



## GSDI REGIONAL NEWSLETTER

for the Global Geospatial Community

covering



Sub-Saharan Africa, Asia & the Pacific, Europe, Latin America & the Caribbean, North America, and the Middle East & North Africa

December 2014 – Vol. 1, No. 8

The **GSDI Regional Newsletter** is a free, electronic newsletter for people interested in all aspects of implementing national and regional Spatial Data Infrastructure (SDI) around the globe. The newsletter continues the tradition of the GSDI Association's former separate regional newsletters that covered Africa, Asia-Pacific and Latin America, from 2002 onwards. The purpose of the newsletter is to raise awareness of SDI issues and provide useful information to strengthen SDI implementation efforts and support synchronization of regional activities. The archive of all past copies of the previous regional newsletters can be accessed from the GSDI website by following the link to Newsletter Archive at [gsdi.org](http://gsdi.org).



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### ***Announce your news or information!***

Feel free to submit any news related to spatial data infrastructure implementation that you would like to highlight, including new tools, policies, application stories, studies or reports from your area, profession, organization, country or region. Send your contributions to the News Editor, Kate Lance, at [newseditor@gsdi.org](mailto:newseditor@gsdi.org) and we will try to include these in our next newsletter. Share this newsletter with anyone who may find the information useful and suggest they subscribe themselves.

### ***Support and Contributions to this Issue***

Thanks to the GSDI Association for supporting the News Editor and GSDI listserv moderator Kate Lance; GSDI Communications & Operations Manager, Roger Longhorn; and Karen Levoleger (Kadaster, Netherlands) for their contributions in creating, producing and disseminating the GSDI Regional Newsletter.

### ***Message from the Editor***



In last month's newsletter, I highlighted USAID's release of a new open data policy that governs how agency-funded projects collect, store, and share data with the public (<http://www.usaid.gov/sites/default/files/documents/1868/579.pdf>). This month, I am pleased to see that another funding organization has stepped up to the open data plate. The Bill & Melinda Gates Foundation announced in November that it too is adopting an open access policy for grant-supported research. The policy applies both to research publications and data that are collected as part of the research. The policy "enables the unrestricted access and reuse of all peer-reviewed published research funded, in whole or in part, by the foundation, including any underlying data sets." The underlying data must be accessible and open immediately and must be published under the Creative Commons Attribution 4.0 license (CC BY <http://creativecommons.org>). It appears the Gates Foundation will pay reasonable fees required by a publisher to effect open publication, though this element may be oriented more towards journals that publish research papers than data repositories or data management centres that host data. The policy applies to all program areas of the Foundation, including health, agricultural development, and emergency response. It takes effect January 1, 2015. Further details of the Open Access Policy of the Bill & Melinda Gates Foundation can be viewed online at <http://www.gatesfoundation.org/How-We-Work/General-Information/Open-Access-Policy>.

Aid agencies and international financial institutions support location-based data collection and the use of geospatial technologies in many countries. However, for years, the data access component of project-related data largely has been neglected. These two recent announcements suggest that the practice of inscribing data access and related data management requirements into grants is gaining momentum. Releasing data under permissive open licenses is key step in ensuring data can be more easily shared and re-used. Hopefully, these announcements send a strong signal to other funders to address project-related data in a more transparent way, with open data sharing becoming the default mode

**Kate Lance, News Editor**

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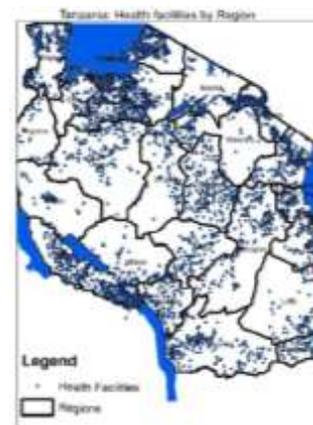
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## Sub-Saharan Africa Region SDI News

### **Tanzania: Progress made with implementing a Master health facility list**

The Tanzania Ministry of Health and Social Welfare with support from the USAID funded Health Policy Project recently convened a workshop on October 27th -28th 2014, to engage key stakeholders involved in the roll out of a Master facility list. The workshop was attended by 38 staff from a variety of stakeholder organizations. The goal of this meeting was to discuss ways to improve the quality and completeness of the Master Facility List so that it can more accurately inform the geographical targeting of resources in Tanzania and can serve as an authoritative tool on health facilities in the country. Other items discussed were progress made and pending challenges in preparation for the launch of the MFL scheduled for December 2014. Workshop proceedings and presentations made can be downloaded here:

<https://www.dropbox.com/sh/8vjdhsgllrm8bc0/AACqfA8cw2wr-2ANOfjAjXhNa?dl=0>



See: Tanzania Health Facilities public portal, <http://hfr-portal.ucchosting.co.tz/>

Source: Ian Wanyeki, Spatial Epidemiologist and Capacity Building Advisor, Center for Policy and Advocacy, Futures Group

### **Burundi: Digital soil maps of Burundi available**



In collaboration with the Belgian Technical Cooperation (BTC), Ghent University, the Institute of Agronomic Sciences of Burundi (ISABU, <http://isabu-bi.org>) and the Geographical Institute of Burundi (IGEBU), Mohamed Laghmouch and François Kervyn (of the Natural Hazards Service) have successfully finalised the soil map of Burundi on a scale of 1:50,000. This map is an essential basis for spatial planning in Burundi. A soil map is an essential tool for agriculture and more generally for spatial planning. Burundi's soil map is an important part of the centralised national Geographic Information System (GIS)

that has been set up by the Burundian authorities.

This effort is a continuation of an interrupted project. In 2013, BTC sought expert assistance from the Royal Museum for Central Africa (RMCA) with a view to completing a soil mapping project started in Burundi in the 1990s. This project, which was broken off due to the unrest in the region, had led to the production of 1:50,000 overlays (monochrome maps showing only the outlines and codes of soil units). At the request of the Ministry of Agriculture of Burundi and in collaboration with the University of Ghent, the RMCA and BTC set up a project to digitise these overlays and produce a digital soil map applying the conventions adopted in the region, and especially in Rwanda. The project was completed in just one year. In late June 2014, the final product was presented to ISABU in the presence of the Minister of Agriculture, the Belgian Ambassador, representatives of BTC, the University of Burundi and the Geographical Institute of Burundi (IGEBU), and others.

To use the map, please contact: Institut des Sciences Agronomiques du Burundi (ISABU), Direction des services d'appui à la recherche, av. de la Cathédrale, BP 795, Bujumbura, Burundi. See also: Digital soil maps of Burundi available, <http://www.btcctb.org/en/news/digital-soil-maps-burundi-available>

Source: <http://www.africamuseum.be/research/general/research-picture/map-burundi>

### **Kenya: Developing a geoportal for county SDI, case study of Nairobi County**

Author(s): Miriam Mabeya, Hunja Waithaka  
International Journal of Science and Research (IJSR)

**Abstract:** The purpose of this study was to assess the existing spatial data type holdings within geospatial organizations in Nairobi County and determine their current spatial data sharing patterns. The main objective was to develop a geoportal to enhance spatial data sharing and effective management in Nairobi County. Our methodology entailed configuration of the database followed by server and web setup. A combination of tools were used which included Apache Tomcat, PostgreSQL as the database, Esri Geoportal Server, Apache Directory Server and Jxplorer for establishing the LDAP connection to the database. Fifty organizations from Nairobi County that handle geospatial data were interviewed via the online survey to find out the data sharing practices between organizations. The results rate the data sharing practices in the county to be poor. The final results comprise of a working geoportal application, with data download and other

repository tabs together with the interactive web map embedded to the map viewer. The main conclusion is that geospatial organizations within Nairobi County own various types of spatial data based on their day to day activities. The main recommendation is that the same model used at the county can be scaled and replicated at the national level.

Source: <http://www.ijsr.net/archive/v3i9/U0VQMTQ1MTA=.pdf>

### **Ethiopia: Office of the Prime Minister to oversee mapping agency**



A new draft law submitted to the executive branch is considering the re-establishment of the Ethiopian Mapping Agency (EMA) by altering its accountability from the Ministry of Finance and Economic Development (MoFED) directly to the Office of the Prime Minister (PM). The expanding duty of EMA has prompted the amendment, a reliable source engaged in the drafting process of the bill, told The Reporter. The agency was originally established in 1954 as the geography and mapping institute of Ethiopia. Since then, it has passed through various organizational setups until its establishment as an autonomous agency of the government of Ethiopia under proclamation No 193/1980. According to the proclamation, the agency has been responsible for the compilation, preparation, publication, administration and distribution of fundamental geo-information data and reporting it to MoFED.

Though the agency is responsible for reporting to MoFED, there are various governmental and non-governmental institutions demanding and obtaining the agency's information, the source said. The Central Statistical Agency, National Electoral Board of Ethiopia, Ministry of Mining, and Ethiopian Roads Authority are some of the government institutions getting data and maps with the full consent of the government, the source said. "Thus, it is mandatory to make the agency more autonomous and report directly to the PM office," he explained.

Furthermore, the draft bill, prepared by EMA, intends to amend a few articles from the existing proclamation so as to avoid conflicts from the Information Network Security Agency (INSA), he added. According to the source, Proclamation 808/2013, which re-established INSA, contains a few articles that are contradicting with duties of the mapping agency. For instance, article 6 sub-article 13 (see page 5 at link/PDF below) of this proclamation gives power to INSA to develop and administer national geospatial data infrastructure and using the infrastructure, INSA is required to collect, analyze, store and disseminate any kind of geospatial data. This article entirely disregarded the main task of the mapping agency, the source said, but is not willing to elucidate how the draft could rectify this with the interest of the agency.

See: Proclamation No. 808/2013 Information Network Security Agency Re-establishment  
<http://chilot.files.wordpress.com/2014/04/proclamation-no-808-2013-information-network-security-agency.pdf>

Source: <http://www.thereporterethiopia.com/index.php/news-headlines/item/2747-pm-office-to-oversee-mapping-agency>

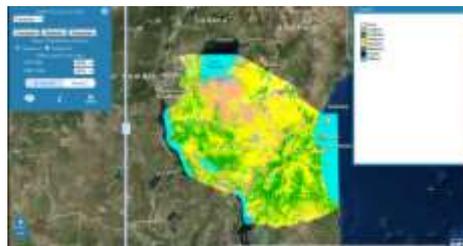
### **CEPF call for Letters of Inquiry for large grants (Madagascar, Mauritius, Seychelles, and Comoros)**

**CRITICAL ECOSYSTEM PARTNERSHIP FUND** The Critical Ecosystem Partnership Fund (CEPF) is inviting proposals in the form of Letters of Inquiry (LOIs) for large grants from non-governmental organizations, community groups, private, enterprises, universities and other civil society organizations. This is the first call for LOIs for large grants (between \$20,000 and US \$150,000) issued by CEPF for this Biodiversity Hotspot in the current investment phase. LOIs will only be accepted for the eligible countries Madagascar, Mauritius, Seychelles and the Republic of Comoros. CEPF encourages applicants to develop joint proposals with organizations from different sectors or with different backgrounds. In particular, fisherfolk and farmers' associations, tourism sector association, the private sector, development organizations, environmental associations and biodiversity experts, should be considered to build successful partnerships. The deadline for receipt of proposals is **17 December 2014**.

Source: [http://www.cepf.net/SiteCollectionDocuments/madagascar/CEPF\\_MADOI\\_RFP\\_LargeGrants\\_1\\_EN.pdf](http://www.cepf.net/SiteCollectionDocuments/madagascar/CEPF_MADOI_RFP_LargeGrants_1_EN.pdf);  
<http://www.cepf.net/grants/Pages/default.aspx>;

### **Eastern and Southern Africa: Land cover maps published for six countries**

Land cover/land use data and maps are critical components for climate monitoring applications such as Greenhouse Gas (GHG) Emission reports. Land cover/land use changes, due primarily to deforestation, contribute about 20% of natural GHG emissions. In Africa, changes in land cover are in fact the biggest contributor, so it is especially important to track these changes there. During 2012/2013, SERVIR-Eastern and Southern Africa supported six African countries (Malawi, Rwanda, Zambia, Namibia, Botswana, and Tanzania) in performing a GHG



emissions inventory by generating Landsat-derived land cover maps in close consultation with end-users in forest departments and environmental ministries. The maps feed into a broader United Nations Framework Convention on Climate Change (UNFCCC)-US Environmental Protection Agency (EPA) project to quantify the GHG inventory. SERVIR-Eastern and Southern Africa, through the Regional Centre for Mapping of Resources for Development (RCMRD), has been hosting in-country workshops to spread the word about the availability of these important maps. Workshops have already taken place in Namibia, Rwanda, Zambia, and Botswana and are planned for Malawi and Tanzania in the near future. At each such event, all datasets and reports generated during the mapping activity are submitted to the country along with the land cover/land use maps and web portal containing the published data. The maps are available here: <http://servir.rcmrd.org/geoapps/landcoverviewer/>

With this dynamic viewer, users can see the differences between land cover types of different time periods and schemes of classification by swiping between different datasets. The land cover datasets for each country, time period, and classification scheme can be downloaded from this viewer as well.

Source: <https://www.servirglobal.net/Global/Articles/tabid/86/Article/1371/servir-produced-land-cover-maps-published-for-six-countries-in-eastern-and-sout.aspx>

### **Senegal: Improving participation of women in national geomatics plan implementation**



Earlier this year, the Canadian Support Project (CAP) National Geomatics Plan (PNG, <http://www.geosenegal.gouv.sn/?-Le-PNG->) issued a call for applications for the selection of thirty (30) girls for an

induction program for geographic information systems (GIS). This initiative is part of the promotion of Equality between Women and Men (EFH) in the field of ICT in general, and in the field of geomatics in particular. Its overall objective is to strengthen the knowledge and abilities of the girls working in the fields of ICT and geomatics.

During the development of the EFH strategy in 2012, a review study (diagnosis) was performed. This study found unsatisfactory results. The statistics revealed significant differences in gender representation and participation of women in the implementation of PNG. Female geomatics executives accounted for only 13%, and the level of representation of women in the working bodies of the PNG also was only 13%.

Source: [http://www.geosenegal.gouv.sn/IMG/pdf/tdr\\_programme\\_d\\_initiation\\_des\\_jeunes\\_filles\\_aux\\_sig.pdf](http://www.geosenegal.gouv.sn/IMG/pdf/tdr_programme_d_initiation_des_jeunes_filles_aux_sig.pdf); <https://fr.facebook.com/OffresEtDemandeDEmploiSenegalodes/posts/701679149911992>

### **Cameroon: WebGIS - boundary tool between geoinformation and volcanic disaster risk reduction action**

Author(s): G. Le Cozannet, M. Bagni, P. Thierry, C. Aragno, and E. Kouokam

*Natural Hazards and Earth System Sciences* 14: 1591–1598, 2014

**Abstract:** As the amount of spatial data is growing, there is increased interest in developing tools to explore, visualize and interpret them, with the final aim of informing decision making efficiently. Within the European MIAVITA project (<http://miavita.brgm.fr/>), we examined this issue in the case of volcanic areas, where existing geospatial databases are particularly complex due to the number of threats to be considered, including volcanic (e.g. lava flows, ash fall) and non-volcanic hazards, such as landslides or tsunamis. We involved a group of hazard and risk analysts and managers, civil security officers, GIS analysts and system developers to design a Web-based geographical information system (WebGIS). We tested the system at the Mount Cameroon volcano, taking advantage of a complex hazard and risk geographical database. This study enabled identifying key requirements for such tools in volcanic areas, such as the need to manage user privileges differently according to their profile and the status of the volcano. This work also highlights that, in addition to the development of large geoinformation clearinghouses, there is a need for site-specific information systems focused on working procedures of users, in order to fill the last gap between data producers and users.

