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Climate Change
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WASCAL climate news

THE OFFICIAL NEWSLETTER OF WASCAL

Maiden WASCAL Science Symposium brings global climate scientists together. PAGE 4

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MESSAGE FROM THE EXECUTIVE DIRECTOR

Dear Reader,

I welcome you to the second quarter of 2018.It was a quarter filled with landmarks in the history of our noble organizations. The inaugural edition of the WASCAL Science Symposium (WASS) finally took place in Accra. The groundbreaking symposium Tbrought together over 200 scientists, experts, farmers, policy makers, donors and students from West Africa, Southern Africa, Germany and other parts of the world to discuss common efforts at reducing the vulnerability of the West African people to climate change and improve livelihoods. From declining agricultural productivity to worsening water scarcity, dwindling biodiversity, increase in climate related diseases, crippling energy crises and depletion of coastal and marine resources, the effects of climate change and variability is now evident in all critical sectors of our sub-region.

As a research, capacity building and climate services centre, WASCAL believes in pursuing science-based solutions to the climate related challenges the sub-region faces. Consequently, our previous and current activities have centered on an unrivaled instrumentation to close the data gap in climate change research in West Africa, training of the next generation of climate scientist through an ambitious capacity building programme and implementation of cutting-edge research on various aspects of climate change research.

Through the West African Science Symposium, we were able to showcase more impact stories of WASCAL over the past years and what our future plans are. The event also presented itself with exciting opportunities of learning curve, experience sharing, knowledge exchange and networking. Ultimately, the symposium put the spotlight on the delivery of climate and environmental services to reduce vulnerability and improve livelihoods in West Africa.

I cannot conclude this message without congratulating Dr. Wilfried Kraus from BMBF once again for the receipt of another meritorious honoris causa award by the Cheikh Anta Diop University of Dakar, Senegal (UCAD). It was an establishment of his strong leadership imprint in the fight against climate change in West Africa. Congratulations, Dr. Kraus.

Dr. Moumini Savadogo Executive Director, WASCAL

WASCAL NEWS

MAIDEN WASCAL SCIENCE SYMPOSIUM BRINGS GLOBAL CLIMATE SCIENTISTS TOGETHER

Hundreds of climate scientists, experts and policy makers gathered at a three-day groundbreaking flagship programme of WASCAL, dubbed the WASCAL Science Symposium (WASS 2018). The event was a major scientific event of WASCAL that sought to showcase WASCAL's major achievements since its inception. The event also saw the launch of the second phase of the new research agenda termed as WASCAL Research and Action Plan (WRAP 2.0).

For three days, participants actively engaged in three strands of events, namely: High-Profile Forum, Parallel Poster and Oral Sessions and Plenary Sessions.

The various sessions, in the end provided a platform for a high-level science and policy dialogue in addressing issues of climate change and climate variability in West Africa.

They also provided research institutions, universities, NGOs, government agencies and enterprises within West Africa with an opportunity to display and present their works in the field of climate change adaptation, with focus on climate and environmental services.

In attendance were dignitaries from the Federal Ministry of Education and Research of Germany (BMBF), The Ministry of Environment, Science, Technology and Innovation of Ghana (MESTI), Th German Embassy to Ghana, Governing board of WASCAL, players from the academia in West Africa as well scientists, researchers and alumni of WASCAL.

The Executive Director of WASCAL, Dr. Moumini Savadogo expressed satisfaction at the exchange of information, ideas and experiences acquired in the execution of climate change adaptation projects to discuss methodological approaches and experiences derived from case studies and projects aimed at showcasing initiatives on how to handle climate change and climate variability issues may be implemented in practice; Official launch of WRAP 2.0 and the process leading to the competitive call for proposals.

