



# Spatial Data Infrastructure – Africa Newsletter



SDI-Africa Newsletter

January 2011

Vol. 10, No. 1

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

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

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

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



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



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

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

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



## Input to this Issue

Thank you to Kate Lance, NASA/SERVIR-Africa (USA); Hussein Farah, RCMRD (Kenya); Aster Gebremariam, UNECA (Ethiopia); Tumai Murombo, University of the Witwatersrand (South Africa); Stéfanie Neno, UNWWAP (Italy) and Karen Levoleger, Dutch Cadastre (Netherlands) for their contributions to this issue of the newsletter.

## Letter from the Editor

Dear SDI-Africa Newsletter Readers,

Welcome to the first issue of SDI-Africa Newsletter for 2011. Please forward this newsletter to your colleagues if you think they would enjoy receiving it. For those of you receiving this newsletter for the first time you may be interested to know that you can submit items to the newsletter by contacting the editor. I would be glad to highlight your news for the geospatial community in Africa and the rest of the world.

Africa's premier GI event - AfricaGIS 2011 will be held on 16 - 20 October 2011 at the Intercontinental Semiramis, situated on the banks of the Nile, in the centre of Cairo. The final selection of the venue and other logistical arrangement was agreed jointly by EIS-AFRICA and the local organizing committee, the National Authority for Remote Sensing and Space Sciences (NARSS), when they met in mid November 2010 in Cairo. All the information regarding abstract submissions and conference will be available in course of the year on the AfricaGIS 2011 website. Thank you for supporting SDI-Africa Newsletter. Gordon Ojwang'



## Spatial Data Infrastructure – Africa Newsletter



### SDI News, Links, Papers, Presentations

#### [The 4th edition of the United Nations World Water Development Report \(WWDR4\)](#)

The Africa Water Week took place from 22 to 26 November 2010 in Addis Ababa, Ethiopia. On 24 November, WWAP co-convoked with UN-Water/Africa a side event on water monitoring and assessment. During this side event, WWAP presented the first draft of its Regional Report on Africa. The Regional Report will form part of the upcoming 4th edition of the United Nations World Water Development Report, theme 'managing water under conditions of risk and uncertainty', to be launched in March 2012. The public consultation of [WWDR4 first draft](#) is now open and you can provide your comments until 10 January 2011.

#### [Launching the Global Forest Observation Initiative \(GFOI\)](#)



GEO's forest carbon tracking activities received strong and unanimous support in Beijing, and is set to accelerate over the coming year with the establishment of the Global Forest Observation Initiative (GFOI). Governments also recognized the contribution that this GEO-initiated activity can make to the REDD-plus partnership, the Climate Change Convention, biodiversity protection, and forest-related activities.

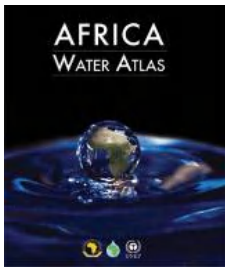
The GEO Forest Carbon Tracking Task has made important progress on establishing (i) a framework for coordination, (ii) a number of national demonstrators, (iii) better access to data, and (iv) set of methods and protocols for ensuring comparability and interoperability. The Committee on Earth Observation Satellites (CEOS) has

supported the Task with critical data, and other contributors have assisted with data processing. The GFOI will build on these achievements in order to sustain and strengthen the provision of data and support services to national governments. The ten governments have agreed to serve as "national demonstrators" in the first phase of the initiative include Australia, Brazil, Cameroon, Colombia, Democratic Republic of Congo (DRC), Guyana, Indonesia, Mexico, Peru and Tanzania. The demonstration phase runs through 2013 and will cover the process from observations to final products such as maps and assessments of carbon stocks and stock changes.

Space data, in particular mid-resolution (20-30m) satellite images, are key to the success of the Initiative. CEOS has been working to secure the interoperability of the necessary optical and radar (SAR) sensors and to ensure the long-term continuity and availability of satellite data. As a result, by 2013 three radar and three optical sensors will be providing free, open and continuous coverage to support annual forest observations; at least another half dozen sensors may also have the potential to contribute useful data.

Participants in GEO's forest activities can share images, photos, in-situ data, models as well as results via an [on-line platform](#). The GFOI will assist governments in processing and analyzing data using the carbon-estimation models and standards that they decide are best suited to their needs. In situ, or ground-based observations, are being gathered at the test sites in each of the national demonstrators to calibrate and verify the models. [Source: [GEO News](#)].

#### [New atlas shows Africa's vulnerable water resources in striking detail](#)



Africa Water Atlas is a visual account of Africa's endowment and use of water resources, featured through 224 maps and 104 satellite images as well as some 500 graphics and hundreds of compelling photos. UNEP undertook the production of this Atlas at the request of the African Ministers' Council on Water (AMCOW) and in cooperation with the African Union, European Union, US Department of State, United States Geological Survey and other collaborators.

The Africa Water Atlas uses hundreds of 'before and after' shots, detailed new maps and satellite images from 53 countries to show the problems facing Africa's water supplies, such as the drying of Lake Chad and the erosion of the Nile Delta, as well as new, successful methods of conserving water. Some of the most arresting images in the Atlas, which was launched during Africa Water Week in Addis Ababa, include green clouds of eroded soil and agricultural runoff in Uganda, pollution from oil spills in Nigeria and a 3km segment of the Nile Delta that has been lost to erosion. The Atlas is more than a collection of static maps and images accompanied by informative facts and figures, its visual elements vividly illustrate a succinct narrative describing and analyzing Africa's water issues and exemplifying them through the judicious use of case studies. It gathers information about water in



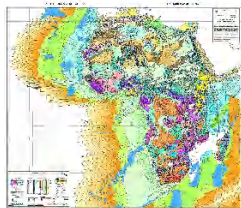
## Spatial Data Infrastructure – Africa Newsletter



Africa and its role in the economy and development, health, food security, transboundary cooperation, capacity building and environmental change into one comprehensive and accessible volume.

Research carried out for the Atlas shows that the amount of water available per person in Africa is declining. At present, only 26 of the continent's 53 countries are on track to attain the water-provision target of the Millennium Development Goals (MDGs) to reduce by half the proportion of the population without sustainable access to drinking water by 2015. Furthermore, only nine African countries (Algeria, Morocco, Tunisia, Libya, Rwanda, Botswana, Angola, South Africa and Egypt) are expected to attain the MDG target of reducing by half the proportion of the population without sustainable access to basic sanitation by 2015. The Atlas also maps out new solutions and success stories from across the continent. It contains the first detailed mapping of how rainwater conservation is improving food security in drought-prone regions.

### Seismotectonic map of Africa (SeTMA)



In its annual meeting held in Algiers (10-12 May 2010), the Organisation of African Geological Surveys (OAGS) launched a project titled "The Seismotectonic Map of Africa" (SeTMA). This project will be conducted by a scientific and technical team of African geologists and geophysicists in collaboration with the geological surveys of each African country. The project will also benefit from the assistance of foreign geologists and geophysicists in the field of active tectonics and earthquake studies. The production of thematic maps in geology and geophysics constitutes an important objective necessary for the social and economic development of Africa. The realistic

assessment and mitigation of geological and geophysical hazards requires the characterization of the main physical parameters and building of a databank at a regional scale. The seismic hazards being among the major threats of the continent, the development of seismotectonic studies is a necessary step for mitigation of earthquake disasters in Africa.

The working group will work on the six different seismotectonic provinces made according to the geodynamics, neotectonics and seismicity characteristics of each region.

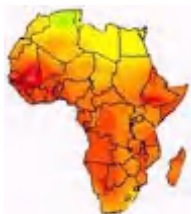
- The East African Rift (from Malawi to Ethiopia) and Madagascar,
- The Southern African shield (includes Mozambique, Namibia and Angola) and the Cape fold belt,
- The Northwest African fold-and-thrust belt (Atlas Mountains),
- The Northeast African tectonic zones of Libya and Egypt,
- The Central Africa-Nigeria fault systems and the Cameroon volcanic line, and
- The Western-Central Africa "so called" stable tectonic zones and related islands.

The seismotectonic map will require a minimum of 3 years for its realization. The pre-project can be launched during 8-14 January 2011 at the 23rd Colloquium of African Geology (CAG 23) - South Africa 2011. The official launching of the project can be during the annual meeting of the OAGS to be held in May 2011 in Windhoek (Namibia). A mid-term for a first draft presentation can be the 34<sup>th</sup> Session of the International Geological Congress (IGC 34), in Brisbane, Australia, during 5-10 August 2012. A final version of the seismotectonic map of Africa will be officially presented during the 35th International Geological Congress in South Africa in 2016.

### Brazil to help African countries in satellite-based forest monitoring

Brazil will provide technical assistance to help tropical countries improve their forest monitoring capabilities, according to an official with the South American country's satellite agency. Carlos Nobre, head of the Earth System Science Center at the National Institute for Space Research (INPE), said Brazil will share "knowledge and technology" on its leading satellite-based deforestation monitoring system with countries in Africa and Southeast Asia. "The goal is to train countries in geospatial information systems so they can eventually adapt and benefit from the REDD system that will be defined under the UN Convention on Climate Change," said Nobre in a statement.

INPE's system tracks deforestation, degradation, and associated emissions. Nobre added that INPE will also help other countries with climate modeling. INPE's engagement comes under an agreement Brazil signed with U.N. Food and Agriculture Organization (FAO) at COP-15 in Copenhagen to support the UN-REDD program, according to Gilberto Camara, the director INPE. "With the support of FAO, INPE is committed to train remote sensing specialists from developing nations in the methods and techniques we use," Camara told mongabay.com. "The purpose is to allow all interested nations to build the same type of monitoring system we have. Camara added that INPE has built a new state-of-the-art data center in Belem to support its "data democracy" initiative, which includes national and international capacity building.



## Spatial Data Infrastructure – Africa Newsletter



### [Nigeria to launch two earth observation satellites in Feb 2011](#)



The [National Space Research and Development Agency \(NASRDA\)](#) ended all speculations and uncertainties over the official launch date for Nigeria's second and third earth observation satellites, as it announced that both satellites would now be launched in February 2011. The agency also pledged government's commitment to pursuing the implementation of a "pragmatic" space agenda, which, according to its Director-General, Mohammed Seidu, "has so far resulted in the launch of its first earth observation micro-satellite, NigeriaSat-1 in September 2003; the first pan-African communication satellite, NigcomSat-1 in May 2007; and its second and third earth observation satellites, NigeriaSat-2 and NigeriaSat-X due for launch in first quarter of 2011.

NigeriaSat-2 is a high-resolution earth observation satellite with a 2.5 m and 5m panchromatic and 32 m multispectral resolutions. On its part, NigeriaSat-X, with a payload of 22 m resolution, was reportedly built solely by Nigerian engineers and scientists to showcase Nigeria's capacity in satellite technology. The NASRDA chief, who spoke at the fourth African Regional Conference of the International Academy of Astronautics in Abuja, described Nigeria as the leading space country within the African equatorial region.

[Read more.](#) [Source: Servir Community Blog].

### [Tunisia to become future Mediterranean scientific, technological hub](#)

Tunisia seeks to stand out as the most attractive scientific and technological platform of the southern Mediterranean, thanks to the orientation of its research and innovation system toward excellence. The Tunisian approach in developing an ecosystem of innovation aims to overcome obstacles and prompt collaboration with foreign companies to produce added value, said Communication Technologies Minister, Mr. Mohamed Naceur Ammar who chaired, on Thursday in Tunis, works of the seminar on "evaluation of research and web of knowledge: performances of Tunisian research."

The seminar is organized by the National Agency for Promotion of Scientific Research (ANPR) in association with the National Academic Centre of Scientific and Technical Documentation and the scientific information group "Thomson Reuters." The minister underlined that "scientific off-shoring is a win-win process that could be backed up by co-operation networks already operational between Tunisia and European countries." He called upon all sides to join efforts to ensure the success of the program of research and innovation in ICTs (conceptions and simulations of eco-friendly systems and processes, science of life, agriculture, renewable or logistic energy) set up by Tunisia, announcing that a tender for projects will be launched soon. This tender will be open to research centers, laboratories and research units within universities, private enterprises and research offices which could participate in and benefit from private funds for research, specified the minister.

