SPATIAL DATA INFRASTRUCTURE - AFRICA NEWSLETTER

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.

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

Message from the Editor's Desk

The editorial team of Spatial Data Infrastructure (SDI-Africa) Newsletter wishes all our esteemed readers a *Happy Christmas and New Year 2014*. Our sincere thanks are committed to everyone whose contributions were invaluable to geospatial development of the African continent in 2013. We are indebted to many indidiuals, organizations, and websites as sources of information and request that you continue to share your news, workshop summary, events, articles, or practical application and geospatial implementation materials in your area, especially the concerns of Africa in our upcoming issues.

Please, do feel free to send us this information for the geospatial community. Thank you, Gordon Ojwang'.

SDI News, Links, Papers, Presentations

AfricaGIS 2013 and GSDI 14

The EIS-Africa, GSDI Association, International Geospatial Society, United Nations Economic Commission for Africa (UNECA) and EiABC Addis Ababa University successfully concluded the joint and fully integrated AfricaGIS 2013 Conference and GSDI 14 World Conference that took place from November 4-8, 2013 at the UNECA Conference Center in Addis Ababa, Ethiopia.

The joint conference theme was Spatial Enablement in Support of Economic Development and Poverty Reduction. The conference program was designed to accommodate opening and closing plenary sessions with keynote speakers, daily plenary sessions focused on the conference theme and related topics, technical paper sessions in several parallel tracks, industry showcase sessions, and pre-conference and post-conference workshops freely open to all registrants. It also featured an exhibition area highlighting corporate product and service offerings and agency initiatives. Further, a host of numerous meetings of organizations and groups allowed people from common regions of Africa or the globe or with common interests to present, discuss, and share issues, experiences, and plans.

The conference provided leading opportunity in 2013 to discuss issues in the design and development of spatial data infrastructures and explore innovative approaches for spatially enabling companies, governments, and individual citizens. From national and international agency perspectives to local grassroots initiatives, the conference brought together specialists, practitioners, and decision-makers from around the world who employ and develop spatial applications, technologies, and databases." For conference proceedings and articles, please visit the conference website.

ICT to drive Africa's development agenda, discusses the heads of state

In an interactive session held at Transform Africa Summit co-organised with the International Telecommunication Union (ITU), President Paul Kagame along with the Presidents of Uganda, Burkina Faso, Gabon, South Sudan, Kenya, and Mali discussed how ICT could enable development by allowing Africa to lead at the global stage.

The leaders' session began with a demonstration of the difference in speed between 4G LTE and a 3G network; the 4G reached 90mbps while the 3G was still at 0.5mpbs. The difference, according to Rwanda's Minister of Youth and ICT, would allow students to livestream classes therefore being directly beneficial to student's education and the country's development.

President Kagame, speaking to participants and those watching live from across Africa and the world, said that Rwanda viewed ICT as a utility like water or electricity and investing in ICT had led to tangible gains in all sectors. "ICT has the potential to boost our economy and to improve the living standards of our people. We want to equip the African youth with these technologies and accelerate our development because we believe that success belongs to those who can innovate and those who seize the available opportunities. We are here from all sectors to forge partnerships that will benefit all our people. Let us expound on specific ways that we can leverage ICTs and work together to transform our continent during this interaction."

President Ali Bongo said that although Africa has many priorities, ICT should be a top priority: "ICT can make us take the biggest jump into the twenty first century. ICT makes information not only available but also affordable, and presents opportunities, among them e-government, e-education, e-health. I think the starting point should be education, if we are to transform the lives of Africans. That's why in my point of view, the One Laptop per Child program is very important and should be extended to all African countries and made one of the priorities of the African union."

President Salva Kiir Mayardit of South Sudan said by partnering with neighbouring countries, his country which is the newest nation in Africa, would strive to catch up with others to transform the lives of the citizens of South Sudan. President Ibrahim Boubacar Keïta of Mali underscored the importance of Africans embracing ICT as a tool for transformation. "We are lucid, not asleep when it comes to what ICT can do for our lives." President Blaise Compaoré of Burkina Faso emphasized the enthusiasm and will of African leaders like President Kagame, and that this transformation led by ICT was possible.

President Uhuru Kenyatta congratulated Rwanda for the tremendous advancement in the ICT sector and said "The true and single driver that will propel us from a developing to a developed world in the shortest

time possible is to recognize that the railway lines and seaways of yesterday, is broadband today. Broadband gives us the ability to leapfrog and catch up with the rest of the world. Broadband gives us the capacity to bring minds, innovation and create opportunity for our people. "

President Museveni said for ICT to be useful to people, it has to be relevant to their daily lives: "ICT must help agriculture and other fundamental sectors like industry and services for it to be a relevant tool. ICT is not only a facilitator but also a sector in itself. If we have to avoid problems, we have to integrate ICT in the entire economy, because making it a standalone sector would lead to problems."

