

Spatial Data Infrastructure – Africa Newsletter



SDI-Africa Newsletter

April 2009

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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.asp>
Best regards, Gordon Ojwang, Editor, [SDI-Africa AT gsdi.org](mailto:SDI-Africa_AT_gsdi.org) or sdiafrica@rcmrtd.org or gojwang@rcmrtd.org



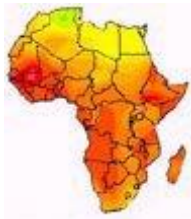
Input to this Issue

Thank you to Kate Lance, USRA/SERVIR-Africa (USA); John Musinsky, Center for Applied Biodiversity Science Conservation International (USA); Carmelle Terborgh, ESRI Federal/Global Affairs (USA); Karen Payne, Information Technology Outreach Services (USA); Francis Molua Mwambo, GIS and Remote Sensing Unit (Cameroon) and Jide Ajayi, National Space Research and Development Agency (Nigeria) for their contributions to this issue of the newsletter.

SDI News, Links, Papers, Presentations

[11th International Conference on Global Spatial Data Infrastructure \(GSDI 11\)](#), 15-19 June 2009, Rotterdam, The Netherlands

Theme: Spatial Data Infrastructure Convergence: Building SDI Bridges to Address Global Challenges. Partners in organizing this conference include the GSDI Association, Joint Research Center (JRC) of the European Commission, EUROGI, Geonovum, Space for Geoinformation Innovation Program (RGI) and Delft University of Technology. The plenary and paper sessions of three major geospatial conferences are being integrated into a single program and held in the same venue. These combined conferences include the Eleventh GSDI Conference, the Third Inspire Conference and the Dutch National Conference reporting on Dutch SDI Results and Challenges. The organizers have invited presentations covering [suggested conference topics](#) on full range of practice, development and research experiences that advance the practice and theory of spatial data infrastructure development.



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[African Development Bank supports satellite communication in Africa](#)

The Board of Directors of the African Development Bank (AfDB) Group approved a loan of US\$ 25 million for the New Dawn Satellite Project. The project comprises the design, construction, launch and operation of a pan-African communications satellite system into the 33° East orbital location, ideally positioned to serve the African continent. The satellite, which will comprise 30 physical transponders operating in the C and Ku frequency bands, will provide services in Africa for cellular backhaul, Internet backbone, corporate networking, TV relay and broadcasting. The launch and commencement of commercial operations are expected in early 2011. The project sponsors are Intelsat, South African investors and Convergence Partners. The project responds to strong demand for satellite supply capacity, driven by efforts from mobile operators to expand their networks to underserved areas, support businesses and remote communities, and boost socioeconomic development.

[2008 USGS Africa Remote Sensing Study released](#)



The U.S. Geological Survey contracted Global Marketing Insights to conduct a research study of the Africa remote sensing market as it relates to aerial and satellite data technologies. Global Marketing Insights created a series of extensive on-line surveys encompassing trends impacting the remote sensing industry as well as application usage, and data needs concerning aerial film, aerial digital, aerial sensors and satellite data. These surveys were completed between January 2008 and January 2009.

The survey study also provides a comparison to the Western and Asian studies that were previously completed (through NOAA contracts) and it provides insights into where the worldwide remote sensing market is heading - from the viewpoints of both data and service providers and end users. Some of these trends and insights include:

- Positive movement in the use of remote sensing and opportunities for the use of geospatial data to make an even greater societal contribution to Africa's sustainable development in the near future.
- The private sector is starting to drive the process of developing geospatial data on the continent.
- There is adequate amount of remote sensing expertise but they need a greater number of accessible geospatial data sets. Data becoming a commodity is the number one trend to impact them.
- Overall, the respondents believe that greater ground resolution is the technical advance that will impact their businesses the most followed by improved GPS units and increased data storage capabilities.

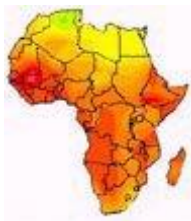
[Source: [SERVIR-Africa community news](#)]

[GMES Africa: Kick-off workshop](#)

The Kick-off workshop of the drafting exercise for the "GMES Africa Action Plan" is being hosted on the JRC-Ispra site from 9 to 12 March 2009. The Plan aims at jointly defining with the African stakeholders the strategy and the priorities for the next 10 years to provide, on a sustained basis, reliable and timely Earth observation-based information services related to environmental and security issues in support to policy makers' needs. The workshop is organized under the auspices of the EU-Africa partnership No. 8 ("Science, Information Society and Space"). It is being attended by many African decision-makers, as well as by African and European experts and by colleagues of the other Commission services involved in the "Space" part of the above partnership. See also: [The Lisbon Declaration on "GMES and Africa"](#) [Source: SERVIR-Africa community news]

[Land information infrastructure: Nigeria seeks Sweden's assistance](#)

Land administration in Nigeria may receive a face lift if a planned cooperation the Federal Government is seeking with Sweden works out. This follows a request by the Federal Government to the overseas agency of the National Land Survey of the Swedish Government to assist in digitising and networking land administration in the country. Nigeria's Minister of State for Works, Housing and Urban Development, Chief (Mrs.) Grace Ekpiwhre made the request while receiving the Africa Area Manager of SwedeSurvey AB, Ms Sheila Holland, and reiterated the need for networking in land administration in Nigeria so that information could be accessed easily by all stakeholders for use. Nigeria decided to approach Sweden for cooperation especially in the area of manpower development and provision of necessary infrastructure to enable the country move from analogue to digital system. Mrs. Ekpiwhre restated the importance of land management in physical infrastructure development of any country and pointed out that Nigeria needed well planned and managed land system that would make land administration easy. Proper land administration is an enormous



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challenge that Nigeria faces, given that it has 36 states, the Federal Capital Territory and 774 local government areas. There was a digital Federal Land Information Management System while a few states in the federation had followed suit, but the development of a digital land administration was still in its infancy. In her response, Ms Holland expressed their readiness to partner with Nigeria but would first evaluate what is on the ground to enable it provide a customised training for the country's requirement. The Swedish government will assist the country in putting standards in place to ensure that the systems already built will easily be integrated with one another.

[Kenya: Govt to blame for construction on road reserves](#)

Information based on records of utilities and infrastructure facilities, contributes to efficient services, operation and maintenance of assets and to the sensible planning of new works. Staff at all levels of a utility require information to enable them develop infrastructure and provide services that both urban and rural population require. It is vital that the collection and processing of this information is managed properly. Even though updated base maps done to the scale and details required are often difficult to obtain and sometimes non-existent, providers and sources of information must strive to build and maintain an effective database. The problem of development on the road reserves in the country has been caused by the lack of co-ordination between the Ministry of Lands and other utility providers like the Ministry of Roads and Public Works, Kenya Power and Lighting Company, Telkom Kenya, local authorities and engineering contactors. The immediate solution to property demolitions on road reserves lies in the implementation of the circular that had been issued in April 2005. It concerns development of fundamental spatial data framework. It stated two fundamental issues as follows:

- That all projects and programmes implemented in the country must be captured through land survey.
- All survey records generated are forwarded to the Director of Surveys immediately after completion of the project to facilitate revision of maps.

The above information would be used in the development of Kenya's National Spatial Data Infrastructure (KNSDI) that has so far been rolled out. It provides a means of sharing spatial data to promote citizenry participation in good governance. Immediately all spatial data producers start sharing what they have, demolition of property will be a thing of the past. Currently, most of the roads in the country are not reflected in the relevant cadastral maps and, in cases where they are shown, the details are not in harmony with the situation on ground. During compulsory acquisitions of parcels of land for road expansions, the Ministry of Roads and Public Works has not been ensuring that cadastral maps are amended immediately to reflect new roads. This needs urgent attention by the concerned authorities. Spatial data needs to be stored in a central place that is easily accessible. This is none other than the KNSDI secretariat whose running and management should be funded by the government, stakeholders in spatial data management and donors.

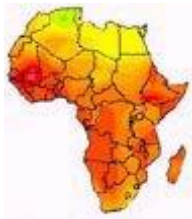
[Tanzanian villagers encouraged to learn hazards of living near erupting volcano](#)



Villagers living near Ol Doi Nyio Lengai Volcano in Tanzania could use volcano risk reduction techniques as a primary tool to keep them safe from future explosive eruptions, scientists recommend after responding to a request from the government of Tanzania for a hazard and risk assessment of the volcano. Ol Doi Nyio Lengai lies within the east African rift system, an area rich in natural resources and prone to natural hazards such as earthquakes and volcanic eruptions. Examples include evacuating to sturdy buildings during ash fall; protecting water resources; and ensuring livestock have clean food and water. Longer-term solutions could include establishing

an emergency evacuation plan, creating a volcano observatory, and installing monitoring equipment around the volcano. The government of Tanzania had requested technical assistance from the US to help conduct a preliminary hazard and risk assessment of the volcano. Three scientists traveled to Tanzania between 10-28 January 2009, as part of the Volcano Disaster Assistance Program (VDAP), a 22-year collaborative partnership between the USGS and USAID Office of Foreign Disaster Assistance (OFDA).

Ol Doi Nyio Lengai, which lacks volcano monitoring equipment, erupted explosively several times from September 2007 to April 2008 after nearly 40 years of low-level activity. The eruptions showered ash on villages near the volcano. Thousands of villagers, who are nomadic and exist off their cattle, had to temporarily evacuate. The water supply was contaminated and the grasslands where the cattle graze were covered by ash and not available for the cattle. Ol Doi Nyio Lengai, which means "The Mountain of God" in the Maasai language, is also known as the most unique volcano in the world because of the carbonatite lava it



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produces. "This is the only volcano in the world that has erupted carbonatite lava in the last 100 years," said David Sherrod, USGS geologist. "This is lava so low on the temperature scale that it barely glows red. It has a hard time igniting trees or grasses as it flows over them because it has such a low temperature". Download photos and listen to an [audio interview](#) with USGS scientists about their experience in Tanzania at gallery.usgs.gov.

[Nyiragongo and Nyamulagira volcanoes could add to DR Congo woes](#)



Two volcanoes may erupt in heavily populated eastern Democratic Republic of Congo, where years of fighting have already forced 1 million people from their homes, scientists and aid agencies has said. Scientists in Goma, capital of the border province of North Kivu, have in recent weeks registered high levels of seismic activity, considered an early warning sign of an impending eruption, around the Nyiragongo and Nyamulagira volcanoes. "There is heavy activity around Nyiragongo, but it's more centred on Nyamulagira, around 13km away," Dieudonne Wafula, lead scientist at the Volcanological Observatory of Goma, told Reuters on 30 March 2009.

