

Spatial Data Infrastructure – Africa Newsletter



SDI-Africa Newsletter

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

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



If you have news or information related to GIS, remote sensing, and spatial data infrastructure that you would like to highlight (e.g., workshop announcements, publications, reports, websites of interest, etc.), kindly send them in by the 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](mailto:SDI-Africa_AT_gsdi.org) or sdiafrica@rcmr.org or gojwang@rcmr.org



Input to this Issue

Thank you to Kate Lance, NASA/SERVIR-Africa (USA), Hussein Farah, RCMRD (Kenya); Karen Levoleger, Kadastre (Netherlands); Hassan Tabyaoui, University of Fez (Morocco); Irmeli Mustalahti, University of Helsinki (Finland); hugo.oosterkamp, Faculty of Geo-Information Science and Earth Observation (ITC - University of Twente (Netherlands) and Gert-Jan Nabuurs, European Forest Institute (Vienna) for their contributions to this issue of the newsletter.

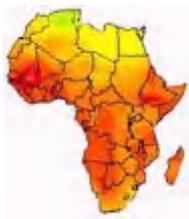
SDI News, Links, Papers, Presentations

Free membership by the GSDI Association

The GSDI Association is offering free organisation memberships to government agencies in developing nations. Benefits of membership are available at http://memberservices.gsdi.org/files/?artifact_id=846. Qualifications for the GSDI Association free full membership include:

- Determine whether the national mapping, land administration, natural resource, or similar agency that is developing SDI capabilities is in a low or very-low income nation (<http://www.gsdi.org/RankingTable>).
- An authorised individual for the agency should register in the Geographic Information Knowledge Network at <http://giknet.org>.

After establishing an account, login and create an agency profile (See My Submissions and click on Enter Profile for Government Agency) After the agency profile exists, click Report SDI Implementation Experience and answer the questions. After completing the forms, fill out the GSDI Full Membership Application for the



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agency at <http://www.gsdi.org/fullmemshp#D>. Upon acceptance, the agency will be listed at http://www.gsdi.org/Mbrs_Spnrs and formal membership voted upon at the next GSDI World Conference (May 2012 in Quebec City, Canada).

[Eye on Earth Summit resolves to push for data access at Rio+20](#)



The Eye on Earth Summit in Abu Dhabi (12-15 December 2011) pushing for greater access to environmental and societal data ended on with a Declaration recognising that every individual should have appropriate access to information on the environment held by public authorities. The declaration, drawn up by governments and civil society organisations from around the world at the four day Eye on Earth Summit, will form part of the input to the United Nations Conference on Sustainable Development (UNCED) to be held in Rio de Janeiro, Brazil, in June 2012.

According to Peter Gilruth, director of the early warning and assessment division of the UN Environment Programme (UNEP) in Kenya, which co-organised the week's conference together with the Environment Agency - Abu Dhabi (EAD), the declaration adds political weight to concerns about access to data. He said it expressed the political will of "a wide mix of people aiming for a common objective", which was that sustainable development could not occur without relevant information and public access to it.

UNEP and EAD were the first to sign the Eye on Earth Declaration which is now open for signature by governments, organisations and individuals. The conference included luminaries of the global environmental community, including Achim Steiner, UNEP executive director; Sha Zukang, UN under-secretary-general for economic and social affairs and secretary-general of UNCED; the heads of the Convention on International Trade in Endangered Species, Global Environment Facility, European Environment Agency and International Union for Conservation of Nature; and representatives of the World Bank, International Telecommunications Union and other UN organisations, who threw their weight behind the importance of sharing global environmental data. Also present among the 1,000 participants at the conference - billed as a preparatory meeting for Rio+20 - were local government organisations, companies such as Microsoft and Google, and representatives of the geospatial industry.

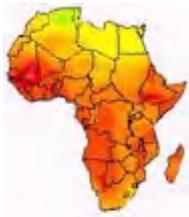
Working groups on biodiversity, blue carbon, water, disaster management, and the urban environment said they would continue their work in the run-up to Rio+20. These sectors received additional impetus by being designated 'special initiatives' by the conference and will be the focus of efforts to gain momentum on the way to Rio. Thematic areas such as environmental education, inter-regional data networks and universal data access were also named as special initiatives. Through the Abu Dhabi Global Environmental Data Initiative (AGEDI), the Abu Dhabi government said it would provide support to help the groups develop global and regional information systems geared towards their particular needs. Daniel Schneider of the US State Department, who, like a number of officials arrived at the meeting directly from the international climate change negotiations in Durban, South Africa, said the United States strongly supported the aims of the Eye on Earth Summit. US delegates "have been here in force". See also: [African environment policies hampered by 'secrecy and low priority'](#).

[PREDICT - Prevention and Response to Epidemics with Demonstration of Information and Communication Technologies](#)

In many African countries, livestock farming is an important source of revenue that improves the quality of life for this particular community and ultimately strengthens the development of the economy. In addition to domestic importance, countries must be able to demonstrate that their livestock is free of certain diseases for the export market. The country of Senegal through its Directorate of Veterinarian Services, DSV, has established a National System of Epidemiological Surveillance known as SNSE that monitors the health of livestock and outbreak of epizootics, and enables to control and restrain the spread of animal diseases.

Satellite communications enables real time surveillance and prompt actions by a crisis team to communicate from a remote area to a central decision centre to take the right measures to predict and control the outbreaks. Earth observation data on vegetation, humidity, geography, wild fires and other sources derived from earth observation data, linked to forecast and modeling tools and to geographical information systems, enables to quickly assess the occurrence of epizootic outbreaks and to limit their impact.

PREDICT is a space-based support system aiming to enhance the current SNSE features, to improve communication and provide tools for decision making, based on computer based analysis, graphical maps and earth observation data to handle and analyse disease information. PREDICT will also establish



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performance indicators, monitor user activity, and establish systematic feedback which is an important factor in motivating users to see the value of their work. Adding PREDICT to the actual Senegal's national system for epidemiological surveillance will allow a faster detection of outbreaks and a better coordination between the different agencies in charge of responses. The case of Senegal provides a firsthand example applicable to many countries of the impact that space can have in the daily lives of people, not only economically, but also socially, in particular the impact of zoonoses on public health. PREDICT is currently undergoing a feasibility study within the Integrated Applications Promotion (IAP) programme of the European Space Agency (ESA) which should result in a demonstration of the system and services during 2012, also co-financed by ESA.

Map pinpoints Sahel's climate 'hotspots'



Average temperatures across the Sahel have risen by around one degree Celsius over the past 40 years, according to a study identifying potential climate 'hotspots' in the region. The report, published by the UN Environment Programme (UNEP), analysed historical climate trends across the Sahel, and aimed to identify potential hotspots and the impact on livelihoods in the region. It was launched on 5 December 2011 at the UN Climate Change Conference (COP 17) in Durban, South Africa.

A series of maps was produced, focusing on four climate indicators based on available data between 1970 and 2009 - precipitation (1970-2006), temperature (1970-2006), occurrence of drought (1982-2009), and occurrence of flooding (1985-2009). Projected sea level rise and its potential impacts, as well as population trends and occurrences of conflict during the time period, were also mapped. A total of 19 areas, which saw the biggest changes in each climate indicator as well as the largest cumulative change of all four were identified as potential climate 'hotspots'.

Half of the 17 West African nations mapped experienced a temperature increase of 0.5-1 degree Celsius between 1970 and 2006, while 15 per cent of the region - in far eastern Chad and northern Mali and Mauritania - saw a rise of more than one degree Celsius. In addition to rising temperatures, the study also found that at the incidence of extreme conditions, such as droughts, rainfall and the frequency of flooding, have all increased, leading to more competition for limited resources.

Trends in the movement of people and livestock have also changed, with traditional migration patterns increasingly shifting further south. "The effects of climate change will intensify deterioration and stress of any kind, posing an obstacle to the fight against poverty," Euloge Ogouwale, a researcher and lecturer in the department of geography at the University of Abomey-Calavi, Benin, told SciDev.Net. "The results of this study are very [important] and can help with making high-level decisions to help reduce the vulnerability of populations by anticipating potential conflicts based on access to natural resources," he added. UNEP's executive director, Achim Steiner, said: "This analysis underlines how competition between communities for scarce resources, especially land, water and forests, is already a reality in West Africa". Regional cooperation will be key to minimising the possibilities of increased conflict and environmentally induced migration, he added. [Link to Full Report](#) [PDF-15Mb].

Policymakers need a better understanding of science

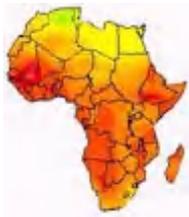


A Ugandan report suggests that policymakers' interest in science and technology is growing. But they need support to turn it into action. If there was an easy route between scientific evidence and policymaking, last month's UN Climate Change Conference (COP 17) in Durban, South Africa, would surely have reflected the scientific consensus and ended in a clear-cut global agreement on immediate steps to curtail carbon emissions.

But, as the fractious debates made clear, the real world does not work that way. Scientists and politicians operate within different epistemological frameworks. This often means that what appears as an imperative course of action to one group is

merely a potential - and not necessarily desirable - way forward to the other.

In the developed world, factors such as economic or political self-interest can often be blamed for the gap between evidence and policymaking. In the case of global warming, for example, most of those who continue to challenge the scientific evidence live in countries (such as the United States) that stand to lose most from curbs on carbon emissions. In the developing world, in contrast, the failure to take scientific evidence into account in policy discussions tends to result from a lack of familiarity with the scientific method, or its significance and its limitations. Policymakers in these countries not only need to be aware of the scientific



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knowledge relevant to the decisions that they face, they also need to know the status, validity and limits of such knowledge compared with that from other sources - whether anecdotes from colleagues or political realities described in the media.