WASS 2018 was organized with the expectation to reinforce WASCAL's ties with sub-regional (ECOWAS) and regional (AU) economic bodies, policy makers and other key stakeholders while cataloguing of the major achievements of WASCAL Phase 1 and their contribution to delivering climate and environmental services.

www.wassgh.com

WASS SYMPOSIUM IN PICTURES

DEEPENING AFRICAN-GERMAN PARTNERSHIP TO COMBAT CLIMATE CHANGE

The Head of Division "Global Change" at the German Federal Ministry of Education and Research (BMBF), Prof. René Haak has stated that one of the key aims of the international cooperation between Germany and Africa is to strengthen the science base in Africa by supporting local capacities and developing and combining their respective scientific joint efforts.

In his speech he said, "with the support of my Ministry, WASCAL enhanced the visibility of science from Africa into the international scientific networks and into long-lasting cooperation between African and German universities and research institutes." He was speaking at the opening session of the inaugural edition of the WASCAL Science Symposium in Accra. Prof. Haak acknowledged that WASCAL had provided a great supporting role by setting up and coordinating new integrated regional research activities in the area of sustainable land use, water resource management, Biodiversity, renewable Energy, agriculture, human security, climate systems and economics with the latest focus on data management and Marine research.

Prof. Haak urged WASCAL to intensify in their cooperation efforts with national, regional and international partners. "As we move on he said, WASCAL needs to become stronger in interacting with policy makers and other regional and national authorities by providing scientifically-sound and realistic options for making land management resilient to climate change."

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9TH MEETING OF THE SCIENTIFIC ADVISORY COMMITTEE HELD- Towards the new 4 year research agenda

The Scientific Advisory Committee of WASCAL (SAC) held its ninth scientific meeting in Hamburg, Germany to deliberate on scientific issues regarding the organization.

The two-day advisory meeting generated key pieces of advice to the Governing Board meant to move the organization forward in terms of effectiveness, efficient impacts.

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RESEARCH SPOTLIGHT

CHEIKH ANTA DIOP UNIVERSITY OF DAKAR CONFERS HONORIS CAUSA AWARD ON DR. WILFRIED KRAUS

The Faculty of Economics and Management and the Law Faculty of the Cheikh Anta DIOP University of Dakar, (UCAD) Senegal have conferred the honoris causa award on Dr. Wilfried Kraus of the Federal Ministry of Education and Research, Germany (BMBF)

The meritorious award was in recognition of the contribution of BMBF in the fight against climate change in West Africa under the leadership of Dr. Wilfried Kraus, which has been evident in the establishment of 10 Graduate Schools within West Africa that build the capacity of post-graduate students in helping combat climate change.

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STAKEHOLDER WATCH

GERMANY'S OFFER FOR A COOPERATION ON RENEWABLE ENERGIES IN GHANA TAKES OFF

The Federal Ministry of Education and Research of Germany, (BMBF) and WASCAL have organized a one-day stakeholders workshop to share views, experiences and ideas on how renewable energies can be used to contribute to the development and implementation of sustainable energy solutions in Ghana by means of research.

The workshop which brought together various expertise from within the energy sector in Ghana was to establish bilateral engagement with Ghana will help in identifying a successful way of carrying out the project.

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COOPERATION AT HEART OF AFRICA CLIMATE WEEK TALKS

By Sara Jerving, Nairobi

Cooperation between countries and the private sector will be key to the successful implementation of the Paris Agreement on climate change in African nations, panelists at Africa Climate Week held at the United Nations Office at Nairobi said.

Africa is the most vulnerable continent to the impacts of climate change but accounts for the smallest share of global greenhouse gas emissions. In the face of climate change, the continent is threatened with extreme temperatures, droughts, and flash floods, which work to heighten food insecurity, experts say.

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AFRICA FEELING THE HEAT OF CLIMATE CHANGE

Dan Shepard

Researchers are still trying to learn why the population of African penguins has dropped precipitously over the last 15 years—some estimates say by 90%—but most agree that climate change is a major factor in the decline of this iconic African species.

There may be additional forces at work, including pollution, overfishing, predators and disease, but warming currents on both sides of the continent are driving the huge shoals of sardines and anchovies on which the penguins dine farther south toward cooler waters.

