

# Spatial Data Infrastructure – Africa Newsletter



SDI-Africa Newsletter

June 2012

Vol. 11, No. 6

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@rcmrld.org](mailto:sdiafrica@rcmrld.org) or [gojwang@rcmrld.org](mailto:gojwang@rcmrld.org)



## Input to this Issue

Thank you to Kate Lance, NASA/SERVIR-Africa (USA), Hussein Farah, RCMRD (Kenya) and Karen Leveleger, Kadastre (Netherlands) for their contributions to this issue of the newsletter.

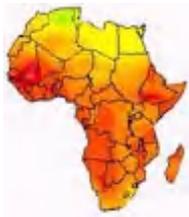
## SDI News, Links, Papers, Presentations

### [Proceed \(Rio+20\) with caution on 'planetary boundaries'](#)



The concept of 'planetary boundaries', which sets out limits to the earth's biophysical systems, has two major flaws and could create new problems for policymakers, argues Simon L. Lewis. To be discussed at the UN Conference on Sustainable Development (Rio+20) in Brazil in June, the concept identifies environmental thresholds that must not be crossed if we are to keep the Earth within the safe operating space of the Holocene epoch - the years before the industrial era. It offers "clear, quantitative measurements with no obvious judgments on what's 'right' or 'wrong' to include", says Lewis.

But he points out two major flaws. The concept fails to make a distinction between thresholds that can be breached and fixed limits to natural resources - such as the total amount of phosphorus available for use in the world. Far from being an academic point, this has tangible implications for policy. For example, enforcing a boundary on phosphate pollution may encourage investment in technology to address its environmental impact, but will do nothing to safeguard phosphorus



## Spatial Data Infrastructure – Africa Newsletter



stocks. [Science at Rio+20](#): this article is part of the coverage of preparations for Rio+20 - the UN Conference on Sustainable Development - which takes place on 20-22 June 2012. The second weakness is its focus on global thresholds without making a distinction between how they differ from local or regional boundaries that can become global problems if replicated. Climate is a systemic process, driven by greenhouse gases in the atmosphere; but nitrogen pollution, though localized in specific countries, can become a global problem on aggregate. Negotiations at Rio+20 should focus on global planetary boundaries, leaving aside discussions on regional problems that can best be addressed by those affected. [Link to full article in Nature](#).

### [Africa's first ICT indaba kicks off in Cape Town, South Africa](#)

The ICT Indaba is organized by the South African Government's Department of Communications and endorsed by the International Telecommunications Union. It starts from 4th to 7th June at the Cape Town International Convention Centre. It is envisaged that it will be held annually for the next five years. Its major themes are "Connecting Africa to Development with ICTs" and "Bridging the Digital Divide". The ICT Indaba 2012 has identified six critical sectors in driving the ICT as a tool for development in Education; Health; Infrastructure; Agri Business; Trade and Extractive Industries.

During the indaba, there will be several exhibitors showcasing futuristic technological innovations and interactive workshops. Scores of African Union Regulators, communications ministers and representatives from the Pan African Parliament and SADC and BRICS countries have been invited to the event. Among the 11 sessions, speakers from nine countries will deliver papers under the topic of "Africans Learning from Africans", "Lessons Learned from Successful African Tech Entrepreneurs", "Digital Africa" "Sourcing, Building and Retaining the necessary Skills Force for a robust ICT Industry", "Critical policies that must be accelerated to advance Africa's Knowledge-based Economy and "Developing Clusters to drive local ICT Industry development", and "Using the Africa Infrastructure Development Corridor as a basis for integrated ICT Initiatives" among others.

A Ministerial Forum involving African ministers will reflect on some of the key components of the ICT Indaba including innovations across Africa, the challenges and opportunities facing the continent. Other discussion points will include: International Connectivity - Development, challenges and constraints; Funding and investment in Broadband - A platform for the growth of the Information Society and Knowledge economy in Africa; Building productive capacity to become Information Society and Knowledge Economy in Africa; Africa Infrastructure for Telecommunications, Broadcasting for the Internet keeping regional traffic regional, and Building on Regional Development Initiatives: Connect Africa.

### [Broadband satellite connects inland, rural Africa](#)

Satellite services continues to fulfil an important role in providing the telecommunications infrastructure for Africa's inland and remote rural areas, while the dozens of optic fibre cable networks now reaching the continent's shores will - at least initially - have limited penetration inland. This is the view of Vinay Patel, senior sales director, sub-Saharan Africa, of Hughes Network Systems. Speaking at the Hughes' annual regional seminar alongside the SatCom Africa 2012 conference in Sandton, Johannesburg, South Africa this week, Patel said there was growing demand for satellite broadband services in Africa.

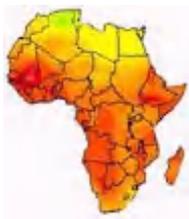
The annual regional seminar covered the latest advances in Ka-band, high-throughput satellite technology, with more than 100 times the capacity of conventional Ku-band satellites. "The high bandwidth available in the Ka spectrum and the use of multi-spot beam technology enables the delivery of more capacity at faster speeds to smaller dishes - opening the door to upgraded services at lower costs," said Patel.

At the end of December 2011, internet penetration in Africa stood at 13.5%. Africa has a density of only 1.4 telephone lines per 100 people, while the number of mobile connections has grown an average of 30% per year over the past ten years, and is expected to reach 735-million of the continent's 1.03-billion people by the end of the year.

The seminar also highlighted the recently announced HX System 4.0, a broadband satellite system with an economical gateway earth station and high-performance remote terminals. The HX System is a compact, broadband IP platform optimised for smaller networks with high quality of service requirements. It employs advanced bandwidth management technology, enabling operators to provide a high quality of service while maximising satellite efficiency.

### [Ogun State in Nigeria to computerise land administration](#)

Ogun State government has concluded plans to fully automate the operations of the state's Bureau of Lands and Survey, in order to enhance its efficiency and ensure higher productivity. Director-General, Ogun State



## Spatial Data Infrastructure – Africa Newsletter



Bureau of Lands and Survey, Mrs. Ronke Sokefun, stated this at media conference to commemorate the first year anniversary of Governor Ibikunle Amosun administration. She said government is already working on deploying a robust Geographical/Land Information System that will aid the production of appropriate maps and documents, adding that about 30,000 hectares of land had been set aside for the New Town Development Project with topographical survey being currently carried out on the parcel of land.

Sokefun noted that the processing of land titles within government acquired land had received a boost with the upgrading of the Land Title Ratification Unit to a full fledge department, adding that the engagement of external consultants by the government had made title ratification less cumbersome and had also improved the bureau's revenue generation capacity.

### [Egypt activates high speed data link for researchers](#)



Egypt has become the first African country to join a high-speed Internet network aimed at research institutions that will boost the speed of data transfer with thousands of universities and science facilities across the world. The Global Ring Network for Advanced Applications Development (GLORIAD) offers research institutions speeds of up to 10 gigabits per second. It was started in 1998, initially linking the United States with Russia.

The African link first arrived in Egypt in 2010 and successfully demonstrated during the fourth meeting of the African Ministerial Council of Science and Technology (AMCOST IV) in March, making it an entry point for this high-speed research network to the rest

of Africa - but its activation was delayed due to the social upheaval that accompanied the Arab Spring.

The new link was designed to intelligently direct Internet traffic between the ordinary Internet and GLORIAD, depending on whether the user is focusing on research. It can also support around 75,000 concurrent videoconferences. Although though the link to the GLORIAD network became active in December 2011, many researchers are still unaware of it. Maged El-Sherbiny, president of the Academy of Scientific Research and Technology told SciDev.Net: "Most researchers in Egypt still need to be introduced to the new link, so the academy is planning a large international workshop at the start of next month." He added that the workshop will gather "all Egyptian universities and research centres' representatives with their counterparts in many African countries to highlight the best use of the link".

