



# Spatial Data Infrastructure – Africa Newsletter



SDI-Africa Newsletter

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

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



If you have news or information related to GIS, remote sensing, and spatial data infrastructure that you would like to highlight (e.g., workshop announcements, publications, reports, websites of interest, etc.), kindly send them in by the 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) and Karen Levleger, Kadastre (Netherlands) for their contributions to this issue of the newsletter.

## SDI News, Links, Papers, Presentations

### [UN Partnership to improve early warning system for African communities at risk](#)

A new partnership involving the United Nations will ensure the rapid dissemination of weather updates from African meteorological experts to disaster managers in vulnerable communities. Pedro Basabe, the head of the UN International Strategy for Disaster Reduction (ISDR) Regional Office for Africa, announced in February that the UN's partnership with the African Centre of Meteorological Applications for Development would potentially help millions of Africans at risk from hunger and malnutrition. "The failure to mobilize an adequate and timely response to the food crisis on the Horn of Africa when the alarm was first raised 18 months ago has led to many unnecessary deaths," said Mr. Basabe. "This scenario is in danger of repeating itself across the Sahel this year where more than one million children are at risk of severe malnutrition and 10 million people face hunger," he warned. The Sahel has regularly been afflicted by food insecurity as drought, poor harvests and rising food prices have left the region on the brink of a humanitarian crisis. Last year, the UN Food and Agriculture Organization (FAO) reported that several areas of the Sahel had been affected by irregular rains during the 2011 cropping season and that an early end to the rains would



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lead to a significant drop in production and increased food insecurity. "We hope this new partnership between the UN International Strategy for Disaster Reduction (ISDR) and the African Centre of Meteorological Applications for Development will forge close links between the climate science community and disaster managers in Africa," Mr. Basabe stated, adding that the partnership would seek to establish a better understanding of early warnings and a more rapid response at local, national, regional and international levels. The partnership, announced at a forum on disaster risk management in Nairobi, comes two weeks before a major conference in Kigali, Rwanda, where the regional climate outlook for the crucial March to May 2012 rainy season will be presented.

## Wikipedia to be free on mobiles in Africa



Millions of people in Africa and the Middle East will be able to benefit from free, unlimited access to the online encyclopaedia Wikipedia through their mobile phone, starting later this year. The scheme targets the region's 70 million customers of the mobile network provider Orange, who will be given free access to Wikipedia on their internet-enabled 'smart' phones.

The deal struck between Orange and the Wikimedia Foundation, a non-profit organisation that operates Wikipedia, will allow Orange customers to read and download information from Wikipedia without the usual data usage charges. "Price is a strong barrier to people accessing the Internet, particularly in Africa," said Vanessa Clarke, spokesperson for Orange.

But the project will face several challenges, according to local experts. Catherine Ngahu, chair of the Kenya ICT Board, said few people in the region own a 'smart' phone that can connect to the internet. "In order to widen reach, Orange should consider marketing lower cost smart phones." Michael Njuku of the Kenya Revenue Authority said obstacles will range from low quality mobile handsets people own to a network provider's ability to handle the increased Internet traffic as customers try to access Wikipedia, sometimes millions at a time.

"Governments in Africa must also do more to ensure that poor quality counterfeit gadgets are not imported into their countries," he said. Clarke said the scheme will be rolled out in mid-2012, initially in about eight countries, and by December some 20 countries will benefit. She said between seven and 15 per cent of Orange customers in Africa and the Middle East currently have phones that access the Internet, but the company plans to increase the proportion to 50 per cent by 2015. Kul Wadhwa, head of Mobile and Business Development at the Wikimedia Foundation, said he expects the scheme to encourage more people in Africa to read, contribute and download information from Wikipedia.

Wikipedia is the world's largest online encyclopaedia, maintained by a global community of volunteers. It contains explanations of many scientific terms and issues, and some have suggested [it could be used to share scientific knowledge](#). More mobile network operators are expected to follow suit in the coming months, according to Wadhwa.

## Africa Calling – Renewed international attention



Africa has truly come of age. The second largest continent is witnessing renewed international attention, this time for all the right reasons. Increased economic growth, reduced conflict, expanded political liberalization and substantial improvements in governance are just a few indicators of its emergence on the world scene.

With development, demand for better transport, infrastructure, food, education and governance is increasing manifold, compelling nations to re-prioritize national development strategies - auguring a radical change in mindset. Information technology is being recognized as an enabling tool, with geospatial data at the core of development. At the forefront of this new geospatial momentum are several regional and multilateral organisations, professional bodies and national mapping and remote sensing organisations. These include the United Nations Economic Commission for Africa (ECA), Regional Centre for Mapping of Resources for Development (RCMRD), Regional Centre for Training in Aerospace Surveys (RECTAS) and African Regional Centre for Space Science and Technology Education in English (ARCSSTE-E). Moving further from where we left the African geospatial scenario in July 2009 edition of GIS Development, this article identifies the reasons for Africa's new-found charm, major business drivers for geospatial industry, challenges and directions ahead.



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

A great momentum is being created by the African Geodetic Reference Frame (AFREF) which aims to build a unified geodetic reference frame for the entire continent. This also aims to serve as the basis for national and regional 3-dimensional reference networks. Emphasising on the increased interest in African land market, Bryn Fosburgh, Vice-President, Executive Committee Member, Trimble says, "There are a variety of geospatial activities centered around land reforms and land information in Africa today. GIS coupled with GNSS technologies are helping build land information and directly contributing to the geospatial market. Read more...

### [Gates foundation grants USD 10 mn for Africa Monitoring System](#)



The Bill and Melinda Gates Foundation announced a three-year USD 10 million grant to Conservation International for the creation of the Africa Monitoring System (AMS). This tracking and diagnostic system aims at increasing food security and decreasing environmental degradation. AMS will be co-led by Conservation International, the Council for Scientific and Industrial Research (CSIR) in South Africa and the Earth Institute (EI), Columbia University. The system focuses on agricultural productivity as a means to assure food security, and to meet the growing global need for food.

Bill Gates, co-chair of the Bill & Melinda Gates Foundation said, "Investments in agriculture are the best weapons against hunger and poverty, and they have made life better for billions of people. The international agriculture community needs to be more innovative, coordinated and focused to really be effective in helping poor farmers grow more. If we can do that, we can dramatically reduce suffering, and build self-sufficiency."

The AMS will provide tools to ensure that agricultural development does not degrade natural systems and the services they provide, especially for smallholder farmers. It will also fill a critical unmet need for integrating measurements of agriculture, ecosystem services and human well-being by pooling near real-time and multi-scale data into an open-access online dashboard that policy makers will be able to freely use and customize to inform smart decision making. The raw data will be fully accessible and synthesized into six simple holistic indicators that communicate diagnostic information about complex agro-ecosystems, such as: availability of clean water, the resilience of crop production to climate variability or the resilience of ecosystem services and livelihoods to changes in the agricultural system. The integrated monitoring system will be deployed in Tanzania, Ghana, Ethiopia, and two countries yet to be announced. Africa is the first of a three-phase process over the next 10-15 years to create an Integrated Global Monitoring System for Agriculture, Ecosystem Services and Human Well-Being. Source: [Conservation International](#).

### [Science and technology seen as tools for innovative development in Africa](#)

President Obama wants to accelerate progress in international development, announcing a package of initiatives and partnerships on February 8 that will apply new creativity and innovation to the challenges of the future: food security, climate change, energy and environmental sustainability. At a White House meeting involving government and private sector leaders, plans were unveiled to draw universities, technology companies, patent regulators and other groups into development endeavors. "A core part of my global development strategy is harnessing the creativity and innovation of all sectors of our society to make progress that none can achieve alone," said President Obama. "The new collaborations we're launching will help save lives from hunger and disease, lift people from poverty and reaffirm America's enduring commitment to the dignity and potential of every human being."

