



国际气候与环境科学中心
International Center for Climate and Environment Sciences



Annual Report of ICCES

Center of Excellence for
Climate and Environment Sciences

(2018.4-2019.3)

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OUTLINE



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I. ICCES Overview

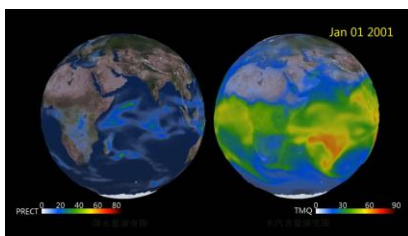


- ICCES was founded in 1991, and committed to solving the key scientific problems related with global climate and environmental changes and focuses on researches on earth system model development, climate and environmental disaster prediction, and the theoretical development and application of natural cybernetics.
- Certificated as CoE of COMSATS (Commission on Science and Technology for Sustainable Development in the South) since 1995
- Secretariat of CAS-TWAS-WMO forum on Climate Science since 2000
- 2013, ICCES was selected as one of the **5 CAS-TWAS CoEs**, with focus on Climate and Environment Sciences

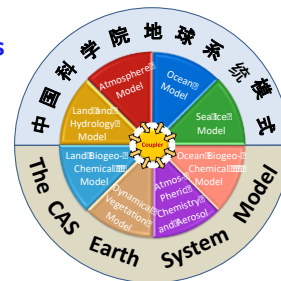


2. Highlights of the Progress

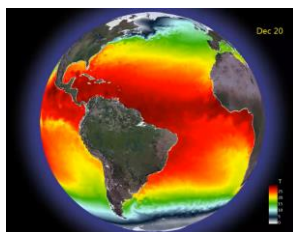
1) CAS-Earth System Model Development & Applications



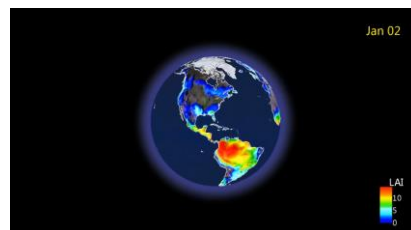
Precipitable Water



Leaf Area Index

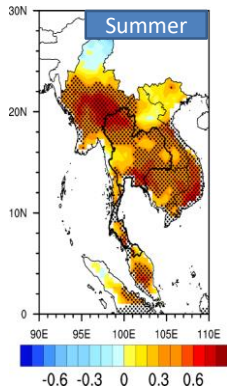


Sea Surface Temperature



2. Highlights of the Progress

Application of CAS Earth System Model for climate studies over B&R countries



Seasonal prediction of Summer hot-day number over Indo-China Peninsular

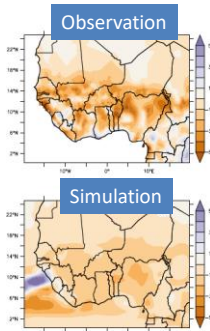
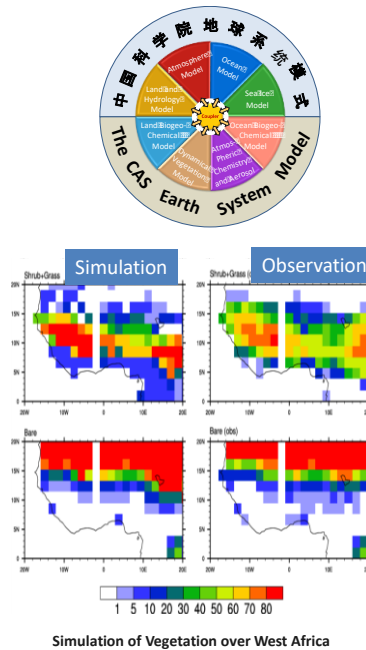


Fig. 8 Composite anomaly of mean JAS precipitation (mm) for positive MEI in a CRU observation and IAP-AGCM4.1 simulation

M.O.Adenlyi, Z. Lin et al., Evaluation of the performance of IAP-AGCM4.1 in simulating the climate of West Africa, TAC, 2018.



2. Highlights of the Progress



2) Organize International Conference on climate and environmental sciences

➤ 17th CAS-TWAS-WMO Forum on Climate Science

The 17th CTWF International Symposium with theme on "Ecological Hydrology and Climate Change" (Sep.17-19, 2018 Beijing, China)



Over 80 participants, 42 overseas representatives came from 20 countries including Australia, USA, Pakistan, Bangladesh, Egypt, Ghana, Kazakhstan, Nigeria, Sri Lanka, Mali, Togo and Morocco, etc.

