

Spatial Data Infrastructure – Africa Newsletter



SDI-Africa Newsletter

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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](mailto:SDI-Africa_AT_gsdi.org) or sdiafrica@rcmrd.org or gojwang@rcmrd.org



Input to this Issue

Thank you to Kate Lance, NASA/SERVIR-Africa (USA); Hussein Farah, RCMRD (Kenya), Hassan Audu Dogo, NEMA (Nigeria); Oladipo Victor Oni, GCLME/UNILAG (Nigeria); Cyrille Cornu, CIRAD (France) and Marc Urvois, AEGOS (France) for their contributions to this issue of the newsletter.

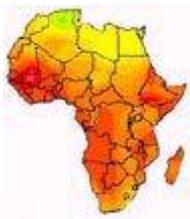
SDI News, Links, Papers, Presentations

[Africa: Trying to work from the same weather page](#)



Climate scientists describe Africa as an information "black hole". The World Meteorological Organization (WMO) notes that there are only 744 weather stations, but only a quarter of them are of international standard; at least 3,000, evenly spaced across the continent, are needed, with another 1,000 in densely populated areas; ideally, Africa should have at least 10,000 stations. At the World Climate Conference (WCC3) in Geneva, Switzerland, Michel Jarraud of WMO noted: "Strengthening weather observation in Africa will benefit Africa. Jarraud's sentiments were echoed by Jane Lubchenco of the

US National Oceanographic and Atmospheric Administration (NOAA), who stressed that it was important to standardize data and set up a global framework for providing climate services, so that experts and weather services could work from the same page. The proposed framework has four components: observation and monitoring; research, climate modeling and prediction; a climate services information system; and a user



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interface programme. The first two components already exist but need strengthening. The last two components will constitute a "World Climate Service System". An intergovernmental meeting at the end of 2009 will establish a task force to draft a blueprint for designing and implementing the framework, and submit its report to the WMO congress in 2011 for action. Plans to improve climate services are already underway. One reason is that the wealthier industrialized countries realize that they are also being affected by climate change.

Innovative ideas like "Weather Info for All" attest to the growing recognition of the seriousness of the problem. In the first phase of this project, 19 such stations are on a trial run in Tanzania; in phase II, 489 stations will be set up across the rest of Tanzania, Kenya and Uganda, and become operational after technical kinks have been ironed out. The initial roll-out of 508 automated weather stations is expected to cost just under US\$9 million, and the partnership hopes to expand the programme to the rest of Africa. It is becoming increasingly clear that major climate events like floods, droughts and cyclones are driving more people especially in Africa to risks in food security and below the poverty line. Sudden increases in rainfall also increase health risks, ranging from malaria to red fever and meningitis, and decision-makers need a broader understanding of the hidden threats of climate change. [Source: IRIN]

Geodatabases for the Programme of Infrastructure Development in Africa (PIDA)



ECA has developed numerous information and knowledge resources, applications and services to improve availability and use of information for development at the national, regional and sub-regional levels. In line with ECA's position to support regional priorities defined by the AU and the NEPAD, the Division's Geoinformation Systems Section is building regional geospatial databases to support regional initiatives.

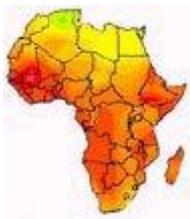
A concrete application is the development of geospatial databases for the Programme of Infrastructure Development in Africa (PIDA). The databases are covering all existing and planned infrastructure facilities in the continent, including all networks and development corridors – railways, airports, roads, ports, harbours, and waterways – for transport infrastructure; as well as power plants (hydro, nuclear, oil and gas-fired thermal, geothermal, coal, wind, etc.) and power systems interconnection networks for the power sector. Also to be included are existing and planned cross-border gas and oil pipelines, oil refineries, liquefied natural gas processing plants, synthetic fuels processing plants, and major bio fuels (bio-ethanol and bio-diesel) refineries. More than 43 particular feature datasets were created and customized as an interactive digital atlas to be displayed during the AU Head of States Summit at the end of January 2009. The database will be further built into the ECA node of the African Regional Geospatial Data Infrastructure. This activity was undertaken in partnership with the Infrastructure and Natural Resources Development Section of ECA and the African Union Infrastructure and Energy Department.

Agriculture Monitoring



Agriculture Extent in Africa

Today, Africa faces major pressing issues: climate change impact, water scarcity, energy shortage, environmental stresses and food crisis, which affect citizens, business and the community at large. Efforts were made by African countries to work out strategies and policies coordinated in the fields of the environment and the sustainable development. A particular importance is attached to food security, management of resource water, combat against endemic diseases, ecosystems conservation and biodiversity, sustainable energy development, etc. On all these challenges, constitution of coherent seamless and up-to-date spatially enabled information is an essential precondition for setting up coordinated policy and strategy. Geoinformation is useful in constituting factual, precise and updated information for better decision-making. The technology is now commonly used to assess conditions of people and ecosystems wellbeing (resource availability and conditions, their changes, trends and interactions) and move toward sustainability and economic growth. A concrete application is related to food security crisis. Geoinformation technology can make it possible to respond within very short times with timely information for predicting and simulating the production expected during one agricultural season. Business questions the Geoinformation Systems Section at ECA could help to address are: Where are the main production zones? How much is produced? Where are infrastructures for planning flows and provisioning fluxes (e.g., water, irrigation, electricity and roads, agro-industries, storage facilities, market



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places)? Where are suitable areas for crop production? What are the driving factors (variation of ecological conditions and their impact on crops production; disconnect between market places and crops main production zones)?

Agricultural Marketing & Support Section of the Food Security and Sustainable Development Division are developing a spatially enabled database system to support the analyses of the regional trends of agriculture production and marketing in Africa. The System will enable decision makers to analyze and model the relationships between suitable agro-ecological zones for the priority crops identified in CAADP, the actual production of the crops and their marketing and distribution patterns. An inventory of available data and information resources was conducted with extensive survey through international and regional partners (FAO, World Food Program, IFAD, IFPRI, ECA African Centre of Statistics and United States Department of Agriculture). Data collected so far was processed, analyzed and validated. All spatial datasets and other auxiliary data are integrated, stored and managed in a standard geodatabase. A proposal was initiated to acquire and process high-resolution data. ECA therefore wishes to request members States to assist in getting agriculture statistic data from their respective countries.

Building the African Regional Spatial Data Infrastructure for Africa (ARSDI)



Countries with National Coordinating Bodies

Within its programme of Harnessing Information for Development, ECA has undertaken major actions to strengthen the capacity of member States to set up institutional arrangements and implement national policies and programmes that reinforce the linkages within the nexus of food security, population, economy, environment and human settlements. This strategy places emphasis on the building of an African Regional Spatial Data Infrastructure for Africa (ARSDI) linked with the National Information and Communication Infrastructure (NICI) plans. This will involve negotiating coordination, interoperability and data sharing arrangements with partners, including nodes at national levels, which ECA and partners will assist in developing.

During the past years, progress was made on integrating geoinformation policies into the national ICT policies of member States. A number of countries have taken steps aimed at developing their National Spatial Data Infrastructures (NSDI) and Geo-information policies. However, the funding constraints have stalled some of the activities for concrete implementation of technical components of NSDI. ECA has been providing assistance to Member States in developing national geographic information infrastructures (NSDI). Despite the efforts of ECA and other partners, progress in developing SDIs in Africa has been very slow, due mainly to poor awareness and understanding of the link between the content and components of the SDI on the one hand, and the day-to-day decisions and activities of society on the other. Developing an SDI has sometimes been seen as an end in itself. Therefore, given the limited financial resources available to governments, priority is given to supposedly more pressing activities without realizing the dependence of most of them on the availability of timely, accurate and reliable geoinformation resources. ECA has responded by seeking to integrate SDI policies into the very successful work on National Information and Communication Infrastructure (NICI) plans and strategies. This is still at the policy level and there remains a need for closer linkage between the geoinformation products and societal needs. Therefore, in keeping with global trends, the Commission is developing a guideline on Spatially-Enabled Government Services (SEGS) with experience in Selected African Countries.

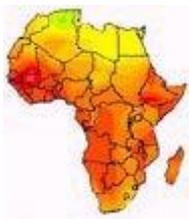
AEGOS: the Spatial Data Infrastructure for Georesources in Africa



Africa has a major portion of the world's untapped geological resources, including minerals, groundwater and energy sources. In order to enable sustainable management of these valuable resources The AEGOS Project has been set up by a group of African and European partners, to build a pan-African information system. AEGOS is the preparatory phase for setting up a multi-national georesources observation system.

In February 2009, a consortium of 23 African and European partners launched the Phase 1 of the African-European Georesources Observation System (AEGOS) in Cape Town, South Africa. This project (2008-2011) is a Support Action of the 7th European Commission's Research and Technology Development Framework programme (FP7).

The objective is to design the pan-African infrastructure of public, interoperable geological and geology-related data as well as user-oriented services to foster and strengthen the sustainable use of georesources in Africa. AEGOS aims to safeguard, share and add value to the data archived in African and



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European geological surveys and to support further knowledge development on Africa's geology and georesources. This observation system will provide support to a wide panel of end-users: policy-makers at all geographic levels, development agencies, private sector actors, geoscientific communities and civil society. The expected results of AEGOS include:

- Operational procedures for data management (Spatial Data Infrastructure, metadata, data specifications and systems architecture based on open standards such as ISO/CEN, OGC/web services, IUGS/CGI);
- User-oriented products and services including the preparation of innovative spin-off projects;
- African-European partnership network;
- Geoscience contribution to the GEOSS (Global Earth Observation System of Systems), in the context of the Infrastructure for Spatial Information in Europe (INSPIRE);
- Common strategy for capacity building and training programmes.

Thus, AEGOS contributes to the GEO (Group on Earth Observations) work plan 2009-2011 as a sub-task in the capacity building area and to the development of a Solid Earth Observing System by exploring interoperability and interdisciplinary scenarios with GEOSS societal benefit areas. During AEGOS Phase 1 (2008-2011), two major conferences (mid-term and final) will be organised with participation of all project partners, associated partners and the user-committee. In between, each project work package will organise thematic and specialised workshops on the various components of this new observation system. For further information, contact the project coordinator - Dr. Marc Urvois at m.urvois@brgm.fr or visit the website: www.aegos-project.org.

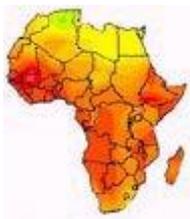
[Kenya plans first-ever count for agriculture](#)

After conducting a national population census in August this year, the Kenyan Government is now planning to shift gears and conduct an agricultural count in two years. This will be the first time the government will be conducting such a count, underscoring the emphasis that is being placed on agriculture after the country has continued to suffer from cyclic drought and food shortages in recent years. Agriculture contributes 25 per cent to the country's gross domestic product, 60 per cent of export income and estimated 80 per cent of the total national employment. Food security has become a vexing issue, with climate change, environmental degradation and fragmentation of land into small unviable units taking their toll on production. It is estimated that 10 million people are faced with starvation prompting the government to appeal to donors for aid.

There is no comprehensive agriculture and livestock census conducted in the country and the government relies on data provided by its officers across the country, but experts have often questioned some of the figures provided, which are often not independently verified. "This will be a massive exercise and more expensive (than the national census). An agriculture census is more complex than a population census because it includes taking farm sizes and production levels of various crops" said the Kenya National Bureau of Statistics Director-General, Anthony Kilele. For the first time the government included the question on the number of livestock in this year's national census, with the aim of finding out their numbers. However, with massive deaths due to the prevailing drought, the numbers might not reflect the correct figures. An agribusiness expert, Peter Kegode, said "the country lacked credible data since that which are collected by government officers in the rural areas are not independently verified. A comprehensive data collection in various aspects of agriculture would help the government seek out changes which have occurred with time in the sector. Some organizations and agencies had more credible data, but were not recognized by the government which relies only on statistics from the Kenya National Bureau of Statistics. There is need to collate data both from the government and other agencies to arrive at more credible figures".

