Welcome to RCMRD News

In the first edition of the year we cover activities from the month of January to March. We welcome the new Director General, Dr. Emmanuel Nkurunziza, who joins us from the Rwanda Natural Resources Authority (RNRA), where he was the Director General and Registrar of Land Titles for over eight years.

We highlight two memoranda of understanding between RCMRD and African Advanced Level Training Institute (AFRALTI) and he IGAD Climate Prediction & Applications Centre (ICPAC) respectively. We also look into areas of collaboration with the International Union for Conservation of Nature (IUCN).

This feature also looks at the launch of the South Sudan Geoportal, Assessment of the effects of drought to Ndakaini Dam in Kenya using space technology and Detection of forest fires in the aberdare region using RCMRD's MODIS fire information system.

Finally, during this period, we have organized and conducted a number of training events and attended several workshops within our member States and beyond. They included Training on Tracking Landscape Changes in Uganda, Land Degradation Training in South Sudan and the 5th International Conference on Climate Services in Innovation and Capacity Building in South Africa, among others.

Wishing you a happy reading......

RCMRD Welcomes New Director General

Dr. Emmanuel Nkurunziza officially assumed office as the Director General of RCMRD in February, 2017. Dr. Nkurunziza joined RCMRD from the Rwanda Natural Resources Authority (RNRA), where he was the Director General and Registrar of Land Titles for over eight years. RNRA is an authority that leads the management of natural resources which is composed of land, water, forests, mines and geology. Dr. Nkurunziza is a holder of Doctor of Philosophy (Ph.D.), Public Policy from the University of Birmingham, Master of Science (M.Sc.), Urban Planning from Cardiff University, and Bachelor of Science (B.Sc.), Surveying from Makerere University. Dr. Nkurunziza brings to RCMRD extensive management and technical expertise.

In his first meeting with the staff, Dr. Nkurunziza said he was looking forward to working at RCMRD and was counting on everyone to provide the support required in realizing the Centre's objectives and goals. On the other hand, Dr. Hussein Farah, the immediate Director General thanked the staff for their cooperation and handwork during his tenure at RCMRD.

Dr. Nkurunziza and Dr. Farah in the Director General office.

RCMRD Explores Areas of Collaboration with International Union for Conservation of Nature

On 1st March, 2017 RCMRD held a meeting with the International Union for Conservation of Nature (IUCN) to explore areas of collaboration between the two organizations at its premises in Nairobi, Kenya. The meeting focused on the structure of both organizations, mode of operation, membership, experiences, global initiatives and ongoing activities in the Eastern and Southern Africa region.

The need for a collaborative approach was deemed important because both RCMRD and IUCN are operating in similar areas. The two organizations agreed to sign an MOU for collaboration in training activities and project implementation.

Common areas of interest identified included marine and coastal management, threatened species, invasive species, governance of natural resources, forest monitoring, climate change, landscape restoration, and RCMRD's strategic partners within Member States.

RCMRD was represented by Dr. Emmanuel Nkurunziza (Director General), Degelo Sendabo (Remote Sensing Officer) and Josphat Makanga (Senior Photogrametist).

IUCN delegates included Luther Anukur (Regional Director), Robert Wild (Technical Director, People and Landscape Programme) Kaori Yasuda (Strategic Partnership and Programme Development Coordinator) and Edmund Barrow (Director, Global Ecosystem Management Programme).

IUCN is the universal authority on the status of the natural world and the measures needed to safeguard it.

Meeting on exploring areas of collaboration between between RCMRD and IUCN.

RCMRD signs MOU with African Advanced Level Training Institute

RCMRD signed an MOU with the African Advanced Level Training Institute (AFRALTI).

Signing of the MOU between RCMRD and AFRALTI

The two Institutions firmly convinced of the need to reinforce their relations and cooperation in encouraging the adaptation and use of Earth Observation and ICT Technology in Africa, agreed to work in capacity building programs in Geo-information and ICT.

The cooperation also includes Research and Development and exchange of staff and sharing of GIS and Earth observation data sets.

AFRALTI is a regional institution which provides capacity building programs to the ICT industry in Africa with the aim of harnessing the socio-economic development of African Countries.

RCMRD and ICPAC Sign MOU and Agreement

RCMRD and the IGAD Climate Prediction & Applications Centre (ICPAC) have signed a memorandum of understanding and an agreement in a ceremony that was witnessed by the Deputy Office Chief for Environment at USAID's Kenya and East Africa Mission, Brad Arsenault, and the USAID Program Manage-ment Specialist, Chihenyo Kangara.

Speaking during the ceremony held at RCMRD in Nairobi, Kenya, former Director General-RCMRD, Dr. Hussein Farah emphasized the importance of collaboration in climate related research, as well as in timely dissemination of findings.

