



**REGIONAL CENTRE FOR
MAPPING OF RESOURCES
FOR DEVELOPMENT**

RCMRD International Conference

Space Science Touches Lives

27 to 29 September 2017

Nairobi, Kenya

CONFERENCE PROGRAMME

#RIC2017



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Wednesday 27th, September 2017

Science Policy Exchange

Time	Agenda Item	Moderator	Venue
8:00 – 9:00	Registration	Stella Masese	Plenary Tent
9:00 – 9:45	OPENING CEREMONY Welcome notes <ul style="list-style-type: none"> • ESRI East Africa • National Aeronautics and Space Administration (NASA- USA) • USAID Kenya • Director General RCMRD • Government of Kenya • Ambassadors from RCMRD Member States • Chief Guest - RCMRD Governing Council 	Byron Anangwe/ J.B. Kiema	Plenary Tent
9.45 – 10.30	Key Note Speaker 1: Science policy exchange <ul style="list-style-type: none"> • Shuiab Lwasa - Makerere University 	Byron Anangwe	Plenary Tent
10:30 – 10:35	LAUNCH OF RCMRD NEW WEBSITE	Byron Anangwe	Plenary Tent
10:35 – 11:30	TEA BREAK & EXHIBITION/ POSTERS	Booth Attendants	Exhibition Booth
11:30 – 13:00	PLENARY SESSION: Science policy exchange <ul style="list-style-type: none"> • Stockholm Environment Institute (SEI) • Kenya Institute for Public Policy Research and Analysis (KIPPRA) • Institute of Policy Analysis and Research Rwanda (IPAR) • Land Development Governance Institute (LDGI) • International Centre for Insect Physiology and Ecology (ICIPE) • UN Habitat • Airbus • RCMRD – J.B. Kiema 	Shuiab Lwasa Rapporteurs: Anthony Ndubi and Rose Waswa	Plenary Tent
13:00 – 14:00	LUNCH BREAK		
14:00 – 16:30	PARALLEL SESSIONS - PRESENTATIONS	Facilitator	James Wanjohi
	Agriculture and Food Security <ul style="list-style-type: none"> • Geospatial data analysis for assessment and characterization of Ensete in Ethiopia - <i>Meron Awoke, Binyam Tesfaw Hailu and Sebsebe Demissew</i> • Impact of internal conflict on agriculture and food security in South Sudan - <i>Ms. Santa J. Justin Ali</i> 	Moderator: Boitt/ Degelo Sendabo Rapporteurs: Anthony Ndubi and Rose Waswa	Venue: GIS Training Lab Assistant Steve Firsake

	<ul style="list-style-type: none"> • Use of Earth Observation Data to inform Food Security Assessment and Decision Making - <i>Antony Ndubi</i> • Akorion – ICT for Agriculture – William Luyinda • Mapping leaf nitrogen and carbon concentrations of intact and fragmented indigenous forest ecosystems using empirical modeling techniques and worldview-2 data - <i>Galal Omer, Onesimo Mutanga, Elfatih M. Abdel-Rahman, Kabir Peerbhay and Elhadi Adam</i> 		
	<p>Land Use Land Cover and Ecosystems</p> <ul style="list-style-type: none"> • Assessing Spatio-temporal Land-Cover Changes in Gatumba Mining Area in Rwanda - <i>Jean Pierre Bizimana, Gilbert Nduwayezu and Celse Gabineza</i> • Delimitation and zoning of the Comoros national parks (marine and terrestrial) - <i>Nair Aboubacar, Moumadjadi Inrfane, Houssoyni Housseni and Ben Anthoy Moussa</i> • Land degradation assessment in IGAD region using earth observation data - <i>Eunice W. Mwangi</i> • Beyond Biodiversity - Using Geo-Information to drive conservation and development decision making - <i>Steve Peedell, Lucy Bastin and Bastian Bertzky</i> • Application of GIS and Remote Sensing Techniques in analysis of Land Use and Land Cover Changes threats to River Njoro Ecosystem - <i>Moses Kamau Thiong'o</i> 	<p>Moderator: Clifford Okembo/ Charles Muya</p> <p>Rapporteurs: Pauline Ogola and Josphat Makanga</p>	<p>Venue: Conference Room</p> <p>Assistant Allan Oware</p>
	<p>Weather, Climate, Water and Hydro Climatic Disasters</p> <ul style="list-style-type: none"> • An Assessment of the Impacts of Weather and Climate Patterns on Water Resources - <i>Bertha Othoche</i> • Assessing gullies development on hilly urban areas using cadastral maintenance data and erosion modeling - <i>Erick Ndahigwa and Jean Pierre Bizimana</i> • Participatory Hazard Mapping Risk Assessment and Analysis in in Six Sub counties of Kenya - <i>Degelo Sendabo</i> • Assessing bias in satellite rainfall products and their impact in water balance closure at the Zambezi 	<p>Moderator: Oludhe/ Robinson Mugo</p> <p>Rapporteurs: Grace Koech and Abdi Gedi</p>	<p>Venue: Remote Sensing Training Lab</p> <p>Assistant Daniel Kipkemei</p>