[Farmers in Kenya see opportunities and risks as El-Nino rains loom](#)

Although it is believed this year's El Nino rains will not be as severe those of 1998, the Kenya Meteorological Department has urged the country to be prepared for the rains, expected between mid-September and December. Joseph Mukabana, the department's director, told a news conference in late August that the El Nino impact was likely to be aggravated by the prolonged drought in many parts of the country. Food insecurity affects at least 20 million people in the greater Horn of Africa, which includes Kenya according to the USAid-funded [Famine Early Warning System Network \(FEWS Net\)](#). These countries, it added, suffer from chronic poverty, civil war or insecurity, refugees and internally displaced persons, environmental degradation, poor marketing mechanisms and constrained income opportunities. "The environment is quite sick, it is not wearing any clothes, the pastures are degraded and the impact is likely to be more soil erosion and siltation," Mukabana said. Flooding and mudslides are likely to occur in parts of the country, he added.



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The government has set up a crisis centre in the prime minister's office to coordinate emergency interventions and is working with relief agencies, NGOs and development partners to plan for the adverse impact of El-Nino-related rains. "The effects of El Nino are not the flood waters but the after-effects," Davies Okoko, the disaster preparedness manager for the Kenya Red Cross Society (KRCS), said on 9 September. "Soon after the floods pass, there will be waterborne diseases, contamination of water sources and other effects." "El Nino will lead to food production, especially in the [marginally agricultural] Ukambani areas since they rely on short rains." The rains could also help a significant recovery of drought-affected crops in parts of the Rift Valley Province. The province had the potential to feed Kenya, but its cereal yield this year had been affected by low, erratic and poorly distributed rainfall in some areas. Up to 40 per cent recovery of the maize crop is possible in the North Rift, which was adversely affected by the poor rainfall, while the South Rift could recover up to 60 per cent of the crop. A combination of poor rainfall, declining soil fertility from over-cropping, and deforestation has led to significant maize crop failure in parts of the three provinces. Traditionally, these were considered Kenya's grain basket, but agriculturalists predict a maize deficit this year of at least 12 million 90kg bags. Farmers have been urged to harvest water during the El Nino rains by investing in roof-catchment structures and water storage tanks. On the other hand, too much rain could lead to lose crops already in the farms as it would rot before or during harvest. This could prompt the farmers to cut and sell green maize before it dries. However, agricultural officials have warned farmers against selling most of the crop as green maize as this would impact on food security in the long run. The Ministry of State for Special Programmes and the UN Office for the Co-ordination of Humanitarian Affairs (OCHA Kenya) called a workshop on 15th September in Nairobi to discuss El Nino-preparedness plans.

Summary of the Workshop on SDI in Rwanda



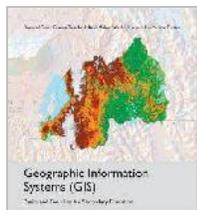
The NUR Centre for GIS and Remote Sensing (CGIS-NUR) Spatial Data Infrastructure project (SDI) workshop which took place on 19 June 2009 was successful. The speakers were: Prof. Robert Ford, Dr. Felicia Akinyemi and Miss Kagoyire Clarisse who clearly explained the concepts and components of SDI.

We live in an age of instant information gratification, where increasingly the public in Africa views access to information as a key to their ability to understand and make the right decision. But as has been pointed out repeatedly, there is no guarantee that the quality of information is sufficient in theory or practice to guide decision making, and that the data as presented can be understood without establishing any

context to it. Quite often, planning without facts is common; poor decision is familiar because the people who have to make it are ill informed or unaware of whom holds the information or how to get hold of it. Even if they have identified what they want, the information cannot be cross-referenced and combined because the data does not use common references for geographical or administrative areas. The need to provide the Geographic Information System (GIS) community with fast, reliable, and up-to-date information has become a challenge for all geo-information producers and users in Rwanda and Africa at large. These emphasize the need for geospatial data infrastructure (GDI) in Rwanda. Developing a proper metadata is the cornerstone of any GDI. Some of the problems envisaged into the development of the metadata in Rwanda were outlined as:

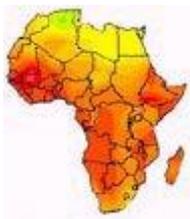
- To unlock the potential hidden in data and stimulate economic activity,
- To reduce duplication of effort among agencies
- Make geographic data more accessible to the public by encouraging the use of standards,
- Improve quality and reduce costs related to GI
- To facilitate value-added services by enabling combination of data from multiple sources, and
- To increase the benefits of using the wealth of disintegrated data, and establish key partnership with states, cities, academia and the private sector to increase data availability.

GIS textbook for secondary schools launch in Rwanda



The Ministry of Education has officially launched the GIS textbook for Secondary Schools. The launch of the GIS textbook occurred at the ES Stella Matutina School in Rulindo District. The development partners, ESRI Germany and the GIS Center of the National University were thanked before the launch for their support in bringing Geographic Information Systems (GIS) to secondary schools of Rwanda.

In recent years a number of GIS projects have been conducted in Rwanda. For example, the Rwanda Coffee Sector uses GIS to analyze coffee quality, PNILP uses GIS to monitor



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the distribution of Malaria, Electrogaz monitors their water and electricity network using GI Technology, which also helps to plan for further investments. City and Town planners, the National Land Centre, as well as the National Institute of Statistics are all using this extraordinary technology in their daily work. Many other organizations have or are planning to integrate GIS in the near future. The growing numbers of Rwandan institutions that are using GIS require trained people. Beside the undergraduates and graduates that the National University of Rwanda trains every year through the GIS and Remote Sensing Centre, the Ministry of Education is bringing GIS to a next level - to secondary education. GIS is not only a tool for researchers, but it is helpful for school children to gain a better insight into natural or human phenomena happening on our earth. In 2009 already 120 teachers in 40 schools instruct classes with GIS and evaluate GIS as a didactic media to explore, investigate and illustrate common curricula contents. At the launch, 20 GIS textbooks were handed over to ES Stella Matutina, and 780 books will be distributed to other schools that are using GIS. The book contains theory and exercises for both, students and teachers and introduces fundamentals of GIS in seven chapters. It will be used in the computer lab and the exercises can be done with the GIS software ArcGIS ArcView 9.x that is already installed in the schools. The book is thus “belonging to a computer” and not to pupils or teachers. Each GIS school will receive 10-20 books according to the number of computers. With the publication of the GIS textbook the floor is laid out for GIS teaching in Rwandan secondary schools. The CGIS-NUR is looking forward to seeing the impact of its deployment on the skills of future Rwandan students.

[Ghana Water Company operator sets up GIS to improve efficiency and revenue collection](#)

Ghana Water Company operator Aqua Vitens Rand Ltd (AVRL) is setting up a Geographic Information System (GIS) to improve efficiencies and to enhance revenue collection. Departments in the Greater Accra, Ashanti, Central and Brong Ahafo regions are completed, while the Northern, Eastern, Western, and Volta regions are expected to be completed shortly. The initiative is aimed at providing a geographic framework for the inventorying, management and maintenance of strategic assets and to serve as a tool to support the company to develop plans among others for the systematic measurement and reduction of non-revenue water in its service area. Almost 1,500 newly connected customers have been mapped since the beginning of 2009, as have more than 5,000 of the more than 20,000 untraceable customers for the Accra-Tema metropolitan areas.

[Cape Verde Atmospheric Observatory upgraded in Global Atmospheric Watch programme](#)



In August 2009, the [Cape Verde Atmospheric Observatory](#) was successfully upgraded from a Regional to a Global station, within the World Meteorological Organisation's Global Atmospheric Watch programme. The long-term operation of this Observatory is run by NCAS. This upgrade was based on: the facilities available at the site; the ongoing measurement and research programmes; confirmation of long-term funding and the provision of measurements from the Observatory from at least three of the six GAW focal areas (greenhouse gases, reactive gases and aerosols). Data currently provided to the World Data Centre

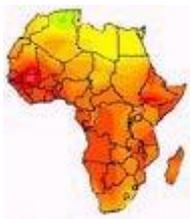
for Greenhouse Gases from the Observatory includes carbon monoxide (CO), nitrogen oxides (NOx), surface ozone (O₃) and volatile organic compounds (VOC).

The Cape Verde Atmospheric Observatory, officially launched in 2007, is part of a long term British, German and Cape Verdean venture attempting to measure atmosphere and ocean interactions in order to provide a long-term study into climate change. It is situated on the north east side of São Vicente (16°N, 24°W), one of the Cape Verde islands, in the tropical Eastern North Atlantic Ocean and is built on a platform on top of lava rock. The prevailing wind is from the north-east from the open ocean bringing air masses from the tropical Atlantic and from the African continent. [Source: SERVIR-Africa community news]

[Nigerian space program advances](#)



Nigeria's space programme has made further progress this month, as the NigeriaSat-2 and NX Earth observation satellites passed environmental tests. This is an exciting time for the 25 Nigerian engineers who have spent varying periods of time at SSTL and the University of Surrey over the past 2 years, working and studying to achieve the skills that will underpin Nigeria's ongoing space programme. Both NigeriaSat-2 and NX are now nearing completion with the Flight Readiness Review (FRR) this month. On September 22nd the training



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and development programme will reach completion and a new generation of highly skilled engineers will return to Nigeria to resume their work at the [National Space Research & Development Agency \(NASRDA\)](#) whilst they wait with anticipation for the launch of the two new satellites. [Source: SERVIR-Africa community news]

Sumbandila satellite blasts off into space



South Africa's Sumbandila satellite blasted off into space at the speed of lightening into the earth's orbit on Thursday evening, September 17, 2009. The blast-off was accompanied by rousing applause and delight by keen South Africans who had traveled to Baikonur, Kazakhstan to witness the event. Among the guests were Science and Technology Minister Naledi Pandor. She said the launch of Sumbandila which is Venda for "lead the way" has paved the way for bigger and better things. "We look forward to implementing our space strategy so that we can join other nations in exploring the myriad possibilities presented by scientific and technological research," she said.

The 81 kg microsatellite was launched from a Russian Soyuz rocket at exactly 5:55pm on Thursday after its take off was postponed on Tuesday due to technical glitches caused by bad weather. The satellite is the country's second satellite to blast off into space after SunSAT, the first satellite from Africa and the Southern Hemisphere blasted into space in 1999. The launch of the satellite according to the department's Director General, Dr Phil Mjwara, reinforces South Africa's role in national, regional and international space initiatives. "This is a momentous occasion, not just for the department and its partners and stakeholders, but also for the people of South Africa. This launch is a milestone in our efforts to develop and enhance space science and technology in our country," said the Director General. The satellite carries a high-resolution camera that will produce images for use in monitoring agriculture, mapping infrastructure and land use, tracking population movement, and measuring the water levels of dams. Data will be streamed to the Council for Scientific and Industrial Research's Satellite Applications Centre (SAC) at Hartbeeshoek, near Pretoria, for analysis and policy development purposes. The SAC will carry out command and communication functions by tracking the satellite using a large dish antenna. The Sumbandila satellite forms part of an integrated national space programme developed by the South African government to provide the country with affordable access to space technology and data. [Source: SERVIR-Africa community news]

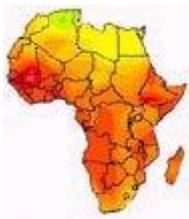
Imaging Sub-Saharan Africa for European Space Agency

The European Space Agency ([ESA](#)) has awarded [DMCii](#) a EUR3.9 million contract to acquire satellite imagery of sub-Saharan Africa. The data will constitute an essential part of the European funded Global Monitoring for the Environment and Security ([GMES](#)) programme and the contract includes changes to the company's systems to interface with the ESA image catalogue. DMCii has already begun the campaign which will acquire 32m and 22m imagery using the DMC constellation until September 2010, by which time coverage of all 48 countries in sub-Saharan Africa will be completed. Imagery will cover the vast Congo Basin forest area which, as the second largest tropical rainforest after the Amazon Basin, is an area of significant concern in the fight against deforestation and carbon emissions. The DMC images will enable regular monitoring of deforestation, thus improving governance of this crucial forest resource. Data from the DMC constellation will also enable more frequent and detailed information to be compiled about agriculture and land cover changes across the African continent, which will support initiatives to improve food security for the region.

