



Spatial Data Infrastructure – Africa Newsletter



SDI-Africa Newsletter

September 2012

Vol. 11, No. 9

Spatial Data Infrastructure - Africa (SDI-Africa) is a free, electronic newsletter for people interested in GIS, remote sensing, and data management in Africa. Published monthly since May 2002, it raises awareness and provides useful information to strengthen SDI efforts and support synchronization of regional activities. [ECA/CODIST-Geo](#), [RCMRD/SERVIR](#), [RECTAS](#), [AARSE](#), [EIS-AFRICA](#), [SDI-EA](#), and [MadMappers](#) are some of the other regional groups promoting SDI development.

To subscribe to SDI-Africa, please do so online at: <http://www.gsdi.org/newslist/gsdisubscribe>

To unsubscribe, or change your email address: <http://www.gsdi.org/newslist/gsdisubscribe>

Please mention SDI-Africa as a source of information in correspondence you may have about items in this issue.



The SDI-Africa newsletter is prepared for the GSDI Association by the [Regional Centre for Mapping of Resources for Development \(RCMRD\)](#) in Nairobi, Kenya. RCMRD builds capacity in surveying and mapping, remote sensing, geographic information systems, and natural resources assessment and management. RCMRD has been active in SDI in Africa through its contributions to the [African Geodetic Reference Frame \(AFREF\)](#) and [SERVIR-Africa](#), a regional visualization and monitoring system initiative. RCMRD also implements projects on behalf of its member States and development partners.



If you have news or information related to GIS, remote sensing, and spatial data infrastructure that you would like to highlight (e.g., workshop announcements, publications, reports, websites of interest, etc.), kindly send them in by the 25th of each month. I'd be happy to include your news in the newsletter.

PLEASE share this newsletter with colleagues who may find the information useful and suggest that they subscribe themselves.

Back issues of the newsletter are at the GSDI website: <http://www.gsdi.org/newsletters.php>
Best regards, Gordon Ojwang, Editor, [SDI-Africa AT gsdi.org](mailto:SDI-Africa_AT_gsdi.org) or sdiafrica@rcmrd.org or gojwang@rcmrd.org



Input to this Issue

Thank you to Kate Lance, NASA/SERVIR-Africa (USA), Hussein Farah, RCMRD (Kenya), Harlan Onsrud, University of Maine (USA); Karen Levoleger, Kadastre (Netherlands); Lyande Eelderink, University of Twente (Netherlands); Sabine Blaum, United Nations Framework Convention on Climate Change (Germany) and Ashbindu Singh, UNEP (USA) for their contributions to this issue of the newsletter.

SDI News, Links, Papers, Presentations

[African vulnerability mapped](#)



Using detailed regional climate models and geographic information systems, researchers with the Climate Change and African Political Stability (CCAPS) program developed an online mapping tool that analyzes how climate and other forces interact to threaten the security of African communities. The program was piloted by the Robert S. Strauss Center for International Security and Law at The University of Texas at Austin in 2009 after receiving a \$7.6 million five-year grant from the Minerva with the Department of Defense, according to Francis J. Gavin, professor of international affairs and director of the Strauss Center. "The first goal was to look at whether we could more effectively identify what were the causes and locations of vulnerability in Africa, not just climate, but other kinds of vulnerability," Gavin said.



Spatial Data Infrastructure – Africa Newsletter



Africa is particularly vulnerable to the effects of climate change due to its reliance on rain-fed agriculture and the inability of many of its governments to help communities in times of need. The region is of increasing importance for U.S. national security, according to Gavin, because of the growth of its population, economic strength and resource importance, and also due to concerns about non-state actors, weakening governments and humanitarian disasters. Although these issues are too complex to yield a direct causal link between climate change and security concerns, he said, understanding the levels of vulnerability that exist is crucial in comprehending the full effect of this changing paradigm.

To determine the vulnerability of a given location based on changing climate conditions, Busby and his team looked at four different sources: 1) the degree of physical exposure to climate hazards, 2) population size, 3) household or community resilience, and 4) the quality of governance or presence of political violence.

The researchers gathered information for the tool from a variety of sources, including historic models of physical exposure from the United Nations Environment Programme (UNEP), population estimates from LandScan, as well as household surveys and governance assessments from the World Bank's World Development and Worldwide Governance Indicators. This data reflects past and present vulnerability, but to understand which places in Africa would be most vulnerable to future climate change, the team relied on the regional climate model simulations.

The vulnerability maps serve as focal points which can give way to further analysis about the issues they illustrate. Some of the countries most vulnerable to climate change include Somalia, Sierra Leone, Guinea, Sudan and parts of the Democratic Republic of Congo. Knowing this allows local policymakers to develop security strategies for the future, including early warning systems against floods, investments in drought-resistant agriculture, and alternative livelihoods that might facilitate resource sharing and help prevent future conflicts. The next iteration of the online mapping tool to be released later this year will also incorporate the future projections of climate exposure from the models.

[Panel to review Africa's science and technology roadmap](#)



The African Union (AU) has set up a high level panel of scientists to breathe new life into its roadmap for collaborative research, which was first adopted by science ministers in 2005. The Science and Technology Consolidated Plan of Action (CPA), officially endorsed by AU heads of states and governments in 2006, aimed to turn African countries from resource-based to innovation-led knowledge economies.

Its achievements include the African Science and Technology Indicators Initiative, which last year published a survey of science and innovations produced for the first time from within Africa; and the creation of prizes such as the AU Scientific Awards programme. Yet its achievements in catalysing activities across Africa remain hidden because of a lack of assessment, according to Calestous Juma, professor at Harvard University, United States, and a co-chair of the new panel. "The AU needed an independent panel of experts to help it take stock and propose its next steps," "It is notable that Africa's premier political body is seeking independent expert input into its work."

Achievements aside, the CPA had also come under fire for its slow progress and failure to coordinate science aid, as well as a failure to set up an African science fund. The eight member panel, established on 23 July, will now guide the AU through a review of CPA's achievements and failings, and will present its report to a ministerial conference in Brazzaville, Congo, in November. "Our focus will be to contribute to a movement, rather than just producing a document," said Juma, who is co-chairing the panel with Ismail Serageldin, director of the Library of Alexandria, in Egypt. "We will focus on getting heads of state and government to serve as champions [for science]," he said. Berhanu Abegaz, executive director of the African Academy of Sciences (AAS), called on the panel to press for appropriate policies to promote science, technology and innovation. Shem Wandiga, managing trustee at the Centre for Science & Technology Innovations, Kenya, said it was prudent to review policies and actions. "The panel should come up with concrete activities and specific plans for funding resources. It is time we stopped asking others to do things we can do for ourselves," he added. [Link to CPA](#) [307kB]

[New technologies for better planning of natural disasters in Africa](#)

For years in the northern Namibian town of Oshakati, floods crippled local industry and forced people from their homes. It wasn't until engineers mapped the area using geospatial flood models - based on maps that use various sources of data to show flood paths and depth - that a road was identified as the main culprit. Rising two meters above the rest of the land, the road acted as a dam forcing water back into the business



Spatial Data Infrastructure – Africa Newsletter



district. Globally, floods account for one-third of losses caused by natural disasters. In 2010 alone, floods were the single most frequent disaster, impacting 178 million people. Managing these floods, before they impact communities, according to experts, is key to lowering the economic and social costs that affect governments and their citizens. During sessions July 3 at the 2012 Understanding Risk Forum in Cape Town, South Africa, disaster risk practitioners, engineers and other scientists outlined a series of tools used to manage the risks associated with floods and droughts. Among them: open data, early warning systems, GIS mapping, SMS technology, even social safety nets. In an effort to better predict disasters before they happen, experts are turning to open data for evidence-based analysis and to mapping for planning purposes and to show where disasters may have the greatest impact.

- In Ethiopia, the World Food Program's LEAP program, a tool that can calculate crop yield early in the country's dry season, is helping humanitarian organizations forecast the needs of communities in drought-prone areas. Along with a government-run social safety net program, which provides credit and insurance for work, farmers are able to predict bad weather, pay for losses if bad weather occurs and access financial resources. According to the WFP's Niels Balzer, if there's a drought, farmers get an insurance payout. If the season goes well, they get access to credit which allows them to purchase additional seeds and equipment.
- In Kenya, the Intergovernmental Authority on Development (IGAD) is using SMS technology to alert Masai farmers to upcoming bad weather. Funded by the World Bank through its Global Facility for Disaster Risk Reduction, or GFDRR, the group is using the same technology to put phones in the hands of rural residents so they can alert humanitarian organizations of their location and need during disasters. According to Balzer, drought has a direct and immediate impact, but it also has long-term effects on households and can lead to long-term poverty. The affects range from loss of income and missed school to damaged infrastructure, displacement, hunger and death.
- In the Caribbean, the GeoNode platform, developed by scientists at the University of the West Indies, provides data on coastline roads, soil type, rainfall and land areas. Designers have opened the data to the general public to help people make better decisions in manage disasters risks and vulnerability to climate change.
- In the Netherlands, engineers are testing the 3Di tool, which allows experts to animate flood zones to show where floods might cause the most damage. The tool uses high-resolution images to get more accurate information and is an upgrade from previously-used two-dimensional technology. According to Hessel Winsemius of the Netherlands Environmental Assessment agency Deltares, users can see in detail which homes in an area would be damaged; this can ultimately inform where homes should be built away from flood-prone zones.

