Spatial Data Infrastructure – Africa Newsletter

GSDI
Global Spatial Data Infrastructure

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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, SDI-Africa_AT_gsdi.org or sdiafrica@rcmrd.org or gojwang@rcmrd.org

Input to this Issue

Thank you to Kate Lance, NASA/SERVIR-Africa (USA); Hussein Farah, RCMRD (Kenya); Jennifer Hazen, University of Texas at Austin (USA); Philip Angell, World Resources Report (USA); Karen Levoleger, Kadastre (Netherlands); Florent Lasry, AMESD (Nairobi) and Clemence Chiduwa, ICD (Namibia) for their contributions to this issue of the newsletter.

SDI News, Links, Papers, Presentations

World Resources Report: Effective decision making for climate adaptation

Newly posted research commissioned by the World Resources Report (WRR) on effective decision making for climate adaptation. The World Resources Report, in partnership with the Consensus Building Institute, conducted two innovative scenario exercises in late 2010 to garner insight on how officials make decisions (specifically for climate adaptation) when confronted with choices that involve significant future consequences. In Ghana, the scenario explored choices for hydropower in a changing climate, while the Vietnam exercise confronted the effects of and possible responses to impending sea level rise. Read more about the scenarios or you can go straight to our respective findings for Ghana and Vietnam. While you're there, give your feedback on the findings and on the exercises themselves. Another new piece of research relates to the mangrove restoration activities already taking place in Vietnam. Read the in-depth case study Mangrove Restoration and Rehabilitation for Climate Change Adaptation in Vietnam to learn more.

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The World Resources Institute, SEKEM, Alcoa, PepsiCo and Shell responded to this Question in the WRR Expert Perspectives series: How can national-level governments learn from the private sector and encourage investment and decision making to promote the public good in a changing climate? Read their papers and then join the conversation by adding your comments. For further information, contact: Philip Angell, Director World Resources Report at wrr@worldresourcesreport.org

UN to establish entity on Global Geospatial Information Management

The United Nations is to bring together the world's national mapping agencies and other geospatial organizations to develop a streamlined and integrated framework that would support global geospatial information management. "There is general agreement of an urgent need for an inter-government consultative mechanism that can play a leadership role in setting the agenda for the development of global geospatial information, and to promote its use to address key global challenges; to liaise and coordinate among member states, and between member states and international organizations," a UN statement said.

According to Hiroshi Murakami, Co-chair of the second preparatory meeting on Global Geospatial Information Management (GGIM), while there are various international organizations that have been working on geospatial information, the UN feels that there is a need for an official mechanism that would link the outcomes of such organizations to specific policy decisions and actions of member states. The purpose of the GGIM would be to address the growing number of global issues such as: climate change; natural disasters; disease pandemics; population and displacement; and, other cross-border problems that no single nation or region can self-sufficiently deal with.

The UN would provide the member states with an ideal venue for global policy development on geospatial information management with much attention and insights from key policy makers and experts from other member states and international organizations. The GGIM would serve as an apex entity of the global geospatial information community that would link all regional cartographic conferences together. As an apex entity, it would tackle critical issues concerning principles, policies, methods, and mechanisms for standardization for rapidly evolving technologies and interoperability. In addition, it would enable policy makers to develop effective capacity building strategies for the effective management of geospatial information, especially for developing countries. A third preparatory meeting of the proposed UN committee on GGIM will be held on the first week of April this year to discuss about its future plans and initiatives.

Africa Calling!

This article by GIS Development identifies the reasons for Africa's new-found charm, major business drivers for geospatial industry, challenges and directions ahead. With development, demand for better transport, infrastructure, food, education and governance is increasing manifold, compelling nations to re-prioritize national development strategies - auguring a radical change in mindset. Information technology is being recognized as an enabling tool, with geospatial data at the core of development. At the forefront of this new geospatial momentum are several regional and multilateral organisations, professional bodies and national mapping and remote sensing organisations. These include the United Nations Economic Commission for Africa (ECA), Regional Centre for Mapping of Resources for Development (RCMRD), Regional Centre for Training in Aerospace Surveys (RECTAS) and African Regional Centre for Space Science and Technology Education in English (ARCSSTE-E).

Just about every government in Africa today is engaged in some form of land reforms and/or improving on its land management. Rapid growth and increased demand for improved land governance and global interest in Africa's farmland for food and bio-fuel are fuelling the land market. According to Dr Frank Byamugisha, Regional Land Coordinator for Africa, World Bank, "There is an emerging strong demand for surveying and mapping in Africa. As a result, cadastral surveying and registration is expected to rise from less than 10% to 20% in 15 years." Countries like Ghana, Rwanda, Ethiopia, Mozambique and Kenya increased their surveying budgets. South Africa, Uganda, Lesotho, Ghana, Tanzania, Malawi, Zimbabwe, Rwanda and a host of other countries are actively pursuing land reforms. "By incorporating measurable outcomes and delivery agreements while pursuing land reforms, South African government is capacitating rural communities to reduce pressure on urban areas," says Derek Clarke, Chief Director-Survey and Mapping & National Geospatial Information, Department of Land Affairs, South Africa.

A great momentum is being created by the African Geodetic Reference Frame (AFREF) which aims to build a unified geodetic reference frame for the entire continent. This also aims to serve as the basis for national

and regional 3-dimensional reference networks. GIS coupled with GNSS technologies are helping build land information and directly contributing to the geospatial market.

To further this growth, ECA is spearheading the development of geospatial databases for the Programme of Infrastructure Development in Africa (PIDA). More than 43 feature datasets were created and customized as an interactive digital atlas. The databases cover all existing and planned infrastructure facilities in the continent. "This database will soon be built into the ECA node of the African Regional Geospatial Data Infrastructure," informs Andre Nonguierma, GIS officer in ECA. The African Institute of South Africa (AISA) is also developing a geospatial database at continent level on 28 themes, mainly on socioeconomic parameters, informs Shinigirirai Mutanga, Research Specialist: S&T.

Political leadership and decision makers in Africa are more often than not unaware of the significance of deploying geospatial technologies into planning processes. Barring a few exceptions like Ghana, Kenya, Nigeria and South Africa, government commitment to geospatial technologies is barely visible. "Governments are not yet convinced about the importance of modernizing these institutions. They do not understand that mapping is the basis for all development. There are no immediate benefits from mapping which politicians, decision makers and economists expect and so they fail to connect with mapping," reasons out Dr Hussein O Farah, Director General, Regional Centre for Mapping of Resources for Development (RCMRD).

Multilateral and regional organisations meet at periodic intervals to assess the situation, make resolutions, give guidelines to member countries and even fund the projects. But between meetings nothing much happens often leading to frustration in professionals," laments Derek Clarke. To improve the situation, Dr Joseph Akinyede, Executive Director, ARCSSTEE, recommends professionals to find their way into policy-making bodies while Derek feels the situation can improve only when institutional hierarchical arrangements are reworked and protectiveness between institutions minimized.

The article concludes that with its sight firmly perched on development, Africa is clearly cognizant of the significance of geospatial technology and is visibly providing ample opportunities to the world. It is now the turn of the stakeholders to expand the utility of geospatial technology and collectively raise the profile of geospatial industry. Read full article at geospatialworld.net.

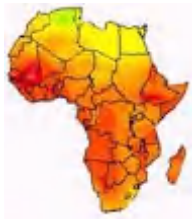## African Public Private Partnership (PPP) projects on web mapping applications

The United Nations Economic Commission for Africa, through the NEPAD and Regional Integration Division (NRID) in collaboration with the ICT, Science & Technology Division (ISTD), is implementing the public private partnership (PPP) project database that is aimed at developing a comprehensive database to help policy makers and potential investors to determine priority and assess commercially viable PPP (Public Private Partnership) infrastructure projects in Africa. The approach proposed is designed to ensure local participation in the data collection process tin order to enhance the validity of the information and continuous update of the database. The information will be collected using a tool that allows partners to populate the database remotely or offline when an Internet connection is unavailable.

A web-based application that will allow users to identify where existing and potential PPP projects are located will be developed. As such, detailed information will be collected at a click of a mouse on any of the projects. The application makes use of the ArcGIS server including the web server, Server Object Manager (SOM), Server Object Container (SOC), and SQL server database tier. A file geodatabase contains feature datasets and feature classes designed to support the application's mapping services. Map display, navigation, creation of the dynamic map layers, and other map interactions will be done using the ArcGIS web application developer framework (ADF) for the Microsoft .NET framework.

Using Microsoft Visual Studio Team Systems 2008 Test Edition, the application has been tested to determine how well the ArcGIS server system works when all the pieces are finally assembled. Multiple users were applied to simulate heavy load on the server and the response time for each individual workflow was recorded. The ArcGIS server system was able to support the tasks with response times that were less than two seconds – an acceptable threshold response time. The application is available for use at: http://giss.uneca.org/ppp.

Participants want early warning system on climate established in West Africa

At the end of a two-day workshop on 28th January 2011, that discussed the mechanism for integrating environment and sustainable development into policies, programmes and projects, the participants called for the development of an information and early warning system on climate change in order to reduce the vulnerability of various social groups in West Africa. The participants had deliberated on various presentations, which undertook an assessment of sustainable development approach at national and

regional levels; climate and the impact of climate change on development sectors in West Africa. The participants recommended the following among others:

- ECOWAS Member States be supported to enable them incorporate the green economy in their planning and development management.
- establishment of a task force and think tank on key development sectors at the regional level whose membership will be drawn from climate scientists, policy makers and planners and the implementation of a pilot learning process, under the aegis of ECOWAS, to take into account climate change in development issues.
- Establishment of an information system on environmental governance under the aegis of ECOWAS.
- Called on the Ministries of National Development Planning, Environment and Finance as well as national institutions established to promote sustainable development to work collaboratively in order to better coordinate sustainable development issues.
- Measures to ensure the integration of prevention and risk management in development and implementation of policies at both the national and regional levels
- The need to define the requirements for creating a common data to be generated by Member States for better assessment of the Community Development Programme.
- Proposed that EBID and the ECOWAS Commission should collaborate in building the capacity of Member States in statistical data management on environment and sustainable development.
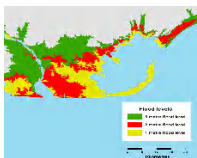
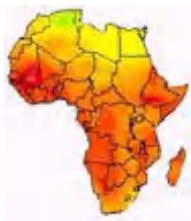## DMC Internation Imaging Limited, UK to market Nigeria's satellite worldwide

The Federal government of Nigeria has expressed the determination to tap into over $200 billion revenue accruable from the sales of satellite imagery worldwide, when the national Space Research and Development Agency (NASRDA) signed a memorandum of understanding (MoU) with the DMC International Imaging Limited (DMCII), UK as the exclusive distributor for the sale of NigerSat-2 and NigeriaSat-X. Director General of the NARSDA, Seidu Mohammed, who signed the agreement on behalf of the federal government, said the exercise was to better prepare the agency for the exploitation of imageries from the two satellites to be launched in the 3rd quarters of the year for international market. While noting that the signing of the agreement will assist DMCII in canvassing for international customers and sign necessary sales contracts prior to the launch of the satellites, he said, "It is our strong belief that the signing of international imagery sales agreement with experienced marketers such as the DMCII UK will enable Nigeria recoup some money expended in building these satellites." Seidu stressed that this will equally go a long way in promoting Nigeria in the global community as its satellite imageries become international products for strategic and sustainable development planning across the globe."

