Spatial Data Infrastructure – Africa Newsletter

GSDI
Global Spatial Data Infrastructure

SDI-Africa Newsletter	December 2012	Vol. 11, No. 12

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.

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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, gojwang@rcmrd.org or sdiafrica@rcmrd.org.

Input to this Issue

Thank you to Kate Lance, GSDI listserv moderator (USA), Hussein Farah, RCMRD (Kenya); Coetzee Serena, University of Pretoria (South Africa); Aude Areste Lamendour, IGN France International (France); Janneke Kalf, Faculty of Geo-Information Science and Earth Observation (ITC) (Netherlands); Food and Agriculture Organization of the United Nations (Italy); World Bank (USA), Harlan Onsrud, University of Maine (USA) and Karen Levoleger, Kadastre (Netherlands) for their contributions to this issue of the newsletter.

Message from the Editor

Best X-Mas wishes and Happy New Year 2013 to all our esteemed readers. And thanks to everyone whose contribution was invaluable to the geospatial community in 2012. We are indebted to all and for the year 2013, we request that you continue to share your news item, especially the concerns of Africa in upcoming issues. Please send us links, workshop summary, events, research article or practical application and implementation materials in your area, profession, organization or country. Thank you, Gordon Ojwang'.

SDI News, Links, Papers, Presentations

GSDI 14 and AfricaGIS 2013: November 4-8, 2013
The GSDI Association, EIS-Africa, the International Geospatial Society, and the United Nations Economic Commission for Africa (UNECA) are pleased to announce a close partnership in offering the joint GSDI 14 World Conference and AfricaGIS 2013 Conference. This combined conference is planned to take place in
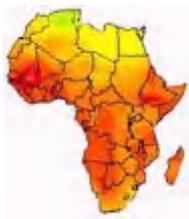
the UNECA Conference Center in Addis Ababa, Ethiopia from November 4-8, 2013. Pre-conference and post-conference workshops, meetings and seminars will also be supported.

The theme of the conference is "Spatially Enabling Africa in Support of Economic Development and Poverty Reduction."

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

Substantial reduction in registration fees will be available for local participants, members of EIS-Africa and members of the International Geospatial Society who are from low income per capita nations. Substantial reductions in Exhibit and Sponsorship fees will be available for companies and agencies that are members of the GSDI Association. Consult the web site as the Call for Papers and details about the program, facilities and sponsorship opportunities become available. Come prepared to engage, learn and enjoy!

Call for Expression of Interest - MAfA Guidelines

The expression of interest is to contribute to content for the guidelines of best practices for the acquisition, storage, maintenance and dissemination of fundamental geo-spatial datasets (Mapping Africa for Africa)

The current focus of the Mapping Africa for Africa (MAfA) initiative is on the availability of and accessibility to the fundamental geo-spatial datasets. A guideline of best practice, as a resource tool, is being developed for practitioners in African countries, usually in, but not restricted to, national mapping organisations, whom are responsible for the acquisition, storage, maintenance and dissemination of fundamental geo-spatial datasets. This document may also be used by any other person or organisation, not restricted to Africa.

The purpose of the guidelines is to provide a practical, 'hands-on' guide for the acquisition, storage, maintenance and dissemination of fundamental geo-spatial datasets. It is essential that it must be pitched at the implementation level. The guidelines will be based on what can be regarded as best practice, but may include alternatives, particularly where differing circumstances may require a different method or approach. This guideline is not a theoretical text and it is assumed that the reader has sufficient theoretical knowledge. Where deemed appropriate some theory may be included to provide a context, but preferably in an annexure.

The outline and specifications of the guidelines have been prepared and the next stage is to provide the content. The guidelines cover a range of topics and could well require various contributors. For this purpose a call is being issued to any person, group of persons, universities, public organisations and private companies to express their interest in contributing content to this document. As this document is for the public interest with no commercial gain it is hoped that contributors will make content available or write content either without charge or at a nominal charge. If you are interested in contributing content for this document, please complete the form and submit to: Dr Derek Clarke at: dclarke@ruraldevelopment.gov.za.

A Web-based GIS development for natural resources and environmental management

Abstract: The goal of this research is to study the internet geographic information system (internet GIS) related to the natural resources and environmental management, study performance and limitations of GIS through www technology. Web-based GIS was designed and development for natural resources and environmental management of Mahasarakham Province. Research methods include analysis of the current system and data collecting significant. The database system was developing by using the Free Open Source Software (FOSS) such as: Map Window GIS, MS4W, Google Maps, Minnesota MapServer, PHPMyAdmin, MySQL server, etc. The results showed that the ability of GIS to improve the overall system is a Web Service Mapping is the ability to access information through the Internet, the system can display spatial data, data narrative and descriptive data can be handled via the Internet to achieve maximum benefit from their use.

Early warning of disasters: Facts and figures

Lucy Pearson looks at early warning systems for disasters, their uses and limits, and what accounts for the gap between warning and action.

Through history disasters have destroyed lives and livelihoods, killing people and damaging homes and businesses. Disasters in the past 35 years have taken an estimated 2.5 million lives and cost more than US$1.5 billion, mainly in developing countries. Disasters result from natural and biological hazards (floods or infectious diseases) as well as complex sociopolitical emergencies and industrial hazards
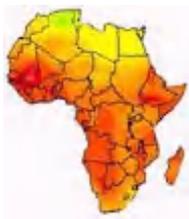
(droughts or radioactive leaks).

The extent of the damage caused by a hazard is related not just to its severity, but also to the capacity of people living in disaster-prone areas to prepare for and resist it. Efforts to reduce disaster risk have therefore focused, in part, on developing early warning systems to provide timely and effective information that enables people and communities to respond when a disaster hits.

Early warning systems are combinations of tools and processes embedded within institutional structures, coordinated by international and sometimes national agencies. Whether they focus on one particular hazard or many, these systems are composed of four elements: knowledge of the risk, a technical monitoring and warning service, dissemination of meaningful warnings to at-risk people, and public awareness and preparedness to act. Warning services lie at the core of these systems, and how well they operate depends on having a sound scientific basis for predicting and forecasting, and the capability to run reliably 24 hours a day.

Scientific and technological advances have driven marked improvements in the quality, timeliness and lead time of hazard warnings, and in the operation of integrated observation networks. But advances in technology alone are not enough and in some cases they can even create obstacles to the capacity of vulnerable populations to respond. Technologies for monitoring and warning include: Forecasting and modeling technology, Satellite communication technolog, Mobile phone technology, ICTs for crowdsourcing and Crisis mapping among others.

Through initiatives such as Ushahidi and Google Crisis Response, crisis mapping utilises crowdsourcing as well as satellite imagery, participatory maps and statistical models to power more informed and effective early warning. It can provide real-time information on an upcoming crisis in times of uncertainty and confusion. The vast amount of data that can be produced from such systems can be analysed through networks of stakeholders (such as Crisis Mappers). Read more..

New digital atlas to improve forest oversigh in Cameroon
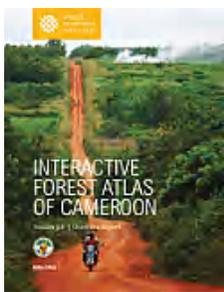
A new version of an interactive forest atlas will help policy makers improve land governance. Cameroon's forests, which cover about 60 percent of the country, play a vital role for people and the economy. They provide services and sustenance directly and indirectly to local communities and city dwellers alike. Forests account for more than six percent of the GDP, the highest percentage of all countries in the Congo Basin. Yet, until recently, Cameroon lacked a comprehensive information system to actually monitor and manage its forests. There was no integrated system or entity tracking the various forest uses, like logging concessions, community forests, hunting zones, and more. The information that was available was scattered amongst different institutions, wasn't publicly accessible, or of sufficient quality to support legality claims or effective land use decisions. This situation exacerbated unsustainable use of forest resources and conflicts between competing forest stakeholders, such as loggers and community groups.

That's where the Cameroon Forest Atlas comes in. Since 2002, the Ministry of Forestry and Wildlife (MINFOF) has worked with WRI to improve transparence and governance in the forest sector by publishing and regularly updating the Interactive Forest Atlas of Cameroon. MINFOF and WRI recently released version 3.0 of the online Atlas, as well as an accompanying report, poster, desktop mapping application and underlying spatial datasets.

The Interactive Forest Atlas of Cameroon is a constantly updated information system, combining the use of remote sensing, Geographic Information Systems (GIS), and ground-truthing to monitor and manage forests. Through a combination of interactive mapping applications, posters, analytical reports, trainings, and outreach, the Atlas provides users with access to timely, accurate, and harmonized information in the forest sector and beyond. The Atlas brings all the major land use categories--like logging permits, protected areas, hunting zones, mining, and industrial agricultural plantations - together into one system. Users can get answers to key questions and see where various activities are occurring, as well as where competing interests may overlap. Downloads: Complete Atlas (PDF, 64 pages, 6.7Mb) English | Français

Over U.S.4 million needed for Gambia's 2013 Census

The statistician general at the Gambia Bureau of Statistics (GBoS) has revealed that the budget for the activities relating to the Fifth National Population and Housing Census in 2013 is estimated to be above US$4M. Nyakassi MB Sanyang made this disclosure while presenting the annual activity report and audited financial statement of GBoS for the year ended 31st January to December 2011, before the Joint Session of
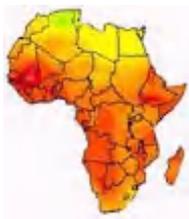
Spatial Data Infrastructure – Africa Newsletter

the Public Accounts and Public Enterprises Committee (PAC/PEC), of the National Assembly. He said the census is conducted every 10 years and The Gambia has successfully conducted four censuses since independence, the last of which was in 2003.

He also told the deputies that they plan to open 13 regional offices at least three months before the actual census count, and that each office needs to be equipped with a pick-up vehicle. Sanyang added that in the light of the above, it is recommended that a donor conference be held to solicit more donor funding for the 2013 Population and Housing Census. Sanyang informed the Committee that the 2013 Census has both long and short-term objectives. He explained that the long-term objectives can be identified as follows: by the end of the project, to improve the knowledge on main characteristics of the population in the country to better understand the interrelationships of the population and development; build a data capture system that is sustainable and always available for document management for the GBoS and other government departments/agencies; analyse demographic and related socio-economic data/information at the national and sub-national levels, publish reports on thematic areas and disseminate these findings through seminars, workshops, internet and the mass media to engender wider access to information and for better integration of demographic variables in developing planning; and establish a geo-reference system of demographic and socio-economic information or planning and management.