While disaster managers agree that there is no way to eliminate risks associated with natural disasters, planning for them and avoiding the negative impacts can be managed.

[Google moves to boost Africa regional map developers](#)

Google recently played host to Africa Map Developers' conference in Lagos, Nigeria with a view to understanding their challenges and to share fresh ideas that would enhance their skills and performances, while using the Google map application tools. Google map developers were drawn from various African regions and were given special briefing for two days, on new developments from the Google map application tools. The conference provided ample opportunities for regional map developers to share their challenges and successes in map creation.

The conference was the latest in a series of mapping community forums that Google had been holding across the world in the past year. There is no business relationship existing between Google Map Developers and Google itself, except that the developers make use of the Google Map tools available online to perfect their creative skills in map development. "The maps pass through various editing and must be accepted by all developers from the particular region from where the map was developed, before getting Google's approval for uploading on the Google Map," Mysore said. Google Africa Community Manager, Mr. Evans Arabu said, "Regional conferences create opportunities for volunteer map developers, community leaders, and Google team members to meet each other and discuss how to strengthen the mapping communities in their neighbourhood. We are thrilled to see that the mapping efforts in Africa have been greatly supported by different countries."

The recent addition of Lesotho as a country open for editing via Google Map Maker, was announced at the Lagos conference. Also announced was the ongoing mapping initiative for all university campuses in sub-Saharan Africa. A number of universities had already been mapped including University of Lagos, University



Spatial Data Infrastructure – Africa Newsletter



of Ibadan, Benson Idahosa University (BIU) and Ahmadu Bello University, among others across Africa. Google Map Maker provides opportunity to add and update geographic information for millions of users to see in Google Maps and Google Earth.

Geospatial information: Measuring sustainable development



Mapping tools have become an important part of our everyday life. A compass has been replaced by a smartphone, a hardcopy map with a detailed satellite image. Apart from simplifying life these new tools also serve a broader purpose, to help increase understanding of the landscape around us and to monitor how our environment is changing. In recognition of the important role of geospatial mapping, the newly formed United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM) met at UN Headquarters for its second session on 13-15 August. With delegates drawn from the fields of surveying, geography, cartography, mapping, remote sensing and environmental protection, the main objectives of the UN Committee is to provide a forum for coordination and dialogue.

The three day expert group meeting covered discussions on future trends in geospatial information management, implications of the Rio+20 conference and development of a knowledge base for geospatial information. Mr. Wu Hongbo, DESA's Under-Secretary-General said, "Rio+20 recognized that geospatial information is crucial for both sustainable development and humanitarian assistance. It provides a clear mandate for the future work of the UN Committee of Experts on GGIM. This high-level consensus provides critical momentum. It also reflects ECOSOC's vision that building effective geospatial infrastructures and promoting greater use of geospatial information are part of a new frontier in harnessing science and technology for advancing sustainable development."

The term 'geospatial information' describes data on a specific place, collected in real time. Geospatial data support analysis to understand complex situations such as natural disasters, economic trends and ocean level changes. They help with resource assessment and resource management. Geospatial information on water and air quality, forest depletion, eco-system conservation and land degradation gives us a benchmark to analyze progress on sustainable development goals. In short, these maps tell a story.

Ten years ago many key technologies such as social networking, cloud computing, and smart phones did not exist. Technology has helped us to gain a more accurate picture on what sustainable development looks like at a local level. GGIM is in a unique position to act as a coordinating point to ensure all members states benefit from the value of geospatial information. Read the full [press release](#).

The United Nations Economic and Social Council (ECOSOC) established the United Nations Committee of Experts on Global Geospatial Information Management (UNCE-GGIM) in July 2011 (ECOSOC resolution 2011/24 - [Arabic](#) - [English](#) - [French](#) and Terms of Reference ([Arabic](#) - [English](#) - [French](#)) as the official UN consultative mechanism on GGIM. The committee works to ensure appropriate geospatial information infrastructure at all levels – local, national, regional, and global) – as a basis for accurate description, sound analysis and evidence-based decision making. The Third Session (2013) of the Committee of Experts on Global Geospatial Information Management will be held in Cambridge (United Kingdom) from 24-26 July 2013. Further information on the Committee: website ggim.un.org.

ECA conducts training on GeoNetwork Open Source tool



On 6 June, 24 experts who work on geospatial metadata creation and sharing in Ethiopia concluded two-day training on GeoNetwork Open Source Tool. The training was organized by the ICT, Science & Technology Division (ISTD) of the Economic Commission for Africa (ECA) to revamp the metadata editing and publishing process in Ethiopia. According to Mr. Makane Faye, Officer-in-Charge of ECA's ICT and Science & Technology Division (ISTD), "GeoNetwork is free and open source software which is used as spatial data catalog, with an easy to

use web interface to search geospatial data from multiple catalogs, create new metadata, and publish metadata and geospatial data in catalog services and clearing houses". The sensitization training introduced the experts to the GeoNetwork Open Source tool and how to use it. The training will allow participants to continue their efforts in generating metadata and sending it to ECA to be published in its clearing house and shared with users.



Spatial Data Infrastructure – Africa Newsletter



[Experts adopt Declaration of Addis Ababa on harmonization of cyber legislation](#)

Over 80 experts from Eastern, Southern and Northern Africa regions concluded a three day consultative workshop in June with the adoption of the Addis Ababa Declaration on harmonization of cyber legislation in Africa. The declaration is bolstered by a series of recommendations to the African Union Commission and the United Nations Economic Commission for Africa. The recommendations focused on taking into account the views of Member States in finalizing the draft AU Convention on Cyber Security; intensifying awareness-raising and organizing tailored capacity building programmes on cyber legislation to law enforcement institutions and agencies. Further, the experts urge Regional Economic Communities to support harmonization of cyber security policies and legislation, among others.

The workshop was organized by the Economic Commission for Africa and the African Union Commission in collaboration with Regional Economic Communities from 20-22 June at the United Nations Conference Centre in Addis Ababa. Experts in cyber legislation from ICT, justice, interior and Commerce ministries, law enforcement agencies, policy makers, including experts from legislative bodies, courts, the United States Department of Justice, Microsoft and the academia in the sub-region were in attendance.

[Adoption of the Addis Ababa declaration on geospatial information management in Africa](#)



The African preparatory meeting on the Global Geospatial Information Management (GGIM) closed in Addis Ababa, Ethiopia on 10 August with the adoption of the Addis Ababa declaration on geospatial information management in Africa. The three-day meeting recommended that African countries, the Economic Commission for Africa (ECA) and the African Union Commission should finalize and implement the African Action Plan on Geospatial Information Management. The meeting was attended by delegates from African countries; the African Association of Remote Sensing of the Environment; AfricaScope; Centre d'Etudes, de Recherche

et de Production en Information pour l'Environnement et le Développement Durable (CERPINEDD); Environmental Information Systems Africa (EL-AFRICA), International Federation of Surveyors, FIG, GEODE, Ordnance Survey, Regional Centre for Training in Aerospace Surveys (RECTAS), Regional Centre for Mapping Resources for Development (RCMRD), Southern and Eastern African Mineral Centre, (SEAMIC).

In closing the meeting, the Deputy Executive Secretary of the Economic Commission for Africa, Jennifer Kargbo delivered a message which was read out by the director of ECA's ICTs, Science and Technology Division, Ms. Aida Opoku-Mensah in her absence. Ms. Kargbo thanked all the experts for their active participation in the meeting and assured them that ECA would carry their recommendations to future global fora working on developing a common management system. The meeting agreed that ECA would continue to coordinate the global participation of African countries in GGIM activities through the African Regional Spatial Data Infrastructure (ARSDI). [Closing Remark by Jennifer Kargbo.](#)

[NUJ to train 20 journalists on Geographic Information System](#)

The Nigeria Union of Journalists (NUJ), Imo Council, has concluded plans to train 20 journalists in the state on Geographic Information System (GIS) and Google fusion reporting. A release signed by the Chairman of the Council, Mr Innocent Igwe said the training would enhance the capacity of the journalists to practice in the digital age. The three-day intensive programme would involve journalists and media workers, including members of NUJ, Sports Writers Association of Nigeria, National Association of Women Journalists and Radio and Theatre Arts Workers Union.

The training to be held between Aug. 27 to Aug. 29 at the NUJ Press Centre, Owerri aims at equipping the trainees with necessary skills in new methods of using GIS and computer generated data, graphs, symbols, tables, maps and hues in news reporting. The training would also help bridge the gap between journalism practice in Nigeria and other parts of the world. The News Agency of Nigeria (NAN) reported that the union was organising the workshop in partnership with Alleviation Network and Self Dependence Initiative, a non-governmental organisation under the supervision of International Press Institute.

[National Assembly of Nigeria urged to pass geospatial data infrastructure bill](#)

The Nigerian Institution of Surveyors (NIS) has called for the immediate passage of the National Geospatial Data Infrastructure (NGDI) bill before the National Assembly. Reading a communiqué after a weeklong 47th Annual General Meeting (AGM) held in Ilorin, the President of the Institution, Surv. Bode Adeaga, noted that



Spatial Data Infrastructure – Africa Newsletter



the country require a comprehensive mapping of the coastal areas before any major development. "Modern geospatial techniques for monitoring of erosion sites should be deployed, and such system is necessary to mitigate the loss of lives and property".