A White House February 8 fact sheet explained the various development initiatives stretching across multiple fields: academia, science, regulation and business:



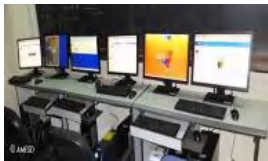
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- USAID will join universities in a new partnership to "focus the next generation of problem solvers on development's most vexing challenges".
- The U.S. Patent and Trademark Office will run a competition called Patents for Humanity. The winners will be rewarded with express treatment of their applications as they are considered by the patent office.
- The Lawrence Berkeley National Laboratory will team up with existing international humanitarian organizations to develop and deploy technologies that can help address global poverty and associated problems.
- The U.S. Department of Agriculture is beginning a partnership with the Centre for Agricultural Bioscience International (CABI) to provide better information to reduce crop losses and improve yields. CABI's Plantwise program maintains a global knowledge bank on crops, pests and diseases, and it has "plant doctors" working at more than 180 plant clinics that tap this information to improve harvests for developing world farmers.
- The National Institutes of Health is developing a free online database of health and disease information, working with private sector interests and international organizations.

These initiatives will be making use of a problem-solving strategy that USAID's Dehgan calls "open innovation," pulling in experts from many fields "to be as creative as possible and look at all possible solutions of how do we address this problem together." Further Grand Challenges are being planned for 2012 to focus on the problems of energy, education, agriculture and groundwater.

### MESA: A leap forward for earth observation applications in Africa



The African Monitoring of Environment for Sustainable Development (AMESD) program will come to an end in June 2013. A new €37 million program - 'Monitoring of Environment and Security in Africa (MESA)' will bridge AMESD with the follow-up 'Global Monitoring for Environment and Security (GMES)' Initiative. The implementation of MESA will start in 2013 and run until 2018. Since its inception in 2007, the AMESD program has taken the Preparation for the Use of Meteosat

Second Generation in Africa (PUMA) a step forward by extending the use of Earth observation technologies and data to environment and climate monitoring applications. MESA, likewise, will build on the results of AMESD to address the needs for improved management of natural resources and environmental security towards sustainable development in Africa, at continental, regional and national levels, including all Sub-Saharan African countries.

This will be achieved by providing infrastructural support, including upgrading and maintenance of receiving stations and information and data management. MESA will also consolidate and further develop information services in the thematic areas that are addressed by AMESD, with the inclusion of new thematic areas such as climate services and forest information. Promotion of cross-fertilisation of environmental monitoring services and applications among the five partner regions will be one of the main objectives of MESA. In addition, strengthening of policy development frameworks and capacity building are key components of the program. Monitoring of soil and water conditions for agriculture, tracking forest degradation and desertification, providing information to policy and decision makers in order to lessen and/or adapt to effects of climate change and reducing the risks of natural and human made disasters, for example, are all areas where MESA will bring added value.

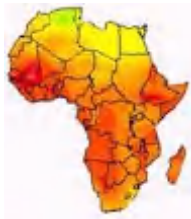
MESA is funded by the 10th European Development Fund (EDF). It was formally approved by the EDF Committee in December 2011. The program will be implemented under the coordination of the African Union Commission, which has been delegated by 5 regional economic communities (CEMAC, ECOWAS, IGAD, IOC & SADC) and by the African Caribbean and Pacific Secretariat to act on their behalf as Delegated Regional Authorising Officer. The EU Delegation to the African Union is the lead delegation for the management of the program.

### The use of space based data and information is one of the key pillars of ICPAC's strategic plan



Professor Laban Ogallo, Director of IGAD Climate Prediction and Applications Centre (ICPAC), based in Nairobi, Kenya, shares his view on the importance of AMESD program from national and regional perspectives. ICPAC, which functions in the IGAD region, is one of the five AMESD Regional Implementation Centres (RICs) in Africa

*What are the roles and challenges of ICPAC towards mitigating the major climatic/environmental challenges in the region?* - ICPAC provides timely climate early warning information for the mitigation of adverse impacts of climate variability and climate change. It develops an improved, pro-



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active, timely and broad-based system of climatic and environmental information at both regional and national levels through its national partners. It also attempts to maintain quality-controlled databases and information systems which are required for risk and vulnerability assessment, mapping of hazards and climate change impacts. General support is also provided to the national and regional disaster risk reduction and climate change adaptation strategies. The major challenge that ICPAC faces in implementing its objectives is the fact that national partners have limited technical and human capacity. Also, unreliable and inadequate telecommunications network and infrastructure in the IGAD region, and limited understanding by policy makers on the linkage between climate variability/change and development affects the efficient utilization of its products.

*What is the importance of having updated environmental data at institutional level to mitigate the environmental challenges in the region?* - ICPAC, being one of the Regional Implementing Centres (RICs) in Africa see the importance of having updated environmental data (EO/ancillary data of AMESD) as a way for understanding the underlying processes, mapping of the available resources and changing patterns. It also helps to identify causes of any changing patterns which are critical information for sustainable planning and management of the regional resources.

*What types of measures are being taken in terms of integrating the data into policy measures at national and regional levels?*- ICPAC plans to distribute AMESD services and products to research institutions, universities, policy-makers, internal and external partners as well as environmental experts after undertaking user needs assessments to package the products and services targeted specifically to the champion users. The use of space based data and information is one of the key pillars of ICPAC's strategic plan. The actions ICPAC plans to take to integrate the data into policy measures at national and regional levels will include raising awareness among the policy makers and simplifying the products to the levels that could facilitate actions.

*Where do you see ICPAC in the Future?* - ICPAC is at an important stage to take key steps towards fulfilling its vision of becoming a regional centre of excellence for climate risk reduction for sustainable development in Eastern Africa. This will caution the region against the adverse impacts of present climate extremes and enhance adaptation to the threats of future climate risks and the underlying monitoring of natural resources.

### Red Cross warns of prolonged drought in Eastern Uganda

Although officials from the weather department have predicted rainy days beginning March, the Uganda Red Cross Society (URCS) has instead warned of a prolonged drought in areas of eastern Uganda. The warning came as the organisation launched an emergency appeal for more aid for families recovering from floods and mudslides in Bulambuli, Sironko and Kween districts.

The Red Cross Secretary Patrick Nataka said poor harvests caused by drought and floods compounded by rising prices, have reduced the availability of food for many families, especially those that were displaced by floods and landslides and are sheltering in people's homes. He revealed that although research showed the number of people facing shortage of food increased from 2,000 to 4,000 families, the organisation predicts the figure could reach 6,000 by March, unless action is taken. "The crisis is already there and we must act now before it deteriorates like we saw in Somalia. Our people need help because the drought is on and might go on until late March," Mr Nataka said. The head of communications, Ms Catherine Ntabadde, said the communities receiving aid are those that did not receive support in 2011 when calamity befell their areas due to limited resources. She said URCS supported 10,741 households, with each receiving a tarpaulin, jerrycans, saucepans, plates, cups, mosquito nets, blankets and sachets of aqua tablets to purify the water for drinking.

### East Africa should be prepared for further food insecurity - Weather forecasters



East Africa, still battling a hunger crisis, should be prepared for another dry spell and further food insecurity due to the persistence of La-Nina weather conditions that last year brought severe drought to the region, weather forecasters have warned. "La Nina conditions are expected to persist until March to May 2012," the World Meteorological Office said on its website on Sunday.

March to May is the main 'long rains' season for the region, which farmers and livestock herders depend upon for crops and pasture to grow and for water sources to replenish. "Given extreme food insecurity during 2011 and the possibility of a poor March-May season in the eastern Horn of Africa, humanitarian partners should prepare contingency plans that could quickly address any disruptions to crop/livestock production and household



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food access that may occur," said the Famine Early Warning Systems Network in its latest update. Some 13 million people in the Horn of Africa went hungry last year after severe drought hit the region.

There has been a weak-to-moderate La Nina, a phenomenon causing a cooling of the Pacific Ocean - from October and it is currently near its maximum strength, WMO said. However, historical precedence and forecast models suggest this La Nina is weaker than the 2010-2011 event, it added. FEWSNET describes the probability of below-normal rainfall as "moderate". "There may also be a delay in the onset of the rains," it said. Crops that take several months to mature - such as Kenya's staple food, maize - do not do well when rains are late. Read more at [AlertNet Climate](#), the Thomson Reuters Foundation's daily news website on the human impacts of climate change.

### Fears of volcanic eruption allayed in Mount Cameroon



Inhabitants of the South West Regional capital, Buea, are recovering from fears of another volcanic eruption ignited in February by tourists' reports. Scientists of the Antenna for Geophysical and Volcanological Research, ARGV, have confirmed what they described as "an anomalous earthquake at 12:02 am local time on Saturday February 4 with a magnitude of about 2 on the Richter scale."