These issues are highlighted in a report, recently published by the Parliament of Uganda and the Uganda National Academy of Sciences working with the UK's Parliamentary Office of Science and Technology (POST), on how the parliament handles issues relating to science, technology and innovation. The report found that science-related issues received little attention in parliamentary debates, which were often poorly attended, with few parliamentarians believing that S&T was relevant to the life of their constituents. The report also highlighted a limited availability of relevant information, with parliamentary library staff having difficulty accessing both in-country and external sources of scientific information. And in some cases, parliamentarians had problems in distinguishing reliable from unreliable scientific evidence. Equally concerning is an analysis of parliamentary debates which, according to a POST official involved in the study, revealed factually incorrect statements going unchallenged, such as "there is no evidence that DDT causes toxic effects" and "80 per cent of Ugandan women suffer from cervical cancer". Some parliamentary briefing papers were well written but others were less impressive. These were poorly referenced, subject to personal bias and ignored key sources of evidence produced by authoritative international sources, such as the WHO and the Intergovernmental Panel on Climate

One of the main recommendations of the Ugandan report is that members of parliament should be given training both in "information literacy" and in the scientific method. Another is that the quality of scientific research actually used in policymaking should be evaluated - because good policies can only be based on good science. Both may be ambitious objectives in a world where scientific knowledge is seen too often as the domain of scientific experts. But, as the Ugandan report indicates, they are essential if the full contribution of science to sustainable development is to be realised. Report by David Dickson, Editor, SciDev.Net. [Link to full report and executive summary.](#)

[Nigeria launched new communication satellite to replace earlier failed attempt](#)



In December last year, Nigeria launched a communications satellite into space to replace one that failed in 2008. The satellite was launched from Xichang in southwest China and the event was broadcast live on Nigerian state television. NigComSat-1R, is expected to help boost communications, broadcasting and broadband multimedia services across large swathes of Africa and parts of Europe and Asia.

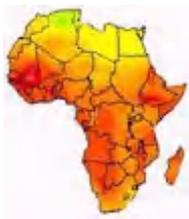
The Chinese-built satellite replaces a \$257-million model which was launched in 2007 but failed the following year due to a battery charging problem. The new satellite was paid for by the insurer of the previous one, according to Nigeria's government. With a service lifespan of 15 years, the satellite is designed to meet the needs of telecommunications, maritime, defense and broadcast media services in Nigeria, sub-Saharan Africa and parts of Europe and Asia.

President Goodluck Jonathan said the new satellite "will enhance our communications system as well as facilitate cheaper access to the Internet with a view to bridging the existing digital divide between our urban and predominantly rural communities." In August 2011, Nigeria, Africa's most populous nation and largest oil producer, launched two satellites for disaster monitoring, mapping and security operations. The two were launched at a base in Russia. In December 2011, Mr. Ovurevu Suleman, Assistant General Manager, Satellite Control Centre of the Nigerian Communication Satellite Limited (NigComSat), said while briefing journalists on the Nig.ComSat project in Abuja that the NigComSat -1R would be fully operational in the next 40 days.

[Atlas of Somali IDP shelter concentrations in Mogadishu, Somalia \(22 August 2011\)](#) [10.8Mb]



This atlas provides detailed geospatial information identifying the current location of spatially-distinct IDP shelter concentrations within Mogadishu as identified from satellite imagery recorded on 21-22 August and 28 July 2011. It is based on a detailed analysis report available (<http://www.unitar.org/unosat/node/44/1581>). A total of 226 spatially distinct IDP shelter concentrations were identified (as of 22 August 2011) within the urban extent of Mogadishu, representing an increase of 45 IDP sites since 28 July 2011. A projection of the total number of IDP shelter structures located in Mogadishu indicated a minimum estimate of over 41,000. Significant building damages were identified within the Bacaad Market area (Yaqshid district) following the offensive by AMISOM against al



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Shabaab positions on 28-29 July 2011. This report is based on a time-series analysis of Somali IDP shelter concentrations within the capital city of Mogadishu using satellite imagery recorded the mornings of 21-22 August, 28 July, 15 April and 30 March 2011. This is a preliminary assessment and has not yet been validated in the field.

This atlas is produced by UNITAR/UNOSAT in support of international humanitarian assistance in the Horn of Africa following the extreme drought and has been designed for easy printing and readability on A4 and A3 paper. Individual map sheets were designed at scale 1:14,000. Satellite Data: WV02, Dates: 28/07/11, Resolution: 0.5m, Copyright: DigitalGlobe 2011, Source: European Space Imaging, IDP Camp Data: UNITAR / UNOSAT, Road Data: Google Map Maker, Admin Boundaries: OCHA, Other Data: USGS, NGAALIM, Analysis: UNITAR / UNOSAT, Analysis conducted with ArcGIS v10.

[Continued expansion of Somali IDP shelter concentrations in Mogadishu, Somalia \(12 September-18 October 2011\)](#)



This report provides a detailed analysis of spatially-distinct concentrations of IDP shelters within the urban extent of Mogadishu, and assesses the date periods the camp sites were likely formed as well as the larger settlement patterns, trends and security dynamics underlining IDP movements. Identified IDP sites were further assessed for construction/shelter type, specifically looking for the presence of emergency tent shelters, a common barometer of active support from international aid organizations and NGOs. Satellite imagery acquired on 4, 12 September, and 7, 15, 18 October 2011 was used for this updated report. There are known IDP settlements located within permanent buildings that have not been identified, and are not reflected in the estimates presented in this report. This report is part of an on-going satellite monitoring program of UNITAR/UNOSAT

of the Horn of Africa crisis in support of international humanitarian assistance and created to respond to the needs of UN agencies and their partners. This is a preliminary assessment and has not yet been validated in the field. Please send feedback, additions/corrections to UNITAR/UNOSAT: unosat@unitar.org, Palais des Nations, Geneva, Switzerland. T: +41 22 767 4020 (UNOSAT Operations), 24/7 hotline: +41 76 487 4998. www.unitar.org/unosat.

[World Bank scales up Kenya's health sector to support drought affected areas](#)



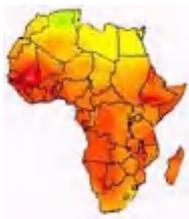
20 December 2011: According to the World Bank, it is estimated that the drought in the Horn of Africa has affected 3.7 million people in the northern parts and Eastern Kenya, particularly mothers and children severely malnourished. The emergency funding is a response to malnutrition and vulnerability in the areas worst hit by the drought. The World Bank has approved the scaling up of its support to Kenya to address the impacts of the current drought by \$56.8 million through the Kenya Health Sector Support Project expected to benefit 90,000 pregnant and lactating women, and nearly 400,000 malnourished children in these areas. The funds will also make drugs and medical supplies more easily available through better planning, financing, and procurement.

The Bank support to Kenya is consistent with its overarching objectives in Africa, which include reducing vulnerability and limiting damage from crises, while enhancing governance and public sector capacity so that public funds deliver better education, health and infrastructure for citizens. The funds were made available through the Crisis Response Window, as part of the International Development Association (IDA). Further information, contact: In Nairobi: Peter Warutere (+254) 20 322 6444, pwarutere@worldbank.org, In Washington: Kavita Watsa, (+1) 202 458 8810, kwatsa@worldbank.org. For more information, please visit: www.worldbank.org/afr.

[100 days project launched by Kenya's MEMR to map wildlife migratory routes and corridors](#)



There is need to secure wildlife corridors and their migratory routes to prevent human-wildlife conflicts, protect threatened species and their habitat loss. A Senior Director of Administration in the Ministry of Environment and Mineral Resources (MEMR) Mr. Paul Olando voiced the sentiment at the launched of a Rapid Result Initiative (RRI) in Nairobi (November 2011) to map the wildlife dispersal areas and migratory routes/corridors in southern Kenya rangeland. Mr. Olando, who delivered the speech of the Permanent Secretary in the Ministry, said "securing of migratory routes and corridors will serve to enhance conservation of the country's



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wildlife, protect their habitats as well as lead to reduced human-wildlife conflicts and the preservation of ecosystem processes”.

The project aims to generate wildlife dispersal and migratory routes/corridors maps, which would help in the developing of effective management strategies. The “securing of wildlife migratory routes/corridors” is a flagship project in Kenya’s Vision 2030. This RRI (lasting 100 days) spearheaded by the Department of Resource Surveys and Remote Sensing (DRSRS) within Kenya’s Ministry of Environment and Mineral Resources is expected to end by January 2012. The Director of DRSRS, Mr. Jaspat Agatsiva observed that wildlife numbers in the country has drastically declined over the years mainly due to drought, land use change, poaching and diseases.

Kenya has abundant and diverse wildlife in East Africa, the initial species targeted in this mapping exercise are elephant, wildebeest, plains zebra and giraffe. Remote sensing approaches and GIS integration platform will be used in data analysis. The data layers include wildlife telemetry (collar data), aerial surveys (a mix of systematic sample census and total counts), human settlement, land cover/use, land tenure, tourism infrastructure, among others. The Ministry intends to up-scale a similar project to cover the entire country in the near future.

A taskforce formed to undertake the project comprises: GIS/remote sensing experts, ecologists/biologists and land use planners from DRSRS, Kenya Wildlife Service (KWS), Africa Conservation Centre (ACC), African Wildlife Foundation (AWF), International Livestock Research Institute (ILRI) and other stakeholders including the Ministry of Lands, Forestry Department and representatives of local communities.

Mapping Community Conserved Areas (CCAs) in the Kenyan coast



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

The project’s objective is to incorporate improvement of the livelihoods of local people in the conservation of the marine resources. This part of the project is being carried out with guidance from, Dr. Stephen Mangi, a consultant from the UK, together with the local communities.

On the recently concluded CCA mapping, the level of participation and guidelines received from the community was refreshing as they outlined the areas for various activities and management methods. In the spirit of co-management of marine resources, participation and collaboration of relevant stakeholders from the public and government sector, communities and the private sector have been maximized. The management plan will outline the activities acceptable at the outlined areas. It is expected that the management and use of the CCAs will be outlined in the management plans for the purpose of community empowerment and education on sustainable management of their resources, with clearly defined methods. This should reduce pressure on the marine ecosystem.

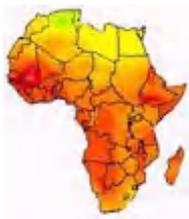
The recent enactment of government policy measures to provide for more community driven initiatives for sustainable management of coastal and marine resources and build community capacity for sustainable coastal and marine resource conservation is indeed a morale booster for this initiative.

ICTs could fill agricultural extension gap



A severe lack of extension workers in Sub-Saharan Africa could be partially filled by new information and communication technology (ICT) tools. Africa has one extension worker per 4,000 farmers, compared with one per 200 hundred farmers in developed countries, the conference, Innovations in Extension and Advisory Services: Linking Knowledge to Policy and Action for Food and Livelihoods, held in Nairobi on 15-18 November 2011 was told. But this gap could now be narrowed through the use of ICT tools including mobile phones, the internet and iPods, combined with more traditional media, such as radio.

Michael Hailu, director of the Technical Centre for Agriculture and Rural Cooperation, in the Netherlands, said that, even where there is no shortage of extension personnel and funds, smart use of ICTs can help deliver knowledge in real time to farmers, especially in poorly staffed and remote corners of Africa. "The continent must try to be as innovative as possible and exploit the growing mobile



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communications sector to deliver knowledge," he said. "ICTs such as mobile phones are helping farmers to increase production, discover new markets for their produce and gain access to new knowledge and technologies."