The institution said there should be collection and storage of comprehensive geospatial data necessary for regulating sand mining activities with minimum environmental degradation. They urged that there is need for the production of a topographical map of cities which are indispensable in the planning of a good drainage system in the country. They explained that an up-to-date geospatial information (utility and thematic maps) in GIS environment should be made available to facilitate quick location of disaster. They also noted that comprehensive maps be used as a tool for environmental impact studies on cases such as government policy on industrial pollution.

NIS said that it will consequently serve as invaluable aid in choosing locations for industrial sites to minimize effects of pollution on the population. The institution also called for synergy between surveyors, NEMA and other governmental agencies involved in disaster management to provide solutions to the numerous problems encountered in disaster management in the country.

[U.S. \\$15 million loan to complete fibre optic connection in Sierra Leone](#)



Sierra Leone has signed a US\$15 million loan agreement with China to complete its connectivity to the Africa Coast to Europe ACE cable scheduled to be switched on by October. According to Xu Zhou, Head of Political Affairs at the Chinese embassy in Sierra Leone today, the loan agreement was signed on 14th August, 2012. "With the signing of this agreement, it means that the Chinese government has approved the amount of US\$15 million and the project would be implemented by a Chinese company Huawei. It was just a simple signing agreement without too many details," Zu said on phone yesterday.

Launched by France Telecom as part of a consortium with telecom operators in participating countries, the 17,000-kilometer ACE cable will run from France to South Africa, connecting 23 countries either directly or indirectly and will provide a significant boost in broadband access. Sierra Leone funded its connection to its first fibre optic with a line of credit to the tune of US\$31 million which it received from the World Bank to boost its ICT communications sectors. A total of \$71.5 million was approved by the World Bank for broadband development across Africa last year for three major projects aimed at boosting ICT infrastructure and access to services in Liberia, Sierra Leone and the Democratic Republic of São Tomé and Príncipe.

In another development, the Sierra Leone government, through the Sierra Leone Cable Limited SALCAB, has also announced an international competitive bidding for an expression of interest for consultancy services from reputable organizations to perform project supervision for the implementation of the 660km fibre backhaul and wimax access network in the country and the evaluation of bids for the development and deployment of ECOWAS Regional Backbone and e-Governance programme ECOWAN-Sierra Leone project which will be supported with a US\$28.27 million loan received from the Islamic Development Bank IDB. The consulting firm would also be expected to prepare quarterly project implementation progress reports, semi-annual reports and project completion report which shall be produced within three months of the completion of the project. The ECOWAN project is expected to deepen regional socio-economic integration and development, and facilitate trade among member States, and with the rest of the world.

[New teaching and research facility to boost biodiversity conservation in Madagascar](#)

A new teaching and research facility for biodiversity conservation has been set up close to the Madagascar rainforest at Ranomafana National Park, an area of huge natural diversity. The NamanaBe 'Friendship' Hall, which opened at the beginning of July, is part of Centre ValBio, within the Institute for the Conservation of Tropical Environments.

Construction of the US\$3 million facility was funded by donors that included the US National Science Foundation and the State University of New York at Stony Brook, US. It will serve as a research laboratory and conference centre, with accommodation for students and scientists - the first such centre in the country. "We want [it] to be a training centre for Malagasy and international students. At the conference centre we will be able to give lectures and present the different biodiversity discoveries we make," said Patricia Wright, Centre ValBio's founder and executive director.

Biodiversity research and learning will focus on insects, reptiles, frogs, plants and the Malagasy lemur, as well as parasites and infectious diseases, natural products, and medicinal plants, according to Wright. The



Spatial Data Infrastructure – Africa Newsletter



facility will have equipment for conducting advanced scientific research - for example in genetics which local researchers could previously only carry out abroad. The new station will carry out research intended to boost local agriculture and improve living standards for local communities, said Jonah Ratsimbazafy, a primatologist and lecturer at the University of Antananarivo. It will also encourage local scientists to improve their English - one of the entry requirements of the centre. Lack of English can be an impediment to Malagasy scientists wanting to communicate with scientists abroad, to participate in conferences or publish quality papers in top global publications, he said.

Masters level students from several higher education institutions, as well as PhD students from University of Antananarivo, will start molecular biology and genetics classes in August. Computer classes on how to map data using a Geographic Information System (GIS) and to analyse the results, will also be held. Children have been selected from eight villages to participate in Saturday classes sponsored by UNICEF, under its Connecting Classrooms programme.

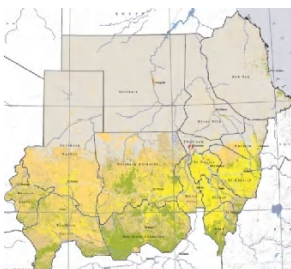
[Landslide around Mt. Elgon - is it a perception problem?](#)

Landslides around Mt. Elgon will continue to claim lives if people are not helped to change their perceptions of risk to landslides. "The landslide will not happen again in my lifetime...God will not let this happen again...it will happen again in 20 years, by then I will be dead already...Womaniala, the rain maker is not here anymore, we are safe" are some of the responses received from Bududa during a study carried out in July 2011 for a master thesis. The study was aimed at understanding how people perceive vulnerability or call it 'risk of death' given that the government had declared Nametsi and the surrounding areas around Mt. Elgon to be risk prone and unsafe for human settlement yet people continued to settle in these areas.

How do people in Bududa perceive their vulnerability to landslides? How do their perceptions influence their response? It is generally believed that in light of a looming disaster, those who promote and regulate health and safety need to understand how people think about and respond to risk. This study communicates people's perceptions through 3D GIS maps. People in Bududa are classified to have either high risk perception, medium risk perception or low risk perception based on their perceived knowledge of causes of landslides, level of risk fear, perceived household safety and willingness to move to safer locations. In a univariate indicators for derived levels of risk perception, people with high risk perception were considered to be those who aware of landslides and inherent dangers having witnessed a catastrophic landslide disaster less than two years in the past; they are afraid of landslide threats; consider their household to be at risk given the fact that they are living in an area declared to be risk prone and unsafe; and are willing to move to a safer location. Those considered to have low risk perception were people who were aware of the causes of landslides and associated dangers but express no fear for landslide threats; continue to believe that their households are safe from future landslides in spite of the government warnings and declaration of risk prone and unsafe areas; and were not willing to move to safe locations.

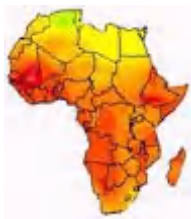
Of those interviewed in Bukalasi and Bumayoka sub-counties, it was found that 85% were low risk perception, but most important to note was disconnect between sensitization efforts and provision of social services to affected communities. Reviewed reports showed that the 2010 Nametsi landslide buried a government health centre with all its occupants at the time of the disaster. This led to the question, 'why was the health centre built in that particular location in the first place?' No social service or facility should be provided in disaster prone areas, as this encourages people to stay. Such services should be located far off to attract people to the safe zones. Officials at the district cited also lacked resources and were not active on fulltime basis as they could only be sanctioned whenever a disaster occurred.

[New Sudan land cover atlas](#)



A new land cover atlas of Sudan shows that less than 13 percent of land is used for agriculture. More than 50 percent is desert, 10 percent is covered by trees and a tiny 0.7 percent is covered by water. The atlas was launched in April, 2012 by the Food and Agriculture Organization (FAO) and the Ministry of Agriculture and Irrigation.

The atlas was produced by FAO's SIFSIA (Sudan Integrated Food Security Information for Action) programme which is funded by the European Commission. SIFSIA worked in partnership with the Government of Sudan's Food Security Technical Secretariat, the Ministry of Agriculture and Irrigation, the Remote Sensing Authority and the Forests National Corporation.



Spatial Data Infrastructure – Africa Newsletter



The atlas is based on an updated database of high-resolution satellite images that have been analyzed and categorized by FAO experts and SIFSIA-trained government specialists. It is a valuable tool with many potential uses. The atlas is divided into maps of each state, and provides a detailed bird's eye view of Sudan's natural land cover showing a great expanse of desert across the north speckled with pockets of settlement, agriculture and tree coverage. In the south-east, slabs of yellow indicate agricultural intensity, while spots of settlement and agriculture trace the River Nile's path from south to north.

SIFSIA is already using the atlas to create a 'change map' for Gedarif in central-eastern Sudan. The change map compares the current satellite images with similar data from 2000 and will reveal how the land cover has changed over the past 12 years. It is also being used for a study of the supply of wood fuels in Sudan, called WISDOM (Woodfuel Integrated Supply and Demand Overview Mapping), that will help in sustainably managing the renewable natural resource. The atlas has been distributed on CD and in hard copy to government line ministries, research institutes, UN agencies and Non-Government Organizations for their use.

ICT will help Ugandan farmers cope with climate change



Ugandan cattle farmers are set to benefit from the use of information and communications technology (ICT) tools and meteorological data to improve their ability to adapt to climate change-induced hazards such as water stress and prolonged droughts. Climate Change Adaptation and ICT (CHAI), a two-year project launched in Kampala earlier last month (3 August), will generate agricultural, environmental management, market and meteorological information for herdsmen in Uganda's 'cattle corridor'.

The corridor - a broad dryland area covering 84,000 square kilometres from southwest to northeast Uganda, and home to 12 million people and about 60 per cent of the country's seven million cattle - is one of the African areas hardest hit by climate change. "When there is a crisis like a prolonged drought, herdsmen sell their animals as a coping strategy. We will provide them with information to cope and make choices," said Berhane Gebru, director of programmes at the US-based FHI360-Satellite, a non-profit development organisation helping to implement the project.