The Global Monitoring for Environment and Security (GMES) initiative is funded by the European Commission (EC) and ESA. It was established to fulfil the growing need amongst European policy-makers for accurate and timely information services to better manage the environment, understand and mitigate the effects of climate change and ensure civil security. [Source: SERVIR-Africa community news]

Web-based GIS and the future of participatory application within local and indigenous communities

As resource managers search for strategies to meet the challenges posed by intense competition for scarce local resources, the implementation of community-based GIS applications have become widespread. Besides mapping, the Participatory GIS (PGIS) projects create a peaceful medium for community groups and public officials to meet, exchange views and also learn to develop trust for each other. However, the PGIS



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projects face many problems including the lack of basic supporting infrastructure and services. The adoption of the Internet as a platform for PGIS applications therefore raises concerns about the future of PGIS projects. While the Internet may open the participatory process, it can also hinder participation among local groups. In an era when PGIS applications have become important in the management of local resources, there is an urgent need to examine implications of the On-line PGIS project. In this paper, the authors assess the potential benefits and drawbacks of on-line PGIS applications within local communities.

The uneven development of structures for Internet access between people in rich and poor communities today means that relatively very little participation in the decision making process will occur among people in poor communities. The integration of spatial information technology into the internet therefore raises prospects as well as concerns for the future of PGIS applications among less privileged people in the communities.

The rapid growth in subscriptions to information technology in poor countries has been observed in the sale of mobile phones and other wireless telecommunication technologies. In addition, several plans are currently in place to extend broadband connections for internet usage to several communities in Africa, Asia and Latin America. Even then connections to the internet via 3G mobile phones could soon become common in developing countries. These developments in the information technology field provide grounds for optimism in future PGIS applications that take place online. [Source: EJJISDC (2009) 38, 7, 1-16]

Celebrate World Space Week, 4-10 October 2009

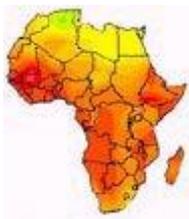
UN-declared World Space Week, October 4-10 annually, is the largest public space event on Earth and the best time each year for teachers to use space to excite students about learning. During World Space Week, you are encouraged to use space-themed activities, such as those from www.worldspaceweek.org/education, NASA, and other sources. To show how your classroom is part of this global celebration, please register at www.worldspaceweek.org/new_event.php. To recognize creative use of space to inspire students, World Space Week Association will recognize several participating teachers with \$500 grants this year. For further information, contact: Jim Volp, Director Educational Relations, World Space Week Association, jvolp at worldspaceweek.org.

GCLME/UNILAG Regional Centre for Environmental Information Management System (EIMS)



The GCLME/UNILAG Regional Centre for Environmental Information Management System (EIMS) is located in the University of Lagos, Nigeria. The Guinea Current Large Marine Ecosystem (GCLME) is a regional project conceived to address the trans-boundary environmental problems affecting the Guinea Current Region. The Guinea Current Region comprises 16 countries of West and Central Africa that are bordering the Atlantic Ocean and influenced by the Guinea Current. The Project is funded by the Global Environmental Facility (GEF) with some additional cash and in-kind contribution from the participating countries. UNDP and UNEP are joint Implementer Agencies while UNIDO is Executing Agency. US-NOAA and NEPAD in addition to other UN and Non-UN organizations (IOC-UNESCO, IMO, FAO, WWF, etc) are technical partners. A Regional Coordination Unit is located in Accra, Ghana.

The present project is the nerve centre for collection, analysis, management, storage and retrieval of all environmental information necessary for decision making and was preceded by a pilot phase - Gulf of Guinea Current Large Marine Ecosystem Project between 1995 and 1999. The present phase commenced in January 2005 and will last till December 2009. The Project is expected to be transformed into a technical Guinea Current Commission beginning with an interim status by the second year of project execution and going progressively to full status at the end of the fourth year. The six countries that participated in the pilot phase are Cote'd' Ivoire, Ghana, Togo, Benin Republic, Nigeria and Cameroon. Ten additional countries (Guinea Bissau, Guinea, Sierra Leone, Liberia, Sao Tome & Principe, Equatorial Guinea, Gabon, Republic of Congo, Congo Democratic Republic, and Angola) joined to bring the total participating countries to sixteen. Some of the information available at the centre includes: Maps of participating countries in the GCLME project, Hotspots (pollution, erosion, degraded habitats, etc) in GCLME countries, Natural and human activities/impacts on the coastal environment of the Guinea Current Large Marine Ecosystem Region, Oil and gas industry and biodiversity in the Niger-Delta, Layers of maps in the Niger Delta, Drainage system of Africa, Landsat imageries of the GCLME Region, Map datums used in GCLME countries, Road maps of the countries of the GCLME countries, Coastal and mangroves of Nigeria, Industrial locations and hotspot in



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Lagos State, Map of all the industries in Nigeria, Map of all the mangroves in the GCLME countries. For further information, contact: eims@gclme.org. Website: www.gclme.org.

WhereCamp Africa: Kampala, 30 October 2009, Kampala, Uganda

WhereCampAfrica is being held in conjunction with the 2009 AfricaGIS Conference. It will take place on 30 October 2009 at the Speke Resort and Conference Center, just outside of Kampala, Uganda. WhereCamp is an opportunity to present on ideas, questions, projects, politics, technical issues that you have and contribute to and get feedback from other people and make new friends with similar interests. WhereCampAfrica is a free 'unconference' for geographers, mobile location experts and social cartographers and all kinds of folks interested in place. This will be the second gathering of its kind to take place in Africa and the first one in Kampala.

This event is community driven and topics may include: Mobile Location, Remote Sensing, Geoinformatics, Mapping and Agriculture, Food Security and Location, Community Mapping, Local Search, Social Cartography, Crisis Mapping, etc. Expect to participate in conversations on the nature of places as described in pixels, with rays, on paper, and by social practice. For further information, contact: Jubal.Harpster@CH2M.com or jharpster@wherecampfrica.org. <http://twitter.com/wherecampfrica>, <http://twitter.com/jharpster>.

Conference of Vice-Chancellors and Deans of Science, Engineering and Technology (COVIDSET 2009), November 2009, Kampala, Uganda

The third Conference of Vice-Chancellors and Deans of Science, Engineering and Technology (COVIDSET 2009), organised by the African Network of Scientific Institutions, will be held in Kampala, Uganda, in November 2009. The event will be hosted by Makerere University. The theme of COVIDSET 2009 is Revitalizing Science and Technology Research and Deployment for Sustainable Development in Africa: Strategic, Policy and Regulation Challenges and will build on discussions and outcomes of the first two conferences: the State of Science and Technology Training Institutions (COVIDSET 2005) and Science and Engineering Education for Sustainable Development (COVIDSET 2007).

The conference will consider the following questions:

- What is the current status of SET research, development and deployment systems in African universities and research centers?
- Are prevailing policies, regulations and strategies conducive to vibrant R&D and deployment?
- What lessons can be drawn from successful R&D and Deployment (R&D&D) cases in Africa?
- What role can South-South and North-South partnerships play in revitalizing R&D&D? - Policy implications.
- What role can African scientists in the Diaspora play?
- Can African university and research centers design strategies that can make R&D more responsive to priority development needs on the continent?
- What strategies may be considered to increase investment from the public and private sector for R&D&D in Africa?

For more information, visit [COVIDSET 2009](#) or Download the [conference brochure](#).



2009 GIMS User Conference, 21-23 October 2009, Alpine Heath, Northern Drakensberg, South Africa

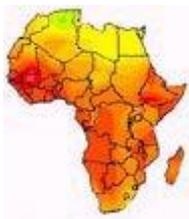
The User Conference (UC) is a three day conference which will reflect GIMS and ESRI's vision for the future, where GIS solutions will play an increasingly vital role on an everyday basis in a myriad of different ways. The UC 2009 agenda will include topics which cover how GIS is impacting across all industries and those making use of the growing technology - GIS Users, GIS Managers, Developers, System Architects and IT Professionals, technical software users and key decision makers. Delegates will represent a wide range of industries including Central Government, Local Government, Defence, Education, Environment, Health, Private Sector, Public Safety and Utilities organisations.



AfricaGIS 2009 Conference, 26-29 October 2009, Kampala, Uganda

The AfricaGIS2009 is a premier, continental conference. The broad sub-themes include:

- Geospatial information for climate change, vulnerability and disaster risk reduction
- Spatial Data Infrastructure in Africa; enhancing science-policy interface
- Geospatial information science for communication and education



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- Geospatial information for integrated environment and natural resources mgt
Cross-cutting issues includes poverty, rural development, urbanization, gender, health, land, displacement and refugees, water and energy. Contact: info@africagis2009.org.



[2009 ESRI Middle East and North Africa User Conference \(MEAUC\)](#), November 9-12, 2009, Manama, Bahrain

Professionals across industries and at all levels of experience with geographic information system (GIS) technology are encouraged to attend this valuable forum. Join ESRI and your colleagues for the opportunity to explore your biggest project challenges and learn how to achieve more GIS-driven results in your organization or community. Contact meauc2009@esri.com.

Practical SDI implementation materials from within and outside of Africa

[Guidelines for the spatial data themes of the INSPIRE Directive](#)

The INSPIRE Thematic Working Groups, the Data Specification Drafting Team, and the JRC INSPIRE Team have finalised the third version of Data Specifications published as Guidelines for the spatial data themes referred to in Annex I of the INSPIRE Directive. They will supplement the Implementing Rule for interoperability of spatial data sets and services and allow for preparation for implementation. Together with the relevant materials (GML application schemas, UML models and registries), they will support the implementation and provide a better understanding of the requirements of the Implementing Rule. The Draft Legislation for interoperability of spatial data sets and services is currently being prepared by the European Commission for submission to the INSPIRE Committee. The guidelines and the related supporting materials are now publicly available.

Guidelines:

- [Data Specifications on Addresses - Guidelines](#)
- [Data Specification on Administrative Units - Guidelines](#)
- [Data Specification on Cadastral Parcels - Guidelines](#)
- [Data Specification on Geographical Names - Guidelines](#)
- [Specification on Geographical Grid Systems - Guidelines](#)
- [Data Specification on Protected Sites - Guidelines](#)
- [Data Specification on Transport Networks - Guidelines](#)
- [Specification on Coordinate Reference Systems - Guidelines](#)
- [Data Specification on Hydrography - Guidelines](#)

Other Documents:

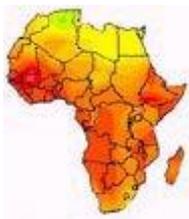
- [Consolidated UML Model](#)
- [GML Application Schemas](#)
- [Code List Dictionaries](#)
- [Guidelines for the encoding of spatial data, version 3.1](#)
- [INSPIRE Generic Conceptual Model, Version 3.2](#)
- [INSPIRE Feature Concept Dictionary](#)
- [INSPIRE Glossary](#)

[INSPIRE Draft Technical Guidance Download Services](#) (version 2.0)

The Network Drafting Team has finalised the next version of their proposal for the Download service Implementing Rules and the accompanying Technical Guidelines. The Draft Legislation for the Download Network Service is currently being prepared by the European Commission for submission to the INSPIRE Committee. The Draft Implementing Rules, the Technical Guidelines and the comments resolution document are now publicly available.

[Advancing the \(U.S.\) Fifty States Initiative: progress report](#) (September 2009)

To provide insight into how the Fifty States Initiative has improved coordination on geospatial matters, and thereby impacted the growth of the National Spatial Data Infrastructure (NSDI), this report analyzes quantitatively and qualitatively how the Fifty State grants benefited state government geospatial activities. Four analyses applied in this report are: 1) analyses of the nine criteria for successful geospatial coordination from the National States Geographic Information Council (NSGIC) Survey, 2) analyses of five questions from the NSGIC Survey selected by the analysis team based on those question being indicators of the level of



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success in coordination, 3) survey responses from federal employees concerning the effectiveness of Fifty States Initiative grants in improving state geospatial coordination, and 4) a qualitative assessment of changes in the effectiveness of state coordination efforts based on five case studies of states that have received grants. The Federal Employee Survey and qualitative assessment provided strong evidence that grants have been effective and useful for states.

