

NEWSLETTER



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"Science and technology are important to address the challenges we face globally...", His Excellency Herbert Beck, the German Ambassador to Namibia remarked at the SASSCAL Climate Science Exhibition



THE EXECUTIVE DIRECTOR'S DESK



Dr Jane Olwoch

SASSCAL Executive Director

While navigating into the Year 2021, I am pleased to attest that my spirit is elevated and refreshed with the direction SASSCAL is taking as well as the strategic developments taking place. While admitting that the work and the responsibility lying ahead of us as the organisation is huge, I am impressed to say that we have been able to tackle our set targets in many fronts impressively as a team across the national divide.

It is impressive to note that the long-awaited SGSP Integrated Water Resources Management is opening its doors and is currently in the pipeline. Admission to the SGSP (IWRM) will grant successful PHD level students the opportunity to undertake studies in a programme of excellence. Like all of SASSCAL's programmes, this Programme will take a regional focus in its enrolment and in its 1st year of implementation, 15 students will be enrolled. The SGSP-IWRM is a programme that is funded by the German Federal Ministry of Education and Research (BMBF). The Namibia University of Science and Technology (NUST) is the host of the programme while the International Centre for Water Resources and Global Change (ICWRGC) is the German based Partner.

Moreover, looking forward to SASSCAL 2.0 Research program's commencement after the SASSCAL Board approved 13 projects to be funded.

Also, the Green Hydrogen project that SASSCAL

coordinates in 13 Countries in SADC has increased SASSCAL's footprint in the region and strengthened SASSCAL's climate change mitigation efforts.

Signing the SASSCAL Treaty by Botswana has positioned SASSCAL in a transitional phase to transform into an international organisation. As the Treaty has now entered into force after being signed by 2/3 majority of Member States, all the restrictions posed by the 21 Company cease, and the guiding document is now the SASSCAL Treaty. The International organisation status gives SASSCAL access to funding opportunities in the international donor space.

Of note is the commitment of SASSCAL's member states towards the work and agenda SASSCAL is mandated. I want to boldly affirm that international co-operation, collaboration and partnerships is the answer to address the persisting enemy of sustainable development, namely climate change. If it is an admissible fact that the devastating effects of climate are shared almost equally across our borders, it must also be an admissible truth that co-operation, collaboration, and partnership across our territorial lines are key to sustainable development.

I am envisioning the adoption of a purely green economy not only becoming a global phenomenon, but an institutional level goal as well as the order of the day. We will be able to achieve this if we can bring everyone on board, from national level, institutional level as well as individual level. This therefore means SASSCAL and partners must cement and bolster stakeholder engagement efforts without exclusion of every important stakeholder to our mandate.

SASSCAL urges the scientific community from all disciplines to play an active role in helping set the tone and agenda for climate management. The world needs the truth on climate change, but there cannot be sunshine in the darkness. This therefore means that the world needs us more than anything, to invest our efforts and energies to research and capacity development, so that everyone can be eligible to make their own judgment on the gravity of the global change agenda. Without this, the effects of climate change will remain a myth and a science fiction.

GOVERNANCE ISSUES

Botswana signs into the SASSCAL Treaty

On the 24th of December 2020, Botswana, represented by the Minister of Environment, Natural Resources Conservation and Tourism, Honourable Philda Kereng, penned a signature into the SASSCAL Treaty pledging the nation's commitment to join the other SASSCAL Member States in the recognition of the work of SASSCAL and elevating the organisation to international status.

The SASSCAL Treaty was signed and brought into effect in September 2019 by other member states namely Namibia, Angola, South Africa, Zambia and Germany.

The affirmation of Botswana's commitment to the SASSCAL Treaty cements and solidifies the common purpose of the SASSCAL member states in the global fight against climate change as well as the development of sustainable interventions to management of mother earth's resources.

By attaining internationally recognised legal status, SASSCAL will be in a better position to work closely with other international organisations, gain access to donor funding streams, an instrumental resource for supporting the institution in the implementation of its projects and services.



From right to left:
Honourable, Philda Kereng,
the Minister of Environment,
Natural Resources
Conservation and Tourism,
Botswana and Dr Obakeng
Sethamo, Programme
Coordinator - Botswana
Node during the signing
of the Treaty in Gaborone,
Botswana.

Seated in the Centre is Hon. Philda Kereng-Minister of Environment, Natural Resources Conservation & Tourism, flanked by Dr Oduetse Koboto- Permanent Secretary in the Ministry of Environment Natural Resource Conservation & Tourism and Mrs Baitshapi Babusi-Hill- Ag. DPS –Environmental Affair (SASSCAL Board Member) . Standing (from left to right): Mr Radithupa Radithupa-Deputy Director, DMS, Mr Balisi Gopolang -Alternate Board Member, DMS, Mrs Dorcus Masisi – DMS, Dr Obakeng Sethamo – PC – Botswana Node & Mrs Thato Morule – CEO KCS (Far right).