The US\$600,000 project, funded by Canada's International Development Research Centre (IDRC), will provide users with ICT tools to collect and disseminate information. The data generated will be reliable, timely, accurate and appropriate for planning on water-related climate risks and adaptation options. "We believe that climate proofing, adaptation and the promotion of mitigation actions are areas where ICT is critical. This [programme] will contribute to the government's climate change knowledge base," said Chebet Maikut of the Climate Change Unit (CCU) in Uganda's ministry of water and environment.

The project will also build more weather stations, and establish or strengthen data collection for local weather and water. Seasonal forecasting information and early warnings of severe weather events will also be disseminated in local languages, through media such as text messages, voice messaging and radio.

South Africa to launch mini satellite for space weather research



A mini satellite weighing 1.2 kilograms will be launched from the Cape Peninsula University of Technology (CPUT) in November to collect information about space weather, it was learned on Wednesday. Funded by the Department of Science and Technology, the satellite -- ZACUBE-1- will be South Africa's first nano-satellite running on the same amount of power used by a 5-watt light bulb, according to researchers at the CPUT.

Comparing ZACUBE-1 to Sputnik, the first satellite in the world to be launched into space in 1957, lead researcher Robert van Zyl described the nano-satellite as an evolutionary leap in space technology. He said ZACUBE-1 cost much less and was 84 times smaller than Sputnik, tiny enough to be put on the palm of a human hand.

The satellite will travel to Russia and ultimately to space where the satellite will be released from its pod and its 10 meterantennae will be deployed to send information to receiving stations at CPUT and the town of Hermanus near Cape Town. The satellite, also known as CubeSat, will be operational for between two and five years. Researchers expect the satellite to fall to the earth and burn up in about 10 to 20 years. ZACUBE-



Spatial Data Infrastructure – Africa Newsletter



1 is the result of 18 months of research and development by students and staff from the French South African Institute of Technology at CPU, according to the report.

Training of trainers for Angola's 2013 population census starts



The National Statistics Institute (INE), attached to the Angolan Planning Ministry started in Luanda that the training process of the initial trainers for pilot census, scheduled for October 2012, paving the way for 2013 population census. According to the coordinator of the training subcommittee, Salvador Ferreira, in this first phase INE will train 47 young people. The process will cover 7 provinces; Luanda, Huambo, Cunene, Namibe, Kwando Kubango, Kwanza Norte and Uige, which will consequently, train field agents, in those provinces, announced the official. According to him, the training is part of the future population census in Angola, an activity that will cover all the country.

Call for Application - Fellowships for African students to study in Africa

UT/ITC is a technical partner in the Intra-ACP Mobility Scheme (see <http://intra-acp.polytechnic.edu.na/>). There are two 'Calls for Applications' for African residents and/or nationals to study in the following African universities: [Ardhi](#) (Tanzania), [Buea](#) (Cameroon), [Hawassa](#) (Ethiopia), [Makerere](#) (Uganda), [KNUST](#) (Ghana), [North-west](#) (South Africa), [Polytechnic of Namibia](#), (Namibia) and [Free State](#) (South Africa).

You can find the Master's Mobility Scholarships via: <http://intra-acp.polytechnic.edu.na/?q=Masters>, and the PhD Mobility Scholarships via: <http://intra-acp.polytechnic.edu.na/?q=PHD>. The deadline to apply for a PhD or MSc fellowship for Africans to study in Africa: 5 October, 2012.

Article: Estimating benefits of SDI for e-cadastrres

Estimating Benefits of Spatial Data Infrastructures: A case study on e-Cadastrres" is an article by Maria Teresa Borzacchiello and Massimo Craglia, published in Computers, Environment and Urban Systems.

Abstract

The investments of public administrations and organisations for the development of Spatial Data Infrastructures (SDIs) should be informed by the analysis of the concrete benefits that such infrastructures may bring to their providers, their users, and society at large. Bibliographic evidence suggests that very little has been done in this respect, apart from theoretical hypotheses and some ex-ante assessments using the few data and experiences available. On the other hand, recent studies on regional SDIs have indicated that the application related to the Cadastre may have a big impact on society, due to the large number of users recorded. Indeed, e-Government services, including the ones providing access to Cadastral activities, have seen a big development in recent years. This paper analyses the case study of e-Cadastrre, focusing on the benefits that society may obtain, in comparison with the traditional paper-based Cadastral service which still coexists with the e-Cadastrre. The paper will present and analyse the results of a survey to several European Cadastral Agencies, focusing on the benefits for the users, in terms of time and cost saved. The findings show that the shift from the paper-based alternative to the electronic alternative helps citizens save time and money, and therefore provides partial justification to the required investments.

Highlights - 44 European Cadastral Agencies were surveyed to assess benefits of e-Government; the difference between online and paper-based Cadastral services was assessed; seventy-one percent of the surveyed agencies provide more than half of all their services on-line; efficiency for users of on-line services increases in terms of both time and costs; users could save up to €7 billion, with a complete shift to on-line services.

AARSE 2012 International Conference, 29 October- 2 November 2012, El Jadida, Morocco.



The Conference Theme: Earth Observation & Geo-information Sciences for Environment and Development in Africa: Global Vision and Local Action Synergy.

The 9th AARSE International Conference, AARSE 2012, on Earth Observation & Geo-information Sciences for Environment and Development in Africa: Global Vision and Local Action Synergy will be held in El Jadida, Morocco, at the Faculty of Science, Chouaib Douakkali University from October, 29 to November 2, 2012. The conference will be a major event in the African and international community of Earth observation and geo-spatial information science in 2012; organized by the African Association of Remote Sensing of the Environment (AARSE) and the Chouaib Douakkali University, Faculty of Sciences (CDU_FS), in partnership with the International Islamic



Spatial Data Infrastructure – Africa Newsletter



Organization for Education, Science and Culture (ISESCO) and the Moroccan Association of Remote Sensing of the Environment (MARSE).

Paper selection is based on abstract and full paper peer review following the guidelines provided in the "Call for Paper" document downloadable from the conference website: www.aarse2012.org. Questions regarding abstracts should be e-mailed to abstracts@aarse2012.org.

- **AARSE AWARDS** - All presenters are invited and encouraged to enter the AARSE award-winning competition for best paper presentation and best poster.
- **IEEE GRSS/AARSE TRAVEL FELLOWSHIPS** - To support travel costs, accommodation and registration fees to attend conferences of the two societies in the field of Earth observation by remote sensing. The beneficiaries of these conference fellowships shall be African scientists or students who have their paper accepted for oral or poster presentation at the AARSE biennial conference.

Invitation to publish with Geoscience Data Journal - New Open Access Journal

You are invited to [submit](#) your next paper to [Geoscience Data Journal](#) which is a peer-reviewed open access journal providing rapid publication of short earth science data papers cross-linked to, and citing, datasets that have been deposited in approved data centres and awarded DOIs. A data article describes a dataset giving details of its collection, processing, software, file formats etc, without the requirement of novel analyses or ground breaking conclusions. It allows the reader to understand the when, why and how the data was collected, and what the data-product is.

Practical SDI implementation materials from within and outside of Africa

[Geoinformation essential for smooth London Olympics](#)

Geoinformation helped project managers across London in mapping and visualising the processes and workflows for the Olympics 2012. With the help of geoinformation, the London Organising Committee of the Olympic Games (LOCOG) and Olympic Delivery Authority (ODA) was able to develop a smooth public transport network for the games. Intergraph Security, Government & Infrastructure (SG&I) supplied the British Transport Police with a system to offer all security organisations involved in the 2012 Olympics the opportunity to access up-to-date spatial image data from maps, aerial images, traffic data and surveillance videos in real time. Work involving the various emergency services is coordinated via a web-based platform. "Erdas Apollo solution pools the data and makes it accessible to operational control and crew systems, enabling the British Transport Police to fulfill every aspect of its extensive security duties," said Dr Matthias Alisch, Intergraph Senior Marketing Manager EMEA Public Safety & Security.

[Tanzania rolls out maps to monitor sea oil spills](#)

Tanzania environmental experts have made history after successfully formulating Environmentally Sensitive Area (ESA) maps that will be used in case of major oil spills. The Western Indian Ocean Maritime Highway Development (WIOMHP) project local focal point and also senior environmental officer of the National Environment Management Council, Ms Rose Sallema Mtui, said that the maps were indeed a great achievement.

"The completion of mapping means that on the event of a major oil spill, prime areas that are of big value to the nation will be given priority in protecting them and these include coral reef areas, islands, tourist hotels, beaches, mangroves and sea grass beds," she explained. The mapping was part of the capacity building component of the WIOMHP, but it was the work of local experts that developed both the ecosystem valuation methodology and ESA maps under the supervision and coordination of the National Environmental Management Council and the Surface and Marine Transport Regulatory Authority. "This work was led by Captain Chiragi of SUMATRA and Mtui. Efforts of developing ESAs started as far back as 2009 under the Belgian Technical Cooperation that supported phase one but because of lack of funds, phase two never took off and the project was abandoned. Another initiative was done by WWF which covered marine resources and extractive areas for oil and gas in general and wasn't classified a tactical, strategic and operational. Other developmental activities such as oil and gas exploration and extraction has been done by different oil companies to develop maps based on their areas of activity like the case of Mtwara. The maps that have been created are classified as tactical, strategic and operational covering the whole coastal and marine areas of the country in case of spill incidence," she said. The environmental experts said that what was now needed was to extensively distribute the maps to stakeholders for valuation before using them.