Warming waters are not a problem only for penguins and other sea creatures. They have major implications for coastal communities all around the continent, where a quarter of all people rely on the ocean as a primary source of food.

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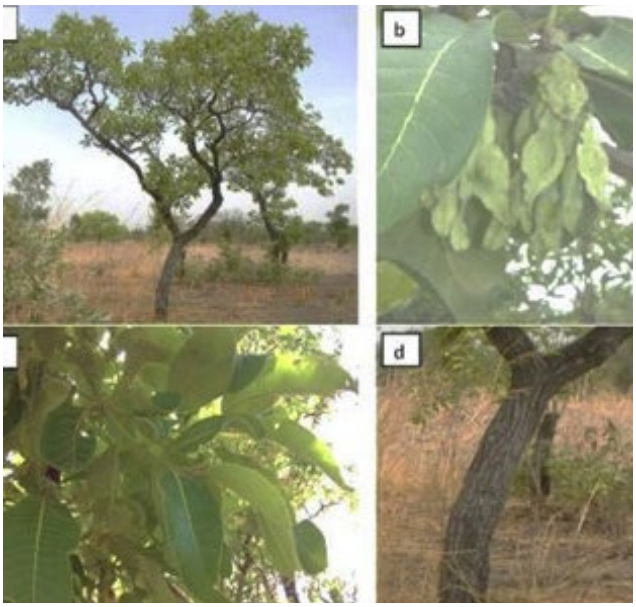
PUBLICATIONS

ABOVEGROUND BIOMASS PARTITIONING AND ADDITIVE MODELS FOR COMBRETUM GLUTINOSUM AND TERMINALIA LAXI FLORA IN WEST AFRICA.



Kangbéni Dimobe, Sylvanus Mensah, Dethardt Goetze, Amadé Ouédraogo, Shem Kuyah, Stefan Porembski, Adjima Thiombiano.

Abstract

Accurate estimates of aboveground biomass (AGB) strongly depend on the suitability and precision of allometric models. Although additive allometric equations are expected to reduce uncertainties due to additivity property between biomass of tree components, methods for developing biomass equations do not comply with the additivity property. This study aimed to evaluate biomass allocation patterns within three components, and to develop additive allometric equations for Combretum glutinosum and Terminalia laxi flora in West Africa.

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THE WASCAL HIGH-RESOLUTION REGIONAL CLIMATE SIMULATION ENSEMBLE FOR WEST AFRICA: CONCEPT, DISSEMINATION AND ASSESSMENT

Dominikus Heinzeller, Diarra Dieng, Gerhard Smiatek, Christiana Olusegun, Cornelia Klein, Ilse Hamann, Seyni Salack, Jan Bliefernicht, and Harald Kunstmann

Abstract

Climate change and constant population growth pose severe challenges to 21st century rural Africa. Within the framework of the West African Science Service Center on Climate Change and Adapted Land Use (WASCAL), an ensemble of high-resolution regional climate change scenarios for the greater West African region is provided to support the development of effective adaptation and mitigation measures.

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POTENTIAL IMPACTS OF 1.5°C AND 2°C GLOBAL WARMING ON RAINFALL ONSET, CESSATION AND LENGTH OF RAINY SEASON IN WEST AFRICA

Naomi Kumi[1, 2, 3*] and Babatunde J. Abiodun[1]

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Geographical Science, University of

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[2]West African Science Service Centre for Climate Change and Adapted Land Use (WASCAL) Graduate Research Program in West African Climate System (GRP-WACS), Federal University of Technology, Akure (FUTA), Akure, Nigeria.
[3]Ghana Meteorological Agency, Legon-Accra, Ghana.