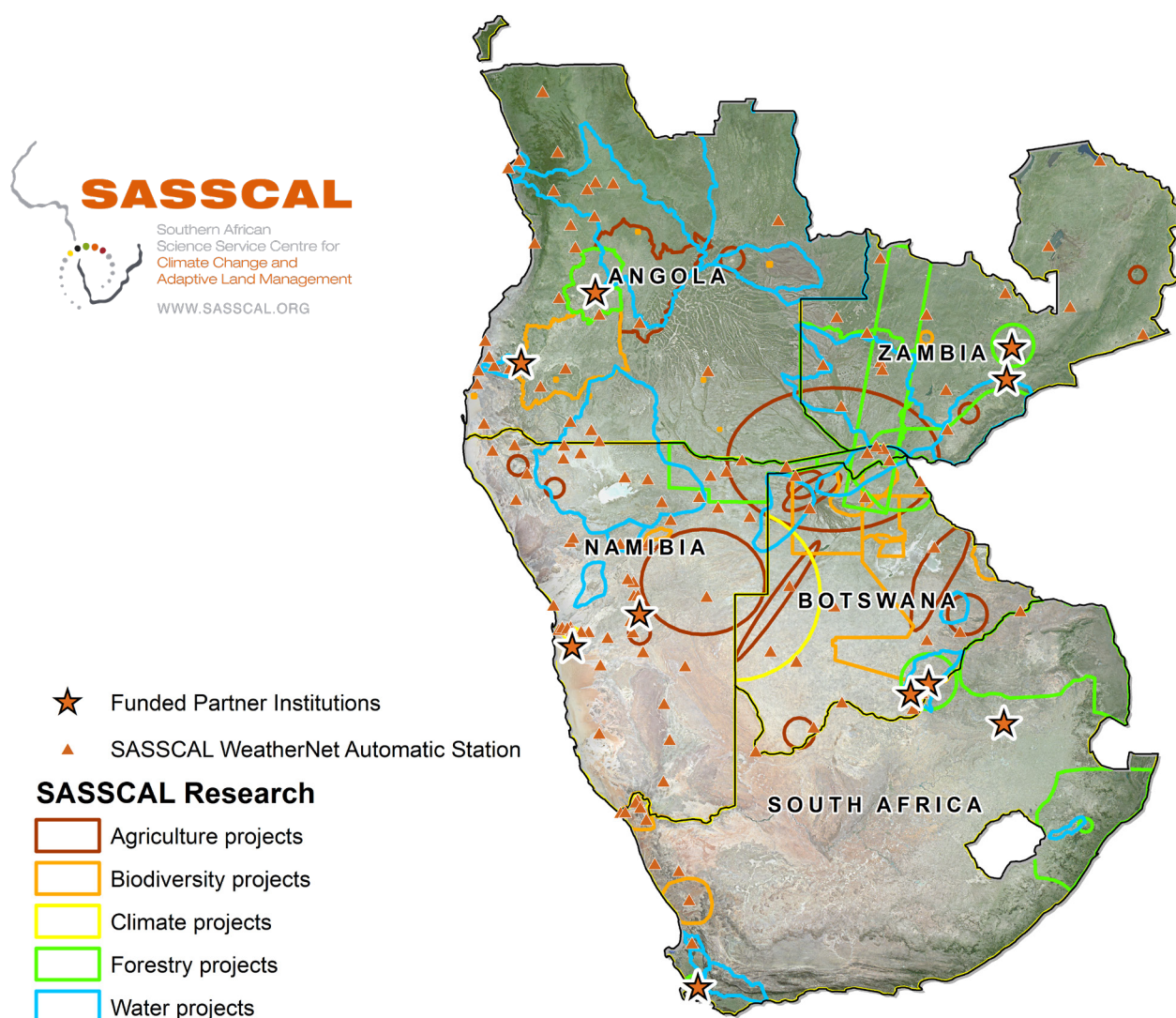


Thirteen Research Projects approved for funding under SASSCAL 2.0

The Governing Board of SASSCAL has unanimously approved thirteen research projects that will see them receiving funding to the total of Euro 10 million. The decision was passed during the month of November 2020 with the aim of advancing SASSCAL's cause in the continent.

The fund allocation has been sponsored by the German Federal Ministry of Education and Research

(BMBF), SASSCAL's Initial Funder. SASSCAL will fund the research projects under SASSCAL Research 2.0 which is a portfolio of projects enlisted and approved for implementation and execution by the organisation. The implementation of the research projects will be done through institutions of higher learning in SASSCAL's member countries over a period of 4 years.



STAKEHOLDER ENGAGEMENT OUTLOOK

Climate Science Exhibition Event ignites conversations on climate management

The SASSCAL Climate Science Exhibition Event a first of its own kind for SASSCAL, became a light in the dark tunnel and a trigger of critical conversations on climate change issues among the various stakeholders who attended the event physically and virtually. Through sponsorship by the German Embassy in Namibia, the event was organised by SASSCAL on the 3rd of December 2020 under the theme “From Knowledge to Action: Advancing Sustainable Climate Change Technologies for Adaptation”.

The main objective of the Climate Science Exhibition was to showcase existing climate change adaptation technologies, projects, inventions and experiments that have been developed for the communities, while inspiring advocacy for climate change solutions regionally and globally.

A total of twelve exhibitors from institutions across southern Africa took part. These exhibitors represented NGO's, Universities, the private sector, and other International Organizations. The online event was also attended by over 369 participants from several countries including SASSCAL member states. The event provided a platform for participants and exhibitors to engage on practical applications of climate change research in communities.

The exhibition was preceded by an insightful and engaging panel of discussion which brought together heads of relevant institutions and high-level representatives in the field of climate science technologies, under the theme “Leveraging technologies for Climate Change adaptation solutions” The event also received a blessing of high level delegates including H.E. Herbert Beck, the German Ambassador to Namibia, H.E. Jovelina Imberial e Costa, the Angola Ambassador to Namibia, H. E. Dr Batlang Comma Serema, and Botswana High Commissioner.

Speaking at the official opening of the event, H.E. Herbert Beck highlighted the importance of science and technology to address the challenges we face

globally, as well as Germany's commitment to fund such activities. He hailed SASSCAL's efforts as well as the impact of the science exhibition for providing a platform to connect exhibitors and interested parties on issues of sustainable climate change technologies for adaptation.



H.E. Herbert Beck, the German Ambassador to Namibia at the SASSCAL Climate Science Exhibition

In delivering her keynote address SASSCAL's Executive Director, Dr Jane Olwoch, affirmed SASSCAL's determined efforts in addressing global and regional environmental challenges, SASSCAL's historical background, research coordination and grant management experience, achievements and outlook. During her speech, Dr Olwoch also emphasised the importance of strong regional and international partnership, and technology transfer as key drivers to addressing of global challenges towards achieving our planet's sustainability.