The conference declaration called for a greater use of ICTs and the media in the provision of advisory and extension services, which should also take into account culture and gender issues. But Hailu cautioned that it would be a big risk for governments to continue neglecting recruitment of extension services workers, because ICTs could not fill all the needed services. Hannington Odame, director of the Centre for African Bio-Entrepreneurship, in Kenya, said diverse sources of information was needed to enable farmers to attain maximum productivity and profitability, a consideration that may call for setting up a farmer information system. Mary Kamau, director of extension and training in Kenya's agriculture ministry, said the country had established the National Agriculture Information System under the National Agriculture and Livestock Extension Program, where farmers can access information from their mobile phones through toll-free numbers. Investment in agriculture extension services needs to increase to 3.5 per cent of the agriculture gross domestic product (GDP), according to Magdalena Blum, of the Food and Agricultural Organization's Office of Knowledge Exchange, Research and Extension. She added that no African government is spending even a tenth of the recommended 3.5 per cent, even though agriculture continues to contribute more than 30 per cent of the continent's GDP. [Link to Conference Declaration](#) [PDF-135kB]

[GEF Project builds climate change resilience and disasters monitoring in West Rwanda](#)



December 2011: The Global Environment Facility (GEF) has reported on a project in Rwanda titled "Reducing Vulnerability to Climate Change by Establishing Early Warning and Disaster Preparedness Systems and Support for Integrated Watershed Management in Flood Prone Areas," which is financed through its Least Developed Countries Fund (LDCF) at \$3,486,000 with co-financing of \$12,427,000. The project is executed by the Rwanda Environmental Management

Authority (REMA).

Focused on the Gishwati ecosystem in Western Rwanda and the associated Nile-Congo crest watersheds which have been experiencing worsening irregularity and unpredictability of rainfall over the past decade due to climate change, the project aims to decrease the vulnerability of the people living and deriving their livelihoods from these areas.

The project is implemented by the UN Environment Programme (UNEP) and the UN Development Programme (UNDP). It includes the following activities: strengthening national and district capacities to deliver a functional early warning and disaster preparedness system allowing for early warning of vulnerable populations in the Gishwati ecosystem, and supporting agricultural planning at the household level; building capacities for risk responsive planning at district and local levels; rehabilitating the ecosystem using risk maps, land-use and settlement plans, and application of adaptive measures; and strengthening of the national information base on climate change and adaptation through communication, awareness and training activities.

[DRC: Keeping track of mineral resources](#)

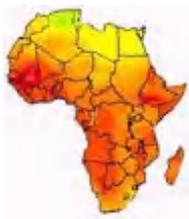


In the Democratic Republic of Congo, two projects are under way to map mineral deposits in South Kivu province to facilitate traceability, amid increasing concerns in the international community that profits from the minerals trade are being illegally used to fund armed groups in the east. The chaotic management that has plagued the mining sector since the 1980s is, however, proving a sticking point in the process. The survival of thousands of artisanal miners is one of the humanitarian issues at stake in this project.

A [guide](#) to reforming the mining sector in the east, produced by researchers at NGO Ipiis, explains that "despite calls for a map to be drawn up from the UN expert group in its December 2008 report, there is currently no reliable map available. The volatile security situation on the ground would mean that the map would have to be regularly updated."

The International Conference for the Great Lakes Region, the UN Group of Experts, and the Organization for Economic Co-operation and Development are unanimous in calling for the mapping and categorization process to move as quickly as possible to avoid an embargo, which could inflame an already volatile region.

Two complementary projects - The Kinshasa Group, comprising the UN Stabilization Mission (MONUSCO) and the German Federal Institute for Geo-Science and Natural Resources (BGR), is behind one of the initiatives. Michel Liete, head of the South Kivu province mining division, explains that "the aim of this project



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is to categorize the mining sites surrounding the 16 future mineral trading centres, which will coordinate artisanal mining within a 25km radius. These mining sites will be certified based on human rights criteria covering the presence of armed groups, illegal taxes, women's rights, and the presence of children under the age of 15." A separate initiative, led by Ipis and financed by the Belgian Foreign Affairs Ministry, the US government and the World Bank, via [PROMINES](#), will continue for 18 months and cover all of South Kivu. Specifically, it will aim to map artisanal mining sites, transportation routes, and mineral trading points, reflecting the security and human rights situation on the ground, using the Geographic Information System (GIS) programme. The aim is to gradually hand over control to the Mining Cadastre (registry) as it builds up human and technical resources.

The social stakes of the mapping project are high. In cases where the Mining Cadastre decides to disqualify artisanal sites that do not meet the criteria, the miners will be pushed out into the cold. Their only hope is a dormant licence. Past oversights are also coming back to haunt the mapping projects. According to Kamundula, "Many problems have arisen from concessions being granted by Kinshasa not corresponding to the situation on the ground; it isn't uncommon for a single concession to have been allocated twice. Moreover, some GPS coordinates correspond to locations in Lake Kivu." The Mining Cadastre is not yet operational, and despite assurances from Martin Kabwelulu, the Mining Minister, that "blood minerals no longer exist in the Democratic Republic of Congo; the business climate is favourable and foreign investors no longer have anything to fear", Kinshasa is reluctant to disclose the results of its site qualifications, which will either displease the artisanal miners in the east, or the industrial sector and international community. Faced with such a predicament, the government has to adopt a long-term vision to clean up a situation that is far from being resolved. Mapping the mining sites is the first step to increasing transparency in the sector and ensuring revenue from the mineral deposits does not go towards financing armed groups.

[Project to improve climate change knowledge base and promote early warning systems in Zimbabwe](#)



December 2011: In Zimbabwe's rural District of Chiredzi, the Special Climate Change Fund (SCCF) of the Global Environment Facility (GEF) has supported a project to enhance the capacity of farmers to adapt to climate variability and change through the adoption of gender-sensitive approaches. Over 45% of the population in Chiredzi has been classified as poor or very poor and 60% of households face food security challenges. The GEF has invested \$983,000 with co-financing by the Government of Zimbabwe: US\$680,000, NGOs - US\$175,000, UNDP - US\$75,000, Others - US\$25,000 in improving food security by promoting use of more than one or two crops, reducing reliance on rain-fed agriculture and

improving water use, introducing drought-resistant crops and building on benefit sharing institutions. Lessons learned to date include the need to:

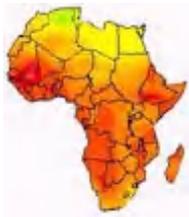
- Develop institutional capacities and policy frameworks at national and local levels; use bottom-up and participatory processes in project design;
- Promote a "learning by doing" approach to using climate forecasting tools; and use farmer-managed demonstration activities.

The project has identified limitations in the ability for local knowledge related to climate forecasting to provide reliable forecasts, and has documented an interest from farmers on sharing climate risk information. The project, which is implemented by the UN Development Programme (UNDP), focuses on improving climate change knowledge base of local populations to facilitate adaptation choices; piloting demonstration of policy oriented adaptation practices; and promoting the use of climate early warning systems. For further information, contact: UNDP Regional Technical Advisor, Jessica Troni at Jessica.troni@undp.org, Project Coordinator, Dr. Leonard Unganai at: cwd@ecoweb.co.zw.

[Geospatial World Forum 2012: Presentation of the Excellence Awards](#)

In order to recognize and encourage innovations and excellence brought forward by geospatial technology developers, professionals, end users and policy makers, the Geospatial World Magazine will confer awards and recognitions for exemplary innovations and practices in the global geospatial industry during Geospatial World Forum 2012 in Amsterdam on 24th April 2012.

The awards will be presented to the winners selected by an international panel of judges, who will shortlist candidates from nominations sent from across the globe. Nominations for these prestigious awards are encouraged from all geospatial and allied projects for the following categories:



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- Geospatial Excellence Awards - For exemplary usage of geospatial tools in various fields (Governance, Infrastructure, Public safety, Utilities, Design and Engineering, Environment, Agriculture, Mining and Exploration, Transportation management, Business Intelligence, Insurance, Disaster Management),
- Geospatial Technology Innovation Awards - For innovations and developments in geospatial technology e.g. Remote Sensing, Photogrammetry, LiDAR, 3D Modeling, Cartography, Web GIS, Mobile mapping, Enterprise GIS, Topographic surveying instruments, GIS ready imagery etc.
- Geospatial Policies and Programs Awards - Policy makers and implementers whose work directly impacts in development of geospatial science, technology and business may submit their nominations for this category.

On the occasion of the announcement of Geospatial World Awards, Sanjay Kumar, Chief Executive Officer of Geospatial Media and Communications said, "The global geospatial industry has become an important contributing factor to the world economy. Such growth in the global geospatial industry is driven by innovations by the technology users. These awards are a medium to facilitate the pioneers and encourage newer innovations and best practices in the industry that would lead to further growth of geospatial technologies." Nominations are invited in the above categories and can be submitted by 15 January, 2012. Submissions can also be done online at <http://awards.geospatialmedia.net/>.

[Tender: Consultant Services for the evaluation of new Mozambican Geodetic Reference System \(MozNet and MozGeo\) in Mozambique](#)

Consultant Services for the evaluation of the new Mozambican geodetic reference system (MozNet and MozGeo) for its adoption migrating from the classic one based on TETE Datum:

REF No.: LCS-MCA-MOZ-06/M&E/11-211, Date of Issue: December 12th, 2011, Closing Date: 31 January, 2012 - 15:00 (local time).

The Millennium Challenge Corporation, on behalf of the United States Government, The Ministry of Planning and Development (MPD) on behalf of the Government of Mozambique has entered into a Millennium Challenge Compact for Millennium Challenge Account assistance to help facilitate poverty reduction through economic growth in Mozambique (the "Compact").

The objective of the proposed program is to reduce poverty through economic growth in four provinces of Mozambique (Niassa, Cabo Delgado, Nampula, and Zambézia) by focusing on certain investments in physical assets, policy reform, capacity building and institutional strengthening. The program contains four projects including the Water Supply and Sanitation Project (WSSP), the Roads Project, the Land Tenure Services Project, and the Farmer Income Support Project. Please contact Hugo Oosterkamp (hugo@oosterkamp.eu) if you are interested for partnership.