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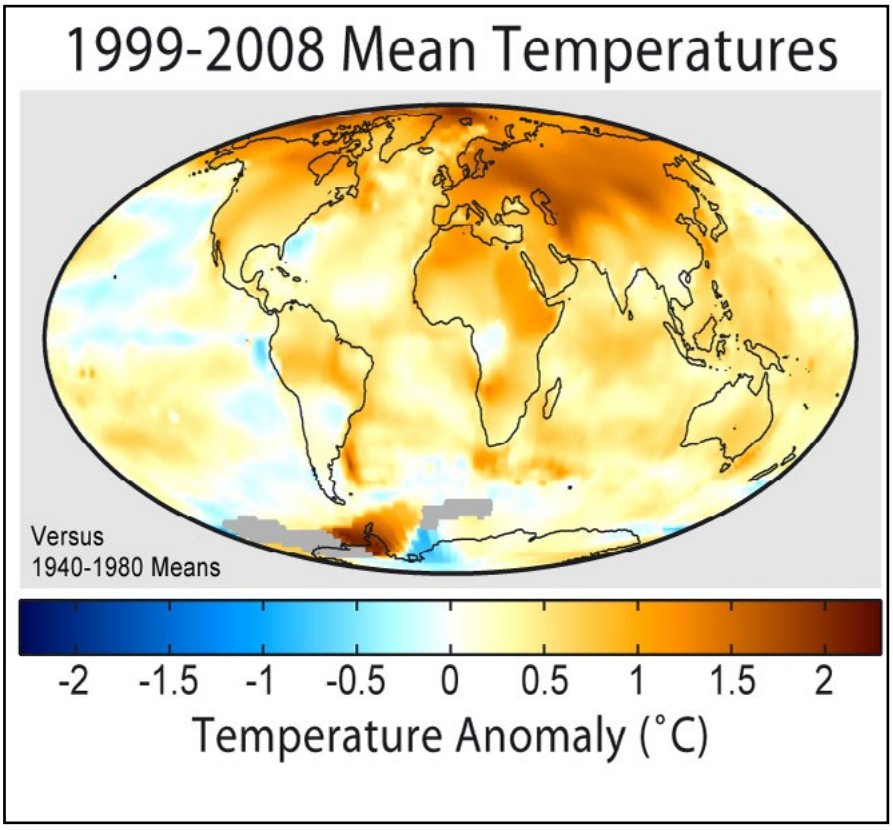

Abstract:
This study examines the potential impacts of 1.5°C and 2°C global warming (GWL15 and GWL20) on rainfall onset dates (RODs), rainfall cessation dates (RCDs), and length of the rainy season (LRS) in West Africa under RCP4.5 and RCP8.5 scenarios. Nineteen multi-model multi-ensemble simulation datasets from eight regional climate models (RCMs) that participated in the Coordinated Regional Climate Downscaling Experiment (CORDEX) were used for the study. The ability of the model ensemble mean to reproduce the characteristics of RODs, RCDs and LRS for past climate were evaluated using two observed datasets. The impacts of GWL15 and GWL20 on each parameter were quantified and compared. The models reproduce the characteristics of RODs, RCDs, and LRS as observed in the historical climate over West Africa though with few biases. The models projected the western and eastern Sahel as hot-spots for a delayed ROD and reduced LRS in the 1.5°C and 2°C warmer climate under RCP4.5 and RCP8.5 scenarios. A delayed RCD and longer LRS are projected over the western part of the Guinea coast. The uncertainties associated with the projections are high for RCD but lower for ROD and LRS. While an increase in global warming from 1.5°C to 2°C enhances late ROD over the entire West Africa under the RCP4.5, it fosters early ROD over the Sahel zone under the RCP8.5. It also encourages a decrease in the LRS over the Guinea zone and an increase in LRS over the Sahel zone, but produces opposite results under RCP8.5. The results of the study have application in reducing the impacts of global warming over West Africa.

Keywords: Multi-model; Multi-ensemble; Regional Climate Model; Projected; Scenario.

