SPATIAL DATA INFRASTRUCTURE - AFRICA NEWSLETTER

The GeoSpatial Community

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SDI-Africa Newsletter

The Spatial Data Infrastructure - Africa (SDI-Africa) is a free, electronic newsletter for people interested in Geographic Information System (GIS), remote sensing and data management in Africa. Published monthly since May 2002, it raises awareness and provide useful information to strengthen SDI efforts and support synchronization of regional activities.

The Newsletter is prepared for the GSDI Association by the Regional Centre for Mapping of Resources for Development (RCMRD) in Nairobi, Kenya.

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The Regional Centre for Mapping of Resources for Development (RCMRD) implements projects on behalf of its member States and development partners. The centre builds capacity in surveying and mapping, remote sensing, geographic information systems, and natural resources assessment and management. It has been active in SDI in Africa through contributions to the African Geodetic Reference Frame (AFREF) and SERVIR-Africa, a regional visualization and monitoring system initiative. Other regional groups promoting SDI in Africa are ECA/CODIST-Geo, RCMRD/SERVIR, RECTAS, AARSE, EIS-AFRICA, SDI-EA and MadMappers

Announce your news or information

Feel free to submit to us any news or information related to GIS, remote sensing, and spatial data infrastructure that you would like to highlight. Please send us websites, workshop/conference summary, events, research article or practical GIS/remote sesning application and implementation materials in your area, profession, organization or country. Kindly send them by the 25th of each month to the Editor, Gordon Ojwang' - gojwang@rcmrd.org or sdiafrica@rcmrd.org. We would be happy to include your news in the newsletter.

This would be interesting to a colleague

PLEASE share this newsletter with anyone who may find the information useful and suggest they subscribe themselves. You can visit the GSDI website: Newsletter back issues - http://www.gsdi.org/newsletters.php. You can join the GSDI Association at http://www.gsdi.org/joinGSDI.
Enjoy Reading - the SDI-Africa team

Support and Contributions to this Issue

Thank you to the Global Spatial Data Infrastructure (GSDI) Association; Hussein Farah, RCMRD (Kenya); Kate Lance, GSDI listserv moderator (USA), Tim Jacobs, VITO NV (Belgium); and Mesele Atsbeha Gebresilassie, Mekelle University (Ethiopia) for their contributions to this issue of the newsletter. We also acknowledge the various websites and links refered as source of information.

SDI News, Links, Papers, Presentations

GSDI 14 World Conference and AfricaGIS 2013 - November 4-8, 2013

EIS-Africa, the GSDI Association, the International Geospatial Society, and the United Nations Economic Commission for Africa (UNECA) are pleased to announce a close partnership in offering the joint AfricaGIS 2013 Conference and the GSDI 14 World Conference. This combined conference will take place at the UNECA Conference Center in Addis Abbaba, Ethiopia from November 4-8, 2013.
AfricaGIS is the largest regularly occurring GIS conference in Africa with participants from the entirety of the continent. The GSDI World Conference has built a reputation for excellence in content and moves across the globe to offer geospatial specialists in all parts of the world opportunities to better exchange ideas and learn from global peers in building spatial data infrastructure.
The theme of the conference is "Spatially Enablement in Support of Economic Development and Poverty Reduction". Please consult the conference website as the Call for Papers and program details become available.

Global atlas for solar and wind launched

The Global atlas is the largest ever initiative undertaken to assess renewable energy potential on a global scale. The initiative coordinated by IRENA, and involves 39 countries provides high-quality resource maps from leading technical institutes worldwide, and simplified models for evaluating technical potential.
The system is entirely decentralized. Each country joining the Atlas may contribute datasets to the initiative through its national institute. The data layers and web-services are hosted remotely on geo-servers of the project partners. The Global Atlas listed in the GEO Work Plan is an infrastructure key activity in the EN-01-C1 task-sheet: "Tools and Information for the Resource Assessment, Monitoring, and Forecasting of Energy Sources". The success of the Global Atlas has benefit from GEOSS recommendations on interoperability and the respect of international standards (OGC/ISO). Full Article.

Remote sensing among top 10 emerging technologies

Remote sensing technology has been selected as one of the ten most promising technologies in 2013 by the World Economic Forum. The World Economic Forum's Global Agenda Council on Emerging Technologies identifies the top 10 most promising technology trends that can help to deliver sustainable growth in decades to come as global population and material demands on the environment continue to grow rapidly.
Remote sensing technology is included in the top ten emerging technologies identified by the World Economic Forum. The report released by the World Economic Forum states, "The increasingly widespread use of sensors that allow often passive responses to external stimulate will continue to change the way we respond to the environment, particularly in the area of health. Examples include sensors that continually monitor bodily function such as heart rate, blood oxygen and blood sugar levels - and, if necessary, trigger a medical response such as insulin provision. Advances rely on wireless communication between devices, low power-sensing technologies and, sometimes, active energy harvesting. Other examples include vehicle-to-vehicle sensing for improved safety on the road." Other emerging technologies listed are Online Electric Vehicles (OLEV), 3-D printing, self-healing materials, energy efficient water purification, CO2 conversion and use, enhanced nutrition to drive health at the molecular level, nano-designed effective drug delivery, organic electronics and photovoltaics, and 3rd and 4th generation nuclear reactors and waste recycling.

Scientists develop improved fire management tools for Africa's Savannas

Scientists at the Nairobi-based World Agroforestry Centre (ICRAF) and partners have developed specialized graphs that map out fire behavior, known as nomographs, for landscape managers in Africa's savannas. The study, published in the February issue of the Journal of Arid Environments, pinpoints the optimal conditions for setting early-season prescribed fires--a process that when executed and timed properly, reduces the risk and impact of late dry season bushfires in increasingly fragile ecosystems, both of which are exacerbated by climate change.
Land managers have battled fire for decades, but that does not make it a foe. In seasonally dry savanna ecosystems - which dominate nearly half of Africa's surface area - naturally occurring wildfires are critical to maintaining biodiversity and ecosystem function. "The key to fighting fire with fire is robust science," said Cheikh Mbow, senior climate change scientist with the World Agroforestry Centre. "In the past, forest managers did not have the tools and methods needed to define what to burn, when to burn it, and to what extent. The research is helping to transform an age-old practice into a modern-day tool for managing fires and ecosystems. This is a statistical tool that can be replicated anywhere."
The scientists selected three areas representative of Senegalese savanna ecosystems, ranging from the open savanna of the Sahel to the more treed south-Sudanian savanna. They worked with Senegal's Forestry Service to torch 231 prescribed 10-by-10 meter plots (an area roughly the size of three football pitches) in Senegal at the end of the 2010 rainy season. They recorded data on air temperature, relative humidity, wind speeds, fuel load and cover, fuel moisture content and the amount of dry matter present.
Researchers found that the best time to ignite preemptive fires was when fuel moisture content - the amount of water a fuel holds, expressed as a percentage of its dry weight - was close to 120 percent and relative air humidity was between 12 and 79 percent. This was equivalent to between 12 days and one month after the last rain, depending on the site. They also found that the fires' rate of spread was greater when wind speeds were fast and fuel moisture content, relative humidity, and fuel load were all low.
Their results showed that a fuel load of 94 grams per square meter is sufficient to support savanna fires in West Africa - less than half of what is required for savanna fires to propagate in South Africa. This is likely due to high grass cover and fast wind speeds. "Fires have long been regarded as the enemies of the

savanna, but since time immemorial, they have played a role in keeping these ecosystems functioning optimally, keeping the domination of some species over others in check," said Momadou Sow of the Environmental Sciences Institute of the Cheikh Anta Diop University in Dakar, Senegal. "Until now, we've lacked the accurate scientific knowledge to properly plan early season prescribed fires in West African savannas - our research is a step towards filling that gap."
Wildfires can cause widespread environmental devastation and destruction of property. Once the infernos gather strength, aided by wind and ample fuel supplies, they become uncontrollable and can travel large distances, destroying infrastructure, wreaking havoc on ecosystems, releasing millions of tonnes of greenhouse gases into the atmosphere and costing billions of dollars in damage. Wildfires also threaten biodiversity, including many unique plants and animals found only on the continent. Many animals that dwell in trees, bushes, deadfall, or underground perish from the blazes or succumb later from lack of food and shelter or increased predation. Fast-moving savanna fires generally remain on the surface, inflicting only minimal damage on trees, barely heating the soil below and leaving roots, nutrients and microorganisms unharmed. These frequent, low-intensity fires are what forest managers attempt to mimic in order to limit dangerous fuel build-up.
The study, Fuel, and fire behaviour analysis for early-season prescribed fire planning in Sudanian and Sahelian savannas, by Momadou Sow, Christelle Hély, Cheikh Mbow and Bienvenu Sambou, is published in the February 2012 issue of the Journal of Arid Environments.

New data tool tracks emerging conflict trends in Africa

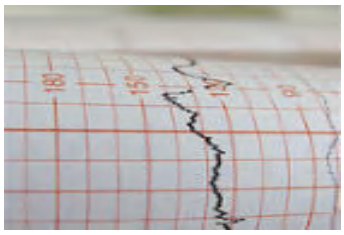
A new online data tool for monitoring conflict trends in Africa can help governments and aid workers to analyse the impact of political, social, and armed conflicts on communities, its creators said. By combining mapping, analysis and raw data from thousands of emerging and historical conflicts, the "CCAPS Conflict Dashboard" enables users to assess trends and detailed event data simultaneously. The tool also allows users to relate these trends to a range of socioeconomic factors. "The dashboard puts volumes of historical and real-time data in the hands of the people who need it," CCAPS Programme Manager Ashley Moran said in a statement released to mark its launch. "Policy makers, citizens, aid workers, journalists, and researchers alike can analyse how emerging conflict patterns could impact their communities of interest."
The dashboard includes two conflict datasets from the CCAPS Programme: the Social Conflict in Africa Database (SCAD) and the Armed Conflict Location and Event Dataset (ACLDED). SCAD provides the first systematic tracking of a broad range of social and political unrest in Africa, CCAPS said. It includes protests, riots, strikes, inter-communal conflict, government violence against civilians and other forms of social conflict. The tool maps over 7,900 social conflict events from 1990 to 2011 and provides detailed information on their location, timing and magnitude, as well as the actors and issues involved. ACLED provides near real-time tracking of armed conflict in Africa, with monthly updated data, displaying more than 60,000 armed conflict events from 1997 to 2013. It tracks the actions of opposition groups, governments, and militias in Africa, specifying the exact location and date of battle events, transfers of military control, headquarter establishment, civilian violence, and rioting.
The programme last year launched an integrated mapping platform in partnership with Development Gateway to analyse how climate, conflict, and aid intersect. CCAPS has also created an aid dashboard that combines trends analysis with what it says is the most comprehensive collection of geocoded data on aid projects in Africa. CCAPS will release additional dashboards on climate and governance in 2013.