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



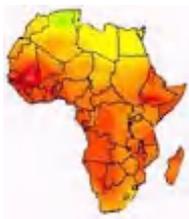
The Conference Theme: Earth Observation & Geo-information Sciences for Environment and Development in Africa: Global Vision and Local Action Synergy.

The 9th AARSE International Conference, AARSE 2012, on Earth Observation & Geo-information Sciences for Environment and Development in Africa: Global Vision and Local Action Synergy will be held in El Jadida, Morocco, at the Faculty of Science, Chouaib Douakkali University from October, 29 to November 2, 2012. The conference will be a major

event in the African and international community of Earth observation and geo-spatial information science in 2012; organized by the African Association of Remote Sensing of the Environment (AARSE) and the Chouaib Douakkali University, Faculty of Sciences (CDU_FS), in partnership with the International Islamic Organization for Education, Science and Culture (ISESCO) and the Moroccan Association of Remote Sensing of the Environment (MARSE).

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

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



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[Call for Papers: GNSS 2012](#)

Abstract submissions are now being accepted for the Institute of Navigation's (ION) GNSS 2012, the 25th International Technical Meeting of the Satellite Division. The conference will take place from 17th to 21st September 2012 with tutorials on 17th and 18th September at the Nashville Convention Center, Nashville, USA. This conference edition will feature pre-conference tutorials, a policy and GNSS systems workshops track and more than 250 technical papers on a diverse array of topics. ION GNSS 2012 brings together international leaders in GNSS and related positioning, navigation and timing fields to present new research, introduce new technologies, update current policy, demonstrate products and exchange ideas. Instructions on submitting your abstract can be found at the ION website.

Practical SDI implementation materials from within and outside of Africa

[Mapping Africa's Congo River Basin](#)



The Congo River Basin in Africa, is the world's second largest river systems and one of the most important when it comes to understanding the global carbon budget. It was in November 2010 when scientists from the Woods Hole Research Center (WHRC) embarked on an expedition to collect water data from the Congo River Basin. A research project set out to collect data from the Republic of Congo's river basin. Faced with extreme weather changes, not to mention rainy season, the project team embarked to take water samples to test and quantify nitrogen, phosphorous and dissolved organic carbon levels. The

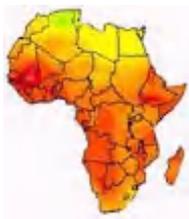
following looks at how GIS technology was used.

Supported by the National Science Foundation, the project, known as the Global Rivers Project, is a collaboration of several institutions around the world and focuses on six globally significant river systems: the Congo, Yangtze, Brahmaputra, Ganges, Kolyma, and Fraser. The programme brings together a selection of scientists, including geologists, geochemists, hydrologists, engineers and remote-sensing experts, to explore the relationship between river chemistry and large-scale land-cover characteristics. As with any statistical modeling, diversity is important in the sample set. Geographic Information System (GIS) technology was used to find easily accessible major waterways where the areas of contribution (upstream watershed) covered the most diverse set of land-cover types available in the Republic of Congo. Latitude-longitude coordinates for each sample point were captured using GPS and mapped regularly.

The Congo River Basin has the largest swamp forest in the world. It is where the team spent the majority of time collecting data. Team members traversed these forests in a pirogue (wooden dugout canoe), sampling water along the way. Despite the hardship of the journey, they were happy to encounter a variety of land-cover types: grasslands and croplands in the south, sparse forest areas in the nation's midsection, dense humid forests in the north, and finally swamp forests in the ortheastern area of the country. The team's goal was to collect data on each land-cover type in the basin as well as samples from tributaries feeding those areas. In preparation for the trip, spatial data was collected and loaded onto a laptop. As well as preparing GIS layers, Greg Fiske, GIS researcher and GIS manager at the WHRC created a script that would take the location points, calculate the upstream area, and produce a selection of land-cover metrics within that area based on key remotely sensed GIS layers.

At the end of each day, Fiske uploaded the geocoded water sample data to his laptop running Esri's ArcGIS software. He overlaid water sample and land-cover type attributes on the remote-sensing data so the team could immediately see the results of its work and affirm that it was in the appropriate location. The challenge that made mapping difficult, and sometimes made fieldwork impossible, was the intense rain and the river waters. Fiske and other members of the team were constantly concerned about dropping gear into the river or losing it to the water in the bottom of a flooded pirogue. The team had other duties besides data collection. The team worked with local people and trained them to collect water samples and metrics. This would allow the scientists to retrieve critical time-series information on the tributaries of the Congo.

Using GIS tools for this project, the team has been able to share data with others and distribute commonly used base layers. Fiske to date has posted project-wide base layers, such as stream networks, sample locations and watershed boundaries. Fiske and others are also designing spatial models to show correlations of certain land-cover types and water chemistry variables. The aims is being able to extrapolate the rules defined by the Congo analysis to other portions of tropical Africa - places that would be much more difficult to go to and physically sample.



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[In Salah - a gas oasis in the desert](#)



Faced with challenges from start to finish, the In Salah Southern Fields Project - located in the Sahara desert - will overcome searing heat, sand storms and corrosive gas to install a 300 km pipeline network that will transport gas from the isolated desert to local and international markets. The In Salah Southern Fields (ISSF) project is the second phase of the larger In Salah Gas (ISG) Development Project that first began in November 2001. ISG is one of the largest dry gas projects in Algeria and entails the development of seven proven gas fields in the southern Saharan desert, 1,200 km south of Algiers.

ISG has been producing approximately 8 Bcm/a of gas since July 2004, which is marketed by the joint marketing company In Salah Gas Limited, an association between ISG joint venture partners Sonatrach (35 per cent interest), BP (33.15 per cent interest) and StatoilHydro (31.85 per cent interest). The first phase of ISG involved the development of three gas fields – Krechba, Teg and Reg – located in the northern part of the In Salah licence. Based on the expected decline of gas production from these three fields, the second phase involves the construction of a 300 km pipeline network.

Starting from scratch – the second phase ISSF will involve the construction of an over 300 km pipeline network with diameters between 16 and 30 inches. Half of the pipeline will be constructed with stainless steel while the other half will be made of carbon steel. The project will also include construction of a new central processing facility (CPF), a gathering system, and an interfield transfer and expedition line. The pipeline will transport dry gas from the Hassi Mounene, In Salah, Garat El Beffinat and Gour Mahmoud fields in the central Algerian Sahara to the new CPF, which will be able to process 17 MMcm/d of gas. The CPF will be located north of the town of In Salah and tied back to the existing producing facilities in Reg. Gas will then be transported further to the Krechba CPF for CO₂ removal followed by export to both the local community and Europe.

ISG Limited President Mohamed Keddou says that the ISG project is the first development project in central Sahara, “starting from nothing.” “The Southern Fields are located in the Ahaggar National Park, an area of environmental sensitivity with numerous historic and archaeological sites and an old palm oasis. In addition, In Salah is one of the warmest inhabited places on earth, with summer temperatures peaking at 63°C.” Foster Wheeler says that developing pipeline routings through the multi-faceted terrain involved the latest satellite imagery, aerial survey and software technologies for producing detailed topographical terrain mapping. “The Southern Fields project covers an overall area of 2,000 sq km and the pipelines constitute around half of the overall project cost, so it is vital to get the routing right. ISG pre-FEED work had already resulted in the acquisition of a considerable volume of geo-referenced data. Using Esri ArcGIS software, we developed this and subsequent data into a geographical information system model which will eventually be passed onto the engineering, procurement and construction (EPC) contractor,” says Foster Wheeler.

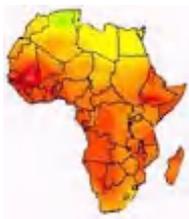
According to Foster Wheeler, a particular challenge during the FEED was the optimisation of the pipeline route. The company says “In addition to a comprehensive land-based terrain evaluation survey by specialists in geology, geotechnical engineering and geo-hazard risks, a full aerial light detection and ranging (LiDAR) survey of the project area allowed for extensive review of the pipeline routes, taking into account both geotechnical and topographic assessments of the area in addition to the environmental constraints. “LiDAR technology uses pulses of laser light striking the surface of the earth and measures the time of pulse return to produce a geo-referenced file, used for identification of broad land use or surface features. [Read more](#) ..

[A greater understanding of animal migration reveals threats](#)



The Wildlife Conservation Society has just released a report that raises alarm bells regarding threats to great American wildlife migrations. The society credits new GPS collars and geolocators for providing a much greater understanding of animal movements, as well as the impediments to their migration. Under threat are five terrestrial animal migrations and three flight-based migrations that are being threatened by fencing, highways, housing development, energy development, agriculture, wind turbines, and climate change.

The terrestrial mammal migrations include three caribou populations located in Alaska, that face deeper winter snows and greater insect harassment due to climate change. The pronghorn migration in northern Montana and Saskatchewan, and the mule deer in western Wyoming, are mainly threatened by increased grazing and crop production as well as development. WCS Senior Conservationist Keith Aune says, “Within



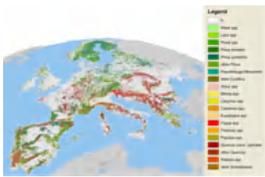
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the last decade, we have developed superb tools to identify and map the detailed movements of migrating animals, from the largest to the smallest and lightest - including birds flying halfway around the world.” GPS collars affixed to migrating pronghorn were used by WCS and the National Park Service to document the longest known hoofed animal migration corridor in the contiguous U.S., which is now also the first federally designated migration corridor - the “Path of the Pronghorn,” in Wyoming.

Aune suggests that a successful framework for the conservation of these migrations would include: improving jurisdictional cooperation (as migration corridors often cross many borders); public education regarding the importance of ecological connectivity; increased funding to support conservation at key migratory stopovers, pinch points and bottlenecks; and increased field research efforts to identify important migrations and migratory pathways. Read the full report, [“Spectacular Migrations in the Western U.S.”](#)

[European tree species map released](#)



European Forest Institute (EFI) in cooperation with Alterra / Wageningen University has released a set of 1x1 km tree species maps showing the distribution of 20 tree species over Europe. Basic dendrometric data were kindly received for 260,000 national forest inventory plot locations from 17 countries to compile these maps. Forest plot data collected in a European-wide network (ICP Level I) have been used to extend the available data for the remaining European countries. Furthermore, forest inventory statistics have been applied. Never before, were such harmonized

maps available at the European scale, at this level of detail. These maps will be important for future resource analyses, and e.g. carbon analysis.

More details on the mapping method are provided in a scientific article by Brus et al. 2011 ‘Statistical mapping of tree species over Europe’, European Journal of Forest Research Vol. 131 (1): 145–157. The GIS data is available for [download from EFI website after short registration \(www.efi.int/projects/tree-species-map/register.php\)](#).