DUST INDUCED CHANGES ON THE WEST AFRICAN SUMMER MONSOON FEATURES

E. T. N'Datchoh[a,b*], I. Dialloc, A. Konaré[a], S. Siluéd, K. O. Ogunjobi[b], A. Diedhiou[a,e,f] and M. Doumbia[a]

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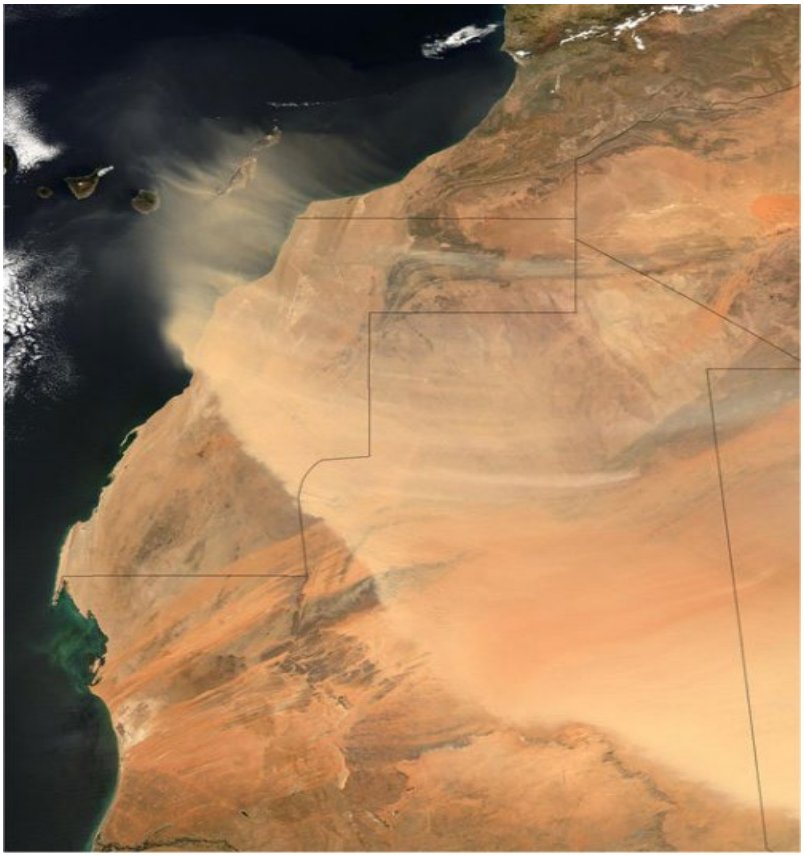
Abstract:
Dust generation and transportation from North Africa are thought to modulate the West African Monsoon (WAM) features. In this study, we investigated the relationship between the Saharan Air Layer located above Atlantic Ocean (OSAL) and WAM features, including Monsoon flow, African Easterly Jet.

(AEJ) and Tropical Easterly Jet (TEJ) over West Africa using the RegCM4 regional model at 30 km grid resolution. Two sets of experiments with and without dust load were performed between 2007 and 2013 over the simulation domain, encompassing the whole of West Africa and a large part of the adjacent Atlantic Ocean. An intercomparison of the two simulations shows that dust load into the atmosphere greatly influences both the wind and temperature structure at different levels, resulting in the observed changes in the main features of the WAM system during summer. These changes lead to a westward shift with a slight strengthening of AEJ core over tropical Atlantic and weakening of both TEJ and monsoon flux penetration over land. In addition, despite running the RegCM4 with prescribed sea surface temperature, a correlation has been found between Aerosol Optical Depths in OSAL and WAM dynamics suggesting a mechanistic link between dust and WAM well reproduced by RegCM4.

Keywords: West African monsoon; RegCM4; dust; impacts



CLIMATE NEWS AND UPDATES

SCIENTISTS DEMAND ACTION AS CLIMATE CHANGE SPREADS DISEASES, POVERTY IN AFRICA

Source: Ghana|Myjoyonline.com | Joseph Opoku-Gakpo | Zanzibar, Tanzania

Scientists are calling on African governments to prioritize efforts to deal with climate change as they warn it is spreading fast diseases and poverty on the continent. They are cautioning the situation will get worse in the years ahead as temperature of the earth continues to rise unabated because of pollution of the atmosphere, deforestation, rapid urbanization, and other human activities.

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