News of the tremor reached the scientists at 10:00 am, February 4, 2012, from a member of the public that there was an explosion at the Hut II area of Mount Cameroon. In effect, some guides, porters and tourists who were just returning

from the mountain, reported to one Simon Gobina that their trip had been prematurely terminated due to an explosive phenomenon they experienced. The 4th February incident followed yet earlier ones reported on 31st January and 1st February 2012 of the occurrence of some "low magnitude but felt earthquakes on Mount Cameroon." Speaking to the press, the Permanent Secretary in the South West Governor's office, Handerson Quetong Kongeh, advised Buea residents to continue with their normal activities. Although Mount Cameroon remains an active volcano, he explained, scientists' reports on the 4th February incident had called for no alarm as the tremors were weak, low and harmless.

Speaking to Cameroon Tribune on 8th February, the South West Regional Chief of Centre for Research and Innovation, Mrs. Sama Anne Eyango, explained that minor tremors such as the one reported on 4th February were a regular occurrence in Buea due to the activity of the volcanic Mount Cameroon. Meanwhile, a Buea-based researcher and consultant on risk management, Nana Celestin, have warned against haphazard buildings being erected in Buea. He recommends wooden houses as suitable for a tremor area like Buea. Nana, who said he had carried out a far-reaching research in collaboration with the European Union to determine the vulnerability and resilience of Buea residents in the face of any potential volcanic occurrence, came out with the finding that road outlets for quick evacuation and sensitisation are primordial to environmental risk management.

### Software apps for African farmers win prizes

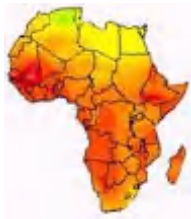


The increasing use of software applications (widely known as apps) in solving Africans' problems has been highlighted by the three winning entries of the Apps4Africa: Climate Challenge contest. The regional competition encourages participants to address local climate change challenges through the development of web-based and mobile applications in the East African region.

The first prize, worth US\$15,000, was awarded to Grainy Bunch, a national supply chain management system which monitors the purchase, storage, distribution and consumption of grain across Tanzania. It was followed by the Mkulima Calculator team

from Kenya, who won US\$7,000 for an application designed to help farmers know when to plant crops and how to select suitable crops for a particular location using climate and weather data. Agro Universe, a mobile and web-based application from Uganda, took the third prize of US\$3,000.

The design of apps is flourishing as more Africans enter the middle classes, said Jonathan Gosier, co-founder of metaLayer Inc, a US-based company that develops apps and application programme interface products. "There's a great deal of significance in the market being created. "Local apps developers are building solutions for the local mass market, who in turn are purchasing these apps and services. This is creating an ecosystem. This would be significant for Africa, as it creates jobs and local content, which allows them to represent themselves online," he said. Gosier added that many young people were now solving problems using apps: "This generation of Africans will build an app that demands their governments come to their villages and fill holes".



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Elisha Bwatuti, Mkulima Calculator project manager, said that his team made their app as user-friendly as possible and hoped that uptake would be successful. He added that the team plans to use the prize money to develop further apps, for example to alert farmers about when to apply various chemicals and to recommend good farming practices. But team member William Nguru said they are facing some challenges, especially funding. "We are still at university, hence we cannot work on applications full time, collect the data to feed into the system and get it to the farmers," he added.

Linda Kwamboka, data collection and integrity officer with the Nairobi based M-Farm, software and Agribusiness Company set up by women entrepreneurs, said information on weather patterns and what to plant in a particular region is useful, because farmers experience huge losses when they plant in regions that are not conducive for their crops. The winners of the contest, which was supported by the US Department of State, were announced on 14 January 2012.

### [Hi-tech solution to curb rhino poaching in South Africa](#)



Wildlife ACT, a South African conservation company; and Stone Holdings, a security design company; formed a partnership, known as Dicerus. The partnership aims to unveil a technological solution to the poaching surge in the region. As part of the partnership, to curb the menace of rhino poaching in South Africa, Wildlife Act will use radar technology used by the US military, visual and thermal cameras, perimeter detection devices, communications interceptors, unmanned aerial vehicles and unmanned ground sensors.

Leslie Steenkamp, Director, Stone Holdings, said, "It is not like a normal house alarm. We are not interfering with the animal, but keeping the environment around it sterile and using hi-tech equipment to do that." Adding further, Steenkamp stated that the technology could detect humans, vehicles and "even pick up a snare". But such equipment will not come cheap. Dr Simon Morgan, a founding member of Wildlife ACT said, "You are not going to be about to protect an area without putting in resources. It is in the millions (of rand), not thousands." A number of factors determined the cost of the system, Dr Morgan explained. These included the size of the reserve, the terrain - for example, if the landscape was hilly, it would not be possible to use radar - and whether there was a common boundary with another reserve using the technology. However, Dr Morgan highlighted that anti-rhino poaching was not the only application of this system. "Everyone is focusing on rhino, which is important and a key factor, but people aren't aware of the bush meat trade, and we're also losing other game as well, vultures, cheetahs, wild dogs. It's completely unsustainable." He said it could also be used on coastal lines to stop abalone poaching and secure farms. "This technology exists, we just need to implement it." Source: [African Conservation Foundation](#).

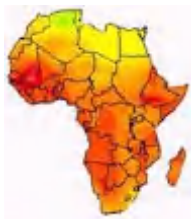
### [Mapping community conserved areas in the Kenya coast](#)



The East African Wildlife Society recently undertook a four day exercise to map out the Community Conserved Areas (CCAs) within the Shimoni, Mkwiro, Wasini, Kibuyuni, Majoreni, Jimbi and Vanga areas in the south coast of Kenya for the purpose of development of resource management plans. The development of Community Conservation Area (CCAs) Management Plans is considered a core component for the success of the Darwin Initiative Project being implemented by the EAWLS Marine Programme since 2009.

The project's objective is to incorporate improvement of the livelihoods of local people in the conservation of the marine resources. This part of the project is being carried out with guidance from, Dr. Stephen Mangi, a consultant from the UK, together with the local communities. A series of consultative meetings have been held where Dr. Mangi was introduced and his purpose in the project explained to the communities. The meetings emphasized that the management plans are for the people and they are transparent, free and fair. On the recently concluded CCA mapping, the level of participation and guidelines received from the community was refreshing as they outlined the areas for various activities and management methods. In the spirit of co-management of marine resources, participation and collaboration of relevant stakeholders from the public and government sector, communities and the private sector have been maximized. The management plan will outline the activities acceptable at the outlined areas.

It is expected that the management and use of the CCAs will be outlined in the management plans for the purpose of community empowerment and education on sustainable management of their resources, with clearly defined methods. This should reduce pressure on the marine ecosystem. The recent enactment of government policy measures to provide for more community driven initiatives for sustainable management of



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coastal and marine resources and build community capacity for sustainable coastal and marine resource conservation is indeed a morale booster for this initiative.

### Pilot phase of the National Geomatic Plan Gabon: Results of projects presented



The IGN France International presented the main results of the work conducted between April and December, 2011 at the occasion of a final seminar. This seminar was held on 6th December, 2011 in Libreville and brought together around 60 representatives, most of whom were general managers and permanent secretaries from the main ministries, all in the presence of Emmanuel Issozet, Minister of the Budget and Madame Yolande Nyonda, Permanent Secretary of the Budget.

Chosen to carry out the diagnosis and the pilot phase, IGN France International presented the main results of the work at a final seminar. Yves Fernand Manfoumbi, general manager of the Budget (DGB), organisation in charge of this initiation phase and Alex Bongo Ondimba, National Agency of digital infrastructure and frequencies (ANINF) general manager, the organisation in charge of the implementation phase on a national scale, directed the discussions.

A true management tool, the National Geomatic Plan contributes to:

- Standardising the spatial data that is produced and making it interoperable
- Establishing common rules for the different administrations, in terms of shared costs and responsibilities
- Developing data infrastructures and tools to promote the sharing and exchange of information
- Avoiding the duplication of data
- Providing the skills necessary for the animation of the infrastructure and its sustainability once it is implemented

It covers a broad scope that includes the following institutional aspects (creation of decision-making and coordination organisms, definition of the missions of organisms that produce and distribute geographic information...), human aspects (training of personnel, support for Ministries in the use of geomatic tools...) and technical aspects (implementation of an infrastructure for the production, cataloguing and distribution of geographic information, data acquisition and definition of a coherent spatial reference system...).