Speaking before the leaders' session, Dr. Hamadoun Toure, the Secretary-General of the ITU pointed out that only Africans can transform Africa and that this is what the Transform Africa Summit was about: "The leaders have dared to dream, shared their dreams with their people and it became a vision. It is time to move from mobile revolution to broadband revolution."

Jean Philippe Prosper, Vice President of the International Finance Corporation for Sub-Saharan Africa, Latin America, and the Caribbean said IFC was committed to partnering with Africa to invest in ICT as one of the key economic drivers. He cited ICT as one of the reasons the World Bank has ranked Rwanda as one of the best places to do business in the world; Rwanda jumped from 54 to 32 in the world in 2014 rankings.

Lee Suk-chae, the Chairman of Korea Technology, said that for Africa to finance the broadband revolution, public-private partnerships were key. "These partnerships are beneficial to everyone and will make Africa competitive at a global level."

In 2007, Rwanda and the ITU hosted "Connect Africa", a conference that aimed to champion broadband connectivity. Since then, broadband connectivity has greatly increased and global ICT trends are now driven by innovation that is largely boosted by Internet and mobile technology. The Transform Africa Summit aims to bring together all stakeholders to answer two key questions concerning where Africa is today in regard to resolutions set during Connect Africa in 2007 and how Africa can leverage broadband to transform communities, governments and the private sector.

Google announces fibre project to help bring Ugandans online

FIBER NETWORK
CENTRAL KAMPALA

Google has announced a project link, an initiative to connect more people in Kampala, Uganda to the Web through a super-fast, high-capacity fiber network to enable any local mobile operator or Internet service provider (ISP) to connect more people in Kampala to a faster, more reliable Internet.

In Kampala and many parts of the world, pre-broadband speeds or unreliable connections halts online activity. Project Link focuses on enhancing speed and quality through a metro fiber network. The network is available today to connect providers to long-distance fiber lines, equipping them with near-unlimited capacity to build and expand services to Ugandans and deliver speeds that can support the latest and greatest of the Web.

Kai Wulff, an Access Director at Google said, "With Project Link, we're enabling local providers to access a first-class network to serve the city of Kampala. With access to metro fiber, these providers can expand their services in order to meet the demands of a growing population of innovators and entrepreneurs, whether it's fast connections for local hospitals or high-tech learning tools for young people in the classroom and beyond."

Metro fiber works by strengthening a crucial link in the supply chain that connects users to the data they seek, share, and create. Some parts of that chain are already strong: for example, undersea cables are bringing data to Africa's shores, and mobile operators are expanding their services across the continent. Google is now helping to fast-track progress by building quality infrastructure in between these points.

"We want our customers in Uganda to access the Internet without capacity constraints, so they can send large files, upload video, download software updates, and more," said Godfrey Kisekka, Chief Technology Officer, Orange Uganda. "The partnership with Google will enable us to expand our network capacities, thus helping us achieve our ambition to provide users with the best network coverage and high-quality services."

"We are pleased to be working with Google on their Uganda initiative," said Roger Sekaziga, Chief Executive Officer, Roke Telkom. "We believe this collaboration will give us the flexibility to scale our operations with reduced incremental capital expenditure. This will allow us to leverage their platform to address niche markets. Ultimately, we think the consumer will be the beneficiary of these higher speed tiers."

"Project Link is an exciting development for the city of Kampala and surrounding regions," said the CEO of One...Solutions, Claude Vendette. "It's an opportunity for us to build on top of better infrastructure and provide our customers in Uganda robust access to the Internet, larger bandwidth, and continue to deliver new services that allow better overall productivity."

The project is part of Google's larger efforts to help get Africa online. Other projects to improve internet access in Sub Saharan Africa include a recent successful TV White Spaces trial in Cape Town, South Africa as well as exploring the use of TV White Spaces technology elsewhere on the continent in providing Wi-Fi on over 80 university campuses, and working on peering and caching with network operators in nearly 30 countries to deliver Google content and services to users efficiently and cost-effectively. Google has also provided grants to organizations such as the Network Startup Resource Center, Nigeria ICT Forum, the Tertiary Education, and Research Network (TENET) of South Africa, and the Internet Society for their internet access work in Africa.

Senegal and Kenya lead Africa's internet surge

Senegal and Kenya are the African countries where the internet is having the biggest economic impact, according to a new report. The report by management consulting firm McKinsey, says in a ranking of the contribution that the internet makes to gross domestic product in Senegal is 3.3 percent of GDP. Internationally, Senegal ranks just behind the United States, where internet activity makes up 3.8 percent of GDP, and ahead of France, where the figure is 3.1 percent. The world leader is Sweden, where it makes up 6.3 percent of GDP.