	headwaters - <i>Omondi, C.K, Rientjes T.H.M, Maathuis B.H.P and Gumindoga W.</i>		
	Cross Cutting and Land Surveying & Management <ul style="list-style-type: none"> • GIS in Grid Management and Extension - <i>Victor Kazibwe</i> • Eastern Africa Forest Observatory – <i>Esther Mwangi and Laura Mukhwana</i> • Communicating climate change by linking space and village - <i>Nesoba Dorah</i> • GIS Location-allocation model in improving accessibility to health care facilities - <i>Tom Kemboi Kiptenai and Edward Hunja Waithaka</i> • Fine resolution modelling of malaria risk factors and potential malaria risk prediction - <i>Kasera Kenneth</i> 	Moderator: Amos Tabilla/ Lawrence Okello Rapporteurs: Patrick Kabatha and Ian Asige	Venue: Plenary Tent Assistant Daniel Mordecai
16:30 – 17:00	TEA BREAK & EXHIBITION/ POSTERS	Booth Attendants	Exhibition Booth

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Thursday 28 th , September 2017 Capacity Development and Geospatial Standards			
Time	Agenda Item	Moderator	Venue
9:00 – 9:30	Key Note Speaker 2: Capacity Development and Geospatial Standards <ul style="list-style-type: none"> • Athina Trakas - Open Geospatial Consortium Key Note Speaker 3: Capacity Development in the Use of Drones in Mapping of Natural Resources <ul style="list-style-type: none"> • Mark de Blois – Upande Ltd 	Kenneth Mubea	Plenary Tent
9:30 – 10:30	PLENARY SESSION: Capacity Development and Geospatial Standards <ul style="list-style-type: none"> • East Africa Land Administration Network • Global Land Tool Network • ESRI East Africa • RECTAS 	Athina Trakas Rapporteurs: Anthony Ndubi, Rose Waswa and Abdi Gedi	Plenary Tent