According to Mohammed, NigeriaSat2 was manufactured by Surrey Satellite Technology Limited (SSTL) UK with the participation of Nigerian engineers, while NigeriaSat-X (a training model of NigeriaSat-2 built to flight standard) is constructed by Nigerian engineers using the facilities of Surrey Satellite Technology Limited in UK. The two Satellites, he noted would be deployed together using the same launch vehicle in Russia with NigeriaSat-X being placed into by approximately five minutes after NigeriaSat-2. He further stated that NigeriaSat2 sensor will provide imagery at three resolutions, which include 2.5m panchromatic, 5m multispectorla (R,G,B,NIR) and also carries the 32m multi-spectral payload of NigeriaSat-1 and more importantly NigeriSat-2 can image in stereo mode, while the NigeriaSatX sensor provide 22m multi-spectral (RGB, NIR) imagery. He said, "For Nigeria, the intended usage of imageries from NigeriaSat-2 and NigeriaSat-X is for broad area coverage inclusive of land use, geospatial analysis and environmental change monitoring. It will also be used for mapping, accurate geolocation and resale. Nigeriasat-2 is expected to provide a maximum of 250 images per day, while imagery volume from NigeriaSat-X has been estimated as a handful of images per day, sharing many of the same storage and processing capabilities from the NigeriaSat 2 system.

Ghana produces flood risk maps

CARE International has produced flood risk maps for the Western Region that would be useful for the government and other agencies in the event of such a disaster. In a statement issued in Accra, CARE referred to the 2010 heavy flooding that affected more than 700,000 people and destroyed a great number of houses, farmlands and infrastructure such as roads, schools and clinics. It said the Region was one of the areas affected by the floods with more than 20,000 people feeling the impact.

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CARE said it provided emergency relief services in the flooded areas and one key task the Region was data collection on the extent of flooding in the area. It said the data collected was fed into a Geographical Information System (GIS) computer programme, which provided accurate calculations and precise mapping of flood prone areas. With the support of a GIS Volunteer from Denmark (Thomas Kristian Andersen), CARE has produced a map which identifies flood prone areas and provides information on towns likely to be affected in the wake of a flood. "It is expected that the map would be used by government agencies such as National Disaster Management Organisation, district assemblies and other institutions with a stake in disaster management to provide emergency response plans, warning systems and flood protection mechanisms to minimise the high level of damage as a result of flooding in Ghana."
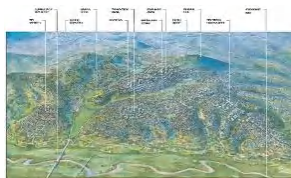
The Senior Programme Co-ordinator for CARE Ghana's Agriculture and Natural Resources Portfolio, Mr Godfrey Mitti, observed that flooding had affected the output of CARE's work in some communities such as Enchi in the Western Region by eroding most of the gains in development people had made. "The Flood Risk Map will enable us take precaution when implementing a development programme and teach people how to respond during flooding. The map for Western Region is the first step as part of plans to map out flood prone areas in the entire Ghana." The maps were produced from data collected by CARE in July and November 2010, NADMO's historical flooding data, a digital elevation model, and satellite images showing the extent to which towns are likely to be flooded when water level in rivers rises. See also: Development of Integrated Shoreline Management Planning: A Case Study of Keta, Ghana.

Rwanda signs officially for RCMRD membership

According to the recent ministerial cabinet meeting of 15 December 2010 Rwanda has signed to be member of RCMRD (Regional Center for Mapping of Resources for Development) an organisation putting together regional mapping agencies from countries in east and centre region of Africa. This will further enhance cooperation and integration among other projects envisaged to be spearheaded such as AFREF which is an initiative to set up a common African geodetic reference frame for all Africa countries based on international ITRF using WGS 84. This move will also see more collaboration on regional climate change issues where research is coordinated on a large scale instead of each and every country conducting on its own research agenda

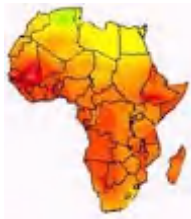## Rwanda's Cabinet approves land use master plan

The Cabinet meeting chaired by President Paul Kagame approved the National Land Use and Development Master Plan, which will guide landowners to appropriately use their land. The master plan displays various features such as ecosystems management, population distribution and development of networks for rural and urban settlements, social services and infrastructure, and protected areas such as wetlands. The master plan was initiated by the government and SwedeSurvey, a Swedish consultant firm, hired to carry out the architectural design. The plan provides planning standards and guidelines that will be used by all the implementing parties and will form the basis for decision making. It also reflects a move from old methods of conventional planning that were more product-oriented with limited stakeholder interaction to contemporary planning methods that provide continuous and more action oriented, with maximum stakeholder participation.

The Director General of the National Land Centre, Dr. Emmanuel Nkurunziza said that having the National Land Use and Development Master Plan and the land registration will effectively help in the implementation of the land policy. "The National Land Use and Development Master Plan will be implemented in three phases: the first is merging the district land usage policy together with the District development plan to form an Integrated Development Plan for the district". "The second phase will be the urban development plan while the third will be the area action plan". The Minister of Land and Environment, Stanislas Kamanzi, said that the land use and development master plan is a national tool that aims at ensuring rational, efficient, equitable and sustainable use of the country's limited land resource. "It is meant to facilitate availing land to various important economic activities that involve inherently competing land uses. It assures guided and clear cut mediation," he said. The cabinet meeting also approved the draft law relating to land usage and development in Rwanda, and the National Meteorology Policy.

UNECA and its partners prepare to launch the first national ecological footprint assessments

The UN Economic Commission for Africa (UNECA), Global Footprint Network, and the International Council for Science through the Regional Office for Africa (ICSU-ROA) will guide three African countries in

establishing their ecological balance sheets, giving them tools to manage their resources and secure their future. In today's world, where humanity is already exceeding planetary limits, ecological assets are becoming more critical. Each country has its own ecological risk profile. Many are running ecological deficits, with Footprints larger than their own biological capacity. Others depend heavily on resources from elsewhere, which are under increasing pressure. In some cases, the implications of ecological deficits can be devastating. It could lead to resource loss, ecosystem collapse, debt, poverty, famine and war. The Ecological Footprint is a resource accounting tool that helps countries understand their ecological balance sheet and gives them data necessary to manage resources and secure their future.

National governments using the Footprint are able to:

- Assess the value of their country's ecological assets
- Monitor and manage their assets
- Identify the risks associated with ecological deficits
- Set policy that is informed by ecological reality and makes safeguarding resources a top priority
- Measure progress toward their goals

It is almost certainly the case that countries and regions with surplus ecological reserves - not the ones relying on continued ecological deficit spending will emerge as the robust and sustainable economies and societies of the future. In a series of five phases, the three countries will validate their national Footprint Accounts, examine their country's ecological risk profile, understand their country's stability and competitiveness, and identify new opportunities for investment and policy shifts.

At the conclusion of the pilot project, the project partners will identify application tools that can be used by all African countries, guiding governments, NGOs and development agencies in creating sustainable, resilient economies and well-being throughout the region. For more information, contact: Thierry Amoussougbo, Regional Advisor, ISTD/ECA at tamoussougbo@uneca.org.

EAC states divided over who will host science commission

The East African Community partner states are locked in yet another dispute over the location of key institutions under the bloc, even before they can quell the ongoing succession battle on the position of secretary general. Sources in the EAC secretariat say decisions on where to locate some of the newly-created institutions are yet to be made, as members states are divided on who should host the institutions. The latest contention is on which country to host the Science and Technology Commission.

A senior official of the Community told The EastAfrican the would-be location of the Science and Technology Commission has particularly proved difficult because two member states were neck-to-neck contesting to host it. "This has clearly made us revisit the criteria for the hosting of these institutions," he said. Even before they can agree on the institution, Burundi has supported Rwanda's bid to choose a successor to EAC Secretary General Juma Mwapachu whose position falls vacant in April. This has deepened the succession row that analysts said is a reflection of the hurdles EAC nations will have to encounter in achieving full integration.

Still hanging is another EAC institution yet to get a host is the EA Kiswahili Commission which, like the Science and Technology Commission, falls under the EAC Sectoral Council on Education, Science and Technology, Culture and Sports. However, insiders at the Arusha-based secretariat were quick to say the location of the Kiswahili body may be over after Tanzania applied to host it in Zanzibar. It could not be established which of the two EAC member states were contesting to host the regional Science and Technology Commission although indications point to Kenya, Rwanda and possibly Tanzania. The matter had dragged for some time and in September 2009 forced the EAC Council of Ministers to intervene. The EAC official from the Education, Science and Technology, Culture and Sports Sectoral Council told the EastAfrican that a decision on where to locate the organ would be known after the member states agree on the terms of distribution of its facilities. Source: The East African.

Arusha institute in Tanzania to train scientists

The Deputy Vice-Chancellor of the Institute, Prof. Dunstan Shemwetta said in an exclusive interview that the first phase of the multi-billion Nelson Mandela Institute of Science and Technology project in Arusha will be completed and expected to take off in June, this year. He said "the institute will be undertaking research in science and technology, which will have multiplying effects to the communities and region at large, especially in agriculture, health, water and technological development. The project is the brainchild of the former president of South Africa, Mr Nelson Mandela. The Nelson Mandela Institute as well as the Diaspora will

continue to support the whole idea of establishing a research oriented institution that will be linked to the industrial development in Africa. Similar institutions have been established in Burkina Faso, Nigeria and South Africa under the Mandela/Diaspora initiative.

The institute will begin with students pursuing different science and technology subjects at masters and PhD levels. The process of students' selection will be very competitive with only the best credentials admitted. It is expected that some students will come from other regions and continents, the priority, however, will be given to Tanzanians who qualify. The Institute will admit 128 Doctoral and 89 Masters Students. For the initial announcement, there are enough lecturers, but more lecturers will come to join as well as visiting professors who will serve on short term basis. The subjects taught/mentored include life science, mathematics, information technology, hydrology and water and sustainable energy as well as many others.

Upon moving to full scale (phase two) of Nelson Mandela Institute various financial institutions and other well- wishers will be contacted for grants and donations to support the second phase. The pension funds sponsoring the Nelson Mandela institute project include NSSF, PSPF, PPF and LAPF who have entrusted the Pension Properties Limited (PPL) Company to manage the projects. The government will pay the pension funds for ten years before owning it.