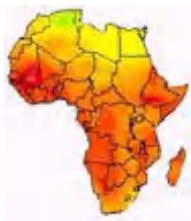
### [FESA creates satellite monitored index-based drought microinsurance for Africa](#)



A project called [Food Early Solutions for Africa \(FESA\)](#) has been working on validating a microinsurance product for African farmers which will use satellite technology to measure drought conditions. This allows them to create an index against which a microinsurance drought product can be triggered.

Their approach is based on collecting Meteosat data for temperature, radiation and evapo-transpiration which are then used to generate crop yield estimates or indices. From this they can derive drought probability statistics for each location on a 3km grid. In particular this project is using relative evapo-transpiration and relative yield as the main indicators for drought and crop failure.

The first phase of this pilot has now been completed and published in a [paper](#). The study concluded that Meteosat relative evapo-transpiration is the most suitable index for drought insurance as it has the lowest basis risk, represents water use by crops and is closely tied to crop growth. They aim to break the region down into climatic zones where each has a specific sowing window and a specific relative evapo-transpiration trigger derived from the historical database they have created. From this they say a single fixed premium parametric contract becomes feasible, where only the location of the insured has to be determined and contract parameters can then be read to determine claims. It sounds like another interesting development which could be of great benefit to the population of drought prone regions of the world. Clever use of technology (such as satellites) could prove to be the factor that makes microinsurance feasible and affordable for both insurers and the insured. Additional resources: [World Food Programme and Oxfam to expand access to weather-index insurance.](#)



## Spatial Data Infrastructure – Africa Newsletter



### Insurance companies bet big on Kenyan farmers



APA Insurance and the Agricultural Finance Corporation (AFC), with the technical assistance of the Financial Sector Deepening Trust, launched a pilot Index-Based Weather Insurance in December 2010 in readiness for the planting season. The coverage, which is for the total cost of production and the seasonal crop credit loans advanced by AFC, is being implemented through the help of the World Bank and the Rockefeller Foundation. The cover, being piloted in Narok, Nakuru and Molo, is against drought or extreme weather conditions in selected farms of maize and wheat. AFC Narok branch manager Irene Koonyo told the Nation that the pilot project will cover about 30km radius from the Narok Meteorological Station and that for start only wheat farmers will be covered.

"Agriculture contributes greatly to the country's economy and without proper cover, farmers are left exposed to the vagaries of the weather elements," said Ashok Shah, chief executive officer of APA insurance during the launch.

For transparency, weather measurements will be taken at reference automated weather stations monitored by the Meteorological Department. "The cover would make financiers more willing to offer credit because risk is diminished," Mr Shah said. APA, which also covers livestock and pets, is not the only insurer wooing farmers. Blue Shield Insurance covers crops, livestock and poultry under its agricultural policy. "Our comprehensive cereals crop insurance covers against physical loss or damage from hailstones, fire lightning, earthquake, explosions and malicious damage," says the firm's managing director Patrick Wanjala.

In September last year, Kilimo Salama, a micro-finance programme involving UAP Insurance, the Syngenta Foundation for Sustainable Agriculture and Safaricom, made more than 100 payouts to farmers in Embu through the mobile phone payment system M-Pesa. The policy protects their investment by calculating losses incurred when insufficient or excess rains have been detected by a nearby weather station. The growing interest by insurers is good news to the country's farmers, especially in the Rift Valley wheat belt, who suffered huge losses in 2008 and 2009.

### US\$14 billion set for national mapping in Uganda

About 4.4 million euros (sh14b) is needed for a comprehensive mapping of Uganda over three years. According to Alex Lwakuba, a commissioner for crop production and marketing in the agriculture ministry, mapping of the whole country is a very expensive venture which requires substantial amounts of money. "But if we use the existing information in the reconnaissance report of 1958/60 and modern technology, the exercise could be done in six months at 1.2 million euros (sh3.8b).

Lwakuba was commenting on the \$7m (sh1.6b) proposed to cover the National Physical Development Plan formulation during a one-day workshop on the National Land Use Policy and National Physical Development Plan implementation at the Grand Imperial Hotel in Kampala recently. Participants, drawn from the local government and lands ministries observed that the proposed budget was very small and noted that the three-year period beginning 2011, proposed for the preparation of the national physical development plan was too long. Lwakuba regretted that Uganda's land use and land cover information is outdated and do not capture all combinations of current land use that characterize the country. He said mapping would help in zoning the country into viable agricultural production areas for export.

The state minister for urban development, Urban Tibamanya, cautioned Ugandans against politicising and undermining the process of making a national land use plan. "Regardless of your political affiliation, let us join hands to give Uganda a nationally acceptable land use plan." He called for a participatory process so that the final plan is owned by all Ugandans. "Let us plan with the people. Participatory planning should be embraced right at the beginning of the exercise."

### Rwanda implements UN-Supported Climate Adaptation Plan: Relocating communities from high-risk zones



Once home to populations of Chimpanzees and Golden Monkeys, the sloping terrain of Rwanda's Gishwati Forest has in recent decades suffered severe environmental degradation - made worse by extreme weather events. Landslides, floods and torrential rains have claimed lives, demolished human settlements, and destroyed thousands of hectares of forest and farmland. A United Nations-led project and a generous funding allocation from the Government are bringing hope to the region. In



## Spatial Data Infrastructure – Africa Newsletter



an effort to reduce the vulnerability of local communities and the ecosystem to climate change impacts, the Government of Rwanda - guided by a UN pilot project that mapped and developed a comprehensive plan for land suitability and use - allocated US\$25 million to relocate human settlements from Gishwati to safer zones.

Like other forests, Rwanda's Gishwati Reserve - a protected area in the northwestern part of the country - provides key ecosystem services, including the maintenance of soil quality, limiting erosion, stabilizing hillsides, modulating seasonal flooding, and providing a habitat for biodiversity. Up to 1978, the reserve's forests remained largely intact. But images released by NASA last year revealed Gishwati has lost approximately 99.4 per cent of its forest cover. Only 600 hectares of the original 100,000 hectares of forest remain. According to a UNEP post-conflict study, Rwanda's post-colonial civil war caused mass dislocation of entire communities. In the 15 years that spanned the genocide, waves of refugees fled the fighting and settled in wetlands and forests. The land was cleared for subsistence farming. As a result, the health of the ecosystem was severely compromised.

The Climate Change and Development Project - Adapting by Reducing Vulnerability (CC DARE) - is jointly implemented by the United Nations Environment Programme (UNEP) and the United Nations Development Programme (UNDP) with funding from the Danish Ministry of Foreign Affairs. Rwanda is one of eleven countries under the CCDARE programme. Other countries include Benin, Ethiopia, Ghana, Malawi, Mozambique, Senegal, Seychelles, Tanzania, Togo and Uganda.

### [South Africa launches the National Space Strategy and the South African National Space Agency](#)



The Minister of Science and Technology, Mrs Naledi Pandor launched the National Space Strategy and the South African National Space Agency (SANSa) on 9 December 2010. The Department of Science and Technology (DST) is tasked with leveraging science, technology and innovation to improve the quality of life of South Africans and the competitiveness of the South African economy. Space science and technology is one area through which this aim will be pursued.

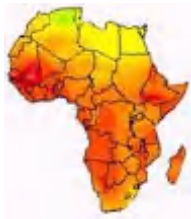
The South African National Space Strategy promotes research in astronomy, earth observation, communications, navigation and space physics; fosters international cooperation in space-related activities; and advances scientific, engineering and technological competencies through human capital development and outreach programmes. The Strategy has three core objectives: to capture a share in the global market for small to medium-sized space systems. Our intention is to expand our investment in "micro" satellites, building on the existing SumbandilaSat platform, Mrs Pandor said; to improve decision making through the integration of space-based systems with ground-based systems for providing data, and to develop applications for the provision of geospatial, telecommunications, timing and positioning products and services. The Strategy will also be important in raising the profile of careers in science and engineering. Encouraging emerging scientists to take up careers in space research is critical to the success of the space strategy. In addition, the Strategy provides the implementation framework for a national space programme that will be undertaken by the National Space Agency.

The South African National Space Agency (SANSa) has three main functions - to implement a national space program; to advise the Minister of Science and Technology on strategy and programmes; and to acquire, assimilate and distribute space-derived data to various state entities. Phase 1 (1 April 2010 - 31 Mar 2011) is devoted to establishing various governance structures. Phase 2 (1 April 2011 - 31 March 2012) is for foundational operations, and Phase 3 (starting 1 April 2012) is for full implementation. [More press release](#). [Related: [Launch of the National Space Strategy and the South African National Space Agency](#), [Launch of Space Agency](#), [Servir Community Blog](#)]

### [EUMETSAT supports South Africa Weather Service \(SAWS\) training centre](#)



The WMO/Coordination Group for Meteorological Satellites, Virtual Laboratory Centre of Excellence in Satellite Training at the South African Weather Service (SAWS) in Pretoria is now offering training courses to meteorologists in Africa so that they can make the best use of the coverage of EUMETSAT meteorological satellites. The VLab CoE was launched on 6 December 2010 by the EUMETSAT's Director of Operations, Mikael Rattenborg, and SAWS General Manager Gerhard Schulze, and followed by a training workshop attended by six meteorologists from South Africa and 14 from other African countries.



## Spatial Data Infrastructure – Africa Newsletter



Sponsored mainly by EUMETSAT and WMO, the training workshops provided by VLab CoE cover the latest developments in satellite meteorology, starting with the basics of Meteosat Second Generation (MSG) satellites and including the Metop satellite technology. The CoE offers a full-time MSG course lasting four months as part of its forecasting course. A short course lasting two weeks and ad hoc distance learning courses are also planned. The CoE will be part of a worldwide network of 12 CoEs in Satellite Meteorology Training, which are often co-located with WMO Regional Training Centres and established in all WMO regions in order to meet user needs for increased skills and knowledge in using satellite data to develop specialized services within their region.

EUMETSAT provides full MSG coverage of Africa and shares this data with African meteorological services via the EUMETCast dissemination system, making the data available in real time. EUMETSAT is further strengthening and extending the exploitation of its data in Africa with the Preparation for the use of MSG in Africa (PUMA) and African Monitoring of the Environment for Sustainable Development (AMESD) projects. AMESD is installing new, upgraded PUMA 2010 stations in all the African meteorological services and also providing the SAWS training centre with 12 new computers with supporting software, as well as financially supporting the training courses being held there.

### [Preparing the geography for the 2011 - Population census of South Africa](#)

Statistics South Africa (Stats SA) 's geography division is currently preparing the 2011 population census geography frame for South Africa. This paper presentation focuses on four key areas. The first is the process to align all census boundaries (collection geographies) to the most recent official administrative boundaries (dissemination geographies) for South Africa. The second is the massive undertaking to create a national dwelling frame for South Africa which also includes the ambitious task of assigning addresses to the almost 50% dwellings, falling mainly in rural and informal areas, that have no addresses. The third is to maintain our place name or locality database, a fundamental component of an address and main dissemination geography. The last is to delineate the census collection boundaries namely the enumeration areas (EA). For further information, contact: [sharthil@statssa.gov.za](mailto:sharthil@statssa.gov.za).

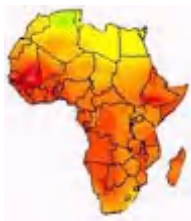
### [2nd Session of the Committee on Development Information Science and Technology \(CODIST- II\), 2 - 5 May 2011, Addis Ababa, Ethiopia](#)

CODIST-II will take place at the United Nations Conference Centre Addis Ababa, (UNCC-AA) Ethiopia. The theme is: Innovation for Africa's industrial development. The Committee on Development Information, Science and Technology (CODIST) is one of the seven subsidiary bodies of the Economic Commission for Africa (ECA) composed of senior officials and experts from member States who meet on a biennial basis. The role of CODIST is to review challenges and issues pertaining to the ICT, Science, Technology and Innovation (STI), Geo-Information as well as Libraries and Information Services sectors; formulate policies and strategies to address Africa's development challenges; and determine priorities to be reflected in the work programme of the ICT, Science and Technology Division of ECA.