Among other African countries, the internet's contribution to the economy in Kenya comprises 2.9 percent of GDP, while in Morocco is 2.3 percent, in Mozambique - 1.6 percent and South Africa - 1.4 percent. The report estimates that the internet's contribution to GDP, which it calls iGDP - totals U.S. $18 billion a year across Africa. At 1.1 percent of total GDP, it is low as compared to other emerging economies, but the report says the potential for growth is huge.

Taking mobile phones as an example of what might be achieved the report says revenue from this source is equivalent to 3.7 percent of Africa's GDP - more than triple the level found in developed economies. "The Internet's effects could be similarly magnified in Africa," the report says. "Despite the fact that Africa's iGDP is currently lower than that of other regions, our analysis suggests that the Internet will take hold on a much larger scale in the coming decade--and as it does, it could provide new solutions to some of Africa's major social challenges. "In a baseline scenario, Africa's iGDP could grow to at least 5 to 6 percent of GDP, matching that of leading economies such as Taiwan, the United Kingdom, and Sweden. However, if the Internet achieves impact on the same scale as mobile telephony in Africa, iGDP could account for as much as 10 percent of total GDP by 2025 - or some $300 billion." Read the full report.

State-of-the-art flood forecasting model launched for Ghana's White Volta River

The Ghana government makes steps toward managing flooding and saving lives in the White Volta River basin with the development of a new warning and flood forecasting system. The government and communities along the White Volta River will benefit from greater advanced notice of imminent flooding. The authorities will continue to use the system for planning, advance notice and as the foundation for the development of similar systems in other African countries.

Several organizations collaborated to assess the impact of climate risks, starting with a steering committee led by the Water Resources Commission and including;

- The National Disaster Management Organization, Hydrological Service Department
- Ghana Meteorological Agency
- Volta River Authority
- Water Research Institute of the Centre for Scientific and Industrial Research
- Ghana Irrigation Development Authority
- The National Environmental Protection Agency and the Savannah Accelerated Development Authority

The steering committee coordinated the creation of the system and ensured all major stakeholders had a hand in the advanced planning and flood management for the entire White Volta River Basin.

Lesotho land administration reform project successfully completed

For over 5 years, Kadaster was responsible for the project management of the Land Administration Reform Project (LARP, http://www.mca.org.ls/projects/land.php) in Lesotho, and in October 2013, Kadaster concluded this project. During the project period, acts and regulations were amended and an act relating to apartments was drafted. The amended legislation made it possible to set up a Land Administration Authority (LAA, http://www.laa.org.ls/). The project identified nearly 60,000 informal landowners. The LAA uses this information to prepare and register ownership documents, which formally establishes ownership. This will form the basis for improving the Lesotho economy.

The LAA uses a Land Management System based on open source and Land Domain Model, modified and implemented with the support of the Food and Agricultural Organization (FAO). Kadaster was commissioned

for this project in early 2008. The US-based Millennium Challenge Corporation, an organisation aimed at fighting worldwide poverty through economic growth, donated to the project. The project worth 362 million dollars consisted of three parts: Water, Health, and Private Sector Development (PSD). The project for land administration (LARP) fell into the last category.

Kadaster International, a GSDI Association member is a department of the Netherlands' Cadastre, Land Registry, and Mapping Agency (Kadaster) http://www.kadaster.nl/. See also the Lesotho Land Administration Authority: the White Elephant Lives: http://www.conftool.com/landandpoverty2013/index.php/Johnson-304_paper.pdf?page=downloadPaper&filename=Johnson-304_paper.pdf&form_id=304&form_version=final

Malawi Government officials trained in mapping and surveying technologies

Knowledge in geospatial data creation, management, and sharing will go a long way in strengthening skills of technicians in the civil service, said the Surveyor General, Felix Mangani.

Mangani made the remarks on Wednesday when he officially closed an eight-day-long training workshop in Geographic Information Systems (GIS) for civil servants in Lilongwe.

The surveyor General said: "I would like to thank the Regional Centre for Mapping of Resources for Development (RCMRD) from Kenya for spearheading in the organization of the training workshop for the officials in the field.

"This training will help in laying a good foundation stone for technicians."

He also added that Malawi is grateful as a nation since this is not the first time experts in GIS from Kenya have grilled officials in the mapping. Mangani commended officials from various ministries and departments for coming in large numbers to attend the workshop as the knowledge and skills attained will help them in their day-to-day operations.