Database on major volcanic eruptions developed

Details of around 2,000 major volcanic eruptions which occurred over the last 1.8 million years are now available in a new open access database, complied by scientists at the University of Bristol with colleagues from the UK, US, Colombia and Japan. Volcanic eruptions have the potential to cause loss of life, disrupt air traffic, impact climate, and significantly alter the surrounding landscape. Knowledge of the past behaviors of volcanoes is key to producing risk assessments of the hazards of modern explosive events. The open access database of Large Magnitude Explosive Eruptions (LaMEVE) will provide this crucial information to researchers, civil authorities and the public alike.
Compiled by an international team headed by Dr Sian Crosweller from the Bristol's School of Earth Sciences with support from the British Geological Survey, the LaMEVE database provides – for the first time – rapid,

searchable access to the breadth of information available for large volcanic events of magnitude 4 or greater with a quantitative data quality score. Dr Crosweller said, "Magnitude 4 or greater eruptions – such as Vesuvius in 79AD, Krakatoa in 1883 and Mount St Helens in 1980 – are typically responsible for the most loss of life in the historical period. The database's restriction to eruptions of this size puts the emphasis on events whose low frequency and large hazard footprint mean preparation and response are often poor."
Currently, data fields include; magnitude, Volcanic Explosivity Index (VEI), deposit volumes, eruption dates, and rock type; such parameters constituting the mainstay for description of eruptive activity. Planned expansion of LaMEVE will include the principal volcanic hazards (such as pyroclastic flows, tephra fall, lahars, debris avalanches, ballistics), and vulnerability (for example, population figures, building type) – details of value to those involved in research and decisions relating to risk. LaMEVE is the first component of the Volcanic Global Risk Identification and Analysis Project (VOGRIPA) database for volcanic hazards developed as part of the Global Volcano Model (GVM).

African policymakers 'lack environmental data'



In Africa, environmental policies are being hindered by a lack of adequate and accessible data and poor coordination between countries, according to experts who were speaking at the launch of 'Africa Environment Outlook 3, Summary Report for Policy Makers'. The report commissioned by the African Ministerial Conference on the Environment (AMCEN) was launched at the first Universal Session of the UN Environment Programme (UNEP) Governing Council in Nairobi on 21 February.
For policies to work, there is a need for "clear implementation [of] roadmaps with realistic targets and funding mechanisms" and for "institutional mechanisms to ensure alignment and collaboration", says the report. Frank Turyatunga, regional coordinator for UNEP's Division of Early Warning and Assessment in Africa, says that policymakers need data and information on issues such as biological diversity, air quality, climate variability, and marine resources, so they can make decisions on their protection or sustainable use. He adds that research need to generate this environmental data, and scientists should transform it into a form that is easy to use in the decision-making processes. "Policymakers need good information based on up-to-date scientifically credible and relevant data - not guesswork that is more likely to lead to mistakes in planning," says Turyatunga. "For instance, the water sector in Kenya is responsible for research and building data on water availability, quality, and distribution, but due to financial and technical capacity challenges, this has not been done adequately".
Accessibility of data is also a problem, says Turyatunga. Policymakers have trouble accessing data in central African countries, but even in southern Africa, where good data is kept, it may not easy to get at. "If you have data only kept on the shelves, it is not helpful. Policymakers work on behalf of the people and unless they are working from informed positions, they are not going to deliver a good service," says Turyatunga.
Tanzania's environment minister, Terezya Huvisa, says that governments cannot make decisions or budget without data. For example, data on environment-related health issues help to budget on the necessary healthcare, says Huvisa, who is also president of the AMCEN. "We have difficulties in funding research, but we seriously need data to plan and implement policy programmes for the benefit of the people of Africa," she says. Link to full report.

Developing increased EO capacity for better agriculture and forestry management in Africa

Good management of agricultural and forest resources requires good information, and science plays a key role in understanding the dynamics. Agriculture in Africa is diverse and range from subsistence to large commercial farming. Remote sensing provides recurrent information on natural resources in varying spatial and temporal resolution. The key challenge is to enhance scientific and remote sensing capacity in Africa to enable African institutions to independently monitor and generate information on their resources to support management and policy actions.
The focus of the EC-FP7 AGRICAB project ('A Framework for Enhancing Earth Observation Capacity for Agriculture and Forest management in Africa as a Contribution to GEOSS') is to integrate European and African research capacity in the use of EO technology for agriculture and forestry. It aims at improving and sustaining capacity for data access, agro-meteorological modeling, agricultural statistics, livestock monitoring, forest mapping and early warning for crop monitoring,. These components developed through specific case studies in Senegal, Kenya, Tunisia,

Mozambique, South Africa, and Niger lead to dedicated national and international training actions capitalizing on the findings.
AGRICAB builds on GEONETCast, connecting satellite data and predictive models in the context of GEO (Group on Earth Observations). The project addresses three main topics: sustained data access, linking satellite data providers with GEONETCast and providing the necessary tools to access the data; enhancing observations through predictive modeling; and expose, discover, experience activities to allow a large community to learn and implement. The project based upon interconnected activities and act as a 'flywheel' to enhance capacity across a wide range of stakeholders. The dedicated use cases in various African countries are designed to address policy issues related to livestock, crop systems, and forest management.
The project will result in a substantial uptake of Earth Observation techniques, information, and products by an increasingly large community of managers and decision makers in Africa.
Through AGRICAB, the twinning partnership developed between the European and African partners to maximize knowledge transfer and integration are resulting in national workshops in use case countries and regional training events at the Observatoire du Sahara et du Sahel (OSS) in Tunisia, the Regional Centre for Mapping Resources for Development (RCMRD) in Kenya and AGRHYMET regional centre in Niger. Linked with Africa wide management and research initiatives and programmes as part of AGRICAB, a portal for data and knowledge sharing was setup at http://rs.vito.be/africa with the main goal of facilitating access to data, software, practical sample cases, and information on training and workshops.
AGRICAB runs from October 2011 until March 2015 and involves 17 partners from 12 countries. For more information: www.agricab.info and agricab@vito.be or contact: Tim Jacobs, AGRICAB Project Leader, VITO NV, Boeretang 200, 2400 MOL, Belgium, Tel. + 32 14 33 67 10, Email: tim.jacobs@vito.be, Skype: jacobs.timmeke, http://www.vito.be/remotesensing.

Climate data 'has helped African farmers boost production'

Farming communities in Africa are benefiting from an exchange programme to improve access to, and understanding of, climate science, according to a report presented at a seminar. The seminar, held in Dakar, Senegal, (20-21 November 2012), discussed the results of the programme - which encompassed two demonstration studies in Kenya and Senegal, and identified the opportunities and challenges faced in making better use of short-range forecasts and early-warning systems for flooding. The findings show that the programme better prepared the two countries for floods that hit in 2009, meaning they were able to save their livestock and food supplies. As part of the programme, weather forecasts were provided through television and radio broadcasts. The Red Cross also sent forecasts in text messages to its volunteers' mobile phones, and passed on by word of mouth.
During the project, experts from all three countries shared their experiences in harnessing climate science for adaptation to help rural African populations exposed to drought and flood risks. According to Mariane Diop Kane, head of forecasting at the Senegalese National Agency for Civil Aviation and Meteorology (ANACIM), communities exposed to flooding and drought risks must be informed about established and potential climatic threats and have the support needed to make use of this information. "One must overcome obstacles to establish a more-efficient dialogue between climate scientists, vulnerable communities, and humanitarian and development organizations".
The meeting was attended by representatives of the Senegalese Red Cross, ANACIM, Humanitarian Futures Programme, climate scientists from the UK Met Office, the University of Liverpool, and Sussex. Link to 'End of Project Workshop Report and Key Findings From the Demonstration Studies in Senegal and Kenya'

Capacity development in East Africa using geo-spatial technologies and IGAD regional synergy

The United Nations Institute for Training and Research (UNITAR) Operational Satellite Applications Programme (UNOSAT) in support to Intergovernmental Authority on Development (IGAD) are desirous in developing initiative that will build capacity at regional level to mitigate effects of disaster events (DRR).
The regional synergy for improved local impact technical meeting held on 27 November 2012 at the Regional Centre for Mapping of Resources for Development (RCMRD) initiated to promote the IGAD countries seek to develop technical capacity for improved knowledge in the use of geo-spatial technologies as an efficient tool to implement coherent disaster-risk reduction activities. It is envisaged that the initiative will ensure knowledge propagation at technical level will

be communicated upwards to the decision makers and horizontally across the sectors essential for mainstreaming disaster-risk reduction (DRR).
The initiative aims at addressing DRR through a holistic approach integrating climate change and human rights / human security aspects into the DRR capacity development methodology to ensure synergies and further contributions to sustainable development. RCMRD is to implement the technical component, capacity building, and additional backstopping services for the initiative. Delegates were drawn from ACTED, FAO-Somalia, ICPAC, Kenya Polytechnic University College, UN-ISDR, RCMRD, KMD, IGAD, CEWARN, AMESD and UNOSAT.