TECA Uganda exchange group

TECA is a FAO initiative that aims at improving access to information and knowledge sharing about proven technologies for small-producers in order to enhance their adoption thus addressing food security, climate change, poverty alleviation and sustainable development. The TECA platform is based on an open-source content management system that allows the use of different web tools (exchange groups, comments, rating, forum, videos, audios, etc.) and an online repository with more than 800 technologies from FAO field projects and 20 international partners.
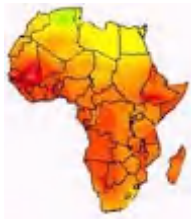
Exchange Groups consist of representatives of farmer groups, organisations, research institutions, NGOs and individuals who are willing and prepared to share knowledge, experiences, or any kind of information relevant to smallholder producers. Information can be shared through group discussion forums, by uploading audio and video recordings or through interacting with experts. Groups are moderated by a group administrator (facilitator), and access is free and open to everyone. Eleven months since its establishment, the TECA Uganda Exchange Group has had very positive feedback from the more than 260 group members.

The Open Innovation Africa Summit (OIAS), Naivasha, Kenya

The OIAS was designed as an energetic learning environment that featured visualisations, parallel working sessions, feedback, and open dialogue in small groups. Delegates came up with a joint vision for an innovation ecosystem and sought to foster trust between stakeholders partly through building networks and establishing partnerships to stimulate collaboration. They also highlighted critical policy recommendations and best practices in sustainable, open innovation, and the vital role played by mobile and other technologies in building an information society and stimulating entrepreneurship. Discussions focussed on four thematic areas: African innovation ecosystem; Sustainability Models for the Base of the Pyramid; Mobile Information Society; and Human Capital - Education for All.

Delegates envisioned an open innovation ecosystem for Africa in place by 2020 that recognizes innovation as a systemic activity and therefore facilitates interaction between key stakeholders to stimulate open innovation. It will have clear policy processes that are interactive and partnerships that are well-aligned and innovative. It will create an environment that provides private sector/innovation support services, innovative funding mechanisms and breaks down barriers to businesses to enable innovation to flourish. The envisaged innovation ecosystem incorporates the other tenets of innovation such as improved investment in research and development, multi-helix arrangements that go beyond public-private partnerships and commercialisation of innovations. The 2020 ecosystem also considers the changing nature of innovation from an isolated "ivory tower" activity to one of networking where players bring ideas together online through simulations and other contemporary approaches with the effect of wealth and job creation.

Thought leaders in the ICT sector have often considered mobile phone technologies as a wasted resource in "Education for All" policy and advocacy. "Education for All" is one the UN Millennium Development Goals (MDGs) that are set to be achieved by 2015. Africa is a book-poor but relatively mobile-rich society; while only about 7% of schools have a well-stocked, functioning library, mobile handset penetration ranges from 45-50%. Mobile learning (m-learning) therefore presents huge potential for both learners and educators in Africa. Africa must harness the immense human capital that it boasts. One way to do this is to develop

holistic "ICT for Education" policies to harness the power of the numerous emerging new technologies as well as to participate in the development of new technologies for better learning.

Report on global geospatial information management, Report of the Secretary-General

Statistical Commission, Forty-second session, 22-25 February 2011. Item 4 (n) of the provisional agenda. In accordance with a request of the Statistical Commission at its forty-first session (see E/2010/24, chap. I.B, decision 41/110), the Secretary-General has the honour to transmit the report on global geospatial information management, which provides an update on recent activities in this field and outlines the findings of the second preparatory meeting on the proposed United Nations Committee of Experts on Global Geospatial Information Management, held in New York in May 2010. Furthermore, the present document reports on the mandate of the Economic and Social Council for the work on global geospatial information management and the subsequent preparation of a draft mission statement and terms of reference for the proposed Committee of Experts. The report also describes planned activities for 2011, in particular the first United Nations Forum on Global Geospatial Information Management, to be held in Seoul in October 2011.

Special online collection of papers: dealing with data

Science Magazine and its sister publications explore the issues surrounding the growing influx of research data. Access to this special collection and related online discussion is free (simple registration is required for non-subscribers).

This collection of articles highlights both the challenges posed by the data deluge and the opportunities that can be realized if we can better organize and access the data. Science Papers - Special Online Collection: Dealing with Data – Science 331(6018), 11 February 2011.

Climate data challenges in the 21st century

Climate data are dramatically increasing in volume and complexity, just as the users of these data in the scientific community and the public are rapidly increasing in number. A new paradigm of more open, user-friendly data access is needed to ensure that society can reduce vulnerability to climate variability and change, while at the same time exploiting opportunities that will occur.

Challenges and Opportunities of Open Data in Ecology

Ecology is a synthetic discipline benefiting from open access to data from the earth, life, and social sciences. Technological challenges exist, however, due to the dispersed and heterogeneous nature of these data. Standardization of methods and development of robust metadata can increase data access but are not sufficient. Reproducibility of analyses is also important, and executable workflows are addressing this issue by capturing data provenance. Sociological challenges, including inadequate rewards for sharing data, must also be resolved. The establishment of well-curated, federated data repositories will provide a means to preserve data while promoting attribution and acknowledgement of its use.

Changing the Equation on Scientific Data Visualization

An essential facet of the data deluge is the need for different types of users to apply visualizations to understand how data analyses and queries relate to each other. Unfortunately, visualization too often becomes an end product of scientific analysis, rather than an exploration tool that scientists can use throughout the research life cycle. However, new database technologies, coupled with emerging Web-based technologies, may hold the key to lowering the cost of visualization generation and allow it to become a more integral part of the scientific process. Source: Servir Community Blog.

The call for presentations for FOSS4G 2011 in Denver is now open

The Free and Open Source Software for Geospatial (FOSS4G) conference is reaching out to speakers interested in presenting at the 2011 conference that will be held September 12-16 in Denver, CO, USA. Users and developers are encouraged to present their latest projects and software development work to demonstrate the power of open source geospatial solutions.

The organizers are looking for a good mix of content for all levels of ability and experience with open source. In addition to high-caliber sessions for developers, there are plans for several workshops and sessions that will welcome non-technical decision makers to the power, capability and compelling business case for open source geospatial software.

Presentation topics will include case studies of open source applications, benchmarks of performance between different components, visualization tips and tricks, and new tool developments, hacks and mashups. In addition to the core focus on free and open source software, this year's conference will also

feature a major focus on free and open data. Content may cover systems that are solely open source or a combination of open and closed source solutions.

This year's FOSS4G event is also adjacent to State of the Map, the annual international conference focused on OpenStreetMap, the wiki-style creator and provider of free geographic data that has recently garnered corporate support from both MapQuest and Microsoft. The ability to attend both events with one trip to Denver in September makes for a great opportunity to learn about the latest developments in the geospatial industry.

Presentations will either fill 30-minute slots with time for questions or 5-minute lightning talks. Proposals can be submitted online at http://2011.foss4g.org/program/.

6th ESRI Eastern Africa User Conference, 5 - 7 October 2011, Zanzibar Beach Resort, Zanzibar

The 2011 ESRI EA User Conference will be held on 5 - 7 October 2011at the Zanzibar Beach Resort, Zanzibar. The conference tracks:

- Mapping & Charting and Public Safety - Defense & Intelligence, Disaster Management, Law Enforcement, National Mapping & Charting.
- Government - Demographics, Economic Development, Election Services, Land Records, Public Works, Urban Planning.
- Natural Resources - Agriculture, Biodiversity Conservation, Environmental Management, Forestry, Mining & Petroleum, Water Resources.
- Health Services and Education - Higher Education, Public Health, Research.
- Utilities - Electric Generation, Transmission & Distribution, Telecommunications, Water & Sewerage.
- Transportation & Business - Aviation, Highways & Roads, Logistics, Maritime Transportation, Railways, Real Estate.

Deadline for abstract submission: 29 July 2011 on any of the available tracks at events@esriea.co.ke.

Call for Papers - Special feature on Open Geographic Information

This special feature for the Journal of Spatial Information Science (JoSIS) aims to bring together some of the key developers, academics and writers on Open Data to document its lineage, debate its philosophy and methods and to envision its future.

Invitation is for full research articles - a wide variety of stimulating papers dealing with either the theoretical and/or practical aspects of this emerging research. Potential contributions should consult the Guidelines for Authors and discuss their article with the Guest Editors Dr. Hanif Rahemtulla (hanif.rahemtulla@nottingham.ac.uk) or Professor Paul Longley (p.longley@ucl.ac.uk) before submission. All papers will go through the normal JOSIS peer review process. Contributions are welcome from any source, and in any style appropriate to the arguments being made. Submission deadline: 30 June 2011.

Call for Papers and the 7th International Symposium on Digital Earth (ISDE7), 23-25 August 2011, Perth, Western Australia

The International Society for Digital Earth will hold it's Biennial Symposium at the Perth Convention and Exhibition Centre, Western Australia on 23-25 August 2011. This event will be of particular interest to scientists and practitioners working in areas including spatial sciences, space technology, remote sensing, planning, geodesy, agriculture, natural resource management, climate and earth modelling, mining, resource development, spatial statistics and community empowerment.

The overall theme of the Conference is 'The Knowledge Generation'. Some topics suggested for papers include:

- Digital Earth Vision, Technologies and Applications
- Earth Observation Technologies
- Space and Satellite Technologies
- Population Growth and Infrastructure Development
- Adapting to Global and Climate Change
- Empowering the Community
- Managing Land and Water
- Emergency Management and National Security
- Digital City and Green Cities
- Mining, Energy and Resources Development
- Natural Resource Management (NRM) and Agriculture

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- Innovation

However, topics are not limited to the above and suggestion for something relevant and interesting is accepted. Submit abstracts and biography online Melissah Johnston on +61 8 9273 7042 or melissah.johnston@walis.wa.gov.au or via walis@walis.wa.gov.au. Details of the submission process, including an abstract template and guidelines are available at http://www.isde7.net/call_for_papers. Abstract submission deadline: 28 February 2011.

Call for Expression of Interest to Host AARSE 2014 and Future Conferences

- The African Association of Remote Sensing of the Environment (AARSE) was founded in 1992 and incorporated as an international NGO under Section 21 of the South African Companies Act (Act 61 of 1973). AARSE conducts biennial (once every two years) international conferences across Africa apart from other awareness and capacity building activities. Up to 2010, AARSE has organized conferences in Harare (Zimbabwe) in 1996, Abidjan (Cote D'Ivoire) in 1998, Cape Town (South Africa) in 2000, Abuja (Nigeria) in 2002, Nairobi (Kenya) in 2004, Cairo (Egypt) in 2006, Accra (Ghana) in 2008 and Addis Ababa (Ethiopia) in 2010. The 9th conference will take place in the last week of October 2012 in Morocco (watch out for the conference website www.aarse2012.org before the third quarter of 2011).

AARSE is inviting expression of interest from national institutional members and other organizations/agencies in Africa for the hosting/organization of the 10th Conference of the Association in 2014 or other future editions of the conference. The conference is usually held in the month of October (of every even-number year). The bidding/declaration of interest should clearly indicate the name of (leading) organization including history of the organization and statement of previous hosting of international conference(s) of similar magnitude; Names of supporting organizations in the country supported by letters of intent from such organizations; Venue (city) of the conference; Strength of AARSE membership as well as geo-information activities in the country; Other useful information.

