

Space Applications and Environmental Science Laboratory (SPAEL)



A Report of the Climate System Analysis Group and Space Applications and Environmental Science Laboratory (CSAG-SPAEL) Training Workshop on Climate Modelling held from 15th – 22nd, February 2010 at the Institute of Ecology and Environmental Studies, Obafemi Awolowo University (OAU), Ile-Ife, Nigeria.

Introduction

The Institute of Ecology and Environmental Studies (IEES) in Obafemi Awolowo University (OAU) Nigeria, in collaboration with the Climate System Analysis Group (CSAG), University of Cape Town (South Africa), organized the first CSAG-IEES Workshop February 15 – 22, 2010 at the IEES Climate Modelling Laboratory in OAU, Nigeria. The theme of the workshop was "climate change information and its applications for sustainable development in Nigeria". The goal of the workshop was to initiate a capacity building program in Nigeria in the area of climate modelling. This is a critical area where expertise is currently not available in Nigeria.

Attendance

There were twenty two (22) participants in attendance. They included scientists, postgraduate students and researchers from Universities/Research Institutes, as well as staff of Federal and State Ministries, Departments and Agencies (MDAs) Agency (NIMASA), . The participants came from various parts of the country and with diverse academic background, e.g. Geography, Atmospheric Physics, Mathematics, Computer Science, Agriculture, Engineering, and Environmental Sciences (see Table 1 for list of participants).

Lectures and Practicals

There were 10 lectures and 9 practical sessions in the 5-day workshop (Table 2). The delegates from CSAG were the lecturers and practical demonstrators (Figure 2). They were assisted by the staff of the Institute of Ecology and Environmental Studies (OAU). The first day focused on global climate modelling; second day was devoted to statistical downscaling; third day was centred on dynamical downscaling; while the fourth day was on crop modelling. The fifth day was utilized for the presentation of the group projects by the participants (see Table 3 and Figure 4) and workshop evaluation. The participants contributed well in the



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discussions and asked questions that demonstrated their understanding of the lectures. The workshop was a big success, being the first of its kind in the country. The participants commended the organisers for the quality of the facilities and facilitation, the relevance of the materials, as well as the experience and skills of the lecturers. Most participants hoped that the workshop would be the beginning of a new era in Climate Modelling in Nigeria, because they benefited immensely and were looking forward to the second stage of the training next year (2011).

The Coordinator of Climate Modelling Unit of the Institute (Prof. Ayobami T. Salami) and the leader of CSAG delegates (Dr B. J. Abiodun) informed the participants that efforts would be made to ensure that the training program is institutionalized as a yearly event. The plan is that next year workshop would be for two weeks; the first week to cover basics and second week to learn advanced modelling techniques.

The Training Workshop at Ile-Ife was wrapped up with a trip to Erin-Ijesha Water Falls on Saturday, February 21, 2010 with all the CSAG delegates and the participants in attendance (Figure 5). The team arrived at the tourist centre at about 10.20*am* local time. The Water Falls according to the guide was discovered about two centuries ago by a group of brave hunters who perceived the falls as another god. The team moved round the different stages of the Water Falls, relaxed and departed at about 12.30*pm* local time.

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Table 1: List of Registered Participants at the Workshop