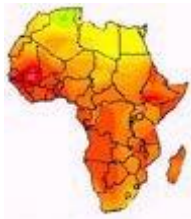
Nyiragongo, which lies just outside Goma, erupted in 2002, sending a river of lava through the city, destroying thousands of homes and killing dozens of people. "Red Cross volunteers are on alert to help the population, which still has memories of the (2002) eruption ... which displaced around 400,000 people," Zebe Kitabingo, head of the local chapter of the Congolese Red Cross, said in a statement. Eastern Congo is still struggling to end more than a decade of lingering fighting between government soldiers, local Mai Mai militias, and rebels that has rumbled on despite the official end of a 1998-2003 war. The conflict and the humanitarian catastrophe it sparked have killed about 5.4 million people over the past decade. The fighting has displaced around 1 million people in North Kivu since late 2006, and tens of thousands of internal refugees have flocked to the relative security of camps on the outskirts of Goma, a city home to more than 600,000 people. Despite the city's close proximity to the two volcanoes, Goma itself did not appear to be at risk, as the level of lava in the Nyiragongo crater is relatively low. "It's less worrying. The higher the lava level, the higher the probability of a serious eruption. The risk is greater for the villages west of the Nyamulagira volcano," Wafula said. Aside from the immediate threat of lava flows, the dangers of airborne ash, which can contaminate drinking water, poison livestock, and disrupt air traffic is highly eminent. An [erupting Mount Redoubt exploded](#) again this morning, 22 March 2009 at 4:31 a.m. its fifth and strongest discharge yet, sending an ash cloud to new heights, the Alaska Volcano Observatory reported.

[Rwanda: ArcGIS in secondary schools](#)

The first ever ESRI Summer Camp in Africa took place at ET SOS Kinderdorf School in Kinyinya, Rwanda from 29th Nov. to 5th Dec. 2008. Théoneste Mutsindashyaka, Minister of State in Charge of Primary and Secondary Education was invited to the closing ceremony of the camp. The Rector of the National University of Rwanda, the CEO of ESRI Germany and other dignitaries were also present at the event. The 15 students that participated in the summer camp presented their GIS projects about land use, water distribution and power consumption of Kinyinya, a suburb of Kigali. In his remarks the Minister of State expressed his grateful regards to CGIS-NUR K-12 project coordinator and organizer of the summer camp for the efforts she made in sensitizing GIS in secondary schools. He also thanked the GIS professionals and students for their committed work. The Minister of State revealed that "The GIS infrastructure is one of those innovations they really need in the sector. It's both an education and development tool which if sufficiently adopted will step up the ICT programme since it is also digitally packaged." He further expressed his willingness to spread the technology to the rest of the country.

[Joburg's single database](#)

Johannesburg is the first city in South Africa to have a single integrated property information system in place. Known as the Land Information System (LIS), it brings together four different sources of Information - the Deeds Office, Valuations, Geographic Information Systems (GIS) and the planning department into one database. All systems including billing now feed off this source making for improved revenue collection and service delivery for the City. But, more importantly, customer satisfaction levels should increase drastically as a result. This is the first time the City has a single view of the more than 680,000 City properties together with all land related information such as zoning and serf size. Any new development applications must also be captured on the LIS database. CGIS launched LIS early in 2007 and formally implemented the new system



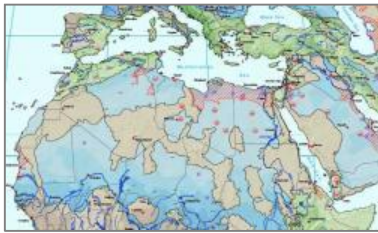
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in April of last year. CGIS also provides free training to internal and external clients on how to use the online maps website at its premises.

For the first time, departments can now work together across organizational boundaries to form a property value chain. Previously the four different data sources operated independently, and data was fragmented, required cross verification, comparison and correction. CGIS has already verified about 43 percent of the street addresses in the City's 4 900 townships, with the data cleansing and verification program to be completed by mid 2009. CGIS is currently developing a Spatial Trend Analysis tool to assist with strategic development planning across the city while a growth management tool will answer "the why's and what ifs."

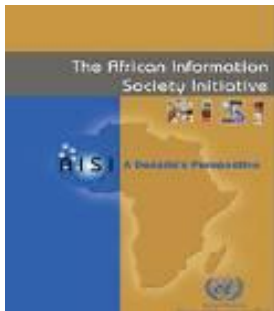
Atlas of hidden water may avert future conflict



They are one of the world's greatest and most precious natural resources, yet are entirely hidden. Now, for the first time, a high-resolution map shows where underground aquifers store vast amounts of water. [The map of "blue gold"](#) is the result of nearly a decade of sometimes difficult talks between neighboring governments, mediated by UNESCO. The hope is that it will help pave the way to an international law to govern how water is shared around the world.

[Aquifers](#) are underground layers of rocks or sediments from which water can be extracted - normally by drilling boreholes or digging wells. They hold 100 times the volume of freshwater that flows down rivers and streams around the world at any time. What the UNESCO map reveals is just how many aquifers cross international borders. So far, the organization has identified 273 trans-boundary aquifers: 68 in the Americas, 38 in [Africa](#), 155 in Eastern and Western Europe and 12 in Asia. Each trans-boundary aquifer holds [the potential for international conflict](#) - if two countries share an aquifer, pumping in one country will affect its neighbor's water supply.

The African Information Society Initiative (AISI): A Decade's Perspective

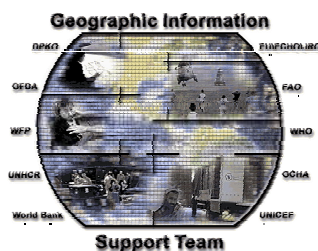


This publication serves to assess the 10 years of the existence of AISI, which was adopted by ECA as its work programme, and highlights the opportunities and challenges of the implementation of this framework within the context of African development. Apart from assisting member States to formulate national strategies, other aspects of the implementation of the AISI include information and knowledge development, an outreach and communication programme, and networking and partnerships.

The African Information Society Initiative (AISI) is an action framework that has been the basis for information and communication activities in Africa since 1996. AISI is not about technology. It is about giving Africans the means to improve the quality of their lives and fight against poverty. Resolution 812 (XXXI): Implementation of the

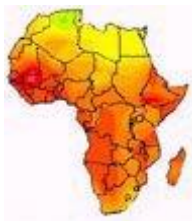
African Information Society Initiative (AISI) adopted by the 22nd meeting of the ECA Conference of Ministers, May 1996, Resolution 812 (XXXI) States: The Conference of Ministers, Recalling resolution 795 (XXX) on building Africa's information highway which requested the Executive Secretary of the Economic Commission for Africa to constitute a high level working group to develop an action plan on information and communication technologies to accelerate socioeconomic development in African countries.

Geographic Information Support Team (GIST) repository and data announcements



The Geographic Information Support Team (GIST) is an inter-agency initiative that promotes the use of geographic data standards and geographical information systems in support of humanitarian relief operations. In support of their global data management and integration needs, the US Agency for International Development (USAID) funds the GIST Data Repository hosted by Information Technology Outreach Services (ITOS) of the University of Georgia. The most recent publications at the Repository include a suite of datasets from the Sudan, Darfur Region USAID Groundwater Exploration Project. Users wishing to find all data from this project can either search the

repository to find all data from Sudan, or use the "Browse" tab at the top of the search page and select Countries/Sudan/USAID Darfur Groundwater Exploration Project to find only those documents associated with this project. The [GIST](#) website provides a data exchange platform for registered users to download



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data. Data contributions are also welcome and individuals wishing to distribute data through the GIST portal should contact the administrator, Karen Payne at kpayne@itos.uga.edu.

Fire Alert System (FAS) version 2.0 released



Conservation International (CI) has announced the release of Version 2.0 of the Fire Alert System (FAS), which provides near real-time delivery of active fire data from NASA's Terra and Aqua satellites for Bolivia, Peru, Indonesia and Madagascar. FAS users can subscribe to receive reports, maps, and email notifications with custom jpeg images, text files, ArcGIS shapefiles and GoogleEarth KML files of fires occurring within user-defined areas of interest. For a no-cost subscription, visit: <http://firealerts.conservation.org>.

The Fire Alert System Release 2.0 contains the following enhancements:

- Complete redesign of the subscription website,
- Automated daily or weekly alerts for three new countries: Indonesia,

Bolivia and Peru, in addition to Madagascar,

- Two new languages: Spanish and Indonesian, in addition to English and French,
- Incorporation of country-specific "areas of interest", including protected areas, key biodiversity areas, indigenous areas, vegetation and forest cover types, administrative boundaries, and forest concessions,
- Ability to select multiple areas of interest to better target alerts,
- On-line access to monthly and multi-year reports and maps,
- Links to CI's Fire Risk website

The Fire Alert System was developed in collaboration with the University of Maryland's [Fire Information for Resource Management System](#) (FIRMS), [NASA's MODIS Rapid Response System](#), [International Resources Group](#) (IRG), [Madagascar's Ministry of Environment, Forests and Tourism](#) (MEFT) and the [US Agency for International Development](#) (USAID). For more information, contact John Musinsky at j.musinsky@conservation.org.

[International Workshop on Adaptation to Climate Change in West African Agriculture](#), 27-30 April 2009, Ouagadougou, Burkina Faso,

The World Meteorological Organization (WMO), the [Drylands Development Centre of the United Nations Development Programme \(UNDP\)](#) and the [United Nations Environment Programme \(UNEP\)](#) are organizing this workshop and the [background](#), [specific objectives](#) and [expected outcomes](#) have been outlined. This workshop aims to bring together experts from the National Meteorological and Hydrological Services (NMHSs), the National Agricultural Research Systems (NARSs), key decision-makers, practitioners, and the National Focal Points of the United Nations Convention to Combat Desertification (UNCCD) presenting state-of-the-art papers, real world applications and innovative techniques for coping with climate change and offering recommendations for planning and implementing an effective Climate Change Adaptation Framework for West Africa.



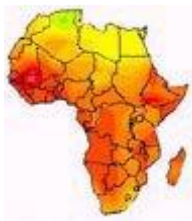
[2009 IEEE International Geoscience & Remote Sensing Symposium \(IGARSS\)](#) - [List of accepted papers](#), [Short courses](#), 13-17 July 2009, Cape Town, South Africa

[ESRI Eastern Africa User Conference](#), 24-25 September 2009, Addis Ababa, Ethiopia



[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.



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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
- 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. Abstract deadline: 30 April 2009.



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

Roadkill GPS navigation system to protect animals



Satellites can now warn Australian drivers to slow down in roadkill-prone areas, in a bid to stem the deaths of some 300,000 wild animals on the island of Tasmania each year. Researchers Alistair Hobday and Melinda Minstrell spent three years and covered 9,320 miles (15,000 kilometers) recording and mapping roadkill carcasses before uploading their data into a GPS (global positioning system) navigation program. Just as motorists can program their in-car GPS navigation devices to automatically watch for rest areas or cafes, they can now be alerted when they approach "roadkill hot spots." (See roadkilltas.com for hot spot maps.) "Tourists in particular are often horrified by the amount of roadkill." Other deterrents, such as reflectors and whistles on cars, have not worked. Ninety percent of dead animals found in the study were relatively common creatures like brushtail possums. But threatened species like endangered Tasmanian devils and quolls were also hit in high numbers, especially at dawn and dusk, when many of the state's nocturnal marsupials emerge to feed. Cars striking moths and other insects at night start chain reactions - possums are killed as they forage on the insects, attracting bigger predators like devils that in turn became victims. Hobday said a 20-percent reduction in nighttime speeds could cut wildlife deaths by half.