Nigeria begins mapping of bank branches

The Central Bank of Nigeria (CBN) has commenced the mapping of all financial access points across the country as part of efforts to drive its newly unveiled financial inclusion strategy. Research company Brand Fusions Limited, has been contracted to conduct the GIS mapping and is being funded by Bill and Melinda Gates Foundation.
The contract is specifically to map the location of financial services in relation to population density. To this end, Agnes Tokunbo Martins, CBN's director of banking supervision, in a circular has directed all managing directors and chief executive officers of deposit money banks to furnish the apex bank with the addresses and locations of their institutions' head offices, branches and cash centres. The circular also required them to provide as regards the off-site automated teller machine (ATM) points as well as their mobile agents. Confirming the commencement of the project Martins said that it is part of the apex bank's financial inclusion strategy and that the purpose is to find out the locations of bank branches and other outlets that provide some sort of financial services in the country. "The ultimate objective is to find out those areas that are underserved," Martins explained.
Nigeria's apex bank last year launched a financial inclusion strategy to enable more citizens have access to a broad range of financial services including payments, savings, credit, insurance and pension products. The strategy aims at reducing the percentage of adult Nigerians excluded from financial services from 46.3 percent as at 2010 to 20 percent by 2020 with a view to enabling them to have access to financial services, engage in economic activities, and contribute to the development of the economy.

Nigeria: Phone for farmers and mobile money initiative

The phone-for-farmers project, which has continued to generate controversy since its announcement, if well implemented, would amongst others, optimize the mobile money initiative by the Central Bank of Nigeria (CBN).
Every sector in Nigeria has continued to introduce a number of projects aimed at revitalizing its sector and in turn, grow the nation's economy. Like other sectors, the ministry of agriculture has come up with an innovative project to distribute 10 million mobile phones to farmers. The project according to the Minister for Agriculture, Dr. Akinwunmi Adeshina, would help develop the first registered database of farmers in Nigeria, doing away with situations where policy decisions are guesswork based.
A laudable project by the ministries of agriculture and communications technology as the project would encourage the Federal Government to show candid interest in farmers' duties through the direct supply of fertilizers, quality seeds grains and other relevant agricultural products and produce via vouchers to Nigerian farmers. The project will rely on mobile phone services. To further this mission, the Ministry of Agriculture would connect agricultural information specialists nationwide, providing platforms and spaces for information dissemination, exchange and knowledge-sharing.
The project would enable farmers create, capture, access and disseminate information to achieve a more productive and sustainable use of the government subsidies. The minister said the ministry planned to make phones available to farmers on a gradual basis, noting that: "These farmers cannot access the GES scheme without cell phones and we must find a way to include them. We carried out an analysis of our Growth Enhancement Support (GES) work based on a large sample of 426,000 farmers from various local government areas in 13 states. "We found that 71 percent of farmers sampled did not have cell phones. This shows that many of our farmers in rural areas are quite poor and are excluded from the benefits of the mobile phone revolution going on in Nigeria," he noted. "The government will provide a subsidy to the farmer

through the voucher to buy the phone. The farmer takes the voucher to the local mobile phone operator and pays the balance, which is the difference between the value of the voucher and the cost of the phone.

Ghana Institute of Surveyors (GhIS) to promote infrastructure development

The Ghana Institution of Surveyors (GhIS) is strategically positioned to partner government and other stakeholders to ensure a sustainable infrastructural development for enhanced economic growth and development. Surv. Daniel Kofi Kyere, President of the GhIS gave the assurance at the launch of 8th Surveyors Week and 44th Annual General Meeting (AGM) of the GhIS in Accra and disclosed that the Survey Council and Estate Agency Bills had received cabinet approval and was currently before Parliament for passage into law.

The two laws, when passed is expected to effectively define the legal framework and parameters of the surveying profession in Ghana and, largely, bring sanity into the practice of surveying and help flush out the quacks that created problems in land acquisition and administration in the country. Parliament was urged to assist the GhIS to effectively contribute its quota to national development by treating the two bills with the necessary attention that they deserved.

Surv. Kyere said the aim of the celebrations was to draw government's attention to the problem of urban decay and the need to address challenges by embarking on a massive urban renewal process; to rid the cities of slums, traffic congestion, old and dilapidated structures in the city centre and to confront the improper positioning of services such as markets and lorry parks.

"Poor planning was blamed for Achilles heel of major towns and cities, impeding both sustainable growth and healthy living environments for an increasing population of Ghana's urban dwellers. As the world reviews its performance to date on the Millennium Development Goals, evidence shows that effective urban planning and sustainable cities can make a contribution," he noted. The GhIS is the only legally recognized professional body that regulates the arts, sciences, and practice of surveying in Ghana.

Gabon: national space observation agency launches geoportal

As part of its mission, conducted in partnership with the Institute of Research for Development (France), the French Development Agency (France), the Instituto Nacional de Pesquisas Espaciais (Brazil), the Gabonese Agency of Space Studies and Observations (Ageos, http://www.ageos.ga) launched its geoportal on January 28, 2013.

According to a statement from the Communications Committee (COCOM), "The launch of the geoportal, a spatial data infrastructure at a regional level, will give access to data and thematic products followed by the signing of a license SPOT-AFAT ". "Work will continue with a series of presentations on applications of satellite imagery in the following areas: forest mapping, urban dynamics, water resources, fisheries and maritime safety, marine pollution. Two round tables are scheduled at the end of the day (of the geoportal launch), for the expression of the needs of administrations and the private sector) and the creation of SMEs in the space sector Gabon presentation of Sovereign Wealth Fund Strategic Investment, "says the statement. Access the geoportal: http://www.ageos.ga/web/guest/carte-catalogue.

Ghana national data centre to be ready in June 2013

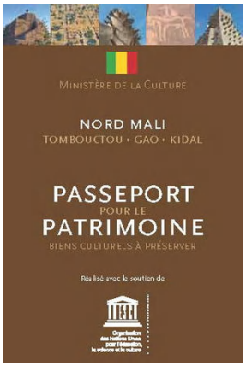
Work on the GH¢35 million National Data and Intelligence Centre to serve as a back-up for the storage of national data as well as the preservation of official documents local and foreign is expected to be completed by the end of June this year. The seventh-floor data centre, when completed, will also house some of the agencies under the Ministry of Communications such as the National Information Technology Agency (NITA), Advanced Information Technology Institute (AITI) and the Ghana Investment Fund for Electronic Communication (GIFEC).

The acting Minister of Communications and now Minister designate for Trade and Industry, Mr Haruna Iddrisu, disclosed to the media when he paid his last facility tour as communications minister to the data centre to update himself with the progress of work. National data centres worldwide are normally facilities used to house computer systems and associated components such as telecommunications and storage systems. They generally include redundant or backup power supplies, redundant data communications connections, environmental controls (such as air condition and fire suppression) and security devices.

He recalled the fire that gutted the Ministry of Foreign Affairs a couple of years ago and destroyed a lot of files and information of critical national importance and noted that the heavy loss of data could have been in existence a major national data centre. The minister's observation comes at a time when fire outbreaks in the country in the last few months have destroyed numerous buildings, both private and public. As a result, many files and pieces of information were lost.

Most of the country's ministries, agencies, and departments are housed in structures constructed many decades ago, and have, therefore developed defects in wiring systems, posing a threat to not only the occupants but also the data kept in them. Against this background, Mr Iddrisu said there was the need for all government agencies and ministries to take the issue of data storage more seriously by ensuring that they had back-ups to protect their files in case of fire.He said with the National Data Centre in place, the Freedom of Information Bill, when passed, would be more relevant as those in need of information would readily have access to it through the right channels and on time.

UNESCO develops cultural heritage maps and a "Heritage Passport" to help protect Mali's cultural heritage



In response to the conflicts taking place in the northern regions of Mali since April 2012, UNESCO, in collaboration with the National Directorate of Cultural Heritage in Mali and the International Centre for Earthen Architecture (CRAterre), has produced two publications on the cultural heritage of Timbuktu, Gao and Kidal. The first is an illustrated map with detailed texts in two formats (A3-doublesided and poster versions). The second publication is a brochure entitled "Passeport pour le patrimoine" (Heritage Passport). Available in French, they provide detailed information on the location and the importance of cultural sites in the northern region of Mali. The publications were developed to raise awareness among the armed forces, NGOs, the international community and local communities about the importance of safeguarding these heritage sites.

During a World Heritage Centre mission to Bamako in December 2012, UNESCO distributed these new information materials to military and humanitarian organizations in Mali. The materials are distributed to all countries involved in the military operation underway in Mali since the beginning of 2013. In addition to raising awareness about Mali's cultural heritage, these information materials also aim to facilitate the implementation by the Malian authorities of UNESCO Conventions for the protection of cultural heritage ratified by Mali:

- Convention concerning the Protection of the World Cultural and Natural Heritage (1972), ratified by Mali on 5 April 1977;
- Convention for the Protection of Cultural Property in the Event of Armed Conflict (1954), ratified by Mali on 18 May 1961, and its 1999 Second Protocol to which it acceded on 15 November 2012;
- The Convention on the fight against illicit trafficking of cultural property (1970), ratified by Mali on 6 April 1987;
- Convention for safeguarding of intangible cultural heritage (2003) ratified by Mali on 3 June 2005.

For more information, please contact the Africa Unit of the World Heritage Centre: b.diawara@unesco.org.

Kenya: Google supports university students to create election-based applications

Applications (Apps) built by Kenyan students ahead of the March 4th elections were unveiled, where they all highlighted the need for information to be available to every Kenyan. Their focus centered on the following themes: civic education; party and politicians; lifestyle; resource monitoring; and the electoral process. The Apps include Tukumbuke (Swahili meaning let us remember), Spotlight, Jijulishe (inform yourself in Swahili), Wenyenchi (the owners of the country), Opinion Yetu, Haki II (justice) and Rasirimali (resources). The Apps will provide technological solutions to governance and the electoral process challenges. The Apps developed at the Elections DevFest themed "Software Solutions for Elections", was an interactive 3-day event organized by Strathmore University's iLab and sponsored by Google in partnership with IEBC and various civil society organizations.