S/ N	Name	Contact Address	E-mail Address	Mobile Phone Number
1	Mr. <u>Adefisan</u> <u>Elijah</u> <u>Adesanya</u>	Meteorology Dept., Federal University of Technology <u>Akure</u> (FUTA), Ondo State	adefisanae@yahoo.ie	+234 (0) 8060228778
2	Mr. <u>Ebeiyamba</u> <u>Okon</u> <u>Ekoo</u>	African Regional Centre for Space Science and Technology Education-English,	okon4goodnews@yahoo.com	+234 (0) 8035967162
3	Mr. <u>Ogunyemi</u> <u>O.</u> <u>Akinsola</u>	Nigerian <u>Meteorological</u> Agency(NIMET), Abuja	oaordg99@yahoo.com	+234 (0) 8035266128
4	Prof <u>Temi</u> <u>E.</u> <u>Ologunorisa</u>	Osun State University, <u>Osogbo</u>	ologunorisatemi@yahoo.com	+234 (0) 8059986169
5	Mr. <u>Balogun</u> <u>Bolarinwa</u>	African Regional Centre for Space Science and Technology Education-English	<u>balogun_arcsstee@oauife.edu.ng</u>	+234 (0) 8060386272
6	Mr. <u>Adepoju</u> <u>A.</u> <u>Kayode</u>	African Regional Centre for Space Science and Technology Education-English	<u>Adewaleadepoju@yahoo.com</u>	+234 (0) 8034982756
7	Mr. <u>Ugha</u> <u>Paul</u> <u>A.</u>	Nigerian <u>Meteorological</u> Agency (NIMET), <u>Oshodi</u> , Lagos	<u>paulugbha@gmail.com</u>	+234 (0) 805432651
8	Mr. <u>Haruna</u> <u>A.</u> <u>Zailani</u>	Nigerian Maritime <u>Admi nistration</u> and Safety Agency (NIMASA), <u>Apapa</u> , Lagos	<u>harunazailani@yahoo.com</u>	+234 (0) 8033242242
9	Mr. <u>Agu</u> <u>Chiedozie</u> <u>T.</u>	Nigerian Maritime <u>Admi nistration</u> and Safety Agency (NIMASA), <u>Apapa</u> , Lagos	<u>mandozyguy@yahoo.com</u>	+234 (0) 8037877218
10	Dr. <u>O.</u> <u>Orimoogunje</u>	Geography Dept., OAU, Ile-Ife	<u>oorimoogunje@oauife.edu.ng</u>	+234 (0) 8035855946
11	Mr. <u>Ufoegbune</u> <u>Gideon</u> <u>C.</u>	University of Agriculture, Abeokuta	<u>gidufoes2000@yahoo.com</u>	+234 (0) 7031896607
12	Mr. <u>Eruola</u> <u>Abayomi</u> <u>O.</u>	University of Agriculture, Abeokuta	<u>layosky@yahoo.com</u>	+234 (0) 8057354226
13	Miss <u>Omodanisi</u> <u>Esther</u>	Institute of Ecology and Environmental Studies, OAU, Ile-Ife	<u>esfunmi@yahoo.com</u>	+234 (0) 8030799879
14	Mr. <u>Olusola</u> <u>Odedokun</u>	Institute of Ecology and Environmental Studies, OAU, Ile-Ife	<u>odedokunolusola@hotmail.com</u>	+234 (0) 8057324307
15	Mr. <u>Femi</u> <u>Olufede</u>	Institute of Ecology and Environmental Studies, OAU, Ile-Ife	<u>femyed@yahoo.com</u>	+234 (0) 8066448710
16	Mr. <u>Matthew</u> <u>Olaniran</u> <u>J.</u>	Institute of Ecology and Environmental Studies, OAU, Ile-Ife	<u>abefematt@yahoo.com</u>	+234 (0) 7033312735
17	Dr. <u>Odunuga</u> <u>Shakirudeen</u>	Geography Dept, University of Lagos.	<u>odushk@yahoo.co.uk</u>	+234 (0) 8037232665
18	Dr. <u>Babatunde</u> <u>F.</u> <u>E.</u>	Osun State University, <u>Ejigbo</u> Campus	<u>fikayoeb@gmail.com</u>	+234 (0) 7035897535
19	Dr. <u>P.</u> <u>G.</u> <u>Oguntunde</u>	Department of <u>Agicultural</u> Engineering, FUTA	<u>poguntunde@yahoo.com</u>	+234 (0) 8026138053
20	Prof <u>A.</u> <u>A.</u> <u>Olufayo</u>	Department of <u>Agicultural</u> Engineering, FUTA	<u>ayo_olufayo@yahoo.com</u>	+234 (0) 8034708846
21	Dr. <u>S.</u> <u>A.</u> <u>Ajayi</u>	Dept. of Crop Production and Protection, OAU.	<u>sajayi@oauife.edu.ng</u>	+234 (0) 8035071997
22	Mr. <u>Osunkunle</u> <u>Kolawole</u>	Institute of Ecology and Environmental Studies, OAU, Ile-Ife	<u>keosunkunle@hotmail.com</u>	+234 (0) 8056682641

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Table 2: Event Programme Schedule