	<ul style="list-style-type: none"> RCMRD – Leonard Sweta 		
10:30 – 10:50	OAKAR SERVICES	Kenneth Mubea	Plenary Tent
10:50 – 11:30	TEA BREAK & EXHIBITION/ POSTERS	Booth Attendants	Exhibition Booth
11:30 – 13:00	PARALLEL SESSIONS - PRESENTATIONS	Facilitator	James Mumina
	Agriculture and Food Security <ul style="list-style-type: none"> Seasonal Crop Type Inventory Mapping from multitemporal TerraSAR; a case study of Kitale - <i>Benson Kipkemboi Kenduiywo</i> Understanding seasonality of browse herbage in Karamoja region, Uganda - <i>Benon B. Nabaasa and Shuaib Lwasa</i> FROST Mapping and Forecasting – <i>James Wanjohi</i> Malawi 2018 Census Mapping – <i>Julius Buyengo</i> 	Moderator: Boitt/ Degelo Sendabo Rapporteurs: Anthony Ndubi, Rose Waswa and Abdi Gedi	Venue: GIS Training Lab Assistant Steve Firsake
	Land Use Land Cover and Ecosystems <ul style="list-style-type: none"> Delimitation and zoning of the Comoros national parks (marine and terrestrial) - <i>Nair Aboubacar, Moumadjadi Inrfane, Houssoyni Housseni and Ben Anthoy Moussa</i> Estimation of Tree Distribution and Canopy Heights in Ifakara, Tanzania Using Unmanned Aerial System (UAS) Stereo Imagery - <i>Ian Asige Mweresa, Patroba Achola Odera and David Ndegwa Kuria</i> Evaluating the Red Edge channel for improving C3 (Festuca SPP) and other co-occurring c3/c4 grass species discrimination based on high resolution multi spectral satellite image data - <i>Charles Otunga, Onesimo Mutanga, John Odindi and Clement Adjorlolo</i> Exploring the utility of Auto-sklearn and remotely sensed Sentinel-2 image data for mapping Parthenium weed in a heterogeneous landscape - <i>Serge Kiala, Onesimo Mutanga and John Odindi</i> Invasive species mapping - <i>Edward Ouko</i> 	Moderator: Clifford Okembo/ Charles Muya Rapporteurs: Eunice Wangui and Josphat Makanga	Venue: Conference Room Assistant Allan Oware
	Weather, Climate, Water and Hydro Climatic Disasters <ul style="list-style-type: none"> Estimation Of Evapotranspiration For Crop Water Requirement Using Satellite Imagery - <i>R.O. Gawala and O.S. Aboyeji</i> 	Moderator: Oludhe/ Robinson Mugo Rapporteurs:	Venue: Remote Sensing Training Lab Assistant

	<ul style="list-style-type: none"> • GIS and Remote sensing based Assessment of water quality changes in Lake Malawi - <i>Charles Chisha Kapachika</i> • Mapping Soil Moisture Content using Senstinel-1 and Sentinel-2 Case Studies from Kenya - <i>Degelo Sendabo</i> • Stream Flow monitoring – <i>Faith Mitheu</i> • Water Resources Integration Development Initiative Tanzania (WARIDI) – <i>Erneus Kaijage</i> • Climate change vulnerability assessment in the northern rangelands – <i>Grace Koech</i> 	Grace Koech and Stephen Sande	Daniel Kipkemei
	<p>Cross Cutting and Land Surveying & Management</p> <ul style="list-style-type: none"> • Improved Cheetah Analysis - <i>Mutoro Noreen, Schaab Gertrud and Wykstra Mary</i> • The role of planning support systems in National Policy Transfer and Policy translation in secondary cities - <i>Benson Mutuku, Luc Boerboom and Mafalda Madureira</i> • On-line spatial data mining a catalyst for national, continental and global initiatives - <i>Peter Kinyua Njagi</i> • Establishment of a Common and Modern African Geodetic Reference System (AFREF) – <i>Charles Muya</i> 	<p>Moderator: Amos Tabilla/ Lawrence Okello</p> <p>Rapporteurs: Patrick Kabatha and Ian Asige</p>	<p>Venue: Plenary Tent</p> <p>Assistant Daniel Mordecai</p>
13:00 – 14:00	LUNCH BREAK		
14:00 – 16:30	PARALLEL SESSIONS - PRESENTATIONS	Facilitator	Eunice King'ori
	<p>Agriculture and Food Security</p> <ul style="list-style-type: none"> ▪ Use of Sentinel 2 data to estimate agricultural areas by speculation - <i>Gayane Faye, Fallou Seck, Mamadou Adama Sarr, Thierno Ngamb and Souleye Wade</i> ▪ Using new earth observation (EO) tools for monitoring crop and rangeland productivity constraints in the context of safeguarding livelihoods in rural Africa - <i>Tobias Landmann, Elfatih Abdel-Rahman and Richard Kyalo</i> ▪ Towards the development of a web based rangeland assessment and monitoring tool – <i>Anthony Ndubi</i> 	<p>Moderator: Boitt/ Degelo Sendabo</p> <p>Rapporteurs: Anthony Ndubi, Rose Waswa and Abdi Gedi</p>	<p>Venue: GIS Training Lab</p> <p>Assistant Steve Firsake</p>
	Land Use Land Cover and Ecosystems	<p>Moderator: Clifford Okembo/ Charles Muya</p>	<p>Venue: Conference Room</p>

