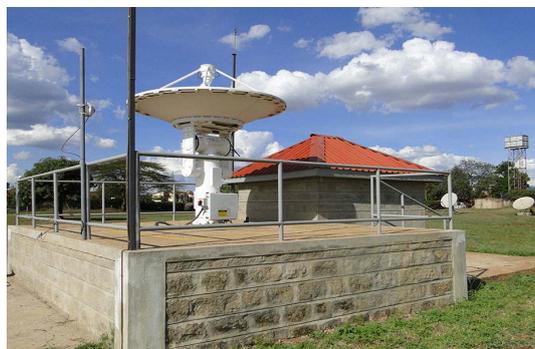


## Welcome to RCMRD News



In the third issue of our quarterly e-newsletter we cover activities that have taken place between July and September. We're pleased to announce an agreement between RCMRD and the Chinese Academy of Surveying and Mapping (CASM) to establish Africa – China Joint Research Center for Surveying, Mapping and Geoinformation. The mandate of the Research Centre will be to promote pragmatic solutions to solve technical challenges faced by many mapping institutions in Africa.

We highlight RCMRD's support in the establishment of 58 GPS Stations in Botswana and training of its surveyors on the use of these stations. The GPS stations are expected to speed up surveying and registration of land parcels in Botswana.

We also report on the Launch of Malawi Census Mapping project in July to support the 2018 Malawi population census. The project aims at providing high resolution imagery and create a geographic frame for the census.

We were honored to host Hon. Betty Ongom, Minister of Lands, Housing and Urban Development, Republic of Uganda at RCMRD offices. She requested support in the modernization efforts of surveying and mapping in Uganda. Discussions were also held with Hon. Vincent Biruta, Rwanda Minister for Natural Resources, in Kigali, Rwanda on cooperation between Rwanda and RCMRD in a number of geoinformation areas.

Other news items include workshop and training activities conducted in our member States and beyond.

*Wishing you a happy reading...*

## *Surveying and Mapping Research Center to be Established at RCMRD*

RCMRD and the Chinese Academy of Surveying and Mapping (CASM) agreed to establish the Africa – China Joint Research Center for Surveying, Mapping and Geoinformation. CASM is the largest multidisciplinary comprehensive research institute of surveying, mapping and geoinformation in China following discussions held between the Director General RCMRD, Dr. Hussein Farah and the Vice President of CASM, Prof. Zao Jicheng agreed to establish the research centre at RCMRD by the first quarter of 2017.



*RCMRD and CASM after agreeing to establish Africa – China Joint Research Center for Surveying, Mapping and Geoinformation at RCMRD.*

The mandate of the research centre will be to provide realistic solutions to the key technical challenges that deter the development of Africa's surveying, mapping and geoinformation and conduct short-term technical trainings on the acquisition, processing, management and distribution of geoinformation data.

The specific areas of focus will be establishment and maintenance of the geodetic coordinate system and high-precision location-based service system for African countries and development of appropriate geoinformation technology to update national topographic maps.

## *Botswana Benefits from RCMRD Support in GPS Network Establishment*

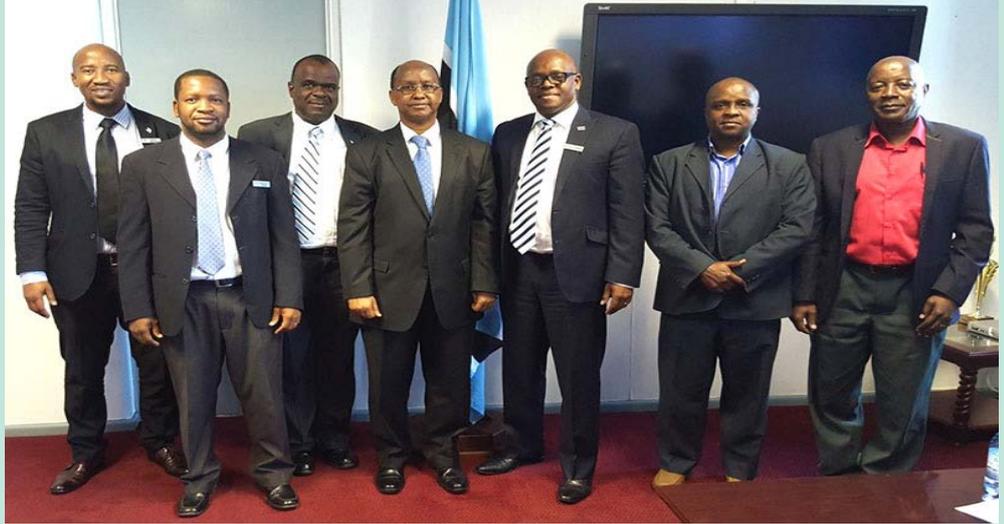
The Permanent Secretary of Botswana's Ministry of Lands and Housing, Mr. Thato Raphaka thanked RCMRD for supporting the establishment of 58 GPS Stations in Botswana and training its surveyors on the use of these stations. Mr. Raphaka noted that the establishment of the GPS Network is a major achievement for Botswana.