Dr. Farah underscored the important role that RCMRD and ICPAC are playing in informing climate resilience and adaptation mechanisms in eastern and southern Africa.

He appreciated USAID and NASA for supporting RCMRD through the SERVIR Project, a partnership

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between USAID and NASA.

The Director-ICPAC, Dr. Guleid Artan reiterated the importance of the partnership that RCMRD and ICPAC have had for over 20 years.

He thanked USAID, NASA and RCMRD for supporting ICPAC's climate related research and monitoring activities through the SERVIR Project. He noted that ICPAC would leverage this support on other on-going programs to ensure that the institution delivered high quality science based products that support resilience to climate change.

Brad Arsenault, in his remarks noted the important role that RCMRD and ICPAC are playing in addressing climate resilience and adaptation in the region.

RCMRD-ICPAC Sign MOU and Agreement to Support Work on Rangeland Early Warning System, Climate Diagnostics and Modeling & Water Resources Management.

He emphasized that partnerships are a key message of the USAID mission statement, and thus congratulated RCMRD and ICPAC for further exploring areas of building synergies through collaborations.

He encouraged both institutions to ensure that the work outlined under the MOU and agreement documents would yield fruits in the near future. Read full story *here*

National Bureau of Statistics of South Sudan and RCMRD Launch Geoportal

Launch of the South Sudan Geoportal in Juba, South Sudan.

Hon. Isaiah Chol, Chairperson, National Bureau of Statistics (NBS), Office of the President, Government of South Sudan officially launched the South Sudan Geoportal (ssdgeoportal.org) in Juba, South Sudan on February 28, 2017.

RCMRD partnered with the South Sudan NBS to develop and implement the geoportal. The geoportal is a platform that facilitates creation, sharing and use of geospatial data.

As a component of the National Spatial Data Infrastructure (NSDI),

the goal of the geoportal is to enhance the capacity of South Sudan government agencies and non-governmental institutions in collaborative geospatial data creation, sharing and management.

While opening the meeting, Hon. Chol thanked RCMRD for the efforts made in placing NBS data and information in a more palatable and discoverable format and tool, while reiterating support to the ideals of RCMRD.

In his remarks, Byron Anangwe on behalf of the Director General, RCMRD, Dr. Emmanuel Nkurunziza, reaffirmed RCMRD's technical support not only to NBS/S. Sudan but to all the Member States in developing appropriate solutions to address challenges faced. Full story *here*

Assessing the Effects of Drought to Ndakaini Dam in Kenya using Space Technology

The effects of drought in Kenya have been felt in many ways, ranging from pastoralist-wildlife conflicts, loss of lives, crop failure to water rationing. Kenya's national government declared the drought in 23 counties a national disaster on 10th February, 2017.
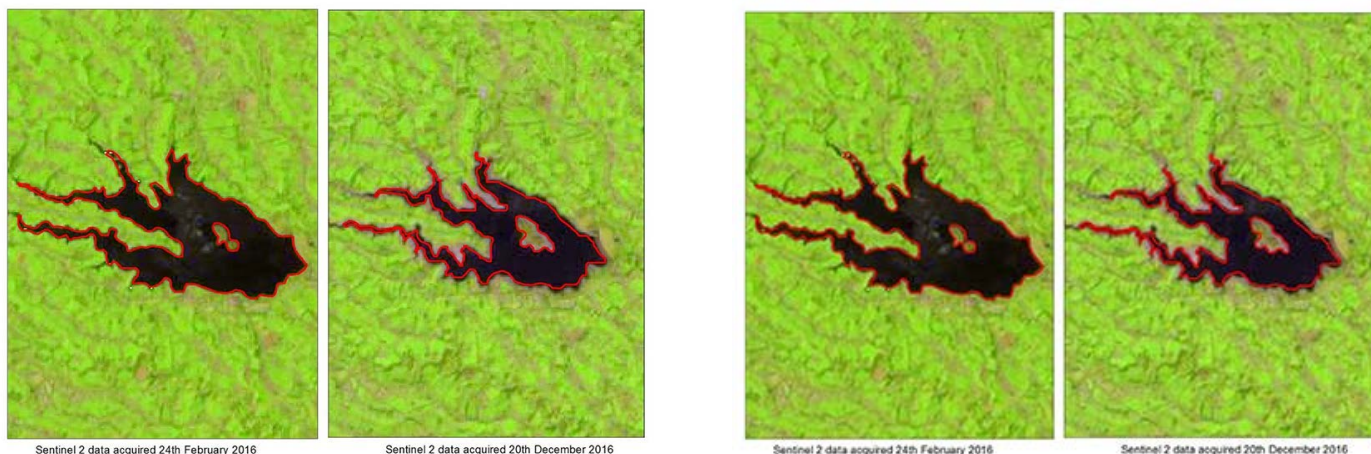
RCMRD sort to assess the impact of the raging drought to Ndakaini dam using space technology. By using Sentinel 2 satellite data, Faith Mitheu and James Mumina analysed two sets of images, February 2016 and December 2016 to assess how the water in the dam has dwindled in

the last 12 months.