DATE	TIME	TOPIC / ACTIVITIES	SPEAKER/ FACILITATOR
Monday 15/02/10	9.00 am - 9.30 am	Introduction and welcome address	Prof. Ayobami T. Salami
	9.30 am - 10.00 am	The climate system, feedbacks, and modeling	Babatunde
	10.00 am - 10.30 am	A review of IPCC fourth assessment report	Babatunde
	10.30 am - 11.00 am	Coffee Break	
	11.00 am - 1.00 pm	Practical session (1): - Simple climate models	Brendan
	1.00 pm - 2.00 pm	Lunch	
	2.00 pm - 6.00 pm	Practical session (2): - NCAR Community Atmospheric Model (CAM)	David
Tuesday 16/02/10	9.00 am - 9.30 am	Statistical downscaling techniques	Babatunde
	9.30 am - 10.00 am	Statistical downscaling of wind over South Africa	Brendan
	10.00 am - 10.30 am	Impact of global warming on climate in Nigeria	Lawal
	10.30 am - 11.00 am	Coffee Break	
		Practical session (1): - Interpretation of statistical downscaled Nigerian data	Babatunde and David
	12.00 pm - 1.00 pm	Lunch	
	1.00 pm - 5.30 pm	Practical session (2): - Extreme events and threshold analysis using Nigerian data	Babatunde and Bredan
Wednesday 17/02/20	9.00 am - 9.30 am	Dynamical downscaling techniques	Babatunde
	9.30 am - 10.00 am	Simulating the impact of desertification and deforestation on West Africa climate	Babatunde
	10.00 am - 10.30 am	On Transferability of regional climate models	Bode
	10.30 am - 11.00 am	Coffee break	
	11.00 am - 1.00 pm	Practical Session (1): - Application of RegCM over Nigeria	Bode and Babatunde
	1.00 pm - 2.00 pm	Lunch	
	2.00 pm - 6.00 pm	Practical Session (2): - Application of RegCM over Nigeria	Bode and Babatunde
Thursday 18/02/2010	9.00 am - 9.30 am	Crop modeling techniques	Babatunde
	9.30 am - 10.00 am	Impact of climate change on crop yield over Southern Africa	David
	10.00 am - 1.00 am	Coffee break	
		Practical session (1): - Application of crop model over Nigeria	Babatunde and Brendan
	1.00 pm - 2.00 pm	Lunch	
	1.00 pm - 5.30 pm	Practical session (2): - Application of crop model over Nigeria	Babatunde and David
Friday 19/02/2010	9.00.00 am - 1.00 pm	Participants working on simple projects - Simple Global climate models - Global Model [CAM] - Regional Dynamic Model [RegCM3] - Crop Model	Brendan David Bode Babatunde
	1.00 pm - 2.00 pm	Lunch	
	2.00 pm - 6.00 pm	- Presentations by participants - Discussions on future collaborations	Matthew
Saturday 21/02/2010	A trip to Enn-Jesha Water Fall.		
Tuesday 23/02/2010 - Friday 25/02/2010	Collaborative activities with START at University of Ibadan: Understanding the Findings of the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report 2007" Integrating Climate Change Adaptation and Mitigation in Development Planning		

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Table 3: Group projects and presentations in the workshop

Group projects	Members	Presentation photographs
Group 1: Impact of <u>green house</u> concentration on global surface Temperature	<u>Mr Haruna A. Zailani</u> <u>Mr. Agu Chiedozie T.</u> <u>Mr. Femi Oluyede</u>	
Group 2: Impact of earth's rotation and topography on global climate pattern	<u>Mr Sola Odedokun</u> <u>Mr. Matthew O. J.</u>	
Group 3: Future trend of Nigeria climate: a case study of Ibadan	<u>Mr Lawal Abiodun</u> <u>Mr. Ogunyemi O. A.</u> <u>Dr. O. Orimoogunje</u>	
Group 4: Impact of Deforestation on Nigerian climate	<u>Mr. Ugha Paul A.</u> <u>Mr. Adefisan Elijah A.</u> <u>Dr. Odunuga Shakiru</u>	
Group 5: Impact of climate change on irrigation requirement for optimum crop yields in Ibadan	<u>Miss Omodanisi E. O.</u> <u>Mr. Kayode Adepoju</u> <u>Mr. Ebeiyamba O. Ekpo</u>	

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Figure 1. Some of the participants and facilitators at the workshop