Commenting on the same, Geospatial Data Specialist from Kenya, Ngugi Kimani, thanked participants to the workshop for their lively and active participation hence making their delivery of tutorials an easy task. Kimani also thanked the Department of Surveys for giving them a privilege to come and conduct the training workshop in Malawi. "I really thank the department for facilitating the workshop for us since it is not easy to conduct a training workshop in another state. "The Regional Centre for Mapping of Resources for Development (RCMRD) is here to serve other member states in as far as sharing knowledge in GIS is concerned," he said.

Speaking on behalf of the participants, Susan Nyirenda described the training as a revelation. "On behalf of my fellow participants, I would like to thank the organizers for such an educative workshop. In fact it has been an eye opener to us in some areas and this will sharpen our skills once we go back to our various offices," She said. The training catered for officials from the Department of Surveys, Department of Disaster Management and Preparedness, Ministry of Economic Planning and Development (EP&D), Ministry of Health, Ministry of Information and Civic Education, Mzuzu University, The Polytechnic, among others.

Lack of data hampers planning process in Kenya

A senior fellow with the Brookings Institution Prof Mwangi Kimenyi had run into an obstacle that is increasingly frustrating many researchers and policy makers locally - the lack of relevant, accurate data to inform decision-making. A seasoned economist tried to calculate the exact cost of delivering malaria treatment services at the county level, but the closest he could come was an estimate based on "imprecise" data.

"Strengthening data gathering needs to become a priority for Kenya, particularly since the country is devolving. There is need to have detailed information on what is happening in every county," said Prof Kimenyi. Kenya's data collection mechanism, never robust to begin with focused on national level statistics. Previously, the breakdown of information was along provincial and district levels. County governments are now in need of data to inform budgeting and planning, but seven months after the devolved system of governance came into being, officials are scrambling to meet these needs. "Sometimes this data is available but has not been localized, and this is the challenge faced especially in the health and other sectors," said Mr Stephen Wainana, the economic planning secretary at the Ministry of Devolution and Planning.

Using technology in mapping Nairobi city slums for more toilets and less trash

A group in Nairobi, Kenya has been working to build a prototype for a web-based GIS (geographic information system) tool that allows people to put in the location of different waste dumpsites where they want to connect to the municipal infrastructure. Garbage and waste is a problem in the slums and they want

to use mapping as the basic tool in location identification. They wanted to share that information and open it up - how to connect, who to talk to, what forms you need to fill out, how long it takes to collect garbage, but also to access the data about the municipal infrastructure. This project received a grant from the Bill and Melinda Gates Foundation and has been working in-house for the past year, doing more in-depth survey to understand how waste management operates in the informal settlements.

Youth groups operating the project collect money from individual households and then collect their trash. Part of what the project does is mapping out where all the location of youth groups. The central waste dump for Nairobi is in Dandora, but this has been full for the last 10 years. The city council trucks meant to pick up the garbage do not come regularly, so the garbage get dumped into the river or ends up piling besides the main road as there's nobody to transport it.

The group are looking at is how can provide incentives to those collecting the garbage [in trucks] to work more closely with the youth groups to ensure that the garbage that people has paid for are collected and transported to the dumpsite.

The group is looking at different tools including WhatsApp and Facebook, which people are already using to open up communication channels. The team hopes that 250 voices are more effective than one youth group getting frustrated due to a truck that never shows up. Presently, the team may not afford to hire private trucks, but the purchasing power of 250 youth groups is much greater than one. They could also opt to pool their resources (money) and buy a truck.

The group started by seeing a shift in how NGOs are functioning, and moving more towards businesses operations. The economic crisis created more pressure on people to spend their money wisely and easier to run a company, which is a lot more flexibility rather than an NGO. "Just because we are a private company doesn't mean that we can't innovate and do our own projects and spend our money on social causes - which is exactly what we are doing". "We have had an incredibly positive response".

Regional needs assessment training on use of geospatial technologies for disaster risk management
- October 18, 2013

The Regional Centre for Mapping of Resources for Development (RCMRD) through its SERVIR supported Regional Disaster Information Management Support Program prioritized a needs assessment in the member states focusing on the use of geospatial technologies for disaster management and risk reduction. RCMRD made a presentation on the role of the centre in promoting the use of geospatial technologies on DRM in the member states.

The first phase of this initiative was implemented in Rwanda, Zambia, and Malawi in October 2013 with visits to other member states planned for 2014. The visits focused on the primary national disaster management agencies and other non-governmental agencies (including international, regional and local agencies) involved in disaster management within the four components of disaster management cycle; preparedness and early warning, emergency response, recovery and reconstruction, and mitigation. The main objective of this assessment was to assess the capacity of these agencies in member states to use geospatial technologies for DRM and DRR and to come up with activities and projects to implement within the member states to promote the use of these technologies in disaster activities.