AARSE does not provide funds for the hosting organization but the Association can and will solicit for funding on behalf of the organization towards a successful hosting of the conference. Submit the declaration of interest to: Prof. Harold Annegarn at hannegarn@gmail.com with a copy to: Prof. Jide Kufoniyi at Jide.kufoniyi@aarse-africa.org.

Practical SDI implementation materials from within and outside of Africa
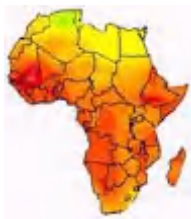
Using space to navigate our way to growth

The European Commission uses a very interesting statistic in support of its proposed satellite navigation system, Galileo. It appeared with the "mid-term review [200KB]" of the project and the assessment of the future cost to complete the network's infrastructure - a further 1.9bn euros on top of the already committed 3.4bn. Galileo could be fully operational by the end of the decade, a mid-term review said. The European Commission made clear in its Galileo mid-term review what most people had realised a long time ago - namely that Galileo of itself will generate very little income. Revenues back to the system from its very accurate, highly restricted services, which will be provided to a relatively small group of customers (predominantly government agencies), will generate sums that might run into the tens of millions of euros annually

As with GPS, the real value is to be found downstream in the wider economic activity that will ride off the back of Galileo's sat-nav signals, or to be more precise the enhanced capability that will come from having Galileo and GPS working in tandem and pushing each other forward. Rosemary McClenaghan who was a former social worker but now runs a taxi and chauffeur business on the outskirts of Belfast had a very simple but brilliant idea. Wouldn't it be great if you could have an application on your phone that allowed you to call a taxi, see where the nearest vehicle was to you, follow its progress to your location, and be comfortable about getting into that cab because all the information about it (driver's name, vehicle make and model, license registration, etc) had already been sent to your phone?. Rosemary just had the vision. She's not a technologist, so she went to someone who is to help her turn that vision into reality. The result is an iPhone app now being trialled in Belfast called TaxiZapp. "The beauty of it is that it shows when the driver tells you he's on the way, you can actually see the driver on the map driving towards you. So, it's pinging his location all the time like sat-nav. And all the details stay on your phone as well. If you arrive home and think 'I left something in the taxi', like your wallet or your camera, you can check who the driver was and get back in

touch with them.The idea resulted in Rosemary becoming last year's Galileo Master, the UK winner in a pan-European competition to find innovative applications for location and timing data delivered from space. She was awarded a cheque for £10,000, and some business and technical support to develop TaxiZapp further.

Indeed, there's a lot of work going on inside the centre to tie together all sorts of geospatial information from a variety of motion sensors. There is one application that could be used to follow the progress of firefighters into a burning building from small devices implanted in their boots. All things connected with sat-nav are some of those activities. Four spacecraft are needed for In Orbit Validation (IOV) models, these satellites will prove the Galileo sat-nav system works end-to-end.to. The first two, with their British-assembled payloads, will launch on the first Soyuz to fly from the new Sinamary spaceport in French Guiana. The second pair should go up in early 2012.

Production of the next 14 operational satellites should begin mid-year in a new purpose-built factory facility in Guildford run by SSTL. Source: BBC blog.

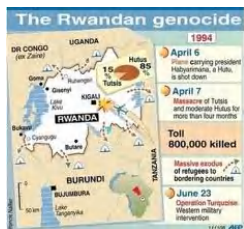### Clooney, U.N., Google team up to monitor Sudan using satellite

A satellite surveillance project spearheaded by actor George Clooney's organization monitored the violence in Sudan during the January referendum vote that could split the country in two. The program used satellite images to assess the situation on the ground for any signs of conflict, monitor hotspots in real time and post the findings online, organizers said. The satellites can help capture threats to civilians, keep track of displaced people and inspect razed villages, the organizers said in a statement.

"We want to cast a spotlight - literally - on the hotspots along the border to record any actions that might escalate the chances of conflict," the statement said. "We hope that if many eyes are on the potential spoilers, we can all help detect, deter and interdict actions that could lead to a return to deadly violence." Clooney said in the statement the program will help avert crime. "We want to let potential perpetrators of genocide and other war crimes know that we're watching, the world is watching", he said. War criminals thrive in the dark. It's a lot harder to commit mass atrocities in the glare of the media spotlight."

Humanitarian agencies hope the alert system will prevent human rights violations in a country where attacks in the western Darfur region have killed hundreds of thousands in the past seven years. Not On Our Watch, an organization co-founded by Clooney that focuses on Darfur, is funding the satellite effort. It is collaborating with other groups, including the United Nations, Google and the Harvard Humanitarian Initiative, organizers said. The January referendum, which will determine whether southern Sudan will become an independent state, has sparked fears of renewed violence. The vote is part of a 2005 peace agreement that ended two decades of violence between the north and oil-rich south. The conflict led to the deaths of 2 million people, many from starvation.

The program, dubbed the Satellite Sentinel Project, was launched at www.satsentinel.org. The United Nations' Operational Satellite Applications Programme - which is part of the effort - said it is ensuring its "capabilities for satellite analysis and geographic information" are utilized to avoid another humanitarian crisis. "We were late to Rwanda. We were late to the Congo. We were late to Darfur. There is no time to wait. With your support, we will swiftly call the world to witness and respond. We aim to provide an ever more effective early-warning system: better, faster visual evidence and on-the-ground reporting of human rights concerns to facilitate better, faster responses," Clooney said.

Database using GPS technology to map all the genocide sites in Rwanda

The new site of Rwanda's Genocide Archive rests on the slopes above the mass graves containing the bodies of 250,000 Rwandans murdered in the horrors of 1994. The physical archive showcases 1,500 audiovisual recordings and more than 20,000 documents and photographs from genocide survivors and perpetrators both at the facility and online.

The Rwandan government's National Commission for the Fight Against Genocide and British-based Aegis Trust set up the project in 2003. "It is very exciting to have this archive. For the past two decades, we have been fighting against the deniers of genocide," said Freddy Mutunguha, director of the Kigali Genocide Memorial Centre and Rwanda director of the Aegis Trust. "As a survivor of genocide, it is very painful to hear that someone is denying what happened to yourself, your family and your people. This archive gives me confidence that at least we can fight it with

the facts," said Mutunguha. "Although the initial collection is relatively modest, we wanted to make the Genocide Archive accessible to everyone as early as possible in the process of research and acquisitions," said archive manager Yves Kamuronsi.

The Aegis Trust is also collaborating with the University of Nottingham in the United Kingdom on a project to create a comprehensive map of Rwanda's genocide sites. The database uses GPS technology to map all the genocide sites in Rwanda, matching them with photographs and testimonies from survivors, witnesses and perpetrators. To date, over 1,000 sites have been identified in Kigali alone. "The more information we can have about the genocide, researchers can start to understand how it is that genocides evolve, develop and how governments began to implement it," said Dr. James Smith, CEO and co-founder of Aegis Trust.

Understanding the details, we can then appreciate and recognize the signs and develop strategies to prevent tragedies like genocides and crimes against humanity in other parts of the world, said Smith.

The United Nations estimates that more than 800,000 men, women, and children perished in the Rwandan genocide, perhaps as many as three quarters of the nation's Tutsi population. "During the genocide, the international community turned their backs to us, they didn't take what was happening seriously. It will be very embarrassing for the international community to see these achieves detailing the facts and not take responsibility to prevent something like this from happening again," said Mutunguha. Also see: CNN - New Rwandan genocide archive opens.

GIS Tools, Software, Data

USAID launches new online map app for disease tracking
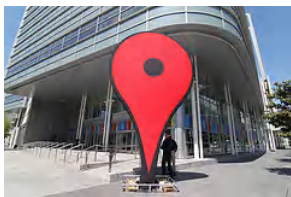
A new online mapping tool, known as Predict, will enable scientists and the public to track outbreaks of animal diseases that might jump to humans. The tool, created with a grant from the United States Agency for International Development (USAID), is being produced by experts on human and animal diseases from a few institutions. The system will monitor data from 50,000 Web sites with many types of information, including World Health Organization alerts, online discussions by experts, wildlife trade reports and local news. How useful it is will depend on how well it filters that river of information. Source: Outbreaks: A tool to track animal diseases may help to protect humans, New York Times, February 7, 2011.

ICT revolution hits the livestock market

The Livestock Information Network and Knowledge System (LINKS) has developed a marketing information system that allows pastoralists to access information about livestock prices at different regional markets: in this way, using an ICT infrastructure to collate data on livestock sales and prices using SMS messages, they are now able to identify which points-of-sale offer the best prices for their livestock.
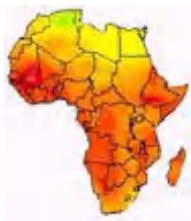
How to Add Location Information to Mobile Content

If you're a journalist or blogger, adding location information to your content can add value to your work. This kind of data can be of particular help to journalists who report on specific communities, reporters who create venue-specific multimedia, or citizen journalists who cover events in which location is relevant.

Adding location information has many advantages. It provides more context and help journalists and publishers find an interested audience as the content become more accessible to users searching for information regarding specific locations. Location information lends itself to aggregation, and content can be put on maps and other visualizations. Through this, it can be used in pattern-finding. It can leverage the social media.

To help you get a handle on adding location information, here are some recent uses:

- The Online Journalism Blog showcased possibilities of using location reporting through Google latitude to present a geographic chronology of a parade.
- Al Jazeera reporters traveled into the heart of the Sahara desert, and used location tagging to tell a photo story.
- The Wall Street Journal has used location-based social media Foursquare in some experiments, using the platform for sharing news about Times Square bombings as well as restaurant reviews.
- Neighborhood narratives invite students to share stories using cell phones, GPS devices, and social network games.

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- [Locast](#) is a location-based storytelling platform in which reporters and tourists tell their stories about a location using video and other tools.
- SMS [incident mapping](#) has been used in various scenarios ranging from reports from natural disasters to tracking violent crime, citizen reporting in elections.

There are several other [geocoding APIs](#) available that allow web and SMS applications to be built on top of them. Some publishing platforms offer support through the mobile web, while others have location support when you use their apps.

There are also specifically location-based social networking tools like [Brightkite](#), [Google Latitude](#), [Gypsii](#), [Foursquare](#), [Gowalla](#), and [many more](#). While these may not be designed for publishing significant content beyond location, they can often be [used](#) for journalistic purposes. Another more tech-savvy approach is to develop an application that can access your mobile's location. One particularly useful starting point is the open source [gReporter](#) tool or [Google Latitude](#). By building an application using Google Latitude API, you can use the apps and features Latitude users already use for reporting location, and do something interesting with the location data. Yahoo offers a similar location-based API with [Fireeagle](#).