According to El-Sherbiny the academy is now discussing extending the link to the countries in the region via two rings: a northern one for North African countries (Algeria, Libya, Morocco, Tunisia), and an eastern one for the Nile Basin countries (Ethiopia, Sudan and South Sudan). Egypt is working to improve research networks in the Gulf region through GLORIAD's new GulfLight project and in West Africa through a partnership with the telecommunications provider Baharicom. It is also seeking to develop the first Global Optical Light Exchanges (GOLE) in Africa to serve scientists and educators by increasing the speed of internet connection.

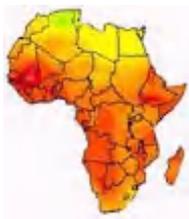
### [SERVIR project to produce 30-meter resolution land cover datasets for East Africa](#)



The land use sector, including forestry and agriculture, is a main source of anthropogenic green-house gas (GHG) emissions. Land use/land cover change (due primarily to deforestation) contributes about 20% of anthropogenic GHG emissions. The US Environmental Protection Agency is working on a [project](#) to help quantify changes in GHG over time and across countries. Toward that end, they need standardized land use/land cover maps as inputs to their Agricultural Land Use (ALU) tool for their GHG inventory. Many countries in Africa have attempted to develop such maps but have been limited by lack of technology, finances, and experienced personnel. SERVIR is providing consistent, reliable, and relevant Land Use, Land Use Change and Forestry (LULUCF) maps and data for the GHG inventory by harmonizing data compilation at national and regional levels.

SERVIR is producing land cover maps (for 2000, 2005, and 2010) for each of six African countries (Malawi, Zambia, Rwanda, Tanzania, Botswana, and Namibia). The maps are based on [Landsat](#) data as well as historical maps from stakeholders. SERVIR is also compiling auxiliary data and documentation and providing training in land use/land cover maps production. The East and South African countries are eager to assist in completing the baseline GHG inventories so they can learn to perform future inventories independently.

This project will produce land cover maps to feed into historical GHG inventories; stronger regional networking opportunities for land cover data sets to promote efficient use of limited resources such as forests; development of expertise in the region; and the new capacity of individual countries to accurately



## Spatial Data Infrastructure – Africa Newsletter



inventory GHG in the future. It is hoped that this project will help [RCMRD](#) (Regional Center for Mapping of Resources for Development) become a center of excellence in conducting such inventories so that other countries will follow their lead.

### [South Africa's astronomy project must show local benefit](#)



Co-hosting the world's largest radio telescope raises South Africa's scientific standing. But it must also help meet the country's social needs. For a country with a relatively modest track record in radio astronomy, South Africa can be proud of being chosen to co-host the planned Square Kilometre Array (SKA), the world's largest radio telescope, with Australia and New Zealand. Inevitably, there are those who would have preferred the SKA organizing committee, [which announced the siting decision last week](#), to have given the country and its African partners the whole project. But South Africa's science minister, Naledi Pandor,

showed little disappointment when she declared after the decision: "We have always said that we are ready to host the SKA, and the world has listened to us."

The story, however, is far from over. First, the project - which is expected to cost more than US\$2 billion before completion in 2024 - faces a major financial challenge in needing to raise a significant proportion of this money from the international community at a time of worldwide belt-tightening. Second, South Africa has the equally daunting task of ensuring that the benefits to the country's high-tech industry will filter down to meet the needs of its poor.

The money will need to cover not only the physical infrastructure - including 3,000 receiving dishes - but also the vast computing resources that will analyse the data they produce are indeed enormous. Both countries have already planned for substantial investments in prototype facilities - MeerKAT in South Africa and SKA Pathfinder in Australia - which will now be absorbed into the development of SKA. And South Africa has also spent heavily on training researchers and technicians, including the creation of several university professorships. A lack of qualified personnel was initially seen as a major handicap for its bid.

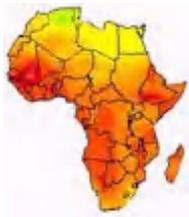
SKA has already become an icon symbolizing southern Africa's ambition to become a key player in the global knowledge economy. However, domestically, it is hoped that the project will spur more school children to take up science and mathematics - which were deliberately neglected in black educational institutions during the apartheid era. A major effort will be required to ensure that the benefits are seen to trickle down to the whole community - for example, boosting investment in communications infrastructure at the community level - and that the value of these benefits is widely appreciated. Unlocking the secrets of the universe may provide food for the soul. But it is food for the body that remains top priority for many South Africans. [Read more...](#)

### [South Africa: Affordable satellite bandwidth could change rural access](#)

There is little ADSL or 3G access in rural areas. Farms and lodges for example have no communications or are battling with dialup or EDGE services, which are next to useless, and their businesses are suffering as a result. There is research suggesting that safari lodges could increase their occupancies by 50% if they could offer their foreign guests quality internet access. Satellite has never been an option for these businesses because of the high costs involved. However, the new Ka-band satellites have changed the whole landscape. It's the first technology we've seen that offers a service that's both affordable and reliable enough. The service is not intended to compete with uncapped ADSL. It fills the need for remote-areas access and is a great backup in urban areas, but the capacity is not unlimited. It has room for about 70 000 connections and it is a shared solution which means fair access policies will limit the solution." The satellite is sitting in a geostationary orbit at about 36 000km, which means it takes about half of a second for a signal to make the trip from one ground-based transmitter to the satellite and back down to the ground station in Luxembourg. The high latency will not be a problem for email and web surfing, but the slight delay will be noticeable with voice calls and some VPN applications. Demand for the services has already been a lot higher than expected. We had not realized the extent of the demand for a solution that was independent of the Telkom and GSM networks. The satellite service expects to launch to the public in early August 2012.

### [Mozambique to co-host world's largest telescope](#)

The British based organisation the Square Kilometre Array (SKA) has decided to build the world's largest ever telescope in southern Africa and Australasia, with Mozambique hosting part of the telescope at the



# Spatial Data Infrastructure – Africa Newsletter



Science and Technology Park in Maluana, Maputo province. The telescope is to be constructed using an array of three thousand receivers spread over thousands of kilometres, picking up electromagnetic radiation through 15 metre wide dishes. The telescope will be fifty times more sensitive than the most powerful telescope in existence today. It will be able to interpret the data it receives ten thousand times faster than any previous telescope. This will require processing power equal to several million computers to sift through the same amount of data each day as two days' worth of global internet traffic.

The cost of the project is likely to be more than the budgeted 1.5 billion euros because SKA failed to decide whether to locate the telescope in southern Africa or Australasia. Instead, it decided to split the project between the two lead partners. However, it was decided South Africa will lead two thirds of the project, which will be centred in the Karoo and extend out into Botswana, Ghana, Kenya, Madagascar, Mauritius, Mozambique, Namibia and Zambia. The SKA telescope will look at fundamental things that we do not understand about the universe, including what happened moments after the big bang, why the universe is expanding at an accelerating speed, the role of magnetism and nature of gravity. The project is due to be completed in 2024.

## [Kenya homes in on emergency groundwater supplies](#)



A project that will map groundwater resources in part of the drought-prone Horn of Africa region was launched in Nairobi, Kenya, on 22 May 2012. The initial project's full title is 'Strengthening capacity to combat drought and famine in the Horn of Africa: tapping groundwater resources for emergency water supply'. It will use remote sensing technology to explore underground water to establish its quantity and quality, with the aim of exploiting the water in an emergency to combat drought and famine, and also to develop long-term resilience.