Speaking at the media briefing, Ory Okolloh, Google Africa manager, policy, and government relations explained: "Google has been very active in promoting access to relevant information; access to information is especially important in the electoral process. Through the elections hub, the YouTube channel, Shabikika Amani na Kura Yako (Sports4peace campaign) and supporting these students to create tools for engagement with this information hoped to reach as many Kenyans as possible." All the applications are downloadable at www.ilabafrica.ac.ke.

- Tukumbuke: - a web and mobile application that acts as an online digital post-election violence (PEV) memorial experienced in Kenya in 2007/2008. The aim of the application is to foster peace in the upcoming elections.
- Spotlight: - an application based on the users uploading content that can link media houses with what is happening in various parts of Kenya. The application is able to verify the user generated content.

- Jijulishe: - an application based on the need for civic education of voters and based on timelines of key events (e.g. alerts user on the deadline of key dates- registering to vote, notifies the users on actual day the activity is carried out, etc).
- Wenyenchi: - a mobile application accessible on desktop and highlights the electoral boundaries via maps, enables users to view information on the candidates in a given region (county, constituency, ward etc). It also allows users to keep track of the results as tallied through the IEBC API.
- Opinion Yetu: - Kenya's first internet based opinion poll, which helps the user create an opinion poll of their consituency by completing required questions.
- Rasirimali: - Rasirimali is a map-based application highlighting where resources are in Kenya including social amenities (schools, hospitals, banks etc); mineral resources; and industries. It makes use of open data information to populate the map.
- Haki II: - a mobile app available on all platforms (Google Play, Samsung Apps and Nokia Store), and based on two protagonists, Mboss (the Evil Entity) and the Underground (a group of heroes who strive for peace and tranquility).

Study reveals Kenya's forest cover is 7 percent

Kenya's forest cover is higher than previously thought after the Kenya Forestry Service conducted a mapping using the latest technology, remote sensing. Forestry and Wildlife Minister Noah Wekesa indicated that an accurate figure of the forest cover is 6.6%, not less than two percent as was estimated previously.

This means the country is more likely to reach 10% forest cover required by the Constitution. Using state-of-the-art GIS and Remote Sensing Laboratory, Kenya Forestry Service and Kenya Forestry Research Institute conducted a survey countrywide. "The figure of our forest cover was reached using scientific methods and international standards and is an accurate reflection of the situation on the ground. Detailed forest cover mapping and inventory for Mau Forest has also been undertaken," he said.

The minister spoke while flagging off vehicles received from Japanese Government under Sh1 billion project to support forest protection and utilization. He urged Kenyans to devote at least 10% of their farm to planting trees, saying this would help the country reach the ten per cent cover. Under Japanese funding since 2010 in the Forest Preservation Programme, KFS and KEFRI have received technical and financial support to strengthen their capacity to manage Kenya's forests. Japanese envoy Shigeo Iwatani asked Kenyans to nurture a culture of planting and nurturing trees to benefit from the diverse economic, social, and spiritual benefits of forests. The ambassador said Kenya could attain 10% forest cover if people take up the responsibility.

Ethiopia seeks topographic survey for Lake Tana

Ethiopia: Ethiopia's Ministry of Water and Energy has reissued a call for expressions of interest from consultants to perform a topographic survey of the Lake Tana sub-basin flood plain, part of an Ethiopia water resources development and environmental management project.

The ministry issued a similar call in 2011 with World Bank funding for the Tana and Beles Integrated Water Resources Development Project. The Tana and Beles project intended to develop enabling institutions and investments for integrated planning, management, and development in the Tana and Beles sub-basins, site of the 460-MW Beles hydroelectric project.

The ministry recruited an international expert in embankment dam design and monitoring for the program in 2012. The ministry now seeks consultants to prepare a detailed topographic map that will help identify the existing nature of all flood plain features, including specific landscape values that different levels of floods might affect. Beginning June 30, the work is to support accurate flood plain modeling.

Zambia and Kenya publish mining cadastre portals

Zambia and Kenya have recently published their mining cadastre data online. These countries join a growing group of States that have decided to put practical effect to internal efforts to drive operational efficiencies, improve stakeholder communications, reduce opportunities for corruption, and improve transparency within their respective mining sectors.

"It is exciting that Zambia, a leading copper producer; and Kenya, an emerging exploration destination, has both decided to leverage their investments in FlexiCadastre to publish their mining cadastre data online. This

supports not only various Extractive Industries Transparency Initiatives but also helps the Ministries to improve the data quality within their mining cadastre systems through effective stakeholder communication," said Mr Bill Feast, Managing Director of Spatial Dimension. "This is also the first step towards a transactional online mining cadastre system for Zambia. Spatial Dimension is currently working with the Ministry of Mines, Energy, and Water Development in Lusaka to create an online mining cadastre system to provide self-service functionality to all stakeholders," continued Mr Feast. The portals: http://www.flexicadastre.com/zambia/ and http://www.flexicadastre.com/kenya/

Rwanda installing computerized mining cadastre system

Information technology company Spatial Dimension has begun work on an 18-month project to implement its computerized mining cadastre system, FlexiCadastre, for the Rwandan Geology and Mines Department, which is the mining sector regulatory body within the Ministry of Natural Resources.
A well-implemented mining cadastre system creates significant benefits for all stakeholders in the region, says Spatial Dimension MD Bill Feast. "Currently, Rwanda has a paper-based system that is enhanced by disparate systems and spreadsheets which, under the circumstances, function relatively well. "However, Rwanda has recognised that its manual system can neither scale nor provide the security, auditability or transparency of a computerised system, which is why it has chosen to implement our FlexiCadastre solution," Feast explains.
In addition to attracting investment, a mining cadastre system enables government to monitor compliance within the sector. "This goes beyond ensuring that the necessary license fees are paid and extends to work commitments, social and labour plans, environmental permitting, royalty and tax payments, and extractive industry transparency-initiative reporting," he says. For local businesses in Rwanda, particularly the artisanal mining sector, a mining cadastre system, such as FlexiCadastre, provides security of tenure that allows them to seek capital funding to develop their projects, Feast adds.
Meanwhile, a transparent mining cadastre system, together with a stable regulatory environment, is often as important for large international mining companies as the actual geology or mineral potential of that country. "Globally, in the last year, we saw several of the large players being burnt after the validity of their joint venture partner's licenses were challenged. "When hundreds of millions of dollars are at stake, a transparent and fully auditable mining cadastre system is essential", Feast stresses. This project forms part of Rwanda's four-year Strategic Capacity Building Initiative (SCBI) focused on combining the delivery of government priorities with capacity building.

The Earth Observation Handbook

Twenty years after the first edition of the CEOS Handbook was prepared for the Rio Summit in 1992, this special 2012 edition, prepared in support of the Rio+20 Summit explores society's increasing need for information on our planet, the essential foundation for sustainable development policies that are aimed at ensuring our continued health and prosperity in the face of human-made climate change, population growth and degradation of our natural environment.
As an up-to-date and comprehensive compilation of CEOS Agency plans, the report provides a handy reference source on current and future civil Earth observation programmes. It also provides details of points of contact within CEOS and lists Internet sources for those requiring more information.

- Part I of the Handbook discusses changes in the Earth System over the 20 years since Rio, exploring the causes, the effects, and trends (section 1). It explains the important role for satellite Earth observations (section 2) and for CEOS (section 3). Future challenges discussed in section 4.
- Part II presents a number of case studies (section 5) to illustrate the use of Earth observation satellites supporting the provision of information for our understanding in key areas.
- Part III of the Handbook summarises Earth observation satellite capabilities and plans, including a description of the various types of satellite missions and instruments and their applications (section 6). For those interested in particular measurements (e.g. of ozone or ocean temperature), section 7 provides details of 27 different parameters and the plans for their observation during the coming decades. Sections 8 and 9 contain catalogues of satellite missions and instruments, respectively.
- The annexes include further information on CEOS and abbreviations.

The full Handbook texts are available online at http://www.eohandbook.com. The database of the satellite missions, instruments, and measurements is online at http://database.eohandbook.com and contains

powerful search and presentation tools, with the ability to export customized tables and timelines in support of analyses of current and planned provision of observations in support of different applications and measurements.

Call for participation: 2013 MyCOE / SERVIR Initiative in West Africa for Undergraduate and Graduate Students

The MyCOE / SERVIR Initiative in West Africa is a 10-month fellowship program for undergraduate and graduate students in eligible countries* who are currently enrolled in any field at an institution of higher education in an eligible country with ideas and plans for research that address themes of Women in Climate Change and Food Security using geographic technologies. Students are invited to propose a research and outreach project and will be competitively selected based on their long-term potential to contribute to these topics in the region.

The program is particularly interested in receiving applications demonstrating linkages across Three Generations of Women in Climate Change and Food Security. The program will connect teams of emerging researchers and their mentors with international pioneering female scientists and experts in climate change for inspiration and guidance.In turn, the most competitive MyCOE fellows' outreach activities proposed should include an integral educational component that reaches out to young girls in their countries, encouraged to consider careers in science.Selected teams may stimulate the interest of young girls by engaging them in their research and by sharing experience in secondary (preferred) or middle school level classrooms with which they propose to engage. Thus, this program will advance women's participation and contribution to Climate Change in Africa by linking three generations: pioneer female scientists/mentors, university student fellows, and young girls in middle or secondary school.

The MyCOE / SERVIR program will provide students with customized capacity training in GIS, remote sensing, GPS, and/or spatial techniques to help them enrich their research proposals. They will also receive professional development, have access to additional mentoring by international experts, and engage in an online community with other fellows. Interested students must apply with a mentor who is willing to work closely with them throughout the duration of the program and attend the workshop. The program provides travel support and research stipends for both students and their mentors.