2009 global land cover map released online

The European Space Agency (ESA) 2009 global land cover map has been released and available to the public online from the 'GlobCover' website. ESA and Belgium's Université catholique de Louvain created the map using software developed by Medias France and Germany's Brockmann Consult on data from Envisat's Medium Resolution Imaging Spectrometer at a resolution of 300m collected from 1 January to 31 December 2009. The map's legend uses the UN Food and Agriculture Organisation's Land Cover Classification System. The map displays land classification information for most of the Earth's surface at a resolution of approximately 20 acres (~9 hectares) per pixel. Each pixel is color coded to represent one of 22 different land classifications, which are based on the predominant type of vegetation found at that location. The Google Earth version of the map was created by the Google Earth Library, and is presented at the full resolution of the original. A color coded legend can also be displayed as an overlay. The map is downloadable into [Google Earth](#).

Geospatial Research, Applications, Reference Material

LIDAR optical remote sensing technology to be used in establishing the areas of forests in Virunga

The WWF is planning to join forces with NASA this year to establish the exact forest area surfaces in Virunga region between Democratic Republic of Congo, Rwanda and Uganda using LIDAR optical remote sensing technology, which can detect subtle topographic features such as river terraces and river channel banks, and measure the land surface elevation beneath the vegetation canopy. The technology will allow researchers to establish forest density and even the precise amount of chlorophyll contained in different tree species.

LIDAR techology can detect subtle topographic features such as river terraces and river channel banks, and measure the land surface elevation beneath the vegetation canopy. The technology will allow researchers to establish forest density and even the precise amount of chlorophyll contained in different tree species. With data provided by LIDAR, researchers will also be able to divide the Congo Basin into zones, isolating which areas are made up of primary forest and are therefore most in need of protection, and which areas could best be exploited by local populations. The ultimate goal is to identify 15 percent of the Congo Basin as a protected area and thereby help preserve the habitats of species such as forest elephants, bonobo apes and various types of rare flora.

Outside the protected areas of the national park, the WWF is overseeing a project to establish, maintain and exploit legal plantations for the production of fuel wood. It also subsidizes the manufacture of energy-efficient ovens that consume 30 percent less fuel than previous ovens used hitherto. Another project, run by the World Resources Institute, is putting the systems in place to implement effective strategies to reduce emissions from deforestation and forest degradation (known as REDD). It is spearheading an innovative new project aimed at quantifying degradation and the greenhouse gas emissions in the forests of the Republic of Congo, and developing new methods to measure and monitor forest degradation. The region will also be able to earn carbon credits by engaging in green carbon sequestering activities. Ideally, REDD could deliver millions of dollars to impoverished communities in the Congo Basin in carbon credits, providing a powerful incentive to protect this land of great value to the planet. But given that DRC is one of the most corrupt

nations in the world, negotiations are far from straightforward. A detailed study on the use of Remote sensing techniques in forest management can be found at ITC online library in a document titled "User requirement study for remote sensing based spatial information for sustainable management of forests"

Use GIS technology for national development - CGIS-NUR

The Director of the Centre for Geographic Information Systems and Remote Sensing (CGIS) at the National University of Rwanda has urged government, private institutions and individuals to embrace the use of GIS as a way of expediting national development. Prof. Jean Nduwamungu made the call during the celebrations to mark the world GIS Day. Geographic Information Systems (GIS) is a set of tools that integrate, store, edit, analyze, share, and display geographic information.

Founded in 1999, CGIS aims at serving as a national and regional training and research outreach centre to address the issue of rural sector transformation and poverty reduction. The annual world GIS Day aims at enabling its users to open their doors to schools, businesses, and the general public to showcase real-world applications of GIS that are making a difference in the society and their use to support national development. The day, which was for the first time marked in 1998, is celebrated in 80 countries worldwide.

This year, the day was celebrated under the theme: 'Discovering the World through GIS'. Speaking during the celebrations, Nduwamungu noted that GIS technology can be applied in any field, and speeds up the implementation and realization of one's objectives. "For instance, you can use it to identify areas for specific crops or in elaborating land use master plans," Nduwamungu said. "It helps in decision making because it really shows you where to put infrastructure or conduct development activities basing on factual information."

He urged the public to make use of the centre in order to benefit from its services. "Individuals or institutions can approach us and we can gather data that can help them identify suitable areas for instance where to set up health facilities, schools, energy plants or any other development activities," Nduwamungu added. The celebrations were marked by presentations on various researches that were conducted in the field of geographic information in the country. The event attracted experts and researchers from the centre, the National University of Rwanda and other institutions of higher learning in the country and outside.

Rwanda's Minister calls for extensive use of ICT in land management

The Minister of Lands and Environment, Stanislas Kamanzi, wants to use ICT to facilitate land transactions. His ministry intends to introduce Land Administration Information System (LAIS) in all districts. Kamanzi made the remarks during a swearing in ceremony of district land officers at the ministry's headquarters in Kimihurura.

"LAIS will help in legal land documents exchange whether buying, donating or inheriting any piece of land," Kamanzi explained. He said the Ministry also intends to support projects to draw up a proper District land master plan. It is necessary that all District land Officers are trained in Geographic Information System (GIS) and how a land use master plan can be developed. It is estimated that 8 million plots of land are yet to be demarcated while 4 million have already been recorded. Legal documentation of all land plots is scheduled to end in December 2013, according to the minister. The job of the newly sworn in district land officers will be the awarding of building permits, deed plans, and resolving conflicts. They will work as District land notaries who will also advise citizens on legal procedures of acquiring or transferring land before going to National Land Centre for land titles.

Assessing the maturity level of geospatial business intelligence

Business Intelligence (BI) covers a collection of techniques and tools that support an organisation's decision making process. Search giant Google says the advent of Google Maps familiarised people with the concept of data points on a map, and progressively more and more BI customers are expecting fully integrated maps and spatial analytics with their tools of choice. Seeing data in the context of its location often exposes information previously hidden in the raw data. Google has already highlighted that, at the click of a button, the analytics currently being viewed by a user can be interactively viewed on Google Earth. All the information and data relationship layers are dynamically available so that as filters are applied in the BI environment they are automatically applied to the view in Google Earth.

Assessing the contribution, Jean-Sebastien Turcotte, executive vice president/CTO, Korem, said that Google has helped in democratising mapping. "BI has traditionally excelled at who, when and what, but not the "where" component. But Geospatial Business Intelligence is more than just points on a map. While Google

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helps provide some context to point data, there are a lot of other pieces to this puzzle to deliver a strong analytical platform. In most cases, points are not sufficient as is business data. It needs to be augmented with third party data or analysis tools to provide a complete picture," said Turcotte.

"Pushpins on a map are not that different from dates on a calendar. It is very useful but it does not mean that you then master time, timing, tempo, rhythm, synchronisation, prioritisation and history. It's the same with data on maps. BI is about analytics; geospatial business intelligence is supposed to provide spatial analytics," Vaillancourt told TheWhereBusiness correspondent Ritesh Gupta. "It's in the business logic and its data that the opportunity for innovation and growth lies for the industry players. Location data is flooding from mobility devices and social media but the OLAP nature of BI is about aggregation to allow drill-down navigation and discovery points (pushpins) are not appropriate for that and we see more and more options to handle lines and polygons with the Web-giant APIs."

According to Turcotte, most companies want to implement geospatial business intelligence technologies, but don't really understand the requirements. A few aspects include: Is your data geo-reference (geocoded)? What level of accuracy do you need? What coverage do you need? Is there existing third party data that could complement your data? Is the data structured appropriately for use in a GBI solution? "All of these factors will influence the price and complexity of data integration," said Turcotte. "The best way to approach these issues is to start early in the GBI implementation process to roll in expert resources that are able to provide insight. Also, there are tools out there that help in cleaning and streamlining data, and the implementation of such tools will help in ensuring accurate analysis throughout the life cycle of the application." Jean-Sebastien Turcotte and Luc Vaillancourt are scheduled to speak at the Enterprise Strategies for Location Intelligence USA 2011 conference, to be held in Chicago on 30-31 March 2011. For more information, contact Naomi Hands, telephone +44 (0) 207 375 7513.

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.

Institute for Capacity Development (ICD) Short courses and Workshops: March - May 2011
- Management Advancement Programme - Victoria Falls: Zimbabwe| Tatenda Lodge| 11 - 15 April 2011
- Advanced Project Monitoring and Evaluation - Pretoria: South Africa| ICD Centre| 14 - 25 March 2011
- Project Planning, Management and Evaluation - Windhoek: Namibia| ICD Training | 4 - 15 April 2011
- Macroeconomic Policy Analysis and Forecasting - Windhoek: Namibia| ICD Centre| 16 - 27 May 2011
- Strategic Management Skills for Senior Executives - Windhoek: Namibia| ICD Centre| 14 - 26 March 2011

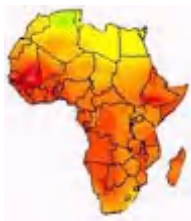For further information, contact: coordinator@icdtraining.com.

African Regional Centre for Space Science and Technology Education in English (ARCSSTE-E)
The African Regional Centre for Space Science and Technology Education in English (ARCSSTE-E) is established in Nigeria at Obafemi Awolowo University Campus, Ile-Ife. Within the frame work of its mandate to build capacity in core areas of Remote Sensing and GIS, Satellite Communication, Satellite Meteorology and Global Climate and Basic Space and Atmospheric Sciences Applications.

The Space Education courses comprise a 9-month Post Graduate Diploma programme (January to September) every year; and an optional 12 months MSc degree programme. The list of courses:
- Satellite Communication (SATCOM)
- Satellite Meteorology (SATMET)
- Remote Sensing/Geo Information System (RS/GIS)
- Basic Space

The Center trains participants mostly from English speaking African countries: Angola, Botswana, Cameroon, Egypt, Ethiopia, Ghana, Kenya, Lesotho, Liberia, Malawi, Mozambique, Namibia, Nigeria, Sierra

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Leone, South Africa, Sudan, Swaziland Tanzania, The Gambia, Uganda and Zimbabwe. Deadline for applications: <u>30 September of each year</u>.

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. Beginning in January 2011, users will be able to test for five certifications. The remaining eight are still in development and will be available later in the year. 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. Advice on the best training and preparation for a particular certification is available. Read more.

ESRI South Africa presents a full spectrum of GIS courses: March 2011

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

Various training venues are available at Esri South Africa, for further information contact: 011 238 6300 Email the training team

Free ESRI Courses

Free online course modules from ESRI's Virtual Campus site. Learn the basics of many of their software packages and extensions or take some concept courses such as a review of projections.

ESRI Eastern Africa Hands-on Training for GIS Professionals

The following courses are offered at the ESRI Authorized Learning Centre in UpperHill, Nairobi, Kenya.