Sanyang said the short-term objectives include the following: To develop skills of the GBoS staff; Geographic Information System (GIS), data collection, data processing, analysis, data dissemination and utilisation; to improve availability, accessibility and utilisation of census outputs in a timely manner; to identify population characteristics for the purpose of guiding social-economic policies and programmes; to update the enumeration area maps and district maps for use in sampling frame for inter-censual surveys; to establish an integrated GIS for the purpose of producing thematic maps; and to build a data processing system that produce tables for publication and further analysis as well as proper archiving of census data.

He further stated that preparations for the 2013 Population and Housing Census were continued in 2011 with the mapping exercise key among the preparatory activities. He also disclosed that The Gambia is for the first time using modern Geographic Information System (GIS) technology in census mapping, adding that with this technology, high quality census maps would be produced using satellite imagery while a GIS database will be developed. The official launch of the 2013 census mapping was also held in Basse, URR in July 2011 and it coincides with the national celebration of the World Population Day held in that region."

The GBoS statistician general further informed the Committee that field mapping was successfully completed in URR and Banjul by the end of 2011, and that some teams have moved into CRR. He explained that to further build national capacity in GIS, a team was hired by UNFPA to conduct a two-week intensive training in GIS for the GIS assistants and some GBoS staff.

Ghana opens space research centre
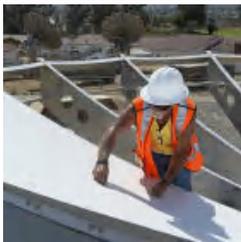
Ghana is set to embrace space science, with the inauguration of the country's first space science and technology institution. The Ghana Space Science and Technology Centre (GSSTC), which opened on 2 May, aims to become an arena of excellence in space science and technology, through teaching, learning and space research commercialisation.

In his keynote message for centre's inauguration, the late President John Atta Mills said: "The expectation is that new jobs will be created as new materials and minerals are researched [leading to] the creation of whole new industries such as those related to the field of semiconductors and electronic engineering."

Prosper Ashilevi, a space scientist and chairman of GSSTC, said space science and technology will equip young Ghanaian scientists and researchers with capacity and skills in areas such as remote sensing and geographic information systems (GIS) monitoring, as well as in data interpretation and application.

Ashilevi said the centre's first flagship project, the Ghana Radio Astronomy Project, will involve the conversion of an abandoned Vodafone earth satellite station at Kuntunse, near Accra, into a radio astronomy telescope. Currently Ghanaian and South African experts are replacing worn out parts, to make the equipment operational again. Ashilevi said that over the period 2012-2024, Ghana is seeking financial support of US$5 billion to develop infrastructure and human capacity in space science, from a global consortium of multinational institutions - including the World Bank, the International Finance Corporation and the bank HSBC - and through bilateral and multilateral agreements. "We have [approached] the South African National Space Agency and NASA for space science exploration, and similar institutions in Japan and Britain for technical advice,"
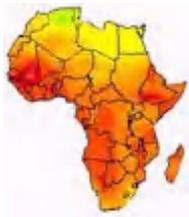
Spatial Data Infrastructure – Africa Newsletter

The implementing agencies are Ghana's Ministry of Environment, Science and Technology (MEST), the Ghana Atomic Energy Commission (GAEC), the Space Generation Advisory Council (SGAC), and the UN Office for Outer Space Affairs (UNOOSA). Abdul-Munin Yusif from the SGAC, said the organisation "plans to collaborate with South African universities, space science and technology institutions" to tap into the country's space technology expertise.

Francis Allotey, president of the Ghana Academy of Arts and Science (GAAS), said that "the project will offer a science [and] economic boom and other commercial opportunities". Adelaide Asante, schedule officer at Ghana's environment ministry, confirmed that plans are now well advanced for the development of satellite ground stations for the reception of remote sensing data.

National database could raise Benin's science profile

Benin needs a national database of scientific research if it is to raise the profile of its science and depend less on international cooperation for its research, according to a study. The number of scientific articles produced by researchers based in Benin has been growing since 2001, the study, published in Scientometrics on 18 September, found. But 80 per cent of these were produced as part of international collaborations - and less than five per cent were published in African journals.

The study, which analysed 2,215 articles from Benin indexed in the Scopus citation database - covering the period 1996–2011 also found that none of the country's 27 journals are indexed in international citation databases. Eustache Mêgnigbêto, lead author of the study and a researcher at the Bureau of Studies and Research in Information Science (BERSI) said the results revealed a "bad situation" for Benin's science publishing.

To help raise the profile of Benin's science, the study suggests setting up a national bibliographic database to list all locally produced scientific publications and make them accessible to the public. Such databases have had positive results in countries including China and India, according to Mêgnigbêto. Ouorou Kobi Douro Kpindou, an entomologist from Benin, agreed that setting up a national database would promote national scientific production, especially if it was available to scientists and frequently updated.

Epiphane Quenum, president of the Commission for Education in Benin's parliament, said his commission would lobby parliament to pass a law on the creation of a national database. "Benin's publications must not remain unknown to the international scientific community and to students who need such publications as sources for their own work," The study also found that Benin's growth in scientific output has occurred mainly in the fields of agriculture and medicine, and mainly from two key institutions: the University of Abomey-Calawi and the International Institute of Tropical Agriculture office in Benin.

It attributes the recent growth in publications to the setting up of a second public university, the University of Parakou in 2001, as well as several international research or cooperation institutions' offices, such as AfricaRice, which tend to produce a lot of research. The study notes that recent government strategies in Benin have recognised scientific research as a tool for human development, and stated that research should contribute to social welfare. But due to a lack of funding for national research programmes, Benin's researchers accept invitations to work on projects by institutions from foreign countries, according to Mêgnigbêto. "The problems Beninese society is facing could hardly be solved by people from abroad," he said. Because few papers published by Benin's scientists in international collaboration deal with issues related to local problems, Mêgnigbêto said, so far "Benin's research system could not solve problems our society is facing" and has not been contributing efficiently to national development. Link to abstract in Scientometrics.

Rwanda: GIS critical in health monitoring - experts

Geo-information technologies are important in addressing health challenges on the African continent and across the world, experts have said. The observation was made last month during the opening of a two-week course on the use of geo-information technology in addressing health issues. The course, which attracted 20 participants from seven African countries (Rwanda, Burkina Faso, Ethiopia, Ghana, Kenya, Malawi and Tanzania), was organised by the Centre for Geographic Information Systems and Remote Sensing at the National University of Rwanda (CGIS-NUR), in collaboration with the University of Twente in the Netherlands and the Dutch Royal Tropical Institute (KIT).

The refresher course was conducted under the theme: "Putting Health on the map: Addressing Public Health Challenges using Spatial Data and Geo-information Tools". The CGIS-NUR director Dr Gaspard Rwanyiziri, noted that the course intends to equip participants with skills on how to use this technology to improve the
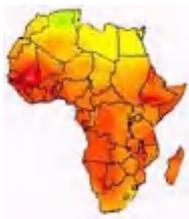
health sector. Using GIS technology, you can for instance map malaria-prone areas for policy makers to take informed action, he said. Rwanyiziri said the course is designed for experts in GIS and those in the health sector who would work hand in hand to address the challenges affecting the public health in their respective countries. Dr Sherif Amer from the University of Twente, observed that with GIS, health professionals can influence the progress of health surveillance and the geographic allocation of health resources and facilities. GIS helps to inform proper understanding and leads to better decisions in the health sector. The technology can help "identify areas where people have little access to health facilities and convince policymakers to set up dispensaries according to the needs. He observed that the collection and dissemination of health information is essential for the improvement of the health sector.

The NUR Rector, Prof. Silas Lwakabamba stressed that the achievements in the economic sector goes with challenges to the health sector, but emphasized that it also offers solutions. "The public health sector in Africa faces several challenges, some of which being caused by the steps taken in the road to economic growth". "However, the achievements in this road carry also solutions to public health challenges. "For instance, Geo-information technology has the potential to address health challenges by providing tools to analyse location-based data producing prescriptive and predictive information needed for informed decision making in public health management".

Workshop on modernization of geodetic networks calls for improved technology

Lack of qualified and experienced human resource and facilities to effectively increase mapping products and services in Africa has resulted to poor and outdated surveying and mapping technologies.

Minister for land Hon. James Orengo who had officially opened a workshop on modernization of geodetic networks in Nairobi said African Countries have traditionally maintained their national geodetic reference frames for producing maps and other geoinformation products. He said these reference frames are based on local origin or datums, which restrict their uses to particular countries and make it difficult to accurately represent cross-border features on regional maps.

Hon. Orengo added that It is even worse that some countries have more than two reference systems. He particularly said Kenya had more than two coordinate systems in use which are quite different from our neighbouring countries. The minister said this difference increase potential for misunderstanding between countries and makes it difficult for organization to share information and to work in joint plans and projects. While officially opening a workshop on modernization of Geodetic Networks in Nairobi the Minister noted that as African Countries move towards regional economic integration and adopt regional approach to peace and security, environment management, trade and industry there is need for maps that are uniform within a country and also across national boundaries. He said this would be possible through the establishment of a common geodetic reference frame. The Minister noted for effective and efficient decision making and planning development and management, our resources requires fundamental map information collected and maintained in a systematic approach. Orengo challenged participants to come up with initiatives aimed to address issues of lack of accurate, reliable and up to date fundamental data sets in Africa. He noted that there is need to introduce modern, accurate and uniform reference systems in Africa. Lands Minister called upon all African Countries to fully support the idea of unified geodetic reference frame for Africa that is in consistent and homogeneous with the international Terrestrial Reference Frame (ITRF). The two days workshop on modernization of geodetic networks is attended by managers of National mapping Organizations from fourteen African Countries.

