Spatial Data Infrastructure – Africa Newsletter

GSDI
Global Spatial Data Infrastructure

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

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

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

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

Back issues of the newsletter are at the GSDI website: http://www.gsdi.org/newsletters.php
Best regards, Gordon Ojwang, Editor, SDI-Africa_AT_gsdi.org or sdiafrica@rcmrd.org or gojwang@rcmrd.org

Input to this Issue

Thank you to Kate Lance, NASA/SERVIR-Africa (USA); Hussein Farah, RCMRD (Kenya); Aster Gebremariam, ECA (Ethiopia); Sofia Ayele, ECA (Ethiopia); Vriendelijke groet and Co Meijer, Kadaster (Netherlands); David Stevens, UN-SPIDER (Vienna-Beijing-Bonn) and Lieven Bydekerke, VITO (Belgium) for their contributions to this issue of the newsletter.

SDI News, Links, Papers, Presentations

IPCC assesses geoengineering proposals

Geoengineering experts, who gathered on 20-22 June in Peru to assess proposals for manipulating the earth to avoid climate disaster, have stressed that they are not planning to make recommendations about actions the world should take - but are merely assessing whether the proposals are sound science. Spraying the atmosphere with aerosols; changing the colour of clouds; and 'fertilising' oceans with iron to increase their absorption of carbon dioxide; were some of the technological options evaluated by the international expert group at the first global meeting on geoengineering.

The outcomes from the meeting - closed to the public and convened by the UN Intergovernmental Panel on Climate Change (IPCC) - will contribute to the IPCC's fifth assessment report, due for publication next year. Environmental and human rights organisations from 40
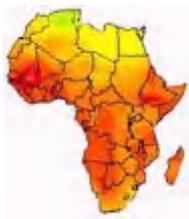
countries sent an open letter to IPCC chairman Rajendra Pachauri, protesting against the use of geoengineering to change the climate. The letter deemed the practice "alarming" and warned that the IPCC "must take great care not to squander its credibility on … a topic that is gathering steam precisely when there is no real progress on mitigation and adaptation". Silvia Ribeiro, Latin America director of the nongovernmental organisation ETC Group, said: "As a political matter, it is dangerous because it will allow industrialised countries to evade their commitments to reduce carbon emissions - offering instead the prospect of a quick solution to global warming".

But, in a press conference at the Peruvian Foreign Ministry, the IPCC expert group said that it is merely comprehensively evaluating the technologies. "The IPCC does not give recommendations," said Ramón Pichs-Madruga, co-chair of the working group, adding that the group welcomes all opinions. Christopher Field, director of the Department of Global Ecology at the Carnegie Institution for Science, United States, said that the group has taken into account all of the possible impacts of geoengineering technologies. The group analysed a range of techniques, from simple ones such as planting trees to more complicated options such as solar radiation management. An example of the latter is the injection of aerosols into the atmosphere. "We realised that there is no single option, nor is there a magic recipe, and all actions must be assessed to make better decisions," said Ottmar Edenhofer, co-chair of an IPCC working group.

## Free data has great value, but challenges remain

The images have been invaluable for researchers seeking to solve some of the world's most pressing problems. But until recently they were available only to those who could pay for them. Then, in 2008, the owners of the data - NASA and the US Geological Survey - agreed to provide free access to Landsat's database. Usage soared a hundred-fold in the following year.

Open access is a milestone for a movement that seeks ways to exploit best the scientifically useful portion of the over 1,000 exabytes of data now existing in the world (one exabyte equals one billion gigabytes). But, as a recent symposium found, there are other hurdles to overcome before open access actually delivers. International organisations now voicing support for open access include the World Meteorological Organization, UNESCO (the UN Educational, Scientific and Cultural Organization), the European Union, the US National Science Foundation and the OECD (Organization for Economic Co-operation and Development). And the roster of open access participants has expanded recently in both the public and private sectors, to include the Massachusetts Institute of Technology's Open Source Initiative, India's Open Source Drug Discovery programme and the Beijing Genomics Institute (BGI).

Atta-ur-Rahman, former minister of science and technology and federal commissioner of higher education in Pakistan, has noted, many developing countries continue to "lack a critical mass of researchers to utilise the growing volume of data and information" that is now available. There are also regulatory and policy issues concerning intellectual property rights and privacy, especially for data collected by private-sector firms used for acquiring international patents. In addition, there are security concerns. Advocates of open access, says Balstad, are not proposing that institutions allow unfettered access to sensitive data that could place the security of a nation or the world at risk. And then there are cultural issues within societies and professions. Some countries and institutions are more open than others. And all governments - not to mention private firms - hesitate to give free access to data and information that cost hundreds of millions, if not billions, of dollars to acquire and manage. Meanwhile, the intensely competitive world in which scientists work sometimes makes researchers reluctant to share data for fear of not receiving credit for their accomplishments.

FAO calls for better monitoring of water use

Developing countries are failing to account for where water is going, how it is being used and how much of it remains, according to a major report by the UN Food and Agriculture Organization (FAO). The report, 'Climate change, water and food security', published on 9 June, aims to sum up current scientific understanding of the impacts of climate change on agriculture and agricultural water management, and to highlight knowledge gaps. "Water accounting in most developing countries is very limited, and allocation procedures are non-existent, ad hoc or poorly developed," the report said. "Acquiring good water accounting practices (hydrological analysis of water resource availability and actual use) and developing robust and flexible water
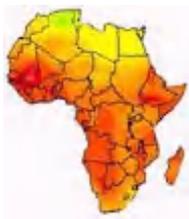
allocation systems will be a first priority [for adaptation]."

Such data would help more accurate forecasting of droughts and floods. Although forecasting technologies are commercially available in some developed countries, their quality, as well as their communication and understanding among farmers, must improve if farmers are to better adapt to climate change and reap the benefits, the report says. For example, more research is needed on how water vapour and precipitation might change in the coming decades to help computer models predict future scenarios more accurately, said Jacob Burke, senior water policy officer for the FAO and co-author of the report.

"In the meantime [farmers] must keep track of the climate and learn to monitor the environment rather than stick rigidly to old routines," he said. "Farmers with no access to formal research have to be given the message that tried and tested farming practices and routines might not work in future." Vijay Jagannathan, infrastructure sector manager for the East Asia and Pacific region of the World Bank, welcomed the report, saying it focused thinking on water, land and food - which are all central to discussions on climate change. "There is a lot of inefficiency in the existing system," he said. "The report articulates the importance of finding a win-win solution so everyone can benefit from a limited resource." Link to full report - [7.44MB].

Africa and Latin America 'lagging in ICT use'

Information and communication technologies (ICTs) can help reduce poverty, but most countries in Sub-Saharan Africa and Latin America and the Caribbean are failing to harness them adequately, with "disappointing" results in the world's rankings, according to a report. Meanwhile, several countries in the Middle East and North Africa - where the Internet played a role in recent democracy uprisings - feature among the top 50 of this year's Global Information Technology Report's rankings, produced by the World Economic Forum and INSEAD business school.

The report ranked 138 countries through the Networked Readiness Index, a measure of a country's capacity to benefit from new technologies both in terms of its global competitiveness and the impact on its citizens' lives. "ICT has shown its revolutionary power as a key catalyst for change, modernisation, and innovation, and one can safely predict this trend will only accelerate," said Soumitra Dutta, one of report's editors and a professor of business and technology at the INSEAD business school in France. The report suggests two ways in which ICTs can benefit the poor. One is by using them in businesses of direct relevance to farmers and fishermen in low-income countries. The other stems from the direct employment of individuals in the emerging ICT sector in which the poor are not just passive consumers, but active participants in the production of ICT goods and services.

Countries can boost their ICT performance by establishing better infrastructure and making new technologies more available to their populations, according to the report, which also calls for a holistic, poverty-focused approach to use of ICTs. Some countries, like Egypt, ICT usage in business and the government is not keeping up with growing use by individuals. "Corruption, wars and sectarian issues are common reasons for the African countries to lag," Yehea Ismail, an Egyptian computer scientist working at the Northwestern University, United States, told SciDev.Net. He added that each state had its own set of challenges. The 10th anniversary edition of the Global Information Technology Report (GITR) 2010-2011 was published on 12 April.

In Africa, technology helps citizens hold their governments accountable

Though the continent is rapidly urbanizing - 3.5 percent of Sub Saharan Africa's one billion people move into cities each year and local governments have trouble providing essential public services to the growing numbers of people, many municipalities are taking advantage of the rise of ICT to improve the lives of their residents. "By linking citizens and municipalities, ICT can serve as an effective tool for strengthening urban governance, which is the key to addressing the challenge of urban development," said Junaid Ahmad, the World Bank's Sector Manager for Africa Urban and Water.

In Addis Ababa, Ethiopia's capital, one municipality is using Geographic Information System (GIS) technology to create urban planning proposals, arrange public services, and devise 'targeted' revenue models. City officials apply this GIS to scientifically assess property transaction information as well as accurately evaluate all taxes related to land. As a result, in just the first year of implementation, the municipality increased its revenue from Ethiopian birr 5 million to 36 million - significantly adding to the return on investment for GIS. "GIS can help cities gather information in real-time on infrastructure and water issues to pin-point which areas need attention," said Gaurav Relhan, an ICT specialist at the World Bank. "Geo-
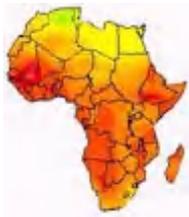
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referenced data can generate maps that reveal spatial relationships, patterns and trends that governments can use to manage and plan urban infrastructure by using the participation of their citizens."

E-Government solutions like the 'Smart City' initiative in Cape Town, South Africa, and the Contribution Network Project (CNP) in Mauritius, have allowed municipalities to efficiently manage resources, streamline tax collection, and help create a citizen-focused environment. Relhan and his colleagues recently completed a guidebook - Good Urban Governance through ICT: Issues, Analysis, and Strategies - aimed at assisting local governments and municipalities in Africa adopt ICTs in different areas of governance, ranging from collecting bills to geo-mapping during emergency situations. "We wanted to show governments how the rapid expansion of mobile communications and Internet usage in Africa can be harnessed for urban governance and development," Relhan said.