Partners: My Community, Our Earth: Geographic Learning for Sustainable Development (MyCOE), Association of American Geographers (AAG) (MyCOE Secretariat); National Aeronautics and Space Administration (NASA), United States Agency for International Development (USAID), The SERVIR Global Program; Esri; Center for Remote Sensing and Geographic Information Services (CERSGIS) in Accra, Ghana, and others.

Eligible Countries: Benin, Burkina Faso, Cameroun, Chad, Cote d'Ivorie, Ghana, Guinea, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, Togo. Please note that to be eligible, all participants must be citizens of one of the eligible countries and be studying (students) or working (mentors) and residing in the same or another of the eligible countries. Female and male students are encouraged to apply according to the focus of this call for participation. Deadline: April 30, 2013.

3rd Africa Agriculture GIS Week (AAGW), 12-14 March 2013, ILRI-Addis Campus, Ethiopia

The 3rd Africa Agriculture GIS Week (AAGW) is an annual* week-long event that invites spatial scientists in international agricultural research institutes around the world as well as Africa-based institutes and universities for showcasing their work and exchanging knowledge and data with Africa-based researchers and developers. The event has a root in the annual meeting of the CGIAR Consortium for Spatial Information (CGIAR-CSI), where spatial geeks/researchers across CGIAR centers meet up and update each other with new datasets and research findings. Since 2008, the meeting has expanded to invite broader audiences and speakers outside of CGIAR.

The main objectives of AAGW are (1) to share experiences in using GIS/RS for agricultural research and development; (2) to encourage sharing and learning from each others' good practices; (3) to provide staff from different organizations with the opportunity to create networks for future collaboration; and (4) to provide an environment to develop ideas on new initiatives (and - importantly - to have fun with your spatial colleagues!).

Space is limited; register and reserve your seat at http://cgiarcsi-aagw3.eventbrite.com (free). Submit your synopsis at http://aagw.cgiar-csi.org/2013-addis/call-for-presentation, and we will follow up with you to find the right session for your presentation. A small prize will be awarded to the best presentation in the following categories:

1. First time presenters (including students and young professionals)
2. Most innovative idea

3. Most engaging presentation
4. Overall best!

Before and after the AAGW's main program, there will be side events around CGIAR-related topics/business for folks from CGIAR. These are invitation-only events. Send your request to us (http://aagw.cgiar-csi.org/2013-addis/contact-us).

WHERECAMP AFRICA - the grand finale of AAGW is the WhereCamp Africa, an un-conference for geographers, mobile location experts and social cartographers, and all kinds of folks interested in *place*, to be held at the IceAddis (http://www.iceaddis.com) on 16 March. Follow https://twitter.com/wherecampafrica for update.

Esri Eastern Africa gSpace: a geo-spatial innovation centre

Esri Eastern Africa launched gSpace, a geo-spatial innovation centre, to give Kenya's ICT and GIS talent easy access to ArcGIS, a complete system for designing and managing solutions through the application of geographic knowledge. gSpace offers a nurturing environment helping geo-geeks and geo-technology enthusiasts to develop their potential and to achieve their aspirations by developing real-world GIS solutions.

Membership Level:

- Point - anyone interested in geo-technology can apply for Point Membership, which offers access to news updates and public presentations at gSpace.
- Line - anyone with a worthwhile idea or project proposal can apply for Line Membership, which offers a part-time workspace at gSpace and access to Esri Eastern Africa staff for technical and commercial support.
- Polygon - anyone with a prototype application that addresses a real-world problem can apply for Polygon Membership, which offers a dedicated workspace at gSpace with technical support and periodic business consultations.

Membership is free and applicants can visit www.esriea.co.ke/gspace for online application form.

Geoinformatics postgraduate program opens at Mekelle University, Ethiopia

Geoinformatics postgraduate program has stated at the institute of Geoinformation and Earth Observation Sciences under the Mekelle University, in Ethiopia. Since September 2012, the institute became active and enrolled 11 students in Masters of Science Degree in Geoinformatics. The program will address the growing demand of GIScience and its applications in various sectors in Ethiopia and the region.

All but one of the enrolled students for the Masters of Science degree in Geoinformatics is computer science graduates in their undergraduate. This can show us the growing interest in the integration of computing sciences and GIScience in the Ethiopia market and globally. For further information about the program, contact: Mesele Atsbeha Gebresilassie, Lecturer in Geoinformatics, the Institute of Geoinformation and Earth Observation Sceinces, Mekelle University, P.O. Box: 231, Mob: +251 911 390219, Mekelle, Tigary, Ethiopia.

Practical SDI implementation materials from within and outside of Africa

NASA and USGS launches the Landsat Data Continuity Mission (LDCM)

Congratulations to NASA and the USGS on the successful launch of the Landsat Data Continuity Mission (LDCM)! LDCM is the future of Landsat satellites and will obtain imagery to be used in agriculture, education, business, science, and government.

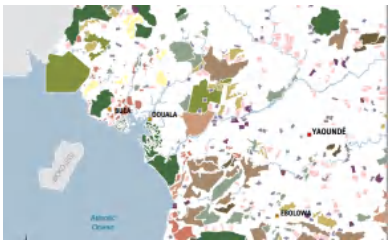
Launch video can be seen here. The spacecraft successfully separated from the Launch vehicle will go through an approximate 100 day test period before being renamed "Landsat 8" and handed over to USGS for operation and data acquisition.

Monitoring wetlands for sustainable water management

Wetlands play a major role in the availability and quality of water, containing most of the water used to meet human needs. ESA's GlobWetland II project is helping Mediterranean countries to monitor these precious resources. Located within the Nile River Delta, Egypt's Lake Burullus has undergone major changes in the past 40 years. Urban settlements have flourished around the lake, and from 1973 to 1990 the area saw a sharp increase in aquaculture. As a result of increased waste water in the lake (largely due to aquaculture), there has been an overall decrease of salt marsh vegetation in the lake itself, in some parts replaced by reed beds.

From 1990 onwards, however, a decrease in fishponds in the western part of the main lake was observed through ESA's GlobWetland II project. The mapping results, prepared in the framework of this project, reveal that although, in general, wetland extents have gradually decreased mainly due to agriculture and urbanisation pressures, there are still unaffected areas where changes are not large or even sometimes where wetlands' extent has increased. Along Libya's North-Eastern coast, about 30 km north of Benghazi, the Sebkha Al Kuz wetland is one of these areas.
The GlobWetland II toolbox indicated that, between 1978 and 1990, the wetland area increased by about a square kilometre. In the following 15 years, the wetland area was maintained despite a significant increase in agricultural development and urbanisation in the surrounding area. Further information on EMWIS website.

New, interactive forest atlas can improve forest management in Cameroon



Cameroon's forests, which cover about 60 percent of the country, play a vital role for people and the economy. They provide services and sustenance directly and indirectly to local communities and city dwellers alike. Forests account for more than six percent of the GDP, the highest percentage of all countries in the Congo Basin.
Yet, until recently, Cameroon lacked a comprehensive information system to actually monitor and manage its forests. There was no integrated system or entity tracking the various forest uses, like logging concessions, community forests, hunting zones, and more. The information that was available was scattered amongst different institutions, was not publicly accessible, or of sufficient quality to support legality claims or effective land use decisions. This situation exacerbated unsustainable use of forest resources and conflicts between competing forest stakeholders, such as loggers and community groups.
That is where the Cameroon Forest Atlas comes in. Since 2002, the Ministry of Forestry and Wildlife (MINFOF) has worked with WRI to improve transparence and governance in the forest sector by publishing and regularly updating the Interactive Forest Atlas of Cameroon. MINFOF and WRI recently released version 3.0 of the online Atlas, as well as an accompanying report, poster, desktop mapping application and underlying spatial datasets.
The Interactive Forest Atlas of Cameroon (Version 3.0) is a constantly updated information system, combining the use of remote sensing, Geographic Information Systems (GIS), and ground-truthing to monitor and manage forests. Through a combination of interactive mapping applications, posters, analytical reports, trainings, and outreach, the Atlas provides users with access to timely, accurate, and harmonized information in the forest sector and beyond. The Atlas brings all the major land use categories - like logging permits, protected areas, hunting zones, mining, and industrial agricultural plantations - together into one system. Users can get answers to key questions and see where various activities are occurring, as well as where competing interests may overlap.
In addition to updating data on the land uses contained in previous versions of the Atlas, version 3.0 includes information on mining permits and agro-industrial plantations. The expansion and enrichment of the Atlas provides forest stakeholders with a more complete picture of Cameroon's forest sector, which will ultimately foster better management.
A variety of stakeholders utilizes the Atlas, including Cameroon's government, the private sector, research institutions, and civil society. Government agencies use the Atlas to monitor and effectively plan on-the-ground control of forest activities. The private sector references the Atlas to decide where to site infrastructure projects. Research institutions use the Atlas's information to guide research activities or to support findings, while civil society groups utilize the Atlas to resolve conflict between competing interests and raise awareness of local communities' rights to sustainable forest management.
Some specific cases where stakeholders utilized the Cameroon Forest Atlas include:

- MINFOF used the Cameroon Atlas to identify and resolve competing claims between the GIC Foconyamzom community forest (Community Forest 803-115) and the Société Industrielle de Mbang forest concession (FMU 08-005);
- MINFOF used the Atlas to determine which land use categories (e.g., protected areas) could be impacted by the proposed Lom Pangar dam construction project;
- Atlas data and derived products are extensively used by CETELCAF (the technical unit of MINFOF in charge of producing forest titles maps) to access information with improved accuracy, plan and support field missions; Conservation International, an NGO, used the Atlas in a research study, which aimed to understand the correlation between spatial distribution of deforestation and biophysical variables;

- The Central Africa Regional Center for Specialized Studies in Forest and Wood (CRESA -Forêt-Bois) has used the Atlas as course material in classes, such as 'Application of GIS in Ecosystems & Protected Areas Management';

Going forward, WRI and MINFOF will continue to improve and expand both the function and content of the Interactive Cameroon Forest Atlas. In addition to regularly updating Atlas information, emerging themes will be incorporate, such as the mapping of carbon stock in order to provide a logical base for managing REDD+ and ecosystem services indicators. By consistently updating data as well as strengthening institutional coordination and capacity building on the ground, WRI and MINFOF are laying the foundation for transparent and informed forest management. Download a .pdf version of the Cameroon Forest Atlas Version 3.0

Near real-time satellite record set to monitor droughts

Rain gauges are few and far between in the Amazon Basin, which makes measuring rainfall and monitoring drought a difficult task. Satellite precipitation data help to fill the gap, but high-resolution satellite records do not cover a very long period. Now, for the first time, scientists have been able to address this problem by combining different satellite records to make a global long-term and near real-time precipitation record.