Dr Jane Olwoch, SASSCAL ED delivers her keynote address



H.E. Dr Batlang Comma Serema, Botswana High Commissioner making an intervention about water issues in SADC



H.E. Jovelina Imberial e Costa, Angola Ambassador to Namibia at the Climate Science Exhibition

Forging ahead with Green Hydrogen Partnerships: Reflecting on Dr Stefan Kaufmann (MdB) visits to South Africa & Namibia:

Dr. Stefan Kaufmann is the Federal Commissioner for Green Hydrogen and Member of the German Bundestag (MdB). On the 11th to 14th of November 2020 he embarked on strategic stakeholder engagement visits to South Africa and Namibia from Germany. The purpose of the visits was to meet stakeholders from science, economy and politics to discuss the common interests of the three countries and develop first

ideas for joint events and projects as well as to set up partnerships concerning Green Hydrogen economy. Dr Kaufmann was accompanied by Dr Christoph Rövekamp, Head of Energy and Green Hydrogen Technologies Division at the German Federal Ministry of Education and Research (BMBF). He had privilege to meet up with high profile representatives from the Department of Science and Innovation (DSI), SASOL and Hydrogen South Africa (HySA) the institutions



Third from left: Dr Stefan Kaufmann, 5th from left: Dr Christoph Rövekamp and third from right, Dr Jane Olwoch, SASSCAL Executive Director with staff at HYSA and AfriPlasm in Cape Town, South Africa

which bear remarkable influence on the progress of hydrogen technology in the country.

While in South Africa, Dr Kaufmann also had an opportunity to hold a stakeholder engagement meeting with key institutional stakeholders who are the country's leaders in advocacy for green technologies and climate management. The stakeholder meeting was held under the theme "Forging cooperation on Green Hydrogen/Green Kerosene". Present were the representatives from CSIR, SASOL, GIZ, AfriPlasma, Zwelethu and WKN-Windcurrent.

Dr Kaufmann also visited Namibia, and held meetings with representatives from the Office of the President, Ministry of Mines and Energy, Ministry of Agriculture Water and Land Reform (MAWLR). The delegation also held a stakeholder engagement workshop with representatives from the Namibia Energy Institution, e-car Namibia, Namwater, GIZ, KfW, NamPower and Namibia University of Science and Technology under

the theme "Forging cooperation for sustainable desalinization".

In her opening remarks at the stakeholder meeting, Dr Kaufmann highlighted their intent of green hydrogen and desalination partnerships in Namibia.

The visit of Dr Kaufmann was a graceful event for the SASSCAL Regional Secretariat, where he formally handed over the H2Atlas-Africa grant certificate to SASSCAL's Executive Director, Dr Olwoch. During the certificate handing ceremony, Dr Kaufmann thanked SASSCAL for being a strategic partner in Southern Africa. He reiterated that the relationship between SASSCAL and BMBF has formed a strong cooperation. He recognised and applauded the role SASSCAL plays for Germany and the region. "Now we are moving to the next step, Green hydrogen, the 'oil of the future' and we have very big plans to work with Southern Africa and build a green hydrogen economy".

AUC Embarks on Virtual Engagement Meeting with SASSCAL

SASSCAL (Southern African Science Service Centre for Climate Change and Adaptive Land Management), the lead of the WeMAST (Wetland Monitoring and Assessment Service for Transboundary Basins in Southern Africa) consortium, met with the African Union (AU) delegation in February 2020, implementing the GMES and Africa Support Programme. GMES is jointly funded by the AU and the European Commission. The purpose of the milestone meeting was a follow-up on the midterm review in February and aimed on gauging progress on the development of the WeMAST service and adapting its work plan in line with setbacks created by the world-wide COVID-19 pandemic.

The meeting was held online due to current travel restrictions. SASSCAL was represented by Dr Jane Olwoch, the SASSCAL Executive Director, and her team of experts assigned to the WeMAST project, while the African Union delegation was headed by Dr Tidiane Ouattara, the Space Science Expert of the GMES and Africa Support Programme Management Unit and his team of scientific and administrative experts.

Despite setbacks that have been encountered as a result of the COVID-19 pandemic, in terms of travel

restrictions and mobility affecting WeMAST's progress on field work and engagement with local wetland communities, the WeMAST development team reported on good progress made on the development of the WeMAST portal. Challenges and opportunities regarding the progress and delays were discussed in an open and constructive dialogue, resulting in an agreement of an updated workplan, budget and log frame. Furthermore, the conditions of a private sector engagement were clarified, allowing WeMAST to have stronger collaboration with the private sector in the development of the geoportal.

With the strong support of the AU delegation and its partner consortium consisting of leading earth observation experts from the NRSC (National Remote Sensing Centre, Zambia) and SANSA (South African National Space Agency, South Africa) and expertise from key universities in the region comprising the University of Botswana (UB), Cape Peninsula University of Technology (CPUT), Midlands State University (MSU), University of Western Cape (UWC) and the University of Zambia (UNZA), SASSCAL is confident that the development of the WeMAST service will remain on track.

INTERNATIONAL COLLABORATION & PARTNERSHIPS

H2Atlas-Africa Project Kicks-Off on a higher note

The H2Atlas –Africa Project launch on the 18th of August 2020 was welcomed and embraced by all members and partners with a high spirit setting the tone for the strategic direction of the project.

The H2Atlas-Africa project is a historic and unique cooperation initiative between the SADC, and Germany with the aim to strengthen the multi-lateral cooperation towards sustainable development. The aim of the H2Atlas-Africa project is to support sustainable and economic development in Africa through a viable hydrogen economy. The project explores the potential of Green Hydrogen production from the vast renewable energy sources within the African continent.

The project launch was attended by participants drawn from all of the 12 project implementing Southern African Development Community (SADC) countries as well as the funding country, Germany. The event was also attended by the hosts, SASSCAL's Governing Board Chair, Mrs Jane Chinkusu and the Vice Board Chair Prof Gabriel Luis Miguel.