GIS Tools, Software, Data

[Map Maker data for Africa downloadable as GIS vectors](#)

It is possible now to download GIS vectors for most of Africa. Google's mission is to organize the world's information and make it universally accessible and useful. This is especially true in Africa, where most of the continent's data is not yet online. A crucial building block to this is providing a rich, comprehensive base map of Africa that allows local data to be organized and published across the web. To achieve this ambitious goal, maps of [Africa on Google Maps](#) several months ago with data created by individuals using [Google Map Maker](#) have been released and now have the product also available in Swahili. With the [latest Map Maker launch](#) a stride has also been taken in that direction by extending our [Kenya pilot](#) and making the [entire dataset of Africa](#) fully available for download by non-profits, government agencies and individuals to create and enhance their own non-commercial map-related projects. People are now using mapping data extensively to analyze the affect of disaster, spread of diseases, or development of urban centers. More details are available on [Map Maker data download site](#).

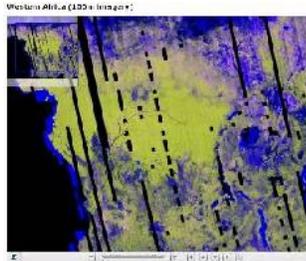
[Gaia 3.4 Release Provides Platform for SDI Users and Developers](#)

The Carbon Project recently announced the release of Gaia 3.4, a free platform designed to support Spatial Data Infrastructure (SDI) users and developers. The Gaia 3.4 platform release includes new SDI tools, an open API for software developers and support for OGC data and services, ESRI ArcGIS Server, Bing Maps and OpenStreetMap. To download the free Gaia 3.4 visit the [Carbon Project](#) website. A suite of free Extenders and API documentation are also available. Technical information and forums for the Gaia 3.4 platform and its Extenders are available at [www.TheCarbonPortal.net](#). Initial Gaia development was sponsored by the U.S. National Spatial Data Infrastructure (NSDI) Cooperative Agreements Program (CAP). The Gaia SDI platform also is available for Linux and Mac users.

[SuperField 3 \(beta version\) for lightweight mobile GIS users available for free download](#)

SuperField 3 beta version is available for free download. SuperField 3 is designed for lightweight field-workers who require basic GIS tools to proceed with basic data collection, measurement, GPS position and etc. SuperField 3 provides basic GIS tools, such as navigation tools, editing tools, GPS tools and so on, to assist in capturing, editing, querying spatial data and etc.

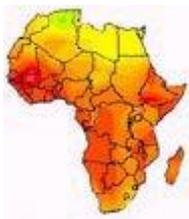
[Data sets for pan-tropical forest cover and biomass](#)



The Woods Hole Research Center ([WHRC](#)) has initiated a three-year project focused on [pan-tropical](#) mapping of forest cover and associated carbon stocks stored in above-ground biomass. This is accomplished through the generation of pan-tropical consistent data sets of year 2007 high-resolution, cloud-free radar imagery from the Japanese [ALOS](#) sensor, a forest cover map derived from radar imagery as a baseline for subsequent change monitoring, and medium-resolution, pan-tropical biomass/carbon map based on the fusion of optical ([MODIS](#)), radar, and lidar ([GLAS](#)) data. The maps will be an invaluable reference against which changes in forest cover and carbon stock can be measured. Preliminary data sets can be found at:

<http://www.whrc.org/panropicalmaps> .

The spatial data sets generated by this project will provide forest cover distribution throughout the tropics in 2007 from cloud-free satellite radar circa 15 meter resolution, as well as the first pan-tropical map of above-ground biomass (at 500m [resolution](#)) derived from remote sensing and field surveys. [Source: SERVIR-Africa community news]



Geospatial Research, Applications, Reference Material

[Mapping resources for survival in Congo](#)



Villagers in the Republic of Congo's Plateaux nord region have started mapping their forest resources, in a move officials say will help to protect their interests. "We began making maps which show where we grow things, where we hunt, fish and gather - everything which allows us to live from day to day," said Denis Bongo, village headman in Assengue, Ollombo District. The initiative started in the first half of this year in Assengue, Ibangui, Epounou and Inga villages in Ollombo District, with the aim of protecting their livelihoods in the face of rampant deforestation and logging activities. Implemented by the Congolese Human Rights Forum (OCDH) with the Rainforest Foundation of UK (RFUK), the project aims to promote the rights of forest communities to access, control and utilize the forests in accordance with Congolese law. It is also being implemented in two other countries in the Congo basin - Gabon and the Central African Republic. Funding came from the UK Department for International Development. The maps show areas where local people grow food crops, fish, gather berries and other food resources and where they hunt. They will be used as a tool in negotiations with logging companies and the authorities. A similar project in neighbouring Democratic Republic of Congo in 2008 trained "Master Mappers" to help more than 500 villagers use GPS technology to map their forests. According to official data, Congo's forests cover 22.5 million hectares or 65 percent of the national territory. In the 1970s, timber was the country's main economic resource before oil took over.

[Sugar-cane fields observed by satellite](#)

On the island of Reunion, sugar cane, a tall grass, covers over 25,400 hectares. The harvest period can span six months of the year. However, once the cane has been cut, it must be processed in a factory within

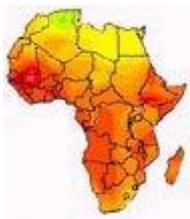


48 hours, otherwise decomposition hinders the industrial crystallisation process, among others. Because the factories operate with zero stock and at constant output levels, the companies increasingly use data supplied by satellite-image experts to estimate the progress of harvests on the island.

The goal of the SUCRETTE programme managed by CIRAD is to develop remote-sensing methods and products to meet the needs of the sugar-cane industry. With that in mind, Mahmoud El Hajj developed an automatic analysis method for satellite-image time series implementing expert knowledge. He used the [FisPro software](#), developed in 2000 by Cemagref and INRA that can be used to build computer systems based on fuzzy logic. By assigning linguistic labels to the different numerical values, fuzzy logic can produce rules similar to those used in human thought. As a result, it is possible to create true decision-aid tools whose design is based on human knowledge.

Another original aspect of the work carried out by the young researcher is a crop-growth model integrating biophysical, climate and agronomic parameters. It is thus possible to estimate the growth of the sugar cane in spite of any missing data in the satellite images. Large cumulonimbus clouds that mask large stretches of terrain and reduce the value of satellite images are no longer a problem. Because sugar-cane growth is rapid, the model is also designed to determine the probability of harvesting having taken place between two images taken at an interval of two or three months. This is useful because, seen from space, a fully grown field ready to be harvested is indistinguishable from a field with new growth, two months after the harvest.

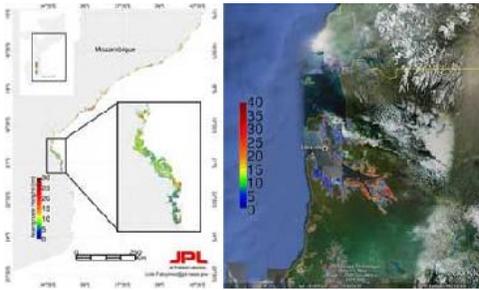
By combining data from satellite-image time series, crop-growth models and expert knowledge, this new method will, in time, make it possible to design a true decision-aid tool. Whereas standard image analysis requires several days of work by an expert, the new tool needs just a few hours to process all sugar-cane fields throughout Réunion. The only element missing today is a graphical interface to facilitate use by an engineering firm. In the future, it will be possible to expand the method for real-time monitoring of dynamic processes in all types of agricultural and forestry land cover. [Source: SERVIR-Africa community news]



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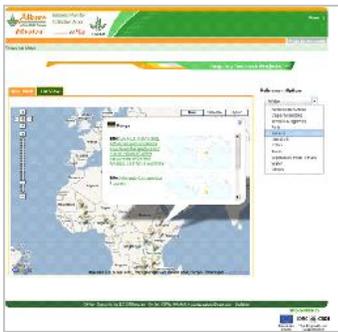


[NASA scientist makes first full assessment of Africa's mangrove forests](#)



Environmental scientist Lola Fatoyinbo of NASA's Jet Propulsion Laboratory (JPL) developed and employed a method that can be used across the continent, overcoming expensive, ad hoc, and inconsistent modes of ground-based measurement. Fatoyinbo's research combines multiple satellite observations of tree height and land cover, mathematical formulas, and 'ground-truthing' data from the field to measure the full expanse and makeup of the coastal forests. Her measurements yielded three new kinds of maps of mangroves: continental maps of how much land the mangroves cover; a three-dimensional map of the height of forest canopies across the continent; and biomass maps that allow researchers to assess how much carbon the forests store. [Source: SERVIR-Africa community news]

[Unveiling the new revamped CGIAR research in Africa map](#)



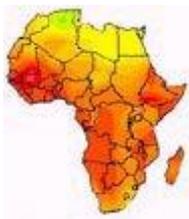
Since it was launched early this year, [CGIAR Research in Africa Map](#) has continued to elicit a lot of interest from different people all around the world. From just trying to answer the simple question: 'Who is doing what, with whom and where?' The database is now a source to key agricultural information in the region. Not only does the map depict the overall outlook of research carried out by CG centres but from the information in the map we have been able to carry out and publish periodic analysis of specific project information. Some of which include – the type of partners that the centres collaborate with in research, analysis of agricultural commodities in the centres and many more to come.

Michael Marus of ICT-KM Program took an in depth look into the map's development in his blog post titled [Giving Research New Bearings: Take a Peek in the Google Engine Behind CGMap](#). The information and data structure which led to the rich geographic user interface that makes browsing of information exciting as well as informative have been well explained. The new map will soon be unveiled in collaboration with the ICT-KM Program. The map will allow querying of the data based on different fields such as project start and end date, primary area of research, research partner etc, free text search criteria, and the generation of reports based on the applied filters. The application and greater use of such tools is essential and a positive step to making agriculture a social endeavor. In the meantime do keep your ears and eyes open for the new improved map.

[E-book: Essays on Geography and GIS, Vol. 2 by ESRI](#)

Published by ESRI and available for free download, the e-book is a collection of essays written by top academics in the fields of geography and GIS technology. Previously published individually in the company's ArcNews magazine, the collection of articles provides insight into the power of spatial thinking. The 12 articles in Essays on Geography and GIS, Vol. 2, include:

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



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[Remote Sensing Journal special issues - call for papers](#)

Remote Sensing (ISSN 2072-4292) is an international journal on remote sensing and its applications. It is published online quarterly starting 2009. It calls for papers for special issue: Feature Papers Submission Deadline: 31 December 2009.

[IJAGR call for papers: special issue on trends in service chaining for GEOSS themes](#)

The [International Journal of Applied Geospatial Research \(IJAGR\)](#) is a quarterly, peer-reviewed journal specializing in studies from applied geography that interface with geographic information science and technology. Including both regular and special themed issues, this journal presents policy analysts, geospatial practitioners, and academicians with high-quality articles exemplifying various application domains within applied geospatial research. This journal is an official publication of the Information Resources Management Association. The Global Earth Observation System of Systems (GEOSS) is an international initiative that provides decision-support tools and operational access to Earth observation data and geospatial content, serving a wide variety of users. Papers of interest for this special issue should discuss different models, techniques and tools addressing the above issues to improve service chaining and integration, as well as highlight relevant practical project experiences and applications applied to Earth Observation to improve decision making in any theme of GEOSS (disasters, health, energy, climate, water, weather, ecosystems, agriculture, and biodiversity). This special issue shall cover interdisciplinary topics among service chaining, Semantic Web, and the geospatial domain. These include, but are not limited to:

- Service integration
- Geoprocessing
- Web Services for Grids
- Services for data model integration/schema mapping
- Methodologies for scalable service chaining
- Methodologies for reusing service chains
- Frameworks for Building Web Service-Based Applications
- Service orchestration
- Semantic service chaining
- Service applications in GEOSS themes

Researchers and practitioners are invited to submit papers between 5000 and 8000 words for this special theme issue on or before 15 November 2009.

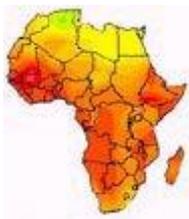
[IJAIS Special Issue: Analyzing, modeling and visualizing spatial environmental data](#)

This volume will provide a good sample of the cutting-edge data analysis and modeling tools, by presenting concepts, algorithms, and real case studies from spatial environmental problems, natural hazards, natural and renewable resources, socio-economic data and other fields of application. It consists of a series of researches on spatial environmental data analysis, treatment and visualization using intelligent modeling techniques, for an environmental automatic decision-oriented treatment of data. Deadline for paper submissions: 30 October 2009.