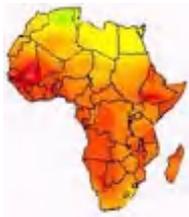
The project is an eight-month pilot coordinated by UNESCO but being implemented jointly with water ministries from Kenya, Ethiopia and Somalia, and has received US\$1.55 million from Japan's government for surveying Turkana, an arid area in northern Kenya. It will contribute to the first phase of the regional Ground Water Resources Investigation for Drought Mitigation in Africa Programme (GRIDMAP), also a UNESCO initiative. "GRIDMAP is a scientific consortium that aims to assess groundwater potential and build drought management capacities across the Horn of Africa and other parts of Africa," said Abou Amani, a senior water specialist with UNESCO.

Saud Amer, a water resource and remote sensing specialist with the US Geological Survey, a GRIDMAP partner, added: "The data will be used by governments and other agencies to address the water crisis that continues to afflict the region, and we will also look at factors such as rainfall, geology and geomorphology". Casey Walther, GRIDMAP's coordinator, said that data collected from satellites will be validated by local experts through 'ground truthing' - relating image data to real features on land. "We will train scientists in the technology needed to gain groundwater knowledge - they will be from central and local governments, NGOs [non-governmental organisations] and UN agencies dealing with humanitarian situations." Walther said currently there is very little knowledge about groundwater resources in the region. But it is estimated that Kenya and Ethiopia could each have up to 60 billion cubic metres of underground water, and Somalia up to 40 billion cubic metres. The survey will use a satellite system called WATEX, which was used to locate water for Sudanese refugees in Chad in 2005. John Nyaoro, Kenya's director of water resources, said: "The project aims to mobilise scientific knowledge for policy setting and contribute to disaster preparedness." Assessing knowledge and capacity in groundwater resources management will enable the drilling of emergency wells and help development planning.

## [A GIS application for assessing, mapping, and quantifying the social values of ecosystem services](#)

Benson C. Sherrouse | Jessica M. Clement | Darius J. Semmens, 2011

As human pressures on ecosystems continue to increase, research involving the effective incorporation of social values information into the context of comprehensive ecosystem services assessments is becoming more important. Including quantified, spatially explicit social value metrics in such assessments will improve the analysis of relative tradeoffs among ecosystem services. This paper describes a GIS application, Social Values for Ecosystem Services (SoIVES), developed to assess, map, and quantify the perceived social values of ecosystem services by deriving a non-monetary Value Index from responses to a public attitude and preference survey. SoIVES calculates and maps the Value Index for social values held by various survey subgroups, as distinguished by their attitudes regarding ecosystem use. Index values can be compared within and among survey subgroups to explore the effect of social contexts on the valuation of



## Spatial Data Infrastructure – Africa Newsletter



ecosystem services. Index values can also be correlated and regressed against landscape metrics SolVES calculates from various environmental data layers. Coefficients derived through these analyses were applied to their corresponding data layers to generate a predicted social value map. This map compared favorably with other SolVES output and led to the addition of a predictive mapping function to SolVES for value transfer to areas where survey data are unavailable. A more robust application is being developed as a public domain tool for decision makers and researchers to map social values of ecosystem services and to facilitate discussions among diverse stakeholders involving relative tradeoffs among different ecosystem services in a variety of physical and social contexts.

### [Climate change-related vulnerabilities and local environmental public health tracking through GEMSS: A web-based visualization tool](#)

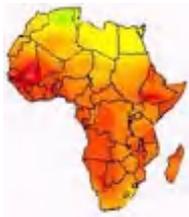
Adele Houghton | Natasha Prudent | James E. Scott III | Richard Wade | George Luber, 2012

Abstract Climate change will impact health through a variety of pathways - both direct and indirect. Identifying the specific link between climate-related hazards and vulnerability will require the integration of socio-environmental, meteorological, and health data. An enhanced monitoring and tracking system is critical for public health efforts to identify and reach populations vulnerable to climate-related hazards, mobilize resources, and inform local climate action policy to reduce climate-related health risks. In this paper we present a novel application of a geospatial tool that integrates multiple data sources, allowing for the streamlined visualization of environmental risk, socio-economic and demographic vulnerability, baseline mortality, and policy intervention measures. GEMSS (Geospatial Emergency Management Support System) is a browser-based application that is designed to assemble geospatial information from multiple local or remote sources in a common operating environment, allowing for multi-data visualization. Using vulnerability to extreme heat and heavy rainfall-induced flooding as climate impacts on health, we tested GEMSS's capability as a multi-data platform to visually analyze spatial patterns of climate change environmental public health indicators at the local level. The selected indicators relied on socio-environmental and demographic vulnerability, health, policy, and weather data. The GEMSS system has the potential to support multiple goals including: a) the ongoing monitoring and assessment of climate-related vulnerability through visualization; b) providing policymakers with an open-source tool for understanding how vulnerable populations and the environment could be impacted by proposed climate action policies; c) tracking the ongoing status of climate change policies in reducing socio-environmental vulnerability; d) raising awareness among the general public about the links between climate change and public health; and, e) providing a basis for epidemiologic research (i.e., identifying gaps between climate and human vulnerability leading to hypotheses and hypotheses-testing).

### [Challenges for drought mitigation in Africa: The potential use of geospatial data and drought information systems](#)

Sergio M. Vicente-Serrano | Santiago Beguería | Luis Gimeno | Lars Eklundh | Gregory Giuliani | Derek Weston | Ahmed El Kenawy | Juan I. López-Moreno | Raquel Nieto | Tenalem Ayenew | Diawoye Konte | Jonas Ardö | Geoffrey G.S. Pegram, 2012

Understanding, monitoring and mitigating drought is a very difficult task as a consequence of the intrinsic nature of the phenomenon. In addition, assessing the impact of drought on ecosystems and societies is also a complex task, because the same drought severity may have different consequences in different regions and systems due to the underlying vulnerabilities. New technologies based on geospatial information are available to determine the risk and vulnerability of a system to a drought and to develop monitoring and early warning systems based on real-time information to support decision making. To improve drought preparedness and mitigation, geospatial datasets based on climate information, Earth Observation Systems and statistical and dynamical modelling methodologies can make a noticeable difference in mitigating drought impacts in Africa. In this article we illustrate how the development of drought information systems based on geospatial technology, that combines static and real-time information, could improve the possibilities of drought mitigation in Africa. We stress that it is necessary to go beyond past attempts to manage drought risk based on a reactive crisis-response approach, by promoting drought mitigation and preparedness at the national and regional levels. For this purpose the development of drought information tools is fundamental for the implementation of drought management plans and to support real-time decision-making.



## Spatial Data Infrastructure – Africa Newsletter



### [Climate change and human health: Spatial modeling of water availability, malnutrition, and livelihoods in Mali, Africa](#)

Marta M. Jankowska | David Lopez-Carr | Chris Funk | Gregory J. Husak | Zoë A. Chafe, 2012

This study develops a novel approach for projecting climate trends in the Sahel in relation to shifting livelihood zones and health outcomes. Focusing on Mali, we explore baseline relationships between temperature, precipitation, livelihood, and malnutrition in 407 Demographic and Health Survey (DHS) clusters with a total of 14,238 children, resulting in a thorough spatial analysis of coupled climate-health dynamics. Results suggest links between livelihoods and each measure of malnutrition, as well as a link between climate and stunting. A ‘front-line’ of vulnerability, related to the transition between agricultural and pastoral livelihoods, is identified as an area where mitigation efforts might be usefully targeted. Additionally, climate is projected to 2025 for the Sahel, and demographic trends are introduced to explore how the intersection of climate and demographics may shift the vulnerability ‘front-line’, potentially exposing an additional 6 million people in Mali, up to a million of them children, to heightened risk of malnutrition from climate and livelihood changes. Results indicate that, holding constant morbidity levels, approximately one quarter of a million children will suffer stunting, nearly two hundred thousand will be malnourished, and over one hundred thousand will become anemic in this expanding arid zone by 2025. Climate and health research conducted at finer spatial scales and within shorter projected time lines can identify vulnerability hot spots that are of the highest priority for adaptation interventions; such an analysis can also identify areas with similar characteristics that may be at heightened risk. Such meso-scale coupled human-environment research may facilitate appropriate policy interventions strategically located beyond today’s vulnerability front-line.