The Regional Disaster Information Management Support program aims at leveraging RCMRD and SERVIR capabilities in the generation of spatial data, tools, and applications including webmaps/webapps, and the skilled expertise to build the capacity of the member states to use these resources to assist their most disaster vulnerable communities.

Metadata and geonode web services training in Maseru, Lesotho - **September 23-27, 2013**

About 25 participants attended from various ministries. The training was facilitated by Lesotho Bureau of Statistics - a department in the Ministry of Development Planning. The objectives were: to conduct metadata training on spatial data management and to deploy an open source spatial data infrastructure using a web service known as Geonode and offer a training on the same.

The goal of CEDAMA is to advise the National Environmental Secretariat (NES) on issues of environmental data management, to foster an institutional setup that will enable coordination and sharing of spatial information, provide access to relevant technology, identify core data sets, raise awareness about spatial data, and research policies and standards that govern exchange, specifically for Lesotho. The Geonode web portal for training: http://41.206.34.123/

Emerging trends for surveying and mapping practitioner's workshop - **September 4-6, 2013**

The Regional Centre for Mapping of Resources for Development (RCMRD) in collaboration with the Institution of Surveyors Kenya (ISK) organized a three (3) days practical training for ISK Members from 4-6
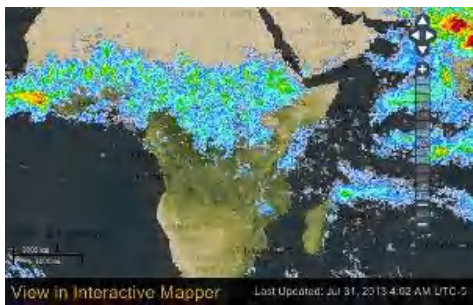
September 2013. Eighty-three (83) participants attended the course. The essence of this training was to give members a practical experience of surveying applications as well as enlighten them on emerging modern technologies that can be applied in their day-to-day work. The workshop was part of ISK's continuous professional development programme.

AFREF and Global Navigation Satellite System (GNSS) data processing course - **2-13 September 2013**
The AFREF and Global Navigation Satellite System (GNSS) Data Processing Course commenced from 2-13 September 2013 at RCMRD, Nairobi, Kenya. The course had 22 participants drawn across 12 member states. The main objective was to build the required technical capacity to implement the Africa Geodetic Reference Frame (AFREF) project. It was designed to provide practical skills in setting up a Continuous Operating GNSS Reference Stations, processing of GNSS data and operationalization of AFREF project. The topics covered includes instrumental set up, observation requirements and planning, geodetic network design, reference systems and frames and processing methods.

Practical SDI implementation materials from within and outside of Africa

SERVIR regional visualization and monitoring platform

The evolving SERVIR regional visualization and monitoring platform established in Africa is to improve scientific knowledge and decision-making in a range of application areas (e.g., biodiversity conservation, disaster management, agricultural development, climate change adaptation, etc.).
The development started with the core ecosystems data, but quickly expanded to include additional agricultural and infrastructure data such as Google Map Maker Roads and Open Street Map roads for sub-Saharan Africa. SERVIR ended up with over thirty gigabtyes of spatial data (both raster and vector) stored across multiple file and SDE geodatabases.
The site uses a combination of custom python scripts in conjunction with the ESRI ArcGIS Server 9.3.1 javascript API. Downloading data is as simple as selecting one or multiple layers, entering an e-mail address, and defining an area on the map. Because of the large file sizes, the defined areas are limited to about the size of Mali. The system sends the user an e-mail with a download link to the server at RCMRD (Regional Center for Mapping Resources for Development) in Kenya.
The download include an ArcGIS MXD, the basic metadata and in some cases licenses. In the near future, additional non-ESRI download formats could be supported as well as increased number of data sources from RCMRD's catalog for the African spatial data. View the prototype for the Ecosystems Clip, Zip, & Ship here. See also: https://www.servirglobal.net/Global/Articles/tabid/86/Article/603/Default.aspx.

GIS Tools, Software, Data

The WorldPop Project
As someone who has used AfriPop/AsiaPop/AmeriPop data in the past or who works with spatial demographic data it would be interesting to hear of the launch of the WorldPop project and its new website. The WorldPop project brings together the AfriPop, AsiaPop and AmeriPop project to form a single open access archive of spatial demographic data for Central & South America, Africa and Asia for development and health applications. The methods are designed with open access and operational application in mind, using transparent, documented, and shareable approaches to produce easily updatable maps with accompanying metadata. From the new site, you can download:
- Population distribution datasets for African and Asian countries, with a continually increasing number produced using a novel Random Forest mapping approach.
- Age/sex structured population distribution datasets for Africa 2000-2015.
- New 2000-2010 Asia population distribution datasets that incorporate satellite-derived urban growth maps.
- Births/pregnancies distribution datasets for eleven countries.
- Multidimensional and consumption-based poverty rate datasets for five countries.
- Each dataset comes with metadata text on the download page, and methodological details are provided on the methods and publications pages.
- In the coming few months, look out for:
- The R/Python code (and documentation) used to create our new Random Forest datasets.