CODIST-II will bring together Member States delegates in the field of the ICT, Science, Technology and Innovation (STI), Geo-Information as well as Libraries and Information Services and other experts to explore the extent to which African countries have harnessed innovation to enhance industrial development on the continent, and to advise the Economic Commission for Africa (ECA) in these areas. CODIST-II will also review progress made by the Commission and member States towards implementing the recommendations of CODIST-I. [Register](#) online. For further information, contact: Thierry Amoussougbo at [codist@uneca.org](mailto:codist@uneca.org) or Andre Nonguierma at [codist@uneca.org](mailto:codist@uneca.org).

### [IT Governance, Risk & Compliance meeting](#), 7-10 February, 2011, Johannesburg, South Africa

The IT Governance, Risk and Compliance meeting will be held from 7-10 February, 2011, at the Grand Sandton Sun, Sandton, Johannesburg, South Africa. The comprehensive agenda will go into detail on IT governance strategies including practical advice and information on implementing an effective IT GRC strategy, demonstrating the value of IT GRC to the business and ensuring compliance with existing and forthcoming standards and legislation. Program highlights include support from CQS Technology Holdings and the CFG Research Institute, a world-class speaker panel, including representatives from: Johannesburg Stock Exchange, Edcon, Liberty Life, ABSA, SABC, Momentum, Woolworths, Murray & Roberts and many more. For further information, contact Ros Hinchcliffe, Conference Director or Mohammed Akram at [enquiry@iqpc.ae](mailto:enquiry@iqpc.ae). Register online by 14 January 2011.



## Spatial Data Infrastructure – Africa Newsletter



### [Call for Papers: 9th Colloquium on environmental law](#), 3-7 July 2011, Cape Town, South Africa

Papers are welcome on the following sub-themes. It is imperative that the papers have a strong legal core

- Governance and water management
- Land use planning
- Pollution and waste
- Ecosystems and the natural environment
- Coastal and Marine Issues
- Water Rights
- Water scarcity
- Trans-boundary and international issues
- Climate Change and Energy
- Disaster Management
- Water Jurisprudence

. In all of the below categories, papers dealing with judicial issues, common law and/or statutory regulatory mechanisms and remedies, and compliance and enforcement issues will be welcome. Comparative country studies are also encouraged. Contact: Glaudin Kruger at [kruger@kruger-associates.com](mailto:kruger@kruger-associates.com) or Tumai Murombo at [Tumai.Murombo@wits.ac.za](mailto:Tumai.Murombo@wits.ac.za). Deadline for abstracts submission: 28 February 2011.

### [Call for Papers - JoSIS Journal special feature open geographic information](#)

This special feature aims to bring together some of the key developers, academics and writers on Open Data to document its lineage, debate its philosophy and methods and to envision its future. Full research articles in wide variety of stimulating papers dealing with either the theoretical and/or practical aspects of this emerging research are welcome from any source, and in any appropriate style.

Open Data is gathering momentum and forms part of a global movement linked to Open Access and comparable to other Open movements such as Open Source. In countries such as the UK, USA and Australia, this movement is being led by government institutions through pioneering initiatives such as Data.Gov and the London DataStore. These initiatives, which are being replicated across cities, states and countries (i.e., Open Toronto and New Zealand Open Data Catalogue) provide access to “non-sensitive government datasets, at no cost, to citizens, citizen groups, non-governmental-organisations (NGOs) and businesses”. Today, the Open Data movement has created great excitement in the developer community with a seemingly endless stream of novel and innovative applications, tools and visualizations that repurposes and enriches public data. This new wave of creativity characterised by Sir Tim Berners-Lee as the combination of information, creative vision and digital technology - has led to some of the most exciting developments in mobile GIS, web-cartography, and LBS in recent years. However, while Open Data gives rise to a many new opportunities it also poses many challenges. The success of Open Data will depend in part upon addressing existing barriers to access which encompasses issues such as digital inclusion and information literacy. As such, there is much work still to do to make this promised future happen.

Potential contributions should consult the Guidelines for Authors and discuss their article with the Guest Editors Hanif Rahemtulla ([hanif.rahemtulla@nottingham.ac.uk](mailto:hanif.rahemtulla@nottingham.ac.uk)) or Paul Longley ([p.longley@ucl.ac.uk](mailto:p.longley@ucl.ac.uk)) before submission. All papers will go through the normal JOSIS peer review process. The deadline for submission: 30th June 2011.

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

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

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

- Digital Earth Vision, Technologies and Applications
- Earth Observation Technologies
- Space and Satellite Technologies
- Population Growth and Infrastructure Development
- Adapting to Global and Climate Change





## Spatial Data Infrastructure – Africa Newsletter



- Empowering the Community
- Managing Land and Water
- Emergency Management and National Security
- Digital City and Green Cities
- Mining, Energy and Resources Development
- Natural Resource Management (NRM) and Agriculture
- Innovation

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

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



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

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

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

### Practical SDI implementation materials from within and outside of Africa

#### [Satellite data provide a new way to monitor groundwater aquifers in agricultural regions](#)



When you dive into that salad full of lettuce grown in the American West, there's a good chance you are enjoying the product of irrigation from an underground water source. These hidden groundwater systems are precious resources that need careful management, but regulatory groups have a hard time monitoring them, owing to a lack of accurate data. Now, scientists at Stanford have found a way to cheaply and effectively monitor aquifer levels in agricultural regions using data from satellites that are already in orbit mapping the shape of Earth's surface with millimeter precision. The amount of water in a groundwater system typically grows and shrinks seasonally. Rainfall and melted snow seep down into the system in the cooler months, and farmers pull water out to irrigate their crops in the warmer, drier months.

In agricultural regions, groundwater regulators have to monitor aquifer levels carefully to avoid drought. They make do with direct measurements from wells drilled into the aquifers, but wells are generally few and far between compared to the vast size of most groundwater systems.

"Groundwater regulators are working with very little data and they are trying to manage these huge water systems based on that," said Jessica Reeves, a geophysics doctoral student. But now, Reeves has shown how to get more data into the hands of regulators, with satellite-based studies of the ground above an aquifer.



# Spatial Data Infrastructure – Africa Newsletter



As the amount of water in an aquifer goes up and down, specialized satellites can detect the movements of the land above the water system and hydrologists can use that information to infer how much water lies below. Previously, accurate elevation data could only be acquired on barren lands such as deserts. Plants, especially growing crops, whose heights change almost daily create "noise" in data collected over time, reducing their quality.

## New data shows REDD+ is succeeding



Over the past two months, several new analyses have given clear evidence that deforestation has gone down over the past several years. In fact, the drop is quite impressive, and shows that of all the approaches to avoiding the worst consequences of global warming, reducing tropical deforestation is the one that has contributed by far the most to date. The first analysis to come out, in October 2010, was the [Global Forest Resources Assessment \(FRA\) for 2010](#). This compendium of data from all the countries on the planet is released every five years, and provides the broadest look at the state of the world's forests. The new FRA data showed that tropical

deforestation in the first decade of the 2000s was down 18% from the level of the 1990s, dropping from 11.33 million hectares per year in the 1990s to 9.34 million hectares per year in the 2000s. Furthermore, the rate dropped from the first 5 years of the decade to the second five years, principally due to a dramatic decline in Brazilian Amazon deforestation. The FRA 2010 data also showed that the rate of primary forest loss, not just total forest loss, has declined. However, FRA data is self-reported by the individual countries, and scientists such as Alan Grainger and others have raised [serious questions about the reliability of past FRA estimates](#). Thus, one couldn't be sure of the trend based on FRA data alone. However, in November [the annual Global Carbon Budget was released](#), and its results were also published in a peer-reviewed scientific journal. This publication confirmed and reinforced the FRA message (Friedlingstein et al. 2010. [Update on CO2 emissions](#). Nature Geoscience, Published online: 21 November 2010).

## eHealth Task Force for Africa

Sub-Saharan Africa is a region carrying the multiple burdens of widespread communicable diseases including HIV/AIDS, tuberculosis and malaria paired with low health service coverage and a serious health workforce crisis. The combination of diseases, health service shortages and poverty provides a hefty challenge for any kind of possible solution.

In 2006, a task force named Telemedicine Task Force (TTF) for sub-Saharan Africa and composed of the relevant African Organizations, the World Health Organisation (WHO), the European Commission (EC) and ESA was set up in order to explore the framework of a telemedicine programme in the sub-Sahara Africa. The Telemedicine Task Force (TTF) recently renamed eHealth Task Force for Africa should focus on the following issues:

- Revision of existing health infrastructures in the region and the identification of areas telemedicine could add value.
- Assessment of the current status of existing telecommunications infrastructure and their ability to support the development of health services particularly for poor, rural or remote communities.
- Review the existing telemedicine programs in terms of their further development, costs and resources.
- Assess health policy priorities of the sub-Saharan countries thus identifying opportunities to integrate telemedicine into national health policies.

These activities of the TTF are supported by two studies funded by the European Development Fund (EDF) and the European Space Agency (ESA). The first study - funded by the EDF - concerns the analysis of the cost benefits of the implementation of a satellite-based network of telemedicine for each country. The second study - funded by ESA - focuses on system architecture and costs of a satellite-based network of telemedicine at three levels: country, region, and pan-Africa.

Where neither terrestrial nor mobile phone networks provide access, satellite services are the only possible means of modern communication. This is especially true for remote areas in sub-Saharan Africa. African stakeholders ensuring African ownership for African benefit of their populations and economies need to be at the center of telehealth efforts. Ownership of the African stakeholders is essential if sustainable eHealth and telemedicine services for the entire sub-Saharan population are to become a reality and to achieve the Millennium Development Goals of the United Nations. Given previous experience it is exactly the level of national and/or regional ownership, which has been the sore point. This ambitious and highly sophisticated



# Spatial Data Infrastructure – Africa Newsletter



project needs clear grounding in real life Africa in order to succeed. See also: PowerPoint presentation (2007) [E-Health Africa: Overcoming the barriers to its implementation](#) and [Thesis: Sustainable e-Health Business Models in Sub-Saharan Africa](#).

## [Albay town's early warning system uses recycled bottles, bells](#)



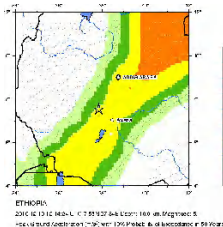
The landslide-prone town of Manito in Albay in Philippines is showing the way in devising a low-cost early disaster warning system using recycled bottles and bells but equipped with remote sensing and ground surveying capabilities. Funded by the World Bank, the P7-million project was installed with the help of experts of Albay's Center for Initiatives and Researches on Climate Change Adaptation (CIRCA) and the University of the Philippines-Los Baños.

Albay Gov. Joey Salceda said Manito town was chosen as pilot area because it is perennially hit by landslides during heavy downpours or typhoons owing to its mountainous terrain and coastline. "The bottles will serve as rain gauge and indicator of possible flood or landslide. The bells will serve as the alarm system to inform the barangays to prepare or evacuate if necessary".

To ensure effective implementation of this low-cost early warning system, Salceda said a team of experts would further organize the local communities, and educate and train them in measuring key climate indicators related to floods and landslides. They will also be trained to learn more about their environment: soil types, slopes, vegetation covers, and river system, among others, which are all related to vulnerabilities, he said. "The training aims to improve their capacity to access and use hazard risk information and enhance their early warning system," Salceda said.

Salceda even recalled how barangays in Manito initiated their own evacuation plans based on rain gauge readings, notifying the provincial government so evacuees could avail themselves of assistance when typhoon "Dante" hit the town. Salceda said the pilot project is also in compliance with the climate change adaptation and disaster risk reduction slogan – reduce, reuse, and recycle.

## [A Magnitude 5.1 Earthquake reported near Awassa, Ethiopia](#)

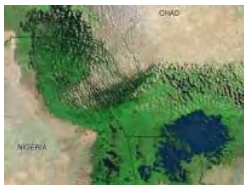


A Magnitude 5.1 Earthquake reported near Awassa, Ethiopia according to the U.S. Geological Survey. The earthquake hit on Sunday, December 19, 2010 at 12:14:24 UTC. The report said, the epicenter of the earthquake was 90 km (55 miles) NW of Awasa, Ethiopia, 110 km (70 miles) E of Jima, Ethiopia, 170 km (105 miles) N of Arba Minch, Ethiopia and 190 km (120 miles) SSW of ADDIS ABABA, Ethiopia.

According to reports, dozens of people were injured in the Jimma area and buildings were damaged in the Hosa'ina-Shenk'ola-Wenjela area. The quake was felt at Asendabo. No major injuries or death was reported.