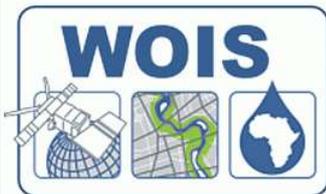


Source: *WebGIS as boundary tools between scientific geoinformation and disaster risk reduction action in volcanic areas*, <http://www.nat-hazards-earth-syst-sci.net/14/1591/2014/nhess-14-1591-2014.pdf>

### **Enabling use of Earth observation data for Integrated Water Resource Management in Africa**

Author(s): Radoslaw Guzinski, Steve Kass, Silvia Huber, Peter Bauer-Gottwein, Iris Hedegaard Jensen, Vahid Naeimi, Marcela Doubkova, Andreas Walli, and Christian Tottrup

*Remote Sensing* 2014, 6(8), 7819-7839



*Abstract:* The Water Observation and Information System (WOIS) is an open source software tool for monitoring, assessing and inventorying water resources in a cost-effective manner using Earth Observation (EO) data. The WOIS has been developed by, among others, the authors of this paper under the TIGER-NET project, which is a major component of the TIGER initiative of the European Space Agency (ESA) and whose main goal is to support the African Earth Observation Capacity for Water Resource Monitoring. TIGER-NET aims to support the satellite-based assessment and monitoring of water resources from watershed to cross-border basin levels through the provision of

a free and powerful software package, with associated capacity building, to African authorities. More than 28 EO data processing solutions for water resource management tasks have been developed, in correspondence with the requirements of the participating key African water authorities, and demonstrated with dedicated case studies utilizing the software in operational scenarios. They cover a wide range of themes and information products, including basin-wide characterization of land and water resources, lake water quality monitoring, hydrological modeling and flood forecasting and mapping. For each monitoring task, step-by-step workflows were developed, which can either be adjusted by the user or largely automatized to feed into existing data streams and reporting schemes. The WOIS enables African water authorities to fully exploit the increasing EO capacity offered by current and upcoming generations of satellites, including the Sentinel missions.

**Keywords:** water resource management; information systems; Earth observation; Africa

The Product portfolio generated by the WOIS with the support of several African Water authorities can be seen here: <http://www.tiger-net.org/index.php?id=16>. The WOIS is available freely to any interested user pending a short registration: [http://www.tiger.esa.int/page\\_eoservices\\_wois\\_form.php](http://www.tiger.esa.int/page_eoservices_wois_form.php).

*Source:* *Enabling the Use of Earth Observation Data for Integrated Water Resource Management in Africa with the Water Observation and Information System*, <http://www.mdpi.com/2072-4292/6/8/7819>

### **MESA ECOWAS THEMA Land workshop**



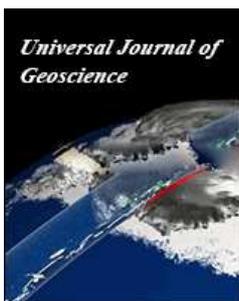
The workshop was held in Abidjan, Republic of Ivory Coast, from October 27th to November 1st 2014. The ECOWAS THEMA Land in MESA will improve and implement three main information services from Earth observation, what will permit to politicians and other responsible of the sub-region to take more effective decisions.

- The crop Service will monitor crop conditions (advance or late onset of the setting up conditions, satisfaction status in term of water supply) and will provide forecasting yield for early warning systems for the benefit of food security .
- The Pastoralism Service will monitor pastures conditions (vegetation front advance, advance or late compared to the average, potential production of forage biomass), surface water bodies (starting and drying) to help in decision making.
- The Bushfires Service will provide indications about Fire risks (area at fire risks before the fire) monitoring of active fire and assessments of burn areas for a better decision in the field of environmental management.

*Source:* [http://www.agrhymet.ne/eng/PDF/TDR%20lancement%20MESA\\_Ang.pdf](http://www.agrhymet.ne/eng/PDF/TDR%20lancement%20MESA_Ang.pdf)

### **Advocating for spatial data implementation at the lower tiers of governments in developing countries The Case of Africa**

**Author(s):** Anthony G. Tumba, Anuar Ahmad  
*Universal Journal of Geoscience* 2(5): 152-159, 2014



*Abstract:* This study focuses on the spatial data implementation in the developing countries, with specific interest in an African case. It advocates for the implementation of spatial data at the lower tiers of governments in the developing countries, the case of Africa. A subjective study of texts on regional spatial data implementation and web survey of geoportals of some twenty African countries form the basis for analysis and discussion. Studies on regional spatial data implementation showed that, most of them have standards and policy monitoring regional bodies while Africa has none. It was observed that out of the twenty countries surveyed, only five of them have functional geoportals through which spatial data can be easily and readily viewed and accessed, the rest are in one form of partnership/donor agreements. It was also observed that spatial data implementation at the national levels have not achieved much in terms of data production, exchange and sharing. This study believes that, as a result of these failures at the national levels, the advocacy

for the implementation of spatial data at the lower tiers of governments would effectively enhance the production of spatial data applying the bottom-up approach as against the traditional top down-approach.

Source: <http://www.hrpub.org/download/20140525/UJG2-13902339.pdf>

### **CoastGIS 2015 Conference - Call for Extended Abstracts**

**Deadline for submission of Extended Abstracts – 24 December 2014.**



The CoastGIS2015 Local Organising Committee and the International Scientific Committees of the CoastGIS series of symposia are delighted to inform you that the 12th CoastGIS Symposium, and the first in Africa, will be held 22-24 April 2015 in the city of Cape Town, South Africa at the Protea Hotel Breakwater Lodge. CoastGIS is a biennial series of symposia that brings together practitioners and researchers in the field of marine and coastal Geographic Information Systems, remote sensing and computer cartography. We invite you to visit the website [www.coastgis2015.co.za](http://www.coastgis2015.co.za) for more details.

The Symposium theme “*Monitoring and Adapting to Change on the Coast*” refers to the increasing demand on decision-makers and managers to be aware of changes in the coastal and marine environment. Not only must there be a much greater emphasis on the measuring of change, but also increasing and creative options to act on the observed changes, which may have either positive or negative societal impacts. In other words, how can CoastGIS2015 contribute to the understanding of coastal change, and how can the powerful tools we use, as a scientific and management community, help us make better decisions? Can we demonstrate how the excellence, passion and creativity in the various disciplines encompassed by CoastGIS be used to improve the use of science for decision-making relating to coastal management?

Papers responding to the symposium theme and the topics below that describe the use of GIS/Geospatial tools in the coastal and marine environments are welcome:

- Analysing and modelling coastal and marine processes
- Spatial information and observation systems
- Coastal risk and vulnerability
- Advances in data visualization
- Advances in geographical information technologies
- Decision-support and spatial planning
- Innovative application of geospatial technologies in coastal environments
- Coastal mapping and monitoring
- Coping with data scarcity in coastal and marine management
- Coastal and marine spatial data infrastructure (SDI)
- Application of geospatial technologies to support climate change adaptation in coastal regions

We would love to host you in South Africa and invite you now to submit an extended abstract by the end of December 2014. Instructions for submission of abstracts can be found on the website.

Students from countries in the Western Indian Ocean and the Small Island Development States (excluding South Africa) can apply for a number of travel grants that will be dispensed on a competitive basis. Please contact me for more information.

Contact details: Louis Celliers, Chair, CoastGIS2015

Email: [coastgis2015@csir.co.za](mailto:coastgis2015@csir.co.za)

Website: [www.coastgis2015.co.za](http://www.coastgis2015.co.za)

## Asia & the Pacific Region SDI News

### Chinese translation available of GSDI's November SDI Regional Newsletter

Thanks to the efforts of Mr. Jeremy Shen, vice-Chair, Capacity Building of the GSDI Association's Societal Impacts Committee, Chinese translations of the monthly Asia-Pacific section of the SDI Regional Newsletters are available. The November 2014 SDI Regional Newsletter translated into Chinese can be access at this link: [http://memberservices.gsdi.org/files/?artifact\\_id=1629](http://memberservices.gsdi.org/files/?artifact_id=1629). For past and future Chinese translations of A-P news, please visit the GSDI Newsletter archive at: <http://www.gsdi.org/newsletters#AP>.

### Vietnam: Workshop on ASEAN earth observation satellite held in Hanoi



A photo taken from VNREDSat-1 satellite on Jan. 1, 2014: Chaparrastique Volcano erupting near San Miguel City, the East of El Salvador (vast.ac.vn)

The Vietnam Academy of Science and Technology (VAST) in coordination with the Ministry of National Resources and Environment held a workshop on the ASEAN earth observation satellite in Hanoi from November 13-14, 2014. The workshop was aimed at fostering understanding of earth observation satellites for disaster monitoring in ASEAN countries and to discuss the sharing of disaster monitoring systems, satellite constellation, ground stations, and acquired data for the purpose of socio-economic development in each country in the

region. The launch of Vietnam's first remote sensing satellite, VNREDSat-1 on May 7, 2013 marked a milestone in the development of Vietnam's space technology. Vietnam became the fifth ASEAN country to have its own earth observation satellite.

With VNREDSat-1, Vietnam has fully mastered small satellite technology, thus independently processing images of all regions belonging to the country's territory. With its own satellite, Vietnam can take satellite images at predefined locations and times for disaster monitoring, as well as ensuring timely warning to mitigate disaster risk. In 2014, VNREDSat-1 satellite continued shooting and providing high-resolution optical images, assisting Vietnam in monitoring natural resources, environment, and preventing or minimising damage caused by natural disasters.

Source: <http://en.nhandan.org.vn/scitech/sci-tech/item/2939402-hanoi-hosts-workshop-on-asean-earth-observation-satellite.html>

### Pakistan (Lahore): GIS application a new mode of transparency



The frequent usage of GIS will provide the public and private sector a mechanism to devise result-oriented solutions based on analysis, leading to improved asset management, resource planning and enhanced service delivery in Punjab. This was the crux of speeches made by participants in a GIS seminar on Municipal

Asset Management and Urban Transport System arranged in connection with GIS World Day on November 19th by the Urban Unit of the Punjab government (<http://www.urbanunit.gov.pk/>) in collaboration with PAKSTRAN (UNDP) and World Bank Punjab Cities Governance Improvement Project (PCGIP). More than 500 GIS professionals, students, and government officials attended.

The participants were informed that the GIS integrates hardware, software and data for capturing, managing, analysing and displaying all forms of geographically referenced information. The intended use of GIS has been to make connections between related information sources and enable users to visualise and analyse this information using a spatial interface, most commonly, a map. However, the Urban Unit has taken this spatial interface to the next level, comparable to any international spatial interface. This spatial interface is branded as 'Iris', a GIS-based web portal ([www.irispunjab.gov.pk](http://www.irispunjab.gov.pk)), and gateway to a range of collected and organised information pertaining to Punjab government departments, districts and cities, sector-wise information, along with access to knowledge management repository of maps (Irisbrary) and dynamically produced data-driven maps capability (known as the Iris Map Maker) for customised analysis.



“The goal of World GIS Day seminar is to highlight the importance of power of geo-tagging the information, real time flow of information, transparency and an evidence-based accountability that GIS application provides to decision

makers,” said Urban Unit CEO Dr Nasir Javed. The seminar included sessions on asset management and GIS applications in Wasas and city district governments (CDGs), use of ICT tools, sustainable transport, GIS applications, GIS and remote sensing for sustainable transport among others. The participants also discussed the challenges of urban transportation like delays, congestion and accidents due to the lack of reliable information.

Source: <http://www.dawn.com/news/1145663>

### **India: Development of geospatial web applications on Karnataka Geoportal for G-governance**



Strength of Karnataka NRDMS program formed the basis for setting up of 1st State Geoportal of the country in Karnataka and in the year 2009 a web based geo-portal was developed to acquire,

process, store, distribute and improve the utilization of geo spatial data in the state of Karnataka. This portal provides access to a seamless geospatial data to the user community, namely, government, non-government and general public. In the 2nd phase of the program ((KSSDI Phase II Project), the focus is on demonstrating the utility of the Geoportal and its services in various Geo Spatial application requirements of two State Line Departments/Sectors. An R&D project costing around Rs. 71 lakhs has been sanctioned to KSCST by Department of Science and Technology, Government of India to develop web based geospatial applications/decision support system for selected schemes of Watershed and Health Departments to support G-governance on Karnataka Geoportal platform. The Karnataka state is bearing Rs. 21 lakhs of the overall cost of the project. See <http://www.kscst.iisc.ernet.in/kssdi.html> for a description of Karnataka State Spatial Data Infrastructure (KSSDI). Major objectives include:



- Development of web based geospatial applications for Karnataka Watershed Development Department for monitoring and evaluation of IWMP projects and health sector (linking with HMIS).
- Institutional mechanism for Karnataka Geoportal to facilitate spatial datasets from concerned Line Departments to the monitoring, evaluation and formulation of developmental programmes/ schemes (IWMP, HMIS etc.,) in watershed and health sectors.

Source: [http://www.kscst.iisc.ernet.in/kssdi\\_phase2.html](http://www.kscst.iisc.ernet.in/kssdi_phase2.html)

### **India Geospatial Forum 2015, Hyderabad, 10-12 February 2015**

The conference shall present a number of plenary, thematic and technical sessions, symposiums and workshops encompassing the various pillars of the geospatial industry including the science, technology, applications and policies to bring out the best ways forward to maximise the uptake of geospatial technology. The Department of Science and Technology is a principal government sponsor.



Source: <http://indiageospatialforum.org/2015/index.htm>

### **Rachapudi Kamakshi Memorial Gold Medal for Young Geospatial Scientist 2014**

Deadline for nominations: **December 31, 2014**

To encourage young scientists, the 'Rachapudi Kamakshi Memorial Gold Medal' for 'Young Geospatial Scientist TM' has been instituted by Rachapudi Kamakshi Memorial Trust be presented every year to a researcher working in the field of geospatial technologies. The award consists of a Gold Medal, Certificate of Merit, and a Citation Plaque. The award for the year 2014 will be presented to the selected young researcher during the annual Geospatial India Forum, February 10-12, 2015, in Hyderabad, India. Nominations are invited from scientists engaged in research work in any areas related to Geospatial Information Science and Technology, who are not more than 35 years of age, as reckoned on 31 December 2014. Self nominations are permitted.

Source: [http://rachapudikamakshi.org/index.php?option=com\\_content&view=article&id=84&Itemid=165](http://rachapudikamakshi.org/index.php?option=com_content&view=article&id=84&Itemid=165)

### **Geographic Information Systems in Nepal and its Way Forward**

Author(s): Krishna Prasad Poudel

*The Third Pole: Journal of Geographical Education*, Vol 13 (2013) p 7-11

**Abstract:** GIS is now becoming a demanded crosscutting subject at the universities and many other institutions. It has introduced academic courses at different levels. Similarly, a number of commercial entrepreneurs are investing good amount of resources as well as several development agencies focusing on GIS-based decision support systems. Nepalese organizations including all governmental, non-governmental and social as well as at individual level are also investing quiet a good amount of resources on it. In this context the development of GIS in Nepal and its social responsibility has to be analyzed critically. In this paper focus has been given to search the space of GIS in the Nepalese governmental, non-governmental and academic institutions and so on. The study has been found many institutional setups have the provision to work with due consideration to the spatial dimensions. Many of them have already procured hardware, software and also investing quite a good amount of money. In practice, several such organizations have very less output. In this context, while going through the analysis, some challenges appeared are highlighted and a way forward has been given to its development.

Key words: Geographic Information Systems, GIS-based decision support systems, GIScience, Spatial Data Infrastructure, National GeoDatabase Center

Source: <http://www.nepjol.info/index.php/TTP/article/view/11538>; <http://www.nepjol.info/index.php/TTP/article/view/11538/9327>

### **Populating digital earth: improving access to Chinese remote sensing data for terrestrial applications**

Author(s): Mengxue Li and John R. Townshend

*International Journal of Digital Earth* Volume 7, Issue 12, 2014 [not an open access journal]

**Abstract:** Global change has a significant impact on the lives of humankind. Earth observation can help to better understand our earth and cope with global change. With the availability of more reliable environmental data sets, digital earth is becoming a popular way to monitor the Earth and provide information to researchers and decision makers on environment protection, disaster mitigation, and social benefits. Therefore, accessing data with lowering costs is essential for digital earth. Nevertheless, there are big challenges in ensuring the feasibility of access to Chinese remote sensing data. This paper outlines some of the main challenges in realizing data sharing, provides an analysis of the core reasons leading to these challenges, and proposes recommendations to overcome the challenges. Amongst the main challenges are differences in data policy to gain access to satellite data, diverse data formats, and delivery mechanisms. The major challenge for the decision makers is to define a more open policy and for the scientist the challenge is to implement these policies for the benefit of all. This paper proposes that governments should adopt policies encouraging more open distribution and access to their data, in order to generate an improved digital earth with increased benefits to human society.



