



Regional Centre for
Mapping of Resources
for Development

THE 4TH RCMRD INTERNATIONAL CONFERENCE (RIC 2021)

17–19, AUGUST, 2021

(GMT +03:00) EAST AFRICA TIME

VIRTUAL EVENT

THEME: REFLECTING ON RESILIENCE; MAPPING DEVELOPMENT CHALLENGES & SOLUTIONS FOR A BETTER WORLD.



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SERVIR  Eastern & Southern
AFRICA

AfriGEO



Digital Earth
AFRICA

BIOPAMA 
From Knowledge to Action for a Protected Planet



AUDA-NEPAD
AFRICAN UNION DEVELOPMENT AGENCY



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#RIC2021

CONFERENCE PROGRAMME

DAY 1: TUESDAY, AUGUST 17 OPENING CEREMONY

TIME	SESSION	SPEAKER	MODERATOR
15:00-15:40	Opening Ceremony	<p> Dr. Emmanuel Nkurunziza – The Regional Centre for Mapping of Resources for Development (RCMRD).</p> <p> Dr. Pete Epanchin – The United States Agency for International Development (USAID).</p> <p> Dr. Daniel Irwin – The SERVIR Science Coordination Office, National Aeronautics and Space Administration (SCO-NASA).</p> <p> Mr. Luther Anukur – International Union for Conservation of Nature (IUCN).</p> <p> Mr. Meshack Kinyua Ndiritu– GMES & Africa Program.</p> <p> Mr. Andre Nonguierma – The United Nations Economic Commission for Africa (UNECA).</p> <p> Ms. Elizabeth B. Khumotaka – RCMRD Governing Council.</p> <p><u>Official Opening of RIC 2021 – Guest of Honor</u></p> <p> Ms. Farida Karoney</p> <p>Cabinet Secretary, Ministry of Lands & Physical Planning, Kenya.</p>	Mr. Paul Idude
15:40-16:10	Keynote Address 1	Topic The Climate Crisis and the need for Resilience Speaker: Mr. Steven Ramage, GEO Secretariat.	Ms. Phoebe Oduor
16:10-16:40	Keynote Address 2	Topic Earth Observation; the Data piece on Climate Monitoring Speaker: Ms. Andiswa Mlisa, South African National Space Agency (SANSA).	
16:40-17:00	Synthesis and Discussion		Each Keynote Speaker has 30 Mins for presentation -Q&A will be, 10 Mins each.
17:00-17:10	Networking Lounge		

17:10-18:00	Parallel Session	<p>Thematic Area 1 Agriculture & Food Security</p> <ol style="list-style-type: none"> Digital Earth Africa – Presenter: <i>Dr. Kenneth Mubea</i> Impacts of climate variability on food security in the eastern part of Ethiopia– Presenter: <i>Tamirat Yohannes Hansewo, Zhu Wejiun and Kefiyalew Ayele Alandu.</i> Crop field classification using blending of Unmanned Aerial Vehicle (UAV) and Sentinel 2A satellite– Presenter: <i>Melkamu Demelash Beyene, Binyam Tesfaw Hailu and Degefie Tibebe Degefie.</i> Analyzing the different locust affected areas in India using satellite data– Presenter: <i>Narendra Kumar V, Vikneswaran S K.</i> Soil loss estimation by using GIS and RUSLE approaches in South Ethiopia– Presenter: <i>Alem Tesfaya, Tesfaye Letebob, Kebemo Detamo.</i> 	<p>Ms. Lilian Ndungu</p> <p>Each Presenter has 8 Mins for presentation -Q&A will be done at the end of all presentations, 10 Mins.</p>
		<p>Thematic Area 2 Water and Hydroclimatic Disasters</p> <ol style="list-style-type: none"> GMES & Africa Monitoring Water Quality of East African In-Land Lakes from space- Presenter <i>James Wanjohi</i> Water Observations from Space: accurate maps of surface water through time for the continent of Africa– Presenter: <i>Meghan Halabisky, Edward Boamah, Ghislain Mamadou, Bako Mamane, Fatou Ndeye, David Ongo, Eloise Birchall, Fang Yuan, Negin Moghaddam.</i> A methodology for integrating weather and climate information needs of smallholder farming communities – Presenter: <i>Faith Mitheu.</i> Identification of Potential Sites for a Multi-Purpose Dam Using a Dam Suitability Stream Model - Presenter: <i>Qazi Muhammad Yasir.</i> 	<p>Ms. Sara Miller</p> <p>Each Presenter has 8 Mins for presentation -Q&A will be done at the end of all presentations, 10 Mins.</p>
		<p>Thematic Area 3 Weather & Climate</p> <ol style="list-style-type: none"> The Biodiversity and Protected Areas Management (BIOPAMA)- Presenter: <i>Erick Juma, Nyamgeroh Beryl</i> Statistical Evaluation of Satellite-based rainfall products over Africa using TAHMO in-situ gauge observations – Presenter: <i>Denis Macharia</i> Estimating of LST using multiple vegetation indices and elevation retrievals– Presenter: <i>Terence Mushore, Onesimo Mutanga, John Odindi.</i> Urban Blue-Green Landscape effect on Land Surface Temperature Change. The Case of Addis 	<p>Mr. Denis Macharia/ Ms. Rose Waswa</p> <p>Each Presenter has 8 Mins for presentation -Q&A will be done at the end of all</p>