[Call for Participation: ICT and Development - Research voices from Africa](#), 22-23 March 2010, Makerere University, Kampala, Uganda

The International Federation for Information Processing (IFIP), Technical Commission 9, Faculty of Computing and IT, Makerere University and ITC has organized a workshop intended to provide a forum for discussion of ICT research approaches and findings that emerged from and relevant to the African contexts. The organizers are particularly interested in receiving written submissions from African researchers in ICT for development, and from African intellectuals outside the mainstream ICT-based approach to economic growth and social improvements. Explanatory papers aiming at analysis and understanding of ICT in actual African contexts are welcomed. More precisely, the workshop invites short papers in the following focal areas:

- Discontinuities between the African context and dominant ICT paradigm
- Role of information, and ICT, within Africa and between Africa and the rest of the world
- Barriers against Africa's adoption, appropriation and autonomous use of ICT
- Cultural issues that may shape ICT adoption in unexpected ways
- Alternative strategies of ICT implementation and sustainability in Africa
- Uncertainty, unpredictability, risk and serendipity related to ICT initiatives
- Role of ICT in empowerment, illiteracy, poverty eradication, and human development in Africa.



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The workshop is intended to be informal and inclusive in order to provide a “bigger picture” of ICT in Africa. Participants from academic institutions engaged in similar research, governmental and non-governmental organizations, public and private sector representatives, entrepreneurs and grass-root movements, civil society and ICT practitioners are welcomed. Submit short papers, in the form of long abstracts (2000 words) to: african-voices@googlegroups.com. For further information contact: Walter De Vries at devries@itc.nl or Gianluca Miscione at miscione@itc.nl or Jude Lubega at jlubega@cit.mak.ac.ug or Walter Brown at walbrown@mail.ngo.za or Deadline for submissions of short papers: 30 November 2009.

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.

[CIRAD training session: "GIS for local development"](#) February 2010, Dakar, Senegal

Systèmes d'information géographique pour le développement local La formation est structurée en 4 modules qui s'enchaînent logiquement mais peuvent être suivis indépendamment.

Module 1. Le rôle du SIG dans le projet territorial. Le dessous des cartes (3 jours). Le rôle des SIG utilisés dans le cadre de projet territorial: production de cartes (diagnostic, planification, document de discussion et de négociation ...).

- La cartographie : sémiologie et étapes de conception de la carte.
- Planification et gestion de projet de SI.
- Atelier critique sur le dessous des cartes à partir d'exemples pris dans des projets territoriaux et des atlas.

Module 2. Conception d'un système d'information avec UML, initiation à la mise en oeuvre et à l'utilisation des bases de données (5 jours).

- Introduction aux systèmes d'information, aux bases de données, et aux activités de modélisation (UML).
- Modèle relationnel: opérateurs et langage SQL, construction de requêtes.
- Initiation à Access: notions de tables, de formulaires et d'états de sortie.
- Micro projet : Développement local, projet d'agence régionale de développement (ARD) de Louga (Windesign, Access).

Module 3. Conception et mise en oeuvre d'un SIG (5 jours).

- Introduction aux SIG (géoréférencement, projections et mise en page).
- Initiation à l'utilisation du logiciel Arcgis 9.
- Acquisition de données géoréférencées, cartographie thématique, mise en page de cartes, analyse spatiale.
- Micro projet : Développement local, projet d'agence régionale de développement (ARD) de Louga (Arcgis 9, Access).

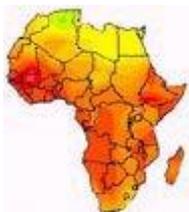
Module 4. Initiation à l'interprétation d'images satellitaires (3 jours).

- Notions de bases en télédétection.
- Classification d'images, interprétation sous SIG.
- Micro-projet : Classification sous ERDAS Imagine.

Apply by end of December, 2009. Contact: ccornu@cirad.fr.

[National University of Rwanda Postgraduate Short Course Certificate/Diploma Programme in Applied Geo-Information Science](#)

Candidates from any field of science, engineering, agronomy, social science, economics or similar disciplines are eligible. Deadline for application is December 1, 2009. Contact: training@cgisnur.org.



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Training Course: Land Management Information System, 19-30 October 2009, RCMRD, Nairobi, Kenya
Regional Centre for Mapping of Resources for Development ([RCMRD](#)), Nairobi has started a training course in Land Management Information System to build capacity in Management of Land Information System for its member countries and Africa at large. Target group: Professionals working in the Geo-information field and land registries, survey and mapping organizations.

Course content:

- Basic concepts of LMIS
- Fundamental elements of LMIS
- Types of cadastral records and land tenure
- LMIS stake holders
- Making a prototype LMIS database
- Spatial and non spatial data entry
- Querying the data base
- Updating the database
- Land transaction procedures

Upon completion of the course, participants should be able to: Understand the concepts and elements of Land Management Information Systems (LMIS), Automate land registration processes, maps and records through scanning, geo-referencing, digitizing, creating parcel based information digital databases, querying and presentation of LMIS data. Tuition is free but participants are required to meet their travel and accommodation costs. Contact persons: Anne Kinyori: anne@rcmrd.org or Muya Kamamia: muyack@rcmrd.org or rcmrd@rcmrd.org.

GEONETcast for Natural & Water Resources Management - Pre-conference workshop Africa GIS2009, 22-24 October 2009, Makerere University, Department of Geography, Kampala, Uganda

This workshop will help to bring participants up to speed with recent developments with respect to the GEONETCast data dissemination and ground receiving system, freeware toolbox to import the data, associated (multi-temporal) modeling and GIS applications. Furthermore it will stimulate the applicants to further develop and strengthen educational and research activities and collaboration in these fields.

The workshop is built on the GEONETCast system and utilizes the various data sources provided which will contribute to a better understanding of the natural processes going on in relation to water and natural resources conditions (e.g. flood and drought phenomena) at a basin and continental scale. The workshop will equip the participants with up-to-date knowledge and skills (through computer practical) using (real-time) image and data disseminated via GEONETCast. Tools used are freeware and are at disposal of participants after termination of the workshop. The course coordinators: Makerere University - Mr. Yazidhi Bamutaze at bamutaze@arts.mak.ac.ug. ITC, Enschede, The Netherlands: Dr. Ben Maathuis at maathuis@itc.nl, Dr. Tsehaie Woldai at Woldai@itc.nl.

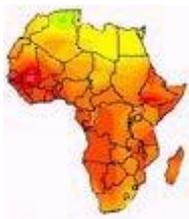
GIMS course schedule for October and December 2009, South Africa. GIMS is an ESRI accredited learning centre servicing Southern Africa. Contact:

- Midrand and Port Elizabeth - Queen Mofokeng (011) 238 6300 (011) 238 6310 at qmofokeng@gims.com
- Durban - Patricia van Schalkwyk (031) 303 5356 (031) 303 5376 at pvenschalkwyk@gims.com
- Cape Town Kathi Wöhl (021) 422 4620 (021) 422 4628 at kathi@gims.com

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](#)] –



Promotion : inscriptions ouvertes, Kinshasa, République Démocratique du Congo. Le **cursus de l'ERAIFT** aboutit à l'obtention d'un Diplôme d'Etudes Supérieures Spécialisées (DESS). Ce diplôme est l'équivalent d'un Master du système « LMD » (Licence, Master, Doctorat) des Accords de Bologne. Il est reconnu par le Conseil Africain et Malgache pour l'Enseignement Supérieur (le CAMES). Le programme du DESS comprend 16 chaires dont l'enseignement s'étend sur une période de 12 mois. L'étudiant dispose ensuite de 6 mois pour rédiger son mémoire. Le contenu de ce dernier repose sur l'approche systémique, et s'inscrit dans le cadre de l'aménagement intégré du territoire, du développement humain, durable et écologiquement viable, de la lutte contre la pauvreté et de la gestion rationnelle de l'environnement. L'autre grade décerné par l'ERAIFT est le Diplôme de Philosophiae Doctor (Ph.D.) en Aménagement et gestion



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intégrés des forêts et territoires tropicaux. Bourses disponibles, mais limitées en nombre. Contact: info@eraift.org.

Short-courses offered by RECTAS in 2009, Ile-Ife, Nigeria



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

LUMA-GIS, Lund University GIS Centre (Sweden) Master's program in GIS

Lund University Master's program in GIS is a free, distance-learning, 2-year program for full-time students. The entire program is given in English and is equivalent to 120 European ECTS credits (1.5 ECTS credits are approx. equivalent to 1 week full-time studies). All courses, given as "distance education", means that the teaching methods and course examinations are conducted over the Internet. The program is equivalent to a degree of Master in Sweden. It is the responsibility of international students to verify if the program is also recognized as a degree of Master in their country of origin. The entire program is free of charge for all students, meaning that there are no tuition fees. The students will be supplied with all required computer software and licenses, theoretical material (except course literature for some courses), practical exercises, and data. Course literature (books) may be required for some of the more advanced courses. In such cases, students will have to buy these themselves. Applications for individual courses starting January 2010 opened in September 2009. Applications for the Master's Program starting Autumn 2010 opens December 2009.

Distance Learning - Certificate



- [Principles of Databases](#) (8 weeks). Starting date: 8 February 2010. Deadline for application: 18 January 2010. [Register](#).
- [GIS Data Quality](#) (6 weeks). Starting date: 15 Mar 2010. Deadline for application: -. [Register](#).
- [Multi-Hazard Risk Assessment](#) (6 weeks), Starting date: 17 May 2010. Deadline for application: 26 April 2010. [Register](#).
- [Principles of Remote Sensing](#) (8 weeks). Starting date: 17 May 2010. Deadline for application: 26 April 2010. [Register](#).
- [Environmental Impact Assessment and Strategic Environmental Assessment using spatial decision support tools](#) (6 weeks). Starting date: 7 Jun 2010. Deadline for application: 17 May 2010. [Register](#).
- [Principles of Geographical Information Systems](#) (7 weeks). Starting date: 6 Sep 2010. Deadline for application: 16 August 2010. [Register](#).
- [Spatial Decision Support Systems](#) (8 weeks). Starting date: 11 October 2010. Deadline for application: 20 September 2010. [Register](#).
- [Learning IDL for Building Expert Applications in ENVI](#). Starting date: 25 Oct 2010. Deadline for application: 4 October 2010.
- [Digital Terrain Model extraction, processing and parameterization for Hydrology](#) (3 + 3 weeks). Starting date: 29 November 2010. Deadline for application: 8 November 2010. [Register](#).
- [Principles and Applications of Remote Sensing and GIS in Natural Resources Management, at KNUST, Kumasi, Ghana](#) (12 weeks). Starting date: 20 Sep 2010. [Register](#).

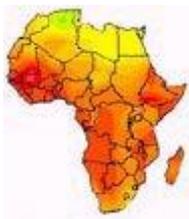
MSc and PG Diploma

- [Water Resources and Environmental Management](#) (Mc degree -18 months), Netherlands. Starting date: 13 Sep 2010. Deadline for application: 1 July 2010. [Register](#).
- [Water Resources and Environmental Management](#) (PG Diploma - 9 months), Netherlands. Starting date: 13 September 2010. Deadline for application: 1 July 2010. [Register](#).

Funding Opportunities, Awards, Support

Consultative Group on International Agricultural Research (CGIAR) Science Awards 2009

The Consultative Group on International Agricultural Research (CGIAR) Chair's Science Awards recognize and reward excellence in science. The 2009 Award categories: Awards for Promising Young Scientist, Outstanding Scientist, and Outstanding Scientific Article will each carry a cash prize of \$5,000. Awards for Outstanding Scientific Support Team and Outstanding Partnership will each carry a cash prize of \$10,000.



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Awards for Outstanding Communications and Outstanding Agricultural Journalism will each carry a cash prize of \$5000. Nominees for all awards - aside from the Journalism Award - must be from CGIAR Centers or other groups/organizations (such as NARS, advanced research institutions, civil society, private sector) who are collaborators in the implementation of a program with a CGIAR Center. Nominations close 30 November 2009.