Key words: data policy, remote sensing, data sharing, China

Source: <http://www.tandfonline.com/doi/full/10.1080/17538947.2013.829130>

### **Brunei Darussalam: Survey Spatial Data Infrastructure project receives Gold Civil Service Award**



His Majesty Sultan Haji Hassanal Bolkiah Mu'izzaddin Waddaulah, the Sultan and Yang Di-Pertuan of Brunei Darussalam presented the Gold Excellent Civil Service Award to Hj Ali Bakar Hj Kasim, acting Surveyor General of the Ministry of Development's Survey Department (<http://survey.gov.bn/>), for the Department's winning project Survey Spatial Data Infrastructure during the 21st Civil Service Day celebration. The Excellent Civil Service Award began in 1993. Speaking of the project's achievement, Haji Ali Bakar bin Hj Kasim said the project centers on speeding up the process of survey data collection and analysis. "By using the Internet to make certain

information immediately available online, government departments and members of the public alike will have the most convenient access towards these data, which bodes well for today's innovative initiatives in providing for the development of the nation's various departments and ministries," he said. See: Survey Spatial Data Infrastructure (SSDI) Brunei Darussalam (2012), <http://www.asiagespatialforum.org/2012/proceeding/Alliudin%20Ibrahim.pps>

Source: <http://borneobulletin.com.bn/civil-servants-feted-excellence/>; <http://www.bt.com.bn/news-national/2014/11/28/46-receive-civil-service-awards>

### **Malaysia: Government is more clearly defining data sharing policies, geospatial data**

Malaysia's geospatial agency needs to do more to show the benefits of GIS to senior government officials and get their commitment, said Fuziah Haji Abu Hanifah, Director, Malaysian Centre for Geospatial Data Infrastructure. "We need to convince [senior officials of the] importance of geospatial information" for planning projects and monitoring issues, she said. She believes 60 per cent of the government is "geospatial ready" - that is they have collected fundamental geographic information, like roads, land use, topography and cadastre. To get buy in from the leadership of agencies, Hanifah plans to demonstrate how geospatial applications are relevant for them and how the technology can fulfill their stakeholder needs.

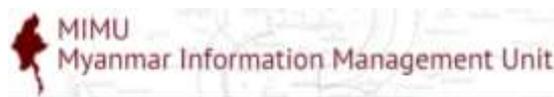
Another key challenge for Malaysia is that some agencies don't have a specific unit focusing on geospatial projects. "There are some agencies that have a specific unit to do the job, but there are also agencies that don't," she said. This creates problems when allocating budgets to projects, she added. "When you don't have specific people to do the job, then you don't have budget to start the project." The geospatial agency is creating a standing operating procedure to guide agencies without these units to implement the necessary infrastructure for sharing location-based data, she added.

Hanifah's key priorities now are to get geospatial data in the remaining 40 per cent of Malaysian agencies up to standards and to more clearly define data sharing policies, she said. The country already has a national policy to freely share data with other agencies, but this needs to be set within a "proper" legal framework, she said. The government is also working on a policy to share geospatial data with the private sector. The geospatial infrastructure centre needs to clarify rules on the ownership of fundamental location-based information, she added.

The Ministry of Natural Resources and Environment uses geospatial technology to manage natural resources and is the biggest user of GIS, she said. At the state level, Penang has been particularly successful in using geospatial technology, added. She believes that other states will follow Penang's lead as they begin to understand the importance of location-based information.

Source: <http://www.futuregov.asia/articles/5778-we-must-do-more-show-gis-benefits-says-geospatial-data-infrastructure>

### **Myanmar: Information Management Unit & Geographic Information Systems Group**



The Myanmar Information Management Unit (MIMU) is a service to the UN Country Team and Humanitarian Country Team, under the management of the UN Resident and Humanitarian Coordinator. Its purpose is to improve the capacity for analysis and

decision making by a wide variety of stakeholders - including the United Nations, the Humanitarian Country Team, non-governmental organizations, donors and other actors, both inside and outside of Myanmar, through strengthening the coordination, collection, processing, analysis and dissemination of information.

In terms of activities, the MIMU safeguards the common data and information repository for development and humanitarian actors in the Myanmar context, compiling data from various sources at the lowest administrative unit for which it is available, and making this data accessible to the wider group of stakeholders in forms which support planning, response and resource allocation. It also plays a key role in promoting standards related to data, geo-referencing and information management among UN agencies and NGOs, including defining principles around how data will be stored, working with technical working groups to bring together available information from various sources and promoting use of the standards set by these technical groups, and supporting wider development monitoring processes.

The MIMU also convenes two inter-agency technical working groups:

- The GIS Working Group brings together GIS focal points from agencies with activities related to geographic/spatial information. It provides a technical platform to coordinate, support and share information on GIS activities, and to define spatial data standards. See: Terms of Reference for Geographic Information Systems Group (August 2014), [http://www.themimu.info/sites/themimu.info/files/documents/ToR\\_GIS\\_Working\\_Group\\_2014.pdf](http://www.themimu.info/sites/themimu.info/files/documents/ToR_GIS_Working_Group_2014.pdf)
- The Information Management Network brings together IM focal points from across a wide variety of agencies to strengthen the quality of information for evidence-based and effective development and humanitarian policy, planning and managerial decisions through a coordinated approach that builds on relevant existing information systems.

Source: <http://www.themimu.info/about-us>

### **Philippines: Batangas partners with De La Salle Lipa to operationalize the IIMS**



Partnerships in  
Environmental Management  
for the Seas of East Asia

In an effort to establish and operationalize the Province's integrated information management system (IIMS), a decision-support system for coastal and marine and river basin management, the Province of Batangas through the Provincial Government-Environment and Natural Resources (PG-ENRO) entered into a Memorandum of Agreement (MOA) with De La Salle Lipa and the Partnerships in the Environmental Management for the Seas of East Asia (PEMSEA) in March 2014, coinciding with the Batangas Environment Summit (BEST) 2014. De La Salle Lipa (DLSL) will host the IIMS by providing the necessary work station and staff to regularly update, operationalize and maintain the system. PG-ENRO on the other hand will be responsible in coordinating with the relevant national, provincial and municipal agencies for the provision of data to be encoded and consolidated into the provincial database. PEMSEA will provide the necessary technical support through the conduct of IIMS trainings on the establishment and query system, application and system trouble shooting.

Source: <http://www.pemsea.org/news/batangas-partners-de-la-salle-lipa-operationalize-provinces-integrated-information-management-system>

### **Australia: Tasmanian Government Spatial Committee Charter, v2.4, 2 October 2014**



The Tasmanian Government Spatial Committee (TGSC) is the mechanism to implement effective

governance arrangements for spatial information within the Tasmanian Government. Its role is to guide spatial information development and management across the Tasmanian public sector, contribute to the development of the Tasmanian Spatial Data Infrastructure and provide Government input to the Tasmanian Spatial Information Council (TASSIC). See Tasmanian Government Spatial Committee Charter, v2.4, 2 (October 2014):

[http://www.spatialcommittee.tas.gov.au/spatialcom.nsf/downloads/B0A7C99408B64417CA25792100202FDE/\\$file/TGSCCharterV2.4.pdf](http://www.spatialcommittee.tas.gov.au/spatialcom.nsf/downloads/B0A7C99408B64417CA25792100202FDE/$file/TGSCCharterV2.4.pdf)

The Tasmanian Spatial Information Council was established in 2008. Previous governance for spatial information in Tasmania was limited to government representatives. In 2006, the need to establish new, more holistic governance arrangements was identified. It was recommended that new arrangements should involve government, academia, the private sector and professional institutions. In 2007, State Cabinet approved the establishment of two new governing bodies - the Tasmanian Spatial Information Council and the Tasmanian Government Spatial Committee. Led by an independent Chair, TASSIC members are nominated by key spatial organisations to ensure an appropriate balance of competencies and experiences. TASSIC's Charter provides for both permanent and interim members, all appointed by the Minister for Primary Industries and Water.

TASSIC is guided by a framework of guiding principles to support the evolution of Tasmania's SDI: ([http://www.tassic.org.au/tassic.nsf/file/87CC891741F7DAC9CA2578E600059BBB/\\$file/Tasmania'sSpatialDataInfrastructure.pdf](http://www.tassic.org.au/tassic.nsf/file/87CC891741F7DAC9CA2578E600059BBB/$file/Tasmania'sSpatialDataInfrastructure.pdf)). In October 2011, an assessment was published of the value of spatial information in Tasmania, including the impact of investment in the Land Information System for Tasmania. The publication 'The value of spatial information in Tasmania' can be downloaded at:

[http://www.acilallen.com.au/cms\\_files/ACIL\\_spatial%20information\\_tasmania.pdf](http://www.acilallen.com.au/cms_files/ACIL_spatial%20information_tasmania.pdf).

Regarding the State Government's investment in SDI, the Tasmanian Government has initiated a two-year project – Spatial Information Foundations - to develop state-of-the-art spatial information infrastructure for Tasmania. More information is available at [www.dpipwe.tas.gov.au/sif](http://www.dpipwe.tas.gov.au/sif). The development of Spatial Information Foundations is part of the Tasmanian Government ICT Strategy, and supports Tasmania's Economic Development Plan, Sense-T and government strategies for planning reform. See more in the latest project bulletin: Spatial Information Foundations Bulletin, September 2014: <http://dpipwe.tas.gov.au/Documents/SIF%20Progress%20Bulletin%207%202008.14.pdf>.

### **New Zealand: Land Information New Zealand (LINZ) releases 2013/2014 Annual Report**

LINZ's long-term strategic goal is to increase the value created through the use of location information tenfold over the next 10 years.



LINZ's Annual Report is a public accountability document that details how the agency performed against its strategic goals as outlined in the Statement of Intent for that financial year. In the 2013/2014 year, LINZ continued to lead the development of a National Spatial Data Infrastructure to make location information easy to find, share and use. Other key activities included contributing to the rebuild of Canterbury; and repositioning LINZ's Crown property management services to be a centre of expertise to improve the efficiency and effectiveness of Crown land management across government. In addition, LINZ is leading

the cross-agency initiative, Better Property Services, designed to make it easier for people to access property and building information and services provided by different agencies. The Annual Report can be downloaded at [http://www.linz.govt.nz/system/files\\_force/media/publications-attachments/LINZ\\_annual-report\\_2013-2014.pdf?download=1](http://www.linz.govt.nz/system/files_force/media/publications-attachments/LINZ_annual-report_2013-2014.pdf?download=1)

Source: <http://www.linz.govt.nz/news/2014-10/linz-releases-20132014-annual-report>; <http://www.linz.govt.nz/about-linz/publications/annual-report>

### ***Fiji: Prime Minister launches sugar cane industry webGIS portal***

The Hon. Prime Minister and Minister for Sugar, Voreqe Bainimarama launched the Sugar Cane Industry WebGIS Portal on November 14<sup>th</sup> at the Sugarcane Growers Building Hall in Lautoka. The Sugar Industry, since 2011 through the assistance of the Wallon Region of Belgium had embarked on a GIS project to digitise Fiji's sugar cane farms in order to provide a decision making tool to be used by the Fiji Sugar Corporation (FSC), Government and the sugar industry.

This pilot project, since its inception in 2011, cost around \$1.5 million and was funded on a 60:40 (Wallon Region, Belgium: Sugarcane Industry) cost sharing arrangement which will come to an end on December 31 this year after which the sugarcane industry will complete the project from its own resources.



The digitisation of cane farms and the capturing of all data in the WebGIS portal will enable access to the following features - geographical location of cane farms, cane access road used by each cane farm, mill location, cane variety and age, area under cane, area under other agriculture, area under fallow and during crush can view live crushing plot and tonnage extracted from that plot.

This WebGIS Project will enable the FSC and sugar industry to view and analyse the performance of individual growers, sectors and sugar mills. Apart from Australia and New Zealand, no other country in the South Pacific has conducted a detailed survey of this type. In Fiji, it is the first such project to demarcate cane areas, classify cane varieties and age and during crush can provide live crushing plot with colour coding to reflect tonnage harvested.

This GIS project provides great value to the FSC, sugar industry and government in terms of providing accurate cane and sugar production estimates as compared to previously. On the basis of the statistics tab available on the GIS Portal, it will enable users to evaluate and analyse the performance of the growers, the sectors and the sugar mills.

See: Prime Minister's speech at the sugar cane industry webGIS portal launch: <http://bainimarama.org/speech-prime-minister-josaia-voreqe-bainimarama-official-launch-sugarcane-industry-webgis-portal/>

Source: <http://www.fiji.gov.fj/Media-Center/Press-Releases/PRIME-MINISTER-TO-LAUNCH-SUGAR-CANE-INDUSTRY-WEBGI.aspx>

### ***Fiji: Nation encouraged to use geospatial information***



The effective use of this technology was stressed by Minister for Lands Mere Vuniwaqa at the opening of the First High Level Geo-spatial Information Management Conference on November 14<sup>th</sup>. "We may not have the vast resources that other developed nations have to create such a tool overnight, but we as one team can pull together our resources to come up with something that can be used for better management and

strategic decision making, in agriculture, in disaster management, in land management, in public utility management, in town and regional planning and tax collection as well as elections." The Minister's opening address can be viewed at the Fiji Geospatial Information Council (FGIC) website: <http://www.lands.gov.fj/gic/index.html>.

The FGIC website also makes available the following documents:

Data Sharing Policy (discussion document):

[http://www.lands.gov.fj/gic/doc/Discussion%20Documents/Data%20Sharing%20Policy\\_Review.pdf](http://www.lands.gov.fj/gic/doc/Discussion%20Documents/Data%20Sharing%20Policy_Review.pdf)

FGIC Data Custodianship Policy (discussion document):

<http://www.lands.gov.fj/gic/doc/Discussion%20Documents/FGIC%20Data%20Custodianship%20Policy.pdf>

National Geospatial Strategy (discussion document):

<http://www.lands.gov.fj/gic/doc/Discussion%20Documents/NATIONAL%20GEOSPATIAL%20STRATEGY.pdf>

Minutes of FGIC 2014 2nd Quarter meeting:

<http://www.lands.gov.fj/gic/doc/Minute%202nd%20quater/MINUTES%20-%202ND%20QRT%20FGIMC.pdf>

### ***Solomon Islands: Cost analysis of spatial decision support system for malaria elimination***

Author(s): Luke Marston, Gerard C Kelly, Erick Hale, Archie CA Clements, Andrew Hodge, and Eliana Jimenez-Soto  
*Malaria Journal* 2014, 13:325

**Abstract:** Background: The goal of malaria elimination faces numerous challenges. New tools are required to support the scale up of interventions and improve national malaria programme capacity to conduct detailed surveillance. This study investigates the cost factors influencing the development and implementation of a spatial decision support system (SDSS) for malaria elimination in the two elimination provinces of Isabel and Temotu, Solomon Islands.

**Method:** Financial and economic costs to develop and implement a SDSS were estimated using the Solomon Islands programme's financial records. Using an ingredients approach, verified by stakeholders and operational reports, total costs for each province were quantified. A budget impact sensitivity analysis was conducted to investigate the influence of variations in standard budgetary components on the costs and to identify potential cost savings.

**Results:** A total investment of US\$ 96,046 (2012 constant dollars) was required to develop and implement the SDSS in two provinces (Temotu Province US\$ 49,806 and Isabel Province US\$ 46,240). The single largest expense category was for computerized equipment totalling approximately US\$ 30,085. Geographical reconnaissance was the most expensive phase of development and implementation, accounting for approximately 62% of total costs. Sensitivity analysis identified different cost factors between the provinces. Reduced equipment costs would deliver a budget saving of approximately 10% in Isabel Province. Combined travel costs represented the greatest influence on the total budget in the more remote Temotu Province.

**Conclusion:** This study provides the first cost analysis of an operational surveillance tool used specifically for malaria elimination in the South-West Pacific. It is demonstrated that the costs of such a decision support system are driven by specialized equipment and travel expenses. Such factors should be closely scrutinized in future programme budgets to ensure maximum efficiencies are gained and available resources are allocated effectively.