### [Esri Eastern Africa User Conference, 3-5 October 2012, Naivasha Sopa Lodge, Kenya](#)

The Esri Eastern Africa User Conference will be held in Kenya from 3 to 5 October 2012 at Lake Naivasha Sopa Lodge. The shoreline of Lake Naivasha, a fresh water lake in the Great Rift Valley, will provide the ideal setting for Esri software users from across Eastern Africa to learn more about the latest technology and to share their experiences.

Esri software users are invited to present a paper which will showcase the use of Esri software in their particular field of work and/or further the science of GIS. All papers presented at the conference are eligible for publication in the conference proceedings. Get [more information](#) on how to submit your paper presentation and the requirements needed.

### **2012 World Day to combat desertification**

The 2012 celebration of World Day to Combat Desertification, an annual event on 17 June, will focus on the theme "Healthy soil sustains your life: LET'S GO LAND-DEGRADATION NEUTRAL". In 2012, World Day to Combat Desertification falls three days before the start of the UN Conference on Sustainable Development (UNCSD, or Rio+20), and the global observance is planned to take place in Rio de Janeiro, Brazil. Contact: UNCCD Secretariat phone: +49-228 / 815-2800, fax: +49-228 / 815-2898/99, e-mail: [secretariat@unccd.int](mailto:secretariat@unccd.int), www: <http://www.unccd.int/publicinfo/june17/2012/menu.php>.

### [AARSE 2012 International Conference](#), 29 October- 2 November 2012, El Jadida, Morocco.

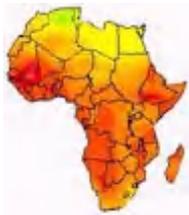


The Conference Theme: Earth Observation & Geo-information Sciences for Environment and Development in Africa: Global Vision and Local Action Synergy.

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).



# Spatial Data Infrastructure – Africa Newsletter



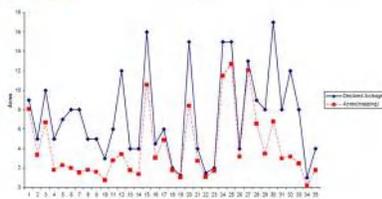
- **AARSE AWARDS** - All presenters are invited and encouraged to enter the AARSE award-winning competition for best paper presentation and best poster.
- **IEEE GRSS/AARSE TRAVEL FELLOWSHIPS** - To support travel costs, accommodation and registration fees to attend conferences of the two societies in 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.

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

### [GIS and mapping improves marketing opportunities for rice farmers in Ghana](#)



Declared Acreage Vs Actual (GIS)



GIS surveying and mapping help to establish the spatial locations and concentration of fruits and vegetable farms. The technology determines the supply base of producing firms and establishes a system for traceability and precision production for the farmers. Such services go a long way to addressing the numerous constraints faced by farmers, especially regarding the dispersion of farms, and the lack of location-specific data for production planning, monitoring and targeting. All of which results in an inability to forecast farm yields; inaccurate assessment of supply base; over-estimation of farm sizes; over-paying

for labour and other services; difficulties in resource allocation and targeting of small-scale producers for assistance and support.

Solomon uses the ESRI ArcGIS 9.3, GPS Utility and TrackMaker software for his farmland GPS waypoints. He has available a digitised base map of Ghana (showing roads, topography, water bodies, etc.), two laser-jet printers, Garmin GPS receivers, two laptop computers and one desktop computer. The equipment and software are costly, but these assets really propel the enterprise to meet the needs of its clients. Most agricultural development projects in Ghana traditionally address supply, and focus on crop productivity issues by increasing the use of improved seeds, fertilisers and improved agronomic practices. Few address the demand or marketing side that ensures that the increased production finds its way to the markets without adverse effects on prices and incomes of farmers and others in the value chain.

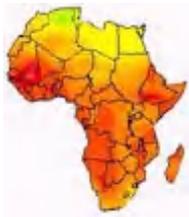
Unreliable production and marketing arrangements have contributed to a situation where demand for rice outstrips supply due to population increase and improved standard of living for farmers. Solomon addresses this challenge by providing a market information system (MIS) for smallholder rice farmers in Ghana, interlinked with GIS technology.

The pilot project, ongoing in the Volta Region of Ghana, is mapping and profiling all smallholder rice farmer organisations, and migrating the data to the well-known Esoko (formerly called TradeNet) market information platform. So far, more than 280 individual rice farmers, representing 45 farmer groups, have been profiled. Potential buyers or traders now receive up-to-date information on rice availability from the region, on the web and on their cell phones. Read more..

### [Applying Earth observation technology to monitor forest habitats in Madagascar](#)

Ambatovy in Madagascar is one of the largest mining and processing projects in Sub-Saharan Africa with a planned production of 60,000 tonnes of refined nickel and 5,600 tonnes of refined cobalt per year. The mine is located 80 km east of Madagascar's capital Antananarivo at the southern end of the eastern rainforest corridor, an area of humid forest with unique flora and fauna. A large and complex mosaic of forest and agricultural land surrounds the mine, including the Torotorofotsy Ramsar Wetland, the Analamazoatra Special Reserve and the Mantadia National Park – all of which feature high biodiversity. Several forest conservation areas are situated within the Ambatovy Project region. These are located around the mine site, on the pipeline corridor and in the Ankerana forest, an off-site offset area located northeast of the mine and linked to the eastern rainforest corridor.

In order to preserve the biodiversity of this unique environment, the Ambatovy Project has developed a comprehensive biodiversity mitigation and conservation plan. This includes the establishment of on-site and off-site conservation areas or "offsets", thereby ensuring that impacts of the mining are minimised. Residual losses are offset resulting in no net loss and preferably a net gain in biodiversity over the operating time of the project. In support of Ambatovy's ambitious and innovative biodiversity offsets program, GAF performed a land cover analysis using recent and historic satellite [data](#). The focus of GAF's intervention was to evaluate prevailing forest change between 2006 and 2011 in the Ambatovy Project region and at target conservation



## Spatial Data Infrastructure – Africa Newsletter



sites. Analogue and digital land cover and land cover change [maps](#) were produced for the mine site, the pipeline corridor and the forest conservation areas. This information was then utilised to identify forest change, quantify the amount of forest loss, specify the land use classes to which forest was transformed and report on the success of conservation efforts. Data collected on-site were used for training and verification purposes.

### [ICT help strengthen youth employment opportunities in agriculture](#)

Involving youth in agricultural development and decision making processes is key to ensuring sustainable development in Africa, and framing this within the context of ICTs and entrepreneurship provides a valuable dimension to the discourse of agricultural modernization and prosperity. Her Excellency Rhoda Peace Tumusiime, Commissioner for Rural Economy and Agriculture of African Union Commission, said this while officiating at a workshop held in Addis-Ababa, Ethiopia, 29 March 2012, on youth, ICT and entrepreneurship in agriculture, organised by Technical Centre for Agriculture and Rural Co-operation (CTA) and NEPAD E-Africa Programme. Tumusiime noted that Africa's population constitutes over 60 percent youth and 70 percent, people living in rural areas, of which, 40 percent are youth. She added that such statistics provide immense opportunities for improving agriculture and pushing the African continent forward.

"The current youth are more educated and learned, enterprising and ambitious. We can therefore reap the benefits of the demographic dividend and create a virtuous cycle from a healthier, better-educated and more economically productive and focused workforce, if this potential is well harnessed". She said there was urgent need to expand access to secondary and tertiary education, create and expand rural job opportunities, build capacity and promote entrepreneurship among the youth, and reduce migration to towns, and tap on any opportunity ICT can offer to support this objective, if Africa is to tap the opportunities provided by the current agile, dynamic and enterprising youth.