Speaking at the event, Dr Röevkamp, Head of Energy and Green Hydrogen Technologies Division at the German Federal Ministry of Education and Research, stated that the sustainable production of hydrogen cannot be attained by one country, thus a need for global partnership which brought together

30 countries to implement the project. He further explained that the Green Hydrogen is a “big game-changer in the energy market” which is fundamental for future economic recovery package as highlighted in the European Green Deal.

SASSCAL's Governing Board Vice Chair, Prof GL Miguel hailed the SADC region support and openness towards the green economy as a key driver for sustainable development. This was affirmed during the 40th Ordinary Summit of Head of States and Governments of SADC, held in August 2020. In recognising the SADC's continued commitment towards regional integration, Prof Miguel advocated for joint partnerships and solidarity in research to find solutions for sustainable development and regional integration and cooperation.

In sharing his insights, Dr Solomon Agbo, the H2Atlas-Africa Project Coordinator stressed that the whole idea of migration to the green hydrogen economy is a “great movement” towards sustainable energy and sustainable development. The green hydrogen economy will play a pivotal role in addressing climate change challenges and ensuring a green sustainable future. SASSCAL Executive Director, Dr Olwoch added that this “great movement” is our new way of life and a lifetime commitment that has great economic and environmental benefits.



From the top left: SASSCAL Deputy Board chair – Prof Gabriel Luis Miguel, Head of Energy and Green Hydrogen Technologies Division at the German Federal Ministry of Education and Research – Dr Christoph Röevkamp, SACREEE Executive Director – Mr Kuda Ndhlukula, SASSCAL Executive Director – Dr Jane Olwoch, and H2Atlas-Africa Project Coordinator – Dr Solomon Agbo.

H2Atlas-Africa National Team in Southern Africa hits the ground running

H2Atlas-Africa project in Southern Africa has started, with the region's appointed National Team from SADC participating member states on the driver's seat. The project was piloted with a National Team's Engagement Workshop. The main objective of the workshop was to provide an overview of the H2Atlas in focused groups and discuss the modalities for National Data that will be collected for the production of the Atlas. The event was attended by SASSCAL, SACREEE and the respective identified national team members from member countries.

In her opening remarks, challenging the delegates during the National Team's Engagement Workshop, Dr Jane M. Olwoch, and SASSCAL's Executive Director emphasized that "Green Hydrogen project isn't a project

like others, it is a programme as we seek emission-free and sustained future as we transition from fossil fuel to renewable energy". She also unleashed the overview of H2Atlas-Africa Project and further highlighted its overall structure, capacity development component, key facts and considerations and the role of national and regional teams.

Similarly, Mr Kudakwashe Ndhlukula, Executive Director of SACREEE gave a detailed presentation on the required input data for the green hydrogen Atlas. He further emphasised the importance of verifiable input data that reflects the real situation specific to each country in the region. On an impressive note the entire team displayed readiness to take the project forward.

Green Hydrogen Conversations bring together stakeholders in Zambia

The Atlas of Green Hydrogen Potentials in Africa (H2 Atlas-Africa) Project, key stakeholders in the Energy Sector in Zambia met for half a day Inception Meeting at the Cresta Golfview Hotel in Lusaka on 10th December 2021 to be familiarised with the project, discussed opportunities that green hydrogen presents for Zambia and the region and forged a data collection strategy required for the development of the Atlas.

Twenty-seven participants from the Centre for Energy, Environment and Engineering Zambia; Copperbelt University, Energy Regulation Board, Forestry Department, Lunsemfwa Hydro Power Company Limited; Ministry of Energy, Ministry of Higher Education; National Remote Sensing Centre; Road Development Agency; Rural Electrification Authority; Southern African Science Service Centre for Climate Change and Adaptive Land Management (SASSCAL); University of Zambia, Zambia Environmental Management Agency and ZESCO Limited attended the event.

The SASSCAL Executive Director, Dr. Jane Olwoch, presenting as the keynote speaker of the event, had a privilege and opportunity to provide attendees an overview of the H2 Atlas-Africa Project unpacking its background and objectives, the role of SASSCAL and the importance of green hydrogen and the endeavor to produce an Atlas for green hydrogen potential for Southern Africa and Africa in general which, currently, is driven and made necessary by the energy requirements and climate change impacts in Southern Africa.

In attendance was also the Director of Science and Technology in the Ministry of Higher Education and the SASSCAL Board Chairperson, Mrs. Jane Mubanga Chinkusu. Mrs. Chinkusu who acknowledged how important the project outcomes are for Zambia and the region. She intimated that the extension of SASSCAL's efforts into the renewable energy arena through the H2Atlas-Africa Project was a step in the right direction and thanked the German Government, particularly the German Federal Ministry of Education and Research for funding the project.

The stakeholders benefited from detailed presentations and insights shared on the objectives of the project, the data collection process and methodologies, the structure of the Energy Sector in Zambia, legal frameworks, policies and institutional arrangements, the generation mix, public commitment to renewable energy technologies in Zambia and past research relevant to the project were presented. Further discussions covered the current energy situation in Zambia, clarifying ambiguities, proposals of potential data sources and the way forward.

At the end of the workshop there was consensus among participants that the project is very important for the country considering the ongoing national energy challenges and that it will provide information that will inform government plans, strategies and guide the development of new renewable energy projects. However, some participants were concerned and asked for clarity on what will be the ultimate results of the

project because the compilation of data and generation of the Atlas without implementing tangible projects would not be useful. It was clarified that the data would serve as an important resource for the Government of

Zambia and Africa as a whole, and the private sector by serving as a decision support tool for investment and development of green hydrogen projects in Zambia and Africa.