Rwanda - Millions of land titles unclaimed

Three million land title deeds remain unclaimed at the Rwanda Natural Resources Authority, a senior official has said. "We issued 5.8 million title deeds of which only 2.8 million have been collected another three million are with us unclaimed," Didier Sagashya, a Deputy Director General responsible for lands and mapping at the authority told The New Times during an interview in October.

He said that most land owners claim that only government can guarantee safe custody of the valuable documents. The official also said that although his office has demarcated 10.4 million plots, countrywide, it has full information for 8.7 million only. He added that the majority of Rwandans in rural areas fear the documents
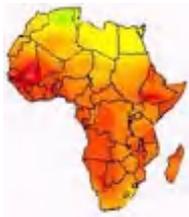
can either be destroyed by rodents or mortgaged to banks by dishonest relatives. According to Sagashya, often a number of title deeds have been dispatched to sectors only to lie idle and later returned. Sector offices are easily accessible to all citizens countrywide. "Collection of land title deeds is ongoing…," he noted.

Sagashya says other individuals claim they lack the Rwf1,000 title deed processing fee. However, government through the Ubudehe scheme, has waived this fee among citizens under category 1 and 2 who are regarded as the most vulnerable and also qualify for free health insurance cover.

According statistics at the ministry of Local Government and Social Affairs, which oversees the Ubudehe programme, Rwandans under this category are slightly above two million, representing 22.28 per cent of the total population. "They are mainly the vulnerable people who constitute 25 per cent of total households in Rwanda," Another group said to be reluctant to collect the title deeds are urban dwellers with pieces of land in rural areas. The official said his department intends to increase awareness among Rwandans on the importance of being the primary custodians of their land title deeds.

According to Sagashya, the land registry is working hard to ensure another 1.2 million title deeds are issued by end of December 2012. Other experts argue that some people are reluctant to collect the deeds as they are unfamiliar with the new concept of individualised land tenure system. Until 2004, all land belonged to government, but citizens would exercise the right of use.

To operationalise the land policy reforms, government began to map land in countrywide in 2009. The exercise ended in June 2012 with 10.4 million plots of land demarcated. The project cost $56 million with most of funds coming from the UK government through its international development agency, Department for International Development (DfID). The exercise aimed at stimulating growth through improved land tenure rights. Worldwide, there is a growing consensus among the development experts on the link between ensuring access to land and security of land tenure and improved socio-economic development.

## KWS conducts total count of wildlife in northern Kenya

The Kenya Wildlife Service (KWS) commenced an aerial wildlife count with special aim on elephant and Grevy's zebra starting from November 25th, involving as many as 12 aircraft and lasting until November 30th. Target areas are the Samburu National Park, the Marsabit area and Shaba Game Reserve, where the exercise kicked off. All three areas are part of a wider range – the greater Ewaso Ng'iro Ecosystem - for the elephant with regular migration of significant numbers of animals, following available pastures before and after the seasonal rains.

The count is a follow up of earlier such activities to establish population trends in the semi arid and arid north of the country. The expectations are that while the elephant population has grown over recent years, the Grevy's zebra population may have reduced, putting the species firmly on the endangered list. Among the institutions that participated in the count include Save the Elephants, Department of Resource Surveys and Remote Sensing (DRSRS), Laikipia Wildlife Forum, Lewa Conservancy, Maxwel Wildlife, Northern Rangeland Trust among others.

A source close to KWS in Nairobi has put the cost of the exercise to the range of Ksh 15 million with most of the expense going to aircraft hire and fuel for KWS own helicopters and fixed wing aircraft. The exercise is expected to generate the species total numbers, their spatial distributions and a host of related environmental attributes.

Ethiopia to Develop Soil Information System
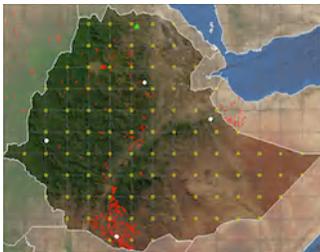
The Ethiopian Agricultural Transformation Agency (ATA) is partnering with AfSIS to develop a modern, dynamic, and globally integrated soil resource information system for Ethiopia. The system will provide important inputs to analyses that aim to answer central questions to the challenges of food and water security, land degradation and climate change adaptation and mitigation. Relevant examples include mapping and monitoring of degradation processes such as soil erosion, acidification, salinization, nutrient and organic matter depletion that adversely affect small-holder farming and pastoral communities throughout Sub-Saharan Africa. This information base is urgently needed to advise on local land management solutions that reduce food and water insecurity as well as financial and environmental risks to the rapidly growing population of Ethiopia (currently at ~87.1M, with ~173.8M projected by 2050).
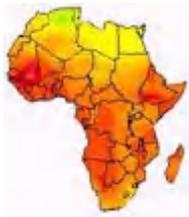
Spatial Data Infrastructure – Africa Newsletter

The ATA is pursuing a rapid development program over 18-24 months to put into place the Ethiopian Soil Information System (EthioSIS), a functional and evolving soil and landscape information system. The main components of this include systematic ground surveys, modern laboratory analyses including spectroscopy, and remote sensing-based statistical mapping workflows that will result in high resolution (0.1 - 1 ha) grid maps of key soil properties such as pH, texture, mineralogy, organic matter, nutrient content, erosion and other soil degradation prevalence estimates across all of Ethiopia.

The plans are to collect over 100,000 new soil samples distributed on a georeferenced sampling grid across the entire country, following global soil data collection standards. By doing this, the government of Ethiopia will be able to provide solid, evidence-based and targeted recommendations for: fertilizer applications, crop type and crop variety selections targeted to specific environmental conditions, soil conservation and water resource practices. It will also be able to devise informed agricultural investment and land use policies for its arable land.

AfSIS will assist this complex process by providing support on field sampling and laboratory procedures, procurement and processing of remote sensing data, and overall data curation and analyses as well web and mobile information services. The intention is to establish strategies that will ensure that these processes can be fully carried out in Ethiopia so that it can establish a high resolution digital soil map and information system within 24 months.

Kenya launches a new national forest cover mapping system

The Kenya Forest Services (KFS) has launched new national forest cover mapping system for accurate reporting on the status of forests. Currently, KFS is relying on outdated methods in mapping the forests, which do not give accurate information such as land use and cases of deforestation. This has led to poor formulation of policies on forests. The new system uses remote sensing technology mapping out various activities in the forest. As a package, it comes with a website where the information collected can easily be accessed online by the public and International community.

"For a long time, Kenya's forest cover has been based on estimates with a one per cent cover cited as the national forest cover. This figure has been revised upwards to about six per cent which also is not confirmed," said Lawrence Mwadime, acting PS Ministry of Forestry and Wildlife. "We lack scientifically proven data on our forest and tree cover. And that explains why we appear not confident with the data that we use," he said. "The completion of the mapping exercise will enable us make policies based on sound decisions for sustainable management and conservation of forest resources." Through the system, Kenya will also be in a position to benefit from the incentives provided in the climate change mitigation through the Reducing Emissions through Deforestation and Degradation (REDD+).

Speaking during the launch at the KFS headquaters in Nairobi, KFS Director David Mbugua said the new mapping system is critical to the Mau forest complex, which has in the past been hardest, hit by illegal settlements. The establishment of the Remote sensing laboratory is also a great milestone that will also provide for stakeholder data sharing internet enabled facilities to support international reporting on forest status. He thanked the Government of Japan for the grant aid provided under the Forest Preservation Programme for the new system. "This has enabled (for the first time) the laying of a firm foundation in the establishment of the national forest cover status through a detailed mapping process using a combination of remote sensing and ground based technologies."

UN-Habitat Somalia establishes Geographic Information System (GIS) property database for Gardho District, Puntland

After the successful geographic information system (GIS) property survey and database development intervention in Garowe District, Puntland, UN-Habitat Somalia has established a GIS property database for Gardho District. Gardho, like other districts in Puntland, lacks an accurate, up-to-date land and property information system, which is crucial for town planning and revenue collection. UN-Habitat has developed an innovative approach that combines spatial and non-spatial property information for property taxation and urban planning interventions. Such a GIS platform provides reliable information for land-related decision-making processes.

The property survey for the town of Gardho started on 11 March 2012 and was completed on 30 June 2012. The exercise captured up-to-date spatial and non-spatial property information that was previously non-existent in digital format in the municipality records. There are four steps to the GIS process:

- Acquisition of a geo-referenced, high-resolution QuickBird satellite image
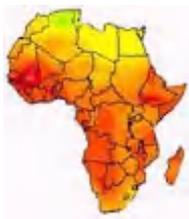
- On-screen digitization of the satellite imagery to develop a map of existing buildings, roads, rivers, and other physical infrastructure
- Field survey to verify the existing database and collect attribute information on properties in digital format
- Integration of the attribute data and spatial information to form the geo-database

The property survey shall be developed into a property database indicative of property attributes such as dimensions, occupancy (might not be the owner), property use, and access to utilities such as roads and electricity. The surveyed properties are uniquely hyperlinked to individual photos in the GIS platform, which are useful to the municipal staff for ground property identification and database verification from time to time. After verification of the database by the municipal staff and linking the correct bill to the right property, the database shall be used to generate annual tax bills to be delivered to each property or household unit.

The database shall further be used to delineate administrative boundaries and perform land use functions such as land cover analysis for intelligent decision making and priority assessment of infrastructure development.

Ministry of Lands scoops honored for GIS application in geospatial data production

Kenya's Ministry of Lands has been voted as the best organization in the world for use of the ArcGIS application to improve production of Geospatial data. The Ministry courtesy of the Survey Department, mapping division was picked out of one hundred thousand participants who are currently using the Geographical Information System (GIS) technology.

In her acceptance speech the Permanent Secretary in the Ministry of Lands Dorothy Angote-Muya noted that the new technology currently deployed in the departments of Survey and Physical Planning has assisted in speeding up various aspects of land reforms and promote transparency in land transactions. The jovial looking Permanent Secretary said that this technology is helping Survey of Kenya store data and map information in a library enabling easier searching of files and enhanced service delivery. She urged the department to take advantage of the good working relationship between the two organizations in order to maximize on its performance and service delivery.

The Permanent Secretary noted that the ministry has been able to raise revenue collection from eight hundred million last year to nine and half billion this year. She said this has been made possible due to use of modern technology. Mrs. Angote further said it is now clear that positive changes are taking place in the ministry as this is the second time the ministry is being awarded for exceptional performance. Last year the ministry was rated number three in performance contract.