Spatial Data Infrastructure – Africa Newsletter



SUMATRA Marine Inspector and Monitoring Officer, Edson Chalamilla said that the completion of the mapping was a blessing particularly in his line of work, saying that it complements the prevention process. Eng. Chalamilla said that as the country edges towards the establishment of the National Oil Spill Contingency Plan, it was a prerequisite that ESA maps were in place as well as the right equipment and technologies of combating spills. Sometime in September, SUMATRA would be conducting an oil spill drill where the marine regulator would showcase their ability to control the spill with minimal damage with the assistance of the mapping.

[Researchers combine remote sensing technologies for highly detailed look at coastal change](#)

Shifting sands and tides make it difficult to measure accurately the amount of beach that's available for recreation, development and conservation, but a team of University of Georgia researchers has combined several remote sensing technologies with historical data to create coastal maps with an unsurpassed level of accuracy. In a study published in the August issue of the journal *Tourism Management*, they apply their technique to Georgia's Jekyll Island and unveil a new website that allows developers, conservationists and tourists access to maps and data on beach availability, tidal ranges and erosion. "Policymakers, coastal managers and conservationists can use this information to help make more informed decisions about managing coastal resources," "Tourists can easily access the same data with their computers or smartphones to help plan their trip to the beach." Beach area is typically measured using the same costly and time-consuming land-based survey techniques that are used to plan roads, subdivisions and other projects.

The UGA researchers' technique, on the other hand, combines LiDAR (light detection and ranging) data with high-resolution satellite imagery to provide an exceptional level of detail and accuracy. By shooting hundreds of thousands of pulses of light at a surface and then measuring the time it takes for the reflected light to be detected by a sensor, LiDAR provides three-dimensional elevation data with a level of accuracy that is six inches in diameter, or about the size of a grapefruit. High-resolution satellite images similar to those available through Google Earth provide two-dimensional images with a pixel size of approximately three feet by three feet, allowing the researchers to discern coastal features such as sand dunes. By combining the sources of remote sensing data with historical shoreline maps dating to 1857, the scientists created detailed maps that precisely delineate the boundary between the ocean and the land. Historical tidal data were used to create models of how Jekyll Island would fare under various calculations of sea-level rise and under tropical storm and hurricane storm surge conditions. "With this high-resolution data, we can model which areas are going to flood with much greater accuracy," said study co-author Tommy Jordan, associate director of CRMS. Read more at: <http://phys.org/news/2012-08-combine-remote-technologies-highly-coastal.html#jCp>.

[Mapping project rolled out for NZ's Northland region](#)

A mapping project, to distinguish between coastal and non-coastal land, has been rolled out for New Zealand's Northland region. Northland Regional Council is working in partnership with the three district councils, and is contacting nearly 4400 affected Far North landowners to help refine the draft maps. (Almost 3000 affected Whangarei landowners and almost 1200 from Kaipara have already been contacted over the past two months). All New Zealand councils must meet new government policy to identify and protect 'outstanding' areas around the coast, under the New Zealand Coastal Policy Statement 2010 (NZCPS). At the same time, existing 'outstanding' areas throughout the region are being reviewed to ensure they're consistent and meet current central government requirements.

Regional councillor Ian Walker said legal requirements aside the project has some important benefits for Northlanders. "We want to meet Governments statutory obligations in a way that works best for Northland and its communities, and that's why we've opted for one project that produces regionally consistent maps. The region's four councils are in agreement that running one region-wide mapping project is much more efficient and cost-effective than each district council having to do this separately," he added. "Regionally consistent maps of these areas will create more certainty in the long-run – for landowners, communities, developers and council decision-makers – and prevent potentially costly battles at the consents stage," he said. To meet NZCPS criteria, the draft maps distinguish between coastal and non-coastal land, and identify 'outstanding and high natural character' areas within the coastal environment. At the same time, 'outstanding natural landscapes' and 'outstanding natural features' are also being reviewed (most of these areas were last mapped in 1995 and are now out of date). Once finalized, the maps will be incorporated into district and regional plans, which contain the rules that protect the values of these areas. Clarifying the rules for these areas is a separate process that the district councils will go through later – first the areas need to be clearly



Spatial Data Infrastructure – Africa Newsletter



identified. For more information about the Northland mapping project visit the regional council's website at www.nrc.govt.nz/rpsmaps.

UNOSAT: assessing IDP camps in Somalia from space



The humanitarian situation of thousands of IDP (internally displaced persons) in Somalia is among the gravest on the planet. The number and location of spontaneous camps changes frequently and the UN lacks both unrestricted access and updated data on these important numbers. As a result, planning, negotiating and implementing protection and relief operations are more difficult and sometimes impossible.

Since years UNOSAT develops its analytical skills to provide humanitarian agencies with vital information over areas with difficult or impossible access.

This is done by acquiring time series of very-high resolution imagery that is screened by UNOSAT analysts to derive GIS and narrative reports. This type of monitoring, typical of UNOSAT's ability to work at the junction between humanitarian relief and human security, enhances the knowledge capability of humanitarian agencies in particular situations that evolve rapidly on the ground.

In the case of Somalia, both OCHA and UNHCR have specific information needs. OCHA officials need updated information on the IDP situation in Mogadishu, where access is particularly dangerous and where multiple small IDP settlements change locations frequently. UNHCR teams need updated information on the IDP situation in the Afgooye Corridor, also a particularly difficult area to access via land. Because of the drought and the military activity involving several armed groups and the presence of the African Union Mission in Somalia (AMISOM), the IDP situation has changed over time. The humanitarian community needs to keep abreast of where IDP concentrate and how their distribution on the ground changes. In both areas of interest UNOSAT has already performed several successful imagery analysis activations. Satellite imagery analysis has proven before to be a reliable source of timely and up to date [geographic information on Somalia's humanitarian situation](#).

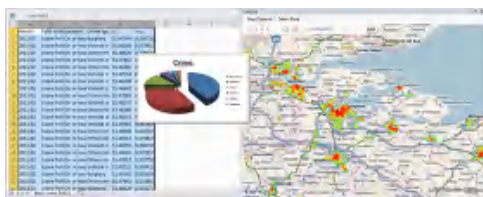
For Mogadishu UNOSAT produced a [situation update number 4](#) relating to the IDP situation in the urban area. This includes a map and statistics on IDP presence as of 2 May 2012 and changes since the previous update on 18 October 2011. For the Afgooye Corridor UNOSAT elaborated maps using pre-determined zones of IDP locations provided by UNHCR, showing how the situation has changed between [July 2011 and April 2012 and, more recently, May 2012](#). The results show that in Mogadishu there has been an increase of approximately 45% in IDP settlements inside the city, with a large increase in areas previously occupied by Al-Shabaab forces. In the Afgooye Corridor the analysis shows that IDP concentrations decreased between 25 July 2011 and 2 April 2012, but no further change was detected between April and 10 May 2012.

GIS Tools, Software, Data

Geospatial Toolkit GIS data

Geographic Information Systems (GIS) data intended for use in the Geospatial toolkit or with any GIS software. The Solar and Wind Energy Resource Assessment (SWERA) Geospatial Toolkit (GsT) is a map-based software application that can be used for decision making and policy analysis in addition to planning for future energy projects. The SWERA application utilizes Geographical Information Systems (GIS) to develop common scenarios to evaluate potential locations for solar or wind energy plants. (Supplemental Information): The zip file contains the available geospatial toolkit data and metadata. Each country's data package depends on the data provided by the SWERA partners.

Making maps within Excel



There is a huge amount of untapped geographic information stored within Microsoft Excel spreadsheets. Customer rosters, delivery routes, and store locations are just a few examples of the types of geographic information residing with Excel spreadsheets that could benefit from visualization through maps. Unfortunately, Microsoft removed the capabilities of visualizing spreadsheet data using maps via its native map function starting with Office 2000

(for step by step instructions for making a map with older versions of Excel, read the [Creating Simple Maps with Microsoft Excel](#) article).



Spatial Data Infrastructure – Africa Newsletter



Mapping functionality for Microsoft Office product is now only available by purchasing [MapPoint](#), Microsoft's mapping solution. Given the price of MapPoint, users often opt for the solution of exporting the data and using an external GIS or mapping program to map out the geographic data. The benefit of retaining and mapping the data directly within Excel means that any changes to the spreadsheet can be immediately reflected in an updated map. MapCite provides a free version of its Excel add-in (the company's offerings were profiled in an article written in March of 2012 entitled [MapCite: Web Mapping and Excel Location Intelligence Applications](#)). The extension will geocode and map geographic data directly within Excel. The base map and geocoding engine are provided via Bing so an Internet connection is required for mapping data (MapCite is a Microsoft Business Partner). Mapped data stays linked with the spreadsheet data so data highlighted on the map highlights the mapped location and vice versa. Multiple spreadsheets can be mapped and the data can be easily filtered to map out a subset from each spreadsheet. Heat maps can easily be generated. Spatial selection (e.g. selecting data based on a highlighted section on that map) is also one of the available functions. The plugin works for Excel versions 2007 and later.

[Guidelines for constructing small-scale map legends](#)

The guideline for constructing small-scale map legends using the World Reference Base for Soil Resources is available. In this addendum to the WRB 2006, the guidelines are provided to construct map units (or soil typological units) and map legends for scales of 1:250 000 and smaller.