The goal of the final seminar was to present the representatives of the main Ministries with the stakes of the NGP and the results of the 4 pilot projects, along with leading companies, in the fields of agriculture ([ONF International](#)), health, road infrastructures (InfoGéoConseil) and water resources ([BRGM](#)).

The geographic information that is produced, stored, updated, exchanged, shared, enriched and exploited becomes critical to Gabon's economic development. Deployed at a national level, the NGP will provide administrations with services to promote decision-making and contribute to the development of synergies between the different sectorial ministries. It will allow for the planning of future investments, the stimulation of active projects and the assessment of the impact of the different public policies that are implemented. Read more... [Interview with the project manager of the NGP Gabon, the pilot projects, an article in Gabon Matin](#) (in French), [an article in Gabon Eco](#) (in French).

### AARSE 2012 International Conference, 29 October- 2 November 2012, El Jadida, Morocco.



The Conference Theme: Earth Observation & Geo-information Sciences for Environment and Development in Africa: Global Vision and Local Action Synergy.

The 9th AARSE International Conference, AARSE 2012, on Earth Observation & Geo-information Sciences for Environment and Development in Africa: Global Vision and Local Action Synergy will be held in El Jadida, Morocco, at the Faculty of Science, Chouaib Douakkali University from October, 29 to November 2, 2012. The conference will be a major event in the African and international community of Earth observation and geo-spatial information science in 2012; organized by the African Association of Remote Sensing of the Environment (AARSE) and the Chouaib Douakkali University, Faculty of Sciences (CDU\_FS), in partnership with the International Islamic Organization for Education, Science and Culture (ISESCO) and the Moroccan Association of Remote Sensing of the Environment (MARSE).

Paper selection is based on abstract and full paper peer review following the guidelines provided in the "Call for Paper" document downloadable from the conference website: [www.aarse2012.org](http://www.aarse2012.org). Abstract submission opens on 2 January to 30 April 2012. Questions regarding abstracts should be e-mailed to [abstracts@aarse2012.org](mailto:abstracts@aarse2012.org).

- **AARSE AWARDS** - All presenters are invited and encouraged to enter the AARSE award-winning competition for best paper presentation and best poster.





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- **IEEE GRSS/AARSE TRAVEL FELLOWSHIPS** - To support travel costs, accommodation and registration fees to attend conferences of the two societies in the field of Earth observation by remote sensing. The beneficiaries of these conference fellowships shall be African scientists or students who have their paper accepted for oral or poster presentation at the AARSE biennial conference.

## **Seminar to promote NSDI: Awareness and sharing of experiences**, 3 April, 2012, Burkina Faso

IGN France International and the French IGN, in close cooperation with the Economic Commission for Africa and the Geographic Institute of Burkina Faso (IGB), will organise a regional seminar on April 3, 2012 in Ouagadougou (Burkina Faso), aiming to promote the sharing of experiences gathered from the implementation of such projects in Europe and Africa. The event will focus on the following theme: "National spatial data infrastructures: what is their added value for emerging countries?"

Speeches and presentations from financing organisms and institutional representatives will be featured among the exchanges. The Seminar is by invitation only. Contact: [alamendour@ignfi.fr](mailto:alamendour@ignfi.fr). Source: Kate Lance.

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

### Queensland introduces tool for real-time damage assessment



Queensland, Australia: The Queensland Reconstruction Authority introduced Damage Assessment and Reconstruction Monitoring system (DARMSys) for speedy damage assessments. The monitoring system involves the use of a GPS-linked data collection device that allows assessors to collect levels of damage to individual homes and buildings and then transfer that data in 'real-time' to a central mapping point. This real time tracking system has enabled the

collection of up to the minute damage assessments of Mitchell, Roma and St George following flooding in February 2012.

The system was introduced as a successful pilot program in April 2011. The Queensland reconstruction authority has been using this portable device to travel street-by-street and house-by-house through flood and cyclone-affected communities to identify where the greatest needs exist. Pilots were conducted in Brisbane, Ipswich, Roma, Emerald, Hinchinbrook and along the Cassowary Coast. DARMSys is a recognised resilience building system that will help Queensland better prepare for any future natural disaster events. has been recognised by the World Bank as having played an instrumental role in enabling Queensland to recover quickly from last summer's natural disasters. Source: [Queensland Govt.](#)

### High temperatures 'make wheat old before its time'

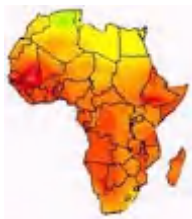


The effects of warming on wheat growth and grain size are far worse than previous crop models indicated, David Lobell, assistant professor in environmental earth system science at Stanford University, United States, and colleagues wrote in Nature Climate Change on 29 January 2012. Lobell's team used nine years of satellite measurements of wheat growth in northern India's Indo-Gangetic Plains to analyse rates of wheat ageing after exposure to temperatures higher than 34 degrees Celsius.

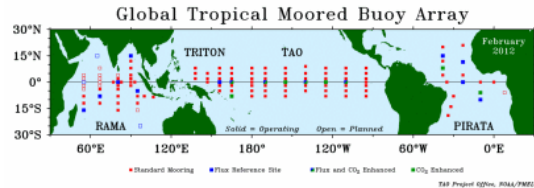
Wheat thrives in relatively cool temperatures and therefore farmers across the world tend to sow the crop in late autumn or early winter, and harvest it before early summer - meaning that the grains form when temperatures are hottest. But higher temperatures are known to reduce both the number of wheat grains and their size. Now scientists have found that temperatures above 30 degrees Celsius affects the mechanism responsible for preparing food for the plant, which in turn causes early ageing and limits how much the grains can grow. The satellite data showed that variations in wheat yield in India could be attributed to these temperature effects. For example, a sudden rise in temperature in 2010 caused wheat plants to mature too early, reducing yields. The researchers calculated that, if models took their findings into account, they would add an extra 50 per cent loss in wheat yields for each two degree rise at some times of the year. "The effectiveness of adaptations will depend on how well they reduce crop sensitivity to very hot days," they wrote.

Whether the results would be replicated in other wheat-growing areas remains to be seen, they added. Gulzar Singh, a senior scientist at the Sher-e-Kashmir University of Agricultural Science and Technology, Srinagar, told SciDev.Net: [Link to paper in Nature Climate Change.](#)

### Time to stop losing ocean data to vandalism



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The global community relies on a rapidly expanding ocean observing network to understand the climate and ecosystems, to help warn against ocean-borne hazards such as tsunamis and storm surges caused by cyclones, and to support sea rescue missions.

Sensors attached to moored or drifting buoys gather meteorological and oceanographic data and transmit them in real time, via satellite, to scientific and operational

communities across the world. For example, the Global Tropical Moored Buoy Array (GT MBA) provides real-time data for climate research and forecasting. Its major components - including the TAO/TRITON array in the Pacific - monitor a range of phenomena including the El Niño/Southern Oscillation (ENSO) in the Pacific, hurricane activity in the Atlantic, and monsoons in the Indian Ocean.

But all types of moored ocean data buoys are increasingly at risk of damage - whether deliberate vandalism or through negligence. At its worst, vandalism and damage threatens the very sustainability of some major observation networks, or substantial parts of them. It pushes up operating costs and, crucially, it erodes the value and community benefit that monitoring equipment provides through scientific knowledge.

Vandalism and negligent damage takes many forms. It includes routine ship collisions, damage from fishing lines, nets or cables, and direct exploitation of moorings such as fish aggregation devices. Damage is most common in the Indian Ocean. Over half of the 36 tsunami moorings in the newly established Indian Ocean Tsunami Warning System and adjacent seas network were damaged over a period of four years. Over a 9-month period in 2008, 18 TAO stations in the Tropical Pacific went offline due of vandalism. Restoring them cost more than \$1 million.

And in the Indian Ocean, tsunameter (equipment used to detect tsunamis) networks have suffered over 30 vandalism incidents in four years, affecting over half the stations at a cost of over US\$3.5 million. Wherever the damage occurs, it multiplies the budget needed to maintain these systems. Not only that, crucial data are lost to both early warning systems and longer term climate research. In turn, this downgrades weather and marine forecast capabilities, makes tsunami warning systems less reliable and undermines confidence in them. The result could be significant loss of life and property as well as costly evacuations in response to false tsunami warnings. This article is part of a [Spotlight](#) on [Ocean science for sustainable development](#).