Mr Michael Hailu, CTA Director said that "Africa's unemployment stands at 50 percent, who are mostly young people, and females. Modern information and communication technologies provide opportunities for creating jobs and entrepreneurship for the youth. CTA will continue to support activities that encourage youth in ACP countries to consider agriculture as a viable career path, including seizing ICT opportunities in that framework". He also said young people are spearheading ICT applications in agriculture, even in Africa. Some of those innovators have been invited by CTA at the workshop shared their experiences with the other youth.

Dr. Edmund Katiti, Acting Head, NEPAD e-Africa Programme which partnered with the workshop recalled the tremendous potential ICT offered for development activities. He insisted that through the promotion of e-applications and e-services, the promotion of mobile payment systems, agricultural information systems, health information system, open software development and adequate capacity building, improved regulatory environment, African development and youth employment can be strengthened.

The workshop, which involved 30 youth and experts from various disciplines, countries and international organizations in Africa, is aimed at exchanging about use of ICT in agricultural business by African Youth, and to discuss about strategies to strengthen their opportunities in these sectors. It was organized following competitions organized by the CTA and NEPAD Agency on youth, ICT and entrepreneurship in agriculture, within the framework of NEPAD 10th year anniversary. The meeting was part of the ARDYIS project of CTA. For more information about this project, please visit <http://ardyis.cta.int/>.

### GIS Tools, Software, Data

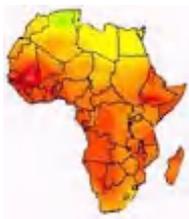
#### [Agricultural Geo-Referenced Information System \(South African Department of Agriculture\)](#)



AGIS website offers interactive mapping regarding agro-climate, natural resources, demography and agricultural infrastructure. You can also download data such as agriculture as main industry/area and agricultural offices.

[AGIS Comprehensive Atlas](#): This atlas combines agricultural-, orientation- & demographic information as well as scanned maps & satellite images including the first SPOT 5 high resolution data of South Africa.

[Orientation Atlas](#): The new look orientation atlas provide basic orientation information. This includes SPOT 10m images, topo-cadastral images, administrative and cadastral boundaries, agricultural and general infrastructure and topography.



# Spatial Data Infrastructure – Africa Newsletter



[SADC Atlas](#): Atlas showing administrative and cadastral data for the SADC region. Layers include: Gridded Population of the World and Global Rural-Urban mapping project data, Administrative Units, Population, Cities, Major Rivers and Lakes. [Open](#).

[Agro-Climate Information System](#): Long-term as well as near real time agro-climatic information derived from satellite and weather station data. [Open](#).

[Act 70 of 1970](#): A map indicating demarcated agricultural land in South Africa that resides under the jurisdiction of Act 70 of 1970 and upheld by the judgement of the Constitutional Court, Case CCT78/07 25 July 2008 in now available in the AGIS Comprehensive Atlas, residing under the Layer list category "Landcover and Landuse" in the Group "Landuse". [More](#).

[Weeds and Invasive Plants](#): Information currently available in the WIP website includes distribution maps, species descriptions, species photos & ID expert. There is the option to view species distributions in relation to climate, soil types, vegetation (biomes, & Acocks Veld Types), land use & other variables. The site also includes a new template for entering

## [Harmonized World Soil Database v. 1.1](#)

The Land Use Change and Agriculture Program of IIASA and the Food and Agriculture Organization of the UN have developed a comprehensive Harmonized World Soil Database. Free database for download, contains recently collected regional and national updates of soil information.

## [WorldClim: Global Climate Data](#)

This is a set of global climate layers with spatial resolution of a square km.

## [Core spatial datasets](#)



FAO has developed a website for land cover and land use: physical and biological coverage of land as combinations of vegetation types, soils, water bodies or human related activities such as agriculture and built environments. Human modification of natural environment or wilderness into built environment such as fields, pastures and settlements in the world. Examples of such datasets include:

### [Land use systems of the World - Sub-Saharan Africa](#)

Version 1 of a thematic grid of Land Use Systems (LUS) and its attributes for Sub-Saharan Africa with a spatial resolution of 5 arc minutes or 0.083333 decimal degrees. This dataset, presented as beta version, is developed in the framework of the LADA project (Land degradation Assessment in Drylands) by the Land Tenure and Management Unit of the Food and Agriculture Organization of the United Nations and is copyright of FAO/UNEP GEF. The LUS map implementation is based on a innovative methodology combining more than 10 global datasets. [\[more...\]](#)

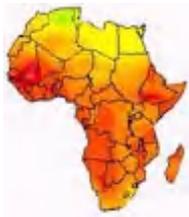
## [Free GIS Datasets](#)

All of the datasets below are free to use for academic and non-profit work, and don't require any special academic registration, although most of them ask you to cite their papers/website. Some datasets will be free to use for commercial work too - please check the terms of use on each dataset's website.

Beware: The data linked to below may be inaccurate, incomplete, or just plain wrong. As always, critically examine the data you are using, look at what organisation produced it and what agenda they may have, and beware that there are disputes over some of the data (particularly country boundaries). Datasets: [Land and Ocean boundaries](#), [Administrative Boundaries](#), [Arctic](#), [Elevation](#), [Environmental Boundaries](#), [Weather and Climate](#), [Land Use](#), [Belgium](#), [Hydrology](#), [Lakes, Oceans and other water sources](#), [Natural Disasters](#), [Wars, Conflict and Crime](#), [Central America](#), [Land Cover](#), [Population](#), [Ecology](#), [Buildings, Roads and Points of Interest](#), [Mineral Resources/Oil and Gas](#), [Transport and Communications](#), [Gazetteers \(Place/Feature names\)](#).

## [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



# Spatial Data Infrastructure – Africa Newsletter



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.rcmr.org/geonetwork> or via email to [remote\\_sensing@rcmr.org](mailto:remote_sensing@rcmr.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).

### GIS Class at Kruger National Park, October 28 - November 3, 2012

Juniper GIS is offering a five and a-half day conservation oriented GIS class at the South Africa Wildlife College, near Kruger National Park, October 28 - November 3, 2012. The cost is USD 575, including lodging and all meals if you sign up before August 1.

The class, working with ArcGIS for Environmental Analysis, (<http://www.junipergis.com/training/destinations/arcgis-for-environmental-analysis/>) is appropriate for new GIS users and for experienced GIS users wanting more in-depth instruction. Juniper GIS courses are based on real projects, with an emphasis on the skills needed to successfully complete your projects.

Students will learn key GIS skills including compiling and organizing data, understanding projections, using symbology and labels, working with tables, editing data, performing analysis, and creating finished maps while working through realistic, conservation oriented, GIS projects. Students will also be introduced to some advanced skills – working with Spatial Analyst, using ModelBuilder, and using Google Earth. Students will earn 40 hours of education credit towards the GIS Professional (GISP) certificate. For more information on the course, contact John Schaeffer at [John@junipergis.com](mailto:John@junipergis.com) or Mervyn Lötter at [mervyn.lotter@gmail.com](mailto:mervyn.lotter@gmail.com).

### Training course: Decision support tools for agriculture, Arusha, Tz, July 2-13, 2012

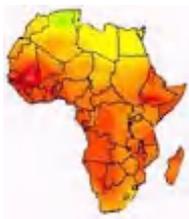
This two-week training is designed for agronomists, soil scientists, meteorologists and economists from national and international agricultural research institutes and universities; nutrient management specialists, resource management specialists and agricultural extension agents in Africa; as well as policy-makers from African governments and their Ministries in charge of agricultural productivity and planning. The objectives of this training include:

- Increase participants' knowledge of decision support systems in improving the productivity of agriculture.
- Give hands-on use of DSTs to address a wide array of production questions.
- Enhance participants' understanding of application opportunities for decision support systems to improve yields and achieve resource conservation.