Field guide to humanitarian mapping

MapAction has published the first edition of its Field Guide to Humanitarian Mapping. The guide, which is downloadable free, will help aid organisations to use geospatial tools and methods in their work in emergencies. There are tutorials for Google Earth and open-source GIS software.

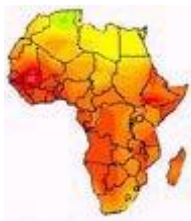
The guide was written to meet the need for practical, step-by-step advice for aid workers who wish to use free and open-source resources to produce maps both at field and headquarters levels. The first edition contains an introduction to the topic of GIS, followed by chapters focused on the use of two recommended free software tools: Google Earth, and MapWindow. However much of the guidance is also relevant for users of other software. In addition there is a chapter on using GPS to collect data during humanitarian emergencies. [Source: SDI-LAC List]

Defining the Triple-A approach - Available, Accessible and Applicable

How accessible are your research outputs? Have you taken steps to ensure that your research results can become international public goods, in other words, that they are Available, Accessible and Applicable to all who could benefit from their use - a Triple-A approach? Here, [CGIAR ICT-KM](http://www.cgiar.org/ict-km) defines the Three A's:

Availability

Research outputs are stored in appropriate open digital formats and described using public metadata standards so they can be found through structured search and access systems. They may not always be



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publicly available in full. Availability means assembling and storing content so it will be permanently accessible, and describing it in systems so others know, and can find, what outputs have been produced.

Accessibility

Research outputs are publicly available online using accepted public formats and appropriate licenses so they can be queried, viewed, and obtained in full. Outputs are optimized so metadata and full content can be harvested and shared across different platforms and applications, and they can be incorporated into other systems and services. Accessibility means making outputs as easy to find and share and as open as possible, in the sense that others are free to use, reuse, and redistribute them, with appropriate acknowledgement and without restrictive legal, technological or financial barriers.

Applicability

Research processes are open and inclusive so that all perspectives and knowledge are taken into account during research design, planning, implementation and communication. Research outputs are customized and/or adapted for easy uptake and use by other actors in agricultural innovation systems, increasing the public benefits derived from the data, information and knowledge produced through research. Applicability means research and innovation processes that are open to different sources of knowledge, and outputs that are easy to adapt, transform, apply, and re-use.

GIS Tools, Software, Data

[New free software helps identify key areas for environmental protection](#)



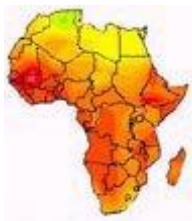
Croizat - a new open-system software package for the analysis of geographic distribution of animals and plants was launched by Conservation International (CI) in Brazil. This innovative technology will help the scientific community identify priority areas for environmental conservation based on geographical patterns of species. Croizat uses a panbiogeographic approach, one of the main areas of

research of biogeography, which is the study of the distribution of living creatures on our planet. Before the software was launched, there was no standard, general-purpose software for the analysis of distributional data under the panbiogeographic method, which was created by the Franco-Italian botanist Léon Croizat (1894–1982). The idea behind panbiogeography is that biotas, or the total of animals and plants in a particular area, evolve through geography barriers. “The panbiogeographic method in which this software is based views patterns of distribution of species as a fundamental aspect of biodiversity.” The identification of these patterns helps to single out areas that are both highly rich in species and historically important in terms of evolution and distribution of biotas. The Croizat is based on the same analytical model of many Geographic Information Systems (GIS), but rather than concentrating on database and graphics flexibility, the Croizat is designed to perform specialist biological analyses, many of which are not available from GIS's. The program is written in Python (www.python.org) - an interactive, object-oriented programming language – coupled with the portable, multi-platform wxPython interface management library, and other free external libraries also written in Python and C/C++ (NetworkX, PIL, NumPy, Matplotlib and its Basemap module). The Croizat is platform-independent, and should run on any PC compatible with x86 architecture, under GNU/Linux, Mac OS X, and MS-Windows. Some key features include:

- An easy-to-use, interactive Graphical User Interface (GUI), with pulldown menus, dialog boxes, and other standard GUI controls, with almost identical interfaces on GNU/Linux, Microsoft Windows, and Apple Macintosh personal computers.
- Data import in a variety of formats, including comma-delimited text and ESRI shapefiles.
- Locality records are displayed as symbols (squares, circles, crosses, etc) on the map, with different symbols for each species.
- Optional display of rivers and country boundaries.
- Zoom in and out on areas of interest.

Maps can be saved as graphic files, or copied to the clipboard and pasted into other applications. The Croizat can be downloaded at <http://panbiog.infobio.net/croizat>. For further information, contact: Patricia Malentaqui at p.malentaqui@conservation.org or Mauro Cavalcanti at maurobio@gmail.com.

[Open Source Geographic Coordinate Systems and Projections](#)



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There are several coordinate system related projects at the Open Source Geospatial Foundation (OSGeo), including [Proj4](#) - cartographic projections library originally written by Gerald Evenden then of the USGS; [Proj4js](#) - JavaScript library to transform point coordinates from one coordinate system to another, including datum transformations; [CS-MAP](#) - Coordinate systems projections library, which is also used by *AutoCAD Map 3D* and *MapGuide Open Source*. The library was acquired by Autodesk and donated to OSGEO; [GeoTIFF Libgeotiff](#) is an open source library for reading and writing GeoTIFF information tags.



The folks responsible for these projects have gotten together and formed an overarching project called [MetaCRS](#). The plan is for all coordinate system activities at OSGEO to be part of one umbrella project, sort of a one stop shop for coordinate system related activities. This will provide an opportunity for cooperation including on coordinate system dictionaries, test suites and mathematical formulations.

Street finder' for Lagos, Nigeria



Developed by Nigerians for Nigerians, MapNTL.com, is an [interactive map](#) that allows users to search for any street in Lagos, as well as the location of businesses by name and address. The initiator of the project, Mr. Ireti Ajala, said, "MapNTL.com can show the precise location of over 50,000 businesses in Lagos including banks, ATMs, restaurants, hotels, post offices, shopping plazas, markets, etc. Ajala, a United Kingdom-based map and GIS specialist, added that its database contained over 400,000 routable Lagos digital streets measuring over 5,400km in length equivalent to more than two-third of the earth's equatorial radius or twice the distance from Port-Hacourt to Sokoto. "Visitors can interactively zoom in/out, re-centre the map, e-mail the map to customers and friends, and click on a business symbol to get localised information about the particular business such as contact phone number, email, address, etc and other details to assist in the purchasing decision," he said. [Source: [SERVIR-Africa community resource registry](#)]

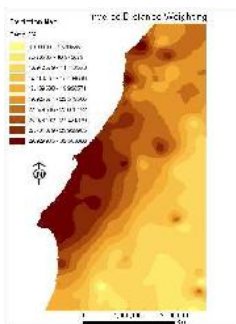
On-line site hosting GPS tracks



GPS users 'out there' may consider contributing to this on-line repository for tracks. The site offers a service that enables people share and discover GPS tracks and waypoints from around the World in an easy way. It is built on open source (postgreSQL back end) and has a clean and elegant interface. [Source: Mick Wilson, SDI-EA List; [SERVIR-Africa community resource registry](#)]

Geospatial Research, Applications, Reference Material

Geostatistical analysis of Essaouira-Morocco soil composition based on sand-silt-clay-content and Nitrogen-Phosphorus-Potassium concentrations

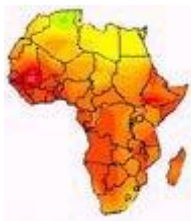


Soils differ in several aspects and these differences give rise to a variety of soil types. Different soil types have the capabilities to support the cultivation of different crops types. Because soils differ, soil related investigations may be very interesting and informative to the agrarian opulation whose livelihood depend it. A significant proportion of the world's population relies on agriculture for subsistence. Thus, the need to broaden research related to agriculture in order to conserve soil, a vital resource for livelihoods and to come up with modern techniques that may be both ecological friendly while striving to feed the world's population.

The data used for this study was collected by the *Istituto Agronomico per l'Oltremare* (IAO) Florence, Italy. For geostatistical analytical purposes, this data composed of 96 sampling locations was spread over the entire study area to ensure complete coverage

was treated as continuous. Various geostatistical exploratory techniques were used including:

- Voronoi map (Thiessen polygon) - each polygon contains only one input point, and any location within a polygon is closer to its associated *releve* than to that of any other polygon. In this sense, soil samples within each polygon turn to have similar oncentration for the parameter being considered.



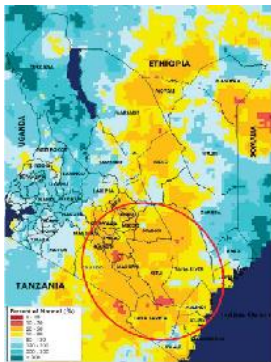
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- Gray scale / Isoline map - contours localities with same concentration of the parameter being considered. Places with equal concentrations for a particular parameter may be traced.
- Semi variogram (variography using geoMS software) - the variogram seeks to represent the spatial pattern of the phenomenon being considered over the study area.
- Inverse distance weighting - assigns weights in an averaging function based on the inverse of the distance (raised to some power, usually a power of two) to every data points located within a given search radius centered on the point of estimate, in this case the *releve*.
- Ordinary Kriging (using ArcGIS software) - ordinary Kriging was preferred due to its simplicity, the mean must not be known and it is indicative of localities where more sampling should be done in order to improve the results of the analysis.

The author concludes by asserting that investigating the clay, silt and sand content of soils as well as the concentrations for nitrogen, phosphorus and potassium may be invaluable to knowing which portions of the study area may be conducive for the cultivation of particular crop types. If artificial fertilizers may be added to the soil in order to improve yields following the nutrient demand of certain crops. In the spatial distribution of the above parameters clay, silt and sand could be best represented using an anisotropic model while nitrogen, phosphorus and potassium could be better represented using an isotropic model.

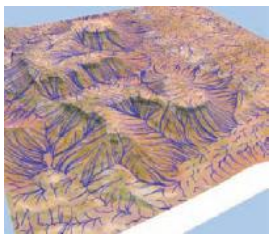
[The 2008/ 09 short-rains season assessment report - Kenya Food Security Steering Group \(KFSSG\)](#)



The steep deterioration in food security over the past four months or so has resulted from subjection of fragile livelihoods to a multiplicity of shocks over a short period of time. While the GoK and development partners have implemented substantial food interventions and generally less significant non-food interventions especially during drought emergencies, food insecurity is increasingly entrenched. The inability of the food insecure to recover fully from recurrent shocks and hazards would suggest that a mix of immediate and medium term food and non-food interventions that seek to mitigate urgent needs while concurrently restoring livelihoods and building their resilience is prerequisite. The unfortunate reality is that intervening organizations tend to respond to emergency food needs fairly quickly and have less enthusiasm for funding and implementing non-food interventions that are at the minimum, mitigative in nature. However, the current downward spiral in food insecurity in urban, pastoral and marginal agricultural livelihoods, in particular, suggests that

unless urgent sustainable measures are taken, these livelihoods may no longer be sustainable. The comprehensive 2009 short rains assessment report covering crop and livestock production; markets and prices; urban, pastoral and marginal agricultural food security; impacts of rainfall; disease and conflict; and the evolution of coping strategies provides recommendations that are intended to forestall the growing proportion of the Kenyan population that is unable to meet basic food needs.