**Keywords:** Malaria elimination; Cost analyses; Surveillance; Geographic information systems; Spatial decision support systems

**Source:** *Cost analysis of the development and implementation of a spatial decision support system for malaria elimination in Solomon Islands*, <http://www.malariajournal.com/content/13/1/325>

### ***Presentations from the Pacific GIS/RS User Conference***



Specialists convened on November 25-27, 2014, for the 2014 Pacific Island Countries Geographic Information System (GIS) and Remote Sensing (RS) User Conference held at the University of the South Pacific Japan-Pacific Information, Communication & Technology Centre at the USP Campus in Fiji, Suva. This annual conference attracts marine, land and GIS specialists, both regionally and internationally. 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. This year's presentations can be downloaded at <http://picgisrs.appspot.com/blog/2014-presentations>.

### ***Call for papers: Locate15 Conference 2015***



Locate15, <http://www.locateconference.com/>, to be held 10-12 March 2015 in Brisbane, is Australia & New Zealand's leading spatial event consolidating the top Australian spatial industry events. A central meeting point for industry, government and academia in one of the fastest growing industries. Locate15 is designed to energise the location industry, inspire both producers and consumers of location information, and drive greater awareness, adoption and innovation. Prospective presenters are invited to submit a brief Executive Summary of up to 400 words. See the call for papers for further details: <http://www.locateconference.com/abstract/request>. Executive Summaries submitted online are due by midnight **15 December 2014**, using the Word template provided.

There is also a separate process for Research Paper submissions. Research@Locate15 (<http://asiera.org.au/r115.html>) is the academic research stream at Locate and aims to be the premier academic meeting event in the Australasian region. Research@Locate is organised by the Australasian Spatial Information Education and Research Association (ASIERA). Research@Locate will provide a transparent full-paper peer review process, with carefully selected presentations and papers, and with its own annual, open-access proceedings. The accepted papers will appear in the CEUR Workshop Proceedings Series (CEUR-WS.org), an open-access publication service of Sun SITE Central Europe. Papers are welcome from researchers in geodesy, mapping, computer science, artificial intelligence, geography, geographic information science and related disciplines



contributing to spatial information science. Submissions are to be of original, previously unpublished papers contributing to spatial information science. The deadline for submissions has been extended to **December 5, 2014**.

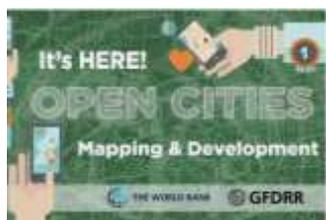
### ***Planning an open cities mapping project***



This guide offers a comprehensive understanding of the design and implementation of an Open Cities mapping project for both practitioners in the field and those interested in a higher-level understanding of the process. The guide's content is based on experience in implementing the initial Open Cities projects in Bangladesh, Nepal, and Sri Lanka as well as on previous mapping project experience. Where relevant, it provides relevant examples from those projects in the text and full case studies at the end of guide. The Open Cities Project launched its efforts in three cities: Batticaloa, Sri Lanka; Dhaka, Bangladesh; and Kathmandu, Nepal. These cities were chosen for: 1) their high levels of disaster risk; 2) the presence of World Bank-lending activities related to urban planning and disaster management that would benefit from access to better data; and 3) the willingness of government counterparts to participate in and help guide the interventions. Chapter 2, "Project Design and Preparation," covers how a project design process begins: by identifying partners, clarifying a project's objectives and scope, assembling a team of managers and mappers, and assessing the necessary resources for mapping. Chapter 3, "Getting Started," then describes the steps after the initial planning stage: how to locate an appropriate workspace, assess equipment costs, and prepare staff training. Chapter 4, "Implementation and Supervision," takes a practical look at data collection techniques from both the organizational and technical perspectives. It also addresses common challenges and mechanisms for quality control and reporting. Finally, chapter 5 examines the lessons learned from previous Open Cities projects and considers future improvements to the overall project design.

Source: <http://documents.worldbank.org/curated/en/2014/07/20317775/planning-open-cities-mapping-project>

### ***Update from World Bank GFDRR Open Cities Project***



The World Bank, through its Global Facility for Disaster Reduction and Recovery (GFDRR), launched the Open Cities Project in November 2012 to create open data ecosystems that will facilitate innovative, data-driven urban planning and disaster risk management in South Asian cities. Since its start, Open Cities has brought together stakeholders from government, donor agencies, the private sector, universities, and civil society groups to create usable information through community mapping techniques, to build applications and tools that inform decision making, and to develop the networks of trust and social capital necessary for these efforts to become sustainable. This process has been evolutionary, with opportunities for experimentation, learning, failure, and adaptation incorporated into the project planning. This guide discusses the rationale and design of the Open Cities Project, the major components of its implementation to date, and some of the most salient lessons learned from the project so far.

The Open Cities Project launched its efforts in three cities: Batticaloa, Sri Lanka: <http://www.worldbank.org/srilanka>; Dhaka, Bangladesh: <http://www.worldbank.org/bangladesh>; Kathmandu, Nepal: <http://www.worldbank.org/nepal>

Open Cities has achieved several noteworthy outcomes during its first year:

- Comprehensive and accessible databases of the built environment. For instance, Batticaloa now has a detailed structural database of every building, and Kathmandu has a database of all schools and hospitals to use for risk assessment.
- Improved in-country capacity to update, maintain, and use key datasets. For instance, Kathmandu has created innovation spaces such as the Kathmandu Living Labs, internship opportunities, and university curricula that provide students with employable skills.
- Mainstreamed open-data use and strengthened data collection and management processes at different levels of government. For instance, the Sri Lanka Survey Department asked for support to start incorporating crowdsourcing and community mapping approaches into its regular work flow, and the Government of Sri Lanka sought support for the creation of an Open and Spatial Data Infrastructure.
- Adoption of new applications by multiple levels of government and Bank-financed projects. For instance, forthcoming risk assessments will be driven by detailed data to design physical mitigation investment programs.
- Complementary new partnerships and increased collaboration. New partners to implement projects include the U.S. Department of State, the United States Agency for International Development (USAID), the Humanitarian OpenStreetMap Team (HOT), and the American Red Cross.

Source: <http://www.worldbank.org/en/region/sar/publication/planning-open-cities-mapping-project>

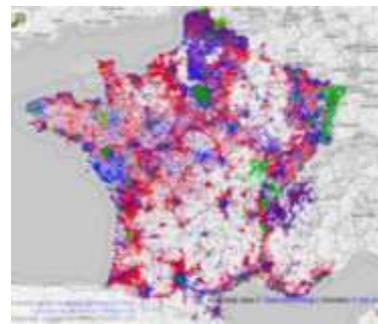
## Europe Region SDI News

### ***France: An unprecedented Public-Commons partnership for the country's National Address Database***

Nowadays, being able to place an address on a map is an essential information. In France, where addresses were still unavailable for reuse, the OpenStreetMap community decided to create its own National Address Database available as open data. The project rapidly gained attention from the government. This led to the signing last week of an unprecedented Public-Commons partnership between the National Institute of Geographic and Forestry Information (IGN), Group La Poste, the new Chief Data Officer and the OpenStreetMap France community.

This Open Knowledge Foundation (OKFN) blog provides a summary of the project and its implications. The following questions are asked of and answered by Christian Quest, coordinator of the project for OpenStreetMap France:

- Why Did OpenStreetMap (OSM) France decided to create an Open National Address Database?
- Was there no National Address Registry project in France already?
- Technically, how do you collect the data? Do you reuse existing datasets?
- Is your aim to build the reference address dataset for the country?
- The reached agreement includes a dual license framework. You can reuse the data for free under an ODbL license, or you can opt for a non-share-alike license but you have to pay a fee. Is share-alike clause an obstacle for the private sector?
- And now, what is next for the National Address Database?
- As a last word, OSM is celebrating its ten years anniversary. What are your thoughts on this?



See also: Public and civil society join forces for establishment of National Address Database (BAN) collaborative <http://www.etalab.gouv.fr/acteurs-publics-et-societe-civile-sassocient-pour-la-constitution-dune-base-adresse-nationale-ban-collaborative>

Source: <http://blog.okfn.org/2014/11/17/an-unprecedented-public-commons-partnership-for-the-french-national-address-database/>

### ***Spain: Latest developments and activities in the Spanish NSDI***

Author(s): Rodríguez, Antonio

In: Connecting a Digital Europe through Location and Place. Proceedings of the AGILE'2014 International Conference on Geographic Information Science, Castellón, June, 3-6, 2014. Huerta, Schade, Granell (Eds).

*Abstract:* The Spanish NSDI Geoportal was opened on June 2004 and has evolving continuously with the support of a healthy collaborative community composed by public and private sector, academia and citizens. INSPIRE Directive has been transposed in Spain by means of Law 14/2010, LISIGE, the Law of Spanish Geographic Information Services and Data, which establishes a national coordination structure based on the High Geographic Council as umbrella organization embracing the Spanish Geographic Information Infrastructure Managing Board and a set of Technical Working Groups (TWGS). The TWG on Monitoring and Reporting has been coordinating this task since 2010. In this communication a brief summary of the state of the play of the project is provided, including achievements, conclusions, lessons learnt and good practices, giving special attention to and the process of monitoring and reporting.

Source: <http://repositori.uji.es/xmlui/handle/10234/99507>

### ***Sweden: Cooperation in implementation of SDIs: case study on national cadastral index map of Sweden***

Author(s): Olov Olsson

Article under Review for the *International Journal of Spatial Data Infrastructures Research*, submitted 2014-08-21

*Abstract:* This study focus upon the aspect of cooperation in the implementation of a national cadastral index map in Sweden. The studied project reached its goals at last but time plan and budget were overrun by a factor three. There was a severe suspicion that problems related to practical cooperation was a main factor that slowed down and jeopardized the accomplishment.

The objective of the study was to evaluate the importance of attitudes and abilities related to cooperation in the implementation of this project and identify critical success factors of general value. Data capture was mainly based on so called open ended interviews. The study was supported by a theoretical framework including a model by Brunsson "Talk - decision - action" (Brunsson, 2006).

The results were quite sprawling but pointed in the direction that at least some of the shortages in the studied project

could be labelled as shortages in well-known "basics of cooperation". The most important lesson from the study is that cooperation as such is a crucial component in a project of this kind and that needed cooperation in practical implementation activities should be paid a lot of attention and be secured in early planning activities.

Keywords: cooperation, cadastral index map, cadastral organisations, implementation

Source: <http://ijsdir.jrc.ec.europa.eu/index.php/ijsdir/article/view/363>

### **Central and Eastern Europe: Web GIS for the Carpathian Region Climate Analysis**



Author(s): Antolović I, Mihajlović V, Rančić D, Mihić D, Djurdjević V  
In Proceedings of DailyMeteo.org/2014

**Abstract:** Acquisition and analysis of meteorological data is crucial for prediction of climate changes, drought and flood. Concerning that this dataset contains a geospatial component and covers long periods of time it requires a specialized GIS (Geographic Information System) for suitable processing and visualization. Also in order to make

these data available to a wider scientific community it is recommended to provide a Web based GIS solution (Geoportal ARSO 2013, Czech Republic Climate Atlas 2013). The CARPATCLIM (Climate of the Carpathian Region, <http://www.carpatclim-eu.org/pages/home/>) Web GIS (<http://www.carpatclim-eu.org/pages/atlas/>) represents the main entry point for accessing, visualization and analysis of all relevant meteorological data acquired on the CARPATCLIM project. The main goal of this project was to create a gridded climatologic database for the Carpathian region in a daily temporal resolution for the period 1961-2010 by using 0.1° spatial resolution. The dataset includes fourteen essential meteorological variables (temperature, precipitation, pressure, global radiation, wind speed and direction, etc.) and variety of climate indices (Standardized Precipitation Index, Palfai and Reconnaissance Drought Index, Palmer Drought Severity Index etc.). The basic functionality of CARPATCLIM Web GIS is to display a particular variable for a particular day as a raster colored grid or as a set of isocontours, along with the automatically calculated information about minimal and maximal values inside the displayed grid. The grid is overlaid with a raster relief map and a vector map of country borders. Advanced features include visualization of averaged grid values for a custom defined time period. Time period can be defined on a monthly, yearly basis or for a particular day, month over a specified year span. All calculations perform in real time due to an efficient database organization resulting in fast data retrieval. The results can be downloaded as an image or in standard raster data format, which is suitable for further processing.

See also: Digital Climate Atlas of the Carpathian Region <http://www.adv-sci-res.net/10/107/2013/asr-10-107-2013.pdf>

Source: <http://dailymeteo.org/sites/default/files/DailyMeteo2014WEB.pdf#page=85>

### **Moldova: Organization, Streamlining and Computerization Process in Mapping in Moldova Twinning Project for the Agency of Land Relations and Cadastre (ALRC)**



Swedesurvey has been selected for implementation of the twinning project with Moldova Agency of Land Relations and Cadastre (ALRC, <http://www.arfc.gov.md>). State Geodetic Administration of the Republic of Croatia is cooperating in this project as Junior Partner. The Agency of Land Relations and Cadastre (ALRC) is a public authority carrying out execution, control, supervising, and other functions in the field of land relations, geodesy, mapping, cadastre and Geographic Information System (GIS) activities, and to some extent Land Information System (LIS) activities, both of them building up the structure of the so-called National Spatial Data Infrastructure (NSDI) of Moldova.

This project aims to establish an improved mapping system in line with the EU standards and best international practices of management of geographical data in Moldova. The project has been organized under four main result components:

- Component 1: Geographic data umbrella law is drafted in line with the EU INSPIRE requirements.
- Component 2: Expanding the mapping areas and implement National Geographic Information System (NGIS) in order to meet users demand for digital maps swiftly and efficiently.
- Component 3: A Land Information System (LIS) for Pilot Areas developed.
- Component 4: Network services in the field of data sharing are set up under the responsibility of ALRC.

Source: <http://www.swedesurvey.se/article/twinning-project-agency-land-relations-and-cadastre-alrc-organization-streamlining-and-compu> ; <http://geoportal.md/>

## **Romania: Development of Spatial Database for Regional Development**

Author(s): Anda Belciu (Velicanu), Vlad Diaconita, Ion Lungu Aura-Mihaela Virgolici (Mocanu)  
*Informatica Economică* vol. 18, no. 3/2014

**Abstract:** Geographical Information Systems are used in solving many regional development related problems, around the world. Starting from some national programs to famous international ones, such as INSPIRE program, each such initiative uses geospatial data as well in the process of building regional development strategies. This paper presents the main technical components of a geographical information system, meaning the spatial database, the web mapping server and the APIs used to embed the maps into web applications. The development steps for a pre-alpha version of a web GIS application dedicated to the regional development in Romania are also shown. The software tools which were integrated in order to develop the online application were Oracle Spatial, where geospatial data was stored, GeoServer, an open source web mapping server used to generate the map out of the data from Oracle Spatial's tables and ASP.NET as a web framework for building the website.

Keywords: Regional Development, GIS, Spatial Database, Web Mapping Server

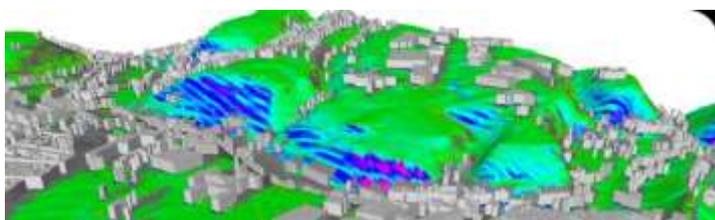
Source: <http://www.revistaie.ase.ro/content/71/05%20-%20Belciu,%20Diaconita,%20Lungu,%20Virgolici.pdf>

## **UK: The future for Open Access and the move towards Open Data, 26 March 2015, London**

This conference is timed to follow the publication of the Research Councils UK (RCUK)'s review of the impact of Open Access so far - expected early 2015 - and will focus on key remaining implementation issues as well as looking forward to next steps for policy in light of Government's stated aim of adopting an Open Data culture for publicly funded research (<https://www.gov.uk/government/speeches/open-access-research>). Delegates will discuss ways universities, academics and publishers can maximise the potential of Open Access and raise awareness of its uses among the public and businesses - and ways forward for sharing best practice across the sector. They will also assess how Open Access has been implemented in practice since the Finch Review. Download latest agenda: <http://www.westminsterforumprojects.co.uk/forums/agenda/open-access-agenda.pdf>

Source: <http://www.westminsterforumprojects.co.uk/forums/event.php?eid=876&t=8293>

## **Mitigation of CO<sub>2</sub> Emissions in Urban Areas: Solutions for Innovative Cities – IGUESS**



With the deadline for Energy 2020 on the horizon, countries across the EU are focusing their efforts on reducing CO<sub>2</sub> emissions to meet their goals. This project (MUSIC) brings together five cities, Aberdeen in the UK, Ghent in Belgium, Ludwigsburg in Germany, Montreuil in France and Rotterdam in the Netherlands and two research centres, the Dutch Research Institute for Transitions

and CRP Henri Tudor, to work together using a social, scientific and technology-based approach to reduce CO<sub>2</sub> emissions in urban areas around North West Europe. MUSIC will focus on three types of innovation to reduce CO<sub>2</sub> emissions:

- the promotion of cooperation among local stakeholders through inspirational and inclusive workshops;
- the development of iGUESS (integrated Geospatial Urban dEcision Support System, <http://iguess.tudor.lu/>), a tool to generate urban energy maps using geographic information systems (GIS) and georeferenced data; and
- pilot projects to reduce the CO<sub>2</sub> emissions of public buildings such as schools and community centres in each participating city.