[The RCMRD Data Centre](#)

The RCMRD Data Centre has a large LandSat Data Archive, dating back to 1972, for all African Countries. It is also a Reseller Agent in Africa for Digital Globe for QuickBird and WorldView 1/2 High-Resolution Satellite imagery. The Centre also supplies data from GeoEye (GeoEye 1/2, Ikonos & Orbview Imagery), SPOT Image (SPOT 2.5m, SPOT 5m & SPOT 10m), USGS (Landsat MSS, Landsat TM & Landsat ETM+) amongst other active and passive satellite imagery products. Datasets for Africa archived at the Centre are available at subsidized rates. Other low resolution imagery datasets (90m SRTM, NOAA, MERIS, MODIS), scanned maps and vector data for Africa are also available. The center in collaboration with European Space Agency (ESA) and EUMESAT has established a facility for direct satellite reception for MERIS, MODIS, NOAA and EUMESAT Second Generation Meteosat data. These datasets amongst others can be accessed online via: <http://www.rcmrd.org/geonetwork> or via email to remote_sensing@rcmrd.org.

Training Opportunities

Have you signed up to receive [SDI-Africa Newsletter](#) notices? It only takes a minute, and then the GSDI Association can notify you when a new issue of the SDI-Africa newsletter is available, plus alert you to particular GSDI announcements (like a call for GSDI grants, or a call for papers for a GSDI conference).

The GSDI Association also hosts an [SDI-Africa E-mail Discussion List](#) with intermittent news and announcements of opportunities (this discussion list is separate from the SDI-Africa Newsletter list).

- The [SDI-Africa E-mail Discussion List](#) is open and available to anyone to read on the web. To submit messages or to receive submitted comments or notices by e-mail, one first must register.
- To see the collection of prior postings to the list, visit the [SDI-Africa E-mail Discussion List Archives](#).
- To post a message to the list, send an email to sdi-africa@lists.gsdi.org.

[Training session on remote sensing with ERDAS IMAGINE, 1-5 October 2012, Lomé Togo](#)

GEOSYSTEMS France and ABSYS TOGO are organizing a training session on remote sensing with ERDAS IMAGINE from October 1st to 5th, at Lomé, Togo. The training session will be held in French.

[Formation en télédétection ERDAS IMAGINE](#), Lomé, du 1er au 5 Octobre 2012

Objectif : amener les participants à maîtriser (i) les concepts théoriques de télédétection et (ii) les outils de traitements disponibles dans ERDAS IMAGINE Professional. Caractéristiques des capteurs - Les principales fonctionnalités d'ERDAS IMAGINE seront abordées telles que la manipulation d'images, les prétraitements, les corrections géométriques, le mosaïquage ainsi que des fonctions avancées de classification et d'analyse diachronique.

Renseignements, Inscriptions & Informations : ABSYS TOGO (Lomé, Togo) : M. Serge Douhadji , sdouhadji@afitg.com - Tél : +228 99 58 59 18 ou +228 90 76 30 75 EOSYSTEMS France (Montigny le Bretonneux, France) Mme Valérie Thebault, thebault@geosystems.fr - Tel : +33 1 78 94 76 85 (www.geosystems.fr)



Spatial Data Infrastructure – Africa Newsletter



[GIS Class at Kruger National Park](#), October 28 - November 3, 2012

Juniper GIS is offering a five and a-half day conservation oriented GIS class at the South Africa Wildlife College, near Kruger National Park, October 28 - November 3, 2012. The cost is USD 575, including lodging and all meals if you sign up before August 1.

The class, working with ArcGIS for Environmental Analysis is appropriate for new GIS users and for experienced GIS users wanting more in-depth instruction. Juniper GIS courses are based on real projects, with an emphasis on the skills needed to successfully complete your projects.

Students will learn key GIS skills including compiling and organizing data, understanding projections, using symbology and labels, working with tables, editing data, performing analysis, and creating finished maps while working through realistic, conservation oriented, GIS projects. Students will also be introduced to some advanced skills – working with Spatial Analyst, using ModelBuilder, and using Google Earth. Students will earn 40 hours of education credit towards the GIS Professional (GISP) certificate. For more information on the course, contact John Schaeffer at John@junipergis.com or Mervyn Lötter at mervyn.lotter@gmail.com.

[Call for application for postgraduate diploma in applied Geo-Information](#)

The National University of Rwanda through its centre for GIS and Remote Sensing (CGIS-NUR) wishes to call for 2012 intake application for its Postgraduate Diploma Programme in Applied Geographic Information Science: Geographic Information System, Remote Sensing, and their various applications. Further information, visit: www.nur.ac.rw and www.cgisnur.org. The program is run at Kigali or Butare, as evening or day program depending on the availability of students. All about postgraduate diploma programme or guidelines for filling and submitting the application: <http://www.nur.ac.rw/spip.php?article30>.

[ESRI Technical Certification](#)

ESRI has set the industry standard for GIS technology and is now establishing benchmark standards for individuals who use Esri software with the recently launched Esri Technical Certification Program. The ESRI Technical Certification Program recognizes qualified individuals who are proficient in best practices for using Esri software and are awarded in different areas of expertise at both an Associate and Professional level. The program is open to ESRI users worldwide and consists of 13 certifications recognizing expertise in desktop, developer, or enterprise use of ArcGIS. Users achieve certification by successfully completing computer-based examinations, which are offered in more than 5,000 testing locations in 165 countries. Users are able to test for five certifications. Establishing an industry recognized benchmark of expertise in using ESRI software will:

- Improve success with GIS by creating a community of professionals proficient in using ESRI software.
- Help organizations maximize their investment in ESRI products by employing a workforce certified in using best practices.
- Create professional development opportunities.
- Provide an opportunity for individuals, partners, consultants, and other organizations to distinguish themselves among their peers.
- Assist hiring organizations in assessing candidate skills and abilities.
- Workplace experience, combined with GIS education and ESRI training courses, is the best preparation.

The ESRI Technical Certification Web site lists specific skills that will be assessed in each exam, as well as training courses that aid in acquiring and improving these skills. ESRI is available to advice you on the best training for a particular certification and also offer you the training that you need to prepare for your certification. [Read more](#).

[ESRI South Africa presents a full spectrum of GIS courses: September-October 2012](#)



The course covers GIS theory and functionality: The desktop products (ArcView, ArcEditor, and ArcInfo; Server products (ArcGIS server and ArcSDE); Programming to enable customization of the product, ArcGIS extensions, as well as Introductory and advanced courses in ERDAS Imagine Remote Sensing Software'

Various training venues are available at Esri South Africa, for further information contact: 011 238 6300 [email the training team](#)

[GIS and Remote Sensing courses at Esri Eastern Africa](#)



Spatial Data Infrastructure – Africa Newsletter



ESRI Eastern Africa is now offering update courses to conform to improvements in ArcGIS 10 and ENVI 4.8, conducted with skilled and experienced instructors together with conducive and state-of-the-art training facilities. Courses in the following tracks are offered:

- Fundamentals of ArcGIS Desktop
- Data and Map Production
- Geoprocessing and Analysis
- Enterprise GIS
- Multi-user Geodatabases
- Remote Sensing

Make plans and take advantage of the courses offered at the Authorized Learning Centre in Nairobi, Kenya. Arrangements can also be made for client's site training on request for 12-16 students. Download our course catalogue and current class schedule at <http://www.esriea.co.ke/index.php/instructor-led-training>. To register, visit <http://esrietraining.cloudapp.net/>. For more information, contact by email: training@esriea.co.ke, telephone: +254 20 2713630/1/2 or visit the offices located on 3rd floor, KUSCCO Centre, Kilimanjaro Avenue, Upper Hill, Nairobi, Kenya.

University of Twente - ITC Faculty of Geo-Information and Earth Observation: Registration for courses (2012-13)



Faculty of Geo-Information Science and Earth Observation

UNIVERSITY OF TWENTE

Apply online for courses starting in the academic year 2012-2013. Browse by programme (degree, diploma, and certificate), course domain (disaster management, earth sciences, geoinformatics, governance, land administration, natural resources, urban planning and water resources) or location in the course finder at www.itc.nl/CourseFinder. For printed copy of the study brochure, email: alumni@itc.nl.

Short-courses offered by RECTAS, Ile-Ife, Nigeria



The [Regional Centre for Training in Aerospace Surveys \(RECTAS\)](http://www.rectas.org) is offering a number of three-week courses. Also note that RECTAS is able to package and deliver customised training for interested organisations. These could be either advanced or other certificate programs. Contact: info@rectas.org or thontteh@rectas.org.

RCMRD - Courses offered by the department of Remote Sensing, GIS and Mapping



The Centre offers the following courses in geo-information. The courses last between one week to three months, and offered through out the year.