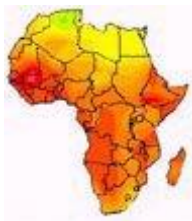
[Digital terrain modeling with 3-D visualization](#)



3D visualizations, referred also as DTMs, DEMs or VIAs are one of the tools that are of utmost importance in landscaping environments. The visualizations are useful in areas such as EIAs, mine reclamation/rehabilitation planning tourism (Fatelli, 2006; van Deventer and van den Berg, 2006), land use planning, forestry, urban planning; change detection, and exploration geology. The applications of 3D visualization are scaleable, that is, they can be on large- or small-scale levels. On large scale levels tools can be applied on local levels such as townships or suburb areas while regional and national levels represent applications on small scale levels. Fields such

as estate and property developments (large scale levels) are the main areas in which 3D visualization can be applied as they assist Planners, Landscape Architects and Developers to make decisions in facilitating sustainable development by providing sound ecological planning and environmental design principles within a defined geographical space. The concept of 3D visualization is synonymous to VRM, 'a systematic approach developed by the Bureau for Land Management in the United States for assessing and managing visual qualities in environments'. Visual indices derived from such an approach can be used to document and map view sheds to acceptable levels of change from which design guidelines can be prepared to protect environmentally sensitive areas, thereby promoting visual sustainability.

The benefits of 3D visualizations cannot be overemphasized. Several studies have shown that these tools are useful in fields such as tourism, environmental impact assessments, infrastructure developments and

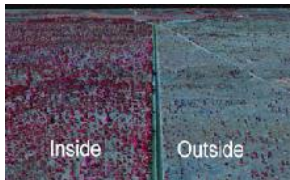


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prediction of disasters such floods. Geologists, hydrologists and geophysists can also make use of the tools in their respective fields of geological explorations, and flooding disasters and ground water assessments due to their visual impacts on the areas of interest. Similarly, telecommunication companies and utility institutions can utilize these tools in improving service delivery to clients. [Source: [Geoconnexion International, Vol 8, No. 3, March 2009](#)]

[3D Remote Sensing Provides Ecosystem Management Answers in Africa](#)



The African savanna is world famous for its wildlife, especially the iconic large herbivores such as elephants, zebras, and giraffes. But managing these ecosystems and balancing the interests of the large charismatic mammals with those of other species has been a perpetual challenge for park and game managers. A new study published in the Proceedings of the National Academy of Sciences reports the successful test of new remote-sensing technology to monitor the impact of management decisions on the savannah ecosystem. [Source:

[SERVIR-Africa community news](#)]

[Tracking the polio virus down the Congo River: use of Google Earth in public health planning and mapping](#)

The use of GIS in public health is growing, a consequence of a rapidly evolving technology and increasing accessibility to a wider audience. Google Earth (GE) is becoming an important mapping infrastructure for public health. However, generating traditional public health maps for GE is still beyond the reach of most public health professionals. In this paper, we explain, through the example of polio eradication activities in the Democratic Republic of Congo, how we used GE Earth as a planning tool and we share the methods used to generate public health maps. The use of GE improved field operations and resulted in better dispatch of vaccination teams and allocation of resources. It also allowed the creation of maps of high quality for advocacy, training and to help understand the spatiotemporal relationship between all the entities involved in the polio outbreak and response. GE has the potential of making mapping available to a new set of public health users in developing countries. High quality and free satellite imagery, rich features including Keyhole Markup Language or image overlay provide a flexible but yet powerful platform that set it apart from traditional GIS tools and this power is still to be fully harnessed by public health professionals.

[Risk maps of Lassa Fever in West Africa](#)

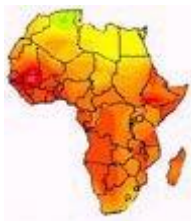


The article describes the use of satellite and weather data to compile risk maps of Lassa fever, which affects two to three million people in West Africa - with up to 10,000 deaths annually and the associated environmental factors such as rainfall that encourages seasonal outbreaks of the rat-borne virus. People most at risk live between Cameroon and Guinea. Lassa fever is caused by a viral haemorrhagic arenavirus. The natural reservoir of Lassa virus is the multi-mammate rat *Mastomys natalensis*, which lives in houses and surrounding fields. A spatial analysis of Lassa fever data from human cases and infected rodent hosts covering the period 1965-2007 was carried out. Information on contemporary environmental conditions (temperature, rainfall, vegetation) was derived from NASA Terra MODIS satellite sensor data and other sources and for elevation from the GTOPO30 surface for the region from Senegal to the Congo. All multi-temporal data were analysed using temporal Fourier techniques to generate images of means, amplitudes and phases which were used as the predictor variables in the models. In addition, meteorological rainfall data collected between 1951 and 1989 were used to generate a synoptic rainfall surface for the same region.

The Lassa fever areas predicted by the models covered approximately 80% of each of Sierra Leone and Liberia, 50% of Guinea, 40% of Nigeria, 30% of each of Côte d'Ivoire, Togo and Benin, and 10% of Ghana. The maps derived based on the spatial and statistical models all indicate a strong influence of rainfall, and a lesser influence of temperature in defining high risk areas. The areas of greatest risk are located between Guinea and Cameroon.

[Generating plausible crop distribution maps for Sub-Saharan Africa using a spatially disaggregated data fusion and optimization approach](#)

Large gaps exist in our knowledge of the current geographic distribution and spatial patterns of performance of crops, and these gaps are unlikely to be filled. In addition, even the spatial scale of many sub-nationals



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statistical reporting units remains too coarse to capture patterns of spatial heterogeneity in crop production and performance that are likely important from a policy and investment planning perspective. To fill these spatial data gaps we have developed and applied a meso-scale model for the spatial disaggregation of crop production. Using a cross-entropy approach, our model makes plausible pixel-scale assessments of the spatial distribution of crop production *within* geopolitical units (e.g. countries or sub-national provinces and districts). The pixel-scale allocations are performed through the compilation and judicious fusion of relevant spatially-explicit data, including: production statistics, land use data, satellite imagery, biophysical crop “suitability” assessments, population density, and distance to urban centers, as well as any prior knowledge about the spatial distribution of individual crops. The development, application and validation of a prior version of the model in Brazil strongly suggested that our spatial allocation approach shows considerable promise. This paper describes efforts to generate crop distribution maps for Sub-Saharan Africa for the year 2000 using this approach. Apart from the empirical challenge of applying the approach across many countries, the application includes three significant model improvements: (1) the ability to cope with production data sources that provided different degrees of spatial disaggregation for different crops within a single country; (2) the inclusion of a digital map of irrigation intensity as a new input layer; and (3) increased disaggregation of rainfed production systems. Applying the modified spatial allocation model we generated 5 min (approximately 10 km) resolution grid maps for the following 20 major crops across Sub-Saharan Africa: barley, dry beans, cassava, cocoa, coffee, cotton, cow peas, groundnuts, maize, millet, oil palm, plantain, potato, rice, sorghum, soybeans, sugar cane, sweet potato, wheat, and yam. The approach provides plausible results but also highlights the need for much more reliable input data for the region, especially with regard to sub-national production statistics and satellite-based estimates of cropland extent and intensity. [Source: *Agricultural Systems* 99(2-3): 126-140 (February 2009), not an open access journal]

Satellite system to track illegal migrants

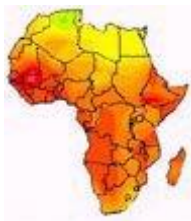
A satellite system linking two continents became the latest weapon in Europe's armoury against illegal immigration yesterday, as police forces in countries as far apart as [Spain](#), Senegal and [Mauritania](#) were hooked up to a single high-speed communications and data network. The EU-funded Sea Horse system helps relocate the effort to prevent illegal immigration from the coast of Africa, with stations opened in port cities such as Dakar in Senegal, Praia in Cape Verde and Nouadhibou in Mauritania. The system should allow police to track immigrant vessels, as they are spotted traveling up the Atlantic coast of Africa and then veering west in search of the Canary Islands or heading north for the southern shores of Spain or Portugal. Police can plot charts and draw up shared maps of where vessels carrying would-be illegal immigrants are going and what routes they follow. "It is the most sophisticated network of its kind in Europe," said Miguel Márquez of the company Indra, which has put Sea Horse together. "It uses technology that already existed but had never been applied to illegal immigration before." The information is being centralized in the Canary Island capital of Las Palmas, where frontier police forces have formed a co-ordination centre. The system will receive information from individual police forces and maritime patrols. Spanish aircraft also patrol the waters between Africa and the Canary Islands, which has seen more than 100,000 immigrants land in 2,800 boats since the immigration route from West Africa opened 14 years ago. Although 151 immigrants arrived in the first week of this year, the co-operation of West African countries has allowed Spain to reduce numbers.

Call for Abstracts: "JBGIS Best Practices Booklet on Geo-information for Risk and Disaster Management"

Each year, disasters such as storms, floods, volcano outbreaks and earthquakes cause thousands of deaths and tremendous damage to property around the world, displacing tens of thousands of people from their homes and destroying their livelihoods. Many of these deaths and losses could be prevented if better information were available regarding the onset and course of such disasters. Several technologies offer the potential to improve prediction and monitoring of hazards, risk mitigation and Disaster Management, such as meteorological and Earth observation satellites, communication satellites and satellite-based positioning.

The Joint Board of Geospatial Information Societies ([JBGIS](#)) and UN-SPIDER jointly invite to contribute to a "Best Practises Booklet on Geo-information for Risk and Disaster Management" that will create a decision support forum based on the knowledge and experience of experts and will outline the potential uses of the Geo-Information Technologies to governmental, institutional and operative decision makers all over the world. The articles should address one or more of the disaster types and technologies:

- Geophysical: earthquake, tsunami, volcano, mass movement, severe storm, flood, fire, drought, extreme temperature



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- Biological: epidemic, insect infestation, vector diseases
- Technological/societal: pollution (air, soil, and water), industrial facilities failure, terrorist attacks, traffic break down and accidents (air, road, sea).
- Data collection technology: sensors (air, space, terrestrial, soil, water, etc.), products (optical and range imagery, other measurements)
- Data processing: systems for real-time monitoring/tracking, prediction and simulation
- Data management and analysis: spatio-temporal, image, moving objects and point clouds databases (models, indexing, analysis)
- Data access and sharing: SDI, Web portals, command and control systems, Net-centric systems, ontology/semantic-based applications, context-aware search.
- Data visualization: Web visualization, VR environments (Google Earth, Visual Earth, etc.), dedicated systems
- Other successfully applied geo-information technology

The Abstracts should not exceed 400 words and should outline a successful application, including data acquisition, information extraction and dissemination, and a clear statement of the benefits and further potential of the practice described as compared to classical methods. The abstracts which are not selected for the “Best Practices Booklet” will be evaluated for the Gi4DM to be organized early 2010 in Turin, Italy. Abstracts should be submitted to Prof. Piero Boccoardo at piero.boccoardo@polito.it. Submission deadline: 30 April 2009.