The Network is expected to speed up the nationwide surveying and registration of land parcels in Botswana where already over one million parcels have been registered. He noted that these achievements have been realized as Botswana celebrates its 50 years of independence in September, 2016.

The Permanent Secretary made these remarks when he held discussions with the Director General of RCMRD in Gaborone, Botswana.

The two agreed to work together in the establishment of Land Management Information System to support efficient land administration, production of regional spatial plans, updating of topographic and land cover maps in Botswana.

Also, Present during the discussions were Prof. John Kiema and Dr. Moses Rwiza, Directors of Technical and Common Services respectively.



*Delegates from Botswana's Ministry of Lands and Housing and RCMRD.*

## *Malawi Census Mapping Project Launched*

In preparation for the 2018 Malawi Population and Housing Census, the National Statistical Office (NSO, Malawi) hired RCMRD to provide high resolution satellite imagery for the entire country and undertake a comprehensive mapping exercise to create a geographic frame for the upcoming census enumeration scheduled in the year 2018.

RCMRD's main task is to demarcate the country into Enumeration Areas and produce accurate maps in time for census enumeration in June, 2018. Specifically, the mapping exercise seeks to accomplish the following objectives:

Developing credible Census Mapping strategy document, forming the basis for future mapping endeavors and 2018 Census mapping;



*Dr. Farah being taken through the progress made on Malawi Mapping Project.*

Acquiring and providing satellite imagery, helping in updating of Enumeration Areas (EA); Generating a dwelling frame to be used in census and other surveys to easily identify households; Updating EA boundaries in time for the 2018 Census enumeration; Producing a range of Census enumeration map

products to be used during 2018 and subsequent surveys; Setting up GIS, IT, and human resource infrastructure to support 2018 Census enumeration activities.

## *RCMRD Conducts Web Mapping Training in South Africa*

South Africa's Department of Rural Development and Land Reform in conjunction with RCMRD conducted a one-week Web Mapping Training from 15th to 19th August, 2016 in

Cape Town, South Africa.

The Training was designed to give participants an easy transition from the commonly used GIS desktop

programs such as QGIS and ArcGIS to the basic principles of Geospatial data management and publishing.

Participants were also taken through the fundamentals of web design using HTML, CSS and JavaScript in addition to building customized web GIS applications.

The training participants were drawn from the Department of Rural Development and Land Reform and other government agencies.

The training was facilitated by Ngugi Kimani and Patrick Kabatha from RCMRD.



*Web mapping training participants during a session.*

### ***Modern Geodetic Reference GNSS Data Processing Course***

RCMRD conducted a two-week training workshop on Establishment of Modern Geodetic Reference GNSS Data Processing from 5-17th September, 2016. The course was attended by Land Surveyors, Geodesists, Geologists, Meteorologists, Geophysicists, Engineers, and Earth Research Scientists from RCMRD member States and beyond.

The workshop was opened by Mr. Cesare Mbaria, Director of Survey, Ministry of Land and Physical Planning, Kenya, who was the chief guest. In his speech, Mr. Mbaria highlighted the importance of the training workshop and the AFREF initiative to the socio-economic development and well being of the African people.

The main objective of the course was to build the required technical capacity to implement modern

Geodetic Reference Frame in RCMRD member States.

It was designed to provide practical skills in setting up Continuous Operating GNSS Reference Stations, processing of GNSS data and operationalization of AFREF project.

The topics covered included instrumental set up, observation requirements and planning, geodetic network design, and data processing methods.

28 participants from 15 member States attended the course.



*Establishment of Modern Geodetic Reference GNSS Data Processing training workshop participants.*

### ***National Spatial Data Infrastructure Stakeholders Workshop in Tanzania***

RCMRD in conjunction with Tanzania's Ministry of Lands, Housing and Human Settlements Development organized a one-day National Spatial Data Infrastructure (NSDI) stakeholders workshop in Dar es Salaam, Tanzania on 30th September, 2016.

The objectives of the workshop included introducing the concept of NSDI to enhance awareness on the importance of having an operational geospatial data infrastructure; equipping the attendees with the knowledge and awareness of what it takes to implement a successful NSDI

initiative; giving institutions a chance to share what they do in terms of geospatial data acquisition, collection, analysis, decision making and dissemination with others in the workshop;

giving an overview of RCMRD's support in the initiative; and setting up an interim committee to oversee the implementation of NSDI in Tanzania.