- Introduction to Remote Sensing & Image Processing
- Introduction to Geographic Information Systems (GIS)
- Introduction to Global Positioning Systems (GPS)
- Application of Remote Sensing & GIS in natural resources management.
- Application of Remote Sensing & GIS in Early Warning Systems for Food Security Application of RS & GIS in Disaster Risk Management
- Geospatial database development and management for use in planning process and decision making
- Principles of Digital Cartography
- Application of GPS technology in resource surveys and mapping
- Integrated Water Management
- Application of GIS in poverty mapping, health care & good governance
- Land Information Management Systems
- Service and Repair of Survey equipment

Funding Opportunities, Awards, Support

2013 Innovation Prize for Africa (IPA)

The United Nations Economic Commission for Africa (ECA) and the African Innovation Foundation (AIF) announces a call for the 2013 Innovation Prize for Africa (IPA). The prize honours and encourages innovative achievements that contribute toward developing new products, increasing efficiency or saving cost with potentials of contributing to sustainable development in Africa. The 2013 IPA recognizes innovative breakthroughs that unlock new African potential in the following five priority areas:

- Agriculture/agribusiness



Spatial Data Infrastructure – Africa Newsletter



- Environment, Energy and Water
- Health and Wellbeing
- Information and Communications Technologies (ICTs)

Only innovations by Africans for Africa are eligible to enter. Africans in the Diaspora can also apply if their innovations are of significance for Africa. The 2013 IPA will consist:

- A. The first Prize of USD100'000 - overall best innovation that meets all the following five IPA criteria (marketability, originality, scalability, social impact and utility/technical aspects).
- B. The runner-up Prize of USD25'000 - selected innovator with commercial driven innovation.
- C. The special Prize for Social Impact Innovation of USD25'000 - assessed on its particular social impact in the community/country.
- D. Nominees - a group of the IPA finalists who will be invited to the final face-to-face interview and to the Award ceremony.

Further information regarding the IPA application process, visit the website: <http://innovationprizeforafrica.org/> and if you still have questions, contact UNECA: Mrs Eskedar Nega at ipa@uneca.org, Phone: +251 11 544 53 15 or AIF: Ms Pauline Mujawamariya at ipainfo@africaninnovation.org, Phone: +41 79 908 96 20. The deadline for submission: 31 October 2012.

[The United Nations - Nippon Fellowship Programme](#)

The United Nations - Nippon Fellowship Programme is now accepting applications. Successful applicants will benefit from a 9-month fully funded research fellowship which includes a 3-month placement at the United Nations in NY. The 9-month Fellowship Programme is composed of two consecutive phases which provide Fellows with advanced and customized research and training opportunities in their chosen fields:

- Phase One: 6-month Advanced Academic Research and Study - undertaken at one of the prestigious participating Host Institutions and under the guidance of subject matter expert(s) who have recognized in-depth expertise in the Fellows' chosen field of study.
- Phase Two: 3-month Research and Training - normally undertaken at DOALOS at the United Nations Headquarters in New York.

Application deadline is 15 September 2012.

[TWAS Fellowships for Research and Advanced Training for Developing Country](#)

The academy of science for developing country (TWAS) offers fellowships to young scientists in developing countries to enable them to spend between three and twelve months at a research institution in a developing country other than their own. The purpose of these fellowships is to enhance the research capacity of promising scientists, especially those at the beginning of their research career, helping them to foster linkages for further collaboration. The fellowships are for research and advanced training. They are offered to young scientists holding at least an MSc or equivalent degree. Eligible applicants for the fellowships are young scientists working in any area of natural sciences who are citizens of a developing country and are employed by a research institution in a developing country. There is no age limit however preference is given to young scientists at the beginning of their research career and those working in [Least Developed Countries](#). The deadline for applications: 1 October 2012.

[Call for Applications- TED Fellowships](#)

TED is looking for an eclectic, heterogeneous group of young thinkers and doers from the fields of technology, entertainment, design, sciences, engineering, humanities, the arts, economics, business, journalism, entrepreneurship and NGOs. TED can take risks on unconventional innovators, value achievement over credentials - making and doing over merely talking.

Applicants of ages 21-40 from five target regions: Africa, Asia/Pacific, the Caribbean, Latin America, the Middle East. However, anyone over the age 18 from around the world is welcome to [apply](#). Deadline for application is 22 October 2012.

Employment Opportunities

[Coordinator - mitigation, data and analysis programme](#), Bonn, Germany

The UNFCCC secretariat is seeking to fill one of its senior management positions, i.e. Coordinator, Mitigation, Data and Analysis programme.



Spatial Data Infrastructure – Africa Newsletter



Experience required: - Advanced university degree in economics, energy, developmental, natural or environmental sciences, engineering or a related area. A relevant combination of academic and professional experience in a relevant discipline may be accepted in lieu of an advanced degree. At least 12 years of progressively responsible professional experience in matters related to climate change, e.g. implementation of the Convention and the Kyoto Protocol, or preparation of greenhouse gas inventories and related information, analysis of climate-related policies and measures. Experience in facilitating complex negotiations in an international environment is essential. Four (4) years should have been at international level. Good knowledge of mitigation-related aspects of climate change policies. Proven track record of negotiating skills or in supporting negotiations in an international setting. Proven managerial excellence.

Leadership, vision and innovation. Proven ability to identify strategic issues and in turning strategy into operational reality. Excellent communication skills. Excellent English (both written and oral) is essential. Working knowledge of another UN official language desirable.

Application deadline: 16 September 2012.

[Consultant for conducting a gender gap analysis](#)

Promoting Women's Political Participation for Development of Peace and Security Project in Puntland (PROWOPP), Somalia. Adeso's team is multi-cultural, multi-ethnic, and spans several religions. Adeso occasionally has job opportunities at its headquarters in Nairobi, as well as at country offices in Africa and the national office in Washington, USA.

Adeso is seeking a qualified consultant specialized in gender gap analysis to provide technical assistance to the Promoting Women's Political Participation for Development of Peace and Security in Puntland (PROWOPP) Project. The consultancy is for a period of 15 days, beginning September 30, 2012 and will include desk review work, field data collection, data analysis and report writing. Adeso encourages Consultancy firms or groups that can assign one consultant specialized in Gender Relations to apply. Closing date: September 15, 2012. [Download full description](#).

[Consultant for conducting a Capacity assessment of the Ministry of Women Development and Family Affairs](#)

Promoting Women's Political Participation for Development of Peace and Security Project in Puntland (PROWOPP). Adeso is seeking a qualified consultant specialized in conducting capacity assessments to complete such an appraisal of the Ministry of Women Development and Family Affairs (MOWDAFA). The assessment will provide technical assistance to the Promoting Women's Political Participation for Development of Peace and Security in Puntland (PROWOPP) Project. The consultancy is for a period of 10 days, beginning October 15, 2012 and will include desk review work, field data collection, data analysis and report writing. Adeso encourages Consultancy firms or groups that can assign one consultant specialized in Gender Issues to apply. Closing date: September 15, 2012. [Download full description](#).

Other

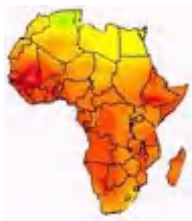
[Open access for development: a battle not yet won](#)



The momentum for Open Access is unstoppable. Now the global science community must manage change to ensure poorer regions are not left behind.

These are heady days for supporters of Open Access (OA), who argue that the results of publicly funded research should be made freely available to all, not just to those who can afford subscriptions to the scientific journals in which they are published. Earlier this year, the World Bank announced that it would adopt an Open Access policy for all its research outputs and "knowledge products", which will be entered into a central repository that will be freely accessible on the Internet. Last month, the British government said that in future, it will require all the research that it funds in British universities to be made openly accessible, with authors

paying publishers a fee (funded out of research grants) to make this possible - a position already adopted by the influential Wellcome Trust. The move was rapidly followed by an announcement from the European Commission (EC) that the same rule will apply to all EC-funded research. The UK's Department of International Development (DFID) recently made its own announcement that all its research will be made freely available. And publishers such as BioMed Central are already pioneering Open Access journals in developing regions, such as Africa.



Spatial Data Infrastructure – Africa Newsletter



The momentum is unstoppable. And, at least as readers, scientists in developing countries, where journal subscriptions are often unaffordable, are already some of the biggest beneficiaries. Free access to the latest research results from across the world is helping them become more effective members of the global research community - and helping global research to find local applications. But however attractive the concept of Open Access, we should be careful about expecting too much too soon - in terms of both outcome and impact. Enthusiasm must be tempered with awareness of what can realistically be achieved, and of the pace of change required to ensure that a rush to Open Access does not have unwanted side effects.

It is important, for example, that a single-minded focus on securing commitment to the 'author pays' model of Open Access - often referred to as 'Gold OA' - should not undermine efforts to create what many in the Open Access community consider to be an essential intermediary step, namely the setting up of open repositories (the 'Green OA' route). These are freely accessible collections of research articles set up to house all publications from researchers in a particular institution (including final versions of manuscripts subsequently published in paid-for scientific journals). Read more ...

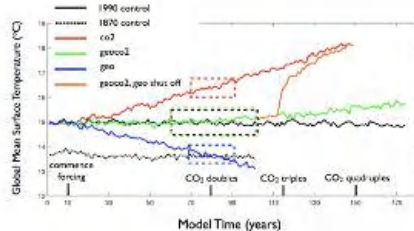
Mass smartphone hacking due to a GPS weakness

A malicious Wi-Fi network could command devices to report future movements - and perhaps snoop on private data, reports Tom Simonite in Technology Review. Weaknesses in the technology that allows smartphone users to pinpoint themselves on a map, or check into restaurants and bars using apps such as Foursquare, could allow those users to be tracked remotely.

Ralf-Philipp Weimann, a researcher at the University of Luxembourg, reported this finding at the Black Hat computer security conference in Las Vegas. He believes that the complex mechanism by which phones get location fixes likely also hides vulnerabilities that could allow the mechanism to be used to install and run malicious code on the device. Smartphones do not use GPS satellites alone to determine their location, because doing so accurately requires complex calculations based on signals collected from four orbiting satellites, a process that takes as long as 12 minutes. Instead, they use assisted GPS (A-GPS), in which a cellular network supplies an approximate location to simplify and speed up the necessary GPS calculations. A-GPS also allows a device to ask the mobile network to do the work and send back the exact location fix once it's finished.