Highlights of the event - the SASSCAL Executive Director, Dr. Jane Olwoch, making her opening presentation; The Director of Science and Technology in the Ministry of Higher Education and SASSCAL Board Chairperson making her opening remarks, Dr. Martin Mbewe the National Programme Coordinator presenting the objectives of the project, expectation and roles of the Technical Team, Mr. Arnold Milner Simwaba, the Director of Energy in the Ministry of Energy, presenting on the power generation mix and national commitments to renewable energy technologies, Dr. Katundu Imasiku the H2 Atlas – Africa Project Energy Expert responding to participant questions and part of the participants that attended the event

SASSCAL and ZEMA Sign an MoU to initiate a long-term cooperation

Southern African Science Service Centre for Climate Change and Adaptive Land Management (SASSCAL) and Zambia Environmental Management Agency (ZEMA) signed a memorandum of understanding (MoU) on Wednesday, 4 November 2020.

The MoU is based on mutual areas of cooperation and aimed to establish a long-term relationship to achieve environmental sustainability and to improve livelihoods in the region.

During the signing ceremony, the Chief Executive Officer of ZEMA, Mr. John Msimuko, highlighted the importance of the partnership to enhance research activities in the region. “We see this agreement as a very important milestone, because through this collaboration we will be able to enhance the research capacity of ZEMA and other institutions in the area of climate change, adaptive land use and other related subjects”, said Mr. Msimuko.

Dr Olwoch, SASSCAL’s Executive Director, reiterated the importance of sustainable cooperation to successfully address current global challenges such as climate change and other long-term environmental issues. “Cooperation in science and research has become a mainstream trend of social development which promotes resource sharing, help partners complement each other and improve scientific research efficiency. This MoU provides opportunity for our two institutions to work together in the generation and use of data and information in the provision of scientific services and capacity development” added Dr Olwoch.

Through this MoU both parties will develop and monitor joint initiatives in the areas of provision of scientific services including research development, capacity building and provision and development of services and data products.



SASSCAL Executive Director, Dr Jane Olwoch and Chief Executive Officer of ZEMA, Mr. John Msimuko pictured during the signing of the MoU

SASSCAL and WASCAL Renew their Cooperation

Southern African Science Service Centre for Climate Change and Adaptive Land Management (SASSCAL) and West African Science Service Centre on Climate Change and Adapted Land Use (WASCAL) have renewed their long-term cooperation through signing a memorandum of understanding (MoU) in September 2020. The MoU is based on mutual areas of support and aimed to establish a long-term relationship for developing complementary research, institutional development and capacity development. Both institutions have enjoyed long-term funding of their core programmes from the German Federal Ministry of Education and Research (BMBF).

SASSCAL's mission is to strengthen the regional capacity to generate and use scientific knowledge

products and services for decision making on climate change and adaptive land management through research management, human capital development and services provision. WASCAL's mission is to provide information and knowledge at the local, national, and regional levels to its West African member countries to cope with the adverse impacts of climate change and devise integrated mid and long-term options to build up resilient and productive socio-ecological landscapes through capacity building and environmental services in West Africa. Under this MoU both parties will develop and monitor joint initiatives in the areas of research, capacity development and service provision in the thematic fields of climate services, food security, water security, sustainable renewable energy, biodiversity conservation and sustainable forests and woodlands.

SASSCAL and NUST Sign an MoU for the establishment of the SGSP (IWRM) funded by BMBF

SASSCAL and the Namibia University of Science and Technology (NUST) signed a Memorandum of Understanding (MoU) to establish a new SASSCAL Graduate Studies Programme in Integrated Water Resources Management (SGSP-IWRM) at NUST with funding from the German Government through the Federal Ministry of Education and Research (BMBF). This programme was conceived in response to a regional need for adequate human resources in water sciences particularly in SASSCAL countries and SADC in general, which was identified during the Needs Assessment Analysis in the water sector conducted by SASSCAL in 2016/17.

The MOU provides the basis for the collaboration between SASSCAL and NUST to implement the SGSP in

IWRM. The goals of the SGSP in IWRM are in three-fold. First, is to establish an innovative and excellent regional collaborative PhD Education programme in IWRM at NUST. Second is to develop tailor-made short courses for decision makers and industry, while the third is to develop a new Curriculum for a new regional PhD qualification in IWRM to be hosted by NUST. The SGSP in IWRM will take a regional focus in its implementation and will identify and admit the best calibre of students from the SASSCAL member states. The establishment of the SGSP-IWRM in Namibia is the first step towards the establishment of SASSCAL's Centres of Excellence envisioned for all SASSCAL Member States.

RESEARCH AND CAPACITY DEVELOPMENT NEWS

5th AfriAlliance Innovation Bridge Conference

The 5th AfriAlliance Innovation Bridge Event (IBE) on “Climate proof IWRM” was held on Thursday, the 29th of October 2020. The online conference was hosted as part of the 21st WaterNet Symposium. The main objective of AfriAlliance Innovation Bridge Events (IBE) was to serve as a networking platform for universities, science service centres and organizations in water and climate change with potential collaborators, funders and investors to facilitate commercialisation, awareness and better uptake of their innovations.

The conference addressed social innovation and its various dimensions gathering diverse stakeholders across all levels of government and sectors of climate, water, environment, sustainability and innovation. The session consisted of technology exhibitions, and a follow up plenary discussion on fostering technological innovations for further development, uptake and commercialization. Dr Jane Olwoch, SASSCAL's Executive Director introduced the Wetland Monitoring and Assessment Service for Transboundary Basins in Southern Africa (WeMAST) to the conference visitors. WeMAST is an initiative of the GMES and Africa Support

Programme, and is funded jointly by the African Union and the European Commission. The role of WeMAST initiative is to design and develop an integrated platform for wetland assessment and monitoring that will support sustainable management of selected transboundary river basins in southern Africa. The platform to be developed will integrate existing data products and tools to implement a sustainable wetland management system.

According to Dr Olwoch importance of wetlands, as they are highly productive and biologically diverse ecosystems that contribute significantly to livelihood and economic development. However, sustainability of wetlands in southern Africa are threatened from human activities and natural phenomena such as pollution, over utilization, human settlement, land use and Climate Change. WeMAST products and services i.e., inventory of wetlands, flood mapping, vegetation dynamics, etc. will support sustainable Wetland Assessment and Monitoring Services to promote policy implementation and management practices in SADC (Southern African Development Community).