*NSDI stakeholders workshop in Dar es Salaam, Tanzania.*

The workshop was opened by Mr. Yamungu Kanyadabila, the Permanent Secretary, Ministry of Lands, Housing and Human Settlement, Tanzania.

## Land Administration Training Workshop

Current advances in space and Geo-ICT technologies offer great opportunities to the entire geoinformation community. Some examples of these include use of global datasets that provide us with the opportunity to build and share fundamental datasets at cheaper rates; cloud computing useful especially for the storage of high volume geospatial datasets; UAV/drone technology that is emerging as a new exploration medium; Volunteered Geographic Information/ Community mapping for continuous updating of some datasets such as roads; and use of Free and Open Source Software, especially for metadata catalogue and clearing-house implementation.

Land administration professionals and practitioners can leverage on these new space and Geo-ICT technologies to promote inclusive land tenure, pragmatic land valuation and taxation and rational land use and land development practices. Realization of all these desirable land administration procedures is important if we are to achieve efficient land markets and effective land use management, factors that are critical for sustainable development pursuant to Agenda 2030.



*Opening ceremony of the Innovative Concepts, Tools and Practices in Land Administration training workshop at RCMRD.*

Consequently, RCMRD in collaboration with Global Land Tool Network of UN-HABITAT organized a two-week Innovative Concepts, Tools and Practices in Land Administration training workshop from 1-12th August, 2016 at its premises in Nairobi, Kenya.

The training participants were drawn from Botswana, Ethiopia, Tanzania, Kenya, Lesotho, Malawi, Namibia, Rwanda, Swaziland, Uganda, Zambia, Zimbabwe and Mozambique.

The purpose of the training was to bring together land officials and technical personnel from RCMRD member States and experts from a range of relevant disciplines, for joint learning on innovative and effective land administration tools and practices. The main objective of the training was to sensitize participants about land administration and develop their capacity to address issues of corruption and enhance transparency in the land sector.

## Joint Training on Remote Sensing Technology and Applications

RCMRD in conjunction with Geoscience Remote Sensing Society under the Institute of Electrical and Electronic Engineering conducted training workshops on Remote Sensing Technology and Applications at RCMRD, Kenyatta University, University of Rwanda and INES-Ruhengeri between 26th September and 7th October 2016.

The objectives of the training were to impart knowledge on remote sensing technology and applications, convey additional information on remote sensing technology and applications, and develop professional connections and platform to learn and interact



*Joint Remote Sensing Technology and Applications workshop at RCMRD.*

with international experts in the field of remote sensing. The training was facilitated by Dr. Susan Moran, Research Hydrologist (SMAP

Science Team) and Dr. Paul Rosen, Project Scientist (NISAR Project), Prof. Kiema, Mr. Sendabo, and Ms. Phoebe from RCMRD.

## Climate Change Vulnerability Mapping Training Workshops

The SERVIR Vulnerability Impacts and Assessments (VIA) team at RCMRD was in Kenya, Rwanda and Tanzania training national technical experts on technologies being applied in East Africa to assess climate change vulnerability for key development sectors. The training built from the Planning for Resilience in East Africa through Policy, Adaptation, Research and Economic Development (PREPARED) Climate Change VIAs in the East African Community and the Lake Victoria Basin and RCMRD's VIA work in

Malawi, and in the Northern range lands of Kenya.

The training materials and tools used were open-source, for example, GeoCLIM and R for statistics. Additionally, the experts used ESRI's ArcGIS for spatial analysis.

The aim of vulnerability assessments in this context was to identify current and plausible future impacts scenarios of climate change, the sensitivities of people and ecosystems to the impacts, and the existing capacities that can support

adjustment to the impacts.

The training was supported by SERVIR E&SA, RCMRD, PREPARED, ICPAC, FEWSNET and ESRI Rwanda.



*Denis Macharia making a presentation during the Climate Change Vulnerability Mapping training workshop in Dar Es Salaam, Tanzania.*

## 2nd ICDL Student Graduation

RCMRD held the second International Computer Driving License (ICDL) student graduation on 26th August, 2016 at its premises in Nairobi, Kenya.

A total of 73 students graduated with ICDL certificates.

The graduation was graced by ICDL Partner Relations, Mrs. Faith Ajema, (Strathmore University's Manager, Marketing and Admissions department, Mr. Fenwel Kalulu (Speaker), Dr. Hussein Farah, Director General, and Prof. John Kiema, Director, Technical Services Department who gave key note addresses.

The ICDL training is carried out



*ICDL students after graduating from RCMRD's Information Technology Training Centre.*

in the Information Technology Training Centre (ITTC) section of RCMRD. It is dynamic and hands on with the aim of equipping students with up-to-date skills and expertise to handle existing technological challenges.

The ceremony ended with students being issued certificates and the best performers given cash awards as reward for their efforts.