In Kenya, an e-Government service in six towns includes an Internet-based tool that allows citizens to anonymously report instances of corruption. The service is part of the country's Electronic Graft Management (EGM) project. A survey conducted in two municipalities as part of the project showed that:

- 80 percent of respondents felt that computerization had improved financial transparency
- 82 percent of respondents felt municipal financial management had become more effective
- 80 percent of respondents felt e-Government services improved accountability, as they could now track business permit licenses and monitor all payments handled by city councilors.

And following the introduction of the e-Government services project, public participation in administration in the two municipalities rose from 3.2 percent to 43 percent within 18 months of launch.

The Good Urban Governance through ICT guidebook, which offers an overview of the linkage between ICT and urban development, is a work in progress, according to Laurent Besançon, Program Coordinator for the ICT Sector in the World Bank's Africa Region. To provide feedback, please read the guidebook and submit your suggestions. A final version of the guidebook will be released by December 2011.

The Academy of ICT essentials for government leaders in Africa

The Economic Commission for Africa (ECA), in collaboration with the APCTICT of UNESCAP, has developed e-learning materials for the Academy of ICT Essentials for Government Leaders in Africa. The modules are delivered online using ECA's e-learning platform and onsite using ECA's facilities at the Information Technology Centre for Africa (ITCA) in Addis Ababa and the Sub regional Offices.

The e-learning platform is a result of ECA's efforts to expand the reach of its training courses beyond its headquarters in Addis Ababa to cater for the ever increasing requests from member States to benefit from the courses. Existence of Internet connections in almost all member States as well as the availability of course materials from ECA's and its partners' have made the e-learning initiative an effective delivery platform. The platform has enabled ECA to reach to its stakeholders locally, reduce financial constraints and creating dynamic courses enriched by participants from all over the continent. More…

African researchers in line for high-speed network

A plan to link up African researchers via a high-speed computer intranet finally has substantial backing, following a cash commitment from the European Union (EU). The EU has put forward €14.75 million (around US$21 million) to help build the high-capacity regional intranet, for academic and research institutions in Sub-Saharan Africa.

The four-year AfricaConnect project will connect national and research education networks (NRENs) in Africa and link them to Europe's multi-gigabit research and education network, GÉANT. "What this means is much easier and much faster access to online learning and research resources nationally, regionally and internationally for African researchers and students," said Francis Tusubira, chief executive of the UbuntuNet Alliance, an association of eastern and southern African NRENs.

Sub-Saharan Africa is the world's last regional community to develop a research and education intranet. Such a network uses a separate infrastructure from the commercial Internet and is usually a forerunner to improved Internet connectivity for everyone in a region. It is not for public use and is only available to researchers and students through their institutions. The AfricaConnect initiative will be coordinated by Delivery of Advanced Network Technology to Europe (DANTE), a non-profit umbrella body owned by
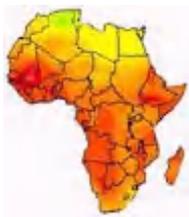
European NRENs. DANTE will work with the UbuntuNet Alliance and with West and Central African Research and Education Network (WACREN) to cover other regions in Sub-Saharan Africa.

AfricaConnect will be developed in two phases, said Cathrin Stöver, international relations manager at DANTE. The first, lasting one year, will be for procuring equipment and planning; the second will take three years, focusing on getting the system up and running. Such research and education networks enable scientists to move massive quantities of data over the Internet, said Colin Wright, from the Meraka Institute at South Africa's Council for Scientific and Industrial Research. "In South Africa, for instance, the Hartebeesthoek Radio Astronomy Observatory uses an intranet very effectively to move huge quantities of data."

Wright said the biggest cost for the new Sub-Saharan intranet would probably be laying cables to connect remote destinations. About 80 per cent of the funds will be provided by the European Commission's EuropeAid development and cooperation directorate, with the remainder contributed by African partners in the project. Partners include the Association of African Universities, existing NRENs in Africa (Democratic Republic of the Congo, Ethiopia, Kenya, Malawi, Mozambique, Namibia, Rwanda, Somalia, Sudan, South Africa, Tanzania, Uganda and Zambia) and several European NRENs (Germany, Ireland, Italy, the Netherlands, Portugal and the United Kingdom). The contract was signed on 11 May in Botswana.

Weather data may predict cholera outbreaks

Public health officials may be able to forecast cholera outbreaks months in advance by looking at temperature and rainfall data, according to a study. Researchers looked at cholera outbreaks in Zanzibar, Tanzania, and found that they correlated with increases in temperature and rainfall. They calculated that a one degree Celsius increase - from 23 to 24 degrees Celsius was followed by a doubling of cholera cases four months later. And a 20 centimetre increase of rainfall resulted in a 1.6 fold increase in cholera cases two months later.

"Our model, based on these two parameters, forecasted cases of cholera in Zanzibar well, and could act as a predictor for cholera outbreaks," Mohammad Ali, a researcher at the International Vaccine Institute in Seoul, South Korea, and one of the authors of the study, said. Monthly cholera disease surveillance reports between 1997 and 2006 allowed the researchers to map epidemics over time. These epidemics were then compared with monthly environmental data for the same period, according to the study, published in June issue of The American Journal of Tropical Medicine and Hygiene.

Cholera outbreaks were closely associated with a rise in the monthly mean of minimum daily temperatures and rainfall levels, and this data could work as a reliable forecasting system for the disease, they concluded. This would enable public health officials to prepare efficient and cost-effective interventions, such as vaccination programmes, to stem the outbreaks before they happen. "We believe that these two climate variables - temperature and rainfall can be applied as predictors in other regions," said Ali. "Now, we are working with the same type of data from Bangladesh. Our initial findings suggest that the amplification of cholera in this part of the world is also temperature driven."

But reliable data on cholera incidence is lacking in some developing countries, making it impossible to develop similar forecasting models. "I do not foresee that such a model could be developed in all countries," Ali said. "We can say, though, that neighbouring countries of Tanzania that have similar water and sanitation infrastructures may benefit from the model." The study also says that with global warming, there is possibility of increased cholera incidence in many resource-poor regions of the world. But Shafiqul Islam, a professor of engineering at Tufts University in the United States, who specialises in water issues, said that "the study period [six years] is too short to invoke 'climate' arguments". "It is not clear what physical mechanisms are important for cholera outbreaks in the Zanzibar region. Without an understanding of underlying environmental processes, it will be very difficult to validate any predictive model for cholera," he said. Link to abstract in The American Journal of Tropical Medicine and Hygiene.

Nigeria's FG launches first indigenous satellite on 7 July 2011

The Nigeria Federal Government has fixed July 7 to launch its first made in Nigeria spacecraft, known as NIGERIASAT-X, alongside that designed and built by foreigners, NIGERIASAT-2. At present, Nigeria has only one satellite in the orbit, and the launch of these two satellites will increase the number to three, making Nigeria the second African country, besides Egypt with 4 satellites.
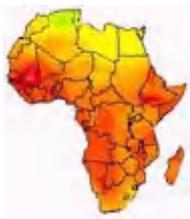
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Director General, National Space Research and Development Agency, NASRDA, Dr. Seidu Mohammed, who disclosed this at a briefing on the launch of Nigeria two high resolution satellites, said the project cost the country 34 millions pounds. He said NIGERIASAT-X depicted the ingenuity of Nigerians, as it was designed and built by Nigerian engineers trained in building of spacecraft with good configuration. "NIGERIASAT-X is the ingenuity of our engineers who have undergone training in the design and building of satellite. It depicts Nigeria's first effort at developing satellites and will be launched alongside NIGERIASAT-2. NIGERIASAT-2 is a high resolution satellite with a 2.5m GDS in the panchromatic channel and it is an improvement on NigeriaSat-1 which had a resolution of 32m".

Pan-African parliamentary science forum launched

An Africa-wide forum for parliamentarians which aims to give science, technology and innovation (ST&I) a more central role in the policy-making process was launched. The African Inter-Parliamentary Forum on Science, Technology and Innovation (AIPF-STI) was launched on 2 May by speakers, presidents and delegates of African parliaments on the sidelines of the Second Session of the Committee on Development Information, Science and Technology (CODIST-II), held in Ethiopia. All national African parliaments, the Pan-African Parliament and all regional parliamentary assemblies will be members. Observer's status may be granted to the Network of African Science Academies, the media, representatives of science councils or universities and regional and international organisations such as UNECA, the Islamic Educational, Scientific and Cultural Organization (ISESCO) and UNESCO.

Africa is the least advanced continent in ST&I and the move will boost its growth at national, regional and continental levels, said Aida Opoku-Mensah, director of the ICT and science & technology division at UNECA. "The move by parliamentarians to take interest in ST&I will help push its agenda within their governments so it gets due attention," she said at the launch. Conversations between parliamentarians and scientists should, Opoku-Mensah said, lead to improved structures for research and development - essential if Africa is to meet the Millennium Development Goals and address other development challenges.

Lidia Brito, director of the division of science policy and sustainable development in the natural sciences sector of UNESCO, said the forum will encourage dialogue but also ensure that African parliaments have structures that support ST&I such as strong parliamentary committees. "It will be about bringing parliamentarians, scientists and journalists together to share their common ground with a specific common agenda - which will be to influence the policy-making process," she said. Brito added that this is the first Africa-wide forum for parliamentarians with a central agenda of promoting ST&I.

Abdirahim Abdi, speaker of the East African Legislative Assembly, said: "For scientists to push their agenda at policy-making level, they need to work closely with MPs to lobby governments for funding against competing national interests". The forum would further this goal, he said. Abdi said the first major challenge for the forum will be funding, although all member states will carry some financial responsibility for its running costs. Possible hosts for the secretariat are the East African Legislative Assembly and UNECA. The forum was launched as a result of collaboration between UNECA, the African Union, UNESCO, ISESCO and other partners.

First science policy starts to take shape in Swaziland

A wide range of stakeholders has been meeting in Swaziland to help the country develop its first science and technology policy. The meetings have brought together the government, state-owned companies, the private sector, higher-education institutions, science and technology associations and both houses of parliament. The first draft of the policy is expected to be ready later this year.