- Population distribution datasets for Central & South America.
- Age/sex structured datasets for Central & South America and Asia.
- Births/pregnancies datasets for 75 countries.
- Multiple updates on existing population rate datasets through new input data and methods.

You can keep up to date with new datasets, reports and publications through the news feed on the website, or through following @WorldPopProject on Twitter. The success of WorldPop is reliant upon the hundreds of collaborators around the World who continue to provide data, advice or error spotting to enable continued improvement of the outputs.

Webpage: http://www.southampton.ac.uk/geography/about/staff/ajt1m11.page, Human Mobility Mapping Project: www.thummp.org, Malaria Atlas Project: www.map.ox.ac.uk, Vector-borne Disease Airline Importation Risk Tool: www.vbd-air.com, and WorldPop Project: www.worldpop.org.uk.

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.

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.

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 full spectrum of GIS courses: December, 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

ESRI Eastern Africa GIS and remote sensing courses

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.

Request for training arrangement for clients on site for 12-16 students. Download the course catalogue and current class schedule. To register visit: http://esrieatraining.cloudapp.net/. For more information, contact: training@esriea.co.ke, Phone: +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).

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. Please 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

International climate protection fellowship programme of the Humboldt Foundation

Up to 20 fellowships to be awarded to prospective leaders from non-European transition or developing countries, who are involved with issues relating to the scientific, engineering, legal, economic or social aspects of climate change. The young climate experts will come to Germany for a year to work alongside a host of their own choosing on a research-related project. The closing date for applications is 15 March 2014. The fellowship will commence on 1 March 2015.

Visit www.humboldt-foundation.de/ICF for detailed information on the programme and the online application package. An information sheet (in German, English, Spanish, and Portuguese) downloaded from www.humboldt-foundation.de/web/publications.html. If you have any questions about this programme, please contact: info@avh.de.

The fellowship is funded under the Federal Environment Ministry's International Climate Initiative. Please note that no one who has already received sponsorship from the Humboldt is entitled to apply for this fellowship.

Australia Awards for Africa - Scholarships and Fellowships 2014

Australia Awards funds qualified African candidates for master's studies in Australia in subjects of agriculture and food security; health; natural resource management; public policy; and water and sanitation. Additionally, the program offers short-term fellowships for professional training in Africa and/or Australia in agriculture, mining, and several other thematic areas. Application deadlines are 13 December 2013 for the master's scholarships, and 17 January 2014 for the professional fellowships.

Critical Ecosystem Partnership Fund -- Biodiversity Conservation in the Eastern Afromontane Region

The CEPF will make large grants (i.e., over US$20 thousand) in support of conservation in the Eastern Afromontane Biodiversity Hotspot. This call invites applicants to submit letters of inquiry that will contribute to CEPF Strategic Direction 2, Investment Priorities 2.1 and 2.2, as described in the Ecosystem Profile. Eligible countries for this call are Burundi, Dem Rep Congo, Ethiopia, Malawi, Rwanda, Yemen, and Zambia. The deadline for letters of inquiry (English, French) is 16 December 2013.

WASCAL (West African Science Service Center on Climate Change and Adapted Land Use) - Funding for Doctoral Students in Climate Change

WASCAL is a partnership of German and West African institutions for research and science-based advice on impacts, mitigation, and adaptation measures related to climate change. The program offers scholarships and research support to qualified candidates in WASCAL member countries. WASCAL's support for doctoral students (program West African Climate System) has a deadline of 31 December 2013.

World Academy of Sciences (TWAS) – Grants for International Scientific Meetings in Developing Countries

TWAS makes grants in support of conferences, workshops, symposia, and special meetings in developing countries. Requests are submitted by the organizers of the meetings (i.e., not by individual participants). Grants are intended for air tickets, and do not normally exceed US$5 thousand. Application deadlines are 1 June and 1 December each year.

World Academy of Sciences (TWAS) - TWAS-UNESCO Associateship Scheme

This program is designed to enable competent researchers in the developing world to link professionally with centers of excellence, also in the South. During a term of three years, each participating associate is supported for travel and incidental expenses to make two visits to the host center. Applicants must have a PhD or equivalent. Priority is for scientists at isolated institutions in developing countries, and for women scientists. The closing date for applications is 1 December of each year.