	<ul style="list-style-type: none"> • GIS and Remote sensing based assessment of land use-land cover changes in the Coastal City of Lagos Nigeria - <i>Temitope Ezekiel Idowu and Rose Malot Waswa</i> • GIS application on socio-economic effect of road infrastructure development and sustainable development- case of Nairobi bypasses - <i>S. Mwenda, F. Orina and T. Gacoki</i> • Land use and Land cover data changes in Indian Ocean Islands Case study of Unguja in Zanzibar Island - <i>Sizah Mwalusepo, Eliud Muli, Elfatih M. Abdel-Rahman I, Tobias Landmann, Asha Fakh and Suresh Raina</i> • Savanna vegetation structure mapping using Synthetic Aperture Radar and Terrestrial Laser Scanning in Kruger National Park, South Africa - <i>Odipo, Berger and Schmillius</i> • Enabling Annual Land Cover Mapping Across East Africa – <i>Phoebe Oduor</i> 	<p>Rapporteurs: Eunice Wangui and Josphat Makanga</p>	<p>Assistant Allan Oware</p>
	<p>Weather, Climate, Water and Hydro Climatic Disasters</p> <ul style="list-style-type: none"> • Sedimentation dynamics of mudi dam using an unmanned aerial vehicle - <i>Robert S.B.G. Suya and Charles C. Kapachika</i> • Synthetic Aperture Radar for Vegetation and Soil Moisture Monitoring in Masai Mara - <i>David Ongo, Rogier Van der Velde and Zoltan Verkedy</i> • Determining extreme heat vulnerability of Harare Metropolitan City using multispectral remote sensing and socio-economic data - <i>Terence Mushore, Onesimo Mutanga, John Odindi and Timothy Dube</i> • Water Quality Monitoring – <i>James Wanjohi</i> 	<p>Moderator: Oludhe/ Robinson Mugo</p> <p>Rapporteurs: Grace Koech and Stephen Sande</p>	<p>Venue: Remote Sensing Training Lab</p> <p>Assistant Daniel Kipkemei</p>
	<p>Cross Cutting and Land Surveying & Management</p> <ul style="list-style-type: none"> • A tool for ensuring policy- Impacting research results - <i>John Kalisa</i> • Solid Waste Disposal Site Selection Using GIS, Gombato Bongwe Ward, Kwale - <i>Brian Wanyama and Maureen Muthui Katee</i> 	<p>Moderator: Amos Tabilla/ Lawrence Okello</p> <p>Rapporteurs: Patrick Kabatha and Ian Asige</p>	<p>Venue: Plenary Tent</p> <p>Assistant Daniel Mordecai</p>

	<ul style="list-style-type: none"> • Spatio-temporal patterns of malaria hotspots in Kigali City - <i>Jean Pierre Bizimana and Gilbert Nduwayezu</i> • Hydropower Resources Atlas of Kenya with Emphasis on Small Hydropower Resources - <i>Daniel K. Theuri and Samuel Ng'ang'a</i> • Geo-Information Training – <i>Leonard Sweta</i> 		
16:30 – 17:00	TEA BREAK & EXHIBITION/ POSTERS	Booth Attendants	Exhibition Booth

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Friday 29 th , September 2017			
Role of Universities in Geospatial Technology Development			
Time	Agenda Item	Moderator	Venue
9:00 – 9:30	Key Note Speaker 4: Role of Universities in Geospatial Technology Development <ul style="list-style-type: none"> • Galcano Mulaku -University of Nairobi 	Kenneth Mubea	Plenary Tent
9:30 – 10:30	PLENARY SESSION: Role of Universities in Geospatial Technology development <ul style="list-style-type: none"> • Kenyatta University • Makerere University • Nairobi University • University of Kwazulu Natal • University of Rwanda • RCMRD – Julius Gichohi 	Moderator Kenneth Mubea Rapporteurs: Anthony Ndubi and Rose Waswa	Plenary Tent
10:30 – 11:30	TEA BREAK & EXHIBITION/ POSTERS	Booth Attendants	Exhibition Booth
11:30 – 13:00	PARRALLEL SESSIONS - PRESENTATIONS	Facilitator	James Wanjohi
	Agriculture and Food Security <ul style="list-style-type: none"> ▪ Evaluation of remote sensing vegetation indices for monitoring maize crop condition and yields in 	Moderator: Boitt/ Degelo Sendabo	Venue: GIS Training Lab