Call for Papers: Geomatica Journal, Special Issue on “Volunteered Geographic Information”

Papers for this special issue must present research results and advanced work in progress related to, user generated geo-content and particularly linkages to neo-geography, Web 2.0 and/or participatory GIS. Discussions on major challenges that VGI introduces to geomatics sciences and engineering and foreseeable future directions are also welcome, and contributions reflecting international perspectives are strongly encouraged. Potential topics include, but are not limited to, the following:

- Citizens' motivations in providing volunteered geographic information,
- Quality, validity, responsibility and legitimacy issues of VGI, - privacy, confidentiality and ethical issues,
- Potential applications of VGI see as ‘human sensor networks’ in public health, civil security, etc,
- Technological challenges and opportunities (access to wireless networks, mobile phones, etc),
- Applications for collaborative VGI (e.g. wikiGIS, wiki carto, etc.)
- Participatory GIS/mapping using VGI and user generated content,
- Cartographic challenges in the context of geospatial Web 2.0,
- Strategy (process, policy, technologies) to integrate VGI into formal GIS processes

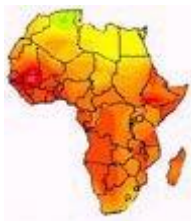
Papers should be submitted in English or French to Guest editors: Dr. Stéphane Roche at stephane.roche@scg.ulaval.ca and Dr. Rob Feick at rdfeick@uwaterloo.ca in PDF. Instructions to authors are outlined in Geomatica and also available at [CIG-ACSG](http://www.cig-acsg.org) web site. If the document is bigger than 3.0 MB, please submit it to editgeo@magma.ca. Each paper should not exceed 9,000 words. Deadline for submission of manuscripts: June 1, 2009.

Call for Papers: 3rd International Academy of Astronautics (IAA) African Regional Conference, 24-26 November 2009, Abuja, Nigeria

The International Academy of Astronautics (IAA) has again given its approval to the National Space Research and Development Agency (NASRDA) of Nigeria to host the third edition of the African Regional Conference, with the theme “Space for Africa: Joint Participation, Knowledge Development and Sharing”. The 2009 Abuja Conference will highlight the role *Joint Participation, Knowledge Development and Sharing* can play in the development and growth of Space Science and Technology in Africa particularly in the application of space technology to the sustainable development of the continent. The conference will provide a platform for interaction among the scientific, academic and engineering communities of the world and Africa in particular to maximize the benefits of space exploration and exploitation. The conference would provide a forum for the presentation and discussion of topics related to the theme. “*Space for Africa: Joint Participation, Knowledge Development and Sharing*”. There will be limited space for sponsorship of African participants on a first come first serve basis.

Papers are invited in the following areas of the conference sub-themes:

- Integrated earth observation system for development;
- Space communications and navigation systems;



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- Space transportation and propulsion systems;
- Space debris and near earth objects;
- Earth observation sciences and related technologies;
- Basic space science;
- Capacity building and the space enterprise

For further information, see [Fyer](#) and [Registration Form](#). Contact: Jide Ajayi at ajayijide2000@yahoo.com or ajayi@nasrda.net and Dr Joseph O. Akinyede at jakinyede@yahoo.com, jakinyede@nasrda.net, ajayijide@hotmail.com or. Abstract deadline: 15 June 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.

[MyCOE / SERVIR Biodiversity Initiative in Africa 2009-2010](#)



This is a new initiative that focusses on the local capacity to use geography and geographic technologies for biodiversity programs in Africa. It will build upon the current work and partnership with NASA, USAID, ESRI, the [Regional Centre for Mapping of Resources for](#)

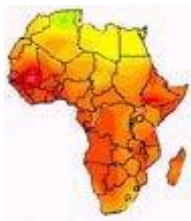
[Development](#) (RCMRD, which hosts [SERVIR-Africa](#)) and other public/private partners. A MyCOE / SERVIR Biodiversity Youth Cadre will be formed from participants competitively selected for their long-term potential to contribute to biodiversity issues in Ethiopia, Kenya, Malawi, Namibia, Somalia, Sudan, Tanzania, Uganda, Zambia, Angola, Benin, Botswana, Burundi, Comoros, Djibouti, Democratic Republic of Congo, Eritrea, Ghana, Guinea, Lesotho, Liberia, Madagascar, Mali, Mauritius, Mozambique, Nigeria, Rwanda, Senegal, Sierra Leone, South Africa, Swaziland and Zimbabwe. U.S.-based students and scholars may also be eligible to participate in other ways.

1. Eligible youth applicants should be citizens or residents of the above countries and enrolled or completing studies at a university or similar educational institution (upper level undergraduate students, graduate students or post doctoral students (within 6 years of receiving the PhD) in any field may apply to be MyCOE / SERVIR Fellows. Both students and their faculty advisors or other mentors will receive stipends to conduct projects of 6 months duration and receive support to attend a capacity building and GIS workshop at the RCMRD in Nairobi, Kenya.
2. All selected projects will meet the following criteria:
 - Have duration of 3 to 6 months of research activity;
 - Use geographic technologies such as GIS and GPS;
 - Incorporate activities that respond to local threats to biodiversity;
 - Address local areas with biological significance;
 - Have a committed mentor to participate in capacity building activities;
3. Participants will receive a monthly research stipend (f3-6 months), travel to attend a one-week long workshop in Nairobi, designate and supported mentors, geospatial data resources, living expenses . Interested students or persons interested in serving as local mentors should contact Dr. Patricia Solis, at psolis@aaq.org before 26 June 2009.

[Two GEONETCast short courses prior to IGARSS '09](#)

Prior to the 2009 IEEE International Symposium on Geoscience and Remote Sensing (Earth observation - origins and applications from 13-17 July 2009 in Cape Town, South Africa), two GEONETCAST short courses will be taught:

[GEONETCast and the monitoring of African marine ecosystems](#)



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Presenters: V. Byfield, National Oceanography Centre, Southampton, United Kingdom and S. Bernard, CSIR, Stellenbosch, South Africa

[GEONETCast and Water Security](#)

Presenters: T. Woldai, B. Maathuis, C. Mannaerts, Department of Water Resources and Earth Systems Analysis, ITC, The Netherlands

For more information: Download the [flyer](#) (433 kB). Visit the [IGARSS'09](#) website. [Source: SERVIR-Africa community news]

[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 build 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. [Source: [SERVIR-Africa community news](#)]

[UNESCO-IHE Regular Short Course: GIS and Remote Sensing](#), 2-13 November 2009, UNESCO-IHE Institute for Water Education, Delft, The Netherlands

There has been a rapid growth in the use of digital spatial and temporal data in many aspects of urban water systems management (for example urban planning, pipe-network systems analysis, river basin management, groundwater analysis and water pollution assessment). The aim of this course is to provide both a solid theoretical understanding and a comprehensive practical introduction to the use of geographic information systems and remote sensing technologies for the analysis and solution of different water and environmental problems. Contact: z.vojinovic@unesco-ihe.org.

[Facilitating community managed disaster risk reduction course](#), 11-22 May 2009, Addis Ababa, Ethiopia

Over 40% of the population in the horn of Africa lives in drought prone arid and semi arid areas. Other widespread challenges in the continent such as; floods, conflict, HIVAIDS, disease epidemics, and environmental degradation continue to impoverish the different communities. In this course, you will learn:

- Apply the philosophy, concepts and principles of community managed disaster risk reduction;
- Analyze various disaster risk reduction frameworks and models with special focus on common hazards in the horn of Africa;
- Identify and analyze different types of hazards and examine community managed approaches to reduce disaster risks;
- Facilitate the process of participatory risk analysis and assess the impact of major hazards like drought, floods, disease epidemics, conflict, HIV/AIDS and other common hazards;
- Apply the community planning process in the context of disaster risk reduction efforts and adapt participatory tools for doing so;
- Develop an action plan to support community managed disaster risk reduction efforts taking into consideration the major hazards in the region.

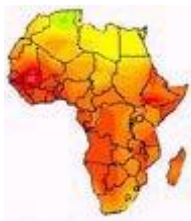
[Facilitating community managed disaster risk reduction course](#), 19-30 September 2009, Kampala, Uganda

Contact [International Institute of Rural Reconstruction, Africa \(IIRR Africa\)](#) regional office or country offices for details.

[GLOWA-Volta Upcoming Trainings & Workshops](#)



The central objective of the GLOWA Volta Project (GVP) is the analysis of the physical and socio-economic determinants of the hydrological cycle in the Volta Basin in the face of global change.



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Based on this, the project aims at the establishment of a scientifically sound Decision Support System (DSS) for water resource management that has been adequately tested. The GVP is in its third phase (GVP III, June 2006 - May 2009), which is geared towards the synthesis of the research, capacity building, and the transfer of decision support tools, and knowledge.

- 2009 (3-5 days), Advanced MikeBasin/WEAP, Venue: yet to be decided.
- 2009 (5 days), Landuse Systems and Modelling (LUDAS), Venue: yet to be decided.
- 2009 (2 days), Geoportal and Database User Workshop (in french), Venue: yet to be decided.

[UNISA Short Learning Programme in GIS](#), online & Pretoria, South Africa

Explore GIS a [two module semester course](#) offered by the Department of Geography in the College of Agriculture and Environmental Sciences at the University of South Africa. The course is offered through distance education, but students need to attend a compulsory workshop (maximum three days - probably in Pretoria) for module EGIS02K. Both modules can be completed in one semester. Deadline for registration (second semester): [16 July 2009](#).

[2nd Toponymy training course for Eastern Africa](#), Nairobi, Kena

Held prior to and organized in conjunction with the [25th United Nations Group of Experts on Geographical Names \(UNGEGN\)](#) session in Nairobi, May 5-12, 2009. Contact: toponymy@geo.uu.nl.

[Institute for Meteorological Training and Research \(IMTR\) courses 2009](#), Nairobi, Kenya

Contact: imtr@meteo.go.ke, aura@meteo.go.ke.

[GIMS course schedule for March, April and May 2009](#), Midrand, Cape Town, Durban and Port Elizabeth, South Africa. GIMS is an ESRI accredited learning centre servicing Southern Africa.



[ESRI East Africa training schedule for January-June 2009](#)

Modules include:

- ArcGIS Desktop I, II and III
- Mobile Mapping using ArcPad & GPS
- Building Geodatabases
- Working with ArcGIS 3D Analyst
- Advanced Analysis using ArcGIS
- Introduction to ArcGIS Server
- Introduction to the Multi-user Geodatabase
- Working with ArcGIS Spatial Analyst
- Working with ArcGIS Network Analyst
- Working with ArcGIS 3D Analyst
- Advanced Analysis Using ArcGIS



[Southern and East African Mineral Centre \(SEAMIC\) 2009 courses](#), [Geoinformation Department](#), Dar Es Salaam, Tanzania. The Geo-information department's main function is to promote the standardisation of all geo-science information available in the sub-region and its conversion into an accessible format for dissemination, with a view to improving accessibility to geo-science data to the public. Mr. Mesfin W. Gebremichael, mesfin@seamic.org, seamic@seamic.org.

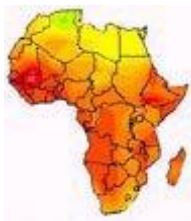
- April 27-May 8, 2009: Principles and Applications of Remote Sensing
- May 18-29, 2009: GIS Principles and Applications
- June 8-19, 2009: Geophysical and Geochemical Data Processing



[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



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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 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.