Presenting the award Esri Eastern Africa managing director Mr. Willy Simons noted that by incorporating the twin technology of GIS and Global position System the Survey of Kenya has managed to surpass its service charter targets which is a clear indicator of how technology can improve performance within an organization. He said using the GIS technology, the surveyors in the field will now be able to collect data in the field and relay them direct to the office hence reducing on time wasted using the manual methods. The managing director noted that for the Survey of Kenya to get this coveted award it has called for a lot of dedication on the side of staff members and urged them to work extra hard if they wish to retain the same as other world over are spending sleepless nights scheming on how to win the same.

Open data platform to embrace local languages

The government is translating information on the stalled Kenya open data platform into local languages to make it easily accessible to a larger population. Information and Communications permanent secretary Bitange Ndemo said the platform has been simplified such that each county can find out how much they contribute to the economy, among other topics. "We are also looking to take it to a level where stories shall be told in vernacular" Dr Ndemo said at the launch of the Kenya Yearbook 2011/12.

A look at the platform showed that a section of the data has already been translated into Kiswahili language. Among them is information on households' main human waste disposal and source of water, as per each county. 'The open data initiative had only just hit a snag," said Dr Ndemo, who recently said the ministry was getting frustrated because organisations were declining to release data for uploading to the portal.
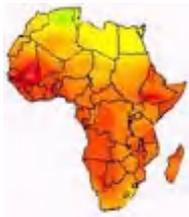
Spatial Data Infrastructure – Africa Newsletter

Governments around the world, especially in the West, are embracing this initiative. The open data initiative was launched in July last year by President Kibaki, with the aim of making Kenya one of the first developing countries to offer government information easily. By mid-day on Sunday, the portal had over 525 data sets, up from about 430 a few weeks ago. The number is expected to increase soon.

Call for Presentations: ESRI Survey Summit

Help shape a memorable Esri Survey Summit for yourself and hundreds of your industry peers by submitting a presentation abstract. Take advantage of this opportunity to share your expertise and be recognized for the work you do. You are invited to submit your abstract in one of the following tracks:

- Surveying
- Architecture, Engineering, and Construction
- GIS Software and Workflow
- GPS Technology
- LiDAR and High-Precision Scanning

By presenting your best practices and lessons learned, you will enrich the Survey Summit experience for yourself, your organization, and for other attendees. Space is limited, so be sure to submit your abstract soon. Visit the Esri Survey Summit website for abstract submission guidelines. The deadline for submissions is January 17. Space is limited, so get your abstract in soon.

Pre-announcement - Regional conference to share experiences on land information systems projects, Uganda: 17-18th January 2013

Secure land rights are vital to the reduction of poverty in emerging economies and enhancing economic development. With the support of international development banks several African countries have initiated the implementation of land information systems. But many countries still lack adequate information on land issues and effective land administration systems.

To help address this, IGN France International is happy to inform you that the international consortium currently engaged in the DeSILISoR project in Uganda (Design, Supply, Installation, Implementation of the Lands Information System and Securing of Land Records) is organizing a 2-day regional conference:

- January 17th - Modernization of land administration and management systems - Implementation of land information systems (LIS): sharing experiences, innovations and good practices.
- January 18th - "Land administration projects: IGN France International's expertise and feedback"

Based on shared experiences and valuable best practices, this two day event has several objectives:

- Highlight the link between land administration issues and economic growth
- Present several LIS projects in Eastern African and see how by making land information available, they increase confidence of land buyers and stimulate the economy
- Explore the common issues encountered during the implementation phase related to technical tools and processes, human resources, capacity building, and organization.

To receive further information and to pre-register, contact: alamendour@ignfi.fr. Skype: aude.lamendour, Tel: +33 1 42 34 56 56 - +33 6 81 76 91 23.

Capacity Building for Conservation - An international exchange of opportunity & best practice, 12-15 February 2013, Villa de Leyva, Colombia

A number of travel grants of $1000 USD are available for delegates participating in the IUCN's conference training event on the fourth day of the conference. The deadline for application is 28 December 2012.

The conference will bring together an international field of conservation practitioners, scientists, educationalists and professional training providers in order to:

- Describe key practitioner needs in conservation capacity (skills, tools, knowledge) as well as common or unique issues in different global regions.
- Identify the main barriers preventing conservation organisations building their required capacity.
- List current gaps in conservation training and educational provision.
- Develop solutions to the core problems associated with developing and maintaining the skills and knowledge capacity to undertake effective conservation action.
- Review methods to evaluate the effectiveness and stainability of capacity building actions
- Strategically link the above training and education solutions to local, national and regional capacity building strategies.
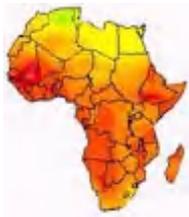
Spatial Data Infrastructure – Africa Newsletter

- Exchange and learn from successful case studies of capacity building and education initiatives at local, national and regional scales.
- Participate part in workshops demonstrating new and upcoming conservation tools and techniques.
- Build links, partnerships and networks with conservation practitioners, professional training providers and relevant elements of the tertiary education community.

Who should Attend - Conservation practitioners from NGO and private sector organisations, government agencies and departments, private sector trainers (professional development)

Tertiary and further education providers, academics, researchers and students. If you require further information about the meeting please contact Dr Mark O'Connell: Mark@ERT-conservation.co.uk.

Practical SDI implementation materials from within and outside of Africa

US emergency agency assess property damage via satellite

US: The Federal Emergency Management Agency (FEMA) is using satellite imagery to see into areas most damaged by Hurricane Sandy to help qualify storm survivors for two months of rental assistance. The National Geospatial-Intelligence Agency (NGA), the agency that provides the US intelligence community with mapping and other geospatial information, said it had embedded teams with FEMA as Sandy approached the US. The agency said its recovery support efforts would include damage assessments of the affected areas that help FEMA and first responders manage response levels effectively.

FEMA said that the satellite imagery it is using is of the hardest hit areas that are inaccessible to housing inspectors who help determine damaged buildings' conditions. With the satellite imaging, the agency said it would automatically grant rental assistance instead of waiting for inspectors to make inaccessible determinations so survivors could get temporary housing, as well as allowing inspectors to focus their attention on other disaster survivors until they can get into the inaccessible dwellings.

FEMA also said on Nov. 6 that it had also activated its Transitional Sheltering Assistance (TSA) programme for New Jersey and New York at the request of the states. This programme allows eligible survivors who can't return to their homes to stay in participating hotels or motels until more suitable housing accommodations are available. Additionally, the agency noted growing private, non-governmental outreach programmes for storm survivors. Organisations like the Southern Baptist Convention, the Salvation Army, and the American Red Cross continue to provide services to Hurricane Sandy survivors, it said.

KRA Geo-spatial Revenue Collection Information System (GEOCRIS) innovation wins global tax award

Kenya Revenue Authority (KRA) has embraced innovation as a way of providing solutions to challenges it confronts. One such innovation is the real estate geo-mapping initiative which received recognition at the 46th CIAT General Assembly held in Santiago Chile. The initiative was cited as one of the three leading innovations undertaken by tax administrations in the past year. Kenya was honored alongside Brazil and Argentina. The award was received on behalf of Kenya Revenue Authority by the Commissioner General John Njiraini who was accompanied to the assembly by Pancrasius Nyaga - Commissioner of Domestic Taxes (LTO) and Karen Nginda-Deputy Commissioner Research and Corporate Planning.

KRA, just like other tax administrations worldwide, faces a major challenge in collection of property taxes leading to lose of revenue due to high level of non-compliance. The Geo-spatial Revenue Collection Information System (GEOCRIS) uses Geo-spatial, Information Communication and Mobile Phone Technologies to optimally collect Rental Income Tax as well as other taxes by use of minimal manpower resources. This solution eliminates the challenge of varied data sources and inaccuracies in self declaration of taxes by integrating data from various government agencies to optimally track non-compliant taxpayers and the physical locations of the said properties.

It also assists the Authority to spot audit cases while at the same time feeding it with key information of the targeted taxpayers. It involves mapping of all rental income generating premises and having them in the GEOCRIS system. Once all the taxpayers have been tracked, it tracks their compliance in the system and offers timely follow- up of non-compliance through authorised officers who use GIS enabled phones which directly send attribute and location information collected in the field to the web-connected and synchronized system.
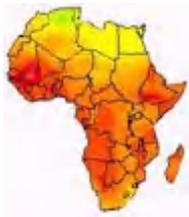
Spatial Data Infrastructure – Africa Newsletter

Also see: KRA embroiled in Sh1 billion tussles over rental tax system. The intrigues started last month when KRA advertised bids for the development and supply of an information system linking a database of properties to owners and tax compliance records - making it easy to single out landlords who do not pay taxes. The big question is why KRA is calling for supply of a new system while its employee - last year developed a similar system that has won a global award.

GIS initiated in 20 Indian villages

Watershed Organisation Trust (WOTR), Pune, has undertaken the participatory three-dimensional modeling (P3DM) in its climate change adaptation programme in 20 villages in the state. The P3DM is a participatory GIS that can convey indigenous experience and spatial knowledge in a digital form that is communicable to researchers and policymakers. Funded by the Swiss Agency for Development Cooperation, the project has been taken up in 20 villages in Akole and Sangamner talukas in Maharashtra and 10 in Madhya Pradesh. This has led the locals to take up, among others activities, biodiversity conservation, risk reduction strategies, crop planning and use of water management in these villages.

Sushil Bajpai, director, WOTR, said that participatory three-dimensional modeling, conceived in the late 1980s in Thailand, has been adapted and applied by WOTR in its climate change adaptation project during the last one and a half years. Looking into its success, the modeling will be now taken up in Andhra Pradesh soon. "This modeling empowers indigenous communities with a voice in legislative planning and management of natural resources. Through the construction and demarcation of a geo-referenced, scaled relief model, the communities can extract and display indigenous knowledge in a way that is meaningful, not only for policymakers and academics, but also to the communities themselves," he said.