	<p>Tanzania - <i>I. B. Yonah, S. Tumbo, B. Mbilinyi, J. Dempewolf and M. S Maurice</i></p> <ul style="list-style-type: none"> ▪ Using radar images for analysis of small and large scale crop production in Endebess sub county - <i>Bartholomew Thiong'o Kuria</i> ▪ Improving the capacity of Institutions on geospatial technologies for societal benefit – <i>Joseph Murage</i> 	<p>Rapporteurs: Anthony Ndubi, Rose Waswa and Abdi Gedi</p>	<p>Assistant Steve Firsake</p>
	<p>Land Use Land Cover and Ecosystems</p> <ul style="list-style-type: none"> • Urbanization in Lilongwe a spatial metrics analysis - <i>Kondwani Godwin Munthali</i> • Use of geospatial technology to map the distribution of vervet monkeys in urban areas - <i>Rhoda R. Chai, Dorcas Yole, Gordon Wayumba and Samson Ayugi</i> • Use of GIS in Assessing the Appropriateness of an Existing Dumpsite and the Suitability of Future Landfill Sites for Nairobi - <i>Justin Kimani</i> • Mapping Land use and Land Cover Change and its influence on Soil Erosion in the Upper Ruvu Watershed, Tanzania - <i>Winfred Mbungu</i> • MESA Early Warning Applied to Protected Areas – <i>Kenneth Mwangi</i> • Evaluation of Supervised Classifiers for Forest Resource and Land Cover Mapping based on Combination of SAR and Optical Remote Sensing data - <i>Dorothea Deus</i> 	<p>Moderator: Clifford Okembo/ Charles Muya</p> <p>Rapporteurs: Pauline Ogola and Josphat Makanga</p>	<p>Venue: Conference Room</p> <p>Assistant Allan Oware</p>
	<p>Weather, Climate, Water and Hydro Climatic Disasters</p> <ul style="list-style-type: none"> • Seasonal variability of herbage biomass resources for grazers in Karamoja sub region - <i>Buyinza Ambrose and Shuaib Lwasa</i> • Eastern and Southern Africa Fire Information System (ESAFIS): Supporting Fire Response & Management. – <i>James Mumina</i> • Vulnerability of Groundwater to Pollution: Locating Pollution Hot Spots in the Lake Nakuru Drainage Basin - <i>Simon M. Onywere</i> 	<p>Moderator: Oludhe/ Robinson Mugo</p> <p>Rapporteurs: Grace Koech and Stephen Sande</p>	<p>Venue: Remote Sensing Training Lab</p> <p>Assistant Daniel Kipkemei</p>
	<p>Cross Cutting and Land Surveying & Management</p>	<p>Moderator: Amos Tabilla/ Lawrence Okello</p>	<p>Venue: Plenary Tent</p>

	<ul style="list-style-type: none"> • The Geo Information Applications in Decision Making In Umeme - <i>Stella Namulondo</i> • Unravelling kobo toolbox and kobo collect smartphone geospatial technology - <i>Nyangueso S. O., Hayombe P.O. and Were J.</i> • Urban tree species classification on pixel and object level - <i>Lucy C., Dr. W. Bijker and V. Tolpekin</i> • Why spatial intelligence is critical to business models - <i>Nashon Adero and James Shikwati</i> 	Rapporteurs: Patrick Kabatha and Ian Asige	Assistant Daniel Mordecai
13:00 – 14:00	LUNCH BREAK		
14:00 – 15:00	CLOSING CEROMONY <ul style="list-style-type: none"> • Director Technical Service RCMRD • USAID Kenya • Director General RCMRD • Kenya Government • Chief Guest – RCMRD Governing Council 	Moderator: Byron Anangwe	Venue: Plenary Tent

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