## GIS Tools, Software, Data

### Africa Water Atlas downloads



The Africa Water Atlas uses hundreds of 'before and after' shots, detailed new maps and satellite images from 53 African countries. In total, the Africa Water Atlas features over 224 maps and 104 satellite images as well as some 500 graphics and hundreds of compelling photos. The 'before' and 'after' photographs, some of which span a 35-year period, offer striking snapshots of local ecosystem transformation in several watersheds being converted to agriculture across the continent. The Atlas has been compiled by UNEP at the request of the African Ministers' Council on Water (AMCOW)

and prepared in cooperation with the African Union, European Union, US Department of State and United States Geological Survey.

- [Individual satellite images and other graphics](#),
- [Africa Water Atlas](#) (38.9mb pdf),
- [Errata for Africa Water Atlas](#) (Hard Copy),
- Summary for Decision Makers ([English](#), [French](#)),
- [Errata for Summary for Decision Makers](#) (Hard Copy),
- [Africa Water Atlas Powerpoint Presentation](#) (47.4mb ppt) and

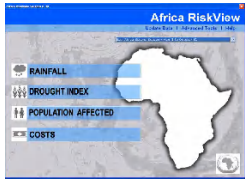


# Spatial Data Infrastructure – Africa Newsletter



- Poster - [Africa Water Atlas](#) (12.8mb pdf).

## [Africa RiskView - Climate and disaster risk solutions](#)



Africa RiskView is a software platform that aims to quantify and monitor weather-related food security risk in Africa. To date it focuses on drought, but inclusion of other weather risks is planned. Africa RiskView translates satellite-based rainfall information into near real-time impacts of drought on agricultural production and grazing. By overlaying this data with vulnerability information, the software also produces a first order estimation of the drought-affected population and, in turn response cost estimates. Through this process, Africa RiskView combines four well-established disciplines: crop monitoring and early warning; vulnerability assessment and mapping; humanitarian operational response; and, financial planning and risk management.

- It has the ability to prioritize and interpret different types of weather data and remote sensing products such as rainfall estimates and information about crops, soils and cropping calendars. These data are updated every ten days and fed into the software for each of the 261,135 satellite pixels (or squares of about 10 km<sup>2</sup> near the equator) covering Africa, and can be converted into meaningful indicators for agricultural production and for vulnerable populations dependent on rainfall for crops and rangeland.
- Allows users to see how the rainfall season is evolving in the countries or regions of interest, observe weather impacts on agriculture and rangelands and estimate how many people could potentially be affected and in need of food assistance as a result. This information could help to target early food security assessments in specific geographic areas.
- Allows users to look back in time at past rainfall seasons and observe how they could have impacted today's populations with today's response costs. Studying historical data can help with contingency planning and emergency preparedness for future shocks in the country.
- Incorporates data for drought hazard monitoring and analysis, e.g. rainfall data, WRSI as well as vulnerability data, for 32 countries at present. Users can choose between different regions and seasons (agricultural or pastoral):

Also see: [African Risk Capacity Project - Towards a Natural Disaster Risk Management System for Africa](#).

## [Integrated database information system \(IDIS\)](#)



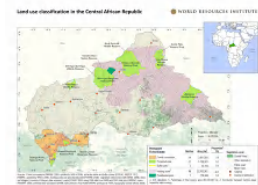
The Integrated Database Information System (IDIS) is an on-line data sharing platform that provides access to water, agriculture and environment scientific data to

help researchers and their research partners improve the water productivity. [IDIS](#) contains over 1 billion records with focus on [IWMI](#) and [CPWF](#) basins, and hosted in Colombo, Sri Lanka.

[IDIS African Node](#) - IDIS System is developed using distributed databases approach and its planed that IDIS System will be established in all IWMI & CPWF basins. This will give better and fast access to researchers / scientists working locally in these basins. In this concern IDIS team started establishing different node. Please select your desired node.

Access to data in IDIS is conditioned by strict compliance with copyrights, intellectual property rights and data agreements. As a User your access to data stored in IDIS is limited to what you are authorized to use. Report any irregularities/concerns at [idis@cgiar.org](mailto:idis@cgiar.org).

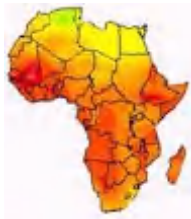
## [Interactive forest Atlas for Central African Republic \(Atlas forestier interactif de la République Centrafricaine\)](#)



The Interactive Forest Atlas for the Central African Republic (CAR) brings together the current information on the CAR forest sector in a single, interactive mapping platform. Future versions of the Atlas will build upon this first edition, thereby giving decision makers an accurate, up-to-date representation of forest activities taking place on the ground in CAR.

Key Atlas themes and data sets include:

- Through a collection of maps, the Atlas provides an overview of the different types of government forest land use allocations.
- The Atlas offers an overview of logging and transportation infrastructure, as well as the network of public roads in CAR. The overlay of roads and tracks on to a map of forest logging zones help identity irregularities and guide surveillance missions on the ground.



## Spatial Data Infrastructure – Africa Newsletter



- The Atlas provides information on the status of logging permits, timber volume figures, management plan status, and annual harvestable areas within logging permits. Mapping of this information makes it easier to monitor the implementation of CAR's logging policies and verify conformity with forest laws.
- Through easy to read maps, the Atlas shows where protected areas are located in CAR, thereby supporting local authorities in their maintenance of existing protected areas and the establishment of new ones in areas that minimize conflict with other land uses.

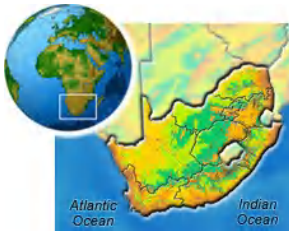
### Sudan Interagency Mapping (SIM)

SIM comprises of GIS professionals working for non-profit Humanitarian, Developmental, or Peacekeeping initiatives. It functions in cooperation with local authorities to promote and facilitate the sharing of standardized Geospatial Information to enable all members to develop compatible and reliable products to assist in their operations. The data repository of agreed upon map layers, and map product include: [Sudan boundaries](#), [International Boundaries](#), [State boundaries](#), [Locality County boundaries](#), [Payam Boundaries](#), [Source Administrative Boundaries](#), [Settlements](#), [Settlements Meta data](#), [Roads](#), [Rail Roads](#), [Roads JLC OCHA](#), [Rivers](#), [Canals](#), [Lakes and Wetlands](#), [Map Products Catalogue](#) and [Khartoum City Map](#).

### Geospatial technology education resource compendium

The educator resource list from the Geospatial Information and Technology Association is a compilation of resources for educators to learn and explore geospatial technology. Descriptions and links are available for educational programs from geospatial vendors; lessons and tutorials; careers in GI Technology; and more.

### **Maps of South Africa**



A part from the Google Maps, a wide range of interactive map websites exists, many of which allow zooming in to street level and then printout.

- [South Africa Map](#) - recently upgraded and improved: SouthAfrica.info's up-to-date, user-friendly, multi-level searchable map of South Africa.
- [SA-Venues.com South Africa Maps](#) - regional maps, street maps, maps of tourist attractions, game reserves, golf courses and more.
- [Go2Africa](#) - interactive maps of SA and its main regions, with links to accommodation and game reserves, and info on cities and towns.
- [EasyMap](#) - EasyInfo's interactive map includes street search and city/town search facilities, and also covers neighbouring countries.
- [South African Explorer](#) - interactive destination guide and map of tourist, accommodation and recreational activities in South Africa.
- [ShellInfoSight.com](#) - a useful guide if you plan to drive. Free registration gives you access to a handy map-based route planner.
- [Ananzi Road Maps](#) - search for streets, suburbs or places of interest, zoom in, pan around or print these detailed maps powered by Brabys.
- [Southern Africa Places](#) - interactive map of SA and neighbouring countries, plus maps guiding visitors to wildlife places, cities and accommodation.
- [Routes Travel Info Portal](#) - detailed provincial maps showing the main routes through the country, as well as lists of places and accommodation.
- [Statistics South Africa Geography Website](#) - statistically speaking. Features a range of mapping information, imagery and interactivity relating to population and other statistics.
- [Environmental Affairs: Maps & Mapping](#) - the Department of Environmental Affairs offers a range of national and provincial maps of South Africa for print or download. These include maps of the country's topography, biomes, catchment areas and more in various sizes and formats.
- [University of Texas at Austin](#) - An online collection of political, physical, historical and thematic maps of South Africa in pdf and image format.

### Hurricanes: Science and society

The Rhode Island Graduate School of Oceanography offers the Hurricanes: Science and Society website that provides information on the science of hurricanes, methods of observing hurricanes, modeling and forecasting of hurricanes, how hurricanes impact society, and how people and communities can prepare for and mitigate the impacts of hurricanes. In addition to in-depth science content, the website includes case studies, a historical storm interactive, and more.



# Spatial Data Infrastructure – Africa Newsletter



## [Map Projections](#)

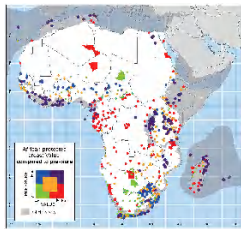
This website features examples of eighteen common map projections, including a description that explains the properties and uses of the projection, disadvantages, and more. There are also summary tables of projection properties, general uses, and geographic areas most suitable for mapping with a given projection.

## [QGIS 1.6.0 release](#)

The QGIS 1.6.0 has been released, the next in development release series. Binary and source code packages are available at: <http://download.qgis.org>. Along with the release of QGIS 1.6.0, the QGIS Community Team is hard at work on an updated QGIS Users' Guide version 1.6. The guide will be available in the near future and announcements will be posted when it is available. QGIS is free software and completely volunteer driven project, work of a dedicated team of developers, documenters and supporters.

## Geospatial Research, Applications, Reference Material

### [Digital Observatory for Protected Areas \(DOPA\) - the African component](#)



Africa is home to some of the most valuable natural ecosystems and species on the planet. These ecosystems cover large areas, making field monitoring methods very difficult for a large scale assessment. Environmental organisations and international donors such as the EC consider the remote monitoring of Protected Areas (PAs) in Africa as a priority. To provide decision makers with indicators allowing prioritizing these PAs according to biodiversity values and threats, information needs to be regularly collected on a large scale, processed and validated with ground truthing.

It is the purpose of the Digital Observatory for Protected Areas (DOPA) to automatically monitor and assess the state and pressure of PAs and to prioritize them

accordingly, in order to support decision making and fund allocation processes. The DOPA is thus a biodiversity information system currently developed as an interoperable web service at the Joint Research Centre of the European Commission in collaboration with other international organizations, including GBIF, UNEP-WCMC, Birdlife International and RSPB. The African component of the DOPA has been used to characterize 741 PAs according to their biodiversity value and the anthropogenic pressure that they are exposed to. The information produced has been recently used by the EU Delegation in the Democratic Republic of Congo (DRC) to identify priority areas of intervention in the formulation of a project on Conservation of Biodiversity.

### [Modeling landslide susceptibility in parts of southeastern Nigeria with medium resolution remotely sensed images](#)

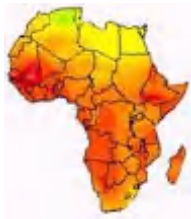
Landslide is a geological phenomenon, which occurs as a result of ground movement. It can occur as rock falls, failure of unstable slopes, sand and debris flows on slopes, etc. Landslides can cause a lot of damages with direct and indirect effects on human settlements and physical infrastructure. Landslides are very predominant where slope stability has been compromised. The Natural causes of landslides include erosion of the ground/slopes by flood water, rivers or ocean waves, ground water pressure that destabilize sloppy grounds, slopes weakening through heavy rainfalls, snowmelts, earthquakes that destabilize the slopes.

Landslides occur in different parts of Southeastern Nigeria due to widespread impact of gully erosion resulting from annual rainfall and subsequent flooding. In this area landslide occur mostly as earth movement, rock and debris flows on slopes previously weakened by flood water. Remotely sensed images combined with field observation were used in this study to map potential areas of landslides in south - central parts of Anambra State in Southeastern Nigeria. The study generated landslide zonation map highlighting areas of different degrees of susceptibility and confirmed the possibility of using medium scaled remotely sensed data in landslide susceptibility study.