Global high-resolution satellite records of rainfall only go back a decade or so – not long enough to monitor the comings and goings of droughts. However, there is a 30-year low-resolution satellite-based precipitation data set known as the Global Precipitation Climatology Project (GPCP). However, GPCP has a time lag of around 12 to 18 months – not much help if you need to monitor droughts in real time.

To overcome these problems and create a global long-term and near real-time satellite record of rainfall, Amir AghaKouchak and Navid Nakhjiri from the University of California Irvine, US, combined these two very different satellite records using a Bayesian correction - results are published in Environmental Research Letters (ERL).

"In statistics and probability theory, the Bayesian approach provides a way to update or correct an existing prediction given new or additional information, data, or evidence," explained AghaKouchak. "Here we correct the near real-time satellite data with historical observations from long-term satellite observations. In other words, using the overlap between the two data sets, we estimate the likely correct value of near real-time satellite data."

In recent years, regional and global climate models have been used extensively to study droughts and their causes. The new record is observation-driven and model-independent, so can be used to validate and verify models. Already the new record has correctly identified several recent major events such as the 2011 Texas, 2010 Amazon and 2010 Horn of Africa droughts. AghaKouchak and Nakhjiri are confident that this combined satellite record will help to identify and monitor future droughts. "Since near real-time satellite observations are available within a few hours to days, one can monitor droughts across the globe in a timely manner," said AghaKouchak. "This product is particularly useful for remote regions and basins with few rain gauges."

In fact, the researchers have already used the new record to identify areas that show a significant increase in drought frequency and they hope to publish these findings soon. AghaKouchak and Nakhjiri are keen to ensure that their new combined record is useful and easy for others to understand. With this in mind, they have ensured that their algorithm can be integrated into operational products, to support current activities of the World Meteorological Organization, and the World Climate Research Programme on global drought monitoring.

Rwanda students attend NASA training

Four Rwandan students studying in the United States conducted research in a program developed by the National Aeronautics and Space Agency (NASA), aimed at enhancing conservation efforts initiated by the Rwandan government.

The initiative was a partnership between the Embassy of Rwanda in Washington D.C., NASA Develop program, the National University of Rwanda (NUR) and the Great Ape Trust of Iowa. A statement from the Rwandan embassy in Washington said over the past weeks, the four students; Faith Mwiza, Marvin Karugarama, Emmanuel Muzungu, and Joshua Abe, worked on two projects, under DEVELOP, a NASA program, to address and facilitate agricultural and forestry efforts using NASA's Earth Observing Systems.

DEVELOP is a NASA Applied Sciences training and development program that fosters an interdisciplinary research environment for students and young professionals to work on Earth science application projects. "They examined methods to map land cover in the Northwest part of Rwanda using a combination of satellite imagery and Geographic Information Systems software. They generated land cover classification maps which are useful to identify vegetation and agriculture practices in the region," the statement reads.

One of the students, Karugarama said, "This was a very educational experience that broadened my understanding of the importance of remote sensing and its applicability to Rwandan agriculture. I hope that

this resource can be utilized to foster development in other sectors of the economy." They also collaborated on an ecological forecasting study and created methods to monitor the long-term deforestation and reforestation dynamics of the Gishwati Forest Reserve in Rwanda. Some of the results of this study include a reforestation priority map aimed to guide current reforestation efforts in Rwanda.

GIS Tools, Software, Data

RCMRD Data Dissemination

The Regional Centre for Mapping of Resources for Development (RCMRD) has a large landsat data archive, dating back to 1972 for all African countries. It is also a reseller agent in Africa for the Digital Globe - QuickBird and WorldView 1/2 high-resolution satellite imagery, and supplies data from GeoEye (GeoEye 1/2, IKONOS & Orbview imagery), SPOT image (SPOT 2.5m, SPOT 5m & SPOT 10m), USGS (Landsat MSS, Landsat TM & Landsat ETM+) amongst other active and passive satellite image products and datasets for Africa. These datasets are available at subsidized rates. Other low-resolution imagery datasets available include 90m SRTM, NOAA, MERIS, MODIS, scanned maps, and vector data for Africa.
The center in collaboration with European Space Agency (ESA) and EUMESAT has established a facility for direct satellite reception for MERIS, MODIS, NOAA, and EUMESAT Meteosat Second Generation (MSG) data. These datasets amongst other services can be accessed online via: http://www.rcmrd.org/geonetwork or via email to remotesensing(at)rcmrd.org. Further information, please visit website: www.rcmrd.org.

National Aggregates of Geospatial Data Collection (NAGDC) - Population, landscape, and climate estimates (1990, 2000, and 2010)

The Population, Landscape, And Climate Estimates, Version 3 (PLACE III) data set contains estimates of national-level aggregations in urban, rural, and total designations of territorial extent and population size by biome, climate zone, coastal proximity zone, elevation zone, and population density zone, for 232 statistical areas (countries and other UN recognized territories).
This data set produced by the Columbia University Center for International Earth Science Information Network (CIESIN) aims to provide tabular data to researchers who need information on population and land area by country across a range of physical characteristics but has no GIS capabilities. These include measures such as the number of persons living within coastal zones, the percent of a region within specific elevation strata, or the number of persons living within different climate zones.

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.

Call for Applications - GEM Course 2013

Growing population densities are putting increasing pressure on scarce land resources. Adequate solutions to environmental problems such as deforestation, overgrazing, and the depletion and contamination of land and water resources depend on integrated insights and improved management. Planners, managers, policy makers and researchers need to understand the complexity of the factors involved and be able to work together with professionals from a variety of disciplines. Geo - information technology and, in particular, remote sensing, plays a central role in the search for clear analyses and viable policies. Skills in this field will therefore continue to be much in demand in industry, government and NGOs.
Five renowned European institutes offer you a unique Erasmus Mundus joint European Master of Science (MSc) Course in Geo - information Science and Earth Observation for Environmental Modelling and Management (GEM).
The course has duration of 22 months and will be taught by world class faculty in five countries: Iceland, UK, Sweden, Poland and The Netherlands. While studying in at least two of the five universities, as well as

studying in a multi‐cultural environment, students will gain valuable insight into the academic, social and cultural diversity of northern and central Europe. Graduates gain a multiple MSc degree from the consortium universities.
For the academic year starting in September 2013, we are pleased to announce that there will be EU Erasmus mundus scholarships available for both non-EU and EU students. In addition, for exceptional EU candidates, we will have a limited number of scholarships available that pay full-fees.
Deadline for EM scholarships: 31 December 2012.
Deadline for Self-funded non-EU candidates: 1 July 2013.
Deadline for Self-funded EU candidates: 1 August 2013.
Apply now online: http://www.gem-msc.org/application/Registration/. More information can be obtained from www.gem-msc.org or send an email to info@gem-msc.org.

2013 GIS short courses through continued education at University of Pretoria

- Certificate Course in Introductory Geographic Information Systems - February - June 2013, Web-based with workshops in Pretoria (proprietary and open source) and Cape Town (open source only)
- Certificate Course in Advanced Geographic Information Systems - February - October 2013 - Web-based learning with workshops in Pretoria
- GIS Professional Practice - February - June 2013 - Distance learning with workshops in Pretoria
- Introduction to Geoinformation Standards - 15-16 July 2013 in Pretoria
- Spatial databases with PostGIS - 25 - 29 March 2013 in Pretoria
- Introduction to Quantum GIS (on request)
- Remote Sensing (on request)
- The Basics of GIS (on request)

See www.up.ac.za/cgis / http://web.up.ac.za/default.asp?ipkCategoryID=16147&subid=16147&ipklookid=11

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 certification is awarded in different areas of expertise at both 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 offered in more than 5,000 testing locations in 165 countries. Users are able to test for five certifications. Establishing an industry recognized benchmark of expertise in using ESRI software will:

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

ESRI Technical Certification web site lists specific skills assessed in each exam, as well as training courses that aid in acquiring and improving these skills. Read more.

ESRI South Africa presents a full spectrum of GIS courses: March and April 2013

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 or 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 offered in the following tracks: Fundamentals of ArcGIS Desktop; Data and Map Production; Geoprocessing and Analysis; Enterprise GIS; Multi-user Geodatabases; and Remote Sensing. Client site training arrangement on request for 12-16 students. Download course catalogue and current class schedule. To register, visit http://esrieatraining.cloudapp.net/. For more information, contact: training@esriea.co.ke, telephone: +254 20 2713630/1/2 or visit the offices on 3rd floor, KUSCCO Centre, Kilimanjaro Avenue, Upper Hill, Nairobi, Kenya.

University of Twente - Faculty of Geo-Information and Earth Observation (ITC): 2013-14 courses

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).

MSc degree course in GIS and Natural Resource Management with KNUST, Kumasi, Ghana. Starting date: 2 September 2013; Duration - 18.5 months. For more information: Louis Addae-Wireko, MSc - KNUST and ir Louise van Leeuwen - ITC

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. Note that RECTAS is able to package and deliver customised training for intrested organisations. These could be either advanced or other certificate programs. Contact: info@rectas.org or thontteh@rectas.org.

Regional Centre for Mapping of Resources for Development (RCMRD) Training Programme

Geo-informational Courses (the courses last between one week to three months, and offered throughout 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

Information Technology Courses (targeted at school leavers, corporate organizations, and public).