According to Mgidi Dlamini, dean of sciences at the University of Swaziland, a national science, technology and innovation (STI) policy is essential and will improve people's living standards. "We need to specify the tools needed to link STI to national development objectives," he said. The policy will target areas such as science, education and training, research and development, innovation, industrial development, investment, management, indigenous knowledge systems and the public understanding of science.

"During the consultative meetings, held in April and May 2011, these areas were considered to be key to the development of a viable STI infrastructure for sustainable socio-economic development," Dlamini told SciDev.Net. He added that the country has relied heavily on neighbouring South Africa for research in the
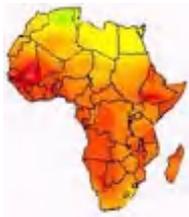
past but must now develop its own science base. By prioritising the development of improved farming methods, the policy is expected to benefit nearly 80- per cent of Swaziland's estimated one million people living in rural areas who derive their livelihood mainly from agricultural activities, Dlamini said.

Most rural people are engaged in subsistence farming or livestock herding but land productivity is low. Irrigated sugar cane plantations are the second-largest employer after the government and provide the greatest income from exports.

One of the country's biggest science projects is the construction of the Royal Science and Technology Park, which begins this year. Its manager, Moses Zungu, told SciDev.Net that the science policy "will clearly mark the operational boundaries for the science park and provide clear national priorities for the research agenda".

An audit in 2009 by UNESCO (UN Educational, Scientific and Cultural Organization) found Swaziland's research capacity to be poor in terms of financial and human resources. Just 0.2 per cent of Swaziland's gross domestic product is spent on science, and there is a shortage of engineering and technology graduates. "There is no established funding mechanism for research and experimental development at the national level," said the report.

## AfricaGIS 2011: A geospatial technology revolution in Africa

EIS-AFRICA has announced that the AfricaGIS 2011 will be held in Abuja, Nigeria between the 7th and 11th of November 2011. Sub-themes:

- Spatially-enabled Governance;
- Enterprise GIS and Land Administration: the building blocks of sustainable development;
- New Trends: crowd-sourcing, volunteered geographic information (VGI), and web services in the cloud;
- Business Geographic's: the geospatial advantage

The organisation will be supported by Agencies and Organizations in Nigeria including GEOSON,NIS, OSGOF, AGIS, SURCON, NGSA, RECTAS, NASRDA, National Population Commission, NCA, ARCSSTE-E(African Regional Centre for Space Science and Technology Education - English, Ile-Ife), FSS (Oyo), Dept of Surveying and Geoinformatics (Unilag, Nnamdi Azikwe Univ.), Geography Dept (OAU, U.I.) amongst others. Please submit abstracts to secretariat@eis-africa.org immediately.

See DRAFT Resolutions (http://www.eis-africa.org/EIS-Africa/1africagis2009_draft_resolutions.docx) resolved during the 9th AfricaGIS 2009 conference and exhibition held from 26th to 30th of October in Kampala, Uganda on the theme 'Geospatial Information and Sustainable Development in Africa; Facing Challenges of Global Change' representing the Geospatial Science and Technology community of Africa, realising the critical importance of geo-information in addressing these challenges and the role of geo-information in galvanizing the sustainable development of Africa.

Africa Geospatial Forum (AGF), 6-8 September 2011, Nairobi, Kenya
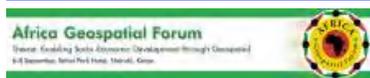
Map Africa 2010 was a remarkable milestone achieved by gaining experience, feedback and support from the audience through the journey of Map Africa series of conferences. Africa Geospatial Forum (AGF) is scheduled from 6th - 8th September 2011 at Nairobi, Kenya. AGF will be built upon the past experiences with the same objective of propagating and promoting the significant usage of Geospatial Technologies as a tool serving varied domains.

The conference will revolve around the theme "Enabling Socio-Economic Development through Geospatial", the theme is intent to bring forth how geospatial technologies act as vital tool in the growth of economic and social sector of the continent. It will bring forward how such technologies act as decision-making tools for economic developers that help them conduct analysis, and make informed decisions about where to locate new businesses or grow existing ones. It will also highlight on how geospatial is being adopted for good governance. In the context of social development, we will bring you the role of geospatial in eradicating poverty, maintaining health and education status and how it lends helping hand to other sectors which are linked to social development.

African Preparatory Conference for GGIM, 8-10 August 2011, Addis Ababa, Ethiopia

The United Nations Secretariat recently launched the Global Geospatial Information Management (GGIM) initiative with aims at setting up a formal mechanism under the UN auspices to discuss and coordinate GGIM activities and by involving Member States as the key players. The initiative has attained its maturity through the three preparatory meetings held respectively in 2009 and 2010 in Bangkok and 2011 in New York. During these meetings the discussion focused primarily on the proper role of geospatial information in the
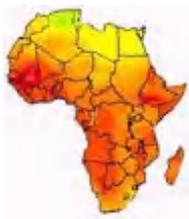
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answers to the multiple crises and disasters and in view of the low availability of relevant information in some parts of the world, participants agreed on the need to coordinate the efforts of players worldwide. The involvement of the UN to hold a global forum in which member States will play the lead role in the development of a global policy will build synergies between the decisions of geospatial conferences and facilitate quick responses to concerns and emergencies.

A general consensus has emerged on the need for a forum to better coordinate the activities of UN agencies, member states and other international organizations. A first forum will be organized in Seoul from 25 to 28 October 2011 and Africa should develop its own strategy to ensure an active participation in the process.

The Commission is organizing an African Preparatory Meeting to develop a common vision and coordinate the contribution for the Africa region to the initiative. The meeting is scheduled to take place on 08-10 August 2011 at the United Nations Conference Centre in Addis Ababa, Ethiopia. The main objective of the meeting is to establish a clear plan of action towards an active participation of African government officials and stakeholders in the GGIM initiative. For further information on the conference, contact ggim@uneca.org or fax to: +251 11 5510512.

E-AGRI training workshop - crop yield forecasting based on remote sensing, 11-14 October 2011, Rabat, Morocco

E-AGRI is a project funded by the European Commission in the 7th framework Programme (FP7). It aims to disseminate the crop monitoring technologies developed by European institutions in Africa and Asia. The workshop is organized by INRA in collaboration with VITO. The objective of the workshop is to present the yield forecasting methods developed in the European Union and Maroc. The test areas in Morocco and in the Province of Anhui, China will be used as the study cases. The event will take place from 11-14 October in Rabat. Two other Moroccan governmental agencies, the National Statistical Department (DSS) and National Meteorological Department (DMN) will also contribute to the content and the organization of the workshop. Participation to the workshop is restricted. Please contact the organizers for details. Contacts for more details: riad.balaghi@gmail.com, qinghan.dong@vito.be.

6th Annual Internet Governance Forum, 27-30 September 2011, Nairobi, Kenya

The Sixth Annual IGF meeting will be held in Nairobi, Kenya on 27-30 September 2011 at the United Nations Office at Nairobi (UNON). With the main theme of 'Internet as a catalyst for change: access, development, freedoms and innovation', it is hoped that the IGF will strengthen the Internet governance debate in East Africa. Prior to the global forum, East African countries will once again - this time in the Rwandan capital Kigali - convene to deliberate internet governance issues pertinent to the region. The East African-Internet Governance Forum (EA-IGF) was first convened in 2008 with participation from four East African countries (Uganda, Kenya, Tanzania and Rwanda). The forum aims at creating a Community of Practice that will build a sustaining foundation for meaningful participation of East African stakeholders in Internet public policy debates at the national, regional and international level.

The EA-IGF model allows for the informed participation, contribution and engagement of community members through the sharing of experiences and skills, solving common problems and challenges, the creation of new knowledge and increasing local capacity and talent in Internet Governance issues. The EAIGF follows a bottom-up multi-stakeholder approach, which begins at the national level with mailing list discussions in the five East African countries moderated by national animators, followed by national face-to-face IGFs. The national IGFs then form the building block for the regional East African IGF. More about the EAIGF: http://eaigf.or.ke/eaigf/eaigf.html.

United Nations International Conference on Space-based Technologies for Disaster Risk Management, 22-25 November 2011, Beijing, China

First Announcement - The United Nations Office for Outer Space Affairs (UNOOSA), through its UN-SPIDER Programme (United Nations Platform for Space-based Information for Disaster Management and Emergency Response) is organising the above conference to promote access and use of space-based technologies and solutions for disaster management and emergency response within relevant communities.

The focus of the conference will be to share and discuss "Best Practices for Risk Reduction and Rapid Response Mapping". The three major topics will be:

- Global datasets and information for risk reduction
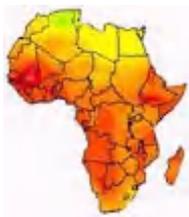
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- Rapid response mapping: opportunities and challenges
- Networks: building upon and strengthening existing capacities

Expected outcomes of this conference:

- Updated map of institutions and efforts focusing on the use of space-based applications for DRR and ER
- Strengthening the use of space-based information for disaster risk reduction by building upon the established SPIDER Thematic Partnerships to reach the goals of the Hyogo Framework for Action
- Enhancing the utility of rapid mapping products and services to serve precise needs during the emergency response
- Appraisal of the recent technology trends and programmes contributing to the space technology use in disaster risk management

Target audience: Disaster managers, policy makers, providers of space technology solutions/tools/applications from Government, Academia, NGO and corporate sector. The expected participants are limited to 200 participants. For further information, visit http://www.un-spider.org/conference-beijing-2011. Please contact Mr. Shirish Rava at shirish.ravan@unoosa.org and/or Ms. Li Suju at lisuju@ndrcc.gov.cn.

Practical SDI implementation materials from within and outside of Africa

Galileo needs two billion euros extra

Europe's biggest space programme, Galileo (Galileo satellite navigation), needs a further €1.9 billion euros to make the satellite navigation system operational, the European Commission said (18 January). The project, most recently billed at €3.4 billion across 2007-2013, has been slowed by disputes over funding that only ended when the 27-nation European Union agreed to invest public money when commercial backers withdrew in 2007. The system of 18 or more satellites aims to be operational by 2014, rivaling the dominant US Global Positioning System network and plans by China and Russia to launch their own systems.