Fundamentals of ArcGIS Desktop	Duration (Days)
• ArcGIS Desktop 1: Getting Started with GIS	3
• ArcGIS Desktop 2: Tools and Functionality	4
• ArcGIS Desktop 3: Workflows and Analysis	3
• **Data Production and Editing with ArcGIS**	
• Field Data Collection Using ArcPad and ArcGIS Desktop	3
• Building Geodatabases	4
• Data Production and Editing Techniques	4
Analysis with ArcGIS	
• Performing Analysis with ArcGIS Desktop	4
Cartography with ArcGIS	
• Creating and Publishing Maps with ArcGIS	4
Enterprise GIS	
• Introduction to ArcGIS Server	3

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- Introduction to the Multiuser Geodatabase   3
- Managing Editing Workflows in a Multiuser Geodatabase   4

Programming with ArcGIS

- Introduction to Programming ArcObjects using .NET   4
- Introduction to Geo-processing using Python   3

Added new courses focusing on ENVI: the Image Processing Software for processing and analyzing geospatial imagery.

- Introduction to Remote Sensing with ENVI   3
- ENVI for GIS   3
- Exploring ENVI   5
- ENVI for Defense and Intelligence   4

Contact: ESRI Eastern Africa at: training@esriea.co.ke, telephone: +254 20 2713630/1/2 or fax: +254 20 2713633.

ITC Education Brochure 2011-2012 online

Read the new ITC Education brochure with all the degree, diploma and certificate programmes in geo-information science and earth observation starting in 2011. More information is available at www.itc.nl/Pub/Study/CourseFinder

NFP Course List 2011-2012

Short courses in agriculture, forestry and fishery, fellowship provided. Application deadlines 1 May 2011 and 1 October 2011.

L'Ecole Régionale post-universitaire d'Aménagement et de gestion Intégrés des Forêts et Territoires tropicaux (ERAIFT) [Regional School on Integrated Management of Tropical Forests and Territories] –

l'ÉRAIFT est une école d'avant-garde au service du développement humain et durable de l'Afrique.

Elle a pour vocation de former des Spécialistes (DESS & Ph.D) de l'Aménagement et de la Gestion des Forêts et Territoires Tropicaux, par une Approche Interdisciplinaire, Globale et Intégrée, autrement dit Systémique. Contact: info@eraift.org.

Short-courses offered by RECTAS in 2011, 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

SCGIS/ESRI International Conservation Mapping Competition

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Created in association with ESRI and the Society for Conservation GIS (SCGIS) to bring special recognition to those involved in conservation initiatives, the International Conservation Mapping Competition is open to all nonprofit conservation groups and the individuals who support them. A total of $10,000 in prize money will be awarded in the following categories:

- Grand Prize: Best exemplification of conservation mapping
- Best Traditional Cartography: Best design and art in a static map (hard copy or online)
- Best Interactive Web Map: Best design and usability in an interactive web map
- Best Use of Science: Best design and impact in presenting challenging scientific concepts
- Best Societal Impact: Most compelling impact on society
- Best Innovation: Most creative use of mapping tools to communicate a conservation message

Winners will be announced in the summer 2011 issue of Conservation Magazine. Exhibition plans for accepted maps include a featured display with SCGIS and the Society for Conservation Biology at the ESRI International User Conference, 11-15 July, 2011, in San Diego, CA.

Entries must be created using ESRI GIS as a primary tool. An essay describing your map is required. The deadline to receive entries is 11:59 p.m. (PST) 15 March 2011. Essay guidelines (PDF), FAQs, Terms and conditions (PDF). Entry form. Source: Servir Community Blog.

UN-HABITAT Urban Youth Fund for NGOs in Developing Countries

The United Nations Human Settlement Programme (UN-HABITAT) has launched the third round of funding for the UN-HABITAT Urban Youth Fund aimed at advancing the achievement of Millennium Development Goals (MDG) and the Habitat Agenda by supporting youth-led projects implemented in cities and towns of developing countries. The Fund has been established with the support of the Government of Norway.

The Fund seeks to provide assistance to youth-led NGOs to develop and implement projects that will contribute to sustainable urbanization in the developing world. Young persons in the age group of 15 and 32 years can apply to receive this support through legally registered organizations in developing countries. Persons above the age of 32 years can still take part in the projects demonstrating adult-youth partnerships. Involvement of girls and young women in decision-making at all levels of the organization is another important criterion.

An interesting feature of the Fund is that it can also support organizations that are legally not registered but fulfill other criteria set down in the application guidelines. Such an NGO needs to apply in partnership with a facilitating organization that will receive and manage the funding on its behalf. Proposed projects should be implemented at the grassroots within a city or town with more than 10,000 inhabitants. The projects should promote youth participation in urban governance, pilot innovative approaches to adequate shelter and secure tenure for youth; promote entrepreneurship and employment for youth; and support the development of youth networks on sustainable urban development. The Fund can support projects of up to US $25,000 for a period of twelve months. Applications have to be submitted online through the **Urban Youth Fund System**. The closing date for making the submission is 15 April 2011.

Pre-Doctoral Fellowships in African Climate Change and Political Stability

The deadline for CCAPS pre-doctoral fellowship has been extended to 31 March 2011. The Climate Change and African Political Stability (CCAPS) program at the LBJ School of Public Affairs at the University of Texas at Austin will offer up to three pre-doctoral fellowships for the 2011-2012 academic year. The CCAPS pre-doctoral fellowship program aims to stimulate the development of the next generation of researchers and thought leaders on the topic of climate change and political stability in Africa.

Pre-doctoral fellowships are available to advanced PhD students, with preference given to those who have made substantial progress towards the completion of their dissertation. U.S. and international PhD students are encouraged to apply. CCAPS will consider applicants working on a broad range of topics related to climate change, political stability, and security in Africa. Suitable topics may include, but are not limited to: climate change vulnerability in Africa; potential impacts of climate change on political stability or security in Africa; and strategies for addressing climate change challenges in Africa.

African Women in Agricultural Research and Development (AWARD)

AWARD is a professional development program that strengthens the research and leadership skills of African women in agricultural science, empowering them to contribute more effectively to poverty alleviation and food security in sub-Saharan Africa. AWARD is a project of the Gender & Diversity Program of the

Consultative Group on International Agricultural Research (CGIAR). The AWARD Fellowship is a two-year program that takes place in various locations in Africa and offers a series of career-development resources that establish a mentorship for each fellow with a senior scientist; build science skills, and develop leadership capacity.

Women agricultural scientists who are nationals of Ethiopia, Ghana, Kenya, Liberia, Malawi, Mozambique, Nigeria, Rwanda, Tanzania, Uganda, or Zambia, who have completed a bachelor's, master's, or doctoral degree in the following disciplines are eligible to apply - Agricultural economics, ecology, natural resources management, agricultural engineering, entomology, plant/animal virology, agronomy, extension education, soil science, animal and livestock sciences, food science and nutrition, veterinary sciences, aquatic resources and fisheries, forestry and agroforestry, water and irrigation management, biodiversity conservation, horticulture, crop science, molecular biology (plant/animal breeding).

There is no age restriction and applicants must be available in Africa throughout the fellowship period. Application deadline: 25 March 2011.

Moremi Initiative for Women's Leadership in Africa

The MILEAD Fellows Program is a one-year leadership development program designed to identify, develop and promote emerging young African women leaders to attain and succeed in leadership in their communities and Africa as a whole. They must commit to a community leadership service project and be between 19 - 25 years of age. Deadline: March, 30 2011.

International ReSource Award for Sustainable Watershed Management

The International ReSource Award for Sustainable Watershed Management is a prize for leadership in implementing sustainable watershed management in developing countries. Applications are invited from NGOs, private, scientific, and public institutions -- and combinations of them. Applicants need to be strongly linked to the communities where the water projects are located. The prize money of US$150 thousand is used to build the capacity of the implementing organizations. The application deadline: 30 April 2011.

The Goldman Environmental Prize

The Goldman Environmental Prize is the world's largest prize program honoring grassroots environmentalists. The Prize awards $125,000 annually to six environmental heroes from each of the inhabited continental regions. Recipients are chosen for their sustained and important environmental achievements. There is no application for the Goldman Prize, and unsolicited nominations are not accepted. Contact Cat Jaffee at cjaffee@ashoka.org if you would like to be nominated. Deadline: April 22, 2011.

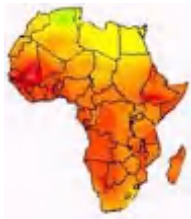### African Research Grants programme issues first call for proposals

The African Union (AU) Research Grants programme, a project under the Africa-EU partnership has announced its first call for proposals (http://www.africahrst.org/stict/rgp/call2011.aspx). The AU is seeking proposals that focus on post-harvest and agriculture, renewable and sustainable energy, and water and sanitation in Africa. It is expected that the move will foster the implementation of Africa's Science and Technology Consolidated Plan of Action, and ensure more involvement from African scientists in solving the continent's problems. The First Call for Research Projects and Proposals will be limited to the following science and technology strategic priority actions:

- Post-harvest and Agriculture (Food security and productivity, Crop-livestock integration, Agricultural policy and commercialization, marketing of agricultural produce)
- Renewable and sustainable energy (Sustainable energy at a local and regional level, Renewable energy use and its impact on the environment, Innovative approach to Renewable and sustainable energy, Measures for making sustainable energy more widespread)
- Water and sanitation (Water for livelihood, Water for agriculture, Social and economic dimensions of water resources management)

Submission deadline: 30 April 2011. Download ALL files [1552 KB].

Women's World Summit Foundation - Prize for Women's Creativity in Rural Life 2011

The Prize honors women and women's groups anywhere in the world exhibiting creativity, courage, and commitment for improving the quality of life in rural communities. WWSF aims to draw international attention to laureates' contributions to sustainable development, household food security, and peace. The Prize

provides an award of US$1 thousand per laureate, and US$3 thousand for specific African women's organizations. Nominations are due 31 March 2011.

Smithsonian Tropical Research Institute - Research in Forest Plots 2011

The CTFS Grants Program at STI invites applications for forest research from senior researchers, postdoctoral fellows, and graduate students. The CTFS network comprises more than thirty forest research plots across the Americas, Africa, Asia, and Europe - with a strong focus on tropical regions. Research projects can be basic or applied. Social scientists and natural scientists of all nationalities are encouraged to apply. Most CTFS research grants range from US$3 thousand to US$30 thousand. Application deadline: 1 April 2011.

Employment Opportunities

GIS Technician

The objective IGAD Climate Prediction and Applications Centre (ICPAC) is to enhance land degradation and natural habitats assessment and monitoring for sustainable management of environmental resources. It aims at developing operational geo-information services and strengthening the information management capacity of regional and national institutions in order to support decision and policy making processes. ICPAC invites application from for the position of GIS Technician (Ref: ICPAC/AMESD/HR/5/GIS_tech/2010) with excellent credentials and experience. The successful candidate should have:
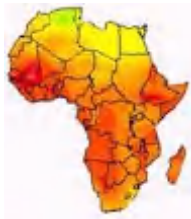
- At least a bachelor degree in Geography; Environment or related discipline with emphasis in spatial databases and GIS.
- At least 5 years of working experience in operational GIS unit services or projects with a strong GIS component. Spatial analysis, spatial database and digitizing experience.
- Very good knowledge of GIS software, and particularly ESRI ArcGIS package;
- Experience in data collection, entry, digitizing and maintenance
- Experience in managing or developing spatial databases;
- Good knowledge of GIS server (ArcGIS server);
- Basic knowledge of programming techniques

Complete job profiles can be downloaded from the ICPAC website: www.icpac.net. Applicants should submit 3 copies of their applications with its reference number, enclosing a cover letter and curriculum vitae and duly certified copies of certificates and testimonials to: ICPAC AMESD manager, IGAD Climate Prediction and Applications Centre (ICPAC), P.O. Box 10304 00100 Nairobi, Kenya, and by e-mail to: amesd@icpac.net, copy to director@icpac.net and igad_thema@amesd.org. Deadline: 11 March 2011.