		<p>Ababa– Presenter: <i>Neway Kifle Bekele and Binyam Tesfaw Hailu.</i></p> <p>5. Monitoring the impact of Urban Heat Islands on Urban Green Areas in Johannesburg– Presenter: <i>Nontsikelelo Dupu and Laxmi Goparaju.</i></p>	<p><i>presentations, 10 Mins.</i></p>
		<p>Thematic Area 4 Land Use, Administration and Management</p> <ol style="list-style-type: none"> 1. Eastern Africa Forest Observatory (OFESA) – Presenter: <i>Douglas Bwire and Erick Juma.</i> 2. Mapping <i>Opuntia stricta</i> in the arid and semi-arid environment of Kenya using Sentinel 2 imagery– Presenter: <i>James M. Muthoka*, Edward E. Salakpi, Edward Ouko, Zhuang-Fang Yi, Alexander S. Antonarakis and Pedram Rowhani.</i> 3. Impacts of land use land cover changes on the landscape patterns and regulatory Ecosystem services– Presenter: <i>Brenda Chepngetich.</i> 4. Assessing impact of land use/cover practices on reservoir capacity through erosion and sedimentation– Presenter: <i>Ayele Akiriso, Dagnachew Legesse, & Binyam Tesfaw.</i> 5. Mining Sector Governance in Africa: A Review of the Land-Centric Spatial Integrity Gaps– Presenter: <i>Nashon Juma Adero.</i> 	<p>Mr. Degelo Sendabo</p> <p><i>Each Presenter has 8 Mins for presentation -Q&A will be done at the end of all presentations, 10 Mins.</i></p>

DAY 2: WEDNESDAY, AUGUST 18

THEME | EARTH OBSERVATION (EO) AND GIS TOOLS IN CLIMATE ADAPTATION AND MITIGATION

TIME	SESSION	SPEAKER	MODERATOR
15:00-15:30	Keynote Address 1	Topic Data Systems for Climate Adaptation and Mitigation. Speaker: Ms. Jenny Frankel-Reed, Bill & Melinda Gates Foundation.	<p>Ms. Anastasia Wahome</p> <p><i>Each Keynote Speaker has 30 Mins for presentation -Q&A will be, 10 Mins each.</i></p>
15:30-16:00	Keynote Address 2	Topic EO Technologies for Land Degradation and Deforestation Monitoring. Speaker: Mr. Meshack Kinyua Ndiritu, GMES and Africa Program.	
16:00-16:30	Keynote Address 3	Topic EO and GIS tools for Climate Adaptation in the Health Sector.	