### [Sustainable development in developing countries: the African, Caribbean and Pacific Observatory](#)



Freshwater, aquaculture, fisheries, biodiversity, forests, and agricultural land have high economic and social value throughout the Africa, Caribbean and Pacific (ACP) region; but they can also be over-exploited, with damaging consequences for local economies, long term stability and for the Earth system as a whole - especially the climate system. The ACP's fast growing population puts growing pressure on the environment to provide food,



# Spatial Data Infrastructure – Africa Newsletter



water and fibre, on the regions' urban centres and transport networks, and on energy sources. Information on the location, condition and evolution of resources is an important step towards sustainability, but unfortunately such information can be hard to get. Earth observing satellite technology combined with geographical information management can help fill the information gap. In this objective, and because of its unique position to support the implementation of advanced interoperable geospatial technologies, the Joint Research Centre (JRC) of the European Commission (EC) is setting-up of an "Observatory for sustainable development" as single portal to support decision-making for development in the fields of natural resource and food security. The African Union and European Union recognize the importance of this service and are beginning to develop this capacity as part of the AU-EU joint strategic partnership.

This paper describes the needs, and presents the first steps taken by the JRC and the joint partnership in harnessing space technologies to help meet Millennium Development Goals, in particular eradication of poverty, and environmental sustainability. *Accepted 20 October 2010, Technological and Economic Development of Economy, 2010, 16(4): 736-752.*

## Researchers train software to help monitor climate change

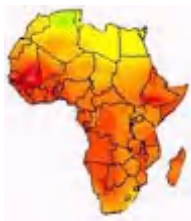
A computer program that automatically analyzes mounds of satellite images and other data could help climate scientists keep track of complex, constantly changing environmental conditions, according to an international team of researchers. "All of the data and information that is continually collected by satellites and sensors can cause tons of problems for scientists, who simply don't have the time to analyze every pixel of every satellite image," said James Wang, professor of information sciences and technology, Penn State. "Our goal has been to provide a tool that would create useful information or knowledge from this large pool of data." The program uses probability to analyze and extract environmental information from satellite images and sensor data about ocean structures like wakes, upwellings and cold and warm eddies, the researchers reported in the current issue of IEEE Transactions on Geoscience and Remote Sensing. Researchers first built a database of ocean structures and then used the knowledge of human experts to train the program to recognize and identify changes in the ocean. "We're particularly interested in the analysis of mesoscale regional ocean structures in satellite images," said Jose A. Piedra-Fernandez, a visiting professor in information sciences and technology at Penn State during the project.

Researchers tested the technology on satellite images provided by the National Oceanographic and Atmospheric Administration and the Advanced Very High Resolution Radiometer of sections of oceans in the Iberian Atlantic, the Mediterranean coast and near the Canary Islands. The tests included 1,000 cases of real ocean features, including 472 upwellings, 119 cloudy upwellings, 180 wakes, 10 anticyclonic eddies, 40 cyclonic eddies and 180 misclassified regions. The best combination of filter and classification method developed by the researchers accurately identified the ocean features more than 89 percent of the time. "In almost all cases, the proposed methodology improves the accuracy rate and reduces the number of features necessary to get a good ocean structures classification," Piedra-Fernandez said.

## Free availability of satellite imagery has boosted deforestation monitoring applications, but risk of data gap looms

An important factor in the expanded use of satellite imagery has been the U.S. government's free Landsat Data Distribution Policy, which allows free or inexpensive access to data captured by Landsat satellites, which have been collected data on a regular basis since 1972. To date, the Landsat program has accumulated more 630 terabytes of data in its archive, which is growing by more than 320 gigabytes per day. But the Landsat program is not presently operating at its full capacity. Two satellites remain in orbit: Landsat 5, which is operating more than two decades beyond its original 3-year mission, and Landsat 7, which suffered a malfunction in 2003 that degrades some data but still continues to provide critical data. Remote sensing scientists are therefore looking forward to 2012, when Landsat Data Continuity Mission launches. According to NASA, the initiative will "collect and archive data consistent with its predecessor Landsat satellites".

Should the satellites fail in the interim the scientists will be faced with a "data gap" in their research efforts. Continuity is crucial. Landsat is particularly important to researchers monitoring changes in forest cover, especially when trying to construct a historical baseline. Matthew Hansen, a remote sensing scientist at South Dakota State University and one of the world's leading experts on tracking deforestation, says that the number of "observations" or images captured, rather than the algorithms and computing power to process and analyze data, is now the biggest limiting factor in efforts to accurately measure deforestation in a timely matter. Hansen says that while surging interest in forest conservation is driving new investment - from both



## Spatial Data Infrastructure – Africa Newsletter



governments and the private sector - in remote monitoring systems, Landsat remains important because at the end of the day, "almost everybody looking at large areas of land is using Landsat because it is cheaper and systematically acquired," especially when constructing historical baselines.

### Rapid detection of eruptions at remote volcanoes



A University of Washington-based network that monitors lightning around the globe has an unexpected new use: detecting volcanic eruptions that could be hazardous to aviation. The system developed can detect eruptions at remote volcanoes long before they are spotted by satellites. Detection is based upon the occurrence of [volcanic lightning](#) that often accompanies eruption plumes. This early detection will improve the safety of airline traffic that passes near remote [volcanoes](#).

In its first months of test operations in Alaska and the Russian Far East, the system spotted two eruptions a full hour before they showed up on satellite images. That could mean valuable warning time for aircraft, whose engines can stall when clogged with volcanic ash. "If we're able to get an extra 30 or 60 minutes more of a heads-up, it could be a real contribution," said volcanologist John Ewert, of the U.S. Geological Survey's Cascades Volcano Observatory. The power of volcanic ash to play havoc with air travel was underscored this year when the eruption of Iceland's Eyjafjallajökull volcano grounded flights across Europe and the North Atlantic for nearly a week. A USGS analysis found 94 verified airplane-ash encounters since 1953. None led to crashes, but aircraft damage was severe in several cases. The lightning network now is continuously monitoring more than 1,500 volcanoes worldwide. The test in Alaska and the Russian Far East is focused on an experimental warning system, which issues automatic e-mail alerts when an eruption is detected. More than 300 flights a day carry 30,000 passengers over the volcanically active region, Ewert said. The scientists started scanning for volcano-associated lightning in September 2010. Within a month, they detected an eruption of Russia's Shiveluch volcano before satellites saw it. The same thing happened Dec. 12, when Kizimen volcano on Russia's Kamchatka Peninsula let loose.

There were also some false positives early on, but software improvements are making mistakes less likely. The system still doesn't work well in the tropics, where frequent thunderstorms make it harder to identify lightning from volcanoes. Adding instruments in those areas would help boost the system's overall performance, UW space-sciences professor Robert Holzworth said. He and Ewert hope to see the warning system expanded globally.

### 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](mailto:sdi-africa@lists.gsdi.org).

### ESRI South Africa presents a full spectrum of GIS courses



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

#### January and February 2011 Courses

- ArcGIS Desktop 1: Getting Started with GIS - Midrand 17-19 January
- ArcGIS Desktop II: Tools and Functionality - Midrand 17-20 January 2011
- Building Geodatabases - Midrand 19-21 January 2011
- Bringing Data into ArcGIS - Midrand 24-24 January 2011
- Introduction to Multi-User GeoDatabases - Midrand 24-25 January 2011





# Spatial Data Infrastructure – Africa Newsletter



- ArcGIS Server Web Admin - Midrand 26-28 January 2011
- ArcGIS Desktop III: GIS Workflows and Analysis - Midrand 26-28 January 2011
- ArcGIS Desktop III: GIS Workflows and Analysis - Port Elizabeth 26-28 January 2011
- GIS For Managers - Midrand 31 Jan - 1 Feb 2011
- ArcGIS Desktop 1: Getting Started with GIS - Midrand 31 Jan – 2 Feb 2011

## ESRI Northeast Africa: Seasonal Training Winter 2011

ESRI NeA will be holding a seasonal training on 23 - 27 January 2011 in Sharm Al Sheikh. The week long training event will host three different tracks, catering to different types of users. All instructors are ESRI certified instructors.

The GIS Basics Track will include two courses:

- ArcGIS Desktop I: Getting Started with GIS;
- ArcGIS Desktop II: Tools and Functionality.

The GIS for Managers Track B includes:

- GIS Managers Course: The goal of this course is to provide GIS managers with information about the different GIS products and their uses.
- GIS for Project Management Course: The goal of this course is to provide GIS managers with ideas and techniques for the development and management of successful GIS programs in their organizations. The course also covers Microsoft Project concepts, and utilizes the case study method for managing GIS projects using Microsoft project.

The Awareness Days & Workshops Track offers specialized workshops on:

- GIS in Managing Urban and Regional Planning;
- Remote Sensing - essential aspects and concepts of remote sensing.

For more information and reserve your place, contact: [seasonaltraining@esrinea.com](mailto:seasonaltraining@esrinea.com). Phone: +2015 1176 6670.

## ITC Education Brochure 2011-2012 online

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

## Training Course: Climate change adaptation in agriculture and natural resources management, 28 February - 11 March 2011, in East Africa

The course is designed for mid-career professionals who are engaged at higher levels and deal with policy making either from the research side (as advisor), government side, or from civil society who aim to have a full understanding of climate change adaptation concepts, be able to effectively and meaningfully contribute to the debate on climate change adaptation, either in the policy process and/or in providing knowledge to the policy process. For details, contact: Terwisscha van Scheltinga (Catharien), Wageningen University at [Catharien.Terwisscha@wur.nl](mailto:Catharien.Terwisscha@wur.nl) or [www.ess.wur.nl/UK/People/Catharien+Terwisscha+van+Scheltinga/](http://www.ess.wur.nl/UK/People/Catharien+Terwisscha+van+Scheltinga/), <http://portals.wi.wur.nl/climatechange>, [www.genderandwater.org](http://www.genderandwater.org).

## Free ESRI Courses

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

## ESRI Eastern Africa Hands-on Training for GIS Professionals



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

### **Fundamentals of ArcGIS Desktop**

- |   | Duration (Days) |
|---|-----------------|
| • ArcGIS Desktop 1: Getting Started with GIS            | 3               |
| • ArcGIS Desktop 2: Tools and Functionality             | 4               |
| • ArcGIS Desktop 3: Workflows and Analysis              | 3               |
| • <b>Data Production and Editing with ArcGIS</b>        |                 |
| • Field Data Collection Using ArcPad and ArcGIS Desktop | 3               |
| • Building Geodatabases                                 | 4               |



# Spatial Data Infrastructure – Africa Newsletter



• Data Production and Editing Techniques	4
<b>Analysis with ArcGIS</b>	
• Performing Analysis with ArcGIS Desktop	4
<b>Cartography with ArcGIS</b>	
• Creating and Publishing Maps with ArcGIS	4
<b>Enterprise GIS</b>	
• Introduction to ArcGIS Server	3
• Introduction to the Multiuser Geodatabase	3
• Managing Editing Workflows in a Multiuser Geodatabase	4
<b>Programming with ArcGIS</b>	
• Introduction to Programming ArcObjects using .NET	4
• Introduction to Geo-processing using Python	3
<b>Added new courses focusing on ENVI: the Image Processing Software for processing and analyzing geospatial imagery.</b>	
• Introduction to Remote Sensing with ENVI	3
• ENVI for GIS	3
• Exploring ENVI	5
• ENVI for Defense and Intelligence	4
Contact: ESRI Eastern Africa at: <a href="mailto:training@esria.co.ke">training@esria.co.ke</a> , telephone: +254 20 2713630/1/2 or fax: +254 20 2713633.	

**[L'Ecole Régionale post-universitaire d'Aménagement et de gestion Intégrés des Forêts et Territoires tropicaux \(ERAIFT\)](#)** [[Regional School on Integrated Management of Tropical Forests and Territories](#)] – l'ÉRAIFT est une école d'avant-garde au service du développement humain et durable de l'Afrique. Elle a pour vocation de former des Spécialistes (DESS & Ph.D) de l'Aménagement et de la Gestion des Forêts et Territoires Tropicaux, par une Approche Interdisciplinaire, Globale et Intégrée, autrement dit Systémique. Contact: [info@eraift.org](mailto:info@eraift.org).