## GIS Tools, Software, Data

### [Support community mapping for climate adaptation](#)



Climate change affects virtually all of the natural systems necessary for human survival. It has implications for water supply, food production, health and physical security. Climate impacts will vary from region to region, so planning for adaptation must be context specific, often local. The scale of potential impacts is vast, and nations are already hard-pressed to find the resources they need to respond.

Maps can be used to organise and convey complex information in a way that supports assessments of vulnerability in areas threatened by climate change. Several networks support community mapping, with tools ranging from paper maps to balloon and kite mapping using digital cameras, desktop software and global positioning system (GPS)

technology. They focus on grassroots innovation, giving communities and local authorities the latest data and fresh perspectives for planning.

- [www.PPgis.net](http://www.PPgis.net) is an open forum on participatory geographic information systems (GIS) and technologies. The Public Laboratory for Open Technology and Science, and its sister group, Grassroots Mapping, build on the ethos of the software movement. Open-source GIS software is a valuable tool because it is widely available and accessible to communities. A concerted effort to train more people to use it would help to overcome a potential barrier to effective participatory mapping: the extraordinarily high costs of licenses for commercially available GIS products, which puts them beyond the reach of most communities.
- Data Basin is a free online service that allows scientists, planners and stakeholder groups to collaborate, explore and share data, and produce customized maps.
- TerraLook, a tool developed by the US space agency NASA and the US Geological Survey, provides free remote sensing imagery and simple tools that can be used to view and manipulate the images.

Using these tools, communities can map their resources and compare them with a range of existing climate models to develop scenarios, assess risks and develop their own response strategies. A farming community



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can learn how droughts and floods could affect their land, for example, and coastal communities can plot the extent of expected sea-level rise and storm surges. Government satellite data providers should do more to share Earth observations in accessible formats at little or no cost, building on the example of TerraLook. Clearinghouses could also be set up to provide low-cost, high-quality data and tools. Financial and technical support for such initiatives in the developing world could come from adaptation funds being established by multilateral financial institutions, as well as bilateral donors.

### [List of primary geospatial data repositories for the humanitarian sector](#)

Dr. Karen Payne, from the Carl Vinson Institute of Government in Athens, GA (USA), as part of a paper she wrote had compiled a list of data repositories that others may find useful. The list (<http://bit.ly/oiJMI5>) is designed to point to free downloadable primary geographic datasets useful in humanitarian response - it includes some cross over into environmental data, but is designed for the humanitarian sector. The repositories are grouped according to the tabs at the bottom of the sheet. This is the first draft of the compilation - the list is openly editable and Karen encourages correction and additions, especially at the country level. Contact: Dr. Karen Payne, Humanitarian Programs, Carl Vinson Institute of Government. skype: karenpayne1. <https://gistdata.itos.uga.edu>. 1180 East Broad Street | Athens, GA 30602, Phone: 706-542-7766 | Fax: 706-542-6535. Email: [kpayne@itos.uga.edu](mailto:kpayne@itos.uga.edu), [www.vinsoninstitute.org](http://www.vinsoninstitute.org). Source: Kate Lance.

### [Regional Centre for Mapping of Resources for Development data centre](#)

The RCMRD Data Centre has a large Landsat Data Archive, dating back to 1972, for all African Countries. It is also a Reseller Agent in Africa for Digital Globe for QuickBird and WorldView 1/2 High-Resolution Satellite imagery. The Centre also supplies data from GeoEye (GeoEye 1/2, Ikonos & Orbview Imagery), SPOT Image (SPOT 2.5m, SPOT 5m & SPOT 10m), USGS (Landsat MSS, Landsat TM & Landsat ETM+) amongst other active and passive satellite imagery products. Datasets for Africa archived at the Centre are available at subsidized rates. Other low resolution imagery datasets (90m SRTM, NOAA, MERIS, MODIS), scanned maps and vector data for Africa are also available.

The center in collaboration with European Space Agency (ESA) and EUMESAT has established a facility for direct satellite reception for MERIS, MODIS, NOAA and EUMESAT Second Generation Meteosat data. These datasets amongst others can be accessed online via: <http://www.rcmrd.org/geonetwork> or via email to [remote\\_sensing@rcmrd.org](mailto:remote_sensing@rcmrd.org).

### 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).

### [Postgraduate Certificate in Ocean Bathymetry, University of New Hampshire, USA \(2012-2013\)](#)

The Nippon Foundation of Japan has provided funding for General Bathymetric Chart of the Oceans (GEBCO) to train a new generation of scientists and hydrographers in ocean bathymetry. The 12-month course, leading to a Postgraduate Certificate in Ocean Bathymetry (PCOB), has been held at the University of New Hampshire, USA, since 2004. Applications are now sought for entry onto the course, starting in August 2012 ([http://www.gebco.net/training/training\\_project/index.html](http://www.gebco.net/training/training_project/index.html)).

Students for the PCOB will be selected by a competitive application process. The minimum qualifications for acceptance:

- Four year undergraduate degree in a related science or engineering discipline, and
- Proof of ability to successfully complete graduate level courses conducted in English.

The selection process will aim at choosing candidates from a wide geographic distribution of coastal countries. Find out more about the course and [how to apply](#). The closing date for applications: 31 March 2012.



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## Spatial databases course with PostGIS

Spatial databases with PostGIS presented by Continued Education at the University of Pretoria, South Africa ([www.ceatup.com](http://www.ceatup.com)). This course provides a practical introduction to PostgreSQL with PostGIS, covering the following major themes of spatial databases: installing and configuring PostGIS, viewing PostGIS data in a desktop GIS, spatial SQL queries, spatial joins and spatial indexing. Although the theory is explained, most of the time during the course will be spent on practical examples, ensuring that delegates understand how to view spatial data, query spatial databases, etc. The course aims to equip the delegates with the necessary skills and knowledge to use spatial databases in the daily operations of their respective jobs. The course is presented on Mondays over a period of five weeks. Full-day attendance on campus for five days for eight hours each day is required. The course covers the following topics:

- Object-relational databases with PostgreSQL
- Spatial databases with PostGIS
- Manipulate and query spatial databases with SQL
- Configuring PostgreSQL and PostGIS for spatial data
- WHO SHOULD ATTEND

The course is aimed at people working in the GIS industry who want to use PostGIS spatial databases in their work. A basic knowledge of GIS is required. The University of Pretoria is an accredited higher education provider. Three CPD points will be obtained for successful completion of the course. Contact: [mickaele.ce@up.ac.za](mailto:mickaele.ce@up.ac.za). Course Leader, Dr Serena Coetzee, Tel: +27 12 420 3823, E-mail: [serena.coetzee@up.ac.za](mailto:serena.coetzee@up.ac.za).

## **Short courses by Continued Education**

Courses presented in 2012 by Continued Education at UP ([www.ceatup.com](http://www.ceatup.com)) and the Centre for Geoinformation Science ([www.up.ac.za/cgis](http://www.up.ac.za/cgis)) on the main campus of the University of Pretoria, in Pretoria, South Africa. Enquiries and registration: Mickaele Jenkins [mickaele.ce@up.ac.za](mailto:mickaele.ce@up.ac.za).

- Certificate Programme in Introductory GIS - 8 February to 8 June 2012
- Certificate Course in Advanced GIS - 8 February to 26 October 2012
- Short course in Spatial databases with PostGIS - 12, 19, 20 and 26 March and 2 April 2012
- Introduction to GIS Standards - 10 and 17 September

## Call for application for postgraduate diploma in applied Geo-Information

The National University of Rwanda through its centre for GIS and Remote Sensing (CGIS-NUR) wishes to call for 2012 intake application for its Postgraduate Diploma Programme in Applied Geographic Information Science: Geographic Information System, Remote Sensing, and their various applications.

Further information, keep visiting us on websites: [www.nur.ac.rw](http://www.nur.ac.rw) and [www.cgisnur.org](http://www.cgisnur.org). The program is run at Kigali or Butare, as evening or day program depending on the availability of students. All about postgraduate diploma programme or guidelines for filling and submitting the application information is available on: <http://www.nur.ac.rw/spip.php?article30>.