CGIS-NUR Training Program 2009, Rwanda

- Introduction to GIS
- Cartography & Mapping with ARCGIS (Basic)
- Cartography & Mapping with ARCGIS (Advanced)
- Geoprocessing using Model Builder and Python



ESRI Online Seminar - Authoring and Deploying Fast Web Maps, April 2, 2009 (12 PM, 2 PM, & 6 PM - New York time)

ESRI Online Seminar - Getting Started with Map Templates, June 25, 2009 (12 PM, 2 PM, & 6 PM - New York time)

ESRI Online Seminar - Getting Started with the ArcGIS API for Microsoft Silverlight, August 27, 2009 (12 PM, 2 PM, & 6 PM - New York time)

ESRI Online Seminar - Getting the Most out of the 2009 ESRI User Conference, July 2, 2009 (9 AM., & 11 AM, 12 PM & 2 PM - New York time) or (4 PM & 6 PM - UTC/GMT)

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. For next session, the web based application form is opened from March 15 to April 15, 2009. Applications for program that starts in January 2010 opens in July 2009.

MSc degree or Postgraduate diploma course in Land Administration



ITC's MSc degree (18 months) and Postgraduate diploma (9 months) courses in Geo-information Science and Earth Observation for Land Administration starts on 14 September 2009 and comprises two components:

- Understanding the scientific concepts, models and methods of land administration
- Operational aspects of creating a land administration organisation.

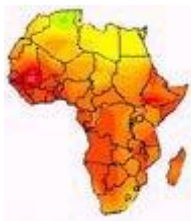
See [fellowships](#) matters and on-line registration: [MSc degree course](#) and [Postgraduate diploma course](#).

Upcoming ITC distance education courses

- Principles of Remote Sensing, starting 18 May 2009 (6 weeks). Registration deadline: April 20, 2009.
- Environmental Impact Assessment and Strategic Environmental Assessment with spatial decision support tools, starting 8 June 2009 (6 weeks). Registration deadline: May 11, 2009.

Upcoming ITC certificate courses

- Multi-Hazard Risk Assessment, starts on 18 May 2009 (6 weeks). Registration deadline: 4 May 2009.



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- [Using Geographic Information Systems \(GIS\) in disease control programmes](#), starts on 22 June 2009 (2 weeks). Registration deadline: 11 May 2009.

[Diploma course](#)

[Geoinformatics, with ARU, Dar es Salaam, Tanzania](#). Specialisation modules: Digital Photogrammetry & Remote Sensing, GIS Operation, Cartography and Geo-Visualisation.

Funding Opportunities, Awards, Support

[Call for Proposals - 2009 Kenya - South Africa Joint Science & Technology Research Programme](#)

The Government of Kenya and the Republic of South Africa have decided to jointly support researchers from public universities and public research institutes on an equal and mutually beneficial basis in an effort to enhance scientific and technological cooperation between the two countries. For the purposes of this call, research projects in: Biosciences; Space Science; Indigenous Knowledge Systems; Environmental and Climate Change; Mathematical Sciences; and Energy will be considered.

Successful projects will be funded up to a maximum amount of Ksh 3,000,000 (R400.000) per project for two years. The joint application for funding must include two Principal Investigators, one in Kenya and the other in South Africa. Funding will be available from 1 June 2009 to 30 May 2011. Application forms may be obtained from the National Council for Science and Technology (www.ncst.go.ke) and from the National Research Foundation in South Africa (www.nrf.ac.za). For further information, contact the Secretary, National Council for Science and Technology at research@ncst.go.ke. Website: www.ncst.go.ke. Deadline: 17 April 2009.

[African Union Scientific Awards](#)

The [African Union Scientific Awards](#) will be awarded to African scientists who have remarkable achievements, demonstrated by number of publications, number of research graduate students, applicability of the scientific work to Africa's challenges, and its patentability. Only nationals of the African Union (AU) Member States are eligible for this Award. The award categories are:

- African Union Young Scientist National Award targets young scientists (of less than 35 years on 31 December of the year of contest) in AU member states and valued each at USD 5,000. These awards are for the AU Young Scientist National Award for Life and Earth Sciences, and AU Young Scientist National Award for Basic Science, Technology and Innovation. Application deadline: 30 June 2009.
- African Union Women Scientist Regional Award targeting excellent women scientists in the African Union Regions (Central, Eastern, Northern, Southern and Western) and each valued at USD 20,000. These awards are for the African Union Women Scientist Regional Award Life and Earth Sciences and African Union Women Scientist Regional Award for Basic Science, Technology and Innovation. Application deadline: 30 June 2009.
- African Union Scientific Award targeting outstanding African Scientists in the African Union and valued each at USD 100,000. The awards are for African Union Scientific Award Life and Earth Sciences and the African Union Scientific Award for Basic Science, Technology and Innovation.

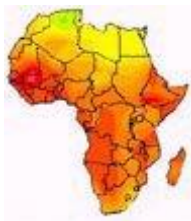
Application deadline: 9 September 2009.

[Grants - Charles A. and Anne Morrow Lindbergh Foundation](#)

Lindbergh Grant support research or educational project that will contribute to a balance between technology and environmental preservation. Grants of US\$10,580 will be awarded to individuals for research and educational programs. Thematic areas are agriculture, animal resources, plant resources, water resources, general conservation and waste minimization. Open to citizens of all countries. [Full PDF version](#), [Application Letter](#) (PDF), [Applying for a Lindbergh Grant](#) (PDF), [Application](#) (PDF), [Endorser Report](#) (PDF), [Application Instructions](#) (PDF), [Application](#) (Word), [Endorser Report](#) (Word). Application deadline: 11 June 2009 for funding in 2010.

[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:



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- Land management and soil water conservation i.e. soil management practices to increase soil moisture, to increase rain water infiltration in the root zone and water retention, as well as to reduce evaporation on the soil surface
- 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 thereby impacting positively on the water demand for food production and a sustainable environment
- Research on the 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. Deadlines: 30 June 2009 and 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 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 deadlines: 30 June and 31 December 2009.

[The Zayed International Prize for the Environment](#)

The Zayed Prize, awarded on a biennial basis, recognises and promotes pioneering contributions in the field of environment and sustainable development. The Zayed Prize is classified into three award categories:

- Global leadership in environment and sustainable development: US\$500,000
- Scientific/ technological achievements in environment: US\$300,000
- Environmental action leading to positive change in society: US\$200,000

For further information, contact: [The Zayed International Prize website](#) or zayedprz@emirates.net.ae. Deadline: September 1, 2009.

[Call for applications: Swedish Research Links Programme](#)

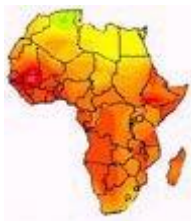
The Swedish Research Links Programme seeks to foster research ties between researchers in Sweden, on the one hand, and researchers in Asia, the Middle East and North Africa region (MENA) and southern Africa on the other. The key condition for the Swedish Research Links Programme is that researchers from the countries involved must submit joint applications on projects of mutual interest. The Swedish Research Links Programme offers two forms of grant for international research collaboration:

- International Collaborative Research Grant (up to three years – 2010-12)
- International Planning Grant (one year - 2010)

The Programme is intended to support international research collaboration by funding the research partners' joint activities, such as exchange research visits between the partners, seminars, workshops and joint publishing. Minor items of equipment for use in the collaborative project may also be funded. Funding is awarded for both basic and applied research. The following African countries are listed in the OECD list (DAC list) of aid recipients (www.oecd.org/dac/stats/daclist): Algeria, Egypt, Libya, Morocco, Tunisia, South Africa, Botswana and Namibia. Application deadline: 6 May 2009.

[2nd Call for Project Proposals \(2009\) - South Africa / Argentina Joint Science and Technology Research](#)

This call is open to working researchers residing in South Africa and affiliated with a recognized higher education or research institution such as a university, university of technology or science council. An application must designate two principal investigators, one in South Africa and one in Argentina, who will bear the main responsibility for the project, including its technical and administrative coordination as well as scientific and financial reporting. Bilateral funding will be made available for joint research projects in the



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following priority areas: Water research; Fisheries and marine research; ICT; Space science and technology (earth observation); Health sciences; Mining and geological sciences and Resources-based industries
Funding will be available for a maximum of three years, starting in 2010. Download the Application form: [PDF version](#) / [Word version](#). Deadline for proposals submission: 20 April 2009.

2009 Call for Application: African Doctoral Dissertation Research Fellowships (ADDRF)

The African Doctoral Dissertation Research Fellowships (ADDRF) Program was introduced by the APHRC in partnership with the International Development Research Centre (IDRC) and the Ford Foundation in 2008. The program supports doctoral students in sub-Saharan African Universities by awarding dissertation fellowships to those conducting health-systems or sexuality related research.

The program is offering 15 fellowships to doctoral students in sub-Saharan African Universities awarded to advanced doctoral students who are within two years of completing their doctoral thesis at an African university. The program primarily supports doctoral research (including data collection). Coursework is not considered for support. The call and application forms: [Call for Applications](#), [Application Form](#). Students from Francophone countries can download both the 2009 Call and application form in French and may submit their applications in French as well - [Appel à Candidatures](#), [Fiche de Candidature](#). Deadline for application: 30 April 2009.

2009 Knowledge Interchange and Collaboration Programme (KIC) Call

The KIC grants for local and international travel and sponsored scientific events in various forms and administered solely by GMSA are open from 1 January 2009 onwards. Applications will be accepted as per instructions in the [KIC 2009 Manual](#). Local travel - long stay (≥ 1 week) R10,000, International travel - short stay (≥ 1 week & ≤ 1 month) R25,000 and International travel - long stay (≥ 1 month & ≤ 3 months) R40,000. A proportion of the budget will be earmarked for young (within 5 years of obtaining their PhD) researchers and a portion for established researchers. In the latter group rating will be an advantage. Science councils and student applications will not be considered. The investment in the discretionary support for travel and scientific events will focus on travel grants and events support. All researchers who are full-time employees or on a full-time contract to any of the following organizations are eligible:

- South African universities;
- National research institutions such as National Research Facilities, and other government funded laboratories including research hospitals; and
- Museums.

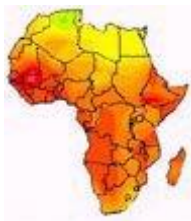
Applications should be submitted to: KICgrants@nrf.ac.za. KIC 2009 Travel Grants Application [[Word](#)], KIC 2009 Scientific Events Grants Application [[Word](#)]. For further information, contact supportdesk@nrf.ac.za. KIC website: <http://www.nrf.ac.za/kic/>.