Tudor is contributing to the project through the development of iGUESS, an interdisciplinary open source mapping and decision support tool that can calculate the potential for renewable energy and energy savings in cities and create future scenarios highlighting changes in CO<sub>2</sub> emissions based on actions taken (or not taken) to mitigate them.

See also: Job offers in conjunction with the project, <http://www.tudor.lu/en/job-offers>

Source: <http://www.tudor.lu/en/projects/music>

## **Stepping up Open Science: Combining infrastructures, incentives and active support**

Joint Statement by OpenAIRE and COAR on the European Commission's Science2.0 consultation (30 September 2014)

Key points:

- Both OpenAIRE and the Confederation of Open Access Repositories (COAR) are highly supportive of a move to a more open scientific



- environment and opening up all research outputs.
- We believe that this will be facilitated by providing relevant e-infrastructures, to provide global collaborative environments across disciplines, as well as contextualised research.
  - The position of the institution is pivotal for the future of science: it can provide the local infrastructure, such as repositories, and can leverage existing skills in its workforce to understand and support the changing needs of researchers in a move to an open environment.

OpenAIRE and COAR welcome the European Commission's consultation on Science 2.0. This consultation signifies a new phase of scientific practice and organisation, and, as such, gathering input from a wide range of stakeholders is a critical step. OpenAIRE and COAR particularly welcome the acknowledgement in the background document to the Science 2.0 Consultation that open access needs to be considered within a broader context, and integrated into researchers' workflows and careers: open access to research should be the very foundation of Science 2.0 or 'Open Science'. Also welcomed is the evident support for the sharing of data as the way forward to realising a more flexible and transparent means of supporting science. While policies will help in this regard, OpenAIRE and COAR recognise that there needs to be a careful balance between enforcing top down policies, and the need to be sensitive to the needs of different contexts, disciplines and bottom-up practices. However, the European Commission can play a vital role in incentivizing good practice, monitoring policy implementation, and making sure that national policies align. See link for further details and recommendations.

Source: <https://www.coar-repositories.org/news-media/stepping-up-open-science-combining-infrastructures-incentives-and-active-support/>

### **Mid-term evaluation report on INSPIRE implementation published**



The INSPIRE Directive, which came into force in 2007 and is expected to be fully implemented by 2020, aims to establish a European Spatial Data Infrastructure in order to support policy making by providing more and better spatial data. The following report analyses the state of implementation of the Directive at the mid-point of its implementation. The conclusions of the report suggest that INSPIRE implementation is on track, however, certain actions - especially coordination and data sharing – would benefit from strategic adjustment. Download the document:

[http://www.eea.europa.eu/publications/midterm-evaluation-report-on-inspire-implementation/at\\_download/file](http://www.eea.europa.eu/publications/midterm-evaluation-report-on-inspire-implementation/at_download/file)

Source: <http://inspire.ec.europa.eu/index.cfm/pageid/241/documentid/3487>

### **New video online - "smeSpire introduces EULF"**



The European Union Location Framework (EULF) is a new initiative of the EU to promote wider use of location-based information in e-government. The part-EU-funded smeSpire project has produced a video introducing EULF to the smeSpire community in 4 steps: EULF in brief, EULF pilots, EULF & SMEs, EULF & smeSpire. Watch the video here: <http://youtu.be/gj0zBfsTK-g>

For more on EULF, visit: [http://ec.europa.eu/isa/actions/02-interoperability-architecture/2-13action\\_en.htm](http://ec.europa.eu/isa/actions/02-interoperability-architecture/2-13action_en.htm)

To learn more about the smeSPIRE project, visit: <http://www.smespire.eu/>

Source: <http://www.smespire.eu/published-the-video-smespire-introduces-eulf/>

### **Course materials available online: GIS in Statistics and Preparations for INSPIRE Reporting Obligations**



Eurostat's European Statistical Training Programme (ESTP) GIS course materials are now available online. The course was held in Oslo, Norway 7-9 May 2014, with the title: *GIS in Statistics and Preparations for INSPIRE Reporting Obligations*.

Source: <http://www.efgs.info/front-page/geostat/estp-2014/gis-course>

### **Proceedings of European Forum for Geography and Statistics 2014 Conference, 22-24 October, Krakow**



Conference papers and presentations from the Forum for Geography and Statistics 2014 Conference have been released. They can be accessed at <http://www.efgs.info/news/workshops/efgs-2014-krakow-poland>. The Conference (<http://geo.stat.gov.pl/efgs>) was held 22-24 October 2014 in Krakow, Poland.

The European Forum for Geography and Statistics (EFGS, <http://www.efgs.info/>) represents a professional network of

experts cooperating within the framework of the European Statistical System to create a common geostatistical data infrastructure and work out the best practices in collecting, producing and disseminating georeferenced statistics.

EFGS issued a call for action to establish a Global Forum for Geography and Statistics (GFGS). After the EFGS Lisbon 2011 conference, EFGS has had the goal to cover the whole world of National Statistics Institutes (NSIs) interested in geostatistics. The GFGS is meant to be a voluntary professional network for merging geography and statistics. The focus is on global issues and cooperation between national statistical institutes/mapping agencies and research institutions. GSDI member, CIESIN, also is involved in forming the GFGS. Brazil is scheduled to hold the first global conference for GFGS in 2015. Brazil also is hosting the 60th World Statistics Congress (<http://www.isi2015.org/>), 26-31 July 2015.

## Latin America & the Caribbean Region SDI News

### ***Bolivia: El INE y GeoBolivia pone a disposición mapas de los datos del Censo 2012***



El pasado 17 de octubre, el Instituto Nacional de Estadística presentó a instituciones y organismos vinculados a la generación y producción de datos y registros estadísticos, el Sistema de Información Geográfica Estadístico para el Desarrollo (SIGED, <http://geo.ine.gob.bo/cartografia/>) herramienta técnica que permite el manejo de información estadística relacionada al espacio geográfico, con miras a facilitar la planificación y difusión de datos sobre la geografía espacial estadística, el SIGED optimiza el uso intensivo y efectivo de las Tecnologías

de la Información y Comunicación (TIC).

Constituyéndose en el nodo estadístico de la Infraestructura de Datos Espaciales del Estado Plurinacional de Bolivia (<http://ideepb.geo.gob.bo/>), el SIGED contribuye con la disponibilidad del Servicio Web de Mapas (WMS) además del respectivo catálogo de metadatos entre otros, con una cobertura del 100 por ciento del territorio nacional, resultado de la actualización cartográfica y de los censos y encuestas nacionales que ha venido desarrollando el INE en los últimos cinco años.

En el marco de la interoperabilidad y uso de estándares abiertos GeoBolivia establece una conexión continua a los servicios ofrecidos por el SIGED, permitiendo el despliegue de información de las unidades geográficas básicas estadísticas determinadas por el INE que son: la manzana para áreas ameznadas y las comunidades en el área dispersa.

Dicha información podrá cargarse desde el Visualizador de GeoBolivia (<http://geo.gob.bo/mapfishapp/>), en la pestaña Añadir capa -> Servicio WMS -> Nodo – Instituto Nacional de Estadística; el usuario seleccionara las capas de información disponibles por departamento y las agregará a la vista.

Para consultar las características del servicio, se podrá acceder al metadato del mismo en: Servicio Web de Mapas (WMS) del Instituto Nacional de Estadística, <http://geo.gob.bo/geonetwork/apps/georchestra/?uuid=1e0e4aaa-6811-4c12-905f-346fcfbdc26c>

La disponibilidad del servicio OGC-WMS Server podrá realizarse a través de: <http://siged.ine.gob.bo/geoserver/wms>. Dicha URL podrá copiarse y añadirse a cualquier Sistema de Información Geográfica (QGIS, gvSIG, ArcGIS, etc), disponiendo de la información del SIGED en su máquina local.

English summary: ***The INE and GeoBolivia make maps available of 2012 census data***

In October, GeoBolivia offered its users the map service of the National Institute of Statistics (INE) through its Geographic Information System Statistical Development (SIGED) which retrieves the data mapping of Census 2012 at the community level in scattered areas, apple trees in urban areas and mapping based on scale 1: 50000 as bodies of water and roads.

Fuente: GeoBolivia, <http://geo.gob.bo/?Octubre-Mapa-del-mes-GeoBolivia-198>

## **Bolivia: Spatial Data Infrastructure of the Plurinational State of Bolivia**

Author(s): Raul Fernando Molina Rodriguez and Sylvain Lesage  
*OSGEO Journal*, Volume 13 (February 2014)



**Abstract:** The Vice Presidency of the State, with the help of the GeoBolivia project, is building the Spatial Data Infrastructure of the Plurinational State of Bolivia (IDEEPB by its Spanish initials). The first phase of the project has already been completed. It consisted in implementing an infrastructure and a geportal that nowadays gives access to the reference geographic information of Bolivia, through WMS, WFS, WCS and CSW services. The project is currently in its second phase dedicated to decentralizing the structure of IDE-EPB and promoting its use throughout the Bolivian State. The whole platform uses free software and open standards. As a complement, an on-line training module was developed to undertake the transfer of the knowledge the project generated. The main software components used in the SDI are: gvSIG, QGIS, uDig as GIS desktop clients; Post-GreSQL and PostGIS as geographic database management system; geOrchestra as a framework containing the GeoServer map server, the GeoNetwork catalog server and the OpenLayers and Mapfish GIS webclient; MapServer as a map server for generating OpenStreetMap tiles; Debian as operating system; Apache and Tomcat as web servers.

Source: <https://journal.osgeo.org/index.php/journal/issue/view/34/showToc>;  
[http://svn.osgeo.org/osgeo/journal/volume\\_13/pdf/OSGeoJournal\\_vol13\\_Molina\\_Lesage.pdf](http://svn.osgeo.org/osgeo/journal/volume_13/pdf/OSGeoJournal_vol13_Molina_Lesage.pdf)

## **Ecuador: MAE pone a disposición de la población en general, el portal web "GeoAmbiente"**



El Ministerio del Ambiente del Ecuador (MAE), a partir del 31 de enero de 2014 pone a disposición de la ciudadanía, el portal web "GeoAmbiente", una plataforma que permite a los usuarios acceder a toda la información geográfica generada por esta Cartera de Estado, a través del Sistema Único de Información Ambiental (SUIA), tomando en cuenta que el SUIA es uno de los sistemas más importantes del Ecuador a nivel gubernamental, porque abarca dentro de su plataforma on-line, toda la gestión ambiental y los servicios que ofrece el Ministerio del Ambiente a la ciudadanía, a la vez que

dispone de una base de datos ambiental unificada, razón por la cual el SUIA es un referente a nivel Sudamericano.

Esta herramienta (GeoAmbiente) posibilita la integración y difusión de la información geográfica en un solo repositorio y permite la toma de decisiones mediante la formulación de Políticas Públicas Ambientales que garanticen la preservación de los ecosistemas.

### **English summary: Ministry of Environment of Ecuador (MAE) makes Geo-environment portal available**

The Ministry of the Environment of Ecuador (MAE), effectively from 31 January 2014, has put at the disposal of citizens, the "geo-environment" web portal, which is a platform that allows users to access all geographic information generated by this sector of the State. It is based on the Single System of Environmental Information (SUIA), which is viewed as one of the most important systems of Ecuador at the governmental level, because it covers within the on-line platform all the environmental management and services offered by the Ministry of the Environment, as well as a database of unified environmental data. This geo-environment tool enables the integration and dissemination of geographic information in a single repository and allows decision-making through the formulation of public environmental policy to ensure the preservation of ecosystems.

Fuente: <http://suia.ambiente.gob.ec/hi/web/suia?q=node/1392>

## **Peru: Directiva sobre estándares de servicios web de información georreferenciada**



La información georreferenciada que se genera y mantiene en el sector público tiene un gran potencial, tanto para los objetivos para los que fueron creados como para otros fines dentro y fuera del sector público; la solución a problemas como la seguridad ciudadana, la gestión del medio ambiente

y la gestión del riesgo de desastres son solo algunos ejemplos de donde ésta información juega un rol vital para el éxito de las referidas políticas.

Pese a ello, el intercambio de datos para alimentar los diversos sistemas y procesos que usan esta información en las entidades de la Administración Pública, está limitado casi exclusivamente a soluciones personales de los involucrados (intercambio entre técnicos principalmente), y en algunos casos a gestiones de tipo administrativo bajo las modalidades establecidas en el TUPA de cada entidad y/o a través de convenios con diversos grados de formalidad, lo que supone

trámites complicados que demandan mucho costo y tiempo, perjudicando la efectividad de diversas iniciativas.

Esta Directiva define los estándares de los servicios web para el intercambio de información georreferenciada entre entidades de la Administración Pública, establecidos en el marco de la Política Nacional de Gobierno Electrónico, la implementación de la Infraestructura de Datos Espaciales del Perú (IDEP, <http://geoidep.gob.pe>) y la implementación del Decreto Supremo N° 133-2013-PCM que establece el acceso e intercambio de datos espaciales entre entidades públicas.

En este documento se definen los estándares para la publicación de servicios de localización, visualización, descarga, transformación y geo-procesamiento de datos georreferenciados, los mismos que permitirán el intercambio de datos y el acceso remoto a información geográfica que es producida en todas las entidades públicas. Para su elaboración, se ha tomado en cuenta los estándares de la OGC sobre servicios de información y los del Comité Técnico ISO/TC-211.

Ver: Aprueban Directiva N° 001-2014-PCM/ONGEI, “Directiva sobre Estándares de Servicios Web de Información Georreferenciada para el Intercambio de Datos entre Entidades de la Administración Pública” <http://www.snep.gob.pe/pdf/241-2014-PCM.pdf>

### **English summary: Directive on Web Services Standards Georeferenced Information for Interchange of Data between Public Administration Entities**

This directive defines the standards of web services for georeferenced information exchange between Public Administration entities. It is established under the National Policy on Electronic Government, the implementation of Spatial Data Infrastructure of Peru (IDEP, <http://geoidep.gob.pe>) and the implementation Supreme Decree No. 133-2013-PCM which provides access and exchange of spatial data between public entities. The Directive’s preparation took into account OGC and ISO / TC-211 TC standards on information services.

Fuente: <http://geoidep.gob.pe/index.php/legislacion-sobre-la-idep/directivas-aprobadas/98-directiva-sobre-estandares-de-servicios-web-de-informacion-georreferenciada>; <http://www.geoidep.gob.pe/index.php/noticias/183-publican-resolucion-ministerial-n-241-2014-pcm-directiva-n-001-2014-pcm-ongei-directiva-sobre-estandares-de-servicios-web-de-informacion-georreferenciada-para-el-intercambio-de-datos-entre-entidades-de-la-administracion-publica>

### **Argentina: Video Institucional de Infraestructura de Datos Espaciales de la República Argentina**



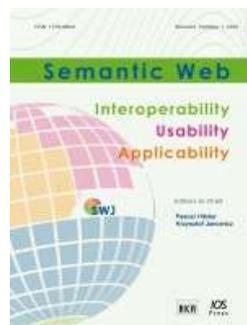
Un video institucional esta disponible de la Infraestructura de Datos Espaciales de la República Argentina (IDERA, <http://www.idera.gob.ar/>). IDERA es un ámbito de trabajo colaborativo en el que participan los diferentes niveles del gobierno, el ámbito académico y de investigación. A través de su representación, la IDERA busca mantener un carácter nacional y federal.