### **Short-courses offered by RECTAS in 2011**, Ile-Ife, Nigeria



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

## Funding Opportunities, Awards, Support

### **The 2011 Technology in Government in Africa (TIGA) Awards**



The [Economic Commission for Africa \(ECA\)](#) and the Government of Finland are pleased to announce the 2011 Technology in Government in Africa (TIGA) Awards, which recognizes outstanding achievements by organisations or teams in developing and implementing innovative projects under three levels/subcategories: national, provincial, and local. The entries can be made in the following categories:

- Public service delivery to citizens/communities - projects to improve online government service delivery (such as service application forms, tax payments, revenue collection, birth & death registration, other forms of Government eServices, etc.); with a specific focus on citizens or businesses as clients of government.
- Improved health services through the use of ICTs - projects to improve online as well as Government eServices using other forms of health service delivery; with a specific focus on citizens as clients of government.
- Public Private Partnership (PPP) in economic and financial eServices delivery - projects to improve financial service delivery (such as customs, banks, insurance, trade facilitation, etc.); with a specific focus on citizens as clients of government.
- Improved educational services through the use of ICTs - projects to improve online as well as eServices using other forms of education service delivery; with a specific focus on citizens. The prizes will be under two levels/subcategories: public and private. It is organised in collaboration with the eLearning Africa Scholarship Trust, the organizer of the eLearning Africa annual event. The [6th International Conference on](#)



## Spatial Data Infrastructure – Africa Newsletter



[ICT for Development, Education and Training](#) (eLearning Africa) takes place from May 25 - 27, 2011 in Dar es Salaam, Tanzania.

The project description should clearly illustrate the benefits to Government clients of the category entered based on the selection criteria including Government effectiveness in terms of reducing costs, effective delivery of public services and improved accessibility to citizens, and fostering local talent and creating synergies between the private and public sectors. Application forms and description of the project should be in [Format: [English](#) or [French](#)]. Submission deadline: 28 February 2011. Contact: [tiga@uneca.org](mailto:tiga@uneca.org), website: <http://www.uneca.org/tiga>.

### [Population, environment and human security: Fellowship award for 2011](#)

The Compton Foundation is making available Fellowships through PRB for capstone/internship work and dissertation research on topics that examine the interactions linking family planning and reproductive health with environmental/sustainability and/or human security issues. Students from sub-Saharan Africa and Latin America who are currently enrolled full-time in Ph.D. or master's programs in academic institutions in the United States and Canada are eligible to apply. Those in master's programs need to be in second-year or advanced programs that require their graduates to engage in a capstone/internship experience. For Ph.D. students, the Fellowships are for advanced students who have an approved research proposal and who are seeking support for field research to be carried out in a developing country. This fieldwork should contribute directly to completing their dissertation.

For 2011, the Fellowship will award up to two master's-level and up to four PhD-level:

- The master's Fellowship recipients will be awarded up to \$10,000 each, normally limited to a period of one year.
- The Ph.D. Fellowships will be awarded up to \$20,000 each, normally limited to a period of one year.

Download the application form ([PDF: 164KB](#)), rename it and submit it electronically to Dr. Ashley Frost at [afrost@prb.org](mailto:afrost@prb.org). The letters of recommendation should be e-mailed directly from the person making the recommendation to Dr. Frost. Deadline for applying: 24 January 2011. For further information about the Compton Foundation or PRB, please visit their respective websites at [www.comptonfoundation.org](http://www.comptonfoundation.org) and [www.prb.org](http://www.prb.org).

### [Women's Water Fund](#) - career advancement for women in the water sector

The objective of the Women's Water Fund is to support women from developing countries in advancing their career opportunities in the development and management of water resources. Target groups are women in (or on their way into) middle management positions and the Fund seeks to provide programme participants with insight and inspiration that can help them advance into more senior management positions. The Fund's career programme builds upon Danish expertise in water and environmental management, its international applications, as well as in organizational management in the water sector.

The Fund supports short capacity building visits to Denmark. The visits will include a combination of formal training and inspirational "hands-on" interaction with managers in public authorities and in the water industry. All travel, accommodation and living costs are covered by the Fund. The capacity building visits include:

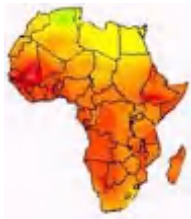
- Participation in short courses on water resources and environmental technologies and management;
- Inspirational visits to Danish organisations in the field of water and a one week internship in one of those organisations; and
- A subsequent mentoring component that includes a senior Danish manager as mentor for each candidate. The mentoring function is intended to be continued for at least one year after the visit in Denmark in a long distance support relationship.

The present Call/study visit for Training and Management Internship Programme in Denmark for April/May 2011 is intended for women from developing countries in Africa, Asia or Latin America who meet the following criteria: professional background in a water related discipline, at least at Master's level; minimum 5-7 years of working experience; Fluency in English; and present employment in managerial or leadership positions in government, private company or NGO.

Submit applications to Ms. Hanne Berthelsen at [hab@dhigroup.com](mailto:hab@dhigroup.com). Deadline for submission: 21 January 2011.

### [Right Livelihood Award for outstanding vision and work on behalf of our planet and people](#)

The Right Livelihood Award exists to honor and support those groups of people and individuals around the globe who valiantly uphold the principles of right [livelihood](#). "Right Livelihood" embodies the principle that



# Spatial Data Infrastructure – Africa Newsletter



each person should follow an honest occupation, which fully respects other people and the natural world. It means being responsible for the consequences of our actions and taking only a fair share of the earth's resources.

Anyone except Right Livelihood Award Jury and staff members can propose anyone (individuals or organisations), except themselves and close relatives or their own organisations, to be considered for a Right Livelihood Award. Proposals must not be publicised, except to the candidate and possible referees.

Normally, the Foundation makes three Cash Awards and one Honorary Award each year. The Cash Awards are intended for work in progress or the extension of existing activities; they are never given for personal use. The deadline for proposals for any current year is March 1.

## [ILO's new Call for innovation grants](#)

The Microinsurance Innovation Facility housed at the International Labour Organization's (ILO) Social Finance Programme has launched a new call for [proposals](#) under the new Round 5 of its [innovation grants](#) programme. Under this application window, the Facility expects to support three to five large grants, between US\$100,000 and US\$500,000, and four or five small grants (less than US\$100,000).

Insurance innovation involves venturing into uncharted territory and taking risks in order to create benefits for the consumers, such as creating new mechanisms for premium collection, testing new ways of verifying claims, using technology to improve efficiency and experimenting with ways to educate consumers. The Facility awards Innovation grants in order to help institutions develop new microinsurance products and models by covering their start-up costs and some of the losses likely to be incurred during the project.

Projects can be new or already underway, but should be viable at the end of the grant period (max. 3 years) because either they have become self-sustaining or they can draw on other resources. Organizations eligible for grants include:

- Risk carriers
- Delivery channels
- Suppliers to the insurance industry

The Facility aims to support collaborations between different types of entities across the developing world, with a focus on Africa, Asia and the Pacific, Latin America, the Caribbean and the Middle East. Priority is given to voluntary products for which there is a significant demand yet insufficient supply, including health, agriculture, property, and accumulating value life or disability products. Read first the [Application guidelines and form - \(pdf 1,69 MB\)](#). Applications must be submitted online ([Online application](#)) at the latest: 25 January 2011. For questions about the eligibility and selection criteria and the application process, contact [microinsurancegrants@ilo.org](mailto:microinsurancegrants@ilo.org).

## [Call for Nomination: Nansen Refugee Award](#)

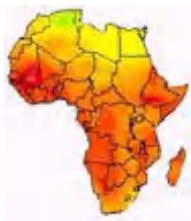
This Award is the most prestigious honour conferred by [UNHCR](#) to an individual or an organization in recognition of extraordinary and dedicated service to refugees. It consists of a commemorative medal and a US\$100,000 monetary prize donated by the governments of Norway and Switzerland. Anybody can nominate someone or some organization for the Nansen Award, but a special committee selects the annual winner. Recipients have been chosen from many different areas. Whatever their creed, colour, age or profession every winner put in extraordinary effort and time to help the forcibly displaced around the world.

The monetary prize that accompanies the Nansen Award is intended to enable the recipient to pursue refugee assistance [projects](#) drawn up in consultation with UNHCR. To date, the Nansen Fund projects have benefited refugees in places such as Cambodia, Botswana and Venezuela. They have contributed towards the setting up of a special ward for refugee children in Pakistan, the building of schools at Katumba in Tanzania and income-generation projects for people displaced by landmines in southern Lebanon. Deadline to submit nomination: 28 February 2011.

## [Margaret McNamara Memorial Fund \(MMMMF\) 2011](#)

The Margaret McNamara Memorial Fund (MMMMF) awards educational grants to women (at least 25 years old) from developing countries whose graduate studies and future plans aim to benefit women and children in their respective regions. Commitment to this goal is an essential selection criterion. For students from developing countries who are currently studying in the United States or Canada, the MMMF awards annually grants of approximately \$12,000 each; grants are not renewable. Requirements:

- Undergraduate or Post UG, or Graduate



# Spatial Data Infrastructure – Africa Newsletter



- Field of Study - Science, Technology, Engineering, Math, or Arts & Humanities, or Social Sciences, Business, Law

The duration is one year. Deadline for application: 18 January 2011.

## [Call for Application - SRP Fellowships in African climate science](#)

The DFID-Hadley Centre Climate Science Research Partnership (CSRP) has announced a Call for Applications for fellowships in African climate science. The Call is extended to climate researchers and applied climate scientists/practitioners working in the field of African climate variability and change. Applicants must be resident nationals of an African country. Three types of Fellowships are available:

- Postgraduate Research Fellowships (maximum 12 months duration)
- Post-Doctoral Research Fellowships (maximum 12 months duration)
- Applications Project Fellowships (maximum 6 months duration)

The deadline for applications: 4 February 2011.

## [Danish Ministry of Foreign Affairs with Danida Fellowship Center- Development Research 2011](#)

The themes include *climate, energy, and sustainable natural resources*. They also include economic growth related to property rights, *agricultural productivity*, and other factors. Priority is for research projects submitted by Danish institutions in partnership with organizations in the South, particularly in Denmark's partner countries (in Africa and in 2011: Burkina Faso, Ethiopia, Kenya, Somalia, Sudan, Tanzania, Uganda, Zambia, and Zimbabwe). Applications from PhDs and post-docs are due 11 February 2011.

## [European Commission \(EC\) - Gum Arabic in Chad](#)

The EC announces two calls for proposals to help strengthen the gum Arabic sector of Chad (Tchad). The first call (EuropeAid/130628/M/ACT/TD) is for applied research on sustainable production and extraction of gum Arabic, a quality control system for exports, and an assessment of the location and production potential of gum Arabic resources in the country. The second call (EuropeAid/130609/M/ACT/TD) is for assistance to strengthen the organizational capacity of Chad's gum Arabic producers. The first call is open to government organizations, para-statal organizations, and universities in the EU member states and the ACP countries. The second call is open to non-profit NGOs and professional associations in the EU member states and the ACP countries. The deadline for both calls: 8 February 2011.

## [European Commission \(EC\) - Combating Illegal Forest Exploitation in Central African Republic](#)

The EC will make grants to civil society organizations in the Central African Republic to combat illegal cutting and trading of forest products. The grants support the international program FLEGT (Forest Law, Enforcement, Governance, and Trade). The call is open to non-state nonprofit organizations in the Central African Republic. This includes not only environmental NGOs, but also organizations engaged in issues of national policy, governance, and social welfare. Reference EuropeAid/130777/L/ACT/CF. Application deadline: 25 February 2011.

## [Women's World Summit Foundation - Prize for Women's Creativity in Rural Life 2011](#)

The Prize honors women and women's groups anywhere in the world exhibiting creativity, courage, and commitment for improving the quality of life in rural communities. WWSF aims to draw international attention to laureates' contributions to sustainable development, household food security, and peace. The Prize provides an award of US\$1 thousand per laureate, and US\$3 thousand for specific African women's organizations. Nominations are due 31 March 2011.