Weimann discovered that the messages that pass between a phone and its network during this process aren't exchanged over a secure connection, but rather over a non-secure Internet link. That makes it possible to trick a phone into swapping A-GPS messages with an attacker instead, Weimann realized, and to have that attacker know the result of every location fix wherever the phone goes. Using this method, a malicious Wi-Fi network could instruct phones to relay back all future requests for A-GPS help and to report all location fixes, even after the phone goes out of range. "If you just turn it on once and connect to that one network, you can be tracked any time you try to do a GPS lock," said Weimann. Read more in Tom Simonite's [full article](#).

Man-Made climate change? Geo-engineering effects explored



Scientists suggest that our warming world may face catastrophic changes to the natural environment. Droughts, rising oceans, and fiercer and more frequent hurricanes are a few of the predicted outcomes. Theoretically, it may be necessary for world governments to act to mitigate the damage. Initially, these efforts will probably take the form of limits on greenhouse gas emissions or forest preservation. But some scientists and policy makers believe it may be necessary to take an active hand in engineering a solution to our climate problems.

These potential solutions, collectively called "geo-engineering," would use scientists' knowledge of the Earth's cycles to curb the rise in temperature, the melting of the ice caps, and increasing weather volatility. Yet, very few scientific studies have tackled the practical implications of such extreme measures, in part because of the controversy surrounding the prospect of "messaging with" the environment.

The challenge of studying geoengineering is the lack of a physical suitable environment for experimentation. "We only have one planet," said Alan Robock, associate director of the Center for Environmental Prediction in the department of environmental sciences at Rutgers University, and a leading geoengineering researcher. "Meteorologists and climate scientists do not have laboratories with test tubes or accelerators.



Spatial Data Infrastructure – Africa Newsletter



And we cannot mess with the only planet we have to test its responses to making stratospheric clouds or brighter oceanic clouds, so we use models of the climate system - computer simulations of how the climate would respond to these forcings. We test these models by simulating the past, including the effects of volcanic eruptions and ship tracks, and then we use them to investigate the response to many different scenarios." Read more...

[Nigeria: Winners of 2012 Mobil/STAN science competition announced](#)

Winners of 2012 Mobil/ STAN national science quiz/project competition have emerged. The winners were announced in Abuja after a stiff competition amongst science students in the 36 states of the federation and the Federal Capital Territory, Abuja. At the final, Benue State emerged winner in the secondary school category, beating three other contending states (Imo, Rivers and Edo) with 122.25 points while 1st runner-up was Rivers State with 118.25 points. Second runner-up, Imo State, had 116 points, while 3rd runner-up, Edo State got 104.50 points. Benue State was represented by Masters Odang Omoha, Mount Saint Gabriel's Secondary School, Makurdi and Akuhwa Fater, Calvary Arrows College, Gboko, Benue State.

However, in the primary school category which comprises Benue, Imo, Delta and Ondo states, Delta State emerged the overall winner with 128 points, Ondo State was second with 117 points and Imo had 116.75 points. Master Ufuoma Morgan, DSC Model Primary3, Orhunwhorun, Delta State and Omohwovo Uyota Primary 6, DSC Model Primary, Orhunwhorun, Delta State represented the state.

Questions for secondary school category were drawn from life sciences, Mathematics and vocational sciences. For the primary category, questions were drawn from basic sciences, technology and mathematics. Apart from Mobil splashing a total sum of N1, 700,000 on the winners, 56 of the outstanding students are to represent Nigeria abroad in science competition later this year. Last year, they brought Dr Bernard Harris to Nigeria, the first African American astronaut to walk in space to motivate our children to know that they can aspire to do anything in sciences if they would put their minds to it. The Mobil/STAN National Science Quiz and Project competitions will continue to re-awaken the interest of students and teachers in a bid to fast track the country's technological development.

[The role of early warning/monitoring systems](#)

Early warning technologies have greatly benefited from recent advances in communication and information technologies and an improved knowledge on natural hazards and the underlying science. Nevertheless many gaps still exist in early warning technologies and capacities - especially in the developing world - and yet a lot has to be done for the development of a global scale multi-hazard system. This in-depth bulletin introduces the basic concepts of early warning systems, the role of earth observation for disasters and environment and it focuses on the existing early warning/monitoring systems while addressing the need to fill in the operational gaps for slow-onset hazards both in monitoring, communication and response phases to facilitate timely decision-making.

Conferences, Events

Items newly added to this listing of events since the last SDI-Africa issue are marked *** NEW ***

Date	Location	Event
September 2012		
3-5 September 2012	Gaborone, Botswana	2nd IASTED African Conference on Health Informatics
03-11 September 2012	Münster, Germany	GEOSTAT 2012 Münster
4-5 September 2012	University of Nottingham, UK	4th Open Source GIS Conference (OSGIS 2012)
5-7 September 2012	Gaborone, Botswana	International Conference on Water Resources Management
6 September 2012	Rotterdam, The Netherlands	Esri Developer Summit
* NEW *		



Spatial Data Infrastructure – Africa Newsletter



6-8 September 2012 * NEW *	Tokyo, Japan	State of the Map 2012
10-14 September 2012 * NEW *	The Westin, Paris, France	4th Symposium on Earth Observation Business
16-18 September 2012	Columbus, Ohio, USA	AutoCarto 2012, an international research symposium on computer-based cartography
19-20 September 2012 * NEW *	London, U.K	Big Data World
24-27 September 2012 * NEW *	Algarve, Portugal	12th International Scientific and Technical Conference “From imagery to map: digital photogrammetric technologies” E-mail: conference@racurs.ru
30 September-4 October 2012 * NEW *	Portland, OR, U.S.A.	GIS-Pro 2012: URISA's 50th Annual Conference for GIS Professionals E-mail: wnelson@urisa.org
30 September–5 October 2012	Columbus, Ohio, USA	EcoSummit 2012, Ecological Sustainability: Restoring the Planet's Ecosystem Services.
October 2012		
2-4 October 2012	Gauteng, South Africa	GISSA Ukubuzana 2012: Conference and exhibition of geo-informatics, ICT, surveying, remote sensing and location-based business
3-5 October 2012	Naivasha Sopa Lodge, Kenya	Esri Eastern Africa User Conference
8-12 October 2012 * NEW *	New Delhi, India	International Workshop on Geographic Information Systems (GIS) Applications in Public Health Contact: measure_training@unc.edu
15-17 October 2012 * NEW *	Oslo, Norway	Esri European User Conference
15-19 October 2012	Chengdu, China	International Conference on Mountain Environment and Development
16-19 October 2012 * NEW *	Madrid, Spain	TOPCART “I Congreso Iberoamericano de Geomática y Ciencias de la Tierra”
22-23 October 2012	Guayaquil, Ecuador	CfP – First Latin America Congress of Free and Open Source GIS (Latin OSGIS)
29 October-2 November 2012	El.Jadida, Morocco	AARSE 2012 International Conference , Theme: Earth Observation & Geo-information Sciences for Environment and Development in Africa: Global Vision and Local Action Synergy. Abstract submission - 2 January to <u>30 April 2012</u> .
29 October-01 November 2012 * NEW *	Tampa, FL, U.S.A.	MAPPS/ASPRS 2012
November 2012		
06-09 November 2012 * NEW *	Redondo Beach, CA, U.S.A	20th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems
08-10 November 2012 * NEW *	Oporto, Portugal	CAMUSS, the International Symposium on Cellular Automata Modeling for Urban and Spatial Systems
13-14 November 2012 * NEW *	Amsterdam, The Netherlands	Be Inspired - Thought Leadership in Infrastructure Event



Spatial Data Infrastructure – Africa Newsletter



26-29 November 2012 * NEW *	Montevideo, Uruguay	8th FIG Regional Conference
December 2012		
03-05 December 2012 * NEW *	London, U.K.	European Space Solutions 'Discover what space brings to your life
13-16 December 2012 * NEW *	Enschede, The Netherlands	Gi4DM 2012 E-mail: info@gi4dm.net
2013		
13-16 May 2013	Rotterdam, The Netherlands	Geospatial World Forum
13-16 May 2013	Beurs, Rotterdam	Geospatial World Forum 2013
8-12 July 2013	San Diego, USA	ESRI International User Conference
2015	Durban, South Africa	14th World Forestry Congress for SA
1-31 August 2016	Cape Town, South Africa	35th International Geological Congress . Registration deadline: 30 June 2016.
17-22 September 2013 * NEW *	Nottingham, U.K.	FOSS4G 2013 Conference

Please mention SDI-Africa as a source of information in correspondence about items in this issue.

To subscribe or unsubscribe to SDI-Africa, please do so online at: <http://lists.gsdi.org/mailman/listinfo/sdi-africa> and follow the steps

Gordon Ojwang', Editor, SDI-Africa AT gsdi.org or sdiafrica@rcmr.org or gojwang@rcmr.org

Global Spatial Data Infrastructure Association
<http://www.gsdi.org>
Copyright © 2012. All rights reserved.

DISCLAIMER:
The Editor, GSDI, and Web Host will not be held liable for any errors, mistakes, misprints or incorrect information.