Summit. Geodesign brings geographic information system (GIS) technology into any type of design process such as developing a community project or conducting scientific research. Participants will introduce the first generation of geodesign concepts, technologies, and tools, drawing from the international group’s experience in a variety of disciplines.</td>
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<tr>
<td>19-21 January</td>
<td>Epicentre, Gurgaon</td>
<td>MapIndia 2010</td>
</tr>
<tr>
<td>February 2010</td>
<td>Torino, Italy</td>
<td>Gi4DM 2010 Call for Papers</td>
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<tr>
<td>March 2010</td>
<td>Gold Coast, Australia</td>
<td>ESRI Asia Pacific User Conference and OZRI 2010</td>
</tr>
<tr>
<td>April 2010</td>
<td>Sydney, Australia</td>
<td>International Federation of Surveyors (FIG) Congress 2010 Contact email The deadline for submission of abstracts is 22 September 2009. Alternative URL: FIG 2010 Pre-Congress Program Online registration is now open for the FIG surveying congress to be held in Sydney, 11-16 April 2010. A local surveyor, John Brock, has arranged a history seminar on the two days leading up to the congress (9-10 April). Technical tours have also been organised, including a boat trip to historic Fort Denison.</td>
</tr>
</tbody>
</table>
### 25-29 April “UPDATED”

**Phoenix, Arizona**

**2010 GITA**
Submit your abstract for the 2010 Geospatial Infrastructure Solutions Conference! The deadline was extended to September 141, 2009.

### Date to be announced

**Taipei**

**ASIA GIS 2010 Conference** further details to be announced

### May 2010

**26-28 May**

**Hong Kong**

The **14th International Symposium on Spatial Data Handling**
Organisers are inviting abstracts related to the theme Theory, Modelling and Concepts in Geospatial Information Science. The event will explore topics such as digital cartography, data modelling for social science and interoperability. The deadline for abstracts is 31 August. Pdf flyer available at International Symposium Announcement

### July 2010

**5 – 7 July**

**Vienna**

**100 Years ISPRS: Call for Papers**
Organisers of the ISPRS Commission VII Symposium (5-7 July 2010, Vienna) are inviting papers relating to the theme, 100 Years ISPRS – Advancing Remote Sensing Science. They are particularly seeking contributions that critically review major research areas in remote sensing. The deadline for full-paper review is 28 November 2009. The deadline for abstract-only review is 28 February 2010.

**12 – 16 July “NEW”**

**San Diego**

**30th Annual ESRI User Conference**
Call for papers & presentations – Abstract deadline 16 October

### October 2010

**18 – 22 October**

**Singapore**

**GSDI 12 World Conference** – Realising Spatially Enabled Societies
In conjunction with the 16th PCGIAP Annual Meeting.

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