Explaining the process, Bajpai said when the local community develops this three-dimensional model of their village and watershed, they get an idea of the space they live in and the eco-system they use. "While doing the model, they look into places of hazards, hotspots of biodiversity, rivers and presence of forest, among others. A sense of ownership is inculcated in them. So it is also a tool for conflict resolution, development planning, land use planning and participatory knowledge about issues. We also discuss with them all these issues and threats such as climate change." "We anticipate that P3DM will become an important element of our goals to further empower and capacitate our project villages for increased involvement in resource management and climate change adaptation at village level. In the next step, this model will be merged with GIS. At present, the outcome of the planning process for these villages is shared with the Ahmednagar collector," Bajpai added. This modeling has been developed and used as a spatial communication and planning tool for resource dependent communities across Southeast Asia and other parts of the world, where local access to computers is virtually impossible.

Harvard Humanitarian Initiative

The Harvard Humanitarian Initiative (HHI) is a university-wide centre providing expertise in public health, medicine, social science, management, and other disciplines to promote evidence-based approaches to humanitarian assistance. HHI's aim is to advance the science and practice of humanitarian action worldwide so as to reduce the impacts of disasters.

Its Program on Crisis Mapping and Early Warning examines the use of information communications technologies in conflict and disaster settings. Research focuses on identifying patterns in humanitarian emergencies to improve warning and response. Specifically, HHI undertakes extensive examination of the use of crisis mapping, geospatial and crowd sourcing technologies to prepare, mitigate, and respond to emergencies. The website showcases the initiative's work, as well as making a number of programme publications and working papers available. Go to website.

GIS Tools, Software, Data

National Biodiversity Assessment 2011 datasets available for download

The recently completed National Biodiversity Assessment (NBA) 2011 provides an assessment of South Africa's biodiversity and ecosystems, including headline indicators and national maps for the terrestrial, freshwater, estuarine and marine environments.

The following three National Biodiversity Assessment 2011 datasets are now available for download from the BGIS website: Ecosystem Protection Level, Ecosystem Threat Status and Formal Protected Areas
Instructions for downloading the datasets:
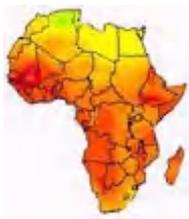
1. Copy and paste the URL: http://bgis.sanbi.org/NBA/project.asp into your internet browser. A project overview page for the National Biodiversity Assessment 2011 will appear. To the left of the project overview page are links to the project reports, National Spatial Biodiversity Assessment (NSBA) 2004 and the project maps. Click on any one of the project maps' links e.g. click on the 'Ecosystem Protection Level' link under 'Project Maps'. A map overview page for Ecosystem Protection Level will appear. To the left of the map overview page there is a download section, with a link to download the shapefile. Click on the link. At present there is no interactive map associated with the datasets. The interactive maps are still in the process of being created.

Moabi DRC - Observatoire Satellital des Forêts d'Afrique Centrale
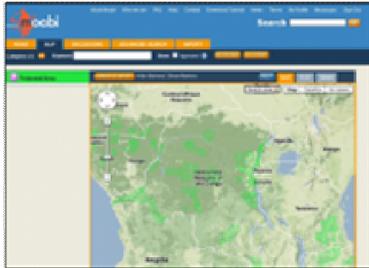
The Moabi is a project developed by WWF-US with technical support from OSFAC. It's a powerful online tool for tracking information spatially. It is a collaborative mapping system that builds a community of users to share, edit, and discuss issues that could affect the sustainability of critical ecosystems. By linking grassroots civil society working in the field to international organizations based in London, Washington DC, and Beijing, our vision is to build a global community promoting transparency and sustainable resource use in critical ecosystems. Please visit the Moabi website for more information

Moabi DRC is the first application of the Moabi tool. It aims to increase civil society participation in REDD+. It helps track the future of forests in the Democratic Republic of Congo (DRC), providing critical data for predicting deforestation. Moabi allows users to update and share spatial information on new projects proposed by companies, banks, governments, and other agencies. The result is a constantly updated map of projects ranging from new roads and hydroelectric dams to logging and mining concessions.

Moabi DRC uses crowd sourcing to find and update information related to the many projects proposed in DRC. A consortium of non-profit organizations, government agencies, and academic institutes has agreed to share data on development projects that may affect DRC's forests. We encourage users to check and improve this information, correct mistakes, discuss project details, and share any insights you may have about them. This will allow us to build an evolving, and dynamic map of the many different proposed land and water uses that may affect DRC forests.

MapServer 6.2

The MapServer Team is pleased to announce the long awaited release of MapServer 6.2.0 after an extensive beta phase. This is the first joint release between MapServer 6.2, TinyOWS 1.1, and MapCache 1.0, and is the first step towards a fully-fledged MapServer "Suite" integrating these 3 components. Major features for 6.2 include:

- MapServer 6.2 is INSPIRE View Service compliant, i.e. supports the provision of an INSPIRE View Service compliant WMS Server.
- Mask Layers: Mask layers are used to "mask out" part of a given layer, to only represent data that intersect features from another layer.
- Precise Symbol Placement: Traditionally, MapServer centers a marker symbol on the point it should be rendered to. ANCHORPOINT is a new SYMBOL level keyword that describes where the given symbol should be anchored.
- Complex Multi Label/Symbol Symbology: Some cartographic representations require juxtaposing multiple symbols and/or labels in order to obtain a complex final symbol.
- Vector Fields: MapServer can render vector fields based off data from GDAL supported raster formats containing u and v bands.
- Label Leader Offsetting: For densely labelled maps, MapServer now supports offseting a label with respect to its original anchorpoint if the original location resulted in a collision with an already present label. An optional line can also be rendered to link the rendered text to its original feature location.
- Multiple Font Support: List a set of true type fonts to search for required characters.
- SVG Symbology: Along with the traditional ELLIPSE, VECTOR, PIXMAP and TRUETYPE symbols, MapServer 6.2 now supports SVG symbols directly.

Full details and download information can be found in the MapServer 6.2 release announcement.
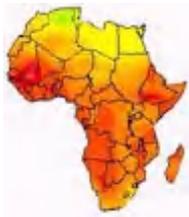
Spatial Data Infrastructure – Africa Newsletter

Geotools 8.0

The Geotools community is pleased to announce the availability of Geotools 8.0 for download on sourceforge.

- geotools-8.0-bin.zip
- geotools-8.0-doc.zip
- geotools-8.0-userguide.zip
- geotools-8.0-project.zip

If you are using Maven, this release is deployed to OSGeo Maven Repository: For more information on setting up your project with Maven, see the Quickstart (included in the user guide documentation pack above). Geotools 8.0 is a stable release made in conjunction with GeoServer 2.2-RC2 and GeoWebCache 1.3-RC4. Currently there are no additional updates to 2.7.x planned. Geotools 8.0 comes feature packed compared to its 2.7.x releases. Highlights include:

- Function lookup using qualified Name
- Update to Java 6
- Add support for joins to the WFS protocol
- New ILIKE statement
- Support Multi-Valued Attributes in Filter Comparison Operators
- Temporal Filters
- Allow build with Maven 2 or Maven 3
- Describe Function with FunctionName
- Detailed Argument and Return Info for FunctionName
- Introduction for the use of ResourceId

Sphinx generated user guide with live codes examples, tutorials and build instructions

MapContext refactor

More information can be found by checking out the proposals made for this release. For those migrating from GeoTools 2.7, additional instructions are available.

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.

Call for Applications - GEM Course 2013

Growing population densities are putting increasing pressure on scarce land resources. Adequate solutions to environmental problems such as deforestation, overgrazing, and the depletion and contamination of land and water resources depend on integrated insights and improved management. Planners, managers, policy makers and researchers need to understand the complexity of the factors involved and be able to work together with professionals from a variety of disciplines. Geo‑information technology and, in particular, remote sensing, plays a central role in the search for clear analyses and viable policies. Skills in this field will therefore continue to be much in demand in industry, government and NGOs.

Five renowned European institutes offer you a unique Erasmus Mundus joint European Master of Science (MSc) Course in Geo‑information Science and Earth Observation for Environmental Modelling and Management (GEM).

The course has duration of 22 months and will be taught by world class faculty in five countries: Iceland, UK, Sweden, Poland and The Netherlands. While studying in at least two of the five universities, as well as studying in a multi‑cultural environment, students will gain valuable insight into the academic, social and cultural diversity of northern and central Europe. Graduates gain a multiple MSc degree from the consortium universities.
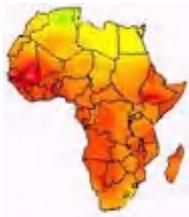
Spatial Data Infrastructure – Africa Newsletter

For the academic year starting in September 2013, we are pleased to announce that there will be EU Erasmus mundus scholarships available for both non-EU and EU students. In addition, for exceptional EU candidates, we will have a limited number of scholarships available that pay full-fees.

Deadline for EM scholarships: 31 December 2012.

Deadline for Self-funded non-EU candidates: 1 July 2013.

Deadline for Self-funded EU candidates: 1 August 2013.

Apply now online: http://www.gem-msc.org/application/Registration/. More information can be obtained from www.gem-msc.org or send an email to info@gem-msc.org.

2013 GIS short courses through continued education at University of Pretoria

1. Certificate Course in Introductory Geographic Information Systems - February - June 2013, Web-based with workshops in Pretoria (proprietary and open source) and Cape Town (open source only)
2. Certificate Course in Advanced Geographic Information Systems
    February - October 2013
    Web-based learning with workshops in Pretoria
3. GIS Professional Practice
    February - June 2013
    Distance learning with workshops in Pretoria
4. Introduction to Geoinformation Standards
    15 - 16 July 2013 in Pretoria
5. Spatial databases with PostGIS
    25 - 29 March 2013 in Pretoria
6. Introduction to Quantum GIS (on request)
7. Remote Sensing (on request)
8. The Basics of GIS (on request)

For more information, visit www.up.ac.za/cgis, click on 'Professional development' or http://web.up.ac.za/default.asp?ipkCategoryID=16147&subid=16147&ipklookid=11. Webpage: (www.ceatup.com).

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.. Read more.