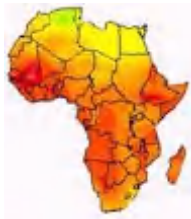
## Institute for Capacity Development: 2012 Training Workshops

The training courses are held in Namibia (Head Office); South Africa and Zimbabwe. For the past years, ICD has been conducting international capacity building workshops for national, provincial and local officials, elected representatives, members of boards, personnel of projects as well as bilateral & multilateral agencies. A large number of high profile persons have participated in the programmes in the past and you are welcomed to one or more of the [upcoming programmes in 2012](#).

For the full [2012 training calendars](#) or check out the website on [www.icdtraining.com](http://www.icdtraining.com). Institutions sending at least 5 participants qualify for group discounts. Contact Mr. Kenias on [coordinator@icdtraining.com](mailto:coordinator@icdtraining.com).

## ESRI Technical Certification

ESRI has set the industry standard for GIS technology and is now establishing benchmark standards for individuals who use Esri software with the recently launched Esri Technical Certification Program. The ESRI Technical Certification Program recognizes qualified individuals who are proficient in best practices for using Esri software and are awarded in different areas of expertise at both an Associate and Professional level. The program is open to ESRI users worldwide and consists of 13 certifications recognizing expertise in desktop, developer, or enterprise use of ArcGIS. Users achieve certification by successfully completing



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computer-based examinations, which are offered in more than 5,000 testing locations in 165 countries. Beginning in January 2011, users will be able to test for five certifications. The remaining eight are still in development and will be available later in the year. Establishing an industry recognized benchmark of expertise in using ESRI software will:

- Improve success with GIS by creating a community of professionals proficient in using ESRI software.
- Help organizations maximize their investment in ESRI products by employing a workforce certified in using best practices.
- Create professional development opportunities.
- Provide an opportunity for individuals, partners, consultants, and other organizations to distinguish themselves among their peers.
- Assist hiring organizations in assessing candidate skills and abilities.
- Workplace experience, combined with GIS education and ESRI training courses, is the best preparation.

The ESRI Technical Certification Web site lists specific skills that will be assessed in each exam, as well as training courses that aid in acquiring and improving these skills. ESRI is available to advise you on the best training for a particular certification and also offer you the training that you need to prepare for your certification. [Read more..](#)

### [ESRI South Africa presents a full spectrum of GIS courses: March 2012](#)



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

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

### [GIS and Remote Sensing courses at Esri Eastern Africa](#)

ESRI Eastern Africa is now offering update courses to conform to improvements in ArcGIS 10 and ENVI 4.8, conducted with skilled and experienced instructors together with conducive and state-of-the-art training facilities. Courses in the following tracks are offered:

- Fundamentals of ArcGIS Desktop
- Data and Map Production
- Geoprocessing and Analysis
- Enterprise GIS
- Multi-user Geodatabases
- Remote Sensing

Make plans and take advantage of the courses offered at the Authorized Learning Centre in Nairobi, Kenya. Arrangements can also be made for client's site training on request for 12-16 students. Download our course catalogue and current class schedule at <http://www.esriea.co.ke/index.php/instructor-led-training>. To register, visit <http://esrietraining.cloudapp.net/>. For more information, contact by email: [training@esriea.co.ke](mailto:training@esriea.co.ke), telephone: +254 20 2713630/1/2 or visit the offices located on 3rd floor, KUSCCO Centre, Kilimanjaro Avenue, Upper Hill, Nairobi, Kenya.

### **University of Twente - ITC Faculty of Geo-Information and Earth Observation: Registration for courses (2012-13)**



Faculty of Geo-Information Science and Earth Observation

UNIVERSITY OF TWENTE

Apply online for courses starting in the academic year 2012-2013. Browse by programme (degree, diploma, and certificate), course domain (disaster management, earth sciences, geoinformatics, governance, land administration, natural resources, urban planning and water resources) or location in the course finder at [www.itc.nl/CourseFinder](http://www.itc.nl/CourseFinder). For printed copy of the study brochure, email: [alumni@itc.nl](mailto:alumni@itc.nl).

### [Short-courses offered by RECTAS](#), Ile-Ife, Nigeria



The [Regional Centre for Training in Aerospace Surveys \(RECTAS\)](#) is offering a number of three-week courses. Also note that RECTAS is able to package and deliver customised training for interested 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).



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## RCMRD - Courses offered by the department of Remote Sensing, GIS and Mapping



The Centre offers the following courses in geo-information. The courses last between one week to three months, and offered through out the year.

- Introduction to Remote Sensing & Image Processing
- Introduction to Geographic Information Systems (GIS)
- Introduction to Global Positioning Systems (GPS)
- Application of Remote Sensing & GIS in natural resources management.
- Application of Remote Sensing & GIS in Early Warning Systems for Food Security Application of RS & GIS in Disaster Risk Management
- Geospatial database development and management for use in planning process and decision making
- Principles of Digital Cartography
- Application of GPS technology in resource surveys and mapping
- Integrated Water Management
- Application of GIS in poverty mapping, health care & good governance
- Land Information Management Systems
- Service and Repair of Survey equipment

## Funding Opportunities, Awards, Support

### Applications for Climate Competition

The Apps for Climate Competition is sponsored by the World Bank. The competition encourages scientists, software developers, development practitioners and others to create applications (for instance, websites, mobile apps, Facebook apps, etc) that leverage open data to help address climate challenges in some way, with cash prizes for winning entries. The submission deadline is 16 March 2012, and winners will be announced in June. The competition is open to individuals, teams and organizations. More information, including criteria, official rules, and updates, is available at <http://worldbank.org/appsforclimate>. For any questions please contact Tim Herzog, Open Data Specialist, World Bank at [therzog1@worldbank.org](mailto:therzog1@worldbank.org), Tel: +1 (202) 473-1701.

### African Guest Researchers' Scholarship Programme 2013, Sweden

The aim of the scholarship is to provide opportunities for scholars to pursue their own research projects and to facilitate use of the Institute's library collections on contemporary Africa, and also to promote cooperation between Nordic and African researchers. The Guest Researchers' Scholarship Programme is directed at scholars in Africa engaged in research on/about the African continent and with a proven track record of extensive post-graduate research experience. Female researchers are especially encouraged to apply for this scholarship.

Applications are invited from scholars preferably with research projects related to current thematic research clusters at the Institute:

1. Rural and agrarian Change, Property and Resources
2. Conflict, Security and Democratic Transformation
3. Globalization, Trade and Regional Integration
4. Urban Dynamics

The Guest Researchers will stay at the Nordic Africa Institute in Uppsala, Sweden for two or three months. The scholarship includes a return air fare (economy class), accommodation, subsistence allowance, and a shared office equipped with computers/MS Word.

The deadline for application: 1 April 2012. For information about the clusters, please visit: [www.nai.uu.se/research/](http://www.nai.uu.se/research/). Inquiries should be directed to: [inga-britt.faris@nai.uu.se](mailto:inga-britt.faris@nai.uu.se).

### African Union Research Grant Program: Call for proposals 2012

The African Union Commission is seeking proposals for research focusing on the following thematic priorities articulated in Africa's Science and Technology Consolidated Plan of Action (CPA) and its Lighthouse Projects:

- 1) Post-harvest and Agriculture,
- 2) Renewable and Sustainable Energy, and
- 3) Water and Sanitation in Africa.



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The program is financed through the Financing Agreement between the European Commission and the ACP Group of States under the ACP Research for Sustainable Development Programme of the 10th EDF Intra-ACP Envelop. The full Guidelines for Applicants, Application form, and other supporting documents are available for downloading from the following Internet Sites: <http://www.africahrst.org/stict/rgp>; <http://www.au.int/researchgrant>; <http://webgate.ec.europa.eu/europeaid/online-services/index.cfm?do=publi.welcome>. The deadline for submission of proposals: 20 April, 2012 at 1700 hours (+3 GMT) Addis Ababa time.

### **START call for proposals: Global Environmental Change Research in Africa**

START, the global change SysTEM for Analysis, Research and Training announces the 2012 Call for Proposals (CFP) for the Global Environmental Change (GEC) Research in Africa. The theme for the 2012 CFP is global environmental change, agriculture and food security. To be eligible for support, the proposed project must directly address issues related to global environmental change (including climate change) and its linkages with agriculture and food security, ecosystem services, and sustainable livelihoods. Researchers are expected to engage multiple stakeholder groups in the process of carrying out the research. These may include farmer and pastoralist groups, civil society organizations, scientists, policy makers, and others. The proposal must describe the communication and outreach strategy the research team will use to engage these groups. The proposals must be based on collaboration among multiple investigators. Given the complexity of the issues under this theme, it is essential that both natural science and social science considerations be addressed and that the technical expertise of the research team reflects this.