The program will enable those engaged in agricultural research and extension services to improve their ability to use geographic information systems (GIS) and modeling tools to collect, analyze and employ soil, weather and market information in systems to generate site- and crop-specific nutrient and crop management recommendations. The course will improve participants' skills in the collection and integration of field data with DSTs and in the methods of disseminating and applying results that lead to better yields and higher profits.

The program fee: USD 1,300 (by June 2, 2012) or \$1,500 (after June 2, 2012). Contact: [training@ifdc.org](mailto:training@ifdc.org). Note: As a nonprofit organization, IFDC does not finance or sponsor any participant.

### Short courses by Continued Education



# Spatial Data Infrastructure – Africa Newsletter



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).

- 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 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 advice 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..](#)

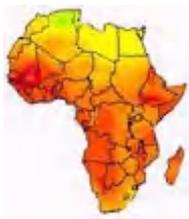
## [ESRI South Africa presents a full spectrum of GIS courses: June 2012](#)



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](#)



# Spatial Data Infrastructure – Africa Newsletter



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

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



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

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

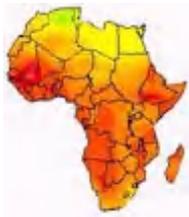
## Funding Opportunities, Awards, Support

### AEWA Calls for Small Grant Proposals



The Secretariat of the UN Environment Programme (UNEP)/African-Eurasian Migratory Waterbird Agreement (AEWA) is calling for applications from African Parties for the 2012 cycle of the Small Grants Fund (SGF).

AEWA has allocated €20,000 for SGF projects, which is augmented by voluntary contributions



## Spatial Data Infrastructure – Africa Newsletter



from contracting Parties. National government institutions and NGOs concerned with the conservation of migratory waterbirds and their habitats in countries in Africa are eligible to submit project proposals. The deadline for submission is 27 July 2012.

### [TWAS Fellowships for Research and Advanced Training for Developing Country](#)

The academy of science for developing country (TWAS) offers fellowships to young scientists in developing countries to enable them to spend between three and twelve months at a research institution in a developing country other than their own. The purpose of these fellowships is to enhance the research capacity of promising scientists, especially those at the beginning of their research career, helping them to foster linkages for further collaboration.

The fellowships are for research and advanced training. They are offered to young scientists holding at least an MSc or equivalent degree. Eligible applicants for the fellowships are young scientists working in any area of natural sciences who are citizens of a developing country and are employed by a research institution in a developing country. There is no age limit however preference is given to young scientists at the beginning of their research career and those working in [Least Developed Countries](#). The deadline for applications: 1 October 2012.

### [2012 Call for applications of the OWSD Fellowship](#)

Applications are being accepted by the Organization for Women in Science for the Developing World (OWSD) for Postgraduate Training Fellowships for Women Scientists from Sub-Saharan Africa and Least Developed Countries (LDCs) at Centres of Excellence in the South. The OWSD postgraduate fellowship is awarded to women scientists to pursue a PhD at a centre of excellence in the South in a field of the natural sciences. Applications are accepted from female scientists in all branches of the natural sciences.

See link for more information on the application procedure, eligibility criteria and to download the application form. Deadline for applications submission: 31 July 2012.

### [Call for Applications- TED Fellowships](#)

TED is looking for an eclectic, heterogeneous group of young thinkers and doers from the fields of technology, entertainment, design, sciences, engineering, humanities, the arts, economics, business, journalism, entrepreneurship and NGOs. TED can take risks on unconventional innovators, value achievement over credentials - making and doing over merely talking.

Applicants of ages 21-40 from five target regions: Africa, Asia/Pacific, the Caribbean, Latin America, the Middle East. However, anyone over the age 18 from around the world is welcome to [apply](#). Deadline for application is 22 October 2012.

### [Academy of Sciences for the Developing World \(TWAS\) - Fellowships 2013](#)

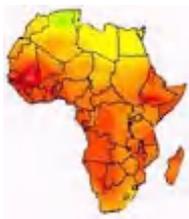
Each year, TWAS coordinates with participating research institutions in the developing world to host visiting research fellows. The fields of research include biotechnology, natural sciences, chemical and biological sciences, and others. Partner (host) organizations are located in Brazil, China, India, Iran, Kenya, Malaysia, Mexico, Pakistan, and Thailand. For fellowships in 2013, application deadlines range from 28 June 2012 to 15 September 2012 - depending on the program.

### [European Commission \(EC\) - Food Security in Zimbabwe](#)

The EC Delegation in Zimbabwe invites proposals to support sustainable agricultural production (crops and livestock) and alternative production systems for small-scale farmers in Zimbabwe, and to strengthen Zimbabwe's extension services in agriculture and natural resources. Grants are up to €4 million for the first objective (agricultural production), and up to €3.2 million for the second (extension services). The program is open to nonprofit organizations in the EU member states and ACP countries (including Zimbabwe), and to international organizations. Reference EuropeAid/132976/L/ACT/ZW. The deadline for concept notes is 16 July 2012.

### [International Food Policy Research Institute \(IFPRI\) - African Growth and Development Policy Modeling Consortium](#)

The African Growth and Development Policy (AGRODEP) Modeling Consortium announces its first annual call for competitive grant proposals to support research on emerging issues in Africa that have previously



## Spatial Data Infrastructure – Africa Newsletter



received little or no attention. The topic of this year's grants is "Foreign Direct Investment in Land, Land Markets and Land Institutions, and Development of the Agricultural Sector in Africa." Proposals may address any or all aspects of this topic. Researchers and research organizations in and outside of Africa are invited to apply, including AGRODEP members. Proposals should range from US\$10 thousand to US\$15 thousand. The closing date for applications is 16 July 2012.

### [Netherlands Organization for Cooperation in Higher Education \(NUFFIC\) - MENA Scholarships 2012](#)

The government of the Netherlands funds the MENA Scholarship Program to contribute to capacity building in seven countries of the Middle East and North Africa: Algeria, Iraq, Lebanon, Morocco, Oman, Syria, and Tunisia. The grants are to mid-career professionals who are employed by organizations and institutions in professional fields that include water management; agriculture, forestry, and fisheries; and geographic information science (among others). Each year, the program aims to support about 120 professionals, half of whom are women. The application deadline is 2 July 2012.

### [Organization for Women in Science for the Developing World \(OWSD\) - Postgraduate Fellowships 2012](#)

OWSD invites applications from female scientists in Sub-Saharan Africa and Least Developed Countries (LDCs) to apply for doctoral fellowships in the natural sciences. The fellowships are for the pursuit of a doctoral degree at a host institution in a developing country, but not in the applicant's home country. Applicants should be qualified young women science graduates (generally below 40 years of age), who have a MSc. degree or outstanding B.Sc. in the natural sciences. The deadline to apply is 31 July 2012.

### [United Nations University - Grants for Capacity Building in Agricultural Research 2012](#)

With funding from the government of Japan, the United Nations University Institute for Sustainability and Peace (UNU-ISP) makes grants for research capacity building in agriculture. The program is "On the Job Research Capacity Building for Sustainable Agriculture in Developing Countries" (OJCB). Grants are proposed and implemented by leading scientists (host scientists) who are engaged in research on sustainable agriculture (including forestry and fisheries) in developing countries, under the responsibility of a host institution. The host scientists train and supervise one or more younger scientists for one or several months. The grant amount varies with the number of trainees per project. The application deadline is 20 July 2012.

### [Women's Leadership Program in Education \(2012\) - Rwanda](#)

Request for Applications (RFA) is invited for women's leadership Programme in education in Rwanda. This request for application is announced by Higher Education for Development (HED), in association with the United States Agency for International Development in Rwanda ([USAID](#)). HED expects to make one award of \$1,080,000 for the period from October 1, 2012 to June 30, 2015 for a higher education partnership between one or more higher education institutions in the United States and the Kigali Institute of Education (KIE) in Kigali, Rwanda.