ESRI South Africa presents a full spectrum of GIS courses: December 2012 and January 2013

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'
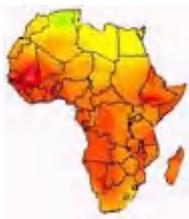
Spatial Data Infrastructure – Africa Newsletter

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

ESRI Eastern Africa is now offering update courses to conform to improvements in ArcGIS 10 and ENVI 4.8, conducted with skilled and experiences 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://esrieatraining.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 (2013-14)

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) is offering a number of three-week courses. Also note that RECTAS is able to package and deliver customised training for intrested 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

ESRI grant for GIS (Geographic Information Systems) products

Any non-profit or non-government organization working for social justice, environment, indigenous rights or public benefit in any nation, or any individual volunteering for these types of groups, may apply for a grant.
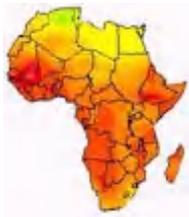
Spatial Data Infrastructure – Africa Newsletter

There are no grant cycles or deadlines, you can apply any time. A "basic" request is limited to Single-user versions of Arcview software (up to 3 copies), Extensions, online and live training, books, GIS Data and ESRI conference passes.

ESRI Conservation Program (ECP): conservation geography, activism and multicultural social change

The Environmental Systems Research Institute provides many resources and avenues for non-profit organizations interested in developing GIS capacity but who lack the funds to pay retail costs. The ESRI Conservation Program (ECP) was ESRI's first non-profit grant program and is it's largest and broadest, reaching well beyond conservation groups to support all types of non-profits. ECP has helped to create and develop spatial analysis, computer mapping and geographic information systems (GIS) capability among thousands of non-profit organizations and individual projects of all sizes and types worldwide.

No-profit supply of computers to Developing Countries

Computer Aid International has already shipped over 50,000 PCs to more than 90 developing countries. Of those 50,000 shipped over 35,000 have gone to educational institutions and the remaining to community organisations working in fields as diverse as HIV/Aids, environment, human rights, and primary healthcare. Computer Aid International aims to: (i) Increase the number of refurbished computers being re-used overseas; (ii) increase the number of UK organisations donating their used IT equipment for re-use overseas; (iii) identify and work with those organisations in recipient countries able to derive maximum value from refurbished computers; (iv) provide training and work experience in computer repair to people from socially excluded communities.

The World Summit Award (WSA)

The World Summit Award (WSA) is the global initiative to select and promote the world's best e-Content and innovative ICT applications. WSA was started in 2003 in the framework of the United Nations' World Summit on the Information Society (WSIS) as a contribution of the Austrian Government to the global effort to bridge the digital divide and close the content gap. WSA activities include national contests and selections of best practice, a global contest held every 2 years and content-focused national and international conferences with exhibitions - the WSA Road Show.

WSA works to strengthen entrepreneurship within content industries and to bring about economic and cultural development through the creative use of ICTs. It supports the UN Millennium Development Goals of ending poverty, hunger and disease, saving the environment and giving a fair share to women.

WSA is an invitation project and a global activity for all who share the understanding of the crucial importance of excellent e-Content creation within the information society. Partners in over 160 UN member states are actively involved in WSA. New partners from all over the world are welcome to join!

Google Earth Outreach supports

The Google Earth Outreach supports non-profit organizations that share their mission of community service in areas such as education & culture, environment & science, current affairs, global development, public health and social services. Non-profit organizations can use Google Earth Free to view and create KML files, can post those KML files on their site or email them to their partners, donors, volunteers, and beneficiaries. NGOs may not use Google Earth Free in the course of providing a paid service to other companies or organizations. Google Earth Outreach offers Google Earth Pro licenses to qualifying organizations. Google Earth Pro has powerful authoring features which allow for GIS data importation such as .shp and tab files, a movie making module, and a high resolution printing feature.

Catalyst Grants 2012: Unlocking the Potential for Groundwater for the Poor

The Unlocking the Potential for Groundwater for the Poor is a £10m international programme to fund interdisciplinary research, generating evidence and innovative tools to enable developing countries and their partners in sub-Saharan Africa to use groundwater in a sustainable way for the ultimate benefit of the poor. It is funded by DFID, NERC and in principle ESRC.

This call is for outline Catalyst Grant proposals which will provide an opportunity for the world's best researchers to develop and test new innovative ideas for addressing the programme's aim of enabling sustainable use of groundwater for the benefit of the poor. It is also an opportunity to facilitate the development of new interdisciplinary teams that bring developing and developed country scientists together.
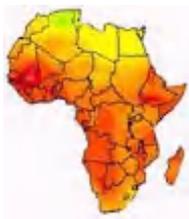
Spatial Data Infrastructure – Africa Newsletter

Proposals are invited for funding of up to £150,000 (FEC). This call has a total available budget of up to £1·5m. Projects will be funded for a maximum duration of one year.

Submission of an Outline Proposal is mandatory in order to participate in the funding round at the full proposal stage. All Outline Proposals will be assessed by an Assessment Panel and successful applicants will be notified by the start of February 2013 that they are able to proceed to the Full Proposal stage. The closing date for outline proposals is 16:00 UK local time (GMT/UTC) on Thursday 10 January 2013.

Joint funding of European-African research projects

The calls, to be launched in January with a budget of €11 million, will offer research funding in areas such as agriculture, health, climate change and energy, grouped under three headings: "Renewable Energy", "Interfacing Challenges" and "Idea driven research". The calls have been developed within the framework of the €2 million, three-year "ERA-Net for Africa" (ERAfrica) project. ERAfrica was set up to facilitate networking of African and European funders of research and innovation and to work towards joint project calls. The agreement concerns ministries and public institutions from 15 countries: Austria, Belgium, Burkina Faso, Ivory Coast, Egypt, Finland, France, Germany, Kenya, the Netherlands, Norway, Portugal, South Africa, Switzerland and Turkey. Together they have agreed to fund research for at least € 11 million, with the five African states contributing nearly €4 million.

The project calls are expected to be published in mid-January 2013, with a deadline for application of around mid-April 2013. Signing of the contracts is foreseen from December 2013 to May 2014.

ACP-EU Cooperation Program in Science and Technology, 2nd Call for Proposals

The EU announces S&T II as its second call for proposals to strengthen science, technology, and innovation in developing countries. Priority thematic areas are energy access and efficiency, as well as agriculture and food security. Grants will range from €300 thousand to €1 million (exceptionally to €3 million) for activities in capacity building, awareness raising, science promotion, and other support for S&T. The program is open to organizations in the developing countries defined by the EDF and DCI funding categories (i.e., most developing countries) -- and to international organizations. A proposal requires three or more partners, at least two of which must be located in ACP (African, Caribbean, and Pacific) member states. The application deadline is 07 February 2013.

Africa - Brazil Agricultural Innovation Marketplace

The next call for pre-proposals is planned to be launched on 02 January 2013. The new Marketplace website will be available for registrations starting 01 Dec 2012. You are encouraged to visit and register yourself on the new website after 01 Dec. By registering, you will receive updated information on the initiative and will be able to find partners and submit proposals during the call.

Research on Climate Change and African Political Stability (CCAPS)

The CCAPS fellowships aim to support the next generation of researchers and thought leaders on the topic of climate change and political stability in Africa. CCAPS offers up to three pre-doctoral fellowships in residence at the University of Texas at Austin (Robert S. Strauss Center for International Security and Law) for an academic year, with preference for individuals who have made substantial progress towards the completion of their dissertations. CCAPS encourages applications from women, minorities, and citizens of all countries. The fellowship includes a nine-month stipend of US$24 thousand, and one round-trip airline ticket. The application deadline is 15 February 2013.

PhD Awards in Agricultural Research for Africans in 2014

The Australia Awards program will support 20 eligible candidates in Africa for PhD studies in agricultural research at Australian universities, commencing in 2014. The program is open to nationals from the following countries: Benin, Burkina Faso, Burundi, Cameroon, Chad, Egypt, Ethiopia, Gambia, Ghana, Kenya, Liberia, Malawi, Mali, Mozambique, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Tanzania, Uganda, and Zambia. The closing date for applications is 31 March 2013.

Grants for Guest Researchers from Africa 2013

The Nordic Africa Institute provides funding to social science researchers from Sub-Saharan Africa for short-term collaborative assignments at the NAI in Uppsala, Sweden. Research areas include one on agrarian
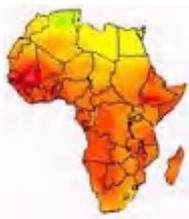
change, property, and resources. NAI provides travel, subsistence, an installation allowance, and in-kind support for stays of up to 90 days. The deadline for applications is 01 April 2013.

Research Training Fellowships for Scientists in Developing Countries

The Government of India, Department of Science & Technology (DST) announces 20 fellowships for scientists and researchers from developing countries for collaboration with Indian research partners. Thematic areas include agricultural sciences, biological sciences, and several others. The fellowships program is coordinated through the Center for Science and Technology of the Non-Aligned and Other Developing Countries (NAM S&T Center). Fellowships are for six months. Applicants should be below 40 years of age, who possess at least a Master's Degree in the relevant natural sciences. The closing date for applications is 7 December 2012.

Call for Proposals: Designing the 2015 Global Climate Change Agreement

The European Commission (EC) has issued a call for proposals for 'Designing the 2015 Global Climate Change Agreement' under the Thematic Programme for Environment and Sustainable Management of Natural Resources including Energy (ENRTP). The programme helps developing countries and partner organisations to address environmental and natural resource management issues.

The global objective of this call for proposals is to support the negotiations under the ADP (Durban Platform for Enhanced Action). This will include arranging for dialogue, research and in-depth analysis. In addition, on the basis of this work and progress in the negotiations, the programme will develop a draft new international agreement, with explanatory memorandum and supporting papers on its key elements. This work must be carried out by organisations such as NGOs, think tanks or centres of academic excellence from a broad and representative range of countries, including major emerging economies, Least Developed Countries and Small Island Developing States. The outputs of this call for proposals will be used within an international negotiations forum.

The specific objective is the development of options on how the new agreement should address all elements of the ADP workstream on the 2015 Agreement, including mitigation, adaptation, finance, technology development and transfer, transparency of action and support and capacity building. In the first instance, only Concept Notes must be submitted for evaluation. Thereafter, applicants whose Concept Notes have been pre-selected will be invited to submit a Full Application Form. The deadline: 22 December 2012.