Ver el video: <http://www.youtube.com/watch?v=vnVvJ9CYxkE>

Nota tambien:

- **IDERA Boletín disponible (Nro 15, Octubre 2014)**  
[http://www.idera.gob.ar/portal/sites/default/files/Boletin\\_IDERA\\_15\\_ok.pdf](http://www.idera.gob.ar/portal/sites/default/files/Boletin_IDERA_15_ok.pdf)
- **Presentacions disponible de Jornadas de Capacitación SIG - IDE Buenos Aires** - Las presentaciones de las Jornadas de SIG e IDE, que tuvieron lugar en Buenos Aires el 11 y 12 de septiembre 2014  
<http://www.idera.gob.ar/portal/node/233>

### **Linked Brazilian Amazon Rainforest Data**



Author(s): Tomi Kauppinen, Giovana Mira de Espindola, Jim Jones, Alber Sánchez, Benedikt Gräler, Thomas Bartoschek  
*Semantic Web*, Volume 5, Number 2 (2014), Pages 151-155

**Abstract:** The Linked Brazilian Amazon Rainforest Data contains observations about deforestation of rainforests and related things such as rivers, road networks, population, amount of cattle, and market prices of agricultural products. The Linked Data approach offers thus to combine ecological, economical and social dimensions together. Our aim has been to 1) dramatically shorten the time needed to collect information for a research setting concerning the Brazilian Amazon, and 2) via the linkage between datasets enable novel types of transdisciplinary research for the scientific community.

Keywords: Brazilian Amazon, Linked Open Data, deforestation, spatio-temporal datasets

See also: Linked Brazilian Amazon Rainforest website <http://linkedscience.org/data/linked-brazilian-amazon-rainforest/>

Source: <http://semantic-web-journal.org/sites/default/files/swj302.pdf>

## Guatemala: Mapas disponibles en La Nube



El Instituto Geográfico de Guatemala lanzó su primer servicio de mapas en La Nube. El servicio, de acceso libre, ofrece acceso a más de 20 capas temáticas de este país, como red geodésica, toponimia, vegetación, ocupación de suelos, geología, hidrografía y red vial, entre otras. El servicio utiliza Geoserver y Geoexplorer y fue desarrollado gracias al apoyo del Programa GeoSUR y el IPGH, con financiamiento de la iniciativa *Eye on Earth*. Miguel Blanco, consultor de GeoSUR, efectuó una visita al IGN durante la segunda semana de noviembre con la finalidad de apoyar a los técnicos de esta institución a

preparar los datos, poner en marcha el servicio y registrarlo con el Portal Regional GeoSUR para América Latina y el Caribe.

Cabe destacar que GeoSUR, el PNUMA, el IPGH y el CNIG de España están ofreciendo apoyo a más de 12 instituciones de la región para migrar algunos de sus datos y geoservicios a La Nube, y que con fondos de *Eye on Earth* están cubriendo algunos de los costos de operación de los nuevos geoservicios por un tiempo determinado.

Consulte aquí el nuevo visor del IGN Guatemala: <http://www.ign.gob.gt/geoportal/index.html>

### English summary: *Guatemalan Maps available in The Cloud*

The Geographic Institute of Guatemala recently launched its first set of Cloud-based geoservices. Its news view service provides open access to more than 20 thematic layers on topics such as geodesy, vegetation cover, land use, geology, hydrology and road network, among others. The services use Geoserver y Geoexplorer and were developed with support from the GeoSUR Program and PAIGH, with funding from the Eye on Earth Alliance. Miguel Blanco, a GeoSUR adviser, was in Guatemala in early November and worked with specialists from the Geographic Institute in order to prepare the geospatial data and geoservices that were placed in The Cloud and registered with the GeoSUR Regional Portal. As part of this initiative GeoSUR, UNEP, PAIGH and Spain's CNIG are offering training, technical assistance and funding to more than 12 national agencies to stage some of their data and services in the Cloud.

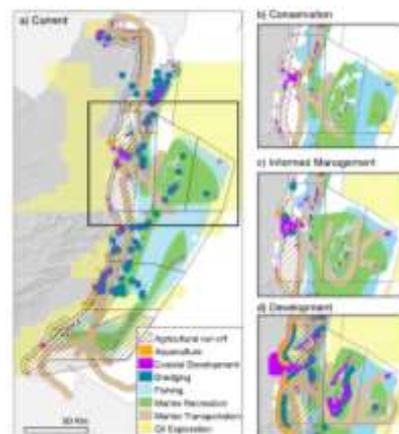
Click here to view the new map viewer: <http://www.ign.gob.gt/geoportal/index.html>

Source: Eric van Praag, GeoSUR, CAF - Latin America Development Bank

## Belize: Using science to open way to 'blue economy'

New science and software make Belize coastal zone management plan better for people and the environment. With historic expansion of coastal and ocean development, ecosystems like coral reefs and mangrove forests are put at unprecedented risk. Yet, planners often lack good information about how human activities will impact shoreline and ocean habitats now and in the future. This study developed the information the Belizean government sought to make informed management decisions.

See: Katie K Arkema, Gregory Verutes, Joanna R Bernhardt, Chantalle Clarke, Samir Rosado, Maritza Canto, Spencer A Wood, Mary Ruckelshaus, Amy Rosenthal, Melanie McField, Joann de Zegher. Assessing habitat risk from human activities to inform coastal and marine spatial planning: a demonstration in Belize. *Environmental Research Letters*, 2014; 9 (11). [https://woods.stanford.edu/sites/default/files/documents/ERL\\_9\\_11\\_114016.pdf](https://woods.stanford.edu/sites/default/files/documents/ERL_9_11_114016.pdf)



Source: [http://www.naturalcapitalproject.org/pubs/Using\\_Science\\_To\\_Open\\_Way\\_To\\_Blue\\_Economy\\_PR.pdf](http://www.naturalcapitalproject.org/pubs/Using_Science_To_Open_Way_To_Blue_Economy_PR.pdf); <http://www.sciencedaily.com/releases/2014/11/141118125439.htm>

## Trinidad & Tobago: Launch of National Spatial Data Infrastructure Council

Noting the issues associated with the duplication of geospatial information system (GIS) initiatives among Governmental agencies over the last decade and the absence of a national policy on geospatial information within Trinidad and Tobago, the Minister of Planning and Sustainable Development, Senator Dr. the Honourable Bhoendradatt Tewarie recommended the implementation of a National Spatial Data Infrastructure (NSDI) Council under the ambit of his Ministry. This is the first such Council in Trinidad and Tobago responsible for the overall development, maintenance and management of the various components of the NSDI. The members officially received their instruments of appointment from the Planning Ministry on November 18, 2014.

Source: <http://www.planning.gov.tt/mediacentre/news-articles/first-ever-national-spatial-data-infrastructure-nsdi-council-integrate-geo>

## **CERMES to host the Regional Observatory for Protected Areas and Biodiversity for the Caribbean**

**BIOPAMA** The International Union for Conservation of Nature (IUCN) Regional Office for Mexico, Central America and the Caribbean (ORMACC) and the Centre for Resource Management and Environmental Studies (CERMES) at the University of the West Indies, Cave Hill, have announced their collaboration on the BIOPAMA Regional Observatory for Protected Areas and Biodiversity (“the Observatory”). The BIOPAMA Observatory (<http://www.biopama.org>), will support the collection, management, analysis and application of data and information relevant to protected areas and biodiversity in the Caribbean.

The Centre for Resource Management and Environmental Studies (CERMES) is a department within the Faculty of Science and Technology on the UWI Cave Hill Campus in Barbados. CERMES promotes and facilitates sustainable development in the Caribbean and beyond through a strong focus on tropical island environmental management and its mission is to make a significant contribution to sustainable development in the Caribbean region.

One of the first steps in implementing the Observatory is the establishment of a regional reference information system (RRIS) as the platform that the Observatory will use to facilitate management of data and information. During the recent Gulf and Caribbean Fisheries Institute (GCFI) Conference in Barbados, the RRIS and its associated tools were presented at a lunch-time event on November 4, providing an opportunity for participants to discuss, in the context of the Caribbean, the relevance of the tools presented, suggest improvements on the design of the RRIS, and identify opportunities for real-life testing/application of the proposed tools.

See: BIOPAMA Caribbean video, <https://www.youtube.com/watch?v=Jq6SWKpRrw0>

Source: [http://www.iucn.org/about/work/programmes/gpap\\_home/?18589/CERMES-to-host-the-Regional-Observatory-for-Protected-Areas-and-Biodiversity-for-the-Caribbean](http://www.iucn.org/about/work/programmes/gpap_home/?18589/CERMES-to-host-the-Regional-Observatory-for-Protected-Areas-and-Biodiversity-for-the-Caribbean)

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## **North America Region SDI News**

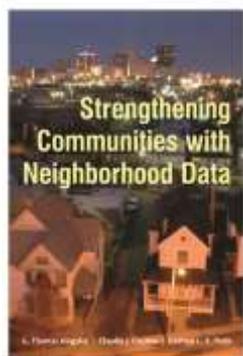
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### **USA: Additional steps needed for NOAA to achieve integrated, cost-effective observing systems portfolio**

 The report found that NOAA has not taken all of the steps that were previously identified as important to integrate and improve the cost-effectiveness of NOAA’s observing systems portfolio. GAO recommends that NOAA develop a plan to guide the integration of its observing systems, analyze whether unnecessary duplication exists in its observing systems portfolio, and develop a standardized methodology for the routine preparation and reporting of observing systems costs. NOAA generally agreed with the recommendations. See: GAO-15-96 (published November 17, 2014), <http://www.gao.gov/assets/670/666948.pdf>

Source: <http://www.gao.gov/products/GAO-15-96>

### **USA: Strengthening Communities with Neighborhood Data**



Neighborhood data expands the ability of communities to make transformational changes in communities. While communities have been collecting data for decades, local government began automating these records in the 1990’s, enabling agencies to track data over time.

Urban Institute has released a book, “Strengthening Communities with Neighborhood Data,” that documents how government and nonprofit institutions have used information about neighborhood conditions to change the way we think about community and local governance in America.

While cities can call upon major institutions to collect data, it is important to engage the community to collect data in their neighborhoods. This approach involves training individuals to build community trust and develop community engagement and political skills. Structurally, this approach also ensures that communities build a community knowledge capacity to track data from year to year even when local governance changes. Download the free e-book: <http://www.urban.org/strengtheningcommunities/>. If you do not have an Ebook reader (tablet or smartphone), you may need to check how to read Epub Ebooks in a web browser, e.g., see <http://www.digitaladdons.com/read-epub-ebooks-in-browser/>.

Source: Investing in Community Change blog, <http://financing-community-change.blogspot.com/2014/11/strengthening-communities-with.html>

### **USA (Pennsylvania): geospatial coordination law signed**

About 10 years after the first House testimony, Pennsylvania now has an official Geospatial Coordinating Board representing all levels of state government and public and academic sectors. Senate Bill 771 (Gordner-R-Columbia) establishing the State Geospatial Coordinating Board passed the House on October 15<sup>th</sup> and was signed by Governor Corbett on October 22<sup>nd</sup>. This law will now be known Act 178. A summary and House Fiscal Note is available at <http://www.legis.state.pa.us/WU01/LI/BI/FN/2013/0/SB0771P1797.pdf>. The Senate Bill 771 can be accessed at <http://www.legis.state.pa.us/cfdocs/billInfo/billInfo.cfm?sYear=2013&sInd=0&body=S&type=B&bn=0771>.

This legislation amends the Administrative Code (Act 175 of 1929) by creating the State Geospatial Coordinating Board, which shall be an advisory board within the Governor's Office of Administration to provide advice and recommendations to the Governor on geospatial issues, uniform data standards and the coordination and efficiency of geospatial policy and technologies among federal, state and local government agencies, academic institutions and the private sector.

The Board shall have the powers and duties to recommend data development priorities and interoperability standards; monitor national and State trends; define and prioritize strategic opportunities; and develop task forces as needed to formulate recommended positions or actions. Members of the board shall include persons knowledgeable in the fields related to geographic information systems, such as geospatial technology, data development, architecture standards, data sharing, county government, local government, municipal planning or municipal authorities.

### **Making Water Resource Decisions More "Informationally" Efficient Development of a Geospatial Water Rights Decision Support System for Kittitas County, Washington**



Author(s): Michael Pease and Jeremy Murray  
*International Journal of Geospatial and Environmental Research*, Vol. 1: No. 2, Article 4.

**Abstract:** In semi-arid river basins like the Yakima River Basin in central Washington State, United States of America, water demand can exceed available supply on an annual basis. More informed decisions about water supply and current allocation have the potential to improve water management. This research created a geospatial water rights database for the Yakima River Basin. The creation of a publicly available decision support system mapping water rights can provide water managers another tool to help achieve this goal. This paper describes the

creation of the Decision Support System. In addition it looks at the current utility of the system, and evaluates the potential expansion of the program to link with additional resource management tools.

Keywords: Geospatial water rights, decision support system

Source: <http://onlinelibrary.wiley.com/doi/10.1111/j.1936-704X.2014.03177.x/full>

### **USA: WaDE: An Interoperable Data Exchange Network for Sharing Water Planning and Use Data**



Author(s): Sara G. Larsen and Dwane Young  
*Journal of Contemporary Water Research & Education*, Volume 153, Issue 1, pages 33–41, April 2014

**Abstract:** The Water Data Exchange (WaDE) is a project initiated by the member states of the Western States Water Council (WSWC), in cooperation with the Western Governors' Association (WGA), to assist state water agencies when answering local, regional, and national water availability questions. WaDE provides requested information more easily, sustainably, and cost-effectively, by streamlining the publication of water planning, use, and allocation data for access by

planners, policy makers, and the public.

This paper presents the background of the WaDE project, how it was envisioned to function, the types of data it will provide, and why access to the information is important for water managers. The goals of WaDE include the establishment of a governance structure, documentation of the current state agency capabilities and methodologies, and the design of a common data format that targets water data products and/or water-quantity information. Many of these foundational

products have been developed, such as governance workgroups, databases, web services code, and a prototype mapping application for centralized access. A major milestone, still underway, is the distribution and deployment of the databases and web services code within member states' information technology environments. Lastly, WaDE seeks to encourage the publication of other agency datasets using web services and standardized data formats.

Keywords: Water use; availability; planning; data exchange

Source: <http://dc.uwm.edu/ijger/vol1/iss2/4>; <http://dc.uwm.edu/cgi/viewcontent.cgi?article=1018&context=ijger>

### **USA & Canada: Online portal highlighting streamflow conditions in North America launched**

In a joint effort, the U.S. Geological Survey and the Water Survey of Canada (WSC) have launched the North America WaterWatch (NAWW, <http://watermonitor.gov/naww/en/index.php>), an online website that displays streamflow conditions in Canada and North America. The NAWW site is arranged similarly to USGS Water Watch.

The site provides a fast, easy-to-use, cartographically-based, central web interface for users to access real-time streamflow conditions for both Canada and the United States. NAWW can be accessed online in both English and French.

"North America WaterWatch delivers easily understandable maps and graphics of streamflow conditions and, simultaneously, provides access to real-time and past streamflow data at thousands of streamgages in both nations," said Jerad Bales, USGS Chief Scientist for Water. "The portal demonstrates the value of free exchange of water-data through interoperable web services, which is a major strategic focus of the USGS through open-water data activities."

Real-time instantaneous flow data are compared against historical daily streamflow percentiles at hydrometric monitoring stations. The stations are then colour coded on the map to indicate current flow conditions in relation to normal conditions based on statistical thresholds (i.e. much below normal, below normal, normal, above normal, much above normal, and high). The timely availability of these streamflow indicators is vital to water managers and the general public, as the easily-recognised indicators constitute a direct link between hydrological field information and the assessment of risks.



Source: <http://www.usgs.gov/newsroom/article.asp?ID=4045>

### **Esri Canada blog: Why is Governance so Important in the development and operation of an SDI?**



**esri Canada**

Gordon Plunkett from Esri Canada recently attended an SDI event with participants from most government levels, industry and academia from across Canada. During the presentations by various government officials, they were asked to outline some of the

challenges their jurisdictions are encountering in implementing their SDI. While nearly all spokespersons mentioned the usual challenges like lack of money, resources and technical concerns, Gordon found some of the challenges mentioned a bit surprising.