[Airport bird map stops pilots getting in flap](#)



Adelaide airport is using interactive maps of the bird life on the site to avoid collisions with planes. The new system draws on more than 20 years of hand-drawn data, including records of every collision or “bird strike”. Developer Esri Australia says the bird-mapping geographic information system is an Australian first that sets a new standard in national aviation safety.

Airport staff can identify patterns in bird movements and act where required to discourage birds from nesting or congregating on the site, professional services manager Andrew Fellows says. “It seems to be quite seasonal. They’ll have a strike

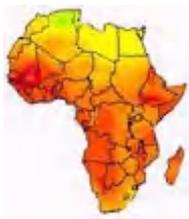
here and there, a couple weeks, then they’ll go through long periods when not a lot happens,” he said. “This isn’t necessarily a major strike either. It’s not like a pelican going through the engine and flaming out. It’s more like a pigeon comes along and donks into the wheel as it’s taxiing along the runway. So I don’t want to give the impression these are catastrophic events.”

The Airport Environment Office says there are about 0.5 bird strikes per thousand aircraft movements. That equates to about 80 bird strikes a year. The birds most commonly involved in collisions are magpie larks, silver gulls, domestic pigeons, magpies, galahs and kestrels. The Wildlife Hazard Management Plan includes measures to discourage birds, including mowing grass and controlling weeds. Vehicles are used to scare birds away from the runway or taxiway. The next option is bird-scaring cartridges, with empty shells that produce a loud noise. If all other methods have failed, the airport will resort to “population control”.

GIS Tools, Software, Data

[A Time to Give - ArcGIS Online research leads to volunteerism mapping application](#)

Michael Bentivegna writes: It seems like the pace of life is getting faster and faster and that technology is at least supporting these change, if not causing it? With every time-saving productivity gain that technology provides, the expectations for the speed and the amount of work to be completed in any time frame seem to just increase. Within the field of GIS (Geographic Information Systems), this expectation is being driven by consumers that want to search for and view information in a spatial context (a map). In the world of media



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mashups, the publishing of new GIS data and applications is expected in a few weeks, if not days, and updates are expected to be nearly instantaneous.

For GIS professionals, Esri's [ArcGIS Online](#) comes to the rescue or further enables this trend (depending upon your perspective). This platform enables the discovery, sharing, and display of GIS data in a free cloud-based software-as-a-service, social GIS ecosystem. In plain speak, it allows you to create map data mashups with great Esri hosted/developed basemaps and lots of national and global scale GIS data. In the past few months, Esri has added the capability to upload basic spreadsheets with address information and other data in GIS formats that are processed and made available through the site. They even offer templates to provide simple applications with functions like search, measure, identify, and social media integration. All of this can be shared within a group of your choosing or out to the greater public, embedded in your website. Exciting stuff! Read more how Michael helped in designing a hurry-up effort to push information about volunteer locations out to the public for the holidays in an end product mapping application ready to be embedded in Governor O'Malley's [Maryland Stronger Together](#) website.

[National Geographic and Esri team on map for Web and Mobile](#)



The National Geographic and Esri have revealed a new multi-scale general reference map of the world for use by the public and for education purposes. The map uses the familiar cartographic styling that National Geographic developed over more than 100 years of map making, and offers multiple scales of viewing from global all the way down to 1:144k scale for the globe and 1:9k scale for North America.

Through ArcGIS online hosting, users are able to use this map for the creation of their own maps, by adding layers to this basemap or creating their own overlay layers. The map uses data from a variety of leading data providers, including DeLorme, NAVTEQ, UNEP-WCMC, NASA, ESA, USGS, and others. Take a [tour of the map features](#) or [access the map](#).

[ESA opens Landsat archives](#)



Over 30 years of archived data from the US Landsat Earth-observing satellites are now available, free of charge. The majority of these products is unique to ESA's archive and has never before been accessible anywhere else by the scientific user community. In its archives, ESA holds around two million products that cover Europe and North Africa. The total amount of data available is worth about 450 terabytes, equivalent to about 900,000 hours of audio recorded at CD quality. ESA has been acquiring Landsat data at European stations since the 1970s.

ESA revised its Earth observation data policy in 2010 to adapt to the 'Joint Principles for a Sentinel Data Policy'. This policy was approved by ESA Member States participating in the GMES Space Component Programme, and supports the concept of providing free and open access to data. By revising the data policy, ESA followed the same path as the US Geological Survey, who began making its Landsat data available free of charge in 2009. The ESA archives opens access to all products from the Thematic Mapper and Enhanced Thematic Mapper instruments aboard the Landsats. Data from the older Multispectral [Scanner](#) will be made available at a later stage.

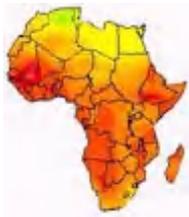
To access the data, users can go to the Earth Observation Principal Investigator Portal to submit a brief project description and request data. ESA then assigns the project a quota based on the system's current processing capacity. When the data are ready, the user will receive directions for online retrieval. In order to allow improved and faster access, ESA will soon begin gradually to process all data into an online archive for users to access independently. Owing to the vast amount of data, this process will take about two years.

The Landsat series goes back to 1972, with Landsat-5 and -7 currently in orbit. Landsat-8 is due for launch by early 2013. The Landsat programme is jointly managed by NASA and the US Geological Survey. ESA supports the Landsat series as a Third Party Mission, meaning it uses its ground infrastructure and expertise to acquire, process and distribute the Landsat data to users.

[GIS tool helps Golden State city win planning grant](#)



[Fullerton, Calif.](#) landed on \$270,000 in California Department of Transportation (Caltrans) planning funding, thanks to a geographic information system (GIS) that provided key answers for the grant application. [Esri Community Analyst](#), a cloud-based GIS from Redlands, Calif.-based ESRI, produced reports and supplied data that were needed to fill out the application. The planning funds will be used to



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explore options for a transit loop extension, including a fixed-route trolley, in the downtown area. "Community Analyst provided answers to questions we couldn't have easily found otherwise," said Diana McCarthy, a GIS specialist in the city's Community Development Department (CDD). "We were able to access data across several census block groups, nailing down information to a very specific area."

To accomplish this, CDD staff created a unique quarter-mile sphere of the proposed study area to accurately identify information, such as the types of population potentially served and the number of single-occupant vehicles passing through the area. Using the GIS product, city staff obtained information about existing businesses, determined what types were missing, and created a plan to draw new establishments into the area. With six colleges and universities and eight high schools in Fullerton, the city has numerous students and faculty who could benefit from targeted transportation. The proposed transit loop would give students and all residents access to the trolley from the existing transit center, which provides access to the Metrolink commuter rail system and Amtrak trains, as well as Orange County transit buses. "Community Analyst created a vehicle for collaboration. [It's a tool] that officials could use to actively engage citizens, including those involved in local high schools and universities, and help them encourage students to use alternative modes of transportation," said Chris Thomas, Esri director of government markets. Using Community Analyst, a hosted cloud solution, Fullerton CDD staff was able to:

- View the latest American Community Survey variables on a thematic map.
- Use comparison reports to determine which improvements should be funded, and the impact of those decisions on populations and households.
- Find optimal locations for the improvements to serve the most people.

Esri GIS technology and software is used in mapping and spatial analysis. More than 300,000 organizations worldwide, including the 200 largest cities in the U.S., use the technology.worldwide.

Training Opportunities

Have you signed up to receive [SDI-Africa Newsletter](#) notices? It only takes a minute, and then the GSDI Association can notify you when a new issue of the SDI-Africa newsletter is available, plus alert you to particular GSDI announcements (like a call for GSDI grants, or a call for papers for a GSDI conference).

The GSDI Association also hosts an [SDI-Africa E-mail Discussion List](#) with intermittent news and announcements of opportunities (this discussion list is separate from the SDI-Africa Newsletter list).

- The [SDI-Africa E-mail Discussion List](#) is open and available to anyone to read on the web. To submit messages or to receive submitted comments or notices by e-mail, one first must register.
- To see the collection of prior postings to the list, visit the [SDI-Africa E-mail Discussion List Archives](#).
- To post a message to the list, send an email to sdi-africa@lists.gsdi.org.

Institute for Capacity Development: 2012 Training Workshops

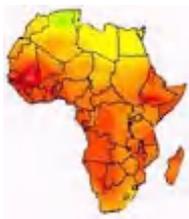
The training courses are held in Namibia (Head Office); South Africa and Zimbabwe. For the past years, ICD has been conducting international capacity building workshops for national, provincial and local officials, elected representatives, members of boards, personnel of projects as well as bilateral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

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

ESRI Technical Certification

ESRI has set the industry standard for GIS technology and is now establishing benchmark standards for individuals who use Esri software with the recently launched Esri Technical Certification Program. The ESRI Technical Certification Program recognizes qualified individuals who are proficient in best practices for using Esri software and are awarded in different areas of expertise at both an Associate and Professional level. The program is open to ESRI users worldwide and consists of 13 certifications recognizing expertise in desktop, developer, or enterprise use of ArcGIS. Users achieve certification by successfully completing computer-based examinations, which are offered in more than 5,000 testing locations in 165 countries. Beginning in January 2011, users will be able to test for five certifications. The remaining eight are still in development and will be available later in the year. Establishing an industry recognized benchmark of expertise in using ESRI software will:

- Improve success with GIS by creating a community of professionals proficient in using ESRI software.



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- Help organizations maximize their investment in ESRI products by employing a workforce certified in using best practices.
- Create professional development opportunities.
- Provide an opportunity for individuals, partners, consultants, and other organizations to distinguish themselves among their peers.
- Assist hiring organizations in assessing candidate skills and abilities.
- Workplace experience, combined with GIS education and ESRI training courses, is the best preparation. The ESRI Technical Certification Web site lists specific skills that will be assessed in each exam, as well as training courses that aid in acquiring and improving these skills. ESRI is available to advice you on the best training for a particular certification and also offer you the training that you need to prepare for your certification. [Read more..](#)

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



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

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

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

ESRI Eastern Africa is now offering update courses to conform to improvements in ArcGIS 10 and ENVI 4.8, conducted with skilled and 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://esrietraining.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

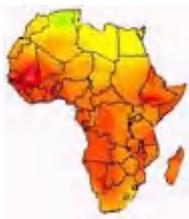
	Duration (Days)
• Introduction to GIS	2
• Fundamentals of ArcGIS	5
• Managing Water Utilities Using ArcGIS	3
• Introduction to Web Mapping	3
• GIS for Natural Resources Management	3
• Using GIS for Resource Planning and Management	3
• Working with ArcGIS 3D Analyst	2

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



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- 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. Further 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.