About €1.2 billion of contracts were awarded last year to companies including Italy's Finmeccanica, Thales of France and OHB Technology of Germany. But not everything has gone according to plan. "3.4 billion euros is not enough to complete the infrastructure resulting from the Galileo programme, owing to the increased cost of the development phase, the increased price of launchers, the lack of competition for the award of some packages," the Commission said in its mid-term review of the project. "An additional financial injection of some 1.9 billion euros will be needed to complete the infrastructure of the Galileo programme."

Europe's industry commissioner, Antonio Tajani of Italy, said he was committed to bringing the project to fruition, to allow the EU to compete in a market for satellite services estimated at €240 billion in 2020. "Galileo will allow Europe to compete in the global space technology market and to impose itself as one of the leading players in a growing sector, characterised by increased internationalisation and the entry of emerging economies," he said. Cost over-runs have become a regular feature of the project, which foundered in 2007 when political squabbles led to the withdrawal of a group of companies charged with building it. They included EADS, France's Thales and Alcatel-Lucent, UK-based Inmarsat, Italy's Finmeccanica, Spain's AENA and Hispasat and a German group that included Deutsche Telekom. Galileo was only rescued when EU budget ministers agreed to pour in €2.4 billion of unused public funds, mostly earmarked for farm subsidies.

Satellite images to combat avian flu
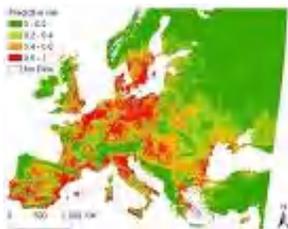
It is not only domestic poultry but also wild waterbirds that play a significant role in the spread of the avian influenza variant H5N1. With the aid of satellite data, it is possible to create risk maps for the spread of the virus by wild waterbirds. This has been shown in research by Yali Si, who obtained her doctoral degree from the ITC faculty of the University of Twente on 16 June.

A worldwide outbreak of the deadly avian flu variant H5N1 began in 2003. In studying the spread of the disease, the main focus has been on the transmission of the virus by domestic poultry. Yali Si's research has shown, however, that wild waterbirds also play a significant role in spreading the virus. Her research has revealed a strong correlation between the outbreak of the virus and the migration patterns of migratory waterbirds, over short as well as long distances.
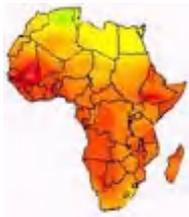
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In order to anticipate future outbreaks, it is important to be able to predict the sites at which wild waterbirds are likely to settle. Currently, there is only a very vague idea of how waterbirds migrate. Yali Si has, therefore, used field tests and satellite images to investigate which grasslands are more likely to attract wild waterbirds to feed. Her research showed that the quality of the grasslands plays an important part in determining whether the wild waterbirds will settle. The grass should not, for example, be too long or too old, as this makes grazing difficult and reduces the relative amount of nitrogen.

Satellite data can be used to create risk maps, which can then show the most popular areas for wild waterbirds and thus indicate where the risk of the spread of the avian flu virus is greatest. Yali Si demonstrated that this is a feasible method, but states that more research is needed to refine the methodology and the resulting risk maps. Yali Si conducted her research under the supervision of Professor Andrew Skidmore, Professor Herbert Prins and Dr Tiejun Wang, in the Biodiversity in Fragmenting Landscape research group at the ITC faculty (Geo-Information Science and Earth Observation). The research was supported by the China Scholarship Council. For more information or a digital version of the thesis entitled 'Avian Influenza and Migratory Birds: A Spatial-Ecological Perspective', please contact the Science Information Officer, Joost Bruysters, Tel: 053 489 2773.

Remote sensing tools for water, food and floods
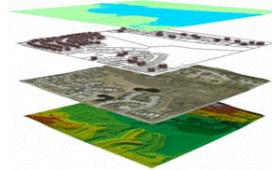
The availability of accurate hydrological data plays a key-role to developing solutions to food supply concerns and the impacts of extreme weather and rising water levels. Formulating and enforcing water management and climate adaptation policies depends on accurate information. Around the world, and particular in developing countries, such data infrastructure does not exist, hampering the ability to cope with climatic variability and change and leading to unnecessary economic and human losses.

A new Dutch initiative, the Water and Climate Services Declaration aims to improve information chains on integrated Water and Climate Services. It is signed by more than 30 organizations specialized in space, Earth Observation, hydrology, food security, geomatics and climate. These organizations share knowledge and experiences in different regions and discuss solutions to effectively address climate change challenges by developing the information chain using remote sensing techniques.

On April 28, a Dutch Mission Delegation on Water & Climate Services visited the World Bank and shared their experiences in using remote sensing techniques during two workshops focusing on water management, agriculture and food security as well as flood protection and risk management. The morning workshop was well attended by Bank staff working on relevant issues and connected to Yerevan and Lusaka. Remote Sensing tools (commonly known as Earth Observation Tools) are increasingly receiving more and more attention in the Bank as approaches to sustainable solutions in development work (download article 'Earth Observation for Everyone', featured on the Bank's main internal page on April 29, 2011 - Agenda and detailed description (pdf 326kb). For more information visit The World Bank's website or contact Mark Noort at ITC.

WFP Spatial Data Infrastructure
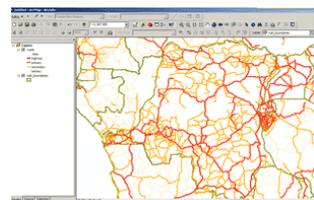
The WFP Spatial Data Infrastructure - more commonly known as the WFP SDI - is an agency-wide SDI, created to share, manage and store global geospatial data, which are standardised and regularly updated. It strives to provide data to staff in Country Offices, Regional Bureaux, and at headquarters at a keystroke, without losing time or duplicating efforts. It is a translation of the United Nations Spatial Data Infrastructure (UNSDI) vision into operational system, fully compliant with UN Geographic Information Working Group (UNGIWG) supported standards, and responsive to complex WFP users' requirements.

The WFP SDI is managed by the Emergency Preparedness and Response Branch (ODEP), WFP's corporate focal point for all geospatial data and remote sensing technology. It contains several geo-databases, including:

- Geography (i.e. administrative boundaries, populated places, water bodies, etc.)
- Transportation, also known as SDI-T (i.e. roads, railways, ports, airports, bridges, etc.)
- WFP themes (i.e. Regional Bureaux, WFP Offices, etc.)
- Sectoral themes (i.e. population, land cover, irrigated areas, etc.)
- Raster layers

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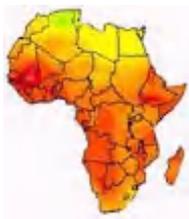
![GSDI logo - Global Spatial Data Infrastructure]

UNGIWG at its 7th plenary meeting in 2006 endorsed a strategic vision for a UNSDI as a comprehensive, decentralized geospatial information framework that facilitates decision-making at various levels by enabling access, retrieval and dissemination of geospatial data and information in a rapid and secure way. In line with this directive, WFP moved ahead with the establishment of its organisation-wide SDI, thereby significantly improving the agency's capacity to deal with spatial data.

GIS Tools, Software, Data

Google tool tracks dengue fever

An online tool that tracks local Internet searches could help health officials in developing countries respond more quickly to dengue fever outbreaks, according to a study. Researchers looked at web-based search data on dengue in Bolivia, Brazil, India, Indonesia and Singapore between 2003 and 2010 and found that search queries correlate well with actual dengue cases.

The tool, Google Dengue Trends, was inspired by Google Flu Trends, a similar service developed in 2008 to detect flu outbreaks, according to Emily Chan, researcher at the US-based Children's Hospital Boston and the lead author of the article, published in PLoS Neglected Tropical Diseases on 31 May. The intention is to complement, rather than replace, traditional dengue surveillance, said Chan, adding that "it could serve as a stepping stone for prompting further investigation when there are unexpected increases in dengue-related searches".

Chan said most traditional dengue surveillance systems depend on the recording of hospitalisations, which may be slowed down by bureaucracy and lack of resources. "In contrast, web search query data is available for analysis within a day," she said. Google Dengue Trends is freely accessible online so anyone interested in the dengue status of the five countries can access the data. It maps the search data on a scale from minimal to intense, picking up on people searching for more information about the disease, its symptoms or treatments. But since it depends on sufficient web search volume, its use may be limited in rural areas and developing nations that tend to have limited or no Internet access, the study says.

Susi Indraswati, a medical worker at the in North Sumatra, stressed the need for early warning of dengue outbreaks, given that health agencies in rural areas can update case numbers as infrequently as once a month or year. "There are places where data are rarely updated and unreliable, one of them is Indonesia," Susi said, adding that the tool should pose a motivation for Indonesia's health institutions to keep their data reliable and up to date. Link to full paper in PLoS Neglected Tropical Diseases.

Geoportal: A new fantastic tool!

The SDI-T (Spatial Data Infrastructure for Transport) Geoportal is a web platform that allows users all over the world to visualize and obtain transport data such as roads, airports, and ports. The Geoportal was designed to be user-friendly for all, including people without any background in GIS or mapping. To view and utilize publicly available data, please use the free login (username: public, password: public).

The Geoportal is also an editing tool for Logistics Cluster members. For access with editing rights, please submit a request to christophe.bois@wfp.org and maps@logcluster.org. Attachment: SDI-T Geoportal User's Guide - pdf 1.2 MB.

Data collection using GPS

During emergencies, data collection in the field is the most valuable way to get up-to-date information about logistics and transport infrastructures. The Logistics Cluster GIS team has produced this guide to help logisticians in the field gather data about infrastructure using GPS units and SDI-T assessment forms. The guide covers:

- How to combine using a GPS unit and the SDI-T assessment forms for the most useful data collection;
- Calibration of GPS units for data collection;
- Collecting waypoints and tracks;
- Types of points to collect; and
- Downloading data from the GPS unit to a computer for transfer to GIS officers.

For downloading data from a GPS unit, you can use the open-source program DNRGarmin available here. Directions are included in the guide. Attachment: Guide for data collection with GPS - pdf 129.5 kB.