SASSCAL funded students had an opportunity to present their research in the following areas.

- Tatenda Dzurume (Master) (UWC) – Use of multispectral satellite data to assess impacts of land management practices on wetlands in the Limpopo Trans-frontier River Basin, South Africa
- Siyamthanda Gxokwe (PhD) (UWC) – Spatial characterization and mapping of coexisting wetland types in the Limpopo Transboundary River Basin, South Africa
- Mulema Mataa (Master) (UNZA) – Assessment of river – groundwater interactions in the Barotse Floodplains
- Botlhe Matlhodi (PhD) (UB) – Modelling past and future land use land cover dynamics in the Gaborone dam catchment, upper Limpopo river basin using CA-Markov model
- Tatenda Musasa (Master) (MSU) – Assessing the sustainability of land uses in Driefontein and Intunjambili wetlands, Zimbabwe
- Keto Ngwenya (Master) (MSU) – Stakeholders' knowledge and use of remote sensed data in the assessment and monitoring of Driefontein and Intunjambili wetlands' ecological conditions
- Victoria Ngwenya (Master) (UNZA) – Effects of flooding regimes on macroinvertebrates communities in the Barotse Floodplains
- Kgabo Humphrey Thamaga (PhD) (UWC) –

Impacts of land use land cover change on wetland productivity and hydrological systems

Presentations were followed by active and constructive discussions aimed to reach more clarity and supporting students in their future work. The audience

commented the students on their high quality and informative presentations. The special session attracted a considerable attendance from different sectors, demonstrating a respectable global footprint and underlining the relevance of the project towards wetlands monitoring and assessment.

21st WaterNet/WARFSA/GWPSA Symposium

SASSCAL was well-represented at the 21st WaterNet / WARFSA/GWPSA Symposium to create awareness of initiatives such as the SASSCAL Graduate Studies Programme in 'Integrated Water Resources Management', the SASSCAL WeatherNet, and other SASSCAL activities like the SASSCAL Dam and Reservoir Atlas, and WeMAST (Wetland Monitoring and Assessment Service for Transboundary Basins in Southern Africa). WeMAST hosted a special session

on its capacity development given its strong capacity development component that is being facilitated by the University partners of the consortium. This capacity development pillar aims to ensure that the huge potential of earth observation technology and techniques are fully recognised and explored by decision makers for the sustainable management of wetlands in southern Africa.

E-symposium on Climatological, Meteorological and Environmental factors in the COVID-19 pandemic

The international virtual symposium on Climatological, Meteorological and Environmental factors in the COVID-19 pandemic was held from 4 to 6 August 2020. This e-symposium was hosted by the World Meteorological Organization (WMO) and its international scientific partners which include Future Earth.

It was officially opened by the South African Minister of Higher Education, Science and Innovation, Dr Blade Nzimande. In remarks delivered on his behalf by Mr Daan du Toit, the Deputy Director-General of the South African Department of Science and Innovation, Dr Nzimande highlighted that the sharing of experiences, expertise and open access data is fundamental to addressing the challenges of the pandemic.

High-level speakers at the opening ceremony included Prof Petteri Taalas - Secretary-General of WMO, Dr Gilberto Câmara - Secretary-General for Group on Earth Observation (GEO) and Dr Soumya Swaminathan - Chief Scientist for the World Health Organisation (WHO). These key speakers discussed the current impact of the pandemic to both livelihoods and economies and also considered future impacts. They advocated for open access data sources, transparency and reproducibility as pivotal in addressing global challenges. These key

speakers also clamoured for concrete actions from the event's deliberations and enhanced international co-operation to bolster global solidarity.

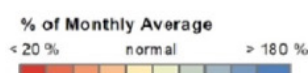
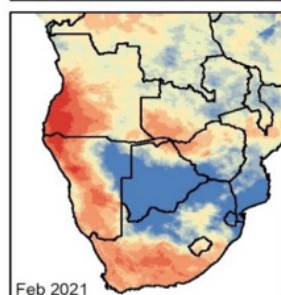
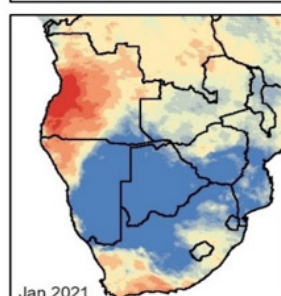
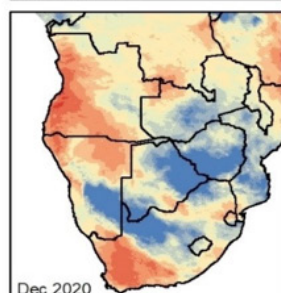
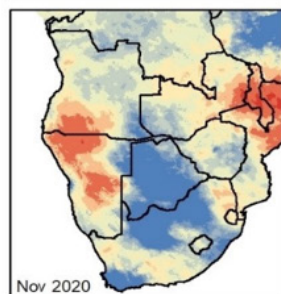
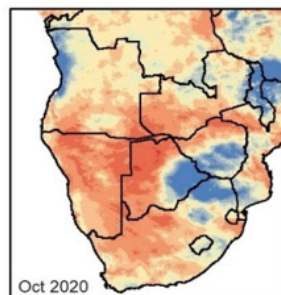
The SASSCAL Executive Director Dr Jane M. Olwoch, a steering committee member of Future Earth's Regional Office for Southern Africa (FEROSA) and a member of the symposium's scientific committee chaired the first keynote session of the opening ceremony. The theme of this session was "Understanding the Dynamics". Dr Olwoch in introducing the session shared two quotes to highlight the importance of the e-symposium and encouraged the scientific community to 'search' and inform response plans and decision making.

Dr Aaron Bernstein – Interim Director of the Centre for Climate, Health, and the Global Environment – Harvard University and Dr Rachel Lowe – London School of Hygiene, emphasized the need for people to rethink about how they engage with nature and the interconnectivity of systems. They also advocated for the protection of nature which would in-turn protect human lives and livelihoods.