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



Faculty of Geo-Information Science and Earth Observation

UNIVERSITY OF TWENTE

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

ITC Short Course: Remote Sensing and GIS for Geological and Mineral Exploration

The course will be held on 16-27 January 2012 at the SEAMIC premises in Dar es Salaam, Tanzania. This two-week course provides an introduction into the application of GIS, remote sensing and airborne geophysics to geologic mapping and mineral resources exploration. The following will be covered: 1) The analysis and interpretation of geological data sets, such as ASTER satellite imagery, aeromagnetics and gamma-ray spectrometry and geochemistry, 2) the integration of different data sets to enhance geologic interpretations, and 3) mineral prospectivity modeling with GIS to generate exploration targets. Concepts and theories are explained in interactive lectures and their application will be practiced in hand-on exercises of East-African and other case studies.

Target group: Geologists who are working in the field of geological mapping and/or mineral resources exploration who want to deepen their knowledge of the use of digital data sets in a GIS environment to increase the efficiency of geologic mapping and exploration campaigns.

The course is at an advanced level and participants must be familiar with the basics of GIS and remote sensing. They must have an educational background and/or working experience in Earth Sciences.

The tuition fee is 2500 Euro, which excludes traveling to SEAMIC and accommodation. Please send your application to Mesfin Wubeshet at SEAMIC. Registration deadline is 7 January 2012.

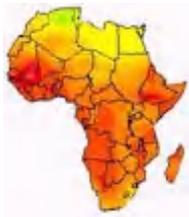
For further information about the course contact: Mesfin Wubeshet, (+255) 22 2650347, F: (+255) 22 2650319, M: (+255) 71 3262956; 78 3262956; 75 3262956, E: Mesfin_Wubeshet@seamic.org, I: www.seamic.org or Frank van Ruitenbeek, T: +31 (0)53 4874 280, F: +31 (0)53 4874 336, E: Frank.van.Ruitenbeek@utwente.nl, I www.itc.nl or www.utwente.nl.

ITC Distance Course: Hyperspectral Remote Sensing

The certificate course will start from 30 January 2012 for 6 weeks. Hyperspectral remote sensing and interferometric SAR are the two major steps forward in earth observation for earth sciences made in the late eighties. While Interferometric SAR allows to measure sub-millimetre surface deformations of the earth surface crust that can aid in understanding stress and strain changes and in turn can help in understanding crustal dynamics, hyperspectral remote sensing allows detailed surface composition to be revealed from satellite observations. Hyperspectral sensors acquire images in a large number of (>40), narrow (<0.01 to 0.02 m. in width), contiguous (i.e., adjacent and not overlapping) spectral bands to enable the extraction of reflectance spectra at a pixel scale that can be directly compared with similar spectra measured either in the field or in the laboratory.

This Distance education course introduces state-of-the-art techniques for processing and interpreting multispectral and hyperspectral data, with a focus on airborne and satellite-based hyperspectral sensors.

The course is designed for students, researchers and practitioners in remote sensing with a background or interest in earth and/or life sciences who want to learn the basics and prospective applications of hyperspectral remote sensing. Basic knowledge of remote sensing is desirable. The tuition fee is 1000 / 500 Euro. Registration deadline: 9 January 2012.



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[ITC Distance Course: Systems analysis and modeling](#)

The certificate course will start from 13 February 2012 for 6 weeks. Systems analysis and systems thinking present a way to treat the complexities of modern world and understand how systems evolve and what can be expected from the future. This course is an introduction to simulation modeling of dynamic systems that will familiarize participants with basic principles of systems analysis and modeling. Applications and case studies are drawn primarily from ecology and economics. Participants can consider different modeling strategies and learn how to formulate, build and analyze models.

The course will teach you to think in terms of systems, to deal with complexity, to build conceptual and simulation models to analyze your systems. It is an essential introduction to such applications as Environmental Impact Assessment and Strategic Environmental Assessment, it is essential for decision making, environmental management and sustainability science. The course bridges the gap between static spatial maps and dynamic spatial processes. Several modeling software packages are introduced, including Stella, Madonna, and Simile. Investigation of alternative modeling software packages is encouraged.

The course is relevant for everyone interested in systems, complexity, and modeling. The course is designed for a broad audience, including those with little or no modeling expertise. Some basic knowledge of calculus is an advantage, although most of the needed concepts will be introduced during the course. The major skill that is sought and fostered is the ability to think logically and make connections between processes, events and actors. The tuition fee is 1000 / 500 Euro. Registration deadline: 7 February 2012.

[ITC Distance Course: GIS Data Quality](#)

The certificate course will start from 12 March for 7 weeks. This course aims to cover the basic principles of spatial data quality. This subject is of central importance in GIS and related fields since the quality of the data used and produced impacts on the quality of decisions made. The term “spatial data quality” is widely used in academic, governmental and industrial contexts but often remains undefined. In this course, participants are required to give critical attention to the meaning of spatial data quality. Greatest attention will be given to quantitative and statistical aspects of the subject. To do this, we will revise and develop some fundamental statistical concepts and computational tools that will be of more general value for data analysis and modeling.

The course is relevant for a wide range of geospatial data users and producers. The tuition fee is 1000 / 500 Euro. Registration deadline: 20 February 2012.

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



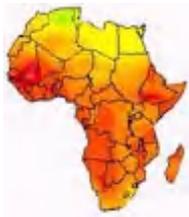
The [Regional Centre for Training in Aerospace Surveys \(RECTAS\)](#) is offering a number of three-week courses. Also note that RECTAS is able to package and deliver customised training for interested organisations. These could be either advanced or other certificate programs. Contact: info@rectas.org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



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Funding Opportunities, Awards, Support

[2012 Leverhulme-Royal Society Africa Award in UK, Ghana and Tanzania](#)

Scholarship open for international students from the following countries: UK applicant and the Ghanaian/Tanzanian. It aims to help develop and maintain excellence in science in both countries and to strengthen the research and training capacity of the African institution. The scheme provides 3 years funding towards research expenses and costs for mobility and equipment.

The scheme covers all areas of the life and physical sciences, including engineering. Applications covering the following five identified national research priorities in Ghana and Tanzania are particularly encouraged: agriculture (including animal health); water and sanitation; basic human health research (including medicinal chemistry); biodiversity (including medicinal plants and green chemistry) and energy (including renewables). Both the UK applicant and the Ghanaian/Tanzanian applicant must: have a PhD or have extensive experience at an equivalent level have a proven track record of training students at Master's and Doctoral level have a proven track record of publishing in both national and international journals be based in the respective countries at the time of the application

Study Subject(s): Agriculture (including animal health), Water and sanitation, Basic human health research (including medicinal chemistry), Biodiversity (including medicinal plants and green chemistry), Energy (including bio fuels). Scholarship application deadline: 8 February 2012.

[European Commission \(EC\) - Kenya Rural Development Program](#)

The EC and the Government of Kenya invite proposals to address drought and other vulnerabilities of arid and semi-arid lands in northern Kenya. Grants will build programs and strategies for drought preparedness; livestock health and marketing; fodder development; water conservation; support to communities for contingency plans; and related capacity-building activities. The program is open to NGOs, public agencies, and local authorities in the EU and its candidate countries; countries of the EEA and ACP (including Kenya), and least-developed countries. International (inter-governmental) organizations are also eligible. Grants (in two lots) will range from €500 thousand to €2 million. Concept notes are due by 31 January 2012.

[Partnership for Observation of the Global Oceans - Training and Education 2012](#)

The Partnership for Observation of the Global Oceans (POGO) - with funding through the Nippon Foundation - supports capacity building in oceanography for individuals and institutions in developing countries. POGO's Visiting Fellowship Program funds young professionals from developing countries to train in their speciality at a major oceanographic institution. PGO's Visiting Professorship Program supports marine scientists of international standing to teach and build capacity at marine institutions in the developing world. The application deadline is 15 January 2012 for the fellowships and professorship.

[UNESCO - Michael Batisse Award for Biosphere Reserve Management 2011](#)

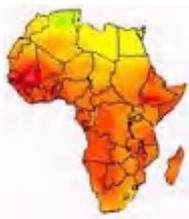
The United Nations Educational, Scientific and Cultural Organization (UNESCO) sponsor this award for outstanding achievements in biosphere reserve management. The winner receives US\$6 thousand and travel to Paris to present the case study. Applications are due 15 January 2012.

[UN Trust Fund to End Violence against Women - Call for Proposals 2011](#)

The United Nations Trust Fund in Support of Actions to Eliminate Violence against Women is accepting applications for its 16th grant cycle (2011). The areas of action are: (i) strengthening laws, policies, and action plans that address violence against women; and (ii) addressing violence against women in conflict, post-conflict, and transition settings. *TVG Note: Creative grant seekers may be able to integrate these themes with topics in agriculture, energy, and natural resources.* Eligibility includes government authorities, civil society organizations and networks, and UN country teams in partnerships with governments and civil society. Grants will range from US\$100 thousand to US\$1 million for periods of two to three years. The application deadline is 19 January 2012.

[African Diaspora Marketplace - Grants to Africans in the USA for Enterprises in Africa](#)

The African Diaspora Marketplace is sponsored by the U.S. Agency for International Development and Western Union to support the U.S.-based African Diaspora for start-up and expansion of businesses in Sub-Saharan Africa. Priority enterprise areas include agribusiness, renewable energy, and others. Up to 15-30



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ventures will each be awarded about US\$50 thousand and/or technical assistance. Applicants must provide matching resources, and applications are made with an African partner. The period for application is 15 December 2011 through 3 February 2012.

[European Commission \(EC\) - Conservation in the Northern Congo Basin](#)

The EC and the Economic Community of the Central African States (CEEAC) invite proposals for wildlife conservation in the savannah region of the northern Congo Basin (i.e., Cameroon, Chad, and Central African Republic). Main objectives include direct actions for wildlife protection; interventions to reduce human-wildlife conflicts; cross-border collaboration (e.g., legal and policy harmonization); and environmental lobbying and awareness raising. Grants are in the range of €3 million to €4 million, subject to criteria on cost-sharing. The program is open to NGOs, public agencies, and territorial collectives in the EU and ACP countries - and to international (inter-governmental) organizations. Reference EuropeAid/131971/M/ACT/Multi. The application deadline is 6 February 2012.