World Wide Fund For Nature (WWF) - Prince Bernhard Scholarships for Nature Conservation 2014

WWF supports professional training and formal studies of individuals working in disciplines directly relevant to nature conservation. Eligibility extends to mid-career nationals from Africa; Asia and Pacific; Latin America and Caribbean; Eastern Europe; and the Middle East - including WWF staff, or candidates working as partners with WWF. The maximum grant is CHF 10,000 for studies or training lasting one year or less. The application deadline is 11 January 2014.

Employment Opportunities

2 post-doc and 1 impact fellow positions available in new ACES project, Mozambique
Please find below a link: http://miomboaces.wordpress.com/research-jobs-with-aces/ advertising 2 post-doc and 1 Impact Fellow positions available in new project ACES: Livelihoods and Land Use Change in Mozambique. Given the fact that there will be a lot of stakeholder related work in Mozambique, the project requires portuguese-speaking candidates for the posts in Mozambique.

Other

Should you get a GIS internship?

Those currently studying for a career in GIS should consider carefully how to start their GIS employment. One of the most important strategies is to obtain a GIS internship. A poll of GIS professionals held on GIS Lounge last year found that more than half of respondents held a GIS internship position at the start of their career. Of those, a majority found the GIS internship to be invaluable. One respondent noted, "My GIS Internship was the most important factor in finding a permanent position because, not only did I learn skills during my internship that I never learned in college, I also made important contacts that led to my first position and my current position."
Students in a GIS program should look at the GIS internship as an extension of their coursework. Many GIS curriculums, in recognition of how an internship contributes to a student's success in the field, are starting to require hands-on experience as part of the program: "The GIS internship was the way that I learned about how GIS is utilized in the real world. In school, assignments are given and perfectly packaged, and instructors are there to guide you through each assignment/project. This does not happen in the real world, and skills not used in school are needed in day to day occurrences."
The majority of those who have done a GIS internship found it through their local college or university with a high number noting that it was a college professor who provided the lead. When you are ready to start looking for a GIS internship, check first with your GIS or Geography professors to see if they know of any opportunities. Other resources to check are the local job bank at the school or guidance counselor. Jobs fairs held on campus provide another avenue towards finding an internship. One survey respondent noting finding a GIS internship posted on a flyer around campus so keep an open eye for unexpected ways to find an internship. Another tried the universal method, "I asked everyone I knew and every person I encountered, and finally stumbled upon an opportunity. The internship was with a regional planning commission. This was in 2001, and nothing was advertised."
Another method is the "do it yourself" method. I personally found my own internship by calling up the GIS point person at the National Park Service near where I lived and asking if they could use a GIS intern. Another survey respondent said, "I created it. I called a local County Planning department and suggested a work plan for my internship." Another negotiated an internship this way, "Through an online GIS jobs site – it was posted as a part-time job and I talked the employer into making it an Internship".
Not only is a GIS internship important to developing GIS skills, many respondents reported that their GIS internship paved the way for their first professional position. A GIS analyst in California: "My internship was crucial to getting a permanent position. I helped build their GIS database from the ground up, gained many problem-solving skills, and kept looking for a permanent position with benefits. Once I had an offer of employment from another company, my internship turned into a permanent job with benefits, as they did not want to lose me. I would urge anyone to start with an internship and keep looking for opportunities." Many in

the survey reported that their GIS internships either led directly to a full-time position or provided an opportunity for developing contacts that led to a job offer.

Policy brief on "The social dimension of ecosystem-based adaptation"

An important feature of Ecosystem-based Adaptation to climate change (EbA), besides environmental and adaptation benefits, is the pursuit of social benefits for local communities including vulnerable groups, such as women, youth and indigenous people (e.g. increases in income, diversification of jobs, educational opportunities and gender equality).

While EbA can target specific social or environmental impacts, one of its strengths is in the ability to simultaneously maximize synergies between multiple environmental, economic, and social goals.

Concerning social benefits, properly implemented EbA projects have the potential to deliver benefits for local communities including food security, shelter, risk reduction, freshwater and medicine supply, and local climate regulation.

This issue of the UNEP Policy Series on Ecosystem Management highlights the importance of the social dimension in developing and implementing ecosystem-based approaches to climate change adaptation through supportive policies and policy instruments. Click on the link below to read the full paper: http://www.unep.org/ecosystemmanagement/Portals/7/Documents/policy_series_12-small_Nov_2013.pdf.