[Trust Fund for Statistical Capacity Building](#)

The Trust Fund for Statistical Capacity Building (TFSCB), a multi-donor trust fund set up to improve the effectiveness and efficiency of national statistical systems in developing countries, is now accepting applications for its Fall window. The objective is to strengthen national statistical systems in support of poverty reduction strategies and other national and international development goals as a part of the coordinated international effort to improve statistics globally. The statistical capacity building projects must be based on a formal assessment of the statistical system and must demonstrate how they will address the main identified capacity weaknesses. All proposals must be submitted using the web-based GFR application. All prospective TTLs are encouraged to send an email to Naoko Watanabe and Mustafa Dinc to inform them that a submission is forthcoming along with the GFR number of the draft proposal for a quick review. All applications must be endorsed by the appropriate Country or Sector Management Unit. See the Guidelines and Procedures (<http://siteresources.worldbank.org/SCBINTRANET/Resources/guidelines.doc>) or contact Mustafa Dinc, mdinc@worldbank.org, or Naoko Watanabe, nwatanabe@worldbank.org. Deadline for the submission of completed applications: November 10, 2009.

[U.S. - Egypt Joint Science and Technology Joint Research Grants](#)

This grant is available for experts from U.S. and Egyptian scientific institutes, universities, scientific societies, private sector research and development centers, and governmental agencies interested in working on a joint research project. This grant is designed to support the add-on costs of bilateral cooperation. The maximum grant amount is \$60,000 (U.S. dollars) awarded for a period of 1-3 years. The main goal of the Joint Fund is to encourage partnerships between American and Egyptian scientists, and enhance collaboration and technology-sharing between the two scientific communities. Deadline: October 20, 2009.

[AAUW International Fellowships](#)

International Fellowships are awarded for full-time study or research in the United States to women who are not United States citizens or permanent residents. Both graduate and postgraduate studies at accredited institutions are supported. Deadline: December 1, 2009.

[Campbell Fellowship for Women Scholar-Practitioners from Developing Nations](#)

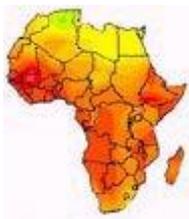
The Campbell Fellowship will support a female social scientist from a developing nation, either pre- or post-doctoral, whose work addresses women's economic and social empowerment in that nation. The goal of the fellowship is twofold: to advance the scholarly careers of women social scientists from the developing world, and to support research that identifies causes of gender inequity in the developing world and that proposes practical solutions for promoting women's economic and social empowerment. In addition to a stipend, and housing and office space on the SAR campus, the Campbell Fellow receives travel, shipping, and library resource funds; health insurance; and the support of a mentoring committee of established scholar-practitioners. The fellowship term will start on September 1, 2010 and run through February 28, 2011. Deadline: November 1, 2009.

[L'Oréal-UNESCO Regional Fellowships for Women in Science in Sub-Sahara Africa](#)

This fellowship is open to all women citizens and permanent residents from Sub-Saharan African countries. Fellowships will be awarded to women scientists in Sub-Saharan African to realize important scientific research in all fields of science, engineering and technology. Fellowships will be awarded for PhD research projects that will result in a Doctorate degree. The research is to be conducted in any country in Sub-Saharan Africa. Fellowships up to the maximum value of US\$20,000 will be awarded. The age limits for the candidate is 40 years. Deadline: 31 October 2009.

[ASARECA call for proposals](#)

The Natural Resource Management and Forestry Programme of Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA) seeks concept notes for a regional project on enhancing



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water productivity for improved small-scale farming and agro-pastoralism in Eastern and Central Africa. Deadline: 8 October 2009 at 17:00hrs Eastern Africa time.

[Conservation Leadership Program \(CLP\)](#)

The CLP (co-sponsored by BirdLife International, Wildlife Conservation Society, Conservation International, Fauna and Flora International, and BP) is soliciting applications for its 2010 Conservation Awards for young conservationists. The CLP has been helping young conservationists to achieve their goals and move into positions of influence within the conservation sector, and 2010 marks the 25th Anniversary of this highly successful program! Successful applicants will: 1.) Develop the knowledge, skills and abilities of team members; 2.) Implement high-priority conservation projects combining research and action; and 3.) Contribute to the long-term success of local conservation efforts. This year's awards include: Future Conservationist Awards: Approximately 20 awards of up to \$12,500 each Conservation Follow-up Awards: Approximately 5 awards of up to \$25,000 each Conservation Leadership Awards: 2 awards of up to \$50,000 each. Deadline: 6 November 2009.

[St. Andrews Prize for the Environment](#)

The St Andrews Prize for the Environment is an initiative by the University of St Andrews in Scotland and the international integrated energy company, ConocoPhillips. The Prize recognises significant contributions to environmental conservation on diverse topics including: sustainable development in the Amazon rainforest; urban regeneration; recycling; health and water issues; renewable energy. Deadline: 31 October 2009.

[Sol Katz Award for Geospatial Free and Open Source Software](#)

The Sol Katz Award for Geospatial Free and Open Source Software (GFOSS) will be given to individuals who have demonstrated leadership in the GFOSS community. Recipients of the award will have contributed significantly through their activities to advance open source ideals in the geospatial realm. Sol Katz was an early pioneer of GFOSS and left behind a large body of work in the form of applications, format specifications, and utilities while at the U.S. Bureau of Land Management. This early GFOSS archive provided both source code and applications freely available to the community. Sol was also a frequent contributor to many geospatial list servers, providing much guidance to the geospatial community at large. Sol unfortunately passed away in 1999 from Non-Hodgkin's Lymphoma, but his legacy lives on in the open source world. Nominations for the Sol Katz Award should be sent to SolKatzAward@osgeo.org with a description of the reasons for this nomination. Nominations will be accepted until midnight UTC on October 9, 2009.

[UNEP: Champions of the Earth 2010](#)

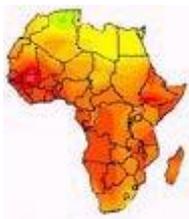
Nominations are now open for the 6th cycle of UNEP's Champions of the Earth, with awards in four categories: Policy Leadership, Science & Innovation, Entrepreneurial Vision, and Inspiration & Action. For the 2010 edition, UNEP has partnered with LG Electronics to recognize each Champion with a cash prize of US\$40,000 in each category. The Champions of the Earth award was created by UNEP in 2004 to honour individuals and groups who have made a significant and recognized contribution, regionally or beyond, to the protection and sustainable management of the Earth's environment and natural resources. The deadline for nominations is 31 October 2009. Nomination form: <http://www.unep.org/champions/nomination.asp>

[European Commission call for proposals dedicated to research for Africa](#)

This call for proposals is the first one entirely dedicated to research initiatives for Africa under the EU's Framework Programme for research (FP7). It brings together several funding Themes under FP7: Health (€39 million), Environment (€17.5 million) and Food, Agriculture, Fisheries and Biotechnology (€6.5 million). The projects selected will involve these various scientific and technological research fields and will also take into account broader socio-economic factors such as migration and resettlement, urbanisation, health care systems, variation of food and energy prices, etc. The "Africa Call" is structured around two major issues: "Water and Food Security" and "Better Health for Africa". Deadline: 14 January 2010.

[African Science to Business Challenge](#)

The African Science to Business Challenge is a pioneering initiative launched by the United Nations Economic Commission for Africa (ECA) and RTI International (RTI) aimed at strengthening links between scientific research and business development. Specific aims are:



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- Provide African scientists and researchers with an understanding of commercialization know-how, as well as the technical aspects (such as financial management, intellectual property, project management and market research);
- Build strong, ongoing connections between researchers and research institutions with industry and investors who can help to bring ideas, inventions and innovations to market, or otherwise into economically productive use;
- Bring research and outputs to the market, or into productive usage, in a timely and effective manner to yield tangible benefits from that research and ensure that it contributes to the economy and the broader community.

For this inaugural challenge, the fields of Biomedical Engineering and Water Quality will be considered.

[Application Form](#). Deadline: 31 October 2009.

[Sustainability Science Fellowship Program at Harvard University](#)

The Sustainability Science Program at Harvard University's Center for International Development offers doctoral, post-doctoral, and mid-career fellowships in Sustainability Science. The fellowships are tenable at the Center for International Development during Harvard's academic year beginning in September 2010. Fellowships are available for 10 months (September 2010-May 2011), 12 months (September 2010-August 2011), the fall semester (September-December 2010), the spring semester (February-May 2011), or for two academic years (post-doctoral fellows only) (September 2010-August 2012). Deadline: 1 December 2009.

[2009 Student Essay Competition: Sustainability through earth observation and engineering](#)

Earthzine invites undergraduate and graduate students to submit an essay for the 2009 Student Essay Competition: Sustainability through Earth Observation and Engineering. Earthzine, an online environmental journal, is conducting a competition to encourage students to creatively examine the benefits that new technological systems in Earth observation and engineering can have on sustainability. Students are encouraged to submit essays that follow one of the two dominant themes in sustainability: social equity and environmental protection. Essays should also be related to one or more of Earthzine's focal topics:

- Agriculture, Biodiversity, Climate, Disasters, Ecosystems, Energy, Health, Water, or Weather.
- Follow Earthzine's Writers' Guidelines.

Prizes will be given for first place (\$500), second place (\$250), and third place (\$150). The entry deadline: October 17, 2009.

[Gita Wirjawan MSc Scholarship 2010-2011 in Environmental Change and Management at the University of Oxford](#)

The one-year course, one of Oxford's most competitive and popular graduate science programs, is by coursework with assessment by assignments and written examinations. It aims to produce students with a broad appreciation of all aspects of the management of people and institutions in relation to environmental change. Successful applicants develop an in-depth understanding of not only the causes and consequences of environmental change, but also an awareness of the legal, economic and ethical underpinnings of remedial action or management. The central theme of this course is the development of a truly interdisciplinary approach to the management of the environment.

Applicants should have:

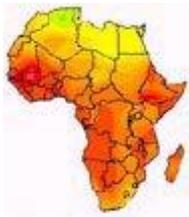
- Confirmed acceptance at the Environmental Change Institute, Oxford University
- Excellent academic record with a first degree equivalent to a good Second Class (Upper) Honors or a GPA of at least 3.5;
- Very good command of the English language;
- Commercial or industrial background and a deep interest in the environment
- Assessed to have outstanding potential for leadership in government, business, or civil society after graduation.

Application for 2010-11 is received on a batch by batch basis, and will be considered in two rounds. The deadlines are 21 November 2009 and 23 January 2010.

[Call for Applications: 2010 Faculty for the Future Fellowships](#)



[Faculty for the Future fellowships](#) are awarded to women from developing and emerging economies who are preparing for PhD or postdoctoral study in the physical sciences, engineering and related disciplines to pursue advanced graduate study at top universities in their disciplines



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abroad. Launched by the Schlumberger Foundation in 2004, Faculty for the Future has grown to become a community of 110 women from 35 countries.

Faculty for the Future grants are in the range of USD 25,000 to 50,000 per year, and may be renewed through to completion of studies subject to performance, self-evaluation, and recommendations from supervisors. The amount of the grant depends on the actual costs of study and living in the chosen location. Candidates should be enrolled or applying to their selected graduate schools when submitting their Faculty for the Future grant request. Candidates must have a proven track record of teaching experience, demonstrate active participation in faculty life and outreach to encourage young women into the sciences and hold an excellent academic record. Sample versions of new forms are now available for consultation so candidates can start preparing their application content: [New Grant Application Process](#), [Renewal Grant Application Process](#). Deadline: 5 November 2009.

Gates Foundation: Access to Learning Award

The Bill & Melinda Gates Foundation's annual Access to Learning Award recognizes the innovative efforts of public libraries and similar institutions outside the United States to connect people to information and opportunities through free access to computers and the Internet. The award is given by Global Libraries, a special initiative of the foundation's Global Development Program. The recipient of the Access to Learning Award will receive US\$1 million.

The application form is available only in English and must be completed in English to be eligible for consideration. Note that the application process has changed for 2010:

- [Download the application](#) from the link below and save it to your computer.
- Confirm your organization's eligibility. Please read all the information on the form carefully.
- Complete the application in English and follow all of the provided instructions.
- [Submit your completed application online](#).

Download the [2010 ATLA Application Form](#) (15 pages, 146KB, DOC). Completed applications must be submitted by October 31, 2009.