The e-symposium was attended by over 600 participants from 63 countries

CLIMATE & ENVIRONMENT BRIEF

Mid-Season Rainfall Overview



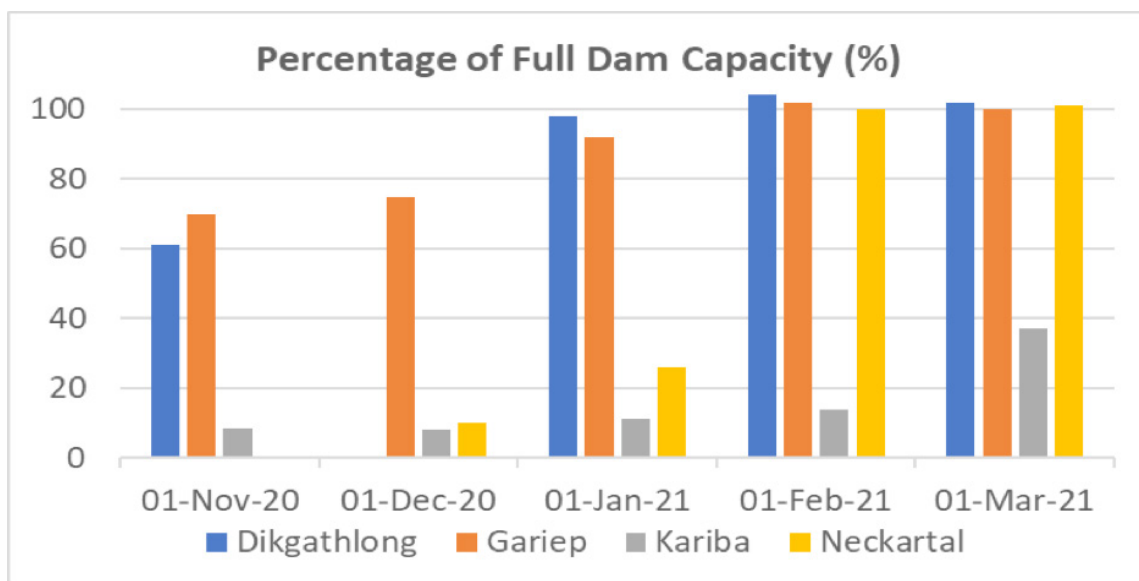
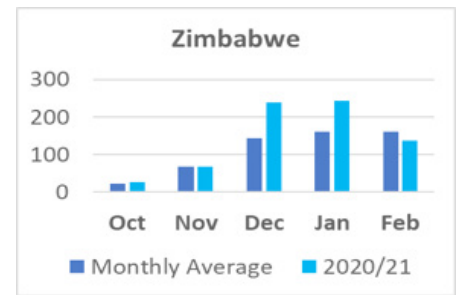
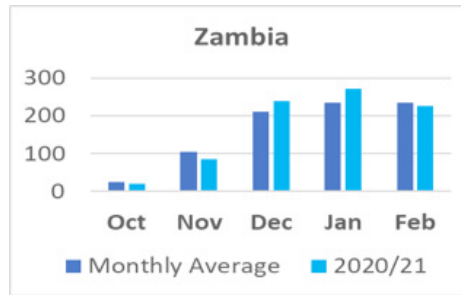
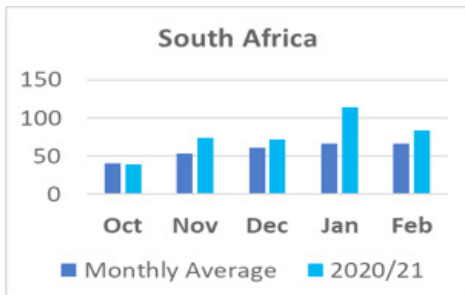
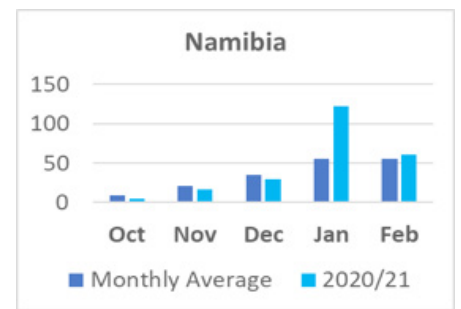
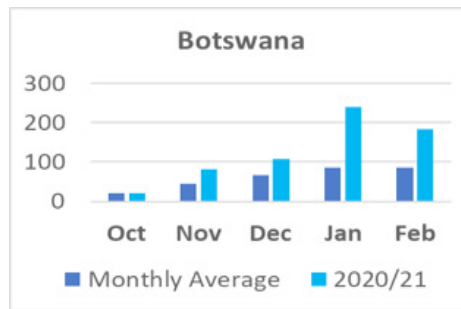
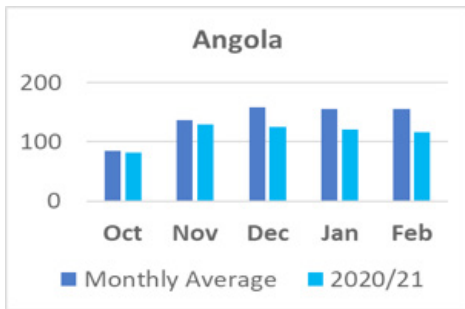
The 24th Southern African Regional Climate Outlook Forum (SARCOF 24, 27-28 August 2020) of regional climate Experts, last year in September 2020, forecasted that there will be normal to-above-normal rainfall across most of the Southern African Development Community (SADC) between October 2020 and March 2021. For the SASSCAL countries, normal to above normal rainfall was predicted for most of southern Africa for the period from October to December 2020, with normal to below normal rainfall for north-western Angola and north-eastern Zambia, while for the period from January to March 2021, normal to above normal rainfall was predicted for most of southern Africa.