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GSDI
Global Spatial Data Infrastructure
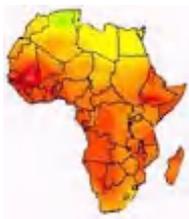
GEO forest carbon tracking portal now live

The portal for the GEO Forest Carbon Tracking (FCT) Task was launched at the GEO-VI Plenary meeting in Washington DC and can now be viewed on-line at www.geo-fct.org. The portal allows users to visualize the FCT National Demonstrators, the relevant Validation Sites and the inventory of the coordinated acquisitions of satellite and in-situ data; maps and information resulting from the processing of the data will also be posted here when available. The Forest Carbon Tracking Task (GEO FCT) has been established to support countries wanting to establish national forest-change, carbon estimation and reporting systems. It will facilitate access to long-term satellite, airborne and in situ data, provide the associated analysis and prediction tools, and create the appropriate framework and technical standards for a global network of national forest carbon tracking systems. The task follows the guidelines set out by the United Nations Framework Convention on Climate Change (UNFCCC). Its outputs will be available to support interested countries in their efforts to implement the Convention. The task is being carried out by a partnership of GEO member governments, key UN bodies, space agencies, the science community and the private sector.

The seven demonstrator countries for 2009-2010 are Australia, Brazil, Cameroon, Guyana, Indonesia, Mexico and Tanzania. A three-minute video describing the portal is also available.

Global Digital Elevation (DEM) model released
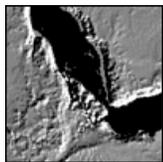
Japan's Ministry of Economy, Trade, and Industry (METI), the US Geological Survey (USGS) and the US National Aeronautics and Space Administration (NASA) released the ASTER GDEM on 29 June. By providing a well validated, high-resolution global topography framework, the GDEM is major step forward for both research and operations that depend on Earth observations. For more information, see press releases at http://www.prnewswire.com/news/index_mail.shtml?ACCT=104&STORY=/www/story/06-29-2009/0005052273&EDATE= and http://www.meti.go.jp/english/press/data/20090626_03.html

UN unveils new Global Risk Data Platform

The United Nations and its partners are presenting an innovative new portal for disaster risk-management data on 19 June. The launch will take place at the Second Session of the Global Platform on Disaster Reduction, which is being held in Geneva from 16 to 19 June.

## Earth System Atlas promotes access to research data

The International Geosphere-Biosphere Programme (IGBP) has long recognized the challenge of sustaining, and ensuring continued access to, the numerous data bases being generated by researchers. One of the most active spin-offs from the IGBP's early efforts in this field is the Earth System Atlas. Types of data available are listed in the table below. More..

Geospatial Research, Applications, Reference Material

Spatial-temporal analysis of wooded grassland ecosystem for management of wildlife habitats using Landsat imageries

The study focuses on spatial-temporal variation analysis of Tarangire National Park forest ecosystem cover change over the past 30 years (1979 - 2009). Spectrally normalized multi-temporal Landsat MSS, ETM+ and TM data for 1979, 1988, 1999 and 2009 were used to map and evaluate temporal changes in wooded grasslands as wildlife habitats. To obtain accurate class variability result all images were calibrated in terms of radiance, followed by conversion of radiance data to surface reflectance. Supervised Maximum Likelihood Classification algorithm was applied to categorize the wooded grassland ecosystem into woodland; grassland/shrub land and barren cover types. Accuracy assessment was done for each classification result. Change detection was carried out based on post-classification technique whereby two scenes acquired at different dates were compared on pixel-by-pixel basis. The result obtained indicates that there is a significant loss of woodland cover over the past 30 years with an increase of grassland/shrub land and bare land cover classes. Finally it is recommended that causes of wooded grassland cover variation should be investigated and measure to conserve the woodland cover should be taken. Abstract submitted to "1st Forestry Workshop: Operational Remote Sensing in Forest Management" Contact: Dorothea Deus at dorothd@gmail.com.
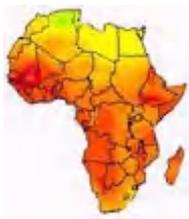
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Python based GIS tools for landscape genetics: Visualising genetic relatedness and measuring landscape connectivity
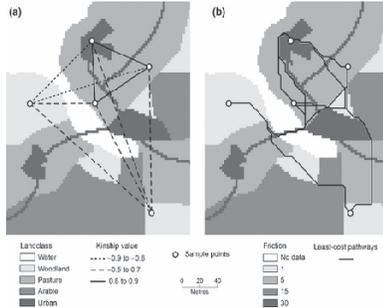

Landscape genetics is an area of research that can help to understand "many spatial ecological processes, but requires significant interdisciplinary collaboration". Use of geographic information system (GIS) software is essential, but requires a degree of customisation that is often beyond the non-specialist. To help address this, a series of Python script based GIS tools have been developed for use in landscape genetics studies.

The test data supplied with the ArcToolbox can be used with a) the Kinship links tool to create lines between sample points which can be symbolised based on the strength of each pair-wise kinship value. This allows for the spatial visualisation of pair-wise relatedness to try and identify genetic patterns in relation to the landscape. From interpretation of the kinship links it is possible to b) assign sensible friction values to the landscape and use the Least-cost path tool to generate a least-cost pathway (LCP) between each pair-wise combination of sample points to see if variation in LCP is correlated to variation in genetic relatedness.

The scripts convert files, visualise genetic relatedness, and measure "landscape connectivity using least-cost path analysis. The scripts are housed in an ArcToolbox that is freely available along with the underlying Python code. The Python script allows researchers to use more current software, and provide the option of further development by the user community, and reduce the amount of time that would be spent developing common solutions." See Methods in Ecology and Evolution, Volume 2, Issue 1, pages 52–55, January 2011 - Thomas R. Etherington. Read the paper

Mapping the risk of anaemia in preschool-age children: The Contribution of Malnutrition, Malaria, and Helminth Infections in West Africa
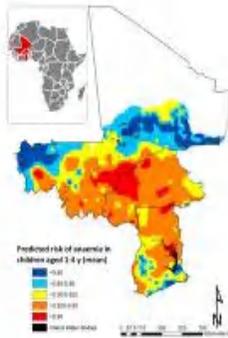
Childhood anaemia is considered a severe public health problem in most countries of sub-Saharan Africa. The geographical distribution of prevalence of anaemia and mean haemoglobin concentration (Hb) in children aged 1-4 y (preschool children) was investigated in West Africa. The aim was to estimate the geographical risk profile of anaemia accounting for malnutrition, malaria, and helminth infections, the risk of anaemia attributable to these factors, and the number of anaemia cases in preschool children for 2011.

Predictive geographical risk of anaemia in children aged 1–4 y, based on a model-based geostatistical Bernoulli model. National cross-sectional household-based demographic health surveys were conducted in 7,147 children aged 1-4 y in Burkina Faso, Ghana, and Mali in 2003-2006. Bayesian geostatistical models were developed to predict the geographical distribution of mean Hb and anaemia risk, adjusting for the nutritional status of preschool children, the location of their residence, predicted Plasmodium falciparum parasite rate in the 2- to 10-y age group (Pf PR2–10), and predicted prevalence of Schistosoma haematobium and hookworm infections. In the four countries, prevalence of mild, moderate, and severe anaemia was 21%, 66%, and 13% in Burkina Faso; 28%, 65%, and 7% in Ghana, and 26%, 62%, and 12% in Mali. The mean Hb was lowest in Burkina Faso (89 g/l), in males (93 g/l), and for children 1-2 y (88 g/l). In West Africa, severe malnutrition, Pf PR2–10, and biological synergisms between S. haematobium and hookworm infections were significantly associated with anaemia risk; an estimated 36.8%, 14.9%, 3.7%, 4.2%, and 0.9% of anaemia cases could be averted by treating malnutrition, malaria, S. haematobium infections, hookworm infections, and S. haematobium/hookworm coinfections, respectively. A large spatial cluster of low mean Hb (95%) was predicted for an area shared by Burkina Faso and Mali. We estimate that in 2011, approximately 6.7 million children aged 1–4 y are anaemic in the three study countries. By mapping the distribution of anaemia risk in preschool children adjusted for malnutrition and parasitic infections, we provide a means to identify the geographical limits of anaemia burden and the contribution that malnutrition and parasites make to anaemia. Spatial targeting of ancillary micronutrient supplementation and control of other anaemia causes, such as malaria and helminth infection, can contribute to efficiently reducing the burden of anaemia in preschool children in Africa." Read more
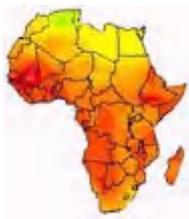
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Training Opportunities

African Regional Centre for Space Science and Technology Education in English (ARCSSTE-E)

The African Regional Centre for Space Science and Technology Education in English (ARCSSTE-E) is established in Nigeria at Obafemi Awolowo University Campus, Ile-Ife. Within the frame work of its mandate to build capacity in core areas of Remote Sensing and GIS, Satellite Communication, Satellite Meteorology and Global Climate and Basic Space and Atmospheric Sciences Applications.

The Space Education courses comprise a 9-month Post Graduate Diploma programme (January to September) every year; and an optional 12 months MSc degree programme. The list of courses:

- Satellite Communication (SATCOM)
- Satellite Meteorology (SATMET)
- Remote Sensing/Geo Information System (RS/GIS)
- Basic Space

The Center trains participants mostly from English speaking African countries: Angola, Botswana, Cameroon, Egypt, Ethiopia, Ghana, Kenya, Lesotho, Liberia, Malawi, Mozambique, Namibia, Nigeria, Sierra Leone, South Africa, Sudan, Swaziland Tanzania, The Gambia, Uganda and Zimbabwe. Deadline for applications: 30 September of each year.

ESRI Technical Certification

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. Advice on the best training and preparation for a particular certification is available. Read more.

ESRI South Africa presents a full spectrum of GIS courses: July-August 2011

- 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

Free ESRI Courses

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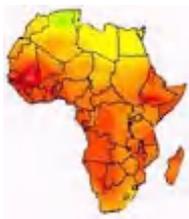
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GIS and Remote Sensing Courses at Esri Eastern Africa

ESRI Eastern Africa is now offering update courses to conform to improvements in ArcGIS 10 and ENVI 4.8, conducted with skilled and experiences 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://esrieatraining.cloudapp.net/. For more information, contact by email: 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.