[King Baudouin Foundation - King Baudouin African Development Prize 2012](#)

The King Baudouin African Development Prize rewards innovative initiatives to improve the quality of life of local communities in Africa. Candidates for the Prize can be individuals or organizations, working in any field of endeavor. Past winners include champions of fair trade, environmental conservation, and land reform (among a wide field of other issues). The Prize is worth €150 thousand, awarded every other year. The current deadline for nominations is 15 February 2012.

Employment Opportunities

[Regional Director for the Middle East and North Africa, Rabat, Morocco](#)

The Climate Parliament is based in Europe, and is chaired by Sir Graham Watson MEP, a senior member of the European Parliament. In developing countries it is collaborating closely with the UN Development Programme. While the Climate Parliament helps MPs to get organised and take initiatives in their parliaments, UNDP provides technical advice to assist the MPs in developing their initiatives. The Regional Director will work under the direction of the Climate Parliament's Secretary-General, who is based in the UK.

The incumbent should possess:

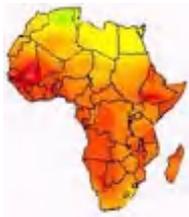
- Personal commitment to urgent action on climate change;
- Fluent written and spoken Arabic and French; fluent spoken English;
- Good university degree in a relevant discipline;
- At least 10 years of relevant work experience;
- Familiarity with policy-making processes at a high level, preferably with parliamentarians;
- Knowledge and experience of energy policy issues;
- Experience of managing staff;
- Proven writing skills in both Arabic and French;
- Co-operative, team worker;
- Ambitious about policy change: in this organisation, a desire to help change the world is an asset, and ambitious objectives are not discounted as unrealistic.

Women candidates are encouraged to apply.

Please send a CV (resumé), as well as a covering letter explaining your suitability for the position (both as .PDF attachments), to tnemtiurcer@lrpetamiliic.ten with "MENA Regional Director" as the subject line. Please ensure your CV contains full contact details, including a telephone number. Please state where you first saw this job advertisement. Deadline for application submission: 6 January 2012.

[Development and gender economist, Nairobi, Kenya](#)

ILRI seeks to recruit a scientist within its Poverty, Gender and Impact team and the Regional Strategic Analysis and Knowledge Support System (ReSAKSS) program. The scientist will work with the two programs to collect, analyse and report on sex- disaggregated data on agriculture and rural development, agricultural value chains and trade in Sub Saharan Africa and Asia. Key responsibilities include: Design and manage the collection and analysis of gender disaggregated data on agriculture and rural development, agricultural value chains and trade; Develop tools and frameworks for analysing agricultural value chains from a gender perspective; Implement, supervise and monitor data collection efforts in countries in Sub-Saharan Africa and Asia; Use empirical econometric and other quantitative methods to analyse the data



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integrating both household and intra household analysis; Work with others in the team to combine quantitative and qualitative analysis to understand impacts of value chain development and agriculture trade especially on women's empowerment.

The incumbent should possess:

- A Ph.D. in Development Economics, Agricultural Economics or Economics with emphasis on gender and agriculture development and poverty analysis.
- At least three years post-Ph.D. working experience in research and policy analysis in developing countries, preferably working on gendered empirical analysis of agricultural development, value chains, and agricultural trade.
- Knowledge of evaluation methods, value chain or sectoral assessments, applied micro-econometric methods, household and intra-household analysis.
- A good understanding of gender issues in agriculture and rural development and how to design, collect and analyse sex disaggregated data.
- Proven analytical and research skills through a track record of scientific publications.
- Demonstrated ability to draft high-quality analytical and policy documents and related correspondence.
- Ability to work under pressure, often to tight deadlines without compromising the quality of deliverables.
- Demonstrated good organizational skills and ability to work under minimum supervision.
- Demonstrated ability to establish and maintain professional contacts, and to interact with national officials and experts, other researchers, international organizations, development partners, and other PGI and ReSAKSS stakeholders.
- A willingness to travel frequently within and outside Africa and Asia.
- Proven ability to mobilize resources.

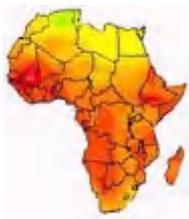
This is an Internationally Recruited Staff (IRS) position with initial appointment of three years with the possibility of renewal, contingent upon individual performance and the availability of funding. Applicants should send a cover letter and CV and the names and addresses (including telephone and email) of three referees to the Human Resources Director by registering at this link: http://www.myjobsinkenya.com/?s=view_recr_profile&i=100018. The position title and reference number DEV/ECON/12/11 should be clearly marked on the subject line of the online application. Screening of applications will commence on 23 January until the position is filled, though selections may be made in advance of that date.

[GIS analyst, Nairobi, Kenya](#)

ILRI seeks to recruit a GIS Analyst to lead and document specific GIS analyses in the field of livestock, natural resource management, Climate change and others as part of the research project of the team. The incumbent will support research activities; planning of fieldwork, advice on analytical methods, literature searches and synthesis, Collect, document and maintain datasets and information, Analyses datasets generated by various research activities, Contributes to writing of journals articles and other publications, Contributes towards communicating research to different types of audience, and Contributes to organization of workshops, meeting and conferences. The incumbent should possess:

- MSc. or PhD in one of the following fields: Geography, Natural Resource Management; Agricultural Science, GIS, Remote Sensing or other relevant discipline;
- At least five years on GIS applications in research project;
- Knowledge of livestock systems, natural resource management and/or agricultural development problems in the tropics;
- Excellent skills in Geographical Information Systems (preferable Arc/Info and associated Software);
- Ability to develop databases and prepare requisite documentation;
- Strong analytical thinker with a problem-solving attitude;
- Ability to facilitate stakeholder workshops and training programs;
- Excellent communication skills, including excellence in oral and written English;
- Excellent interpersonal communication skills, writing ability, organizational and administrative skills;
- Ability to work in diverse, multidisciplinary teams.

This is a Nationally Recruited Staff (NRS) position based at ILRI's Nairobi campus, with travel to other countries where ILRI works and is open to Kenyan nationals only. Applicants should send a cover letter and CV and the names and addresses (including telephone and email) of three referees to the Human Resources Director by registering at: http://www.myjobsinkenya.com/?s=view_recr_profile&i=100018 before



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15 January 2012. The position title and reference number GIS/SLF/12/11 should be clearly marked on the subject line of the online application.

Livestock systems analyst, Nairobi, Kenya

ILRI seeks to recruit a GIS Analyst to assist scientists and post-doctoral staff I research activities related to livestock systems, climate change adaptation and mitigation and general data analysis. The incumbent should posses:

- MSc. in one of the following fields: Livestock systems, Natural Resources Management, Agricultural Science or other relevant discipline.
- At least 3years (post MSc) or relevant experience (development research, operational/action research development project management, organizational management or other related areas) in a developing-country context
- Training in Database management, agricultural development; research methods (solid statics, sampling techniques
- Knowledge of livestock systems, natural resource management and/or agricultural development problems in the tropics
- Extensive field experience (organization of data collection activities, conducting surveys and others)
- Excellent analytical skills for qualitative and quantitative research, including experience with survey design and implementation
- Proficient in use of Ms Office packages
- Management and analysis of large socioeconomic datasets using standard statistical and econometric software (preferably SPSS, SAS and/or STATA)
- Ability to develop databases and prepare the required documentation
- Research communication skills or experience with communication of scientific outputs
- Strong analytical thinker with a problem-solving attitude
- Ability to facilitate stakeholder workshops and training programs
- Excellent communication skills, including excellence in oral and written English
- Excellent interpersonal skills and an ability to work flexibly in multicultural, multidisciplinary teams
- Ability to travel nationally and internationally
- A sense of creativity and ability to work with minimal supervision

This is a Nationally Recruited Staff (NRS) position based at ILRI's Nairobi campus, with travel to other countries where ILRI works and is open to Kenyan nationals only. Applicants should send a cover letter and CV explaining their interest in the position, names and addresses (including telephone and email) of three referees to the Human Resources Director by registering at: http://www.myjobsinkenya.com/?s=view_recr_profile&i=100018 before 15 January 2012. The position title and reference number RT/SLF/12/11 should be clearly marked on the subject line of the online application.

Other

Telling stories with maps

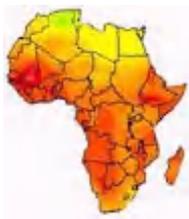


Stories are a very important aspect of our society, and storytelling is one of the things that make us uniquely human. Stories convey important knowledge about the world around us, often in a simplified yet dramatic fashion designed for maximum impact. We have much to learn, remember, and understand in life, but wrap a great story around something and it will make an impression on us that lasts a lifetime.

So where do maps fit in the storytelling realm? Read more about a recent interview with Allen Carroll, who left National Geographic about a year ago and is now ArcGIS Online

Content Program Manager at Esri, about [Map Stories](#) - a new initiative he's working on with David Asbury, Lee Bock, and Stephen Sylvia to integrate storytelling and maps.

You were Executive Vice President and Chief Cartographer at National Geographic Maps for a number of years. What led you to Esri? - Allen: During my time in Nat Geo Maps I became familiar with Esri and was fortunate to become good friends with Jack Dangermond, who was extremely supportive of our efforts. I attended a number of Esri User Conferences, and had the opportunity to work with many people in Redlands and at the DC office. We worked with Esri to enhance National Geographic's cartographic database, and National Geographic and Esri collaborated to produce the National Geographic MapMachine, which was one of the first interactive atlases on the Internet.



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While you were at National Geographic you were working the Global Action Atlas (which evolved into [National Geographic Explorers | Take Action](#)). One of your current projects at Esri is Map Stories. Is there a common thread between these initiatives?

Allen: Absolutely there is. I believe in the power of maps and geography to educate, inform, and inspire people to action. The Global Action Atlas was a wonderful opportunity to demonstrate how to use maps to enable people to discover important work being done around the world on behalf of people, cultures, and the natural environment. Map Stories provides a wonderful platform to continue to demonstrate that power. By the way, it's exciting to see that National Geographic has expanded on the Atlas with their recent launch of the Take Action initiative. I hope that many of our map stories will inform and inspire as well. [Read more...](#)

[Winners in Earthzine's 3rd Virtual Poster Session](#)

In our SDI-Africa Newsletter, December 2011 issue, we featured the Earthzine 3rd Annual College and University Student Essay and Blogging Contest for undergraduate and graduate students from around the world to submit an essay. Earthzine, an online publication dedicated to promoting the societal benefits of Earth observation and Earth information. In last year's contest, the theme was "How Can Earth Observation Help Us to Build a More Sustainable World?" The winners were to share \$1,200 in prizes.