➤ The 1st International Conference on Geography & Geoinformatics for Sustainable Development (ICGS)

- jointly organized Srinakharinwirot University, Thailand during July 19-20, 2018 in Bangkok, Thailand
- Themes: "climate change", "geographic information technology", "natural resources and environment" and "social economy"
- More than 40 professionals from various countries including China, Thailand, Netherlands, Japan, India, Botswana, Sri Lanka, Indonesia, South Africa and other nine countries



3. Collaborations with COMSATS CoEs



1) National Research Center (NRC, Egypt)



Visited National Research Center (NRC, Egypt) for Preliminary Inauguration of the New Climate Change Centre (January, 2019)



- Participated the International Workshop for “Climate Change between Present and Future Scenarios.” (Cairo, January 2019). Pro. Zhaohui LIN delivered a speech in the opening ceremony, and keynote speeches on CAS-Earth System model and its applications in the workshop

2) Kazakhstan-Al-Farabi National University (Kazakhstan)



Visited Kazakhstan and signed MoU with Kazakhstan-Al-Farabi National University in June 2018. Meeting and discussion with Prof. Tlekkabul Ramazanov, and Prof. Vitaly Salnikov

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3. Collaborations with COMSATS CoEs



3) National Mathematical Centre, Nigeria



Visited National Mathematical Centre, Nigeria, met with Prof. Stephen Onah, Director of NMC and discussed the cooperation between



- Participated the International Conference on “Mathematical Modeling of Environmental Pollution” (Abuja, Nigeria, December 2018). Prof. Xiaodong Zeng delivered plenary talk of “Development of CAS-ESM and its Application in Global Climate and Environment Simulation”

4) Sri Lanka (University of Ruhuna, China-Sri Lankan joint center)



Meeting Ambassador Dr. Karunasena Kodituwakku at his residence(July, 2018)



Senior Professor Mohan De Silva, chairman of university Grant commission, and delegation from University of Ruhuna visited ICCES in November 2018

4. Activities related to South-South Cooperation



Capacity Building for young scientists from developing countries, with focus on climate and environmental sciences

- ❑ **ICCES-COMSATST Joint training workshop: “Land-hydrological Processes Under Changing Climate” (Sep.20-21, 2018 Beijing, China), proudly supported by MoST and CAS**



- ❑ **International Training Workshop on “Climate Change Impact and Adaptation for Sustainable Development” on July, 2018 Bangkok, Thailand**



About 40 junior research scientists and PhD students attended the workshop, mostly from Thailand

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5. Programs for achieving SDGs

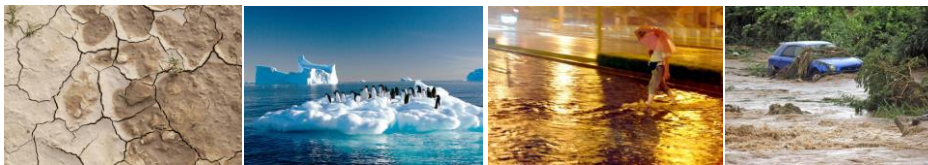


DBAR Program

DBAR: Digital Belt and Road Science Program for Global Sustainable Development



Disaster prediction and early Warning System:
Short-term and seasonal prediction of climate disasters such as Drought, Rainstorm, Flood, Extreme weather, the rising temperature etc.



“Digital Belt and Road” (DBAR) Program was launched to facilitate Earth observation and “Big Earth Data” in the Belt and Road region. DBAR has received support from more than 20 international organizations and countries along the Belt and Road. DBAR is bringing new scientific collaboration opportunities for regional and global partners to promote the construction of Earth observation systems and data sharing, and researching the key issues of United Nation’s sustainable development goals (SDGs).

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6. Future Programs



COMSATS CENTRE FOR CLIMATE AND SUSTAINABILITY (C3S)

- Create a network of **COMSATS Centre for Climate and Sustainability (C3S)**.
- Enhance scientific knowledge of the South for climate action.
- Assess impacts of environmental and climatic variability on livelihoods and environment.
- Promote regional and global partnerships for climate action and sustainability.

The capacity building project proposal, entitled “Institutional Strengthening of COMSATS Centre for Climate & Sustainability”, has been submitted to the Chinese Ambassador to Pakistan.

- One-year capacity building program on **Climate & Sustainability, with budget** shared by Chinese government, Comsats Hqrs and host country of CCCS.
- Implemented by **COMSATS, ICCES, and Qingdao Institute of Bioenergy and Bioprocess Technology**
- One event in China, another in outside country

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6. Future Programs



Working with the ANSO Alliance of International Science Organization in the Belt and Road Region (ANSO)



Inauguration meeting held Nov. 4, 2018; President Xi Jinping sent a congratulatory letter to the launch ceremony

- **Focusing on tackling major scientific challenges such as ecological resources, [climate change](#), [environmental protection](#) and public health.**
- **To provide consultation reports to the governments and policymakers of the countries within the Belt and Road initiative (BRI) with scientific advice.**
- **To train young scientists and grant awards to promote cooperation among scientists and scientific institutions.**

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2019 CTWF and Training activities

18th CTWF International Symposium on
Aerosol and Climate Change: Observations, Modeling & Interactions

July 15-17, 2019 Beijing, China

Themes

- Aerosol observations
- Aerosol representation and modelling in ESMs
- Aerosol-climate interactions

Important Dates

- On-line Registration: April 30
- Abstract Submission: May 5
- Abstract Acceptance: May 20

International Training Workshop on
Atmospheric Aerosol: Observation, Modelling and Impact

July 18-20, 2019 Beijing, China

Themes

- Aerosol observation: In situ and satellite observation and analysis
- Aerosol modelling: simulation and prediction of atmospheric aerosols
- Aerosol Impact

Important Dates

- On-line Registration: April 30
- Abstract Submission: May 1
- Abstract Acceptance: May 20

Welcome to join us!

Thank you!

Prof. Dr. Zhaohui Lin

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