Natural Habitat Conservation Thematic Expert

The objective IGAD Climate Prediction and Applications Centre (ICPAC) is to enhance land degradation and natural habitats assessment and monitoring for sustainable management of environmental resources. It aims at developing operational geo-information services and strengthening the information management capacity of regional and national institutions in order to support decision and policy making processes. ICPAC invites application from for the position of Natural Habitat Conservation Expert (Ref: ICPAC/AMESD/HR/2/NHC_1/2010) with excellent credentials and experience. The successful candidate should have:

- At least a Masters degree in environment, biodiversity or related discipline with specialization in remote sensing and natural habitat conservation assessment.
- At least 7 years of working experience in operational environment monitoring projects, modeling activities, focusing on protected areas management and land cover change analysis.
- Experience of international projects, and if possible in the IGAD region will be an asset.
- Advanced knowledge in remote sensing, spatial modeling, image databases, image acquisition procedures and image servers;
- Experience with applied digital image processing and analysis software like ERDAS Imagine or ENVI;
- Knowledge of modeling techniques (ArcGIS model builder);
- Good computing skills including system management under Unix/Linux, knowledge of programming and scripting (IDL) an asset;
- Good knowledge of IGAD regional ecosystems, protected areas management systems.

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Complete job profiles can be downloaded from the ICPAC website: www.icpac.net. Applicants should submit 3 copies of their applications with its reference number, enclosing a cover letter and curriculum vitae and duly certified copies of certificates and testimonials to: ICPAC AMESD manager, IGAD Climate Prediction and Applications Centre (ICPAC), P.O. Box 10304 00100 Nairobi, Kenya, and by e-mail to: amesd@icpac.net, copy to director@icpac.net and igad_thema@amesd.org. Deadline: 11 March 2011.

Communications Assistant
The objective IGAD Climate Prediction and Applications Centre (ICPAC) is to enhance land degradation and natural habitats assessment and monitoring for sustainable management of environmental resources. It aims at developing operational geo-information services and strengthening the information management capacity of regional and national institutions in order to support decision and policy making processes. ICPAC invites application from for the position of Communications Assistant (Ref: ICPAC/AMESD/HR/9/Communication_Assistant/2010) with excellent credentials and experience. The successful candidate should have:
- At least a bachelor's degree in communication or related fields.
- At least 5 years of working experience in science journalism and international relations.
- Experience in public relations, protocol and working with international organizations will be an added advantage.
- Good knowledge on using computers, emails, websites and communication and networking software.
- Experience in working with the media at local, regional and international levels.
- Experience in managing list-serves and conducting workshops.
- Basic knowledge of Public relations and meeting protocols.

Complete job profiles can be downloaded from the ICPAC website: www.icpac.net. Applicants should submit 3 copies of their applications with its reference number, enclosing a cover letter and curriculum vitae and duly certified copies of certificates and testimonials to: ICPAC AMESD manager, IGAD Climate Prediction and Applications Centre (ICPAC), P.O. Box 10304 00100 Nairobi, Kenya, and by e-mail to: amesd@icpac.net, copy to director@icpac.net and igad_thema@amesd.org. Deadline: 11 March 2011.

Senior Fellow – Hydrogeology/Groundwater Management, Colombo, Sri Lanka or Accra, Ghana
IWMI currently has three senior fellows, whose role is to provide international scientific leadership in specific areas of water science and management. IWMI seeking a fourth Fellow to promote and lead our work on improved utilization and management of groundwater. A key role of the Fellow will be to stimulate innovative thinking and management options for sustainable use of groundwater in irrigation and multiple use water systems, and to develop new projects for IWMI and its partners to undertake as part of the new Consultative Group on International Agricultural Research (CGIAR) Research Program on Water, Land and Ecosystems. IWMI operates in Asia and Africa. The Fellow would be based in either Colombo or Accra, but would be expected to contribute to innovative projects on groundwater resources and their management in both Africa and Asia. The Fellow will report to either the Director General or Deputy Director General.
The incumbent should posses:
- PhD or equivalent experience in hydrogeology and/or groundwater management, or related field;
- Minimum of 20 years' postdoctoral experience in the field of groundwater science and management in multifunctional agricultural systems;
- Demonstrated research experience in groundwater resources assessment and/or management;
- Track record of representing an organization at a senior level, and working closely with senior colleagues;
- Excellent knowledge of water management at a range of scales, including principles of water productivity and interaction of irrigation with other users and the environment, in developing countries;
- Solid record of publications in refereed international journals;
- Ability to form and maintain partnerships with local institutions and stakeholders to facilitate delivery of outcomes;
- Very good personal, organizational and interpersonal skills; and excellent communication skills in English, both written and verbal.

Submit your application on-line at: www.iwmi.org/About_IWMI/Vacancies/. Your application will be acknowledged automatically within 24 hours. If not, email: work-at-iwmi@cgiar.org. Deadline: 21 March 2011.

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Other

Great Green Wall to stop Sahel desertification

The building of this pan-African Great Green Wall (GGW) was approved by an international summit in the former German capital Bonn, a side event of the joint conference of the committees on science and technology and for the review of the implementation of the UN Convention to Combat Desertification (UNCCD). The GGW, as conceived by the 11 countries located along the southern border of the Sahara, and their international partners, is aimed at limiting the desertification of the Sahel zone. It will also be a catalyst for a multifaceted international economic and environmental programme. The Sahel zone is the transition between the Sahara in the north and the African savannas in the south, and includes parts of Burkina Faso, Chad, Djibouti, Eritrea, Ethiopia, Mali, Mauritania, Niger, Nigeria, Senegal and Sudan.

The GGW initiative initially involved the planting of a 15km-wide forest belt across the continent, with a band of vegetation as continuous as possible, but rerouted if necessary to skirt around obstacles such as streams, rocky areas and mountains or to link inhabited areas. During the meeting in Bonn, the Global Environment Facility (GEF) confirmed its promise to allocate up to $115m to support the construction of the green wall. Other international development institutions also made investment pledges to support, of up to $3bn.

"The Green Wall should be seen as a metaphor for the co-ordination of a variety of international projects, for economic development, environmental protection, against desertification, and to support political stability in the heart of Africa," said Boubacar Cissé, African co-ordinator for the UN secretariat against desertification. The GGW was first proposed in the 1980s by Thomas Sankara, then head of state in Burkina Faso, as a means to stop the growing of the Sahara. The idea was voiced again about 20 years later by the then Nigerian president, Olusegun Obasanjo, who presented it to the African Union (AU) in 2005.

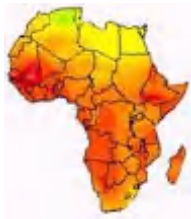### South Africa's "Techno Girls" programme presented at UN

South Africa's programme that has encouraged thousands of girls to pursue careers in the field of science and technology was presented to the delegates at the United Nations 55th Session on the Status of Women (UNCSW) taking place in New York. The programme called "Techno Girls" has supported more than 4500 girls to study Maths and Science and pursue careers in science and technology in Gauteng, KwaZulu-Natal, Limpopo and Western Cape. The programme targets dedicated grade 09-12 learners from disadvantaged communities. During the school holidays, these girls are placed in various companies, job shadowing business leaders to gain first hand insight into the running big corporate and career choices available. The programme maintains an exclusive focus on careers in the fields of Maths, Science and Technology.

Presenting the initiative at a special function organized by SA in New York, Minister for Women, Children and People with Disabilities, Lulu Xingwana announced that the Techno Girls programme will be expanded nationally to increase the number of girls enrolled. "Education is one of five key priorities of government and we need to use it as a tool to reduce vulnerability and empower girls. This programme is going to be expanded to the remaining provinces," said Minister Xingwana. Minister Xingwana said already there were 20 participants of the programme who have graduated with University Degrees in different fields of science and engineering related to the mining industry. These girls were awarded scholarships from the mining industry as a result of job shadowing programme. Source: BuaNews.

Congo Basin Forest Fund Signs Management Agency Contract

The Congo Basin Forest Fund (CBFF) has signed on Monday 21st February 2011 in Tunis (Tunisia), an agreement about the management of CBFF projects. The Fund Management Agency (FMA) will be a consortium made of Pricewaterhouse Coopers (PwC) and the foundation Netherlands Development Organization (SNV) and will assist the Bank manage CBFF operations under a threshold value of Euros 2.5 million. The contract has been signed by AfDB Vice-President M. Kamal El Kheshen on behalf of CBFF and M. Lindsey Domingo, partner at PwC in Francophone Africa.

The signing of this contract is a huge step given that the CBFF has 15 projects on its portfolio to be managed by the FMA. An additional 12 projects were approved by the CBFF Governing Council on November, 2010, and will be also managed by the FMA. The Congo Basin Forests Fund (CBFF) was created in June, 2008, with a double objective of poverty reduction and the fight against climate change through the decrease, the mitigation and, if possible, the pure and simple inversion of the rates of deforestation in the Congo Basin.

The CBFF received an initial Euro 118 million capitalization from the UK and Norway and remain opened to other bilateral and multilateral donors.

Hosted by the Agriculture and Agro-Industry Department of the African Development Bank, the CBFF Secretariat administers the Fund by applying the Bank's rules of procedures of management. Working with the international, local and national NGOs as well as the public and private institutions, the FMA will assist recipients seeking CBFF financing with project formulation, fund management and implementation of Programme activities. With a view to attaining CBFF objectives more effectively and more efficiently, the FMA will serve as the interface with partners and recipients, and will be charged with assisting the CBFF in managing the programme.

Rwanda turns a dangerous Lake Kivu into power source

Lake Kivu in East Africa is one of a handful of lakes on Earth with the power to unleash a peculiar and deadly phenomenon. Rwandans are in a race against time to defuse it, and are putting its energy to use. In the northern shoreline of the sprawling expanse of Lake Kivu, the volcanoes rise above. Cloud and smoke hang low above their craters, and their slopes are caked in dried lava, betraying a long history of periodic eruption.