Some of the technical challenges mentioned included: interoperability, standards, big data, data currency, data coverage, technology changes, open data, data discovery, data access and data sharing.

Some of the other issues were related to the capability and maturity level of the government agency implementing the SDI. Some government agencies have been developing their SDI for some time, while others are just starting. Thus the needs and in particular the challenges due to these differing capabilities, was not surprisingly dissimilar.

However, there were some common challenges mentioned by most jurisdictions that could generally be considered as SDI governance issues. Many even said that governance was the most difficult element of implementing and operating an SDI. These governance challenges included: the engagement problem, ownership vs collaboration, licensing, sustainability and coordination. See link for full story.

Source: <http://www.esri.ca/en/blog/why-governance-so-important-development-and-operation-sdi?#>

### Canada: Land Information Ontario releases several data layers as public data services



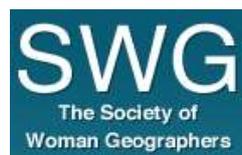
Land Information Ontario (LIO, <https://www.ontario.ca/environment-and-energy/land-information-ontario>) recently launched a pilot project to make a large number of LIO data layers that are available under the Open Government Licence, available as public Data Services. LIO Data Services give application developers and GIS users the ability to display continuously maintained data sets stored in the LIO Warehouse directly, in real time, without a local copy of the data. The services are available in two formats: Esri-based ArcGIS Server (AGS) and Open Source Web Map Service (WMS). The Data Services are grouped into themes and can be accessed here:

[http://www.giscoeservices.lrc.gov.on.ca/ArcGIS/rest/services/LIO\\_Public\\_Data\\_Services](http://www.giscoeservices.lrc.gov.on.ca/ArcGIS/rest/services/LIO_Public_Data_Services)

Source: ESRI Canada SDI News,

[http://www.esri.ca/sites/default/files/filemanager/Company/email/SDI/november\\_2014/nov14\\_sdi.html](http://www.esri.ca/sites/default/files/filemanager/Company/email/SDI/november_2014/nov14_sdi.html)

### Society of Woman Geographers Evelyn L. Pruitt Fellowship for Dissertation Research 2015-2016



The Society of Woman Geographers (SWG) invites applications for its Evelyn L. Pruitt doctoral dissertation research fellowships for 2015-2016 for women in geography and geographical aspects of other fields. Applicants must be students in US or Canadian universities. SWG expects to make two or three awards of \$8,000 to \$12,000 for 2015-2016. Preference will be given to those students who have completed comprehensive examinations, have an approved dissertation research proposal at the time of application, and will be engaged in their research in

2015-2016. Applications are due **February 1, 2015**.

Source: [http://iswgl.coastalgraphics.com/?page\\_id=233](http://iswgl.coastalgraphics.com/?page_id=233)

## Middle East & North Africa Region SDI News

### Oman: National Centre for Statistics and Information (NCSI) highlights SDI activities



Central to its efforts to prompt data based knowledge and boost the statistical framework across the Sultanate of Oman, the National Centre for Statistics and Information (NCSI, <http://www.ncsi.gov.om/>) was the platinum sponsor of the Oman Geospatial Forum 2014.

During the two-day event, NCSI presented a number of working papers that added to the knowledge of the audience and shed light on the NCSI's ongoing efforts to provide updated statistical figures and official data. NCSI is the official authority for statistics in the Sultanate of Oman. The centre provides research-based statistical data and figures to support the decision and policy makers to formulate and design the adopted national policies and programs.

Eng. Hassan Alawi Alghazali, acting director general, National Spatial Data Infrastructure at the National Centre for Statistics and Information (NCSI), presented the first paper titled 'Oman NSDI, Business Values and Future Directions. The presentation focused on mapping projects and laid stress on NCSI's efforts and strategic partnership with the National Survey Authority (NSA) to provide the Oman National Spatial data Infrastructure (ONSDI) with comprehensive and up-to-date geospatial information. In his paper, Alghazali also shed light on the challenges faced in this field and elaborated on NCSI's role in providing the missing link.

Other papers presented by NCSI highlighted the role of spatial data infrastructure in supporting good governance in public authorities and government departments through utilizing geospatial data. Additionally, the audience were introduced to the NCSI GeoPlatform which was developed to provide official geospatial data to end users through easy online access to a national geospatial database.

At the exhibition, NCSI staff showcased five new and updated Apps designed exclusively by NCSI which are optimized for use on smartphone and tablets. The five apps comprise:

- 'NCSI Oman' which regularly updates 22 social and economic indicators of the Sultanate.



<https://play.google.com/store/apps/details?id=om.gov.ncsi.mobApp.NCSI&hl=en>

- ‘Tour Oman’ which showcases 31 different categories of services and tourist attractions and historical areas around the Sultanate, including a handy navigation feature for the desired destinations, and multiple search category options. <https://play.google.com/store/apps/details?id=com.NSCI.TourOman&hl=en>
- ‘NCSI Geo’ uses digital maps and satellite imagery to help the users find specific buildings, government services and information about population distribution across Oman with a number of search refinement options. <https://play.google.com/store/apps/details?id=com.gistec.geocortexviewer&hl=en>
- ‘Nafethah on Oman’ allows users to experience the power of spatial data fusion and includes a number of features like digital maps for the Sultanate at different scales, datasets over the web among other features.
- ‘Geo Platform’ offers NSDI stakeholders a secure portal to search geospatial data and services for sharing across government agencies, complete with direct downloading of the geospatial data in a secured manner, and the ability to upload geospatial data to share with other government stakeholders and interaction with users by allowing feedbacks and comments.

See also: Oman Spatial Data Infrastructure: Obstacles and Opportunities, Middle East & Africa Geospatial Digest February 2014, <http://geospatialworld.net/Paper/Application/ArticleView.aspx?aid=30858>

Source: <http://ameinfo.com/blog/national-center-for-statistics-and-information-ncsi/ncsis-corner-witnesses-large-turnout-oman-geospatial-forum-2014/>; <http://www.timesofoman.com/News/43214/Article-NCSI-debuts-new-smartphone-apps>

### ***Qatar: Ensuring the quality of the air we breathe***



Abdullah Kadri, PhD, Senior R&D Expert, Qatar Mobility Innovations Center (QMIC), leads Hawa'ak, a platform developed locally by QMIC to support real-time monitoring of air quality and other environmental conditions. In this interview, he explains to The Qatar Foundation the full scope of the platform and his vision for its future.

Hawa'ak (<http://www.qmic.com/solutions/smart-living-services/environment-monitoring-system/>) is an integrated platform for intelligent environment sensing and monitoring; one that provides a wide spectrum of services and applications through a turnkey cloud-based model. Its name is derived from the words ‘Your air’ in Arabic and, therefore, the goal of the platform is to provide localized and personalized information about the air quality of a user’s environment. This may include information about the levels of air pollutants, the levels of the electromagnetic radiation fields, or even information about weather parameters such as solar radiation and visibility.

Hawa'ak is based on the concept of Internet of Things technology, whereby a network of interconnected devices and sensors are utilized to collect data from the field and send it to QMIC’s Intelligent Sensing and Monitoring Platform, which converts the data to useful information. This useful information can then be disseminated through many delivery channels such as web portals, mobile applications, SMS, etc. QMIC provides sophisticated tools and mechanisms for research and health studies from this information. Essentially, they provide a national platform for unified visibility into different aspects of the local environment of Qatar.

Source: <http://www.qf.org.qa/content/the-foundation/issue-70/ensuring-the-quality-of-the-air-we-breathe>

### ***Israel: Tel Aviv wins World's Smartest City award***



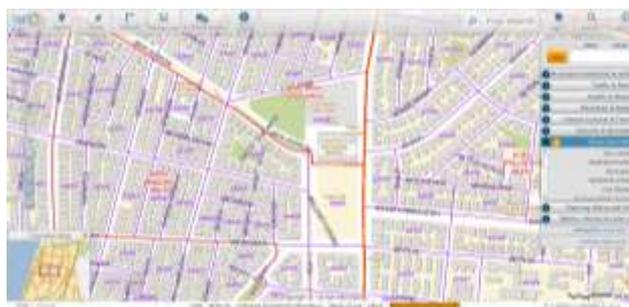
Out of a field of 250 competitors, Tel Aviv Municipality has won the World Smart City award as part of Smart City Expo in Barcelona. Tel Aviv municipality was nominated for the prize due to its provision of an impressive array of technologies to city residents that include: city-wide WiFi access (Tel-Net), location-based smartphone technology to help visitors get around the city, and active measures to engage residents through public round-table policy discussions and a collaborative budget.

In addition, Tel Aviv provides its residents with a unique service dubbed ‘Digi-Tel,’ allowing them to access services and information via email, text message or a personalized website that can be customized according to location, preferences, marital status and more. With Digi-Tel, Tel Aviv residents can engage in a city-wide application development competition based on open databases, as well as register online for municipal services. See Digi-Tel video:

[https://www.youtube.com/watch?v=w9\\_mnbcLKto](https://www.youtube.com/watch?v=w9_mnbcLKto)

See also: **Tel Aviv's new GIS Web application now open to everyone**

The Tel Aviv-Yafo Municipality has recently launched an upgraded iView web application: a free Geographic Information System (GIS) of Tel Aviv-Yafo presenting over 100 layers of data, including interactive maps, street photography, information regarding Tel-O-Fun locations, parking lots, schools and more. The Municipality has invested 500,000 NIS in upgrading the system, which is now available to everyone. Check out the new system here: <http://gisn.tel-aviv.gov.il/iview2/>.



Source: <http://www.tel-aviv.gov.il/eng/Pages/Item.aspx?List=4fe3c3a4-0379-47be-b94a-78707ef750c1&ID=197;>  
<http://nocamels.com/2014/11/tel-aviv-worlds-smartest-city-for-innovation/>

### **Proceedings of the 9th 3DGeoInfo Conference 2014, 11-13 November 2014, Dubai, UAE**



It is known that, scientific disciplines such as geology, geophysics, and reservoir exploration intrinsically use 3D geo-information in their models and simulations. However, 3D geo-information is also urgently needed in many traditional 2D planning areas such as civil engineering, city and infrastructure modeling, architecture, environmental planning etc.

Altogether, 3DGeoInfo is an emerging technology that will greatly influence the market within the next few decades. The 9th International 3DGeoInfo Conference (<http://3dgeoinfo2014.org/>), held in Dubai, brought together international state-of-the-art researchers and practitioners facilitating the dialogue on emerging topics in the field of 3D geo-information. The conference in Dubai offered an interdisciplinary forum of sub- and above-surface 3D geo-information researchers and practitioners dealing with data acquisition, modeling, management, maintenance, visualization, and analysis of 3D geo-information. Proceedings are available at <http://digbib.ubka.uni-karlsruhe.de/volltexte/1000043804> (PDF, 20.4 MB)

### **ILDAC2015 International Conference on Integrated Land & Water Resources Management in the Dry Areas under Climate Change, 11-14 May 2015, Djerba Island, Tunisia**

The Institut des Regions Arides (IRA) and its partners are organizing the ILDAC2015 International Conference on: “Integrated Land & Water Resources Management in the Dry Areas under Climate Change”, to be held in Djerba Island, Tunisia, from 11 to 14 May 2015. The conference themes are:



- Theme 1: Climate Change
- Theme 2: Water Resources Mobilization and Management
- Theme 3: Land and Vegetation Cover Degradation and Remediation
- Theme 4: Geo-information and Remote Sensing Technologies
- Theme 5: Socioeconomic Aspects and Integrated Approaches

The deadline for abstract submission is **31 December 2014** (in English or French). For inquiries, contact: [info@ildac2015.tn](mailto:info@ildac2015.tn)

Source: Conference homepage: <http://www.ildac2015.tn/>; Facebook page: <https://www.facebook.com/ildac2015/>; Twitter: <https://twitter.com/ILDAC2015>; Flickr: <https://www.flickr.com/photos/ildac2015/>

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## **Global SDI News**

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### **2015 Training Opportunity in GIS and Land Management for GSDI Members**

Deadline: **January 5, 2015**

The Societal Impacts Committee of the GSDI Association will provide a free training opportunity for five candidates from Africa, Latin America and Asia Pacific Region to attend the ICLPST (International Center for Land Policy Studies and Training) training Seminar on Geographical Information Systems and Land Management in Taipei. The training seminar will begin on March 11, 2015 and conclude on March 24, 2015. Chinese Taipei is the sponsor of the training program that entrusts ICLPST to carry out the project. Candidates must be a member of the International Geospatial Society (IGS), the Individual Member arm of the GSDI Association, or must be affiliated with an organization that is a Full Member of the Association. Further details can be accessed at <http://www.gsdi.org/node/1315>. The announcement can be downloaded in PDF format at: [http://memberservices.gsdi.org/files/?artifact\\_id=1628](http://memberservices.gsdi.org/files/?artifact_id=1628).

## **Geodata for Agriculture and Water (G4AW) – 2<sup>nd</sup> call for applications**



G4AW will enable partnerships of private and government organisations, NGOs and research institutes to set up service chains that improve food security with satellite data. The submission deadline for applications is **February 27, 2015**.

Source: <http://g4aw.netrex.nl/en/>

## **Partnerships for Enhanced Engagement in Research (PEER) 2015 cycle**

Pre-proposals for the 2015 PEER cycle are now being accepted. Deadline: **January 9, 2015**



The United States Agency for International Development (USAID) has joined with several U.S. Government (USG) supported agencies to support Partnerships for Enhanced Engagement in Research (PEER). Administered by the U.S. National Academy of Sciences (NAS), PEER is a competitive grants program that invites scientists in developing countries, partnered with USG-supported collaborators, to apply for funds to support research and capacity-building activities on topics with strong potential development impacts. This innovative program is designed to leverage the investments other USG-supported agencies have made in scientific research and training while supporting the initiatives of developing country scientists.

PEER applicants who submit pre-proposals to PEER must be based at an academic institution, non-profit organization, or government-managed research laboratory, center, or institute in a PEER-eligible country. Applicants should be working in the country from which they are applying and should be nationals of a PEER-eligible country. Applicants in government ministries who conduct research are also eligible, but will be screened for compliance with bilateral agreements on a case-by-case basis. Applicants are encouraged government ministries to consult with PEER program staff at [peer@nas.edu](mailto:peer@nas.edu) prior to submitting their pre-proposal.

Source: <http://sites.nationalacademies.org/PAGE/PEER/index.htm>

## **Documents and presentations from 11<sup>th</sup> Plenary Session of the Group on Earth Observations (GEO)**



The Eleventh Plenary Session of the Group on Earth Observations (GEO-XI), hosted by Switzerland, took place in Geneva 13 to 14 November 2014 at the World Meteorological Organization (WMO). The agenda included GEO Board and Executive Committee meetings on 11 and 12 November, with plenary sessions held on 13-14 November. All final plenary documents and presentations can be found at this link, including the meeting outcomes and official statements by Member Countries and Participating Organizations:

<http://earthobservations.org/documents.php?smid=1100>

## **Upcoming GEOSS Science and Technology Stakeholder Workshops, March 2015, Norfolk, Virginia USA**

- 3rd GEOSS Science and Technology Stakeholder Workshop: Navigating Sustainability on a Changing Planet, March 22-24, 2015, Norfolk, VA, USA, [http://www.gstss.org/2015\\_Norfolk\\_3rd/](http://www.gstss.org/2015_Norfolk_3rd/)  
Outcomes of this workshop will include a refined set of global sustainability indicators, the essential variables required to quantify these indicators, and an assessment of the capability of current and future Earth observation systems to provide observations of these essential variables with sufficient spatial and temporal resolution, accuracy, and latency.
- 4th GEOSS Science and Technology Stakeholder Workshop: Concepts, Technologies, Systems, and Users of the Next GEOSS, March 24-26, 2015, Norfolk, VA, USA, [http://www.gstss.org/2015\\_Norfolk\\_4th/](http://www.gstss.org/2015_Norfolk_4th/)  
Outcomes of this workshop will include position papers on various aspects of the future GEOSS, including: the integration of different sensor networks, the handling of the emerging “data super nova”, data patterns recognition to generate information, and principles recognition to generate knowledge.