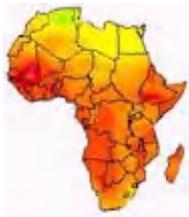
The main aim of the partnership is to support the Government of Rwanda and USAID/Rwanda's education development goals which promote gender equality and female empowerment. This partnership is part of an innovative effort known as the Women's Leadership Program, whose objective is to encourage national as well as local development goals which promote gender equality and female empowerment. Subject to the availability of U.S. government funding, HED anticipates issuing a total of five RFAs for higher education partnerships under the Women's Leadership Program in Rwanda, Paraguay, South Sudan and Armenia. Deadline: 9 July 2012.

## Employment Opportunities

### [Programme Officer - African Forest Forum](#), Nairobi, Kenya

The African Forest Forum (AFF) is an association of individuals who share the pursuit and commitment to the sustainable management, use and conservation of the forest and tree resources of Africa for the betterment of the socio-economic wellbeing of its people and for the stability and improvement of its environment.

The African Forest Forum is recruiting for the position of a Programme Officer to be based at its headquarters in Nairobi, Kenya, or at some other location, reporting to the Executive Secretary through the



## Spatial Data Infrastructure – Africa Newsletter



Senior Programme Officer. Duties and responsibilities: to assist the Senior Programme Officer in the coordination and implementation of activities on:

- Climate change as it relates to forest resources and livelihoods;
- The fuel-fibre-food nexus;
- Forest-water relations.
- Represent the AFF, on behalf of the Executive Secretary, on matters relating to the above duties, and on any other matters as directed by the Executive Secretary and the Governing Council of AFF.

Minimum qualifications and skills

1. Masters degree in forestry, environment, natural resources management or related area, plus a minimum of 5 years of post masters experience
2. Must have the capacity and demonstrated experience in the application of forest science to the management of natural resources;
3. Must be a good team player;
4. Excellent written and oral communication skills in French with a working knowledge of English.
5. Female applicants from the Congo Basin countries have an advantage.

All correspondence should be addressed to the Human Resources Unit, World Agroforestry Centre (ICRAF), P.O. Box 30677, Nairobi, Kenya OR via email: [icrafhru@cgiar.org](mailto:icrafhru@cgiar.org). Applications will be considered until 20th June 2012, and should indicate "Application for a Programme Officer - AFF" on their application letters and email submissions.

Application Deadline: Friday, 22 June 2012.

### [Volunteer Coordinator/Research Officer](#), South Africa

UmPhafa Private Nature Reserve currently has a paid position for a Volunteer coordinator/Research Officer. More recently UmPhafa has opened its gates to researchers, both independent and attached to institutions, to undertake projects for a range of motives, from BSc dissertations to PhD thesis and further. UmPhafa staff members facilitate the collection of data by offering in-depth knowledge of the reserve, and providing vital advice and assistance with survey methodology.

The Research Officer will assist UmPhafa Staff in the operation of the placement programme, assist in the running of any research projects during both times when volunteers are present on the reserve and during interval periods, work as an assistant to Liam Westall in the planning and operation of the volunteer programme, research projects and the production of reports including data entry and analysis, and assist with the day to day duties involved in reserve management. Requirements:

- An honest and trustworthy character
- Comprehensive understanding of African ecosystems and a willingness to increase this knowledge
- Experience of working with wild animals
- Experience of scientific research projects, carried out in the field, including data analysis
- Experience in volunteering programmes and placement schemes either at staff or volunteer level
- Ability to learn quickly and adapt to new conditions well
- High level of initiative with the ability to lead teams effectively and work without direct supervision at times
- Excellent interpersonal skills and confidence with leading and addressing groups of people
- Excellent organisational skills, Excellent communication skills (verbal and written), Excellent level of physical fitness, Fluent in English Language, Full Driving License
- Knowledge of email and Microsoft Office package

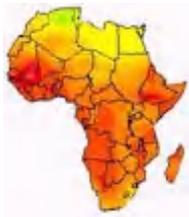
Full job description can be requested from: [Liamwestall@gmail.com](mailto:Liamwestall@gmail.com). Applications by CV and cover letter only to [Liamwestall@gmail.com](mailto:Liamwestall@gmail.com). Application deadline: 21 June 2012.

### [Ivory Crisis Strategist and Operations Officer](#), Nairobi, Kenya

Save the Elephants (STE), [www.savetheelephants.org](http://www.savetheelephants.org), recognizes the rapidly increasing demand for ivory as a threat to elephant survival. Seizures of illegal ivory and ivory prices reached an all time high worldwide in 2011, accompanied by record levels of illegal killing of elephants in the four regions of Africa, which continues to escalate in 2012.

Save the Elephants now invites applications for the post of: Ivory Crisis Strategist and Operations Officer

You will assist Dr Iain Douglas-Hamilton, the CEO of Save the Elephants, to devise a strategy to reduce illegal trade and killing of elephants for ivory and to lower demand in China and other consuming nations. You will need to be passionate about elephant conservation and hold a higher degree. Field experience in Africa would be helpful.



## Spatial Data Infrastructure – Africa Newsletter



You will need the ability to process reports quickly, and from complex statistics synthesize presentations suitable for the CEO to share with concerned individuals, organisations, governments, and at international meetings. You will be central to helping the CEO forge a coalition of parties to tackle this problem. You will have excellent writing skills, a creative mindset, and the ability to network and share information.

You will have managerial experience, ideally supplemented with understanding of databases and concepts of modeling. To apply please forward your cover letter and curriculum vitae directly to: [ivorystrategist@savetheelephants.org](mailto:ivorystrategist@savetheelephants.org). Closing date for applications: 15 June 2012.

### [Internship at Map Kibera](#), Nairobi, Kenya

Map Kibera is seeking a summer intern to help coordinate election monitoring preparation through Voice of Kibera! This is an amazing opportunity to get hands-on experience with a fantastic group of youth from Kibera, who are working on cutting-edge citizen journalism to help increase access to information and impact for slum dwellers. It's also a test-run of the power of new technologies to prevent violence and support transparency for elections. See <http://www.voiceofkibera.org>. VoK is one of the three programs of Map Kibera Trust.

Preparations are underway for the next Kenyan presidential elections. During the constitutional referendum of 2010, we tested the use of our tools successfully (see <http://www.mapkibera.org/blog/2010/08/12/reviewing-the-referendum-reports/>).

The intern will support the members of the Map Kibera Trust to organize the current phase of development of Voice of Kibera as a key monitoring tool for the election, as well as pre- and post-election feedback. The plan includes popularising citizen journalism by mobilizing Kibera residents at community forums and training them on our toolset: SMS reporting, use of social media, still photography, online report submission, interviewing techniques, mapping reports. Required:

- Graduate level education completed or currently in process in a relevant subject area
- Experience in Kenya preferred; at minimum, field-level work experience in developing country environment required.
- Familiarity with tools of new media such as Ushahidi, blogging, online journalism, video production, podcasting.
- Familiarity with open source tools and concepts, and open data tools and concepts.
- Background in at least two of the following: journalism, political processes and democracy-building, mapping, ICT for development, mobiles for development, community or grassroots organizing, participatory development processes, software development.
- Ability to work in challenging conditions and with young people.

Please send your CV, a brief statement about your interest and qualifications for this internship to: contact at mapkibera dot org. Internship date: June-September, 2012 (approximate dates).

### [Web Developer/Database Consultant at Helen Keller International](#), ILRI Campus, Nairobi, Kenya

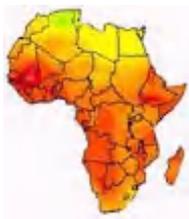
The International Potato Center (CIP) and Helen Keller International are currently involved in the Reaching Agents of Change project (RAC), an initiative to increase the capacity of African institutions, advocates, and implementing organizations to raise resources and effectively implement orange fleshed sweet potato (OFSP) programs in three focal countries: Tanzania, Mozambique and Nigeria.