Sentinel 2 images at a resolution of 10m were digitized and a comparison under each area was made. Full story *here*

Sentinel 2 data acquired 24th February 2016   Sentinel 2 data acquired 20th December 2016   Sentinel 2 data acquired 24th February 2016   Sentinel 2 data acquired 20th December 2016

Sentinel 2 images at a resolution of 10m showing the reservoir surface area from February 2017 and December 2016.

SWAAT Team Hands Over Project to RCMRD

RCMRD/SERVIR E&SA held a three-day training on stream flow forecasting methodologies titled Hydrological Modelling using a Multi-Model Approach from 13-15 March, 2017 in Nairobi, Kenya.

The objective of the workshop was to transfer skills required to RCMRD/SERVIR E&SA staff for the implementation of a similar system in Tanzania being facilitated by the SERVIR Water Africa Arizona Team (SWAAT) team from the University of Arizona.

Speaking during the opening ceremony, Dr. Robinson Mugo, SERVIR-E&SA Project Manager asserted that decision-makers need tools and data for predicting floods and droughts as well as for monitoring the availability of water in support of food security, livelihoods, energy, and more, and that they also need information to plan for future impacts of a changing climate.

Participants of the stream flow forecasting methodologies training workshop during a session.

The training was on the methodologies for stream flow forecasting using a multi-model approach. This approach is used in flood and drought monitoring and forecasting for regions with generally low data availability and capacity is possible based on readily available satellite products and modeling technologies.

The SWAAT team provides near real-time streamflow forecasts for several pilot basins in Africa and their main sub-watersheds, as well as displays of recent rainfall over the basins as captured by different satellite precipitation products. Read *more*

RCMRD Conducts Training on Tracking Landscape Changes in Uganda

SERVIR E&SA and Applied Science Team (AST) held a capacity building and reference data collection activity in Entebbe, Uganda from 23rd to 25th January 2017.

In the three days training, the participants were trained on reference data collection using TimeSync.

TimeSync is an application that allows researchers and managers to characterize and quantify disturbances and landscape changes by

facilitating pixel level interpretation of Landsat time series stacks of imagery.

TimeSync was created in response to research and management needs for time series visualization tools, fuelled by rapid global change affecting ecosystems, major advances in remote sensing technologies and theory, and increased availability and use of remotely sensed imagery and data products (Cohen et al., 2010).

TimeSync can be used to characterize the quality of land cover map products derived from Landsat time series; derive independent statistical estimates of change with uncertainty, including type of change over time and rates of change; validate change maps; and explore the value of Landsat time series for understanding and visualizing change on the earth's surface. Read full story *here*

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Participants during the capacity building and reference data collection activity in Entebbe, Uganda.

Land Degradation Training in South Sudan

RCMRD in conjunction with the IGAD Climate Prediction and Applications Centre (ICPAC) are implementing the Monitoring for Environment and Security in Africa (MESA) project.

In an effort to build regional capacity in land degradation assessment, natural habitat conservation and forest monitoring, the two institutions conducted a five-day training on land degradation in Juba, South Sudan from 6-10 February, 2017.

The participants were drawn from various ministries and institutions in South Sudan.

Training on land degradation in Juba, South Sudan.

The land degradation training was on assessing the extent and severity of land degradation in South Sudan.

The participants were trained on the processing chain used to derive the land degradation product.

RCMRD Convenes Stakeholders to address Data Sharing in Kenya

RCMRD held a forum to engage stakeholders on data sharing challenges, best practices and recommendations.

The meeting was organized by RCMRD's SERVIR Eastern and Southern Africa (SERVIR-ESA) project. Participants at the breakfast meeting that brought together scholars and scientists from various organizations concurred that there are numerous challenges to scientific data sharing among scientists and the public in Kenyan and

Emily Adams giving her views during the forum to engage stakeholders on data sharing challenges, best practices and recommendations.

most revolve around dissemination.

The meeting resolved to increase demand for data sharing by demystify

ing data as well as getting champions for open data including RCMRD and SERVIR-ESA. Read more ***here***

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Pictorial

RCMRD Attends 5th International Conference on Climate Services in Innovation and Capacity Building.

RCMRD Holds Training Workshop on the Ensemble Framework for Flash Flood Forecasting.

RCMRD Participates in OFESA Project Kick-off Workshop

RCMRD Holds Data Sensitization Workshop at Jaramogi Oginga Odinga University of Science and Technology.

RCMRD Hosts Training to Enhance Water Resources Management.

RCMRD Holds Global Land Cover and Bamboo Mapping Training.