Academic Programs

- Bridging Certificate in Mathematics
- Certificate and Diploma in Information Technology

Short Programs

- Foundation Course Graphics Application & Web Design
- Database Management
- Software Application Development
- Networking & Infrastructure Development
- PC Maintenance

Corporate Courses

- Information Systems for Management
- Computer Aided Financial Management
- Computerized Registry Management
- Management Information Systems for Monitoring and Evaluation
- Integrated Computer Training for Managers
- Database Design and Management
- Computer Based Auditing
- Computerized Records Management for Lawyers

- Analysis and Design of Information Systems
- Advanced Computer Applications for Executive Secretaries
- Basic Programming Skills

The center also offers tailor-made courses to suit specific needs of corporate clients. Courses also conducted at location of the client's convenience.

Funding Opportunities, Awards, Support

Netherlands Fellowship Program for Master's, PhD, and short courses for developing countries

The Netherlands Fellowship Programmes (NFP) are demand-driven fellowship programmes designed to promote capacity building within organizations in 61 developing countries by providing training and education to their mid-career staff members. The Netherlands Ministry of Foreign Affairs under the development cooperation budget funds the NFP. The scholarships allow candidates to pursue Master studies, PhD studies, or short courses at Dutch Universities or academic institutions.

The scholarship covers many fields of study including Agriculture, Forestry & Fisheries; Architecture and Town Planning, Arts and Humanities; Business Administration and Management; Education; Engineering; Environmental Science; Fine and Applied Arts; Law; Mass Communication and Information Science; Mathematics and Computer Science; Medical and Health Science; Natural Science; Tourism and Leisure; Social and Behavioral Science; and Transport and Communications. For 2013/2014, see the: NFP course list for Master's degree programmes, NFP course for Short courses, and list of Dutch institutions eligible for PhD studies.

Target group: Students from NFP country list in Africa, Asia, Latin America and Eastern Europe (Afghanistan, Albania, Armenia, Autonomous Palestinian Territories, Bangladesh, Benin, Bhutan, Bolivia, Bosnia-Herzegovina, Brazil, Burkina Faso, Burundi, Cambodia, Colombia, Costa Rica, Cuba, DR Congo, Eritrea, Ethiopia, Ecuador, Egypt, El Salvador, Georgia, Ghana, Guatemala, Guinea-Bissau, Honduras, India, Indonesia, Iran, Ivory Coast, Jordan, Kenya, Kosovo, Macedonia, Mali, Moldova, Mozambique, Namibia, Nepal, Nicaragua, Nigeria, Pakistan, Peru, Philippine, Rwanda, Senegal, South Africa, Sri Lanka, Sudan, South Sudan, Suriname, Tanzania, Thailand, Uganda, Vietnam, Yemen, Zambia, Zimbabwe).

Half of the available fellowships should be awarded to female candidates and the other half should be spent on candidates from sub-Saharan Africa. Apart from this, priority is given to candidates from priority groups and/or from marginalized regions to be defined by the embassies.

An NFP fellowship is intended to supplement the salary that the fellowship holder should continue to receive (at least partially) during the study period. The allowance is considered to be a contribution towards the cost of living for one person, whether in the Netherlands or in another country. The fellowship also covers the costs of tuition fees, visas, travel costs, insurance and thesis research. You must meet a number of criteria that support the aim of the NFP to be eligible for a fellowship. For more information, please contact the Netherlands Embassy or Consulate in your home country.

Joint Japan/World Bank graduate scholarships program for students of developing countries

World Bank, with funding from the Government of Japan offers Joint Japan/World Bank Graduate Scholarships Program (JJ/WBGSP) for nationals of a World Bank member country. Applicants must hold a bachelor's degree or equivalent and born after March 31, 1973. Eligible application is assessed according to academic excellence, professional experience, and relevance of program of study. The scholarship covers airfare, travel allowance, tuition and the cost of basic medical and accident insurance. The Program does not support studies in the applicant's home country.

Eligible applicants should propose a program of study related to development at the master's level, in fields such as economics, health, education, agriculture, environment, natural resource management, or other development and related subject. Applicants should submit evidence of current unconditional admission to at least one development-related university master's degree program. Applicants are encouraged to apply to one of the Preferred Universities.

The awards are given for one year and, provided that the academic program is longer than one year, may be renewed for a second consecutive year or a portion thereof, subject to satisfactory academic performance in the first year and the availability of funds. There is an absolute two-year maximum limit on JJ/WBGSP awards. Applicants will be notified of results by the end of July 2013. To submit application, click here. Applications should be submitted online by March 31, 2013.

Australian Government - PhD Awards in Agricultural Research for Africans in 2014

The Australia Awards program will support 20 eligible candidates in Africa for PhD studies in agricultural research at Australian universities, commencing in 2014. The program is open to nationals from the following countries: Benin, Burkina Faso, Burundi, Cameroon, Chad, Egypt, Ethiopia, Gambia, Ghana, Kenya, Liberia, Malawi, Mali, Mozambique, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Tanzania, Uganda, and Zambia. The closing date for applications is 31 March 2013.

United Nations Convention to Combat Desertification - "Land for Life" Award 2013
The UNCCD presents the "Land for Life" Award for inspiring efforts in land conservation and management. Eligibility is open to individuals and institutions worldwide that are making a significant and innovative contribution to reduce land degradation through land management, political leadership, policy, business, advocacy campaigns, or scientific research. Three awards will be granted from a total prize fund of up to US$100 thousand. The deadline for applications is 15 March 2013.

Women's World Summit Foundation - Prize for Women's Creativity in Rural Life 2013
The Prize honors women and women's groups anywhere in the world exhibiting creativity, courage, and commitment for improving the quality of life in rural communities. WWSF aims to draw international attention to laureates' contributions to sustainable development, household food security, and peace. The Prize provides an award of US$1 thousand per laureate, and US$3 thousand for specific African women's organizations. Nominations are due 30 April 2013.

African Network of Scientific and Technical Institutions (ANSTI) - ANSTI/DAAD Post-Graduate Fellowships 2013
The German Academic Exchange Service (DAAD) cooperates with ANSTI by offering financial support for Masters and Ph.D degrees at institutions in Sub-Saharan Africa. The fellowships are awarded to nationals in Sub-Saharan Africa for studies outside the applicants' home countries. Participants must be from ANSTI member institutions, and be less than 36 years old at the time of application. The application deadline is 31 May 2013.

World Food Prize Foundation - World Food Prize and Borlaug Field Award 2013
The World Food Prize Foundation invites nominations for the World Food Prize, and for the Borlaug Field Award. The World Food Prize (US$250 thousand) recognizes an individual or individuals who have made outstanding achievements to enhance the world's food production and its distribution to those most in need. The Borlaug Field Award (US$10 thousand) recognizes science-based achievement in international agriculture and food production by an individual under age 40 in the challenge to eliminate global hunger and poverty. Nominations must be submitted by 1 May 2013 for the World Food Prize, and by 30 June 2013 for the Borlaug Field Award.

No-profit supply of computers to Developing Countries
Computer Aid International has already shipped over 50,000 PCs to more than 90 developing countries. Out of those 50,000 shipped over 35,000 have gone to educational institutions while the remaining to community organisations working in fields as diverse as HIV/Aids, environment, human rights and primary healthcare. Computer Aid International aims to: (i) Increase the number of refurbished computers being re-used overseas; (ii) increase the number of UK organisations donating their used IT equipment for re-use overseas; (iii) identify and work with those organisations in recipient countries able to derive maximum value from refurbished computers; (iv) provide training and work experience in computer repair to people from socially excluded communities.

PhD Awards in Agricultural Research for Africans in 2014
The Australia Awards program will support 20 eligible candidates in Africa for PhD studies in agricultural research at Australian universities, commencing in 2014. The program is open to nationals from the following countries: Benin, Burkina Faso, Burundi, Cameroon, Chad, Egypt, Ethiopia, Gambia, Ghana, Kenya, Liberia, Malawi, Mali, Mozambique, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Tanzania, Uganda, and Zambia. The closing date for applications is 31 March 2013.

Grants for Guest Researchers from Africa 2013
The Nordic Africa Institute provides funding to social science researchers from Sub-Saharan Africa for short-term collaborative assignments at the NAI in Uppsala, Sweden. Research areas include one on agrarian

change, property, and resources. NAI provides travel, subsistence, an installation allowance, and in-kind support for stays of up to 90 days. The deadline for applications is 1 April 2013.

Employment Opportunities

Assistant Professor Remote Sensing for quantifying natural resources

University of Twente, Netherlands stands for life sciences and technology. High tech and human touch. Education and research that matter, new technology that drives change, innovation, and progress in society. With 9,000 students and 3,300 employees, the University of Twente is the only campus university in the Netherlands; divided over six faculties we provide more than fifty educational programmes. The University of Twente has a strong focus on personal development and talented researchers are given scope for carrying out pioneering research.

- Assistant Professor (full-time, tenure-track) in Human Resource Development
- 2 PhD positions: Transport at the microscopic interface

Send your open application. See also: http://www.utwente.nl/vacatures/en/.

University of Birmingham Scholarships for International Students

In 2013/14, the University of Birmingham is offering 18 International Postgraduate Scholarships worth £10,000 towards the cost of a one year Masters (Taught or Research) programme. These awards are intended for tuition fees only and cannot be used towards living expenses. Applicants must have an excellent academic background; due to the level of competition for these scholarships, only applicants with a first class Bachelors degree (or equivalent) will be considered.

Applicants must also demonstrate excellence in an area of their life; this might be outstanding academic achievement, exceptional achievement in extra curricular activities (such as sport, music, managing events or societies) or significant achievement gained either in their working life or through volunteering and service to others. Applicants must also outline the contribution they will make to the University of Birmingham as a student and what they expect to gain from studying here.