The investigators are strongly encouraged to include graduate students, junior scientists, and/or research technicians as part of the research team. Investigator teams must be comprised of either:

- 1) 3 or more African scientists at the same institution with complementary skills and expertise, with one serving as the Principal Investigator + at least 2 co-Investigators, or
- 2) 3 or more African scientists from different institutions, with one serving as the Principal Investigator + at least 2 co-Investigators.

The Principal Investigator must be based at an institution in Africa. The African institution (presumably employer of the PI) will assume responsibility for funds. Co-Investigator(s) may be based outside of Africa and not necessarily an African national. Deadline for proposal submission: 28 March 2012.

### **Open Call for Proposals: 2012 African Union Research Grants**

The African Union Commission is seeking proposals for research focusing on the following thematic priorities articulated in Africa's Science and Technology Consolidated Plan of Action (CPA) and it's Lighthouse Projects:

- a. Post-harvest and Agriculture,
- b. Renewable and Sustainable Energy, and
- c. Water and Sanitation in Africa.

The programme is financed through the Financing Agreement between the European Commission and the ACP Group of States under the ACP Research for Sustainable Development Program of the 10th EDF Intra-ACP Envelop. The full Guidelines for Applicants, Application form and other supporting documents are available for downloading from the following Internet sites: <http://www.africahrst.org/stict/rgp>, <http://www.au.int/researchgrant> and <http://webgate.ec.europa.eu/europeaid/online-services/index.cfm?do=publi.welcome>. The deadline for submission of proposals is April 20, 2012.

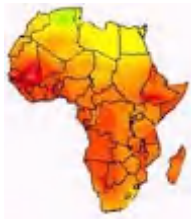
### **French Global Environment Facility (FFEM) - Small Grants, Phase 3**

Phase 3 (2011-2013) of FFEM's Small-Scale Initiatives makes grants for biodiversity conservation in West and Central Africa, Madagascar, and Mozambique. Grants are a maximum of €50 thousand subject to co-financing requirements - for NGO conservation organizations in eligible countries. For NGOs meeting the relevant criteria, pre-proposals can be submitted at any time before 31 December 2012.

## Employment Opportunities

### **Junior Remote Sensing and GIS Specialist, Biodiversity Planning Programme**, Pretoria, South Africa

SANBI is seeking a self-motivated planner to support the scientific and spatial assessment needs of the Biodiversity Planning Programme through providing advanced technical assistance in Remote Sensing and GIS-related projects. This position requires a candidate with either a BSc Honours degree in Natural



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Sciences or Environmental Management, with at least 2-3 years' relevant experience. The ability to produce high-quality output data, maintain thorough quality control in work performed, meet realistic deadlines and timeframes and produce accurate products is essential. The successful candidate needs an excellent command of spoken and written English plus any other official language.

Responsibilities include: providing advanced spatial data processing and interpretation, implementing, managing and supporting multidisciplinary remote sensing/GIS projects and tasks requiring statistical and spatial analysis, assisting in the development of approaches for biodiversity remote sensing into biodiversity planning and monitoring, keeping up-to-date with the latest remote sensing and GIS technologies, assisting in human capital development through training interns and students the basics of remote sensing and GIS.

Contact Mr William Mahlangu on (012) 843-5223 or, preferably, forward a letter and concise CV via e-mail to [recruitmentpta@sanbi.org.za](mailto:recruitmentpta@sanbi.org.za) or fax: (012) 843- 5263. Postal applications are to be addressed to the Deputy Director: Human Resources, South African National Biodiversity Institute, Private Bag X101, Pretoria 0001. Deadline for application: 17 March 2010.

### GIS Intern, Uganda

Ligingi Community Learning Centre, [www.ligingi.com](http://www.ligingi.com) is the organisational hub at the heart of Ligingi village's journey to create self-directed, positive pathways of transformation. It was founded by the Ligingi community in May 2011 to facilitate community education, learning and positive action for change. The LCLC is managed by the Ligingi Management Committee and supported by an international team of volunteers based in the city of Melbourne, Australia. The vision of the LCLC is of a self-sustaining, vibrant, globally-interconnected Ligingi village community by 2040. The mission is to empower the women, men and children of Ligingi village to pursue their own creative pathways of change and sustainability through collective learning for improved quality of life.

We are looking for a GIS volunteer to develop a map of Ligingi village using a GPS. The GIS Intern will plan, train and supervise the collection of geospatial information on the village. S/he will have the ability to collect interpret and visualize data in ways that reveal relationships, patterns, and trends in form of maps, reports, and charts. S/he will be knowledgeable about the Geographic approach and its application in mapping.

Please send a letter addressing the key selection criteria and a resume to: Kasi Reynolds, People & Culture Manager, LCLC Australia, email: [kasi.reynolds@ligingi.com](mailto:kasi.reynolds@ligingi.com) and copy to [dennis.obel@ligingi.com](mailto:dennis.obel@ligingi.com) by 14 March 2012, COB. Interviews will be conducted on Friday 16 March around Makerere University. Due to limited resources, the LCLC will not be able to interview upcountry candidates who are not able to make it to Kampala. Women and marginalised tribal groups are particularly encouraged to apply.

### Programme Management Officer, Addis Ababa, Ethiopia

Under the general guidance of the Director of the Office of Strategic Planning and Programme Management (OPM) and direct supervision of the Chief of the Section, the Programme Management Officer is responsible for the following duties: Participates in the development, implementation and evaluation of assigned programmes/projects, etc.; monitors and analyzes programme/project development and implementation; reviews relevant documents and reports; identifies problems and issues to be addressed and proposes corrective actions; liaises with relevant parties; identifies and tracks follow-up actions. Participates in activities related to the preparation of programme budget of the Commission, and programme performance reviews. Researches, analyzes and presents information gathered from diverse sources.

The incumbent should possess Advanced University Degree (Master's degree or equivalent) in business administration, sociology, economics, law, public administration or a related field. A first level university degree with a relevant combination of academic qualifications and experience may be accepted in lieu of the advanced university degree. A minimum of five years of progressively responsible experience in project/programme management, administration or related area. Closing date: 16 March 2012.

### Other

#### Cartographic technologies for territorial governance

The present study draws attention to cartographic technologies as the privileged research field where geography is called upon to meet the challenges of globalization. As a matter of fact, researchers in the field have long matured the conviction that cartographic representation is tightly linked to territory and therefore a rendering of contemporary spatiality necessarily entails skills both in territorial analysis and in cartographic semiology. In modern times, topographic metrics, inherited from Euclidean cartography, had severed the link





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between geography and cartography. Maps were merely intended to render the referential or quantitative features of territory. Nowadays, instead, having eluded controls of the institutional kind, maps are intended both by territorial analysts and by the various agents involved in emerging online scenarios, as representations capable of conveying the social meaning of territory. Notably, new cartographic technologies prove it necessary to consider two perspectives: the epistemicone, whereby we look at the role maps play nowadays in imparting territorial information; and the experimental one, meant to produce new maps that might meet the needs of a new definition of spatiality and thereby reclaim the issues of social groups who demand direct participation in the decision making linked to the challenge of globalization. The present study outlines theoretical issues touching upon the latter perspective, with methodological examples taken from a number of products assembled at the Diathesis Cartographic Laboratory of Bergamo University. Rea more...

## [UN 'needs greater integration between science and policy'](#)



[Scientists have already welcomed a significant number of references to the importance of science](#) - including calls for better interchange between scientists and policymakers at the UN level - in the first draft of the outcome document for the UN Conference on Sustainable Development (Rio+20), which takes place in Brazil in June 2012.

Now, a report by the UN Secretary-General's High-level Panel on Global Sustainability gives such calls a greater political weight, and provides guidance on some of the concrete steps that might achieve such objectives. The report 'Resilient People, Resilient Planet: A Future worth Choosing', which was published on 30

January makes 56 recommendations, with the importance of science being highlighted throughout. In particular, it calls for "bold global efforts", including the launch of "a major global scientific initiative", to strengthen the interface between science and policy.