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Figure 2: Lecturers teaching and supervising practical in the workshop

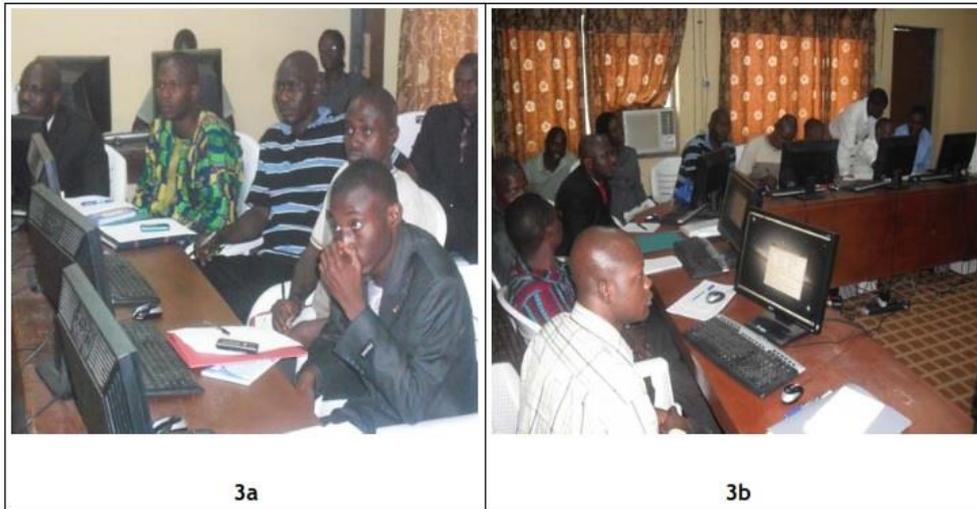


Figure 3: Participants listening attentively to the lectures, and asking questions



Figure 4: Participants actively participating in the practical and group projects.

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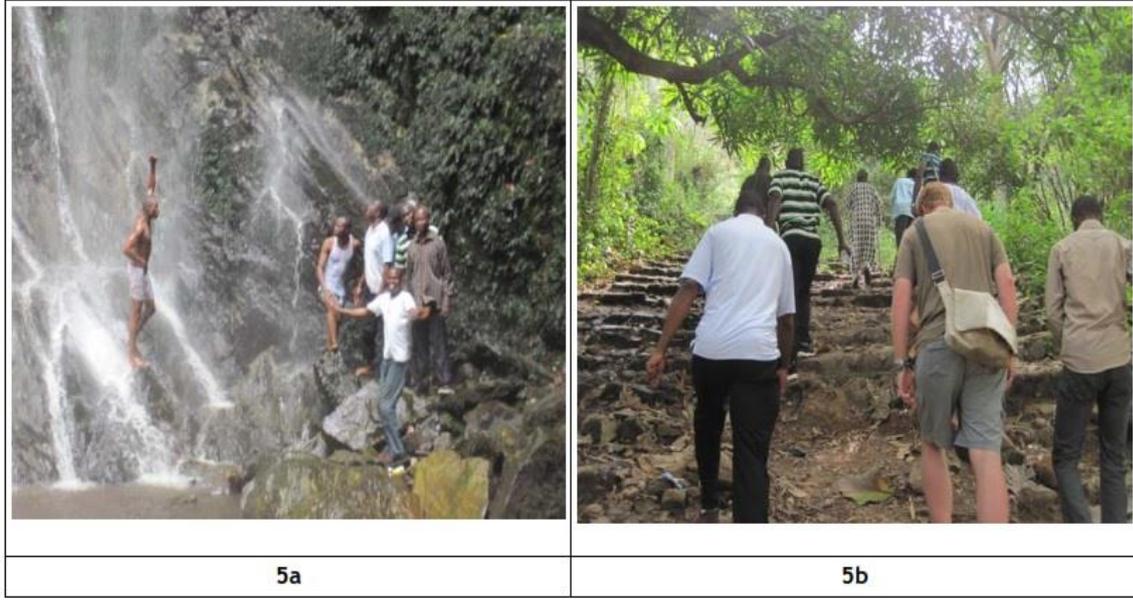


Figure 5: Some of the Participants and Facilitators at Erin-Ijesha Water Falls