Training at Oakar Services

Oakar Services continues to building capacity for geospatial solutions within Eastern Africa. The following courses are available in 2011, which are offered at Oakar's Training Centre or client's site.

GIS based courses	Duration (Days)
Introduction to GIS	2
Fundamentals of ArcGIS	5
Managing Water Utilities Using ArcGIS	3
Introduction to Web Mapping	3
GIS for Natural Resources Management	3
Using GIS for Resource Planning and Management	3
Working with ArcGIS 3D Analyst	2
GPS based courses	
Data Collection Using GPS	2
Mobile Mapping Using MobileMapper Field software	2
Mobile Mapping Using ArcPad	2
Remote Sensing based	
Introduction to Remote Sensing	2
Image Processing with ERDAS Imagine	3
Fundamentals of ERDAS IMAGINE I	4
Fundamentals of ERDAS IMAGINE II	3
Introduction to Leica Photogrammetry Suite (LPS)	4
Stereo Analyst for ArcGIS	3
Specialist Course	
ArcFM UT (Utilities Solution)	5
Introduction to Cellular Expert and Implementation	5

You can register for Focused Training Events on GIS, GPS and Remote Sensing. Futher information and enrollment - www.osl.co.ke or email at training@osl.co.ke or call Catherine or Teddy on Tel: +254-20-2718321 / 2715276 | Mobile: 0721-244785 / 0733-448255.

ITC Education Brochure 2011-2012 online

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

NFP Course List 2011-2012

Short courses in agriculture, forestry and fishery, fellowship provided. Application deadlines: 1 October 2011.
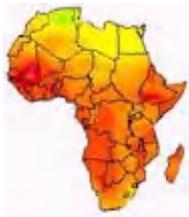
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L'Ecole Régionale post-universitaire d'Aménagement et de gestion Intégrés des Forêts et Territoires tropicaux (ERAIFT) [Regional School on Integrated Management of Tropical Forests and Territories] **–** l'ÉRAIFT est une école d'avant-garde au service du développement humain et durable de l'Afrique.

Elle a pour vocation de former des Spécialistes (DESS & Ph.D) de l'Aménagement et de la Gestion des Forêts et Territoires Tropicaux, par une Approche Interdisciplinaire, Globale et Intégrée, autrement dit Systémique. Contact: info@eraift.org.

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

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

PAEPARD innovative partnerships

PAEPARD invites innovative partnerships to apply for support. The Platform for African-European Partnership on Agricultural Research for Development (PAEPARD) supports the establishment of innovative multi stakeholders partnerships of African and European stakeholders that engage in agricultural innovation and collaborative research to address shared challenges and opportunities of the partners involved. Aspiring partnerships are invited to apply for support to establish their partnership and formulate collaborative ARD proposals. Successful partnerships established through this process will benefit from support from PAEPARD through the training and coaching of their innovation-facilitators. The latter will help facilitate and coordinate the partnership. Applications should be received at the address indicated in the application form no later than 15 July 2011.

Efico Fund - Applications 2011

The Efico Fund (Fonds Efico) makes grants for the sustainable improvement of poor populations which produce coffee and/or cocoa in developing countries. Projects are funded for one or more years up to a maximum of €20 thousand per year. Grants by the Efico Fund are administered through the King Baudouin Foundation, Belgium. The deadline for applications is 1 September 2011.

Global Development Alliance 2011

USAID invites applications for public-private partnerships in its programs for agriculture, climate change, water management, disaster preparedness, and others. Partners are businesses and NGOs in countries where USAID has field missions, with exceptions for multi-country initiatives. Partners contribute resources (in the form of personnel, facilities, materials, and money) in a 1:1 match with USAID. Past awards range from US$50 thousand to US$10 million. Reference M/OAA/GRO/EGAS – 11-002011. TVG Note: "Funds for
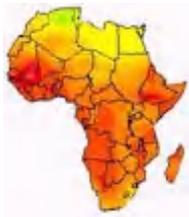
NGOs" provides a convenient summary of how to apply. Concept notes are accepted through 30 September 2011.

PhD fellowship: Call for applications open

For the application deadline 1 November 2011, the following research topics are available within the two scientific fields of the FONASO programme (i) economics and policy, and (ii) ecology and silviculture. The FONASO topics fall within the following 4 categories:

- Economics and Socio-Economics of Forest and Nature
- Governance, Policy and Sociology of Forests
- Forest Ecosystems and Ecosystem Services
- Silviculture and Sustainable Forest Management

FONASO doctoral candidates will be part of research groups at two or more of the twelve partner institutions. All applicants must choose one of the described topics as base for their doctoral study synopsis.

2011-2012 fully funded CARTA PhD fellowships, Africa

The CARTA program draws together disciplines required to address the complex processes that influence health. These disciplines include Epidemiology, Psychology, Biostatistics, Anthropology, Health Economics, Health Promotion; Demography, Sociology, Health Systems, Health Policy, Development Studies, and their interfaces with the biomedical sciences. The CARTA multidisciplinary approach will prepare its graduates to better address questions of contemporary policy relevance such as the social determinants of health, and the limited impact of technological advances on health in Africa.

CARTA is currently offering a fully-funded, collaborative doctoral training program in public and population health. This program has been developed in response to the great challenges faced by Africa's institutions of higher education in addressing the training and retention of the next generation of academics in the region. Women are particularly encouraged to apply. CARTA has reserved a small number of scholarships for doctoral students conducting research on issues of sexuality and reproductive health and rights.

Participating African Universities: Makerere University, Uganda; Moi University, Kenya; National University of Rwanda; Obafemi Awolowo University, Nigeria; University of Dar es Salaam, Tanzania; University of Ibadan, Nigeria; University of Malawi; University of Nairobi, Kenya; University of the Witwatersrand, South Africa. Participating Research Institutes: African Population & Health Research Center (APHRC), Kenya; Agincourt Population and Health Unit, South Africa; Ifakara Health Institute, Tanzania; KEMRI/Wellcome Trust Research Program, Kenya. Application deadline: 15 July 2011.

International Elephant Foundation - Grants 2012

The International Elephant Foundation makes grants for conservation and research of elephants in Africa and Asia. Grant themes in 2012 are: actions to address human-elephant conflicts; actions to eliminate killing and trafficking of elephants; community capacity building; conservation education; management of elephant populations; and critical diseases. Awards are typically about US$10 thousand per year. Eligibility extends to organizations and individuals internationally -- including students, scientists, and institutions. Deadline for the application: 12 August 2011.

Stockholm International Water Institute - Stockholm Water Prize 2012

The Stockholm Water Prize is awarded annually for outstanding achievements supporting the availability, conservation, and protection of the world's water resources. The award is open to individuals and organizations of any nationality whose work contributes broadly to the conservation and protection of water resources. The Prize is US$150 thousand and a crystal sculpture. Deadline for nominations: 15 September 2011.

TWAS - Grants for International Meetings 2011

The Academy of Sciences for the Developing World (TWAS) makes grants to support the organization of high-level international and regional scientific activities in developing countries by offering financial assistance for conferences, workshops, symposia, and special meetings held in these countries. Application deadline: 1 December each year.

Employment Opportunities
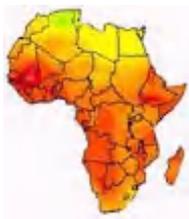
Transboundary Diagnostic Analysis (TDA) Coordinator, Volta River Basin

UNOPS seeks highly qualified individuals for the following position of Transboundary Diagnostic Analysis (TDA) Coordinator - UNOPS/2011/AFO/KEOC/PRJ/015. The current ToR outlines the roles and responsibilities of a TDA Coordinator to lead the project team to finalise the TDA for the Volta River basin. For the preparation of the final TDA it is envisaged that a core team of regional or international experts takes responsibility on a basin-wide scale individually or as part of a consultancy consortium. The core TDA team comprises:

• TDA Coordinator (Team Leader) • Water Resources expert • Ecosystems Management expert • Economic expert (development planning) • Governance expert • National experts from the basin states, contributing data and performing studies on specific issues on a national basis, complement this team.

The principal activities to be performed by the TDA Coordinator include:

- In collaboration with the other TDA core team members, assess national TDA reports and, in consultation with the PMU, prepare a workplan for activities needed to address identified gaps in each basin state and taking project timelines and available budget into account.
- Review the four thematic reports prepared by TDA regional experts; ensure consistency between the various thematic areas as well as the quality of the content of the reports.
- Coordinate the inputs from the core TDA team members.
- Update and document the causal chain analysis based on available information and data
- Provide frequent updates on progress and notify the Project Management Unit of any significant shortcomings or delays in the delivery of consultant reports.
- Prepare; compile and edit; the first draft TDA with input from the respective core team members.
- Integrate comments and inputs from external technical reviewers and relevant stakeholder, gathered at the respective national and regional workshops, into a final TDA.

The consultant should have the following qualifications and experiences: • Considerable experience in TDA/SAP development and/or GEF IW projects, • A higher university degree in environmental science, water resources management or other related fields, • Experience in working with and relating to governments and international agencies, • Extensive, with at least 11 years of proven experience in designing and implementing successful GEF TDA/SAP processes in a broad range of contexts, preferably also in Africa, with proven project management skills, • Sound understanding of Integrated Ecosystem Management and International River Basin Management principles and approaches, • Demonstrated experience in working with participatory methodologies and coordinating a multidisciplinary scientific team, • Knowledge or experience in working on issues of governance, advocacy, and participatory monitoring, • Excellent and demonstrated (through academic journal articles or project reports) communication, consultation, editing and drafting skills, • Working experience and production of documents in English. French language skills are an asset. • Knowledge of transboundary issues in the Volta Region is an asset.

Interested candidates must submit their applications, including   1. Letter of interest, 2. Complete Curriculum Vitae, 3. Complete, updated and signed United Nations P.11 form. All of the above required documents must be sent via e-mail to angelikaq@unops.org with copy to vacancieskeoc@unops.org. Kindly indicate the vacancy number and the post title in the subject line of the email. Closing date: 8 July 2011.

For information on the UNOPS Individual Contractor Agreement modality, please visit UNOPS website. http://www.unops.org/english/whoweneed/contract-types/Pages/Individual-ContractorAgreements-ICAs.aspx.