		Speaker: Dr. Peter Macharia, Centre for Health Informatics, Computing, and Statistics (CHICAS), Lancaster University, UK, and KEMRI Wellcome Trust Research Programme	
16:30-17:00		Synthesis and Discussion	
17:00-17:10		Networking Lounge	
17:10-18:00	Parallel Session	Thematic Area 1 Agriculture & Food Security <ol style="list-style-type: none"> Alliance for a green Revolution in Africa (AGRA) – Presenter: Rose Waswa. Analyzing the trends and impact of climate change on cotton yield using GIS integrated statistical methods– Presenter: Qazi Muhammad Yasir. A new cropland extent map for Africa - the Eastern Africa perspective– Presenter: David Ongo, Mustapha Mimouni, Kenneth Mubea. Mapping crop suitability with climate prediction– Presenter: Erick Omwandho Opiyo. Establishment of regional SDI for Economic Cooperation Organization: Food Security Prospective– Presenter: Munir Ahmad, Asmat Ali. 	Dr. Emmanuel Midheme Each Presenter has 8 Mins for presentation -Q&A will be done at the end of all presentations, 10 Mins.
		Thematic Area 2 Water and Hydroclimatic Disasters <ol style="list-style-type: none"> AfriGEO – Presenter: Phoebe Oduor Estimation of chlorophyll-a on Lake Victoria using satellite based multi-linear regression models – Presenter: Jesse Buyungo, Anthony Gidudu, Lydia Letaru. A Web-GIS for Floods Risk Mapping – Presenter: Mohammed A. Omer, Mohammed A. Abdalla, Mustafa M. Mohammed. Developing a Protocol for Suitability Assessment for Rainwater Harvesting using GIS – Presenter: Robert Kandagor. Modeling multivariate standardized drought index based on drought information from precipitation – Presenter: Biniyam Yisehak, Amanuel Zenebe. 	Ms. Lucy Chepkosgei Each Presenter has 8 Mins for presentation -Q&A will be done at the end of all presentations, 10 Mins.
		Thematic Area 3 Weather & Climate <ol style="list-style-type: none"> Hazard Atlas Development Project in Kenya – Presenter Pauline Ogola. Influence of ENSO and IOD on extreme weather events – Presenter: Rose Mutegi. Changes in Land use and Land cover impact Land Surface Temperature – Analysis in Google Earth 	Dr. Tobias Nyumba Each Presenter has 8 Mins for presentation

		<p>Engine – Presenter: <i>Laxmi Goparaju and Nontskilelo Dupu.</i></p> <p>4. Assessment of Flood Vulnerability of communities in Lokoja, Kogi State, Nigeria using Participatory GIS – Presenter: <i>Felix Ndukson BUBA.</i></p> <p>5. Solar farm site selection using spatial multi criteria evaluation method: a case study of Kewet Wereda, Ethiopia – Presenter: <i>Gashaw Kibret.</i></p>	-Q&A will be done at the end of all presentations, 10 Mins.
		<p>Thematic Area 4 Land Use, Administration and Management</p> <p>1. SmartLandMaps - Facilitating Resilience Planning Through Digital Technologies - Presenter: <i>Auriol Degbelo, Claudia Stoecker, Kaspar Kundert</i></p> <p>2. Evaluation of spectral built-up indices for impervious surface extraction using Sentinel-2a image– Presenter: <i>Tsion Ayalew.</i></p> <p>3. Predicting future urban land surface temperature from spatio-temporal land use land cover dynamics– Presenter: <i>Wendwesen Taddesse.</i></p> <p>4. Socio-economic effects of Nairobi Metropolitan infrastructure development: 2009 -2019– Presenter: <i>Valentine Andanje.</i></p> <p>5. Capturing a deformation ‘picture’ of Mt Nyiragongo lava flow using InSAR time series– Presenter: <i>Lydia Biri Nasimiyu, Ramon Hanssen.</i></p>	<p>Dr. Clement Adjorlolo</p> <p>Each Presenter has 8 Mins for presentation</p> <p>-Q&A will be done at the end of all presentations, 10 Mins.</p>

DAY 3: THURSDAY, AUGUST 19

THEME | INNOVATIONS IN RESILIENCE BUILDING, CLIMATE MITIGATION AND ADAPTATION STRATEGIES

15:00-15:30	Keynote Address 1	<p>Topic Climate Change Adaptation and Mitigation in the Coastal and Marine Sector.</p> <p>Speaker: Dr. David Obura, CORDIO East Africa.</p>	<p>Mr. Eric Anderson</p> <p>Each Keynote Speaker has 30 Mins for presentation</p> <p>-Q&A will be, 10 Mins each.</p>
15:30-16:00	Keynote Address 2	<p>Topic Climate Resilient Development in the WASH Sector.</p> <p>Speaker: Mr. Martin Mulongo, USAID, Kenya.</p>	
16:00-16:30	Keynote Address 3	<p>Topic Advances in Climate Risk Planning and Financing.</p> <p>Speaker: Dr. Halima Saado, International Centre for Humanitarian Affairs (ICHA), Kenya Red Cross Society.</p>	
16:30-17:00		<u>Synthesis and Discussion</u>	
17:00-17:10		Networking Lounge	
17:10-18:00	Parallel Session	<p>Thematic Area 4 Land Use, Administration and Management</p>	<p>Mr. Arthur Akanga</p>