Wildlife Conservation Society: Research Fellowship Program

The [Research Fellowship Program \(RFP\)](#) is administered by WCS-Global Conservation's Training & Capacity Building Program and jointly funded by the Conservation Leadership Programme (CLP). The RFP is a small grants program (grants of up to \$25,000, the average grants is \$10,500) designed to build capacity for the next generation of conservationists through supporting individual field research projects that have a clear application to the conservation of threatened wildlife and wildlife habitat. We seek projects that are based on sound and innovative conservation science and that encourage practices in conservation that can contribute to sustainable development. Most of the grantees are professional conservationists from the country of research and/or post-graduates pursuing a higher degree. The RFP supports marine or terrestrial field research in Africa, Asia, and Latin America regardless of the nationality of the applicant. CLP funding is restricted to nationals from Algeria, Angola, Argentina, Azerbaijan, Bolivia, Brazil, China, Colombia, Egypt, Georgia, India, Indonesia, Libya, Malaysia, Mexico, Pakistan, Russia, Trinidad & Tobago, Turkey and Venezuela. The RFP supports projects for only one year, so preference is given to discrete, short-term projects. Deadlines: March 15 and September 15.

World Council of Churches Scholarships Programme

The World Council of Churches Scholarships Programme is open to all women and men, lay and ordained, who are *recommended by a WCC member church or related church organization*. Preference is given to candidates from a developing country, and to those who have not previously studied outside their home country. Candidate should have completed secondary education plus basic training for employment, and



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have had several years' working experience related to the proposed field of study. Scholarships are provided for courses ranging from 3 months to 2 years. Candidates should be under the age of 45. Application deadline: 30 April 2009.

[Ghent University \(Belgium\) Master grants for candidates from developing countries 2009-2010](#)

Grants are available for all master's programmes offered at Ghent University. Each year, a maximum of 10 scholarships can be awarded. Deadline: 30 April 2009 at 5 p.m.

[ECA-backed initiative offers African scientists training in US](#)

To strengthen the foundations of science and business development in Africa, the [Economic Commission for Africa \(ECA\)](#) and the US-based Research Triangle Institute (RTI) have set up a program to help promising research undertaken by African scientists, reach the commercial market place. The 2009 inaugural Challenge focuses on two categories: biomedical engineering and water quality, which is central to the human rights and personal dignity of every person. Deadline for submitting entries: 31 May, 2009. For further information, contact: dondieki@uneca.org.

[World Bank Summer Internship Program](#)

The Internship Program is open to students who are nationals of the Bank's member countries and attracts a large number of highly qualified candidates. The goal of this Internship Program is to offer successful candidates an opportunity to improve their skills as well as the experience of working in an international environment. Interns generally find the experience to be rewarding and interesting. To be eligible for the Internship Program, candidates must possess an undergraduate degree and enrolled in a full-time graduate study program (MSc or PhD). Deadline for Winter Internship (December-March) is October 31, 2009.

Employment Opportunities

[Head of Regional Office - Africa: United Nations International Strategy for Disaster Reduction \(ISDR\)](#), Nairobi, Kenya

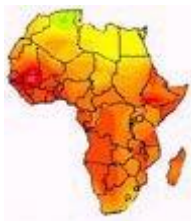
The incumbent should have an advanced university degree (Master's degree or equivalent) in business administration, management, economics, social or natural sciences, international relations, with emphasis on development issues and risk management issues or a related field. A first-level university degree in combination with qualifying experience may be accepted in lieu of the advanced university degree. A minimum of ten years of progressively responsible professional experience and practical experience; A strong asset is familiarity with current strategic issues in Africa and working experience implementation in Africa. Experience in disaster management, monitoring, evaluation, and policy; working experience in developing countries; knowledge of current international issue pertaining to risk reduction, sustainable development, economic and social vulnerability concerns.

Submit a cover letter and completed P-11 Form to the ISDR secretariat at isdr.vacancies@un.org. Deadline: 12 April 2009.

[Consultants and Research Assistants - Kenya Institute for Public Policy Research and Analysis \(KIPPRA\)](#), Nairobi, Kenya

The Kenya Institute for Public Policy Research and Analysis (KIPPRA) works with a wide variety of individual consultants from time to time. The Institute is inviting experienced and qualified individuals to submit their Expressions of Interest to provide consultancy services whenever need arises in the following broad research and capacity building areas of expertise during 2009/10 and 2010/2011 financial years.

1. Macroeconomics: Public Expenditure Management Analysis, Taxation, Macroeconomic modeling, Computable General Equilibrium (CGE) Modeling, Social Accounting Matrix (SAM), Governance & Macroeconomic Policy.
2. Productive Sector: Agricultural Economics, International Trade and trade policy modeling, Industrial Economics, Tourism Economics, Environmental/Ecological Economics, and Development Economics ..
3. Private Sector Development: Financial Economics, Investment Growth, Criminology/Economics of Crime, Political Economy, Industrial Economics, Regulatory issues, and related governance issues.
4. Infrastructure & Economic Services: Water Resource Economics, Energy Economics, Transport Economics, Transport Planning, Urban & Regional Planning, Public Service Delivery Assessment, Construction Economics, Housing Market Analysis and Governances Public Policy Analysis.



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5. Social Sector: Health, Labour, Education, Poverty Analysis, and Social Protection issues. Candidates applying for consideration as research/capacity building consultants:

- Must have minimum qualification of MA/MSc in Economics or related social sciences, Phd qualifications will have added advantage.
 - Must have at least five years' relevant research experience in their areas of expertise
- Expressions of interest by individuals who would like to be considered for its database of Research Assistants is also invited.
- Must have minimum qualification of a first degree in Economics or related social sciences. Master's degree holders and those with previous experience in research work will have an added advantage.

Application deadline: 7th April 2009. Further information, contact: Admin@kippra.or.ke.

WWF Zambia Country Director, Zambia

Reporting to the Representative, WWF Eastern Southern Africa Programme, the Country Director, WWF Zambia leads and ensures that the WWF Zambia Country Office is managed effectively and efficiently in all key areas – Conservation, Finance and Administration, People & Organizational Development, Partnership Development, and Communications – achieving WWF Zambia vision and excellent Key Performance Indicators. The key requirements are:

- Advanced university degree in Business Management, International Relations / Development, Environmental / Conservation Management, or other related fields
- Proven track record in successfully developing, leading, and managing large-scale programmes and/or institutions in the field of conservation, natural resource management, international development, and/or other related fields
- At least 10 years professional experience in a leadership role, 3-5 years of which should be in the Eastern and Southern Africa region (preferably Mozambique), with demonstrated success in managing multi-disciplinary teams
- Knowledge of the institutional and legal framework in Mozambique, as well as of relevant policy issues

Interested candidates should email a cover letter and CV to Ms Shivani Wadhwa at recruitments@wwfint.org. Application deadline: 10 April 2009.

WWF Mozambique Country Director, Maputo, Mozambique

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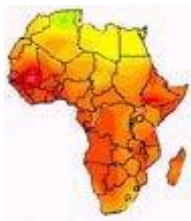
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Academic Registrar - National University of Rwanda (NUR), Kigale, Rwanda

Main purpose of post is to provide strategic leadership and strategic management of the University Registry including the keeping of records, issuing of certificates and oversight of the examinations process. The applicant should have:

- Masters degree or equivalent professional standing.
- Successful experience as a manager including having a proven record of leadership, management and development of staff commensurate with this level of post.
- A thorough understanding of higher education academic regulations.



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- Significant experience of managing academic services including ICT based data systems.
- Experience of managing professional and administrative support staff
- Interpersonal communication and committee skills appropriate for a senior member of the University.

Interested candidates are invited to submit their application letters, CVs and all necessary documents to prove their qualifications and experience. Contact the Rector Prof. Silas Lwakabamba at rector@nur.ac.rw with a copy to jobs@nur.ac.rw and vrac@nur.ac.rw. Deadline: 10 April 2009.

KEMRI - Wellcome Trust Programme Research Internship Opportunities, Nairobi and Kilifi, Kenya

The KEMRI-Wellcome Trust Programme is an internationally renowned health research programme that is committed to research capacity development in the East African Region. Several internship positions commencing either in July 2009 or January 2010 are available at the Nairobi and Kilifi sites. Applications are invited from candidates who completed Bachelors degree (upper second or first class) in the following subjects within the last two years (2007 & 2008) from an East African University

- Biological sciences (e.g. zoology and biochemistry), health sciences (e.g. medicine, pharmacy and nursing), social science, economics, or anthropology.
- In addition, applications are invited from those with degree in mathematics and statistics
- Undergraduates in their final year who have achieved excellent academic grades will also be considered

The internships are limited to 6 months duration and are non-renewable. A monthly stipend of KSh. 37,042 will be provided. Deadline for applications: 3 April 2009. For further information and application: <http://www.kemri-wellcome.org/jobs/intern.php>.

Other

Africa: New Nile pact stalled



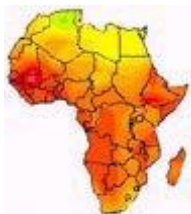
Ten years of negotiations over a new protocol governing shared use of the Nile River are hanging in the balance, with Egypt and Sudan refusing to give up their present power over how much water is used by countries further upstream. The current agreement prohibits countries downstream from using Nile waters beyond an agreed curve, and gives Egypt powers to monitor the flow at key points. The article in the new draft which has caused the stalemate is 14b, concerning water security. Water use by countries upstream has long been restricted by the terms of the colonial agreement signed on their behalf by Britain in 1929, and re-affirmed in

1954. According to statistics from the Nile Basin Initiative, the Nile basin has a population of 160 million people in an area of 3.1 million km² - including 81,500 km² of lakes and 70,000 km² of swamps. The countries (Kenya, Burundi, Rwanda, Tanzania, Eritrea, Ethiopia, Sudan, Egypt, DR Congo and Uganda) sharing the river under the Nile Basin Initiative have been negotiating a new framework agreement to manage the river's water for the last 10 years. The treaty being considered now has five other major clauses which generated heated debate in previous negotiations. These include article 4, which is on equitable and reasonable use of the Nile waters, article 5 (prevention of harm to the waters), article 6 (protection and conservation of the basin and its ecosystem) and article 8 (prior informed consent before using the waters). The new wording puts a check on the 1929 treaty, which required the riparian states to seek permission before using the Nile waters. The document further provides for establishment of a Nile Basin Commission, with its headquarters in Entebbe, Uganda. The decision on the matter is now in suspense because negotiators have passed the issue on to the 10 heads of state of the Nile basin to conclude. Many of the upstream countries risk missing millennium development goal targets should a new and more equitable protocol not be signed. Continuing extreme poverty is one of the consequences if a new protocol is not signed.

Climate change threatens livelihoods along Africa's coast



Environmental experts warn that climate change will lead to oceanic acidification and increase surface water temperatures, especially around the African continent. This will affect fish stocks and, as a result, threaten the livelihoods of small-scale fishing communities. Fishing communities in the developing world, including southern Africa, are already among the most vulnerable population groups in the world. According to the United Nations Food and Agricultural Organization (FAO), their living conditions are characterized by overcrowding, low levels of education as well as lack of access to schools, health care facilities and infrastructure, such as roads or markets to sell their ware. The United



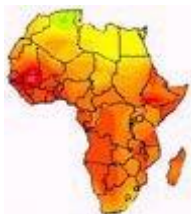
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Nations Intergovernmental Panel on Climate Change (IPCC) reported in 2007 that the oceans' pH - currently between 7.9 and 8.2 - will fall by a further 0.14 to 0.35 units before the turn of the century. The lower the pH, the more acidic the water; the ideal pH level in saltwater systems should lie between 7.6 and 8.4.