## *DG RCMRD Meets Rwanda Minister for Natural Resources*

The Director General of RCMRD, Dr. Hussein Farah met the Rwanda Minister for Natural Resources, Hon. Vincent Biruta in Kigali, Rwanda on 4th August, 2016.

The discussions centered on cooperation between Rwanda and RCMRD in a number of areas, particularly, land cover mapping,

forest monitoring, GPS reference stations and spatial data infrastructure.

The two also discussed the preparations for the RCMRD Conference of Ministers Meeting to be held in November, 2016 in Kigali.

Also present was Dr. Emmanuel Nkurunziza, the Director General of Rwanda Natural Resources Authority.



*Hon. Vincent Biruta, Dr. Hussein Farah, and Dr. Emmanuel Nkurunziza during their meeting in Kigali, Rwanda.*

## *Uganda's Minister of Lands, Housing and Urban Development Visits RCMRD*

Hon. Betty Amongi Ongom, Minister of Lands, Housing and Urban Development, Republic of Uganda visited RCMRD on 19th, August, 2016. The Director General of RCMRD briefed her of RCMRD activities in support of national institutions in member States in relation to Geo-information and different services being provided to member States.

The Minister also toured different units of the Centre, met staff and witnessed the activities in person. Hon. Ongom praised RCMRD as important for member States and specifically requested support for surveys and mapping department of Uganda as the country has started modernizing surveys and mapping activities.

The Minister was accompanied by Mr. Oput John Richard, Mr. Gilbert Kermundu, and Mrs. Annet Kiraza.

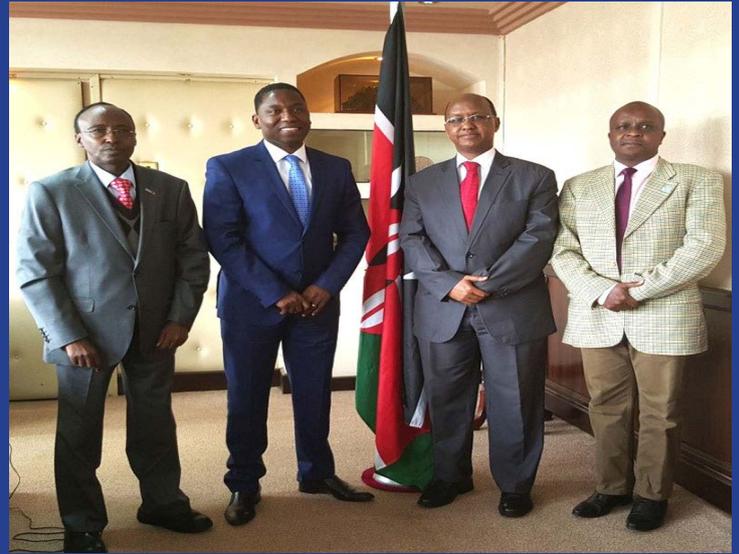


*Hon. Betty Ongom, Minister of Lands, Housing and Urban Development, Republic of Uganda visit to RCMRD.*

# Pictorial



*Participants of the Flood and Drought Management in East Africa training during a break out session.*



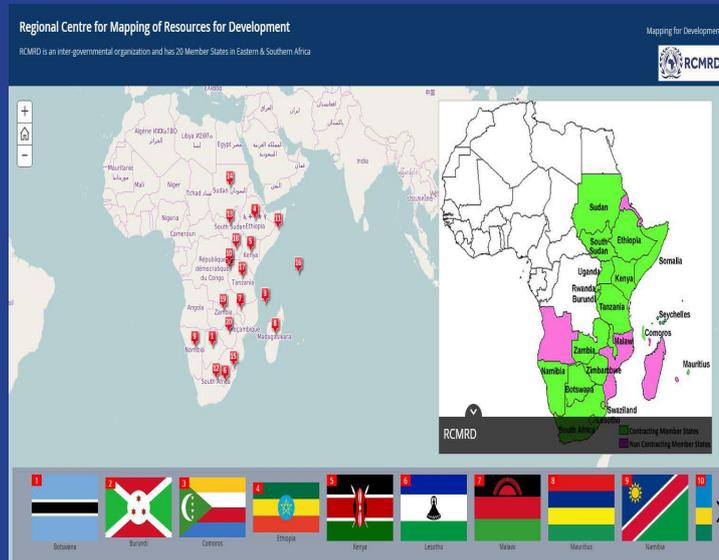
*Hon. Kazungu, Minister for Mining, Kenya after discussions between his Ministry and RCMRD officials.*



*RCMRD/SERVIR-Eastern and Southern Africa stakeholders and user needs consultations workshop.*



*Joint FAO and RCMRD Forest Assessment Training and Validation Workshop.*



*Member States story map published by RCMRD.*