		<ol style="list-style-type: none"> 1. The Network of Excellence on Land Governance in Africa (NELGA) - Presenter: Patrick Kabatha 2. Burnt Area mapping in Lolldaiga Conservancy– Presenter: Kamau S.W, Maina F.W, Mwangi C.M, Muhungi C & Mubea K. 3. Detection and analysis of land use changes in Dindigul district using Sentinel-2a satellite imagery– Presenter: Suvish S, Sarveshvaran M. 4. Spatiotemporal land cover dynamics and drivers for Dhidhessa River Basin (DRB), Ethiopia– Presenter: Gizachew Kabite; Misgana K. Muleta; Berhan Gessesse. 5. Spatio-temporal pattern of Nairobi National Park – Kitengela - Athi Kaputei plains Wildlife Migration– Presenter: Elizabeth Maende. 	<p>Each Presenter has 8 Mins for presentation -Q&A will be done at the end of all presentations, 10 Mins.</p>
		<p>Thematic Area 5 Innovations and Development Hub</p> <ol style="list-style-type: none"> 1. ESRI Global 2. Computer Vision algorithm for detecting pavement cracks– Presenter: Robert S.B. Galatiya Suya, Francis Gitau, Charles C. Kapachika, Mphatso Soko 3. Relationship between knowledge management and firm performance of geospatial firms in Kenya– Presenter: Joseph Masatu Moseki, Margaret Oloko, Jared Deya. 4. Overview of Digital Earth Africa– Presenter: Andiswa Mlisa, Adam Lewis, Omar Seidu, Lisa Hall and Shanti Reddy. 5. Digital Earth Africa - Next Generation Platform to Revolutionise EO Applications in Africa– Presenter: Lisa Hall, Alex Lieth, Fang Yuan, Cedric Jorand, Kenneth Mubea, Edward Boamah, Nikita Gandhi, Rodrigo Carvalho & Shanti Reddy. 	<p>Ms. Lorien Innes</p> <p>Each Presenter has 8 Mins for presentation -Q&A will be done at the end of all presentations, 10 Mins.</p>
		<p>Poster Session 1</p> <ol style="list-style-type: none"> 1. Land productivity analysis using various geospatial tools in Upper Blue Nile Basin, Ethiopia– Presenter: Mohammed Abegaz. 2. An all-inclusive capacity development programme for a sustainable future– Presenter: Kenneth Mubea, Sena Adimou 3. Underground water sanitation and utilization– Presenter: Tabitha Njoki. 4. Water resource management using Google Earth Engine– Presenter: Kamau S.W, Mwangi C.M, Muhungi C, Okello K.P. 5. Performance analysis of Virtual Reference Station in Kenya– Presenter: Kimutai Wycliff. 	<p>Mr. Josphat Makanga</p> <p>Each Presenter has 3 Mins for presentation -Q&A will be done at the end of all presentations, 10 Mins.</p>

		<p>6. Spatio-temporal analysis of urban land use and land cover change by using geospatial technologies– Presenter: Alem T. Desalegn.</p> <p>7. Comprehensive land degradation assessment using geospatial modeling approach– Presenter: Yismaw Aregaw Desta, Tibebeu Kassawmar.</p>	<p>Mr. David Ongo</p> <p>Each Presenter has 3 Mins for presentation -Q&A will be done at the end of all presentations, 10 Mins.</p>
		<p>Poster Session 2</p> <ol style="list-style-type: none"> 1. Evaluation of the impact of land use/land cover changes on flood hazard and risk prone areas– Presenter: Seid Ali & Dr. Berhan Gessesse. 2. Impact of land use/ land cover and climate changes on soil erosion in Muga watershed, Upper Blue Nile, Ethiopia– Presenter: Tatek Belay and Daniel Ayalew Mengistu. 3. Natural Resources Management - Forest monitoring in the Kibiku Forest– Presenter: Muhungi, C.N, Mwangi, C.M, Kelelue, M.K, Kirui, J.C, Okello, P.K and Ombiro, B.M. 4. Relationship between organizational physical resources and firm performance of geospatial firms in Kenya– Presenter: Joseph Masatu Mosefi, Margaret Oloko, Jared Deya. 5. Why do we need to ban toxic NPK fertilizers? – Presenter: Ron Tan. 6. Sentinel-1 Analysis Ready Radar Backscatter for the African continent– Presenter: Kenneth Mubea, Cedric Jorand, Edward Boamah, Yuang Fang. 	
18:00-18:20	CLOSING CEREMONY-RIC 2021	Mr. Julius Gichohi	