## [Smithsonian Tropical Research Institute - Research in Forest Plots 2011](#)

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

## [Swiss Re - ReSource Watershed Award 2012](#)



# Spatial Data Infrastructure – Africa Newsletter



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

## Employment Opportunities

### Long-term and short-term technical and administrative experts, Ethiopia

ACDI/VOCA is currently collecting CVs for long-term and short-term technical and administrative experts for an anticipated USAID-funded agricultural development program in Ethiopia. The overall goal of the project is to sustainably reduce poverty and hunger by improving the productivity and competitiveness of value chains that offer job and income opportunities for rural households. The required qualifications:

- Minimum 10 years of relevant and progressive work experience in developing country (ies) focusing on issues such as the following: food security, agricultural market development, value chain development and analysis with a focus on finance and policy, market linkages market information systems, post-harvest handling association development/business development services (BDS), financial services, microfinance, access to credit, agriculture/trade policy development and implementation, public-private partnerships, youth and gender development, natural resource management and climate change, grants management.
- University degree in related field (e.g., agriculture/agribusiness, rural sociology, international development, international business, economics, etc.) is required; master's degree is required for senior positions.
- Prior experience with large, complex USAID projects is strongly preferred.
- Experience working in Ethiopia.
- Fluency in English; Amharic is strongly preferred.

Please [apply](#) online. Women and minorities encouraged to apply. No deadline given.

### IT Coordinator - ActionAid

ActionAid International Zimbabwe requires an IT Coordinator who will be responsible for the management of AAIZ's IT systems & ensure they function smoothly and efficiently in compliance with the organisation's strategy, policy & standards. The incumbent will provide IT administration in the Country Program, conduct IT infrastructure maintenance and management, manage & ensure high IT connectivity, ensure IT backup service is functional, and provide other technical support as desired. Knowledge, skills and competencies:

- A first degree in Computer Science or its equivalent is required;
- A CISCO Certification will be an added advantage
- Microsoft Certification in server and e-mail administration is desirable
- At least 3 years experiences in working as Microsoft Sever/ Network administrator in a busy office supporting computer systems environment,
- Sound knowledge in Local Area Network Setup, administration and support as well as good understanding of wireless technologies is required
- Good knowledge in Sun systems and HR Systems is desirable
- Good Language skill in English, Shona and Ndebele and a valid Zimbabwean driver's licence

Submit curriculum vitae with an application letter to Human Resources, ActionAid International, 16 York Avenue, Newlands, Harare or [jobs.zimbabwe@actionaid.org](mailto:jobs.zimbabwe@actionaid.org). A detailed Job profile will be made available to short listed candidates. Application deadline: 5 January 2011.

### Visiting Assistant Professor

The University of Missouri Department of Geography invites applications for a one year non tenure track Visiting Assistant Professor with expertise in Physical Geography, and the complementary ability to teach GIS courses. We seek a candidate able to augment our undergraduate and graduate course offerings with special consideration for strengths in Biogeography, Human-environment interactions, and Geographic Information Systems. Qualifications: Minimum requirements are a Ph.D. in Geography or a related discipline by time of appointment (September 2011) and a demonstrated teaching record. The person chosen for the position will be broadly trained in biogeography, geomorphology, or climatology. To apply, submit, in digital form: a letter of interest, curriculum vitae, evidence of teaching excellence, and contact information for three



## Spatial Data Infrastructure – Africa Newsletter



references to Dr. Mike Urban, Department of Geography, 8 Stewart Hall, Columbia, MO 65211. Voice phone: 573-882-8370; E-mail: [UrbanM@missouri.edu](mailto:UrbanM@missouri.edu). Review of applications will begin November 29, 2010, and continue until the position is filled. Information about the Department is available at <http://www.geog.missouri.edu/>.

The University of Missouri is an EO/AA/ADA employer; women and minorities are strongly encouraged to apply. Position unfilled.

### Other

#### [NASA releases global warming map](#)



NASA has released a new analysis of temperature change. The map shows temperature anomalies for 2000-2009 and 1970-1979 relative to 1951-1980 baseline. To conduct the analysis, NASA's Goddard Institute for Space Studies (GISS) uses "publicly available data from 6,300 meteorological stations

around the world; ship-based and satellite observations of sea surface temperature; and Antarctic research station measurements." "These three data sets are loaded into a computer analysis program - available for public download from the GISS web site - that calculates trends in temperature anomalies relative to the average temperature for the same month during 1951-1980," according to NASA.

The space agency reports that the average global temperature has increased by about 0.8° Celsius (1.4° Fahrenheit) since 1880. About two-thirds of the warming has occurred since 1975, at a rate of roughly 0.15-0.20°C per decade. "The world is getting warmer," stated NASA on its Earth Observatory site. "Whether the cause is human activity or natural variability, thermometer readings all around the world have risen steadily since the beginning of the Industrial Revolution."

#### ['These are the facts': 2010 to be among top three hottest years](#)

Despite La Nina arriving at the end of the year - which bring cooler than average conditions - and bitter cold showing up recently in the Northern Hemisphere due to the North Atlantic Oscillation (NAO), 2010 was smoldering enough worldwide that it will very likely be among the top three hottest years since record-keeping began 160 years ago, reports the World Meteorological Organization (WMO). So far, 2010 has been 0.54-0.58 degrees Celsius (0.97-1 degree Fahrenheit) above the global average of 1961-1990. During the last year, 19 countries saw heat record matched or broken; Russia experienced an unprecedented heatwave that sparked drought and fires; drought struck the Amazon drying up entire rivers; and although parts of Europe and the US have been experiencing cooler than average winters due to the NAO and La Nina, Canada has seen its warmest winter yet to date.

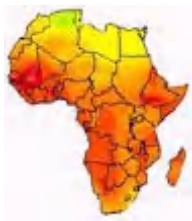
Director General of the WMO, Michael Jarraud, told the Guardian that this was more evidence of climate change. "These are the facts. If nothing is done the [warming] curve will go up and up and up. If we continue this trend the heatwave in Europe in 2003 will not be exceptional. It will be on the cool side. This is what will happen," Jarraud said. Scientists have been warning for decades that the world is undergoing warming due to greenhouse gas emissions from human activities such as burning fossil fuels and deforestation. The most recent decade, 2000-2009, was also the warmest on record. Researchers say they expect 2011 to be cooler as La Nina conditions remain. La Nina, the opposite of El Nino, brings cold water to the surface of the Pacific, lowering temperatures globally. Even so, the Met Office says next year could still be among the top 10 warmest years. Last year, the Met Office predicted, it would seem correctly, that 2010 would be among the warmest years on record.

#### [Standard lights up Tanzanian homes](#)



South Africa's Standard Bank Group is to help replace kerosene lamps with hand-held LED lights in 1.5-million homes in Tanzania in 2011, funding the scheme by buying the carbon credits generated through the large-scale replacement of fossil fuel lighting. The project is the latest of Standard Bank's "green" initiatives in East Africa, particularly in Uganda and Kenya. The projects are positioning the group as a leader in Clean Development Mechanism (CDM) initiatives in Africa - which currently account for only 3% of all CDM initiatives globally.

ILLUMI Nation Tanzania, which owns the LED project, estimates that it will save



# Spatial Data Infrastructure – Africa Newsletter



households with an average annual income of only US\$150 nearly a third of that income. The total national saving will be around \$200-million. Tanzania's greenhouse gas emissions will be reduced by around 800 000 tonnes, while helping to reduce health problems in Tanzania resulting from burn injuries and the inhalation of kerosene gas. The ILLUMI Nation project is only the second one in Tanzania since 2007 to be based on carbon trading. Standard Bank Group is also involved in a solar water heating project for low cost housing in South Africa.

In addition to leading the use of carbon credits on the continent, Standard Bank is also pioneering the UNFCCC's use of provisions for the "programmatic" Clean Development Mechanism. In this approach, the UN approves a programme of activities that is then audited for carbon credits, rather than approving each individual installation. Standard Bank Group, the United Nations Environment Programme (UNEP), and the German government have also launched the Africa Carbon Asset Development (ACAD) facility – a public-private partnership between UNEP and African banks that aims to stimulate the growth of Africa's carbon market through investor outreach and seed capital. ACAD's focus is on using carbon trading to provide wide-ranging economic, environmental and social benefits to Africa - including new revenue streams, access to energy, job creation and technology transfer - by deploying local, market specific solutions and partnerships.

## [African farmers displaced as investors move in](#)



Across Africa and the developing world, a new global land rush is gobbling up large expanses of arable land. Despite their ageless traditions, stunned villagers are discovering that African governments typically own their land and have been leasing it, often at bargain prices, to private investors and foreign governments for decades to come. Organizations like the [United Nations](#) and the [World Bank](#) say the practice, if done equitably, could help feed the growing global population by introducing large-scale commercial farming to places without it.



But others condemn the deals as neocolonial land grabs that destroy villages, uproot tens of thousands of farmers and create a volatile mass of landless poor. Making matters worse, they contend, much of the food is bound for wealthier nations. "The food security of the country concerned must be first and foremost in everybody's mind," said Kofi Annan, the former United Nations secretary general, now working on the issue of African agriculture. "Otherwise it is straightforward exploitation and it won't work. We have seen a scramble for Africa before. I don't think we want to see a second scramble of that kind."

A [World Bank study](#) released in September tallied farmland deals covering at least 110 million acres — the size of California and West Virginia combined - announced during the first 11 months of 2009 alone. More than 70 percent of those deals were for land in Africa, with Sudan, Mozambique and Ethiopia among those nations transferring millions of acres to investors. Before 2008, the global average for such deals was less than 10 million acres per year, the report said. But the food crisis that spring, which set off riots in at least a dozen countries, [prompted the spree](#). The prospect of future scarcity attracted both wealthy governments lacking the arable land needed to feed their own people and hedge funds drawn to a dwindling commodity.

## [Uganda-Sudan border dispute: Is there still room for customary boundaries?](#)



The border conflict between Uganda and Sudan is not all about the international boundaries marked during the British colonial rule in the 1880's. The Sudanese are claiming customary boundary from the Madi and Aringa people in Uganda. "We cannot take advantage of the colonial era to take somebody's God-given land," says James Janka Duku, a member of parliament in Southern Sudan. However, Henry Okello Oryem, Uganda state minister for international affairs, says all the people of northern Uganda originated from Sudan and none of the tribes would go back to claim their ancestral land. Citing the Sebei of Uganda and Kenya, he says:

"Customary boundaries are not recognized, that is why there are people of the same tribe in two or more countries."

The Sudanese are accusing the Madi of Moyo and Yumbe districts in Uganda of extending their administrative structures inside their land, while they have over 15km stretch of land in Uganda. In 2005, the Sudanese authorities halted a multi-million road construction at Afoji because farmers claimed ownership of the land. In August 2009, armed Sudanese attacked and stopped the MTN construction work at Jale. In September, another group of armed Sudanese attacked and forced farmers to uproot their crops in Gwere





# Spatial Data Infrastructure – Africa Newsletter

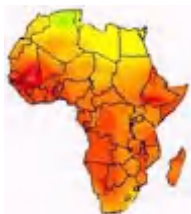


parish in Lefori sub-county near Bamure. The Ugandans further accused the Sudanese Wild Life Authority of settling 5km inside their country at Pa anjala in Dufile sub-county. However, on a recent visit to Moyo on November 24, President Yoweri Museveni and his Southern Sudan counterpart, Salva Kiir, directed that the road and MTN mast construction continue. They advised the local people to fight poverty, not over a small piece of land.

Maj. Gen. Clement Wani, the governor of Central Equatoria State of South Sudan, says “If the road or MTN construction is completed and found to be in Sudan, then that will be Uganda’s contribution to Sudan. If it is found to be in Uganda, then we shall all benefit from it”. Wani says before Southern Sudan secedes from the north, they cannot talk of demarcation of international boundaries. The Ugandans and Sudanese authorities have scheduled January 16 to get feedback from elders in Moyo Multi-purpose Training School.