Leaders vow to make Africa a region of competitiveness and increased well-being

The eighth annual African Economic Conference concluded on October 30, 2013 in Johannesburg, South Africa, calling on development and business leaders to turn Africa into a hub of business and development excellence. The conference, jointly organized each year by the African Development Bank (AfDB), the United Nations Economic Commission for Africa (ECA) and the United Nations Development Programme (UNDP), brought together 500 decision-makers and development practitioners. Over the three-day forum, intense discussions were held on issues including the facilitation of trade; the mobility of people, goods and services; political will and government leadership in harmonizing macroeconomic policies; and the role of the private sector in the continent's regional integration.

On the closing day of the conference, the AfDB Chief Economist and Vice-President, Mthuli Ncube, focused on knowledge and capacities, saying knowledge, strong institutions, and the management of skills and talents should be at the core of the integration agenda. He added that political leaders should double their efforts to make sure Africa becomes a tightly integrated growth pole.

Emmanuel Nnadozie, Director, Macro-Economic Policy Division, ECA, recalled the modest beginning of the AEC, which today gathers young African researchers and has become a key platform for knowledge sharing. He also stressed the importance of the platform for building the capacity for economic analysis on the continent. "We aspire to help young people to be part of that analysis," he said.

Focusing on the human development impact of integration, Pedro Conceição, Head Economist for UNDP's Regional Bureau for Africa, said, "there is a need for mechanism of solidarity within Africa, countries needs to share resources as well as knowledge and other aspect of growth."

Speaking two days earlier, AfDB President Donald Kaberuka said regional integration has well-known benefits, but not advancing as quickly as it should. "progress to date is encouraging, but highly variable. Where the pace is right, the results are beginning to show: almost everywhere tariffs are no longer the big issue, but non-tariff restrictions remain a real impediment."

Abdalla Hamdok, Deputy Executive Secretary of ECA, said, "Economic transformation will ensure that Africa makes optimal use of its human and natural resources, bringing about a shift in the sectoral composition of its economies, in favour of high productivity sectors, especially manufacturing and modern services."

African Union Commission Chairperson Nkosazana Dlamini Zuma said "Leadership on regional integration should therefore happen, not only at the government level, but at all levels of African society and all institutions – whether business, civil society or private sector." For his part, the South African Finance Minister Pravin Gordhan emphasized the need for African countries to assert themselves in the ongoing global power shift. "Too often we are in these global meetings, but with minor voices and inability to project with a common agenda for what we want to achieve ourselves and in the global agenda," he said, calling for deeper regional integration. Gordhan said the continent has an opportunity to offer alternative models of development and can create development models that are appropriate for their respective countries.

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The GeoSpatial Community

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Conferences, Events		

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

Date	Location	Event
December 2013		
16-19 December 2013 * NEW *	Ahmedabad, India	**AGSE 2013 International Conference** Theme: 'Geospatial Momentum for Society and Environment' Detailed information: www.agse2013-cept.in and mail: agse2013@cept.ac.in.
28-31 December 2013	CRRAO AIMSCS, Hyderabad	**Statistics 2013: Socio-Economic and Sustainable Challenges and Solutions**
January 2014		
15-16 January 2014	Geneva, Switzerland	**10th plenary session of GEO**. The session documents available on the GEO site: ftp://ftp.earthobservations.org/GEO-X/ or https://www.mediafire.com/folder/ozv6oqz82z8y3/GEO_X_Documents. Website: www.earthobservations.org
February 2014		
10-14 February 2014	Delhi, India	**World Congress on Agroforestry 2014 (WCA2014)**
25-28 February 2014 * NEW *	Freising, Germany	**Geoinformatics for Tropical Ecosystems** - tools for conservation and management" A session at the Annual Conference of the Society for Tropical Ecology. "Tropical Ecosystems - Between Protection and Production"
March 2014		
April 2014		
May 2014		
25-30 May 2014	Cancun, Mexico	**46th GEF Council Meeting and GEF Assembly** Contact: secretariat@thegef.org
June 2014		
8-14June 2014	Jeju ICC, Korea	**20th World Congress of Soil Science (WCSS)**
15-21 June 2014	Riviera, Bulgaria	**5th Jubilee International Conference on Cartography & GIS & Seminar with EU cooperation on Early Warning and Disaster/Crisis Management**
July 2014		
14-19 July, 2014	Nairobi, Kenya	The African Association of Women in Geosciences (AAWG), **7TH Conference - Earth Sciences and Climate Change: Challenges to Development in Africa**
August 2014		
September 2014		
October 2014		
November 2014		
December		
2015	Durban, South Africa	**14th World Forestry Congress for South Africa**

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1-31 August 2016	Cape Town, South Africa	[35th International Geological Congress](#)

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Gordon Ojwang', Editor, gojwang@rcmrd.org or SDI-Africa_AT_gsdi.org or sdiafrica@rcmrd.org

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