In order to apply candidates must:

- Have been offered a place to study on an eligible one year Masters programme at the University of Birmingham;
- Be overseas for fee purposes;
- Be attending full-time and on-campus (not distance learning);
- have a valid student ID number;
- not be in receipt of a full fee scholarship from any other source;
- Have made adequate financial provision to study in the UK (including any associated visa/travel expenses);
- Be able to pay any outstanding tuition fees not covered by the scholarship.

Please be aware that you must have made an application to study at the University of Birmingham before submitting a scholarship application. To find out more about how to apply, please review our application procedures. Applications will close on 31 May 2013 for entry in the 13/14 academic year.

Other

The economic value of EO data

Whether it is remotely sensed, in-situ, ocean-based, or surface-based; earth observation (EO) data is essential for making informed public policy decisions in many areas involving societal benefits like climate variability and change, energy management, agriculture, biodiversity, human health and epidemiology, weather forecasting and water management. The economic value of EO data is in its utility...Read full article as published in Geospatial World, January 2013.

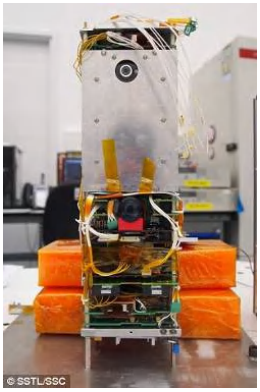
Paper on essential biodiversity variables

Reducing the rate of biodiversity loss and averting dangerous biodiversity change are international goals. However, there is no global, harmonized observation system for delivering regular, timely data on biodiversity change. Partners from the Group on Earth Observations Biodiversity Observation Network (GEO BON) are developing - and seeking consensus around - Essential Biodiversity Variables (EBVs) that could form the basis of monitoring programs worldwide. Read Full Paper and consult the GEO BON EBVs page here.

Geolocation, lucrative niche for sustainable growth in north Africa

Works of the 2nd annual geospatial conference (mapping, remote sensing, satellites, etc.), organized by the Tunisian-German group of geospatial experts (3G Tunisia) has opened on Monday (19 February) in Tunis.
The five-day event gathered Tunisian and international enterprises specialized in the solutions of geospatial industry for the development of infrastructures and information systems...

UK to launch first-ever satellite controlled by a mobile phone



UK: British space scientists are gearing up to launch the world's first satellite run entirely using a mobile phone. The unique STRaND-1 satellite, developed by researchers from the University of Surrey, will be fully controlled by a Google Nexus phone during part of its six-month space mission. It will be launched into a 785km sun-synchronous orbit on the Indian Space Research Organization's Polar Satellite Launch Vehicle (PSLV) from Sriharikota, India, on February 25.
The satellite's launch will be an interesting test of the oft-repeated claim that the mobile phone in your pocket has more computing power than was used to send a man to the Moon. At the heart of STRaND-1 is an unmodified Nexus 1 smartphone running an Android operating system, according to Dr Chris Bridges, the Surrey Space Centre's lead engineer on the venture. 'We haven't gutted the Nexus. We have done lots and many tests on it; we have put our own software on it. But we've essentially got a regular phone, connected up the USB to it and put it in the satellite,' he told the BBC.
The smartphone is pressed up against a side panel of the 30cm-long, 4.3kg cubesat, so that its 5MP camera can look out and take pictures of the earth and the Moon. The STRaND-1 (which stands for Surrey Training Research and Nanosatellite Demonstration) is a joint project between Surrey Space Centre and Surrey Satellite Technology Limited, a world leader in small commercial spacecraft.
During the first phase of the mission, STRaND-1 will use a number of experimental 'Apps' to collect data whilst a new high-speed linux-based CubeSat computer developed by SSC takes care of the satellite. In phase two, the STRaND-1 team plan to switch the satellite's in-orbit operations to the smartphone, thereby testing the capabilities of a number of standard smartphone components for a space environment.

Conferences, Events

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

Date	Location	Event
February 2013		
4-6 February 2013	Accra, Ghana	**Workshop of the global soil partnership in Western and Central Africa: Towards an African soil partnership**
11-13 February 2013	Denver, Colorado, USA	**International LiDAR Mapping Forum** http://www.lidarmap.org/ILMF.aspx
12-15 February 2013	Villa de Leyva, Colombia	**Capacity Building for Conservation - An international exchange of opportunity & best practice**
24-25 February 2013	Algiers, Algeria	**5th Intl. Conference on Water Resources and Sustainable Development**
27-28 February 2013	Padua, Italy	**International Workshop on Hydrological Risk** http://www.cirgeo.unipd.it/geomatics4risk/
24 February-1 March 2013	Nice, France	**GEOProcessing 2013**
March 2013		
2-9 March 2013	Big Sky, Montana, USA	**IEEE Aerospace Conference** http://www.aeroconf.org/

4-8 March 2013	Convention Centre, Dublin	**2013 Dublin Conference Week** Featuring: European Environment Agency Eye on Earth User Conference - (4-6 March 2013), Joint Research Centre - ENVIROFI Conference (6 March 2013) and EUROGI imaGIne Conference (7-8 March 2013) .Contact: Catharina Bamps at www.eurogi.eu
22-23 March 2013	Oxford, UK	**International Conference on Development-Induced Displacement and Resettlement (DIDR)**
26-28 March 2013	Lyon, France	**International Conference on soils, sediments and Water**
April 2013		
7-12 April 2013	Vienna, Austria	**Successful Governmental policies and actions for a better soil management**
7-12 April 2013	Vienna, Austria	**Validation and uncertainty in soil erosion modelling: achievements and challenges**
7-12 April 2013	Vienna, Austria	**Soil System Sciences** (All relevant sessions)
8-10 April 2013	Pafos, Cyprus	**First International Conference on Remote Sensing and Geo-information of Environment**
11-13 April 2013	New Orleans, LA, USA	**Population Association of America 2013 Annual Meeting** Website: http://paa2013.princeton.edu/
16-19 April 2013	Barcelona, Spain	**12th International UFZ-Deltares Conference on Groundwater-Soil-Systems and Water Resource Management**
22-26 April 2013	Beijing, China	**35th International Symposium on Remote Sensing of Environment**
May 2013		
8-10 May 2013	Aachen, Germany	**9th International Conference on Web Information Systems and Technologies (WEBIST) 2013**
13-16 May 2013	Rotterdam, Netherlands	**Geospatial World Forum 2013** Contact: info@geospatialworldforum.org
14-17 May 2013	Leuven, Belgium	16th AGILE Conference on Geographic Information Science
21-24 May 2013	Bonn, Germany	**Water in the Anthropocene. Challenges for Science and Governance. Indicators, Thresholds and Uncertainties of the Global Water System**
22-25 May-13	Belgrade, Serbia	**2nd International Scientific Conference RESPAG** - Regional Development, Spatial Planning and Strategic Governance
28-30 May 2013	Kampala, Uganda	**UMEC 2013 1st Uganda, Mining, Energy Oil Gas Conference and Exhibition**
June 2013		
4-7 June 2013	Ohio, USA	**Mapping Global Change: Spatial Statistics 2013**
10-12 June 2013	Salzburg, Austria	**Symposium for Research in Protected Areas**
17-18 June 2013	Ghent, Belgium	**Conference on Desertification and Land degradation**
19-20 June 2013	Napoli (Italy)	**Four Decades of Progress in Monitoring and Modeling of Processes in the Soil-Plant-Atmosphere System: Applications and Challenges**
23-27 June 2013	Florence, Italy	**INSPIRE Conference 2013 Call for Contributions**
July 2013		
3-5 July 2013	Denmark	**From effective to intelligent agricultire and forestry**
6-9 July 2013	San Diego, USA	**ESRI Survey Summit - The Esri Annual Conference**
7-11 July 2013	Catalonia, Spain	**9th European Conference on Precision Agriculture (ECPA)**
8-12 July 2013	San Diego, USA	**ESRI International User Conference**

21-26 July 2013	Melbourne, Victoria, Australia	**IGARSS 2013** Deadline for abstracts/proposals: 10th January 2013 Check the event website for more details.
August 2013		
13-14 August, 2013	Cape Town, South Africa	**Africa Geospatial Forum**
25-30 August 2013	Dresden Germany	**26th International Cartographic Conference** - From Pole to Pole
26-31 August 2013	Busan, Korea	**XXVII IUSSP International Population Conference**
25-30 August 2013	Hong Kong, S.A.R. China	**59th ISI World Statistics Congress**0 E-mail:isi@cbs.nl
26-29 August 2013	Sarawak, Malaysia	**8th International Symposium on Digital Earth 2013**
27-31 August 2013	Paris, france	**IAG International Conference on Geomorphology**
September 2013		
17-22 September 2013	Nottingham, U.K	**FOSS4G 2013 Conference**
23-25 September 2013	Technical University of Lodz, Poland	**2nd International Conference on Informatics & Applications (ICIA2013)** Abstract deadline:5 August 2013. Email: icia@sdiwc.net
29 September-2 October 2013	Noordwijkerhout , Netherlands	**First International Conference on Global Food Security**
October 2013		
23-25 October 2013	Rio de Janeiro, Brazil	**Sixth International Conference on Agricultural Statistics-ICAS-VI,** Abstract deadline: 15 December 2012 FAO: www.fao.org/economic/ess/ess-events/ess-icas/en/
November 2013		
4-8 November 2013	Adis-Ababa, Ethiopia	**GSDI 14 World Conference and AfricaGIS 2013 Conference** Please consult the conference web site on a regular basis.
18 November 2013		African Statistics Day Celebrations - Organized by the UN Commission for Africa and the African Centre for Statistics.
December 2013		
28-31 December 2013	CRRAO AIMSCS, Hyderabad	CRRAO AIMSCS will be organizing a conference during the International Statistics Year, 2013 - **Statistics 2013: Socio-Economic and Sustainable Challenges and Solutions**
2014		
8-14June 2014	Jeju ICC, Korea	**20th World Congress of Soil Science (WCSS)**
2015	Durban, South Africa	**14th World Forestry Congress for SA**
1-31 August 2016	Cape Town, South Africa	**35th International Geological Congress**. Registration deadline: 30 June 2016.

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

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