The project is seeking to hire a web developer to install and customize a Contacts Relations Database based on CiviCRM, for use by project staff. Consultancy period: 20 working days (18th June -13th July 2012)

The ideal candidate for this consultancy should have the following competencies:

- Extensive experience installing, configuring and maintaining CiviCRM systems as well as other applications, primarily open source systems
- Experience in determining appropriate configuration options to meet specific functional requirements for projects and organizations
- Experience writing custom code and templates using various web languages including PHP, HTML and JavaScript
- Ability to use web server administration tools where and when appropriate
- Experience with installation and configuration of Drupal/ Wordpress/ Joomla systems
- Ability to generate and maintain clear technical and process documentation that explains how the database was implemented and customized

Expected outputs at the end of the consultancy, the selected candidate should have produced the following outputs:



# Spatial Data Infrastructure – Africa Newsletter



- CiviCRM system installed and customized
  - Project staff trained to use the database
  - A step-by-step user guide/manual to guide the use of the database developed
  - A report to provide the technical and process documentation explaining the implementation of the system
- Application documents should be sent to [sthotho@hki.org](mailto:sthotho@hki.org) by COB, Friday 8 June 2012.

## Other

### [World Bank Releases 2012 Little Green Data Book](#)



The World Bank released its annual book compiling environmental data, which includes information from more than 200 countries relating to agriculture, forests, climate, energy, water, sanitation, and ocean health. [Read more](#)

### [World Bank reports on REDD + knowledge exchange between Brazil and Africa](#)



The World Bank has published a report on the outcomes of a South-South knowledge exchange between Brazil and Africa on community forestry and sustainable forest management (SFM) within the context of REDD+ (reducing emissions from deforestation and forest degradation in developing countries, and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks). [Read more](#)

### [Global Guidelines on tenure of land, forests and fisheries adopted](#)



The 38th Session of the Committee on World Food Security (CFS) endorsed the new Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security. The new guidelines outline principles and practice for governments to refer to when making laws and policies on land, fisheries and forest rights. They aim to promote food security and sustainable development by improving access to resources and protecting stakeholders' rights. [Read more](#)

### [UNEP launches South-South cooperation network](#)



The UN Environment Programme (UNEP) has launched an online database aimed at strengthening partnerships between sustainable development projects in developing countries. The UNEP South-South Cooperation Exchange Mechanism was launched during the 17th session of the UN High-Level Committee on South-South Cooperation, convening in New York, US, from 22-25 May 2012. [Read more](#)

### [UNITAR, UNDP and South Africa hold training of trainers workshop on climate change](#)



The UN Institute for Training and Research (UNITAR), in cooperation with the UN Development Programme (UNDP) and the South African Department for International Relations and Cooperation, held an event to train climate change experts on the means and methodologies to train others. [Read more](#)

### [UN-REDD board approves funding for the Republic of Congo and Sri Lanka](#)

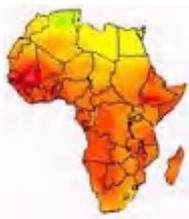


The UN-REDD Programme has released the report from its eighth Policy Board meeting, during which it approved funding to support the national programmes on REDD+ (reducing emissions from deforestation and forest degradation in developing countries, and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks) of the Republic of Congo and Sri Lanka. Both countries will each receive US\$4 million. [Read more](#).

## Conferences, Events

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

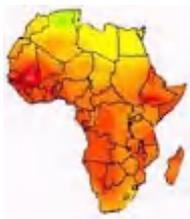
Date	Location	Event
------	----------	-------



# Spatial Data Infrastructure – Africa Newsletter



<b>June 2012</b>		
<b>13-15 June 2012</b>	Columbia University, New York	<a href="#"><u>ICELW 2012 - The Fifth Annual International Conference on E-learning in the Workplace</u></a>
<b>18-22. June 2012</b>	Albena, Bulgaria	<a href="#"><u>4th International Conference on Cartography and GIS &amp; EU Seminar on EW &amp; CM</u></a> , Deadline for abstract submission is <u>10. January 2012.</u>
<b>July 2012</b>		
<b>2-6 July 2012</b>	Galle, Sri Lanka	<a href="#"><u>MMM3: Meeting on mangrove ecology, functioning and management</u></a>
<b>3-6 July 2012</b>	Sundvolden Hotel, Oslo	<a href="#"><u>3rd International Statistical Ecology Conference (ISEC2012)</u></a> , Abstract submission deadline: 20 January 2012
<b>3-6 July 2012</b>	Salzburg, Austria	<a href="#"><u>Geomatics Forum, Linking GEovisualisation, Society and Learning</u></a>
<b>6-8 July 2012</b>	Cairo, Egypt	<a href="#"><u>10th International Internet Education Conference and Exhibition</u></a>
<b>8-12 July 2012</b>	San Diego, California USA	<a href="#"><u>ESRI User Conference</u></a>
<b>16-21 July 2012</b>	Obergurgl, Austria	<a href="#"><u>ESF research conference: Energy Landscapes</u></a> - Grants to attend
<b>August 2012</b>		
<b>2-10 August 2012</b>	Brisbane, Australia	<a href="#"><u>34th International Geological Congress</u></a>
<b>5-7 August 2012</b>	Kampala, Uganda	<a href="#"><u>8th Annual International Conference on Computing and ICT Research</u></a>
<b>5-10 August 2012</b>	Brisbane, Australia	<a href="#"><u>34th Session of the International Geological Congress (IGC 34)</u></a> Enquiries: <a href="mailto:info@34igc.org">info@34igc.org</a> .
<b>22-25 August 2012</b>	Freiburg Germany	<a href="#"><u>Experience-based Geography Learning, IGU-CGE Precongress</u></a>
<b>26-30 Aug 2012</b>	Köln, Germany	<a href="#"><u>32nd IGU International Congress</u></a> , University of Cologne, Theme: 'Down to Earth'
<b>29-31 August 2012</b>	University of Basel, Switzerland	<a href="#"><u>Third International Sustainability Conference ISC 2012</u></a> , Theme "Strategies for Sustainability: Institutional and Organisational Challenges"
<b>September 2012</b>		
<b>3-5 September 2012</b>	Gaborone, Botswana	<a href="#"><u>2nd IASTED African Conference on Health Informatics</u></a>
<b>5-7 September 2012</b>	Gaborone, Botswana	<a href="#"><u>International Conference on Water Resources Management</u></a>
<b>16-18 September 2012</b>	Columbus, Ohio, USA	<a href="#"><u>AutoCarto 2012, an international research symposium on computer-based cartography</u></a>
<b>30 September–5 October 2012</b>	Columbus, Ohio, USA	<a href="#"><u>EcoSummit 2012, Ecological Sustainability: Restoring the Planet's Ecosystem Services</u></a> . Abstract submission deadline, <u>20 January 2012</u>
<b>October 2012</b>		
<b>2-4 October 2012</b>	Gauteng, South Africa	<a href="#"><u>GISSA Ukubuzana 2012: Conference and exhibition of geo-informatics, ICT, surveying, remote sensing and location-based business</u></a>
<b>3-5 October 2012</b>	Naivasha Sopa Lodge, Kenya	<a href="#"><u>Esri Eastern Africa User Conference</u></a>
<b>15-19 October 2012</b>	Chengdu, China	<a href="#"><u>International Conference on Mountain Environment and Development</u></a>



# Spatial Data Infrastructure – Africa Newsletter



<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> .

**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@rcmr.org](mailto:sdiafrica@rcmr.org)  
or [gojwang@rcmr.org](mailto:gojwang@rcmr.org)

Global Spatial Data Infrastructure Association  
<http://www.gsdi.org>  
Copyright © 2012. All rights reserved.

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