- The DEVELOP team from the John C. Stennis Space Center took home the \$450 cash prize in Earthzine's third Virtual Poster Session, which featured 11 projects from high school and university students involved in NASA's DEVELOP National Program. The team's presentation, "[NASA's Eyes in the Skies Keep Watch over Critical Coral Ecosystems](#)," was authored by Jason Jones, Renane Burbank, Mollie Nunez, and Cody Dockens.
- First runner-up recognition went to the Langley Research Center team of Kenneth Hall, Taylor Beard, Myles Boyd, and Ande Ehlen for its session on [Texas wildfires](#).
- Second runner-up went to the Jet Propulsion Laboratory team of Katrina Laygo, Austin Madson, and Antony Bina for its session on [Mississippi River disasters](#).

For further information, contact: Jeff Kart at jeff@jeffkart.com.

[Sharing the water, sharing the benefits: Lessons from six large dams in West Africa](#)



The International Institute for Environment and Development has announced the launch of a new publication. Over 150 large dams have been built in West Africa over the last 50 years. Many more are in the planning stages to meet the region's demands for energy, water and food and their reservoirs will displace many thousands of local people. Success in resettling affected people and in rebuilding their livelihoods has been mixed in the region. This publication reviews detailed experience from six dams in Burkina Faso, Mali and Senegal through the lens of "benefit sharing" with local populations, which asks to what extent the affected communities have indeed benefited from the dam and how the multiple positive consequences from water use have been shared between different

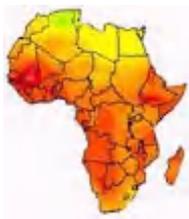
actors. The lessons learned from these experiences can guide future decision making. [Find out more and download.](#)

[Rethinking support for adaptive capacity to climate change: The role of development interventions \[A report for the Africa Climate Change Resilience Alliance, 2011\]](#)



The Africa Climate Change Resilience Alliance (ACCRA) is an alliance of five development partners: Oxfam GB, the Overseas Development Institute, Save the Children, World Vision International and Care International. It was established in 2009 with the aim of understanding how development interventions can contribute to adaptive capacity at the community and household level, and to inform the design and implementation of development planning by governments and non-governmental development partners to support adaptive capacity for climate change and other development pressures. This paper is based on an analysis of three country studies conducted by national research teams in eight research sites in Ethiopia, Uganda and Mozambique for ACCRA. It describes the Local Adaptive Capacity (LAC) framework developed for this project, its application during the research, and the evidence found about the impact of development interventions on the adaptive capacity of people and communities.

The rapid rise in warming of the Earth's surface over the last half-century is well accepted, and there is general scientific acknowledgement that this has been caused largely by human activity. Although there is rapidly increasing understanding of how the climate is likely to change at the global scale under various



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emissions scenarios, what is less well understood is the exact magnitude of future temperature and rainfall changes at the local level, and how these are influencing bio-physical systems. Global climate models are most commonly used to project broad trends in temperature and rainfall distribution and intensity. However, difficulties in down-scaling these models to the spatial and temporal scales relevant to local decision-making persist.

ACCRA research found that, rather than forward-looking decision-making, policies and development interventions were often running risks of mal-adaptation, i.e. decision making that leads to long-term increases in vulnerability, from two sources. Firstly, climate information was being misinterpreted and uncertainties not adequately communicated, leading to the potential for ill-informed planning; and secondly, interventions and policies were designed without considering available evidence, either from economic analysis or climate information sources, including longer-term climate projections. Interventions were based on a projectised approach, with ‘participation’ consisting mainly of asking ‘communities’ what they wanted. Policies were too often based on top-down planning which did not support local flexible decision making and agency driven by a range of different pressures acting together. Supporting local adaptive capacity cannot therefore be seen in isolation as ‘climate change programming’. It is an intrinsic part of all development interventions. [Full Report](#) [PDF - 3.25Mb]

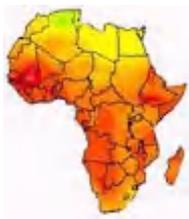
Article of interest:

"Participatory Forest Carbon Assessment and REDD+: Learning from Tanzania," International Journal of Forestry Research, vol. 2012, Article ID 126454, 14 pages, 2012. doi:10.1155/2012/126454. You may access this article from the Table of Contents of Volume 2012 at: <http://www.hindawi.com/journals/ijfr/contents/>. Alternatively, you may directly access the article at: <http://www.hindawi.com/journals/ijfr/2012/126454/>.

Conferences, Events

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

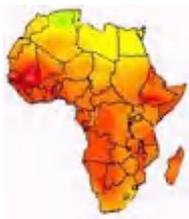
Date	Location	Event
January 2012		
5-7 January 2012 *NEW*	Hong Kong, China	3rd International Conference on Environmental Science and Development (ICESD 2012)
22-24 January 2012 *NEW*	Vancouver, Canada	4th International Professional Geology Conference (4IPGC)
February 2012		
5-7 February 2012 *NEW*	Madhya Pradesh, India	3rd International Conference on Climate Change and Sustainable Management of Natural Resources
9-10 February 2012 *NEW*	Tunis, Tunisia	Infrastructure Planning and Management in North Africa: Geospatial Data Applications and Technology
March 2012		
5-7 March 2012	Valencia, Spain	INTED2012 (6th International Technology, Education and Development Conference)
17-18 March 2012 *NEW*	Singapore, Singapore	International Congress on Informatics, Environment, Energy and Applications (IEEA 2012) , Enquiries: ieea@sciei.org .
21-24 March 2012 *NEW*	Kampala Uganda	ICT for Africa 2012 , Theme: Africa's E-Inclusion: Defying the Odds and Leading the Way in Global ICT Innovation
26-29 March 2012	London, UK	Global-Change Open Science Conference : Planet Under Pressure: New knowledge towards solutions
26-30 March 2012	Tunis, Tunisia	GeoTunis, The International Congress Geotunis 2012 , "The use and applications of GIS, remote sensing and digital modeling in environment, management of natural resources and hazards"
April 2012		



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16-18 April 2012	Hohenheim University, Germany	International conference on Sustainable Land Use and Rural Development in Mountain Areas
24-27 April 2012	Avignon France	AGILE 2012: Bridging the Geographic Information Sciences
May 2012		
7-9 May 2012	Rio de Janeiro, Brazil	4th International Conference on GEographic Object Based Image Analysis (GEOBIA) 2012
14-17 May 2012	Québec City, Canada	Call for Papers: Global Geospatial Conference 2012 , GSDI World Conference, 14th GEOIDE Scientific Conference, Canadian Geomatics Conference and 7th 3D GeoInfo Conference.
21-23 May 2012	Boston, Massachusetts	Global Conference on Oceans, Climate and Security Call for Abstracts: Deadline 15 October 2011.
21-27 May 2012	Vilnius, Lithuania	12th World Congress on Environmental Health: New Technologies, Healthy Human Being and Environment
13-18 May 2012	Dublin, Ireland	IWA World Congress on Water, Climate & Energy 2012
14-16 May 2012	Rio de Janeiro, Brazil	UN Conference on Sustainable Development (INCSD), Rio+20
21-23 May 2012	Boston, USA	Global Conference on Oceans, Climate and Security
23-24 May 2012	Taza, Morocco	International conference of GIS users, Taza GIS-Days 2012
* NEW *		
23-25 May 2012	Cotonou, Benin	eLearning Africa
* NEW *		
28-30 May 2012		International Conference on Green Technology & Ecosystems for Global Sustainable Development
June 2012		
13-15 June 2012	Columbia University, New York	ICELW 2012 - The Fifth Annual International Conference on E-learning in the Workplace
18-22. June 2012	Albena, Bulgaria	4th International Conference on Cartography and GIS & EU Seminar on EW & CM , Deadline for abstract submission is 10. January 2012.
* NEW *		
July 2012		
2-6 July 2012	Galle, Sri Lanka	MMM3: Meeting on mangrove ecology, functioning and management
3-6 July 2012	Sundvolden Hotel, Oslo	3rd International Statistical Ecology Conference (ISEC2012) , Abstract submission deadline: 20 January 2012
* NEW *		
3-6 July 2012	Salzburg, Austria	Geomatics Forum, Linking GEovisualisation, Society and Learning
6-8 July 2012	Cairo, Egypt	10th International Internet Education Conference and Exhibition
* NEW *		
8-12 July 2012	San Diego, California USA	ESRI User Conference
16-21 July 2012	Obergurgl, Austria	ESF research conference: Energy Landscapes - Grants to attend
August 2012		
2-10 August 2012	Brisbane, Australia	34th International Geological Congress
* NEW *		
5-7 August 2012	Kampala, Uganda	8th Annual International Conference on Computing and ICT Research
* NEW *		
5-10 August 2012	Brisbane, Australia	34th Session of the International Geological Congress (IGC 34) Enquiries: info@34igc.org .
22-25 August 2012	Freiburg Germany	Experience-based Geography Learning, IGU-CGE Precongress
26-30 Aug 2012	Köln, Germany	32nd IGU International Congress , University of Cologne, Theme: 'Down to Earth'



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29-31 August 2012	University of Basel, Switzerland	Third International Sustainability Conference ISC 2012 , Theme “Strategies for Sustainability: Institutional and Organisational Challenges”
September 2012		
3-5 September 2012 * NEW *	Gaborone, Botswana	2nd IASTED African Conference on Health Informatics
5-7 September 2012	Gaborone, Botswana	International Conference on Water Resources Management
16-18 September 2012	Columbus, Ohio, USA	AutoCarto 2012, an international research symposium on computer-based cartography
30 September–5 October 2012	Columbus, Ohio, USA	EcoSummit 2012, Ecological Sustainability: Restoring the Planet’s Ecosystem Services . Abstract submission deadline, <u>20 January 2012</u>
October 2012		
15-19 October 2012	Chengdu, China	International Conference on Mountain Environment and Development
29 October-2 November 2012 * NEW *	El.Jadida, Morocco	AARSE 2012 International Conference , Theme: Earth Observation & Geo-information Sciences for Environment and Development in Africa: Global Vision and Local Action Synergy. Abstract submission - <u>2 January to 30 April 2012</u> .
November 2012		
December 2012		
2013		
8-12 July 2013	San Diego, USA	ESRI International User Conference
2015	Durban, South Africa	14th World Forestry Congress for SA
1-31 August 2016	Cape Town, South Africa	35th International Geological Congress . Registration deadline: <u>30 June 2016</u> .

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