An assessment of CHIRPS 2.0 precipitation data for the 2020/2021 rainfall season to date (15 March 2021), confirms that large parts of southern Africa have experienced above normal rainfall, with the highest precipitation for most of southern Africa in January (see Figure 1), while Angola's average monthly rainfall shows below average precipitation for most of the rainy season. Other larger parts of Namibia and South Africa had below normal rainfall in February, the average rainfall remained above normal, while Zambia and Zimbabwe, the February rainfall was below normal (Figure 1b).

The above normal rainfall is also reflected in the presented rainfall pattern and dam levels in the region (Figure 1a, b). Dams such as the Dikgathlong Dam (Botswana, 7,810 km²), Gariep Dam (South Africa, 665,000 km²) and the Neckartal Dam (Namibia, 45,365 km²) were at full supply capacity (Figure 2), with the latter for the first time since put in operation in 2019. On the other hand, the Kariba Dam (Zambia, 663,000 km²) shows a tendency to fill up but with a delayed response from the rainfall in January 2021 in the upper and central Zambezi River subbasins.

The regional analysis also confirms the below rainfall situation in south and central Angola, and parts of north and eastern Namibia which is a risk to agricultural production in the Cunene region, also highlighted by the World Food Programme (2021). With no further rains in the ongoing rainy season the drought in the region will be persisting and residents will continue to depend on drought relief food.

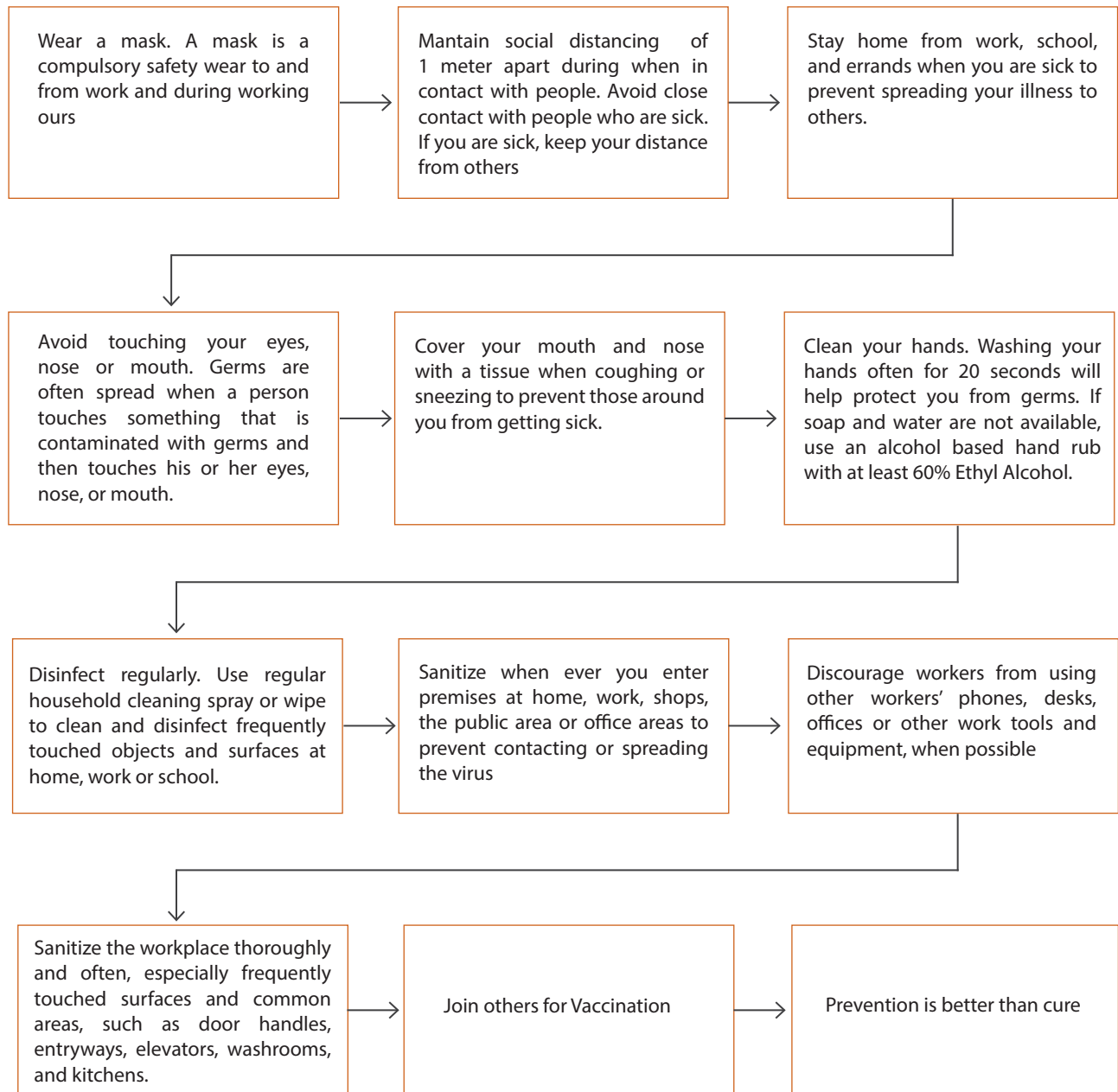
Spatial Monthly Rainfall (mm) for 2020/21 versus Monthly Average (1981-2021)



STAFF WELLNESS UPDATES

Basic Covid # 19 Precautions

SASSCAL has put forth the following step by step guidelines to health and safety to ensure our people and visitors are all safe from acquiring the Corona Virus Disease from our Work places.



References and Sources:

1. SADC. 2020. [Statement from the twenty-fourth annual southern Africa Regional Climate Outlook Forum \(SARCOF 24 held virtually 27-28 August 2020\)](#)
2. CHC CHIRPS 2.0 precipitation data from 1981 to 2021.
3. Zambezi River Authority, Botswana Water Utilities Corporation, South African Department of Water, Namibia Water Corporation for full dam capacities
4. WFP Rainy Season Monitoring Angola May 11, 2021





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