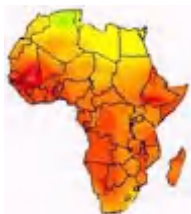
The report, which was drawn up by a panel whose members include ministers from Australia, Brazil, India and Sweden, says there is a "pressing need" for better integration between science and policy at all levels, and that UN decision-makers need better access to scientific expertise. To achieve this, it calls for a science advisory board or a chief scientific advisor to the UN secretary-general, citing as examples the US President's Council of Advisors on Science and Technology and the UK government's chief scientific advisor. The report warns that scientific enquiry has not yet provided a detailed understanding of human impacts on the environment, and that more research is needed to understand the compounding effects of various environmental, economic and social pressures. It also complains of the lack of a "holistic picture" of where the planet is heading. "We must define, through science, what scientists refer to as 'planetary boundaries', 'environmental thresholds' and 'tipping points'. Priority should be given to challenges now facing the marine environment and the 'blue economy' [sustainable management of marine resources]."

The panel also recommends that disparate knowledge on a range of issues, such as climate change, development, energy, food and agriculture, health, and water, be brought together in a new global sustainable development outlook report. An outlook report would integrate information and analysis, but also "prompt officials from a diverse range of international organisations to work together, compare their analyses and assumptions about the future, draw in outside experts - including the best available scientific advisors - and consult with governments". The importance of science was also highlighted in a speech by Sha Zukang, secretary-general of the Rio+20 conference, at initial discussions on the Rio+20 draft outcome document that was held on 25-27 January in New York, United States. [Link to 'Resilient People, Resilient Planet: A Future Worth Choosing'](#) [922kB], [Link to first draft of the outcome document for Rio+20](#) [92kB]. This article is part of the coverage on [Science at Rio+20](#).

### Conferences, Events

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

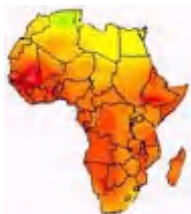
Date	Location	Event
<b>March 2012</b>		
<b>5-7 March 2012</b>	Valencia, Spain	<u><a href="#">INTED2012 (6th International Technology, Education and Development Conference)</a></u>



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17-18 March 2012	Singapore, Singapore	<a href="#">International Congress on Informatics, Environment, Energy and Applications (IEEA 2012)</a> , Enquiries: <a href="mailto:ieea@sciei.org">ieea@sciei.org</a> .
21-24 March 2012	Kampala Uganda	<a href="#">ICT for Africa 2012</a> , Theme: Africa's E-Inclusion: Defying the Odds and Leading the Way in Global ICT Innovation
26-29 March 2012	London, UK	<a href="#">Global-Change Open Science Conference</a> : Planet Under Pressure: New knowledge towards solutions
26-30 March 2012	Tunis, Tunisia	<a href="#">GeoTunis, The International Congress Geotunis 2012</a> , "The use and applications of GIS, remote sensing and digital modeling in environment, management of natural resources and hazards"
<b>April 2012</b>		
16-18 April 2012	Hohenheim University, Germany	<a href="#">International conference on Sustainable Land Use and Rural Development in Mountain Areas</a>
24-27 April 2012	Avignon France	<a href="#">AGILE 2012: Bridging the Geographic Information Sciences</a>
<b>May 2012</b>		
7-9 May 2012	Rio de Janeiro, Brazil	<a href="#">4th International Conference on GEographic Object Based Image Analysis (GEOBIA) 2012</a>
14-17 May 2012	Québec City, Canada	<a href="#">Call for Papers: Global Geospatial Conference 2012</a> , GSDI World Conference, 14th GEOIDE Scientific Conference, Canadian Geomatics Conference and 7th 3D GeoInfo Conference.
21-23 May 2012	Boston, Massachusetts	<a href="#">Global Conference on Oceans, Climate and Security</a> Call for Abstracts: Deadline 15 October 2011.
21-27 May 2012	Vilnius, Lithuania	<a href="#">12th World Congress on Environmental Health: New Technologies, Healthy Human Being and Environment</a>
13-18 May 2012	Dublin, Ireland	<a href="#">IWA World Congress on Water, Climate &amp; Energy 2012</a>
14-16 May 2012	Rio de Janeiro, Brazil	<a href="#">UN Conference on Sustainable Development (INCSD), Rio+20</a>
21-23 May 2012	Boston, USA	<a href="#">Global Conference on Oceans, Climate and Security</a>
23-24 May 2012	Taza, Morocco	<a href="#">International conference of GIS users, Taza GIS-Days 2012</a>
23-25 May 2012	Cotonou, Benin	<a href="#">eLearning Africa</a>
28-30 May 2012		<a href="#">International Conference on Green Technology &amp; Ecosystems for Global Sustainable Development</a>
<b>June 2012</b>		
13-15 June 2012	Columbia University, New York	<a href="#">ICELW 2012 - The Fifth Annual International Conference on E-learning in the Workplace</a>
18-22. June 2012	Albena, Bulgaria	<a href="#">4th International Conference on Cartography and GIS &amp; EU Seminar on EW &amp; CM</a> , Deadline for abstract submission is 10. January 2012.
<b>July 2012</b>		
2-6 July 2012	Galle, Sri Lanka	<a href="#">MMM3: Meeting on mangrove ecology, functioning and management</a>
3-6 July 2012	Sundvolden Hotel, Oslo	<a href="#">3rd International Statistical Ecology Conference (ISEC2012)</a> , Abstract submission deadline: 20 January 2012
3-6 July 2012	Salzburg, Austria	<a href="#">Geomatics Forum, Linking GEovisualisation, Society and Learning</a>
6-8 July 2012	Cairo, Egypt	<a href="#">10th International Internet Education Conference and Exhibition</a>
8-12 July 2012	San Diego, California USA	<a href="#">ESRI User Conference</a>
16-21 July 2012	Obergurgl, Austria	<a href="#">ESF research conference: Energy Landscapes</a> - Grants to attend
<b>August 2012</b>		
2-10 August 2012	Brisbane, Australia	<a href="#">34th International Geological Congress</a>



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<b>5-7 August 2012</b>	Kampala, Uganda	<a href="#">8th Annual International Conference on Computing and ICT Research</a>
<b>5-10 August 2012</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>22-25 August 2012</b>	Freiburg Germany	<a href="#">Experience-based Geography Learning, IGU-CGE Precongress</a>
<b>26-30 Aug 2012</b>	Köln, Germany	<a href="#">32nd IGU International Congress</a> , University of Cologne, Theme: 'Down to Earth'
<b>29-31 August 2012</b>	University of Basel, Switzerland	<a href="#">Third International Sustainability Conference ISC 2012</a> , Theme "Strategies for Sustainability: Institutional and Organisational Challenges"
<b>September 2012</b>		
<b>3-5 September 2012</b>	Gaborone, Botswana	<a href="#">2nd IASTED African Conference on Health Informatics</a>
<b>5-7 September 2012</b>	Gaborone, Botswana	<a href="#">International Conference on Water Resources Management</a>
<b>16-18 September 2012</b>	Columbus, Ohio, USA	<a href="#">AutoCarto 2012, an international research symposium on computer-based cartography</a>
<b>30 September–5 October 2012</b>	Columbus, Ohio, USA	<a href="#">EcoSummit 2012, Ecological Sustainability: Restoring the Planet's Ecosystem Services</a> . Abstract submission deadline, <u>20 January 2012</u>
<b>October 2012</b>		
<b>15-19 October 2012</b>	Chengdu, China	<a href="#">International Conference on Mountain Environment and Development</a>
<b>29 October-2 November 2012</b>	El.Jadida, Morocco	<a href="#">AARSE 2012 International Conference</a> , Theme: Earth Observation & Geo-information Sciences for Environment and Development in Africa: Global Vision and Local Action Synergy. Abstract submission - 2 January to <u>30 April 2012</u> .
<b>November 2012</b>		
<b>December 2012</b>		
<b>2013</b>		
<b>8-12 July 2013</b>	San Diego, USA	<a href="#">ESRI International User Conference</a>
<b>2015</b>	Durban, South Africa	<a href="#">14th World Forestry Congress for SA</a>
<b>1-31 August 2016</b>	Cape Town, South Africa	<a href="#">35th International Geological Congress</a> . Registration deadline: <u>30 June 2016</u> .

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