Right Sharing of World Resources (RSWR) Grant Program

Right Sharing of World Resources (RSWR) is a Quaker-organization, which primarily works with newly established and small organizations in the developing world. RSWR's grants support for innovative income-generating projects and environmental regeneration (reforestation, agro-forestry, alternative energy sources). Project grants may be used for: revolving loan for seed money, start-up supplies and equipment essential for the project, training, and salary for persons needed to oversee the project, travel expenses, administrative expenses such as the cost of preparing and mailing reports to RSWR. RSWR has two funding cycles. Deadline: 31 December 2009. For more information contact: rswr@rswr.org.

International Foundation for Science (IFS) - "Green Water" Grants

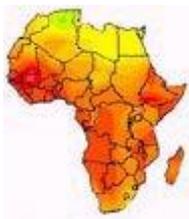
The International Foundation for Science (IFS) invites young scientists to submit research proposals that address: Good management, conservation and use of green water for increased food and biological production through:

- Land management and soil water conservation
- Soil practices to reduce soil erosion and impact on rain water infiltration
- Increase of infiltration through agriculture, rain harvesting or water conservation practices
- Soil fertility management and efficiency of water use for increased production
- Plant management impact on efficiency of rain water use, effects of plant density on rain water use efficiency, relationship between intercropping and run off
- Use and development of drought resistant plants
- Socio-economic aspects of green water use and management

Candidates must be under the age of 40, hold at least an MSc degree, be citizens of developing countries and be carrying out their research in a developing country. Researchers in Sub-Saharan Africa up to 45 years of age may apply, providing they obtained their last higher degree within the last 5 years. Deadline: 31 December 2009.

International Foundation for Science (IFS) Grants

The International Foundation for Science (IFS) is currently accepting research grant proposals from young researchers from developing countries. Each year IFS awards around 250 research grants with a value of up



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to USD 12000 for research projects that will be carried out in developing countries. Eligible research proposals will address issues that fit within the broad topic of sustainable management, use or conservation of biological or water resources. Researchers with IFS support usually have a Masters degree or a PhD, or they are currently enrolled in a PhD programme. See [IFS website](#) for application forms and detailed eligibility criteria. Application deadline: 31 December 2009.

Employment Opportunities

[Agriculture strategy expert](#), Southern Sudan, Sudan

[ARD, Inc.](#) is accepting expressions of interest from highly qualified, senior agricultural strategy and policy specialist for a USAID funded five year agricultural project in Southern Sudan. The project is intended to assist farmers and pastoralists in Southern Sudan increase agricultural and livestock productivity, improve trade, and increase the capacity of farming communities and the public and private sectors. ARD's Agriculture Strategy Expert will work directly and closely with the Ministry of Agriculture and Forestry of Southern Sudan (serving as the Director of Planning in the Ministry) and will play key role in developing a national strategic plan in agriculture. In addition, the selected candidate will help MAF to coordinate support from multiple donors. Deadline for applications: 9 October 2009.

[Statistician \(Census Cartography & Census Data Processing\)](#), P-4, Addis Ababa, Ethiopia

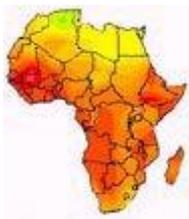
This post is located in the ECA African Centre for Statistics (ACS). The incumbent is expected to: a) organize, design, plan and carry out the collection, evaluation, analysis, compilation and dissemination of statistics in the African statistical yearbook (ASYB), other ECA substantive publications and databases by using appropriate methods of data collection, checking collected data, and appropriate methods for data processing; b) develop and implement a regional census cartography programme, and develop related manuals in support to the 2010 Round of population and Housing censuses; c) participate in the development, implementation and management of statistical database(s); d) provide training and technical support on data collection programmes, country practices and other related information; e) participate in the development or revision of standards on statistical concepts, definitions and classifications by performing methodological research; f) prepare draft technical documents for international, inter governmental and expert group meetings and assist in drafting relevant reports; g) provide technical assistance in building capacities of statistical offices in Spatial Data Infrastructure (SDI) and Geo Information Systems (GIS) and census data processing; h) organize and participate in seminars, working groups and expert meetings as a technical resource person; i) perform other duties as assigned. Vacancy announcement number: 09-STT-ECA-422246-R-ADDIS ABABA (G). Deadline: October 29, 2009.

[Regional Researcher](#), Cotonou, Benin

PSI seeks a regional researcher for West and Central Africa to start as soon as possible and provide technical assistance, analysis and capacity building support to PSI programs in Burkina Faso, Cameroon, Central African Republic, Congo (Brazzaville), Cote d'Ivoire, Democratic Republic of Congo, and Haiti. PSI Research & Metrics aims to improve the performance of PSI interventions through multi-disciplinary research and modeling on populations and markets. The regional researcher collaborates across PSI departments to manage and implement research monitoring and evaluation activities, including study designs, questionnaire development, analysis, and dissemination. The successful candidate will have experience with mapping studies and maintaining GIS. No deadline given.

[Environmental Affairs Officer](#), P-4, Addis Ababa, Ethiopia

This post is located in the Food Security and Sustainable Development Division (FSSD) of the UN Economic Commission for Africa. The Environmental Affairs Officer is responsible for the following duties: promoting among African Member States the ECA policies and programmes that will ensure better stewardship of the environment and natural resources; analyzing and monitoring the implementation of the outcomes of the World Summit on Sustainable Development (WSSD); advising and assisting governments in raising awareness and formulating projects addressing sustainable development in Africa; assisting with the development, implementation and supervision of regional and sub-regional environmental programmes and projects; strengthening regional network of institutions, experts and general information on environment; collecting, analyzing, synthesizing and disseminating relevant information on the environment and sustainable development as it pertains to the region; advising and assisting ECA's expert advisory body, the



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Committee on Food Security and Sustainable Development (CFSSD); undertaking analytical studies on environmental and natural resources issues; representing ECA in intergovernmental or expert group meetings and seminars; advocating for information on national and regional environment activities; advising on environmental issues within ECA; liaising with other UN bodies, specialized agencies, relevant national agencies, Intergovernmental Organizations (IGOs) and Non Governmental Organizations (NGOs); conducting internal and external training activities; and undertaking other work as requested. Vacancy announcement number: 09-ECO-ECA-422136-R-ADDIS ABABA (G). Deadline: October 3, 2009.

[Program Officer- Expanding Community Rights and Voice over Natural Resources](#), Nairobi, Kenya

The Program Officer will be responsible for implementing, monitoring, and coordinating grant making activities in the Expanding Community Rights and Voice over Natural Resources portfolio, which seeks to support the development of natural resource policies and programs that give poor communities more control over these resources and a stronger voice in decision making on questions facing land reform in East Africa. The work will focus on the most vulnerable groups, including ethnic minorities, women and youth whose access to natural resources is most threatened and will geographically focus and be informed by experiences at the community and national levels in three countries - Kenya, Uganda and Tanzania. Deadline: 5 November 2009.

[Program Manager, Africa Biodiversity Collaborative Group](#), Washington, DC, USA

World Wildlife Fund (WWF), the global conservation organization, seeks a fulltime Program manager for the Africa Biodiversity Collaborative Group (ABCG), a consortium of seven U.S. based non-governmental organizations (NGOs) with field programs in Africa. The successful candidate will: lead and coordinate the ABCG; facilitate ABCG's efforts to explore emerging and high priority themes and linkages affecting biodiversity conservation in Africa and conduct analysis; design, direct, and administer the Biodiversity Analysis and Technical Support (BATS) activity funded by USAID/Africa Bureau program including managing subgrants to partners and hiring consultants on issues such as extractive industries, conflict, governance and land tenure, HIV/AIDS and conservation linkages, climate change, etc; conduct extensive outreach, communications, and networking with conservation partners in the U.S. and Africa; and influence policy makers and donors on key African conservation issues. The incumbent should possess:

- A Master's Degree in natural resources or related fields is required.
- 10 years program or other professional experience including 4 to 6 years work experience in Africa, and experience administering U.S. government projects is also necessary.
- Fluency in English and French preferred.
- Thorough knowledge and understanding of key biodiversity conservation issues impacting Africa; training, facilitation, and research skills; good project and budget management and administration skills; ability to oversee consultants and subgrants; exceptional networking, interpersonal, and organizational skills; excellent communication skills both written and verbal.
- Must be a good team player and be flexible.

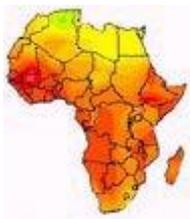
The position requires vision, lateral thinking and the ability to make connections, while at the same time paying attention to detail and following through to complete tasks. Need to be a self-starter and have good consensus-seeking skills. AA/EOE Women and minorities are encouraged to apply. No deadline given.

[Global Land Tool Network call for national and international consultants](#)

The Global Land Tool Network (GLTN, www.gltn.net), hosted by UN-HABITAT, seeks to form a roster of candidates for consultancy assignments as need arises. Deadline: 15 October 2009.

[Consultants for Land Projects in Africa](#)

In preparation for a number of tenders coming up in Africa over the next 6 -12 months, Land Equity International (LEI) is seeking experienced consultants to add to their database. They are specifically looking for professionals with skills in the following areas: Land Registration, Land Policy, Land Law, Customary Tenure, Cadastral Surveying, GIS, Land Information Systems, Social Development and Gender, Valuation, Land Management, Land Use Planning. Skills Required: 1) tertiary qualification in one of the above fields; 2) atleast 3 years international consulting experience; 3) experience in Africa desirable; 4) ability to speak a second language desirable. Interested consultants are invited to forward a copy of their Curriculum Vitae to Ciara Crowley, ccrowley@landequity.com.au.



Other

[Harnessing wind power in Africa](#)



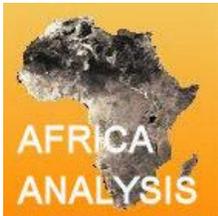
A handful of African countries are betting on wind power to meet surging demand for electricity and combat regular blackouts. A new wind farm in Kenya is set to be the largest in the continent. Set for completion in 2012, the project around Lake Turkana in northern Kenya aims to generate 300 megawatts of electricity a year, one quarter of Kenya's current installed power and one of the highest proportions of wind energy anywhere in the world.

The Kenyan government hopes the move will reduce reliance on hydropower, which in a country of unpredictable rainfall and drought makes the electricity supply vulnerable to

blackouts.

There are already large wind farms in Egypt and Morocco, while Ethiopia, Tanzania and South Africa have all announced plans to generate large amounts of electricity from wind. But these projects are not without difficulty. Transporting the 365 turbines to the remote location of the Turkana project and constructing substations and a transmission line to connect the farm to the national grid will be challenging. The plans could be a short-term solution. "Ultimately for Africa, solar is the answer, although [costs mean] we may still be decades away," says Herman Oelsner, president of the African Wind Energy Association.

[Africa Analysis: Securing the right climate deal](#)



Africa is failing to benefit from global initiatives to help developing countries deal with climate change. The continent houses just 32 of the nearly 1,800 projects funded by the Clean Development Mechanism, a programme under the Kyoto Protocol whereby rich countries pay developing ones to run emission-reducing projects. This could change with discussions on new funding taking place as part of global climate negotiations that will culminate in a climate summit in Copenhagen in December. The summit is intended to set out binding agreements to curb global emissions after 2012, when current obligations under the Kyoto Protocol come to an end.

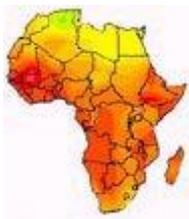
But Africa faces a race against time to make sure its unique challenges - including endemic poverty and a lack of skills and resources are reflected in the new agreements. The continent's poor track record in influencing past climate negotiations has led its leaders to adopt a common negotiating position for Copenhagen. The position, adopted in July this year, emphasizes the need for rich nations whose contributions to climate change exceed Africa's to support adaptation and mitigation in poor countries. It shows that although African states are willing to minimize their contribution to climate change, they want the international community to fund their mitigation efforts to the tune of US\$67 billion per year by 2020.

One key issue for Africa is the mechanism for reducing emissions from deforestation and degradation (REDD), which proposes to compensate landowners for not logging wooded areas (see [Reducing forest emissions](#)). However, the form of REDD favored by industrialized countries applies mainly to dense forests such as rainforests. This would benefit heavily forested countries such as the Democratic Republic of Congo, but those dominated by sparser woodland, such as Tanzania, would fall by the wayside, clearly an undesirable outcome for the continent as a whole. The RCCP is carrying out impact studies in three river basins in Southern Africa - the Zambezi, the Limpopo and the Okavango to gauge the impact of climate change. But the data are unlikely to be ready in time to influence Africa's contribution to the Copenhagen summit. It is up to African countries and regions to make sure they produce the evidence they need to make up their own minds about emissions control and sustainable development.