Post-doctoral scientist, Nairobi, Kenya

ILRI seeks to recruit a Postdoctoral scientist within its Poverty, Gender and Impact team. This position would be part of the team developing, piloting, assessing the impact of, and scaling-up index-based livestock insurance (IBLI) products. A comprehensive pilot has already been commercially launched in Marsabit District of Northern Kenya and research into its implementation in Southern Ethiopia has already begun (see, www.ilri.org/ibli). Interest from donors, development partners, and government requires scaling up of the Marsabit pilot into other arid districts of Northern Kenya. With this position we seek someone to help spearhead the design and evaluation of IBLI products for the scaling up effort in Kenya. IBLI is currently modelled by fitting a statistical relationship between remotely-sensed NDVI (Naturalized Difference Vegetation Index) and area-average livestock mortality data. As this relationship changes across space, different statistical relationships need to be modelled and different products designed and priced. The successful candidate will develop improved modelling techniques to expand contract precision and coverage. Ideally, the candidate will also contribute to evaluation of IBLI product impacts on household and
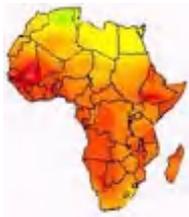
individual   behaviour   and   well-being.
The incumbent should posses:

- A PhD in Agricultural Economics, Development Economics, Financial Economics, Operations Research, Statistics, Computational Finance or any related field;
- Have a demonstrated understanding of risk analysis, risk pricing and design;
- A record of publications that demonstrates strong analytical, empirical and writing skills and shows promise and high capacity;
- Ability to work in multi-disciplinary and multi-cultural teams and a strong and effective communicator;
- Knowledge and experience of handling large GIS and remote sensing data.

This is an Internationally Recruited Staff (IRS) position with initial appointment of two years with the possibility of renewal for one year, contingent upon individual performance and the availability of funding.

Applicants should send a cover letter explaining their interest in the position, what they can bring to the job and indicating earliest availability, curriculum vitae and the names and addresses (including telephone and email) of three referees who are knowledgeable about the candidate's professional qualifications and work experience to email: recruit-ilri-Ken@cgiar.org by 22 July 2011.

Research officer – IBLI, Nairobi, Kenya

This position would be part of the team developing, piloting, assessing the impact of, and scaling-up index-based livestock insurance (IBLI) products. A comprehensive pilot has already been launched in Marsabit district of Northern Kenya and research into its implementation in Southern Ethiopia has already begun (see, www.ilri.org/ibli). The successful applicant will play a central role in managing and coordinating the research operations for the team. The IBLI project conducts two large annual household surveys in Northern Kenya and Southern Ethiopia and several other specialized modules throughout the year. It also utilizes a suite of remotely sensed data. This position involves coordinating and supervising the implementation of these surveys and will be expected to contribute to survey and research design as well as data analysis. This position also entails overseeing data cleaning and storage, writing reports based on analyzed data and contributing to research papers. The incumbent shall:

- Contribute to the design of the IBLI research for development agenda (survey instruments, implementation strategy, implementation, data collection and analysis).
- Oversee management of project data: data cleaning and storage, data inventory, data analysis, data mapping.
- Prepare comprehensive survey codebooks that fully describe the survey design, data collection methods, cleaning and inventory process.
- Prepare research reports analyzing and summarizing data.
- Communicate and disseminate research findings which should include participation in meetings and workshops, giving periodic presentations to participating institutions, and communicating to policy makers through web and popular media.
- Contribute to help strengthen existing partnerships and build new and innovative research partnerships.

Requirements

- A Masters in Agricultural Economics, Development Economics, Statistics, Rural Development or other relevant discipline
- Minimum of 6 years experience in quantitative and qualitative data collection and analysis; experience must involve both field work and survey implementation as well as data analysis and report writing.
- Sound knowledge and experience of STATA, a statistical software package.
- Demonstrated experience with data management and relevant applications.
- Knowledge and experience of GIS and related remote sensing applications is a huge plus.
- Knowledge and experience of programming language such as Fortran 90 is also beneficial.

This is Nationally Recruited Staff (NRS) position based at ILRI's Nairobi campus and is on initial 2 year contract renewable subject to satisfactory performance and availability of funding. Applications addressed to the Human Resources Director, a cover letter, curriculum vitae and the names and addresses (including telephone and email) of three referees who are knowledgeable about the candidate's professional qualifications and work experience should be emailed to: recruit-ilri-Ken@cgiar.org by 8 July 2011.

Post-doctoral scientist, Nairobi, Kenya

ILRI seeks to recruit a postdoctoral scientist within its Poverty, Gender and Impact team. The post doctoral scientist will work mainly but not exclusively on 2 projects (i) evaluating the impacts of livestock and
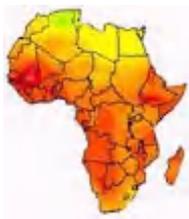
aquaculture interventions on poverty and women's empowerment in Kenya and (ii) Integrated Crop and Livestock Project in Tanzania. The incumbent should posses:

- PhD in economics, agricultural economics or a related discipline obtained not more that 5 years ago
- Excellent knowledge of evaluation methods, applied micro-econometric methods, household and intra-household analysis
- Previous experience in undertaking quantitative research in developing countries, in particular collecting and analyzing household survey data
- A good understanding of gender issues in agriculture and how to design, collect and analyze gender disaggregated data
- Excellent interpersonal communication skills, writing ability, organizational and administrative skills
- Ability to work in diverse, multidisciplinary teams

This is an Internationally Recruited Staff (IRS) position with initial appointment of two years with the possibility of renewal for one year, contingent upon individual performance and the availability of funding. Applicants should send a cover letter explaining their interest in the position, what they can bring to the job and indicating earliest availability, curriculum vitae and the names and addresses (including telephone and email) of three referees who are knowledgeable about the candidate's professional qualifications and work experience to email: recruit-ilri-Ken@cgiar.org by 22 July 2011.

Other

Swaziland Government urged to change name of ICT ministry

Participants of the consultation meeting on the Information and Communication Technology (ICT) policy have called for government of Swaziland to change the name of the ministry of information, communication and technology (ICT) because it was confusing. One of the participants Sipho Dlamini said ICT fell under Science and Technology and the ministry needed to be renamed. However, he did not come up with a suggestion.

His words were echoed by ARPS - FANRPAN representative Obed Dlamini, who said he was challenged during a visit overseas about the name of the ministry. He said it was a bit confusing in the sense that Information, Communication and Technology were a component of Information and Communication Technology. Meanwhile, Noah Nkambule said the name should be changed to avoid ambiguity. "The name should be clear what it means," he said. Adding Nkambule said, the country needed to do applied research rather than doing research solely for the purposes of publishing. He said information should be made available for usage by farmers, for example in the case of agriculture, instead of being kept in journals. "Research reports should be user friendly and should also be made available, not only for people who read journals, but everybody should have access,". Dlamini (Sipho) said such information should be posted on the government website. Also, Dr. Musa Dube said research should be relevant to address the needs on the ground. He said research should be done on a regular basis following that many things were changing because of the changes in climate. "Research in the soil should be done regularly because the soil changes as the climate changes. People need to be update on what the soil is like and which crops are suitable for which places and during what time of the year,"

Refurbished computers from ICT waste available to deprived in Burkina Faso

Owning a computer or a cell phone remains a luxury for most Burkinese. To fashionable and be part of technological civilisation, as some put it here, people turn to appliances known as 'France au revoir' (goodbye France). These are second-hand computers, phones, fridges and television sets imported from Europe.

Often short-lived, these appliances are dumped a few months later in garbage cans or sewers. "I throw them in the garbage. I don't know if they are dangerous or not. They are no longer useful to me, so I throw them away", says Fulbert, a repairer, happily. To help prevent repairers and users of electronic materials from throwing them away or burning them after use, Alassane Sanou, who runs a recycling workshop in Ouagadougou, organises sensitisation sessions. The goal is to explain the dangers of these appliances. Recycling electrical and electronic waste requires experts. Sanou and his men collect, then process and condition electrical and electronic materials. "Computers are broken down into different pieces: screens, plastic and electronic components are separated and kept in specific containers. Everything is sent to Europe, except the iron, aluminium and copper parts", he says. "We've noticed that Burkinese people did not
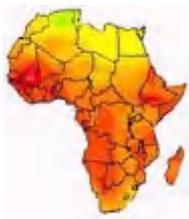
have access to computers. So we've set up a partnership with recycling workshops in France, who send us refurbished computers. Those computers are made available for the most deprived. In return we send them used computers", he adds.

New rush for Africa - Technology companies plot assault on continent

In what could be termed as the new rush for Africa, international ICT firms are expanding their local offices as they seek to position themselves for an assault on the wider African market. Nairobi - with its growing influence as an ICT development hub and its leaning towards innovative use of technology - is gaining currency as the venue of choice for companies that are keen to use the city as their hub to reach other parts of Africa.

In the last six months, firms such as Airtel, Comviva, Samsung, IBM and Google have moved to strengthen their regional headquarters as they gear up for a push into the continent. A growing number of multinational companies has selected Nairobi as their centre of operations in the continent as multinationals seek physical presence and local intelligence in markets where they previously relied on representatives.

Research house IDC says the main driver for this impetus is the continent's Sh527 billion IT market, which is creating new competitive fields for international firms who are keen to gain a piece of the emerging opportunities within the region as they seek new grounds for growth. "Information and Communication Technology (ICT) will be increasingly recognised as a key driver of economic growth and productivity across the Middle East and Africa," said Mukesh Chulani, senior research analyst at IDC.   Mr Chulani said regional governments see ICTs as a means of supporting innovation through more efficient utilisation of capital and labour. More…

Severe drought, high food prices hit pastoralists in Kenya

Successive poor rains coupled with rising food and fuel prices are leading to a worsening food security situation with alarming levels of acute malnutrition being recorded in drought affected parts of Kenya, mainly in the north of the country, say experts. According to the UN Office for the Coordination of Humanitarian Affairs, 2011 is the driest period in the eastern Horn of Africa since 1995 "with no likelihood of improvement until early 2012".