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

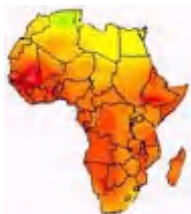
Conferences, Events		
Date	Location	Event
<b>January 2011</b>		
1 January-31 December 2011	Worldwide	<a href="#">International Year of Forests 2011</a>
8-14 January 2011	Johannesburg, South Africa	<a href="#">23rd Colloquium of African Geology</a>
10-14 January 2011	Hyderabad, India	<a href="#">International Forestry Resources and Institutions panels for the 13th Biennial Conference of the International Association for the Study of the Commons (IASC)</a>
18-21 January 2011	Hyderabad, India	<a href="#">Map World Forum 2011</a>
28-29 January 2011	Beppu, Oita, Japan	<a href="#">2011 International Winter Conference on Environmental Innovations and Sustainability</a>
<b>February 2011</b>		
7-10 February 2011 <b>* NEW *</b>	Johannesburg, South Africa	<a href="#">IT Governance, Risk &amp; Compliance Meeting</a> Contact Ros Hinchcliffe or Mohammed Akram at <a href="mailto:enquiry@iqpc.ae">enquiry@iqpc.ae</a> . Register online by 14 January 2011.
14-16 February 2011	Cairo, Egypt	<a href="#">International Conference on Energy Systems and Technologies</a>
18-22 February 2011 <b>* NEW *</b>	Addis Ababa, Ethiopia	<a href="#">Regional conference on geomorphology for human adaptation to changing tropical environments</a> Contact: <a href="mailto:asrata@geol.aau.edu.et">asrata@geol.aau.edu.et</a> or <a href="mailto:asfawossena@gmail.com">asfawossena@gmail.com</a> or <a href="mailto:moha_umero@yahoo.com">moha_umero@yahoo.com</a> .
21-25 February 2011	Nairobi, Kenya	<a href="#">26<sup>th</sup> Session of the UNEP Governing Council/Global Ministerial Environment Forum</a>
23-25 February 2011 <b>* NEW *</b>	Addis Ababa, Ethiopia	<a href="#">2nd GEOSS African Water Cycle Symposium</a>
26- 28 February 2011	Singapore, Singapore	<a href="#">2010 3rd IEEE International Conference on Signal Acquisition and Processing (ICSAP 2011)</a>
27 February-3 March 2011 <b>* NEW *</b>	Cape Town, South Africa	<a href="#">Local Climate Solutions for Africa 2011</a> : Mobilising African leadership in local climate action.
<b>March 2011</b>		
2 March 2011 <b>* NEW *</b>	London, UK	<a href="#">International Data Centre World Conference and Expo 2011-Data Centre Management</a>
20 March 2011 <b>* NEW *</b>	St. Maarten, Netherlands	<a href="#">6th International Conference on Internet Monitoring and Protection (ICIMP 2011)</a>
20-22 March 2011	Hammamet, Tunisia	<a href="#">ST Environment: International Congress on Environmental Science and Technologies for a Sustainable Development</a>



# Spatial Data Infrastructure – Africa Newsletter



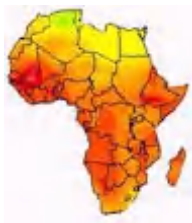
20-25 March 2011	Cape Town, South Africa	<a href="#">2011 African Conference on Software Engineering and Applied Computing</a>
23-25 March 2011	Enschede, Netherlands	<a href="#">Spatial Statistics 2011 - Mapping Global Change</a>
23-26 March 2011 <b>* NEW *</b>	Ota, Nigeria	<a href="#">International Conference on ICT for Africa 2011</a> Contact: <a href="mailto:richard@ictforafrica.org">richard@ictforafrica.org</a> .
30 March-April 1 2011 <b>* NEW *</b>	Ispra - Varese, Italy	<a href="#">7th International Conference on Image Information Mining (ESA-EUSC-JRC 2011)</a> - Geospatial Intelligence from Earth Observation
<b>April 2011</b>		
6- 8 April 2011	Stellenbosch, South Africa	<a href="#">4th IUPAP International Conference on Women in Physics</a>
10-15 April 2011	Sydney, Australia	<a href="#">34<sup>th</sup> International Symposium on Remote Sensing of Environment (ISRSE2011)</a> Contact: Ian Dowman, <a href="mailto:idowman@cege.ucl.ac.uk">idowman@cege.ucl.ac.uk</a> .
18- 21 April 2011	Exeter, UK	<a href="#">8th International Symposium on Weather Radar and Hydrology (WRaH 2011)</a> - User applications of weather radar for flood forecasting and water management
<b>May 2011</b>		
2-5 May 2011 <b>* NEW *</b>	Addis Ababa, Ethiopia	<a href="#">2nd Session of the Committee on Development Information Science and Technology (CODIST- II)</a> Contact: Thierry Amoussougbo at <a href="mailto:codist@uneca.org">codist@uneca.org</a> or Andre Nonguierma at <a href="mailto:codist@uneca.org">codist@uneca.org</a> .
9-13 May 2011	Sun City, South Africa	<a href="#">5<sup>th</sup> International Wildland Fire Conference (WildFire 2011)</a> Contact: <a href="mailto:info@wildfire2011.org">info@wildfire2011.org</a> .
11-13 May 2011	Orlando, USA	<a href="#">2nd International Conference on Disaster Management and Human Health: Reducing Risk, Improving Outcomes</a>
18-22 May 2011	Marrakech, Morocco	<a href="#">FIG Working Week &amp; XXXIV General Assembly</a> Contact: FIG Office, <a href="mailto:fig@fig.net">fig@fig.net</a> .
18-20 May 2011	Morelia, Mexico	<a href="#">3rd. International and 12th. National Socioeconomic and Environmental Research Conference on Livestock Farming</a>
20-22 May 2011	Agadir	<a href="#">Climate Change, Agri-Food, Fisheries, and Ecosystems: Reinventing Research, Innovation, and Policy Agendas for an Environmentally and Socially-Balanced Growth</a> , Deadline for abstract/proposal submission: October 15, 2010. Contact: Dr. Mohamed Behnassi at <a href="mailto:behnassi@gmail.com">behnassi@gmail.com</a> .
22-26 May 2011	California, United States	<a href="#">World Environmental and Water Resources Congress</a> , Deadline for abstracts/proposals: 7 September 2010.
25-27 May 2011 <b>* NEW *</b>	Dar es Salaam, Tanzania	<a href="#">6th International Conference on ICT for Development, Education and Training</a> Contact: <a href="mailto:info@elearning-africa.com">info@elearning-africa.com</a> .
31 May- 2 June 2011	Capetown, South Africa	<a href="#">AfricaGEO2011</a>
<b>June 2011</b>		
3-5 June 2011 <b>* NEW *</b>	Bonn, Germany	<a href="#">Resilient Cities 2011 congress</a>
11-14 July 2011 <b>* NEW *</b>	Lisbon, Portugal	<a href="#">Global Conference on Global Warming (GCGW-11)</a> , Contact: Conference Secretariat at <a href="mailto:info@gcgw.org">info@gcgw.org</a> . Deadline for abstract submission extended to 31 January, 2011.
<b>July 2011</b>		
3-7 July 2011 <b>* NEW *</b>	Cape Town, South Africa	<a href="#">Call for Papers: 9th Colloquium on Environmental Law</a> Contact: Glaudin Kruger at <a href="mailto:kruger@kruger-associates.com">kruger@kruger-associates.com</a> or Tumai Murombo at <a href="mailto:Tumai.Murombo@wits.ac.za">Tumai.Murombo@wits.ac.za</a> . Deadline for abstracts submission: 28 February 2011.
3-8 July 2011	Paris, France	<a href="#">25th International Cartography Conference (ICC 2011)</a>



# Spatial Data Infrastructure – Africa Newsletter



29 July-4 August 2011	Banos, Ecuador	<a href="#">2011 International Biodiversity Conference</a>
<b>August 2011</b>		
July 29-August 4, 2011	Banos, Ecuador	<a href="#">2011 International Biodiversity Conference</a> , Contact: Dr. Barker at <a href="mailto:barkerb@wildspotsfoundation.org">barkerb@wildspotsfoundation.org</a> .
21-25 August 2011	Merida, Mexico	<a href="#">SER2011 World Conference on Ecological Restoration</a>
15-19 August 2011 * NEW *	Nairobi, Kenya	<a href="#">Applied Geoinformatics for Society and Environment (AGSE) 2011 Conference</a> Contact: Franz-Josef Behr at <a href="mailto:franz-josef.behr@hft-stuttgart.de">franz-josef.behr@hft-stuttgart.de</a>
22-26 August 2011	Wellington, New Zealand	<a href="#">5th International Symposium on GIS/Spatial Analyses in Fishery and Aquatic Sciences</a>
23-25 August 2011 * NEW *	Perth, Western Australia	<a href="#">The 7th International Symposium on Digital Earth (ISDE7)</a> Theme: 'The Knowledge Generation', Contact: <a href="mailto:melissah.johnston@walis.wa.gov.au">melissah.johnston@walis.wa.gov.au</a> or <a href="mailto:walis@walis.wa.gov.au">walis@walis.wa.gov.au</a> Abstract submission deadline: 28 February 2011.
<b>September 2011</b>		
4-8 September 2011	Cape Town, South Africa	<a href="#">The 6th Science Centre World Congress</a>
12-16 September 2011	Ticino, Switzerland	<a href="#">3rd Symposium on Environmental Weeds &amp; Invasive Plants (Intractable Weeds and Plant Invaders)</a>
<b>October 2011</b>		
3-7 October 2011 * NEW *	Cape Town, South Africa	<a href="#">International Astronautical Congress 2011</a> Contact: <a href="mailto:enquiries@iac2011.com">enquiries@iac2011.com</a> .
5-6 October 2011	Port Harcourt, Nigeria	<a href="#">Seventh International Conference on Sustainable Development</a>
10-14 October 2011	Kimberley, South Africa	<a href="#">International Wildlife Ranching Symposium</a>
10-21 October 2011	Changwon, Korea	<a href="#">UNCCD COP 10</a> , Contact: UNCCD Secretariat at <a href="mailto:secretariat@unccd.int">secretariat@unccd.int</a>
October 2011	Cairo, Egypt	<a href="#">AfricaGIS2011 Conference</a>
16-21-October 2011 * NEW *	Cairo, Egypt	<a href="#">AfricaGIS 2011</a> Contact: <a href="mailto:africagis2011@narss.sci.eg">africagis2011@narss.sci.eg</a> or <a href="mailto:info.africagis2011@narss.sci.eg">info.africagis2011@narss.sci.eg</a> .
19-21 October 2011	Bloemfontein, South Africa	<a href="#">1st International Conference on Clays and Clay Minerals in Africa and 2nd International Conference on Geophagia in southern Africa</a>
<b>November 2011</b>		
28 November- 9 December 2011	South Africa	<a href="#">17<sup>th</sup> Conference of the Parties to the UNFCCC and 7th Meeting of the Parties to the Kyoto Protocol</a> Contact: UNFCCC Secretariat, <a href="mailto:secretariat@unfccc.int">secretariat@unfccc.int</a> .
<b>Decemberv2011</b>		
13-15 December 2011	Shah Alam, Malaysia	<a href="#">Third International Conference on Management of Natural Resources, Sustainable Development and Ecological Hazards</a>
<b>2012</b>		
21-27 May 2012	Vilnius, Lithuania	<a href="#">12th World Congress on Environmental Health: New Technologies, Healthy Human Being and Environment</a>
2-6 July 2012	Galle, Sri Lanka	<a href="#">MMM3 : Meeting on mangrove ecology, functioning and management</a>
8-12 July 2012	San Diego, California USA	<a href="#">ESRI User Conference</a>
8-12 July 2013 * NEW *	San Diego, USA	<a href="#">ESRI International User Conference</a>



## Spatial Data Infrastructure – Africa Newsletter



<b>5-10 August 2012</b> <b>* NEW *</b>	Brisbane, Australia	<a href="#">34th Session of the International Geological Congress (IGC 34)</a> Enquiries: <a href="mailto:info@34igc.org">info@34igc.org</a> .
<b>2015</b> <b>* NEW *</b>	Durban, South Africa	<a href="#">14th World Forestry Congress for SA</a>
<b>1-31 August 2016</b> <b>* NEW *</b>	Cape Town, South Africa	<a href="#">35th International Geological Congress</a> Registration deadline: 30 June 2016.

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

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

Gordon Ojwang', Editor, [SDI-Africa AT gsdi.org](mailto:SDI-Africa AT gsdi.org) or [sdiafrica@rcmrd.org](mailto:sdiafrica@rcmrd.org)  
or [gojwang@rcmrd.org](mailto:gojwang@rcmrd.org)

Global Spatial Data Infrastructure Association  
<http://www.gsdi.org>  
Copyright © 2010. All rights reserved.

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