[Desert greening could slow climate change](#)



A Eucalyptus tree FAO Researchers say they have found a way to 'green' the Sahara desert with swathes of trees and put the brakes on climate change at the same time. Leonard Ornstein, a cell biologist from the Mount Sinai School of Medicine in the United States, and NASA climate modelers David Rind and Igor Aleinov, say that water from the desert's neighbouring oceans could be desalinated and transported inland with pumps and aqueducts. Heat-tolerant, fast-growing species such as eucalyptus could be planted, with drip irrigation using plastic tubing to deliver water to roots to minimise evaporation.



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Such forests could cool the Sahara by up to eight degrees Celsius and return rain to the region, they say. Clouds would also help to reflect the sun's rays. The fast-growing trees could absorb eight billion tonnes of carbon dioxide per year, the amount emitted from burning fossil fuels and forests today and could do so for decades.

The price tag of US\$2 trillion a year is not low. But Ornstein and colleagues say that after several decades the forests would provide a sustainable source of firewood, making them carbon neutral.

Drawbacks of the increased moisture are the possibility of more locust plagues and the prevention of iron-rich dust blowing into the Atlantic Ocean where it feeds sea life, the researchers say. Nevertheless, the idea "is incredibly important and definitely worth taking seriously," says atmospheric scientist Richard Anthes, president of the University Corporation for Atmospheric Research. The model will be published in *Climatic Change* next month.

E-Agriculture - Farming through internet in Nigeria

E-agriculture is a global initiative to enhance sustainable agricultural development and food security by improving the use of information, communication, and associated technologies in the sector. "E-Agriculture" is an emerging field comprising the enhancement of agriculture and rural development through improved information exchange, communication and learning processes, based on the use of internet and other digital technologies by actors in agriculture locally, regionally and worldwide. The international Community at the World Summit on the Information Society (WSIS) identified e-Agriculture as a priority in its Plan of Action.

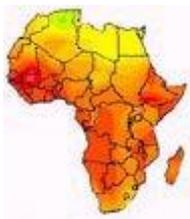
Food production and productivity may be increased by an effective use of ICT for agricultural purposes. The developed nations are using laser technology instead of tractors to plough lands. This helps in optimizing the use of various inputs such as water, seeds, fertilizers, etc. The problem is that farmers cannot afford this technology and unless government comes in support for agricultural infrastructure. Some of the benefits of ICT for the improvement and strengthening of agriculture sector in Nigeria include timely information on weather forecasts and calamities, better and spontaneous agricultural practices, better marketing exposure and pricing, reduction of agricultural risks and enhanced incomes, better awareness and information, improved networking and communication, facility of online trading and e-commerce, better representation at various forums, authorities and platform, etc. E-agriculture can play a major role in the increased food production and productivity in Nigeria.

One will therefore urge the Executive and Legislative arms of Government to support the relevant Agencies such as National Space Research Agency (NASRDA) through funding on this noble project for food security and environmental protection towards meeting targets of the Millennium Development Goals (MDGs) to:

- Development policies, guidelines, strategies and priorities related to E-Agriculture and advocate best practices;
- Facilitate the development of partnership mechanisms involving all interested stakeholders in E-Agriculture;
- Identify stakeholder organizations, groups (e.g. farmers groups etc) and individuals who might wish to take part in E-agriculture;
- Identify and engage funding institutions that would support the E-agriculture activities.

Conferences, Events		
Date	Location	Event
October 2009		
4-10 October 2009	Over 60 Nations	World Space Week
5-9 October 2009 * NEW *	Nairobi, Kenya.	2nd Intergovernmental and Multi-Stakeholder Meeting on an Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)
6-8 October 2009 * NEW *	Kinshasa, DRC	Infrastructure Partnerships for African Development (iPAD) Forum
9-11 October 2009	Singapore	2009 IACSIT Autumn Conference

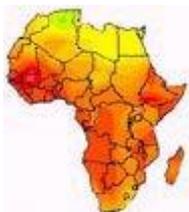
Items newly added to this listing of events since the last SDI-Africa issue are marked ***NEW***



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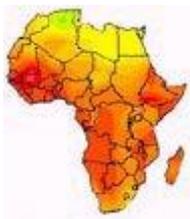
11-17 October 2009	Abuja, Nigeria	3rd International Commission on Irrigation and Drainage (ICID) African Regional Conference Conference theme: Role of Irrigation and Drainage in Food Security: towards attaining the millennium development goals in Africa. Contact: D. B. Madu; nincid@icid2009.org ; nincid@yahoo.co.uk or dbmadu@icid.org .
13-16 October 2009	Cape Town, South Africa	2nd DIVERSITAS Open Science Conference: Biodiversity and society: understanding connections, adapting to change
18-23 October 2009	Nairobi, Kenya	8th International Conference on Urban Health
18-25 October 2009	Buenos Aires, Argentina	XIII World Forestry Congress
19-21 October 2009	Bonn, Germany	10th United Nations Geographic Information Working Group (UNGIWG) Meeting
20-22 October 2009 * NEW *	Johannesburg, South Africa	International Conference on Knowledge Economy 2009 http://www.univ-ouargla.dz/sibfa2009.html .
20-23 October 2009	Sydney, Australia	FOSS4G 2009 Conference
20-23 October 2009 * NEW *	Durban, South Africa	The Academy of Sciences for the Developing World 11th General Conference
20-23 October 2009 * NEW *	Ouargla, Algeria	International Seminar on Fauna Biodiversity in Arid and Semi-arid Regions Contact: chenchouni@yahoo.fr .
20-23 October 2009	Drakensberg, South Africa	2009 GIMS User Conference
21-23 October 2009 * NEW *	Kampala, Uganda	International Conference on Knowledge Architecting for the National Memory: Libraries at the Front
23-24 October 2009	Barcelona, Spain	Conference on Development and Information Technologies. Mobile Phones and Internet in Latin America and Africa Contact: jornadesitd2009.in3@uoc.edu .
24-29 October 2009	Assuit, Egypt	6th International Conference on the Geology of Africa Contact: africacon2009@geology-assiut.com .
26-29 October 2009	Kampala, Uganda	AfricaGIS 2009 Conference Theme: Geo-spatial information and sustainable development in Africa: Facing challenges of global change. Contact: Shuaib Lwasa, S.Lwasa@cgiar.org .
28-30 October 2009	Entebbe, Uganda	10th Waternet / WARFSA / GWP Symposium Theme: IWRM: Environmental Sustainability, Climate Change and Livelihoods. Abstract deadline: <u>March 22, 2009</u> .
28-30 October 2009 * NEW *	Kruger National Park, South Africa	3rd IDIA (International Development Informatics Association) Conference: IDIA2009 Digitally Empowering Communities: Learning from Development Informatics Practice.
November 2009		
1-3 November 2009 * NEW *	Accra, Ghana	Open Access 2009 - 7th International Conference on Open Access Identification of Open ICT Access Solutions for Socio-Economic Development.
1-5 November 2009 * NEW *	Marsa Matruh and Siwa, Egypt	2nd International Symposium & Field Workshop on Living with Landscapes "Adaptation with Coasts and Arid Lands" Abstract deadline extended to August 20, 2009. Contact: Prof. Magdy Torab, magdytorab@hotmail.com .
4-6 November 2009	Seattle, WA, USA	17th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM GIS 2009)



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8-11 Novembre 2009 * NEW *		Journées d'Animation Scientifique de l'AUF (JAS'09) "Imagerie Satellitaire Multisources: Approches Méthodologiques et Applications" Alger, Algeria.
9-12 November 2009	Manama, Bahrain	2009 ESRI Middle East and North Africa User Conference (MEAUC) Contact meauc2009@esri.com .
10-11 November 2009	Ismailia, Egypt	4th International Conference on Impacts of Climate Change on Natural Resources Organized by Egyptian Society for Environmental Sciences.
10-12 November 2009 * NEW *	Cape Town, South Africa	HYDRO 9 - International Federation of Hydrographic Societies Contact: admin@hydro9.co.za .
12-14 November 2009 * NEW *	Agadir, Morocco	International Conference on the Integration of Sustainable Agriculture and Rural Development in the Context of Climate Change, the Energy Crisis and Food Insecurity
12-24 November 2009	Adama University, Ethiopia	5th International Conference on Ethiopian Development Studies
15 November 2009 * NEW *	Kampala, Uganda	Building African Leadership on Population and Climate Change Contact: slandi@prb.org .
15-22 November 2009	Santiago, Chile	XXVI International Cartographic Conference Contact: Conference Secretariat at info@icc2009.cl . See also The World's Geospatial Solutions .
17-18 November 2009 * NEW *	Washington, DC, USA	4th GEO Plenary Session (GEO-VI)
17- 21 November 2009	Sydney, Australia	FOSS4G Annual Conference
22-28 November 2009	Yaoundé, Cameroon	Africa Soil Science Society (ASSS) 5th International Conferences
24-26 November 2009	Abuja, Nigeria	3rd IAA Regional Conference Space for Africa . Contact: jajayi@nasrda.net or jakinyede@yahoo.com .
December 2009		
14-16 December 2009	Accra, Ghana	2nd IEEE International Conference on Adaptive Science & Technology Abstract deadline: <u>14 May 2009</u> . Contact: icast@edicttech.com .
15-17 December 2009	Cape Town, South Africa	2nd International Conference on Management of Natural Resources, Sustainable Development and Ecological Hazards
16-20 December 2009	Tunis, Tunisia	4th Session of the International Congress Geo Tunisia 2009 Contact: atigeo_num@yahoo.fr .
2010		
27-29 January 2010 * NEW *	Cape Town, South Africa	Winter Congress on Science, Engineering and Technology (WCSET 2009) Paper deadline: <u>October 31, 2009</u> .
1-5 February 2010	Maun, Botswana	International symposium: Wetlands in a flood pulsing environment - effects on biodiversity, ecosystem function and human society Deadline for abstracts: <u>1 October 2009</u> .
6-10 March 2010	Alexandria, Egypt	International Conference on Coastal Zone Management of River Deltas and Low Land Coastlines . Abstract deadline: <u>31 October 2008</u> . Contact: Professor Nabil Ismail, nicoastmarine@gmail.com .
25-26 March 2010 * NEW *	Cape Town, South Africa	ICIME 2010 - International Conference on Information Management and Evaluation Organized by University of Cape Town, Department of Information Systems.



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April 2010	Addis Ababa, Ethiopia	<u>UN-SPIDER Regional Workshop “Building Upon Regional Space-based Solutions for Disaster Management and Emergency Response for Africa”</u>
9-16 April 2010	Sydney, Australia	<u>International Federation of Surveyors (FIG) 2010</u>
11-15 April 2010 * NEW *	Cape Town, South Africa	<u>INORMS 2010 - Organisation for Research Management Societies</u>
11-16 April 2010	Sydney, Australia	<u>XXIV FIG International Congress 2010</u> Abstract deadline: <u>22 September 2009</u> .
14-16 April 2010 * NEW *	Zahedan, Iran	<u>4th International Congress of the Islamic World Geographers (ICIWG2010)</u> Contact: <u>M A Daraei@yahoo.com</u> . Abstract deadline: <u>22 October 2009</u> .
5-7 July 2010	Vienna, Austria	<u>ISPRS TC VII Symposium, “100 Years ISPRS - Advancing Remote Sensing Science”</u>
12-16 July 2010 * NEW *	San Diego, CA, USA	<u>2010 ESRI International User Conference</u> Deadline for abstract submission: <u>October 16, 2009</u> .
25-29 October 2010	Fez, Morocco	<u>6th World FRIEND Conference (Flow Regimes from International Experimental and Network Data)</u> Abstract deadline: <u>September 30, 2009</u> . Contact: <u>friend2010@msem.univ-montp2.fr</u> .

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Gordon Ojwang', Editor, SDI-Africa AT gsdi.org or sdi africa@rcmrd.org or gojwang@rcmrd.org

Global Spatial Data Infrastructure Association

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