Open Society Fellowship for pursuing innovative approaches to fundamental open society challenges

The Open Society Foundations' Open Society Fellowship aims to support individuals pursuing innovative and unconventional approaches to fundamental open society challenges. The fellowship funds work that will enrich public understanding of those challenges and stimulate far-reaching and probing conversations within the Open Society Foundations and in the world.

Fellows are expected to take full advantage of the foundations' expansive reach and work to bring new people and fresh ideas into the organization's ambit. Successful projects should push the boundaries of current thinking and carry lessons that can be applied to a variety of settings.

The Open Society Fellowship accepts proposals from anywhere in the world. Applicants should possess a deep understanding of their chosen subject and a track record of professional accomplishment. Past and current fellows have included journalists, activists, academics, and practitioners in a variety of fields. Successful applicants will be eager to exploit the many resources offered by the Open Society Foundations and be prepared to engage constructively with our global network. Ideal fellows are specialists who can see beyond the parochialisms of their field and possess the tenacity to complete a project of exceptional merit. Proficiency in spoken English is required. No deadline provided.

Employment Opportunities

Vice President, Africa Program, The Jane Goodall Institute, Dar es Salaam, Tanzania

The VP, Africa Programs, will work for 4-6 months with the team in Arlington, Virginia, prior to taking up the position in Dar es Salaam.

The VP, Africa Programs will have overall strategic and operational responsibility for all program areas. The position will be an integral part of JGI's senior management team that drives the overall strategy for the organization and represents the Institute on a national and global basis. With operations in four sub-Saharan
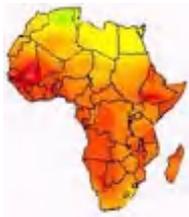
African countries and a program budget of $5 million and a staff of 150+, the VP, Africa Programs will initially develop deep knowledge of each project, program operations, and business plan, and will focus on the following three areas: program leadership and management, external relationships, and knowledge management.

This position requires exceptional leadership, vision, integrity, and excellence in execution. S/he will also play the leading role in building and motivating project teams as well as engaging the JGI-US Arlington, Virginia, staff to ensure financial and operational support. The ideal candidate will have technical experience in species conservation, community-based conservation and/or projects linking and balancing conservation and sustainable development in Africa.

Program Leadership & Management:

- Strategic, program, technical and operational guidance and advice to all JGI-US supported organizations and activities in sub-Saharan Africa.
- Enhance, flesh out, and implement organizational vision as established in JGI's Strategic Plan as well as Africa Programs strategy as a component of that.
- Ensure that financial controls meet accepted accounting principles.
- Develop metrics and evaluation to support fundraising and communications.
- Develop and implement timelines and resources needed to achieve the program goals.
- Attract, develop, coach, and retain team members, empowering them to elevate their level of responsibility, span of control, and performance.
- Work with staff to develop systems to ensure consistent, data-driven project management.
- Provide leadership in development of inter-team communicationand cohesiveness, promoting an Institute-wide collaborative mission and results-driven culture.
- Support staff during organizational change and growth.
- Provide budget guidance, review and approval for all Africa Programs activities and operations in the U.S. and sub-Saharan Africa, including the approval and allocation of program and operating/capital budgets.
- Mentor staff, seeking out appropriate educational opportunities to enhance Africa Programs staff skills.

Qualifications

- The VP, Africa Programs will be thoroughly committed to the Jane Goodall Institute's strategy and mission. All candidates should have demonstrated leadership, coaching, and relationship management experience and strong demonstrated success in managing funder relationships.
- Program Leadership and Management: This individual will have taken a hands-on approach in leading a variety of community-based conservation and development initiatives in Africa. The ideal candidate will have a track record of effectively leading a performance-based and outcome-based program and staff. S/he will have developed and operationalized strategies that have taken a program or organization to the next stage of growth.
- Team Building and Development: The successful candidate will have recruited, managed, and developed a strong team of staff, program/project managers, and development professionals.
- Exceptional Communication and Influencing Skills: As a voice/advocate of JGI, the VP, Africa Programs will have strong written and verbal communication skills. S/he will be a persuasive, credible, and polished communicator with excellent interpersonal and multidisciplinary project skills. This individual must work collaboratively with internal as well as external partners and other organizations, providing exposure for program impact in a variety of professional journals and other media outlets. Ideally, this person will have served as an effective spokesperson at the national level.

Visit the website for detailed qualifications. For immediate consideration, forward your resume and salary requirement to jobs@janegoodall.org. Apply by: 15 December 2012.

Small Scale Mining Expert, Kigali, Rwanda

The Government of Rwanda with support from the United Nations Development Programme (UNDP) and the World Bank (WB) is implementing the Strategic Capacity Building Initiative (SCBI). Official implementation of the SCBI began in November 2011 and the programme is set to run for up to four years from this date. The objective of the SCBI is to 'build capacity and deliver government priorities' at the same time. The ministry of Natural Resources (MINIRENA) is responsible for the full implementation of the SCBI in the mining sector. It is within this context that government plan to recruit in key areas requiring capacity to build strong expertise and deliver on existing priorities.

The incumbent will perform the following functions:
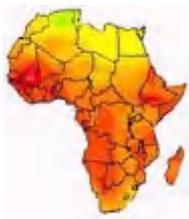
- Develop policy, strategy and activities towards the formalization of mining cooperatives and small scale miners.
- Identify and implement effective approaches and strategies to be used by small scale miners.
- Design key success factors, driving principles and guidelines that should be used to guide the transition to sustainable development with respect to small scale mining industry.
- Mentor young Rwandans (small scale mining young professional).
- Train small scale miners where necessary.
- Keep a track record of delivery and transferring knowledge and skills.
- Submit regular reports to the supervising authority.
- Develop a baseline study with recommendations to transform the role of small scale miners in Rwanda to contribute to increased revenue and sustainable development.

The candidate should hold at least a Master's degree in mining related subjects. Geology and or engineering will be seen as a plus; At least 5 years' experience of working in the mining sector with particular focus on small scale mining; Results oriented and a proven track record in positively transforming the lives of artisanal miners; Good ability to work flexibly on a range of assignments, and adjust to and prioritize a variety of complex tasks; High level of computing skills; English required. French is a plus. Publication of article/book in field relevant to this position is a plus.

The application deadline: 6 January 2013. Applications should be sent to nimarto@gmail.com and info@minirena.gov.rw.

Stratigraphy/Field Geologist Expert, Kigali, Rwanda

The Government of Rwanda with support from the United Nations Development Programme (UNDP) and the World Bank (WB) is implementing the Strategic Capacity Building Initiative (SCBI). Official implementation of the SCBI began in November 2011 and the programme is set to run for up to four years from this date. The objective of the SCBI is to 'build capacity and deliver government priorities' at the same time. The ministry of Natural Resources (MINIRENA) is responsible for the full implementation of the SCBI in the mining sector. It is within this context that government plan to recruit in key areas requiring capacity to build strong expertise and deliver on existing priorities.

Role and responsibilities:

- Design template for stratigraphic mapping;
- Lead programs of generating the first 1/50000 geological map of Rwanda;
- Organize field expeditions and set up Stratigraphy mapping in the identified mineral Prospective Target Areas (PTAs);
- Train key local geologists and technicians;
- Keep a track record of delivery and transferring knowledge and skills
- Submit regular reports to the supervising authority.

Qualifications and Professional Experience

- The candidate should hold at least a Masters' degree in Geology with specialization in Stratigraphy and/or Structural Geology with at least 7 years of professional experience in production of geologic maps in internationally recognized companies or institutions.
- Strong knowledge and experience in geologic mapping campaigns, planning, implementing and leading.
- Good knowledge of Stratigraphy and Structure of the Kibaran orogeny with knowledge of the geology of Rwanda is an added advantage;
- Sufficient experience in mapping, compiling and in final production of geologic maps;
- Proven track record of success in mentoring and implementation of stratigraphy/field geology programs.
- Publication of article/book in field relevant to this position is a plus.

The application deadline: 6 January 2013. Applications should also be sent to nimarto@gmail.com and info@minirena.gov.rw.

Senior Resource Economist, Ouagadougou, Burkina Faso

The West African Science Service Center on Climate Change and Adapted Land Use (WASCAL, www.wascal.org)) is currently seeking to appoint a team leader in the field of resource and climate change economics to help implement the WASCAL agenda.

The incumbent will lead the integrated modeling research group at WASCAL Competence Center in Ouagadougou. Together with two junior economist (s)he and in close cooperation with national partners from member countries and in Germany will conduct scenario analysis and formulate land use policies and
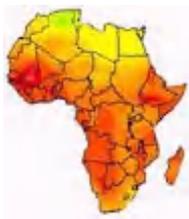
strategies that will enhance resilience and coping capacities in the context of climate change. (S)he will also assist in the supervision of Ph.D. students working in the WASCAL program.

The incumbent is expected to hold a Ph.D. degree in environmental Economics or closely related field with strong quantitative and modeling skills and a proven publication record and 7 years of relevant post-doctoral experience. A willingness to work in an interdisciplinary team is a prerequisite. Intimate knowledge of the West African environment and excellent communication skills in English and a working knowledge of French are essential.

Application deadline: until the position is filled. Apply by: 15 December 2012. Major details: http://www.wascal.org. Applications: CV, names and addresses of three referees should be addressed to the Executive Director WASCAL at vlekp@wascal.org.

Other

Digital Government - Building a 21st Century platform to better serve the American people

"I want us to ask ourselves every day, how are we using technology to make a real difference in people's lives." - President Barack Obama.

The Digital Government Strategy complements several initiatives aimed at building a 21st century government that works better for the American people. These include Executive Order 13571 (Streamlining Service Delivery and Improving Customer Service), Executive Order 13576 (Delivering an Efficient, Effective, and Accountable Government), the President's Memorandum on Transparency and Open Government, OMB Memorandum M-10-06 (Open Government Directive), the National Strategy for Trusted Identities in Cyberspace (NSTIC), and the 25-Point Implementation Plan to Reform Federal Information Technology Management (IT Reform).