"From the nutrition point of view, it is possibly the worst we have seen in the last 20 years," Noreen Prendiville, chief of nutrition at the UN Children's Fund (UNICEF) Kenya office, told IRIN, noting that increased global acute malnutrition rates of over 35 percent are being seen in some drought-affected areas. "In less serious situations, one would hear so many requests for assistance with livestock or water, but just now, the number one request is food and the need is substantial and urgent."

While past droughts have been longer, such as the 2008-09 one, "the current drought is severe, and its impacts have been exacerbated by extremely high food prices, reduced coping capacity, and a limited humanitarian response," said the Famine Early Warning Systems Network (FEWSNET). "The high food and fuel prices have affected the capacity of the very poor to buy food and to access basic services... The international response has been affected by the global economic crisis," Prendiville said. "The problem of insecurity too has caused a lot of displacement." she added.

The predominantly northern pastoral region is often the scene of resource-based clashes leading to the displacement of some communities. In May alone in Turkana, 16 armed livestock raids took place with thousands of heads of livestock stolen, according to data compiled by the UN.

According to UN Food and Agriculture Organization (FAO), two consecutive below-average rainfall seasons have resulted in failed harvests, depletion of grazing resources and significant livestock mortality in the Horn of Africa region. In Kenya, FAO added in a statement, the food security situation is expected to further deteriorate as milk production in the drought-affected areas has collapsed and will not recover until October when the short rains are expected to start. In the northeastern Garissa region, the food scarcity has led to an increase in the number of people relying on food aid.

New data visualisation tool tells the story of agriculture, climate change and the green economy

A new interactive infographic has been launched by Farming First. Called "The Story of Agriculture and the Green Economy", it takes existing data and statistics from the world's leading research organisations (including the FAO, IFAD, Stern Report, ODI, World Bank, IFPRI, WTO, WHO, IWMI among others) and turns them into beautiful visuals depicting the link between the world's small farmers and climate
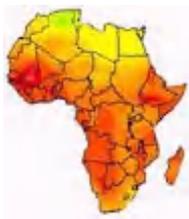
Spatial Data Infrastructure – Africa Newsletter

adaptation/mitigation efforts, economic growth, employment, food security, poverty reduction and sustainable resource management.

All 17 of the individual images within the infographic can also be Tweeted or embedded freely so that people can easily spread the word. The Gates Foundation has also just awarded Farming First the "Best Infographic" award in its recent "Small Farmers are the Answer" competition, chosen from amongst 140 entries.

Conferences, Events

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

Date	Location	Event
July 2011		
3-7July 2011	Windhoek, Namibia	**2011 World Conference** - Windhoek, Namibia, Sustainable Value Chain Agriculture for Food Security and Economic Development
3-7 July 2011	Cape Town, South Africa	**Call for Papers: 9th Colloquium on Environmental Law** Contact: Glaudin Kruger at kruger@kruger-associates.com or Tumai Murombo at Tumai.Murombo@wits.ac.za.
3-8 July 2011	Paris, France	**25th International Cartography Conference (ICC 2011)** Contact: Comité Français de Cartographie +33-1-4562-7175, Fax: +33-1-4562-7176, Email: lecfc@lecfc.fr.
11-14 July 2011	Lisbon, Portugal	**Global Conference on Global Warming (GCGW-11)**, Contact: Conference Secretariat at info@gcgw.org.
18-21 July 2011	Tunis, Tunisia	**4th IAA African Conference & 2nd Mediterranean Conference: Youth & Space Application**
20-23 July 2011	Balaclava, Mauritius	**2nd AMESD Forum**
July 29- 4 August 2011	Banos, Ecuador	**2011 International Biodiversity Conference**, Contact: Dr. Barker at barkerb@wildspotsfoundation.org.
August 2011		
3-4 August 2011	Kampala, Uganda	**1st Conference on Advances in Geomatics Research (AGRC2011)** Contact: agrc2011@tech.mak.ac.ug.
8-10 August 2011 * NEW *	Addis Ababa, Ethiopia	**African Preparatory Conference for GGIM**
15-17 August 2011	South Africa	**10th Information Security for South Africa (ISSA) 2011**
15-19 August 2011	Nairobi, Kenya	**Applied Geoinformatics for Society and Environment (AGSE) 2011 Conference** Contact: Franz-Josef Behr at franz-josef.behr@hft-stuttgart.de
21-25 August 2011	Merida, Mexico	**SER2011 World Conference on Ecological Restoration**
22-26 August 2011	Wellington, New Zealand	**5th International Symposium on GIS/Spatial Analyses in Fishery and Aquatic Sciences**
23-25 August 2011	Perth, Australia	**The 7th International Symposium on Digital Earth (ISDE7)** Theme: 'The Knowledge Generation', Contact: melissah.johnston@walis.wa.gov.au or walis@walis.wa.gov.au.
September 2011		
4-8 September 2011	Cape Town, South Africa	**The 6th Science Centre World Congress**
6-8 September 2011 * NEW *	Nairobi, Kenya	**Africa Geospatial Forum (AGF)**
12-16 September 2011	Denver, USA	**Call for presentations for FOSS4G 2011**

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12-16 September 2011	Ticino, Switzerland	**3rd Symposium on Environmental Weeds & Invasive Plants (Intractable Weeds and Plant Invaders)**
13-15 September 2011	Livingstone, Zambia	**10th IEEE AFRICON 2011** The top-event of IEEE in Africa
19 - 23 September 2011	Cape Town South Africa	**2011 ACSEAC** 2011 African Conference on Software Engineering & Applied Computing (ACSEAC)
26-28 September 2011	Mombasa, Kenya	**4th African Leadership Conference on Space Science and Technology for Sustainable Development (ALC2011)**: Building a shared vision for space in Africa,
27-30 September 2011 * NEW *	Nairobi, Kenya	**6th Annual Internet Governance Forum**
26-30 September 2011	Aberdeen, Scottland	**World Conference on Marine Biodiversity**
October 2011		
3-7 October 2011	Cape Town, South Africa	**International Astronautical Congress 2011** Contact: enquiries@iac2011.com. Contact: enquiries@iac2011.com, Tel: +27 21 460 9357.
4- 6 October 2011	Saly, Senegal	**Call for Abstracts and Scientific Symposium on "Contribution of ocean data and information to sustainable development in Africa"**
5-6 October 2011	Port Harcourt, Nigeria	**Seventh International Conference on Sustainable Development**
5-7 October 2011	Beach Resort, Zanzibar	**6th ESRI Eastern Africa User Conference** Submit abstract by 29 July 2011 on any of the available tracks at events@esriea.co.ke.
11-14 October 2011 * NEW *	Rabat, Morocco	**E-AGRI training workshop - crop yield forecasting based on remote sensing** Contacts: riad.balaghi@gmail.com, qinghan.dong@vito.be.
10-14 October 2011	Kimberley, South Africa	**International Wildlife Ranching Symposium**
10-21 October 2011	Changwon, Korea	**UNCCD COP 10**, Contact: UNCCD Secretariat at secretariat@unccd.int
12-14 October 2011	Coimbra, Portugal	**WG II/4 & ICWG II/IV 7th International Symposium of Spatial Data Quality**
16-21 October 2011	Cairo, Egypt	**AfricaGIS 2011 Conference** Contact: africagis2011@narss.sci.eg or info.africagis2011@narss.sci.eg.
19-21 October 2011	Bloemfontein, South Africa	**1st International Conference on Clays and Clay Minerals in Africa and 2nd International Conference on Geophagia in southern Africa**
31 October - 4 November 2011	Amsterdam, Netherlands	**Call for papers: Young Scientist Workshop, International Water Week**, Contact: ysw(at)waternetwerk.nl or www.internationalwaterweek.com.
November 2011		
1-3 November 2011	Beirut, Lebanon	**Esri Europe, Middle East and Africa User Conference**
7-11 November 2011 * NEW *	Abuja, Nigeria	**AfricaGIS 2011: A Geospatial Technology Revolution in Africa** Submit abstracts to secretariat@eis-africa.org immediately.
7-12 November 2011	Worldwide	**1st Call for Papers: Worldwide Online Climate Conference (CLIMATE 2011/KLIMA 2011)**
14-15 November 2011 * NEW *	Cape Town, South Africa	**4th Euro-Africa Cooperation Forum on ICT Research**
16 November 2011	Nairobi, Kenya	**GIS Day**

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![GSDI - Global Spatial Data Infrastructure]

16 - 18 November 2011	Delft, Netherlands	**2nd International Workshop on 3D Cadastres**, Contact: P.J.M.vanOosterom@tudelft.nl
21-23 November 2011	Mbale, Uganda	**International Conference on East Africa Mountains (ICEAM) 2011**, Theme: Reconciling Resource Demands, Climate Change and Conservation. Submit abstract online. Contact: info@iceam2011.org.
22-25 November 2011 *** NEW ***	Beijing, China	**United Nations International Conference on Space-based Technologies for Disaster Risk Management**
28 November- 9 December 2011	South Africa	**17th Conference of the Parties to the UNFCCC and 7th Meeting of the Parties to the Kyoto Protocol** Contact: UNFCCC Secretariat, secretariat@unfccc.int.
December 2011		
13-15 December 2011	Shah Alam, Malaysia	**Third International Conference on Management of Natural Resources, Sustainable Development and Ecological Hazards**
2012		
21-27 May 2012	Vilnius, Lithuania	**12th World Congress on Environmental Health: New Technologies, Healthy Human Being and Environment**
2-6 July 2012	Galle, Sri Lanka	**MMM3 : Meeting on mangrove ecology, functioning and management**
8-12 July 2012	San Diego, California USA	**ESRI User Conference**
8-12 July 2013	San Diego, USA	**ESRI International User Conference**
5-10 August 2012	Brisbane, Australia	**34th Session of the International Geological Congress (IGC 34)** Enquiries: info@34igc.org.
2015	Durban, South Africa	**14th World Forestry Congress for SA**
1-31 August 2016	Cape Town, South Africa	**35th International Geological Congress** Registration deadline: 30 June 2016.

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

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: http://lists.gsdi.org/mailman/listinfo/sdi-africa and follow the steps

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or gojwang@rcmrd.org

Global Spatial Data Infrastructure Association
http://www.gsdi.org
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