Conferences, Events		
Date	Location	Event
April 2009		
1-2 April 2009	Maputo, Mozambique	Digital World Forum Workshop: Role of Mobile Technologies for Development Deadline: February 12, 2009.
1-3 April 2009	Accra, Ghana	WATER AFRICA 2009 International Exhibition & Seminar Contact: ACE Event Management, info@ace-events.com .
4 April 2009	Nairobi, Kenya	WhereCampAfrica 2009
6-9 April 2009	Johannesburg, South Africa	SatCom Africa 2009
14-16 April 2009	Dubai, UAE	Map Middle East 2009 Contact: info@mapmiddleeast.org .
22-24 April 2009 * NEW *	Fes, Morocco	3rd International Conference on Research Challenges in Information Science (RCIS) . Paper deadline: 15 December 2008.
27 April - 8 May 2009	Trieste, Italy	Water Resources in Developing Countries: Planning and Management in a Climate Change Scenario Contact: smr2029@ictp.it .
27 April 2009	Addis Ababa, Ethiopia	CODIST Pre-Conference Workshop
27-30 April 2009	Ouagadougou, Burkina Faso	International Workshop on Adaptation to Climate Change in West African Agriculture
28 April - 1 May 2009	Addis Ababa, Ethiopia	1st Session of the Committee on Development Information, Science and Technology (CODIST-I)
May 2009		
3-8 May 2009	Eilat, Israel	FIG XXXII General Assembly and Working Week Theme: New Horizons across the Red Sea - Surveyors Key Role in Accelerated Development. Contact: fig@fig.net .
4-5 May 2009	Berlin, Germany	7th IAA Symposium on Small Satellites for Earth Observation Abstract deadline: 31 October 2008.
4-8 May 2009	Stresa, Italy	33rd International Symposium on Remote Sensing of Environment "Sustaining the Millenium Development Goals" (ISRSE33) Contact: ISRSE33, isrse33@symposia.org
4-8 May 2009	Berlin, Germany	7th IAA Symposium on Small Satellites for Earth Observation Contact: Ute Dombrowski, Ute.Dombrowski@dlr.de .
5-12 May 2009	Nairobi, Kenya	25th Session of the United Nations Group of Experts on Geographical Names (UNGEGN)
6-8 May 2009	Gauteng, South Africa	2009 SA PhD Project Conference Conference programme include plenary, cocktail, conference dinner and the PhD Project Fair. Contact: wendy.lambert@nrf.ac.za
6-8 May 2009	Kampala, Uganda	IST-Africa 2009 Conference & Exhibition Online submission deadline for full paper or workshop proposal: 9 November 2008
10-13 May 2009 * NEW *	Rabat, Morocco	7th ACS/IEEE International Conference on Computer Systems and Applications (AICC SA-09) Paper deadline: <u>October 13, 2008</u> .
19-21 May 2009	San Jose, CA, USA	2009 Where 2.0 Conference: Becoming Location Aware
23-29 May 2009	Accra, Ghana	IAIA09: Impact Assessment and Human Well Being Abstract deadline: <u>15 January 2009</u> .

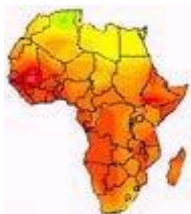
Items newly added to this listing of events since the last SDI-Africa issue are marked *** NEW ***



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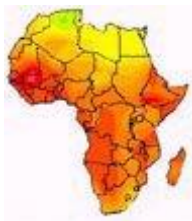
24-28 May 2009 * NEW *	Abuja, Nigeria	Africa Regional Conference: Challenges to Sustainable Development in Africa through Science and Technology Education Contact: eniayeju@stanonline.org
25-29 May 2009	Molde, Norway	ISO/TC 211 28th Plenary – with WGs and ECs prior to plenary.
25-29 May 2009	Chengdu, China	2nd International Conference on Earth Observation for Global Changes (EOGC2009) Contact: Conference Secretariat, xfzhang@pku.edu.cn .
27-29 May 2009 * NEW *	Le Méridien Président, Dakar, Senegal	eLearning Africa 2009: 4th International Conference on ICT for Development, Education and Training Contact: Katharina Goetze, info@elearning-africa.com , www.elearning-africa.com .
June 2009		
2-5 June 2009	Cologne, Germany	Global Change in Africa: Projections, Mitigation and Adaption Send abstracts to africa-conference@uni-koeln.de . Abstract deadline: 31 March 2009. For further information: www.impetus.uni-koeln.de/africa
5-9 June 2009	Providence, RI, USA	Conference on putting health in place with GIS Abstract submission deadline: 31 October 2008.
15-18 June 2009	Washington D.C, USA	Intergraph 2009
15-19 June 2009	Rotterdam, The Netherlands	11th International Conference on Global Spatial Data Infrastructure (GSDI 11) Theme: Spatial Data Infrastructure Convergence: Building SDI Bridges to Address Global Challenges.
22 June 2009	Nottingham, UK	1st Open Source Gis UK Conference 2009 Abstract submission deadline: 15 February 2009.
24-26 June 2009	Paris, France	ICGIS 2009: "International Conference on Geographic Information Systems" Paper deadline: February 28, 2009.
24-26 June 2009	Ljubljana, Slovenija	27th Urban Data Management Symposium Full paper submission deadline: September 29, 2008.
3-6 July 2009	Perm, Russia	INTERCARTO–INTERGIS 15 Abstract deadline: February 2, 2009.
July 2009		
Second half of 2009	Addis Ababa, Ethiopia	UN-SPIDER Regional Workshop "Building Upon Regional Space-based Solutions for Disaster Management and Emergency Response for Africa"
3-6 July 2009	Ghent, Belgium	INTERCARTO–INTERGIS 15 Abstract deadline: February 2, 2009.
5-8 July 2009	Newfoundland, Canada	6th International Symposium on Spatial Data Quality (ISSDQ 2009) "Quality: From Process to Decisions" Contact: Rodolphe Devillers, issdq2009@mun.ca .
7-9 July 2009	South Africa	Geospatial Africa 2009
7-10 July 2009	Salzburg, Austria	Geoinformatics Forum Salzburg (GI Forum2009) Contact: GI_Forum Team, office@gi-forum.org .
11-14 July 2009	San Diego, California	ESRI Survey & Engineering GIS Summit Contact: segsummit@esri.com .
13-14 July 2009	Oxford, United Kingdom	The 3rd International Conference on Geosensor Networks Deadline for paper submission: April 3, 2009.
13-17 July 2009	Cape Town, South Africa	IEEE IGARSS'09 Abstract deadline: 4 January 2009. Contact: Dr. Harold Annegarn, han@rau.ac.za . On the conference and exhibitions, contact Bryan Stewart, bstewart@cmsworldwide.com .
13-17 July 2009	San Diego, USA	29th ESRI International User Conference Abstract deadline: 14 November 2008.
13-17 July 2009	Accra, Ghana	2nd International Association of Agriculture Information Specialists (IAALD) Africa Chapter Conference
13-17 July 2009	Big Bear Lake, CA, USA	Society for Conservation GIS (SCGIS) Annual Conference



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27-31 July 2009	Vancouver, BC, Canada	GeoWeb 2009
August 2009		
2-7 August 2009	Accra, Ghana	2nd Regional Workshop of the Global Earth Observing System of Systems (GEOSS) "Strengthening Observing Systems Capacity for Managing and Mitigating the Impacts of Human Activities and Coastal Inundation in the African Region"
10-14 August 2009	Trieste, Italy	Conference on high resolution climate modeling: The impact of SST changes and the MJO on tropical cyclones Contact: smr2051@ictp.it .
12-14 August 2009	Fairfax, VA, USA	17th International Conference on Geoinformatics Theme: The ways to advance GIScience researches and applications. Abstract deadline: February 15, 2009. Contact: Liping Di at ldi@gmu.edu . Updates: http://www.geoinformatics2009.org .
16-22 August 2009	Durban, South Africa	57th Session of the International Statistical Institute (ISI 2009) See also: Baton of international leadership passes to Africa
17-28 August 2009	Trieste, Italy	Advanced Workshop on Evaluating, Monitoring and Communicating Volcanic and Seismic Hazards in East Africa Application deadline: April 30, 2009. Contact: mmsr2048@ictp.it .
23-28 August 2009	Nairobi, Kenya	2nd World Congress on Agroforestry - The Future of Global Land Use Contact: WCA2009 Organizing Committee, wca2009@cgiar.org .
24-28 August 2009	Dresden, Germany	1st International Conference on 3D Maps: ICA Symposium "True-3D in Cartography" Contact: Mrs. Steffi Sharma, info@conwerk.net .
September 2009		
3-4 September 2009	Paris, France	WG III/4+5 Workshop on Object Extraction for 3D City Models, Road Databases & Traffic Monitoring - Concepts, Algorithms & Evaluation (CMRT09) Contact: Franz Rottensteiner: rottensteiner@ipi.uni-hannover.de or Uwe Stilla: stilla@bv.tum.de .
6-12 September 2009	Hyderabad, India	8th IAHS Scientific Assembly and 37th IAH Congress APFM will organise a special session on Integrated Flood Management.
7-25 September 2009	Trieste, Italy	Open Source and Internet Technology for Scientific Environment Contact: smr2057@ictp.it .
10-11 September 2009	Cape Town, South Africa	Royal Institution of Chartered Surveyors' (RICS) International Legal Research Symposium 2009 Abstract deadline: 3 April 2009. Contact: p.chynoweth@salford.ac.uk .
21-25 September 2009	Brittany, France	The Ninth International Conference on Spatial Information Theory (COSIT 2009)
21-25 September 2009	Bath, UK	2009 EUMETSAT Meteorological Satellite Conference
24-25 September 2009	Addis Ababa, Ethiopia	ESRI Eastern Africa User Conference
27 September - 2 October 2009	Marrakech, Morocco	XXVI IUSSP International Population Conference Application deadline: 15 September 2008.
October 2009		
13-16 October 2009	Cape Town, South Africa	2nd DIVERSITAS Open Science Conference: Biodiversity and society: understanding connections, adapting to change Abstract deadline: Deadline 31 March 2009.
20-23 October 2009	Sydney, Australia	FOSS4G 2009 Conference
20-23 October 2009	Drakensberg, South Africa	2009 GIMS User Conference



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26-29 October 2009	Kampala, Uganda	AfricaGIS 2009 Conference . Theme: Geo-spatial information and sustainable development in Africa: Facing challenges of global change. Abstract deadline: <u>30 April 2009</u> . Contact: info@africagis2009.org or Shuaib Lwasa, S.Lwasa@cgiar.org .
November 2009		
9-12 November 2009	Manama, Bahrain	2009 ESRI Middle East and North Africa User Conference (MEAUC) Contact meauc2009@esri.com .
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- 21 November 2009	Sydney, Australia	FOSS4G Annual Conference
24-26 November 2009 * NEW *	Abuja, Nigeria	3rd IAA Regional Conference Space for Africa . Theme: “Joint Participation, Knowledge Development and Sharing”. Contact: Jide Ajayi at ajayijide2000@yahoo.com and Dr Joseph O. Akinyede at jakinyede@nasrda.net . Abstract deadline: <u>15 June 2009</u> .
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@edictech.com .
2010		
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 .

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Global Spatial Data Infrastructure Association

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