Through IT Reform, the Federal Government has made progress in foundational execution areas such as adopting "light technologies" (e.g. cloud computing), shared services (e.g. commodity IT), modular approaches for IT development and acquisition, and improved IT program management. The strategy leverages this progress while focusing on the next key priority area that requires government-wide action: innovating with less to deliver better digital services. It specifically draws upon the overall approach to increase return on IT investments, reduce waste and duplication, and improve the effectiveness of IT solutions defined in the Federal Shared Services Strategy.

The Digital Government Strategy incorporates a broad range of input from government practitioners, the public and private-sector experts. Two cross-governmental working groups – the Mobility Strategy and Web Reform Task Forces – provided guidance and recommendations for building a digital government. These groups worked with the Office of Management and Budget (OMB) and General Services Administration (GSA) to conduct current state research (e.g. the December 2011 State of the Federal Web Report) and explore solutions for the future of government digital services. Feedback was also incorporated from citizens and federal workers across the nation using online public dialogues, including the September 2011 National Dialogue on Improving Federal Websites and the January 2012 National Dialogue on the Federal Mobility Strategy which produced a combined total of 570 ideas and nearly 2,000 comments. Read more..

Kenya: President Kibaki launches Biometric Voter Registration (BVR)

President Mwai Kibaki launched the Biometric Voter Registration exercise in Nairobi on Monday 19th November, 2012 at the Kenyatta International Conference grounds. The Independent Electoral Boundaries Commission (IEBC) said the exercise which commences nearly three weeks after the BVR kits arrived in the country will take 30 days followed by 15 days of voter register verification. IEBC Chairman Isaac Hassan said they expect to register around 18 million voters.

Some 30,000 registration centres were already identified and due to be gazetted. Thirty thousand registration clerks were also being trained on how to use the machines. The commission announced the centres where the voter registration will be conducted were to open from 8am to 5pm including Saturdays and Sundays. "Mapping of registration centres had already been done and was to be published in local dailies and IEBC website."

The commission allayed fears the exercise could be manipulated or abused, saying the process is protected by security features that isolate it from any electronic network. At registration, a potential voter will be required to present his identification document, where text details such as name, date of birth, age and gender will be keyed in. Using a specially formatted fingerprint taker, the voters will have their prints captured
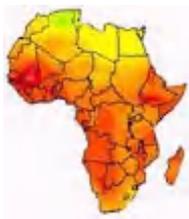
Spatial Data Infrastructure – Africa Newsletter

to correspond with the text details, as well as their photos. The kits have inbuilt quality control checks to ensure fingerprints and the photos are compliant with the required international standards.

Kenya signed a government-to-government deal with state-owned Canadian Commercial Corporation, which identified Safran Morpho as the suppliers of the kits with guarantees from its associate, the Export Development Corporation of Canada. The mobile BVR enrolment kits comprise digital cameras, fingerprint scanners and power back-up systems. In addition to facial features and fingerprints, the system will also capture personal information such as name, gender and identification number. It also provides an audit trail to establish individual accountability and assist in reconciliation of database records. BVR greatly minimizes multiple voter registrations, even though it may not completely eliminate errors.

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

Conferences, Events

Date	Location	Event
December 2012		
3-5 December 2012	London, U.K.	**European Space Solutions 'Discover what space brings to your life**
4-5 December, 2012	Salzburg, Austria	**European LiDAR Mapping Forum** http://www.lidarmap.org/ELMF/
13-16 December 2012	Enschede, Netherlands	**Gi4DM 2012** E-mail: info@gi4dm.net
January 2013		
14 January 2013 * NEW *	Kampala, Uganda	**Symposium on statistical and other research methods** Information: Uganda Statistical Society
17-18 January 2013 * NEW *	Kampala, Uganda	**Regional conference to share experiences on land information systems projects**
19-20 January 2013 * NEW *	Netheravon Rd, Singapore	**2nd International Conference on Internet & Cloud Computing Technology (ICICCT 2013)**
21-23 January 2013 * NEW *	Paris, France	**CityGML in National Mapping** Workshop jointly organized by EuroSDR, OGC and Geonovum. www.geonovum.nl/3dpilot/aanmelden-workshopCityGML
24-25 January 2013 * NEW *	Redlands, USA	**2013 GeoDesign Summit**
28-31 January 2013 * NEW *	Tokyo, Japan	**Earth System Governance** United Nations University Headquarters
February 2013		
11-13 February 2013 * NEW *	Denver, Colorado, USA	**International LiDAR Mapping Forum** http://www.lidarmap.org/ILMF.aspx
12-15 February 2013 * NEW *	Villa de Leyva, Colombia	**Capacity Building for Conservation - An international exchange of opportunity & best practice**
24-25 February 2013 * NEW *	Algiers, Algeria	**5th Intl. Conference on Water Resources and Sustainable Development**
27-28 February 2013 * NEW *	Padua, Italy	**International Workshop on Hydrological Risk** http://www.cirgeo.unipd.it/geomatics4risk/
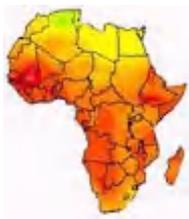
Spatial Data Infrastructure – Africa Newsletter

24 February-1 March 2013 * NEW *	Nice, France	**GEOProcessing 2013**
March 2013		
2-9 March 2013 * NEW *	Big Sky, Montana, USA	**IEEE Aerospace Conference** http://www.aeroconf.org/
22-23 March 2013 * NEW *	Oxford, UK	**International Conference on Development-Induced Displacement and Resettlement (DIDR)**
26-28 March 2013	Lyon, France	**International Conference on soils, sediments and Water**
April 2013		
7-12 April 2013 * NEW *	Vienna, Austria	**Successful Governmental policies and actions for a better soil management**
7-12 April 2013 * NEW *	Vienna, Austria	**Validation and uncertainty in soil erosion modelling: achievements and challenges**
7-12 April 2013	Vienna, Austria	**Soil System Sciences** (All relevant sessions)
8-10 April 2013 * NEW *	Pafos, Cyprus	**First International Conference on Remote Sensing and Geo-information of Environment**
11-13 April 2013 * NEW *	New Orleans, LA, USA	**Population Association of America 2013 Annual Meeting** Website: http://paa2013.princeton.edu/
16-19 April 2013 * NEW *	Barcelona, Spain	**12th International UFZ-Deltares Conference on Groundwater-Soil-Systems and Water Resource Management**
22-26 April 2013 * NEW *	Beijing, China	**35th International Symposium on Remote Sensing of Environment**
May 2013		
8-10 May 2013 * NEW *	Aachen, Germany	**9th International Conference on Web Information Systems and Technologies (WEBIST) 2013**
13-16 May 2013	Rotterdam, Netherlands	**Geospatial World Forum 2013** Contact: info@geospatialworldforum.org
21-24 May 2013 * NEW *	Bonn, Germany	**Water in the Anthropocene. Challenges for Science and Governance. Indicators, Thresholds and Uncertainties of the Global Water System**
22-25 May-13 * NEW *	Belgrade, Serbia	**2nd International Scientific Conference RESPAG** - Regional Development, Spatial Planning and Strategic Governance
28-30 May 2013 * NEW *	Kampala, Uganda	**UMEC 2013 1st Uganda, Mining, Energy Oil Gas Conference and Exhibition**
June 2013		
4-7 June 2013 * NEW *	Ohio, USA	**Mapping Global Change: Spatial Statistics 2013**
10-12 June 2013 * NEW *	Mittersill, Salzburg, Austria	**Symposium for Research in Protected Areas**
17-18 June 2013 * NEW *	Ghent, Belgium	**Conference on Desertification and Land degradation**
19-20 June 2013 * NEW *	Napoli (Italy)	**Four Decades of Progress in Monitoring and Modeling of Processes in the Soil-Plant-Atmosphere System: Applications and Challenges**
July 2013		
3-5 July 2013 * NEW *	Denmark	**From effective to intelligent agricultire and forestry**
6-9 July 2013	San Diego USA	**ESRI Survey Summit - The Esri Annual Conference**
7-11 July 2013 * NEW *	Catalonia, Spain	**9th European Conference on Precision Agriculture (ECPA)**
8-12 July 2013	San Diego, USA	**ESRI International User Conference**

Spatial Data Infrastructure – Africa Newsletter

GSDI
Global Spatial Data Infrastructure

August 2013		
26-31 August 2013 * **NEW** *	Busan, Korea	**XXVII IUSSP International Population Conference**
25-30 August 2013 * **NEW** *	Hong Kong, S.A.R. China	**59th ISI World Statistics Congress**: Includes meetings of the Bernoulli Society, the International Association for Statistical Computing, the International Association of Survey Statisticians, the International Association for Official Statistics, the International Association for Statistics Education, the International Society for Business and Industrial Statistics, and The International Environmetrics Society. E-mail:isi@cbs.nl
26-29 August 2013 * **NEW** *	Sarawak, Malaysia	**8th International Symposium on Digital Earth 2013**
27-31 August 2013	Paris, france	**IAG International Conference on Geomorphology**
September 2013		
17-22 September 2013	Nottingham, U.K	**FOSS4G 2013 Conference**
23-25 September 2013 * **NEW** *	Technical University of Lodz, Poland	**2nd International Conference on Informatics & Applications (ICIA2013)** Abstract submission deadline is 5 August 2013. Email: icia@sdiwc.net
29 September-2 October 2013 * **NEW** *	Noordwijkerhout, Netherlands	**First International Conference on Global Food Security**
October 2013		
23-25 October 2013 * **NEW** *	Rio de Janeiro, Brazil	**Sixth International Conference on Agricultural Statistics-ICAS-VI**, Abstract deadline 15 December 2012 FAO: www.fao.org/economic/ess/ess-events/ess-icas/en/
November 2013		
18 November 2013 * **NEW** *		African Statistics Day Celebrations - organized by the UN Commission for Africa and the African Centre for Statistics
December 2013		
28-31 December 2013 * **NEW** *	CRRAO AIMSCS, Hyderabad	CRRAO AIMSCS will be organizing a conference during the International Statistics Year, 2013 - **Statistics 2013: Socio-Economic and Sustainable Challenges and Solutions**
2014		
8-14June 2014	Jeju ICC, Korea	**20th World Congress of Soil Science (WCSS)**
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.

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