A pumping station to which the engineer attaches the boat before climbing aboard looks like an oil rig floating on the surface of the water. From here, scientists are able to retrieve a small amount of the dissolved methane recently discovered hundreds of meters below the water's surface. Although the find, which scientists believe is the result of nearby volcanic activity, is hugely valuable in energy terms, it also has the potential to be extremely dangerous. Scientists refer to what is known as the champagne effect, in which a loss of pressure would trigger a massive eruption from inside the lake, as if it were a bottle of over-shaken bubbly. "The gasses keep on increasing which means there is the potential that the lake will become saturated and at that time it can be very dangerous," In 1986, a similar phenomenon killed an estimated 1,700 people when gas erupted from Lake Nyos in Cameroon, suffocating almost everyone within 25 kilometers of the lake. Scientists believe a similar process occurs at Lake Kivu roughly every 1000 years, devastating life in the area.

If it were to occur today, some two million people living around the lake could be killed. In order to prevent this, the Rwandan government is trying to pump the methane out of Lake Kivu, and put it to good use. A straw-like construction leads from the platform into the depths below. It captures the gas as it fizzes to the surface. It is then pumped through a pipeline to three generators in a warehouse on shore. At the moment, the facility generates 3.6 megawatts of electricity, but that output could easily be increased. "The gas in the lake has the potential to produce a total of 700 megawatts of electricity," But that is currently far from reality, as only ten percent of homes are connected to the grid. About 11 megawatts are generated by hydroelectric power, while most of Rwanda's energy comes from diesel generators.

As Rwanda has to import every drop of diesel it uses, supply is a costly and environmentally unfriendly business. One of the alternative source of enery is the four thousand solar panels built by the German utility company Stadtwerke Mainz are capable of producing 250 kilowatts on top of one of the highest mountains in the country, after the 2004 drought first gave rise to the idea. It is not much in the grand scheme of Rwandan power needs, but only the beginning. "The rivers and the power station dams were all but empty. There was very little energy, and back then there was only one fossil fuel power station,"
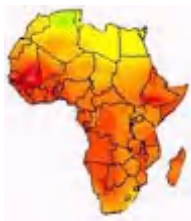
District Commissioner averts clash over borehole water

Quick action by Kenya's Mwingi East District Commissioner Martin Mwaro averted a clash over water between Tana River herdsmen and the residents of Ukasi in his area. The DC moved from his base at Mathuki Market to Ukasi borehole backed by a contingent of armed security officers led by the Ukasi officer Commanding Police Station David Waweru and managed to defuse the mounting tension.

The situation had become volatile as the encroaching herders demanded that their livestock should be given priority and allowed to drink from the borehole. The borehole management declined dismissing them as outlanders who did not have a stake in the borehole. The DC convinced the borehole management to empathize with the thousands of livestock at the borehole which had gone without water for days.

The pastoralists have migrated to the Mwingi East district from the neighbouring North Eastern Province and Tana River areas in search of pasture and water because of the drought ravaging parts of the country. The DC said the water scarcity had been aggravated by the breakdown of the Sosoma borehole, 40km away,

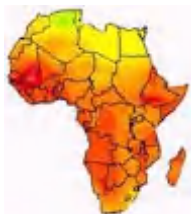# Spatial Data Infrastructure – Africa Newsletter

forcing the pastoralists to move to Ukasi. The borehole served about 7,000 livestock belonging to the locals. Fuel for the pump was also a big challenge, although the Mwingi Arid Lands office has promised fuel subsidy to all boreholes in Mwingi. A representative of the drought management office Kassim Zuberi said majority of the boreholes in the area had been allocated 100 litres of fuel, but Sosoma, Kakunike and Ukasi boreholes which serve bigger population of livestock and people had been allocated 200 litres each. Most of the surface water sources like dams, pans and rock catchments had dried up.

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

Date	Location	Event
March 2011		
2 March 2011	London, UK	**International Data Centre World Conference and Expo 2011**-Data Centre Management
20 March 2011	St. Maarten, Netherlands	**6th International Conference on Internet Monitoring and Protection (ICIMP 2011)**
20-22 March 2011	Hammamet, Tunisia	**ST Environment: International Congress on Environmental Science and Technologies for a Sustainable Development**
20-25 March 2011	Cape Town, South Africa	**2011 African Conference on Software Engineering and Applied Computing**
21-23 March 2011 * NEW *	Nairobi, Kenya	**HR4ICT'11**
21-23 March 2011	Grand Baie, Mauritius	**Climate Change Impacts, Adaptation and Mitigation in the WIO region**: Solutions to the Crisis Contact: secretary@wiomsa.org.
23-25 March 2011	Enschede, Netherlands	**Spatial Statistics 2011 - Mapping Global Change**
23-26 March 2011	Ota, Nigeria	**International Conference on ICT for Africa 2011** Contact: richard@ictforafrica.org.
30 March- 1 April 2011	Ispra - Varese, Italy	**7th International Conference on Image Information Mining (ESA-EUSC-JRC 2011)** - Geospatial Intelligence from Earth Observation
April 2011		
5-6 April 2011 * NEW *	Khartoum, Sudan	**15th Regional EuroAfrica-ICT FP7 Awareness Workshop**
6- 8 April 2011	Stellenbosch, South Africa	**4th IUPAP International Conference on Women in Physics**
10-15 April 2011	Sydney, Australia	**34th International Symposium on Remote Sensing of Environment (ISRSE2011)** Contact: Ian Dowman, idowman@cege.ucl.ac.uk.
18- 21 April 2011	Exeter, UK	**8th International Symposium on Weather Radar and Hydrology (WRaH 2011)** - User applications of weather radar for flood forecasting and water management
May 2011		
2-5 May 2011	Addis Ababa, Ethiopia	**2nd Session of the Committee on Development Information Science and Technology (CODIST- II)** Contact: Thierry Amoussougbo at codist@uneca.org or Andre Nonguierma at codist@uneca.org.
3-8 May 2011	Antalya, Turkey	**Gi4DM 2011 – GeoInformation for Disaster Management**
9-13 May 2011	Sun City, South Africa	**5th International Wildland Fire Conference (WildFire 2011)** Contact: info@wildfire2011.org.

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11-13 May 2011	Orlando, USA	**2nd International Conference on Disaster Management and Human Health: Reducing Risk, Improving Outcomes**
18-22 May 2011	Marrakech, Morocco	**FIG Working Week & XXXIV General Assembly** Contact: FIG Office, fig@fig.net.
18-20 May 2011	Morelia, Mexico	**3rd. International and 12th. National Socioeconomic and Environmental Research Conference on Livestock Farming**
20-22 May 2011	Agadir	**Climate Change, Agri-Food, Fisheries, and Ecosystems: Reinventing Research, Innovation, and Policy Agendas for an Environmentally and Socially-Balanced Growth** Contact: Dr. Mohamed Behnassi at behnassi@gmail.com.
22-26 May 2011	California, USA	**World Environmental and Water Resources Congress**
25-27 May 2011	Dar es Salaam, Tanzania	**6th International Conference on ICT for Development, Education and Training** Contact: info@elearning-africa.com.
31 May- 2 June 2011	Capetown, South Africa	**AfricaGEO2011**
June 2011		
3-5 June 2011	Bonn, Germany	**Resilient Cities 2011 congress**
July 2011		
3-7July 2011 * NEW *	Windhoek, Namibia	**2011 World Conference - Windhoek, Namibia**, Sustainable Value Chain Agriculture for Food Security and Economic Development
3-7 July 2011	Cape Town, South Africa	**Call for Papers: 9th Colloquium on Environmental Law** Contact: Glaudin Kruger at kruger@kruger-associates.com or Tumai Murombo at Tumai.Murombo@wits.ac.za. Deadline for abstracts submission: 28 February 2011.
3-8 July 2011	Paris, France	**25th International Cartography Conference (ICC 2011)**
11-14 July 2011 * NEW *	Lisbon, Portugal	**Global Conference on Global Warming (GCGW-11)**, Contact: Conference Secretariat at info@gcgw.org.
29 July-4 August 2011	Banos, Ecuador	**2011 International Biodiversity Conference**
August 2011		
July 29- 4 August 2011	Banos, Ecuador	**2011 International Biodiversity Conference**, Contact: Dr. Barker at barkerb@wildspotsfoundation.org.
21-25 August 2011	Merida, Mexico	**SER2011 World Conference on Ecological Restoration**
15-19 August 2011	Nairobi, Kenya	**Applied Geoinformatics for Society and Environment (AGSE) 2011 Conference** Contact: Franz-Josef Behr at franz-josef.behr@hft-stuttgart.de
22-26 August 2011	Wellington, New Zealand	**5th International Symposium on GIS/Spatial Analyses in Fishery and Aquatic Sciences**
23-25 August 2011	Perth, Australia	**The 7th International Symposium on Digital Earth (ISDE7)** Theme: 'The Knowledge Generation', Contact: melissah.johnston@walis.wa.gov.au or walis@walis.wa.gov.au Abstract submission deadline: 28 February 2011.
September 2011		
4-8 September 2011	Cape Town, South Africa	**The 6th Science Centre World Congress**
12-16 September 2011 * NEW *	Denver, USA	**Call for presentations for FOSS4G 2011**
12-16 September 2011	Ticino, Switzerland	**3rd Symposium on Environmental Weeds & Invasive Plants (Intractable Weeds and Plant Invaders)**
26-30 September 2011	Aberdeen, Scottland	**World Conference on Marine Biodiversity**
October 2011		

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3-7 October 2011	Cape Town, South Africa	**International Astronautical Congress 2011** Contact: enquiries@iac2011.com.
5-6 October 2011	Port Harcourt, Nigeria	**Seventh International Conference on Sustainable Development**
5-7 October 2011	Beach Resort, Zanzibar	**6th ESRI Eastern Africa User Conference** Submit abstract by 29 July 2011 on any of the available tracks at events@esriea.co.ke.
10-14 October 2011	Kimberley, South Africa	**International Wildlife Ranching Symposium**
10-21 October 2011	Changwon, Korea	**UNCCD COP 10**, Contact: UNCCD Secretariat at secretariat@unccd.int
16-21 October 2011	Cairo, Egypt	**AfricaGIS 2011 Conference** Contact: africagis2011@narss.sci.eg or info.africagis2011@narss.sci.eg.
19-21 October 2011	Bloemfontein, South Africa	**1st International Conference on Clays and Clay Minerals in Africa and 2nd International Conference on Geophagia in southern Africa**
November 2011		
28 November- 9 December 2011	South Africa	**17ᵗʰ Conference of the Parties to the UNFCCC and 7th Meeting of the Parties to the Kyoto Protocol** Contact: UNFCCC Secretariat, secretariat@unfccc.int.
December 2011		
13-15 December 2011	Shah Alam, Malaysia	**Third International Conference on Management of Natural Resources, Sustainable Development and Ecological Hazards**
2012		
21-27 May 2012	Vilnius, Lithuania	**12th World Congress on Environmental Health: New Technologies, Healthy Human Being and Environment**
2-6 July 2012	Galle, Sri Lanka	**MMM3 : Meeting on mangrove ecology, functioning and management**
8-12 July 2012	San Diego, California USA	**ESRI User Conference**
8-12 July 2013	San Diego, USA	**ESRI International User Conference**
5-10 August 2012	Brisbane, Australia	**34th Session of the International Geological Congress (IGC 34)** Enquiries: info@34igc.org.
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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