## **Global SoilGrids1km**



SoilGrids1km is a collection of updatable soil property and class maps of the world at a relatively coarse resolution of 1 km produced using state-of-the-art model-based statistical methods: 3D regression with splines for continuous soil properties and multinomial logistic regression for soil classes. SoilGrids1km is a global soil information system based on automated mapping.

See also: SoilGrids1km — Global Soil Information Based on Automated Mapping, PLoS ONE,

<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0105992>

Source: <http://soilgrids.org/>

### **Soils data available at WDS Data Portal**



The data holdings of the WDC-Soils, a regular member of the International Council for Science World Data System (ICSU-WDS), can now be harvested through the WDS Data Portal.

One of the core tasks of ISRIC - World Soil Information, in its capacity of ICSU World Data Center for Soils, is to make quality-assessed soil data freely available to the scientific community and to ensure long-term stewardships of our holdings. As of November 2014, metadata describing some of our 24,000 holdings can be also queried resp. accessed on-line through the WDS Portal; these are being harvested from ISRIC's GeoNetwork Metadata Service.

Source: <http://www.isric.org/content/data-available-wds-data-portal>

### **Pilot project: Using roads as an early performance indicator for REDD+ project**

The European Commission Joint Research Center (JRC) is launching a pilot project funded by the European Parliament “Making efficient use of EU climate finance: using roads as an early performance indicator for REDD+ projects” - this will involve updating road and forest maps across the tropics.

In tropical areas, satellite and land based data indicate that the opening of a new road through a forest is generally followed by the building of secondary roads (paved or unpaved ones) that will then trigger more degradation and deforestation (conversion to agriculture or ranching). Scientific reports agree on the fact that the majority of deforestation, fragmentation and forest degradation occur in a “risk-zone” around infrastructure and access networks. Therefore building new roads is not only a major driver of deforestation and forest degradation, it can also be a cost efficient indicator of likely forest emissions and biodiversity loss. Maps of road-less areas can be created from spatial information on infrastructure, including roads, and then overlapped with up-to-date forest maps to make an early assessment of the impacts of the EU sectoral policies and the efficiency of the REDD+ activities it supports.

The Pilot Project and the related appropriation should contribute to the delivering and cover the cost of:

- Production of an up-to-date global map of road-less areas in forested regions, with focus on tropical forests (based on best available spatial data and satellite images). These maps should be made publicly available on a dedicated website,
- Development of a prediction model of deforestation and forest degradation based on the existence and predicted development of roads in priority areas,
- Compile a policy brochure on the impacts of EU sectoral policies (e.g. infrastructure, agriculture, and mining) on tropical deforestation and forest degradation,
- Presentation of the aforementioned deliverables in workshops and symposiums (especially as side events during the UNFCCC and CBD COPs) and dissemination of the relevant material.

Source:

[http://www.europarl.europa.eu/meetdocs/2009\\_2014/documents/envi/dv/2014\\_envi\\_budg\\_amends\\_txt\\_/2014\\_envi\\_budg\\_amends\\_txt\\_en.pdf](http://www.europarl.europa.eu/meetdocs/2009_2014/documents/envi/dv/2014_envi_budg_amends_txt_/2014_envi_budg_amends_txt_en.pdf)

### **UN Call for Expressions of Interest from vendors: Satellite Imagery Dissemination Platform**

Deadline: **December 30, 2014**

The Department of Field Support (DFS) of the United Nations (UN) utilises satellite imagery to support the spatial data infrastructure, the decision making or the situational awareness of peace operations. UN-DFS procures satellite imagery across all spatial and spectral characteristics from several vendors, on a scene by scene basis, depending on its operational needs and priorities. The United Nations Procurement Division invites expressions of interest (EOI) from vendors with demonstrated technical qualifications for the provision of a satellite imagery dissemination platform. DFS is seeking to acquire a solution that will give UN peace operations access to an extensive, recent, online library of high resolution archive satellite images covering the areas of interest of the UN Secretariat. This library will be constantly updated with fresh images to reflect ongoing changes on the ground.

Source: <http://www.un.org/depts/ptd/pdf/eoi10497.pdf>

### **UNESCO-IHE launches new GIS Open Courseware**

UNESCO-IHE launched new Open Courseware (OCW) on Software for Preprocessing GIS Data for Hydrological Models. This course was shared during the 7th International Open Access Week, which a global event promoting open access as new norm in scholarship and research. The course has been developed by Hans van der Kwast, Lecturer in Ecohydrological Modelling at UNESCO-IHE.

For many studies, models are used or developed. During modelling courses, not much attention is paid to the

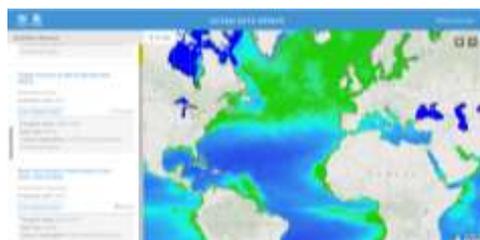
preprocessing of input data and parameters needed for the models. A lot of open source software is available for this purpose. Besides desktop tools with graphical user interfaces, scripting is very useful for processing large datasets and timeseries. With the skills learned in this course you will be able to more efficiently process your data and setup and improve your models.

All materials for the course 'Open Source Software for Preprocessing GIS Data for Hydrological Models' can be found at the UNESCO-IHE Open Courseware Section <http://ocw.unesco-ihe.org/>. For more information about short and online courses provided by UNESCO-IHE click here. <http://www.unesco-ihe.org/education>

Source: <http://www.un-igrac.org/publications/550>

### ***Streamlined access to global spatial data through UNEP-WCMC's Ocean Data Viewer***

UNEP-WCMC has launched an updated version of the Ocean Data Viewer (ODV, <http://data.unep-wcmc.org/>). Currently, the website offers 22 global datasets on coastal and marine biodiversity, such as corals, mangroves and seagrasses, as well as data on eco-regions, biodiversity metrics, species distributions, and ocean productivity and temperature. The site also includes extensive meta-data descriptions to give users contextual information, as well as brief introductions to key international conventions and initiatives of relevance to each dataset.



Source: <http://www.unep-wcmc.org/news/streamlined-access-to-global-spatial-data-through-unep-wcmcs-ocean-data-viewer>

### ***Open access to ILRI's spatial data***

The International Livestock Research Institute (ILRI) GIS Portal (<http://data.ilri.org/geoportal>) provides access to web-based geospatial information and information services. ILRI has a rich source of spatial data and the geoportal enables us to make ILRI and other publicly available geospatial information and services discoverable, viewable and accessible by others. The metadata descriptions provide the information you need to access items and services for use within other systems or mapping applications.

Source: [https://cgispace.cgiar.org/bitstream/handle/10568/43781/ILRI\\_DataPortal.pdf?sequence=4](https://cgispace.cgiar.org/bitstream/handle/10568/43781/ILRI_DataPortal.pdf?sequence=4)

### ***Presentations from CGIAR CSI 2014 Meeting***

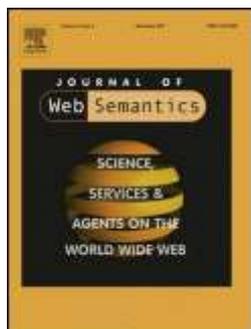


The CGIAR Consortium for Spatial Information (CGIAR-CSI) 2014 Annual Meeting was held at ITC, the Faculty of Geo-Information Science and Earth Observation of the University of Twente, in Enschede, Netherlands, on 22-24 September 2014. The CGIAR is a global partnership of research organizations

dedicated to reducing poverty and hunger, improving human health and nutrition, and enhancing ecosystem resilience through agricultural research. Consortium for Spatial Information (CGIAR-CSI, <http://www.cgiar-csi.org/>) is spatial science community that facilitates CGIAR's international agricultural development research using spatial analysis, GIS, and remote sensing.

Source: <http://csi2014.cgiar-csi.org/presentations/>

### ***Call for Papers: Journal of Web Semantics special issue on geospatial semantics***



The Journal of Web Semantics seeks submissions for a special issue on geospatial semantics (<http://bit.ly/jwsCFPGs>) to be edited by Yolanda Gil and Raphaël Troncy. Submissions are due by **January 31, 2015**.

Geospatial reasoning has an increasingly larger scope in the semantic web. More and more information is geolocated, more mobile devices produce geocoded records, and more web mashups are created to convey geospatial information. Semantics can enable automated integration of geospatial information, and track the provenance of the data shown to an end user. Semantics can also improve visualizations and querying of geospatial data. Semantics can also support crowdsourcing of geospatial data, particularly to track identity through name and property changes over time. Several recent workshops on geospatial semantics have emphasized the interest in the community on these topics. Of note are workshops organized by the World Wide Web Consortium (W3C) and the Open Geospatial Consortium (OGC) indicating a strong interest in standardization efforts in geospatial semantics. This special issue aims to synthesize the recent trends in research and practice in the area of geospatial semantics.

Topics of interest include but are not limited to:

- Combining semantic information with more traditional representations and standards for geospatial data
- Exploiting semantics to enhance visualizations of geospatial information
- Use of semantics to support geospatial data integration and conflation
- Semantic mashups of geospatial data
- Semantic provenance of geospatial data (e.g., PROV)
- Semantics for mobile geospatial applications
- Geospatial linked open data
- Managing privacy of personal geospatial data and whereabouts through semantics
- Combining semantic web standards (W3C) with geospatial (OGC) standards (e.g., GML)
- Format for representing geographical data (e.g., GeoJSON)
- Semantics for crowdsourcing geospatial information
- Semantics for exploiting geospatial information in social network platforms
- Scalable reasoning with semantic geospatial data
- Real world applications of semantic geospatial frameworks

Source: <http://www.websemanticsjournal.org/index.php/ps/announcement/view/18>

### ***International Cartographic Association (ICA) Research Scholarships 2014/15***

The International Cartographic Association (ICA) will consider applications for Research Grants to support individuals in advancing their career in Cartography and GIScience to the benefit of the ICA community. ICA Research Scholarships aim to:

- foster academic research in the domain of Cartography and GIScience
- establish contact between young scientists and ICA Commissions
- support young scientists to be able to actively contribute to ICA activities and events, such as especially International Cartographic Conferences
- establish opportunities for young scientists within ICA publications and conferences

Grants to support Young Scientist applicants have a maximum value of Euro 1,000. Applicants are responsible for choosing a mentor for their research from an ICA Commission. A letter of agreement from the proposed mentor must be submitted with the application. Opportunities are made for applicants who will have received their graduate degree not more than five years prior to the application or are currently in a PhD status. A letter of confirmation from the PhD Supervisor must be submitted with the application. The scholarship can only be awarded to the applicant once. A total number of 10 scholarships is available for the term of 2014-2015. Submissions of applications shall be sent to the ICA Secretary-General before **1 January 2015**.

Source: [http://icaci.org/files/documents/reference\\_docs/2014-2015\\_research\\_scholarship.pdf](http://icaci.org/files/documents/reference_docs/2014-2015_research_scholarship.pdf)

### ***2015 FIG Foundation PhD Scholarships***

The FIG Foundation will be providing scholarships of up to 4,000 euros to PhD students. Applicants shall:

- be studying for a PhD degree and registered solely in a surveying/geomatics academic programme that teaches surveying in a country listed by the World Bank as a low-income, lower-middle or upper-middle income economy,
- must have had a paper accepted by a peer reviewed international journal based on their doctoral research project; applicants should be the lead author, and the paper should be co-authored with their supervisor,
- should not have submitted their final thesis at the application deadline.

Applications are to be sent to [fig.foundation@fig.net](mailto:fig.foundation@fig.net) with “FIG Foundation PhD Scholarship Application” shown in Subject Line. Applicants are not to contact Foundation directors individually. Decisions are final. No correspondence will be entered into during or after the competition. Deadline for applications: **1 February 2015**.

Source: [http://www.fig.net/figfoundation/2015\\_phd\\_scholarship.htm](http://www.fig.net/figfoundation/2015_phd_scholarship.htm)

### ***2015 FIG Foundation Academic Research Grants***

The FIG Foundation will be providing research grants of up to 30,000 euros spread over three years. Applicants shall:

- be based in a surveying/geomatics academic programme that teaches surveying in a country listed by the World Bank as a low-income, lower-middle or upper-middle income economy,
- have an established record of published research - at least two articles in good quality internationally recognised peer reviewed journals serves as a useful guideline, and
- have experience in managing postgraduate students.

Grants will be awarded to a focussed research project. The grant holder is expected to conduct the bulk of the research themselves (it is not a research manager's grant), but at the same time the development of highly qualified personnel (HQP) should be a major component of the project. Postgraduate students should be full time students, and this grant should provide financial support for their degree studies. However, the principal investigator should be intimately involved in the work. Deadline for applications: **31 March 2015**.

Source: [http://www.fig.net/figfoundation/2015\\_research\\_grants.htm](http://www.fig.net/figfoundation/2015_research_grants.htm)

### **Lund University SDI course (distance education)**

Study period: 31/08/2015 - 17/01/2016. Deadline for applications: **January 15, 2015**

In this course, students will explore theoretical and practical concepts of Spatial Data Infrastructures (SDIs). They will study fundamental concepts of SDI and the important factors that affect the development of SDI. Furthermore, techniques for design, implementation, management, and evaluation of SDIs will be explored. This course also includes practical and theoretical exercises relevant to current status of spatial data management and sharing, development of clearinghouse networks, SDI evaluation, and spatially enabled-society.

This online course, conducted in English, is an elective course at the advanced level for a master of science degree in geographical information management. The course consists of lectures, seminars, and exercises. The aim of the course is that the students at the end of the course shall have acquired knowledge and understanding to be able to:

- Describe importance of spatial data for planning, decision-making, and sustainable development
- Describe the current status/problems for spatial data in terms of availability, accessibility, applicability and usability
- Describe the overall concepts and objectives for a SDI and the importance of data interchange
- In detail, explain and understand the main components of a SDI
- Describe the factors that affect the development of an SDI and the nature of these factors
- Outline the concepts of clearinghouse-network and geoportal
- Explain in detail the various generations of clearinghouse-network, the main components of these networks, interoperability of systems, the available standards to achieve interoperability, as well as principles for "service architecture"
- Explain the cartographic aspects for geoportal
- Explain concepts and techniques for modeling and evaluation of SDIs
- Describe and discuss what is meant by a society which is spatially-enabled

The students at the end of the course also shall have acquired the skill and ability to:

- Plan for the requirements of a society on a SDI
- Use and develop the standards and specifications that are required for a SDI
- Use and propose policies that are needed for a SDI
- Design interoperable clearinghouse-network/geoportal for SDI
- Propose solutions to create a spatially-enabled society
- Evaluate and refine SDI

Source: <http://www.lunduniversity.lu.se/lubas/i-uoh-lu-GISN25/E1831>

## **GSDI ONLINE CALENDAR**

GSDI's calendar of upcoming international events at <http://www.gsdi.org/upcnf> is a unique summary of global and regional conferences, symposiums, workshops, and other related gatherings that pertain to spatial data infrastructure, such as spatial data handling, data visualization, open data policy, research cyberinfrastructure, and RS/GIS applications. GSDI is always on the lookout to include appropriate events, so if you know about one which is not already included, feel free to submit it.

## **GSDI DISCUSSION FORUMS**

To see the latest news from the e-mail Forums maintained by the GSDI Committees and the regional SDI news, visit the website at <http://www.gsdi.org/discussionlists>, choose the Forum of interest and select the 'Archives' option. All discussion lists are open to anyone who is interested in participating, and joining instructions are at the web site above. You do not have to be a member of the GSDI Association in order to join a Forum.



### ***The GSDI Association***

**Our Vision** ... is of a world where everyone can readily discover, access and apply geographic information to improve their daily lives.

**Our Purpose** ... is to encourage international cooperation that stimulates the implementation and development of national, regional and local spatial data infrastructures.

**Our Mission** ... is to advance geo-information best practices, knowledge sharing and capacity building for the improved sharing and application of geographic information.

For more information, visit the GSDI Association website at <http://www.gsd.org>

The GSDI Regional Newsletter is edited by Kate Lance, GSDI News Editor, and published by the GSDI Association. The Editor may be contacted at [newseditor@gsdi.org](mailto:newseditor@gsdi.org). Please feel free to submit your news to the Editor, relevant to SDI initiatives at any level, or send e-mail announcement to [news@gsdi.org](mailto:news@gsdi.org).



***“Advancing a Location Enabled World”***